1-800-633-0405 **ORGREN** Excelon[®] Plus 82 Series Air Filters -**Particulate**





Part No. F82G-3AN-AD3

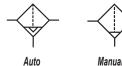
Part No. F82G-3AN-QP3

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The Excelon Plus 82 Series general purpose filter offers 40 micron particulate removal (5 micron sold separately), with water extraction levels of >95%. Maintenance of these units is guick and easy, as the filtration cartridge remains inside the bowl when it is removed. This filter maintenance system also means that the clearance needed below the unit for maintenance is a maxmum of 25mm [1 in], reducing the space envelope needed on any machine.

Features

- Die-cast zinc or guarded polycarbonate filter bowl
- Air purity per ISO 8573-1 class 6&7 for particles and class 8 liquid water
- Unique double lock bowl design prevents bowl removal while the unit is pressurized, making Excelon Plus the safest filter on the market
- 40 micron particulate filter (5 micron filter sold separately)
- 1/4" and 3/8" PTF (FNPT female NPT threaded ports)







See www.AutomationDirect.com for a wide variety of fitting options

			Excelor	Plus 82	Series Air Filters - Pa	rticulate			
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Drain Bowl	Drain Type	Fluid	Drawing LInk	Manufacturer Specs
F82G-2AN-AD3	\$62.00	1.10			Die-cast zinc, sight gauge	Automotio		PDF	PDF
F82G-2AN-AP3	\$52.00	0.70	1/4"	1/4"	Polycarbonate with bowl guard Automatic			PDF	PDF
F82G-2AN-QD3	\$41.00	1.10	1/4	1/4	Die-cast zinc, sight gauge	Manual		PDF	PDF
F82G-2AN-QP3	\$30.50	0.70			Polycarbonate with bowl guard		Air	PDF	PDF
F82G-3AN-AD3	\$62.00	1.10			Die-cast zinc, sight gauge	Automatia	AI	PDF	PDF
F82G-3AN-AP3	\$52.00	0.70	3/8"	3/8"	Polycarbonate with bowl guard	Automatic		PDF	PDF
F82G-3AN-QD3	\$41.00	1.10	3/8	3/8	Die-cast zinc, sight gauge			PDF	PDF
F82G-3AN-QP3	\$30.50	0.70			Polycarbonate with bowl guard	Manual		PDF	PDF



Excelon® Plus 82 Series Air Filters -Coalescing Oil Removal





Part No. F82C-3AD-AD0

Part No. F82C-3AD-QP0

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The Excelon Plus 82 series coalescing filter removes oil down to greater than 0.01mg/m³ - 0.01 micron particulater removal. The pleated element design means this can be achieved in a compact envelope, while still keeping pressure drop to a minimum. It is recommended to use a 5 micron particulate filter upstream to extend coalescing filter element life.

Features

- Die-cast zinc or guarded polycarbonate filter bowl
- 0.01 micron particulate removal
- Oil removal down to 0.01mg/m³
- Unique double lock bowl design prevents bowl removal while the unit is pressurized, making Excelon Plus the safest filter on the market
- Integrated pressure drop indicator changes color when service is needed
- 1/4" and 3/8" PTF (FNPT female NPT threaded ports)





See www.AutomationDirect.com for a wide variety of fitting options

		Excelo	n Plus 82	Series /	Air Filters - Coalescin	g Oil Remo	oval		
Part No.	Price	e Weight (lbs) Inlet(s) Outlet(s) (NPT) Drain Bowl		Drain Type	Fluid	Drawing LInk	Manufacturer Specs		
F82C-2AD-ADO	\$105.00	1.20			Die-cast zinc, sight gauge	Automotio		PDF	PDF
F82C-2AD-APO	\$95.00	0.70	1/4"	1/4"	Polycarbonate with bowl guard	- Automatic - Manual	Air	PDF	<u>PDF</u>
<u>F82C-2AD-QD0</u>	\$84.00	1.10	1/4	1/4	Die-cast zinc, sight gauge			PDF	PDF
<u>F82C-2AD-QP0</u>	\$74.00	0.70			Polycarbonate with bowl guard			PDF	PDF
F82C-3AD-ADO	\$105.00	1.10			Die-cast zinc, sight gauge		All	PDF	PDF
F82C-3AD-APO	\$95.00	0.70	2/0"	2/0"	Polycarbonate with bowl guard	Automatic		PDF	PDF
F82C-3AD-QD0	\$84.00	1.10	3/8"	3/8"	Die-cast zinc, sight gauge			PDF	PDF
F82C-3AD-QP0	\$74.00	0.70			Polycarbonate with bowl guard	Manual		PDF	PDF

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).

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Excelon	Excelon Plus 82 Series Air Filters - Coalescing Oil Removal Accessories										
Part No.	Price	Description	Weight (lbs)	Manufacturer Specs							
<u>820044-50KIT</u>	\$51.00	Norgren coalescing oil removal filter element, replacement, 0.01 micron particles and 0.01 mg/cubic meter oil, polyethylene. For use with Excelon 82 series coalescing filters.	0.05	PDF							

Part No. 820044-50KIT











Part No. <u>F82V-3AN-EDA</u>

Part No. <u>F82V-3AN-EPA</u>

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The Excelon Plus 82 series carbon filter removes oil vapor (odor) from the compressed air supply (0.003 mg/m³ remaining oil). When used together, the coalescing and activated carbon filters ensure any compressed air system can be used for the most critical industrial automation applications, and deliver air purity to class 0 according to ISO 8573-1.

Features

- Die-cast zinc or guarded polycarbonate filter bowl
- Oil vapor (odor) removal down to 0.003 $\rm mg/m^3$
- 1/4" and 3/8" PTF (FNPT female NPT threaded ports)







See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Excelon Plus 82 Series Air Filters - Vapor Removal											
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Bowl	Drain Type	Fluid	Drawing LInk	Manufacturer Specs			
F82V-2AN-EDA	\$84.00	1.00	1/4"	1/4"	Die-cast zinc, sight gauge		Air	PDF	PDF			
F82V-2AN-EPA	\$74.00	0.70	1/4	1/4	Polycarbonate with bowl guard	Closed bowl		PDF	PDF			
F82V-3AN-EDA	\$84.00	1.00	3/8"	2/0"	Die-cast zinc, sight gauge			PDF	PDF			
F82V-3AN-EPA	\$74.00	0.70	3/8	3/8"	Polycarbonate with bowl guard			PDF	PDF			

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).



Excelon	Excelon Plus 82 Series Air Filters - Coalescing Oil Removal Accessories										
Part No.	Price	Description	Weight (lbs)	Manufacturer Specs							
<u>820041-50KIT</u>		Norgren vapor removal filter element, replacement, 0.003 mg/ cubic meter oil, activated carbon. For use with Excelon 82 series vapor removal filters.	0.05	PDF							

Part No. <u>820041-50KIT</u>

 1-800-633-0405
 For the latest prices, please check AutomationDirect.com

 NORGREN
 Excelon® Plus 82 Series Air Regulators



Part No.

R82G-2AK-RFG

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Part No. <u>R82G-3AK-RMG</u> Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

With primary pressure up to 300psi (20bar) Excelon Plus 82 series regulators offer outlet pressure ranges of 58psi (4bar) and 145psi (10bar). The adjustment knob is pulled up to show a red band while pressure is adjusted. Pushing the knob down after reaching the desired pressure reveals a padlock hole allowing the regulator to be locked very easily.

Features

- Adjustable outlet pressure range of 4-58 psi (0.28-4 bar) or 4-145 psi (0.28-10 bar)
- Lockable adjustment knob
- Integrated pressure gauge
- 1/4" and 3/8" PTF (FNPT female NPT threaded ports)







See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Excelon Plus 82 Series Air Regulators										
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Range	Fluid	Drawing LInk	Manufacturer Specs			
<u>R82G-2AK-RFG</u>	\$39.00	0.90	1/4"	1/4"	4 - 58 psi (0.28 - 4 bar)		PDF	PDF			
<u>R82G-2AK-RMG</u>	\$39.00	0.90	1/4	1/4	4 - 145 psi (0.28 - to 10 bar)	Air	PDF	PDF			
R82G-3AK-RFG	\$39.00	0.90	2.0"	2/0"	4 - 58 psi (0.28 - 4 bar)	Alf	PDF	PDF			
R82G-3AK-RMG	\$39.00	0.90	3/8" 3/8" -		4 - 145 psi (0.28 - to 10 bar)		PDF	PDF			





B82G-3AK-QP3-RMG

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The 82 series filter regulators combine all the features of the general purpose air filters and regulators including built in padlock feature, in-bowl filtration cartridge removal and bowl double safety lock.

Features

- Adjustable outlet pressure range of 4-145 psi [0.2-10 bar]
- Lockable adjustment knob
- Integrated pressure gauge
- Die-cast zinc or guarded polycarbonate filter bowls
- Air purity per ISO 8573-1 class 6&7 for particles and class 8 liquid water
- 40 micron particulate filter (5 micron filter sold separately)
- 1/4" and 3/8" PTF (FNPT female NPT threaded ports)



B82G-3AK-AD3-RMG



Manual



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

		l	xcelon P	lus 82 Se	eries Air Filter Regula	tors			
Part No.	lo. Price Weight (lbs) Inlet(s) Outlet(s) Drain Bowl		Drain Bowl	Drain Type	Fluid	Drawing LInk	Manufacturer Specs		
B82G-2AK-AD3-RMG	\$90.00	1.25			Die-cast zinc with sight gauge	Automatic		PDF	PDF
B82G-2AK-AP3-RMG	\$79.00	0.80	4 / 4 7	4 / 4 "	Polycarbonate with bowl guard	Automatic		PDF	PDF
B82G-2AK-QD3-RMG	\$69.00	1.25	1/4	1/4" 1/4" Die-cast zinc with sight gauge		Manual]	PDF	PDF
B82G-2AK-QP3-RMG	\$59.00	0.80			Polycarbonate with bowl guard	Manual	Air	PDF	PDF
B82G-3AK-AD3-RMG	\$90.00	1.25			Die-cast zinc with sight gauge	Automatia		PDF	PDF
B82G-3AK-AP3-RMG	\$79.00	0.80	2.07	2/0"	Polycarbonate with bowl guard	Automatic		PDF	PDF
B82G-3AK-QD3-RMG	\$69.00	1.25	3/8"	3/8"	Die-cast zinc with sight gauge	Maxal	1	PDF	PDF
B82G-3AK-QP3-RMG	\$59.00	0.80			Polycarbonate with bowl guard	Manual		PDF	PDF

1-800-633-0405 For the latest prices, please check AutomationDirect.com NORGREN Excelon® Plus 82 Series Air Micro-fog® Lubricators





Part No. <u>L82M-2AP-EDN</u>

Part No. <u>L82M-3AP-EPN</u>

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

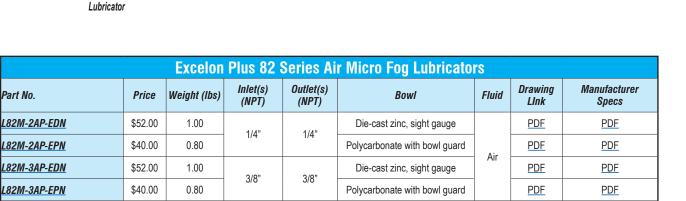
The Excelon Plus 82 series Micro-fog lubricator has a unique micro mist fog generator built in to the unit creating very fine mist particles - less than 2 micron. These particles are suspended in the air line and can travel very long distances and lubricate very complex air pathways. They allow very fine control, ensuring that the systems are not over lubricated - a common problem with intricate pneumatic circuits, and are perfect for small rapidly moving applications.

Features

- Die-cast zinc or guarded polycarbonate bowl
- 2 micron oil mist particles for fine control
- 1/4" and 3/8" PTF (FNPT female NPT threaded ports)



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options





NORGREN Excelon® Plus 82 Series Air Manual Shut-Off Pressure Relief Valves



Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The Excelon Plus 82 series lockable shut-off valve is available in a 3-way/2position configuration with threaded exhaust and red knob. It is a full flow rotating ball valve and the restricted 1/4" NPT exhaust port allows fitting a silencer or piping the exhaust away. The valve has a 'pop up' padlock feature allowing the valve to be locked in the closed position for safety.

Features

• Downstream pressure is relieved when valve is closed

• 1/4" and 3/8" PTF (FNPT - female NPT threaded ports)



Part No. T82T-3AA-B1N

Shut-Off Pressure Relief Valve



E	Excelon Plus 82 Series Air Manual Shut-Off Pressure Relief Valves										
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Exhaust Port (NPT)	Cv	Fluid	Drawing LInk	Manufacturer Specs		
<u>T82T-2AA-B1N</u>	\$38.00	0.50	1/4"	1/4"	1/4"	3.6	A :	PDF	PDF		
T82T-3AA-B1N	\$38.00	0.50	3/8"	3/8"	1/4"	3.2	Air	PDF	PDF		



NORGREN Excelon® Plus 82 Series Air Combination **Filter Regulator Lubricators**





Part No. BL82-301A

Part No. BL82-371A

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

Excelon Plus combination units come pre-assembled and ready to use. They include a filter regulator, lubricator and manual shutoff valve.

Features

- Die-cast zinc or guarded polycarbonate bowls
- 4 to 145 psi (0.28 to 10 bar) pressure range
- 1/4" or 3/8" PTF (FNPT female NPT threaded ports)





See www.AutomationDirect.com for a wide variety of fitting options









Auto w/Shut-Off Valve

Manual w/Shut-Off Valve

Auto w/o Shut-Off Valve

Manual w/o Shut-Off Valve

		Excelo	on Plus 82	2 Series	Air Combination Fi	lter Regula	tor Lub	ricato	rs	
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Drain Bowl	Drain Type	Shutoff	Fluid	Drawing LInk	Manufacturer Specs
<u>BL82-201A</u>	\$179.00	2.10			Polycarbonate with bowl	Automatic			PDF	PDF
BL82-221A	\$159.00	2.10	1/4"	1/4" -	guard	Manual			PDF	PDF
BL82-251A	\$201.00	3.10	1/4		Die-cast zinc	Automatic			PDF	PDF
BL82-271A	\$180.00	2.10				Manual		Air	PDF	PDF
BL82-301A	\$179.00	2.10				Automatic	Manual	All	PDF	PDF
BL82-321A	\$159.00	2.10	2.07	3/8"	guard	Manual			PDF	PDF
BL82-351A	\$201.00	2.10	3/8"	3/8	Discostaire	Automatic	1		PDF	PDF
<u>BL82-371A</u>	\$180.00	3.10			Die-cast zinc	Manual			PDF	PDF



NORGREN Excelon® Plus 82 Series Air Soft Start/ **Dump Valves**



Part No.

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

Excelon Plus 82 series soft start dump valve allows downstream pressure to gradually rise on initial start up, before fully opening to deliver line pressure. The dump function allows the system to be exhausted quickly when required, particularly in the event of a power failure or emergency stop.

Features

- 24VDC solenoid valve with DIN 43650 Form C (8mm) plug
- High flow dump capacity
- 1/4" and 3/8" PTF (FNPT female NPT threaded ports)
- Includes field wireable DIN connector





See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

Excelon Plus 82 Series Air Soft Start/Dump Valves										
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Cv	Operating Voltage	Fluid	Drawing LInk	Manufacturer Specs	
<u> P82F-2AT-PFA</u>	\$197.00	1.10	1/4"	1/4"	1.7	241/00	A :	PDF	PDF	
P82F-3AT-PFA	\$198.00	1.10	3/8"	3/8"	1.8	24VDC	Air	<u>PDF</u>	PDF	

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).

P82F-3AT-PFA 3

Soft Start/Dump Valve

1-800-633-0405 For the latest prices, please check AutomationDirect.com

 Image: Norgren
 Excelon® Plus 82 Series Air Control

 Valves



Part No. <u>P82C-3AT-PFA</u>

Air Control Valve

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

Excelon Plus 82 series control valve uses a 24VDC solenoid to operate. In the off position, downstream system pressure is routed through the tapped exhaust port.

Features

- 24VDC solenoid valve with DIN 43650 Form C (8mm) plug
- High flow dump capacity
- 1/4" and 3/8" PTF (FNPT female NPT threaded ports)
- Includes field wireable DIN connector



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Excelon Plus 82 Series Air Control Valves											
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Exhaust Port (NPT)	Cv	Operating Voltage	Fluid	Drawing LInk	Manufacturer Specs		
P82C-2AT-PFA	\$149.00	1.05	1/4"	1/4"	1/4"	1.6	241/00	Air	PDF	PDF		
<u>P82C-3AT-PFA</u>	\$149.00	1.05	3/8"	3/8"	1/4"	1.8	24VDC	Air	<u>PDF</u>	PDF		

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).

www.automationdirect.com

1-800-633-0405 **NORGREN** Excelon[®] Plus 82 Series Accessories

			Excelon Plus 82 Series Accessories			
Item Photo	Part No.	Price	Description	Weight (lbs)	Drawing Link	Manufacturer Specs
	<u>820014-51KIT</u>	\$9.00	Norgren Quikclamp, for use with Excelon 82 series components.	0.07	PDF	<u>PDF</u>
	<u>820014-52KIT</u>	\$11.50	Norgren Quikclamp with bracket, for use with Excelon 82 series components.	0.08	PDF	<u>PDF</u>
٠	<u>820015-02KIT</u>	\$10.50	Norgren port adapter, replacement, 1/4in NPT thread. For use with Excelon 82 series components.	0.07	N/A	<u>PDF</u>
O	<u>820015-03KIT</u>	\$10.50	Norgren port adapter, replacement, 3/8in NPT thread. For use with Excelon 82 series components.	0.07	N/A	<u>PDF</u>
	<u>820024-50KIT</u>	\$8.75	Norgren mounting bracket, for use with Excelon 82 series components.	0.06	PDF	<u>PDF</u>
Ĩ	<u>820038-50KIT</u>	\$13.00	Norgren particulate filter element, replacement, 5 micron particles, polypropylene. For use with Excelon 82 series particulate filters.	0.05	N/A	PDF
	<u>820038-51KIT</u>	\$13.00	Norgren particulate filter element, replacement, 40 micron particles, polypropylene. For use with Excelon 82 series particulate filters.	0.05	N/A	PDF







Part No. F84G-3AN-AD3

Part No. F84G-3AN-QP3

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The Excelon Plus 84 Series general purpose filter offers 40 micron particulate removal (5 micron filter sold separately), with water extraction levels of >95%. Maintenance of these units is quick and easy, as the filtration cartridge remains inside the bowl when it is removed. This filter maintenance system also means that the clearance needed below the unit for maintenance is a maxmum of 25mm [1 in], reducing the space envelope needed on any machine.

Features

- Die-cast aluminum or guarded polycarbonate filter bowl
- Air purity meets ISO 8573-1:2010 [6:8:4] with 5 micron element
- Air purity meets ISO 8573-1:2010 [7:8:4] with 40 micron element
- Unique double lock bowl design prevents bowl removal while the unit is pressurized, making Excelon Plus the safest filter on the market
- · 40 micron particulate filter (5 micron filter sold separately)
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)





Manual



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Excelon Plus 84 Series Air Filters - Particulate											
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Drain Bowl	Drain Type	Fluid	Drawing LInk	Manufacturer Specs			
F84G-3AN-AD3	\$107.00	1.35			Die-cast aluminum with sight gauge	Automatic		PDF	PDF			
F84G-3AN-AP3	\$80.00	1.00	3/8"	3/8"	Polycarbonate with bowl guard	Automatic		PDF	PDF			
F84G-3AN-QD3	\$80.00	1.35	3/0	3/0	Die-cast aluminum with sight gauge	Manual		PDF	PDF			
F84G-3AN-QP3	\$53.00	1.00			Polycarbonate with bowl guard	Manual		PDF	PDF			
F84G-4AN-AD3	\$107.00	1.35		Die-cast aluminum with sight gauge	Automatic		PDF	PDF				
F84G-4AN-AP3	\$80.00	1.00	1/2"	1/2"	Polycarbonate with bowl guard	- Manual	- Air	PDF	PDF			
F84G-4AN-QD3	\$80.00	1.35	1/2		Die-cast aluminum with sight gauge			PDF	PDF			
F84G-4AN-QP3	\$53.00	1.00			Polycarbonate with bowl guard			PDF	PDF			
F84G-6AN-AD3	\$107.00	1.35			Die-cast aluminum with sight gauge	Automotio		PDF	PDF			
F84G-6AN-AP3	\$80.00	1.00	2/4"	2/4"	Polycarbonate with bowl guard	Automatic		PDF	PDF			
F84G-6AN-QD3	\$80.00	1.35	3/4" 3/4" Die-cast aluminum with sight gauge		Manual		PDF	PDF				
F84G-6AN-QP3	\$53.00	1.00			Polycarbonate with bowl guard	Manual		PDF	PDF			







Part No. F84C-3AD-AD0

Part No. F84C-3AD-APO

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The Excelon Plus 84 series coalescing filter removes oil down to greater than 0.01mg/m^3 - 0.01 micron particulater removal. The pleated element design means this can be achieved in a compact envelope, while still keeping pressure drop to a minimum. It is recommended to use a 5 micron particulate filter upstream to extend coalescing filter element life.

Features

- Die-cast aluminum or guarded polycarbonate filter bowl
- 0.01 micron particulate removal (ISO 8573-1:2010 [1:7:2] with 5 micron pre-filter)
- Oil removal down to 0.01mg/m³
- Unique double lock bowl design prevents bowl removal while the unit is pressurized, making Excelon Plus the safest filter on the market
- · Integrated pressure drop indicator changes color when service is needed
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)





Excelon Plus 84 Series Air Filters - Coalescing Oil Removal Drawing Inlet(s) Outlet(s) Manufacturer Part No. Price Weight (lbs) Drain Bowl Drain Type Fluid (NPT) (NPT) LInk Specs F84C-3AD-ADO \$172.00 1.35 Die-cast aluminum with sight gauge PDF PDF 3/8" 3/8" F84C-3AD-APO \$145.00 1.00 Polycarbonate with bowl guard PDF PDF \$172.00 F84C-4AD-ADO 1.35 PDF PDF Die-cast aluminum with sight gauge 1/2" 1/2" Automatic Air \$145.00 F84C-4AD-APO 1.00 Polycarbonate with bowl guard PDF PDF \$172.00 F84C-6AD-AD0 1.35 Die-cast aluminum with sight gauge PDF PDF 3/4" 3/4" F84C-6AD-APO \$145.00 1.00 Polycarbonate with bowl guard PDF PDF



Excelon	Excelon Plus 84 Series Air Filters - Coalescing Oil Removal Accessories										
Part No.	Price	Description	Weight (lbs)	Manufacturer Specs							
<u>840044-50KIT</u>	\$72.00	Norgren coalescing oil removal filter element, replacement, 0.01 micron particles and 0.01 mg/cubic meter oil, polyethylene. For use with Excelon 84 series coalescing filters.	0.06	PDF							

Part No. 840044-50KIT





MIN NORGREN.

Part No.

F82V-3AN-EPA

Part No. F84V-3AN-EMA



Filter

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The Excelon Plus 84 series carbon filter removes oil vapor (odor) from the compressed air supply (0.003 mg/m³ remaining oil). When used together, the coalescing and activated carbon filters ensure any compressed air system can be used for the most critical industrial automation applications, and deliver air purity to class 0 according to ISO 8573-1.

Features

- Die-cast aluminum or guarded polycarbonate filter bowl
- Oil vapor (odor) removal down to 0.003 mg/m³
- Air purity per ISO 8573-1:2010 [1:7:0] with 5 micron particulate and coalescing prefilters
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)





See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Excelon Plus 84 Series Air Filters - Vapor Removal												
Part No.	rt No. Price Weight (lbs) Inlet(s) Outlet(s) Bowl						Fluid	Drawing LInk	Manufacturer Specs				
<u>F84V-3AN-EMA</u>	\$145.00	1.35	3/8"	3/8"	Die-cast aluminum with sight gauge			PDF	PDF				
F84V-3AN-EPA	\$118.00	1.00	3/0	3/0	Polycarbonate with bowl guard	Closed bowl	Air	<u>PDF</u>	PDF				
F84V-4AN-EMA	\$145.00	1.35	1/2"	1/2"	Die-cast aluminum with sight gauge			PDF	PDF				
F84V-4AN-EPA	\$118.00	1.00	1/2	1/2	Polycarbonate with bowl guard			PDF	PDF				
F84V-6AN-EMA	\$145.00	1.35	3/4"	3/4"	Die-cast aluminum with sight gauge			PDF	PDF				
F84V-6AN-EPA	\$118.00	1.00	3/4	3/4	Polycarbonate with bowl guard			PDF	PDF				

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).



Excelon Plus 84 Series Air Filters - Vapor Removal Accessories									
Part No.	Price	Description	Weight (lbs)	Manufacturer Specs					
<u>840041-50KIT</u>	\$72.00	Norgren vapor removal filter element, replacement, 0.003 mg/ cubic meter oil, activated carbon. For use with Excelon 84 series vapor removal filters.	0.07	PDF					

Part No. 840041-50KIT

For the latest prices, please check AutomationDirect.com 1-800-633-0405 NORGREN Excelon® Plus 84 Series Air Regulators





Part No.

R84G-6AK-RMG

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

With primary pressure up to 300psi (20bar) Excelon Plus 84 series regulators offer outlet pressure ranges of 58psi (4bar) and 145psi (10bar). The adjustment knob is pulled up to show a red band while pressure is adjusted. Pushing the knob down after reaching the desired pressure reveals a padlock hole allowing the regulator to be locked very easily.

Features

- Adjustable outlet pressure range 4-145 psi (0.28-10 bar)
- Lockable adjustment knob
- Integrated pressure gauge
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)

Part No. R84G-3AK-RMG

Regulator





See www.AutomationDirect.com for a wide variety of fitting options

	Excelon Plus 84 Series Air Regulators											
Part No.PriceWeight (lbs)Inlet(s) (NPT)Outlet(s) (NPT)RangeFluidDrawing LinkManufacturer Specs												
<u>R84G-3AK-RMG</u>	\$78.00	1.40	3/8"	3/8"			PDF	PDF				
R84G-4AK-RMG	\$78.00	1.40	1/2"	1/2"	4 - 145 psi (0.28 - to 10 bar)	Air	PDF	PDF				
<u>R84G-6AK-RMG</u>	\$78.00	1.40	3/4"	3/4"			<u>PDF</u>	<u>PDF</u>				

For the latest prices, please check AutomationDirect.com 1-800-633-0405 **ORGREN** Excelon[®] Plus 84 Series Air Filter Regulators





Part No.

B84G-3AK-QP3-RMG

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The 84 series filter regulators combine all the features of the general purpose air filters and regulators including built in padlock feature, in-bowl filtration cartridge removal and bowl double safety lock.

Features

- Adjustable outlet pressure range of 4-145 psi [0.2-10 bar]
- · Lockable adjustment knob
- Integrated pressure gauge
- Die-cast aluminum or guarded polycarbonate filter bowls
- Air purity meets ISO 8573-1:2010 [6:8:4] with 5 micron element
- Air purity meets ISO 8573-1:2010 [7:8:4] with 40 micron element
- 40 micron particulate filter (5 micron filter sold separately)
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)



See www.AutomationDirect.com for a wide variety of fitting options

	Excelon Plus 84 Series Air Filter Regulators											
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Drain Bowl	Drain Type	Fluid	Drawing LInk	Manufacturer Specs			
<u>B84G-3AK-AD3-RMG</u>	\$159.00	2.10			Die-cast aluminum with sight gauge	Automotio		PDF	PDF			
<u>B84G-3AK-AP3-RMG</u>	\$132.00	1.75	3/8"	3/8"	Polycarbonate bowl with bowl guard	Automatic		PDF	PDF			
B84G-3AK-QD3-RMG	\$132.00	2.10	3/0	3/0	Die-cast aluminum with sight gauge	Manual		PDF	PDF			
B84G-3AK-QP3-RMG	\$105.00	1.75		Polycarbonate bowl with bowl guard		Iviariuai		PDF	PDF			
B84G-4AK-AD3-RMG	\$159.00	2.10			Die-cast aluminum with sight gauge			PDF	PDF			
<u>B84G-4AK-AP3-RMG</u>	\$132.00	1.75	Polycarbonate bowl with bowl guard		Automatic	A :	PDF	PDF				
B84G-4AK-QD3-RMG	\$132.00	2.10	1/2"	1/2"	Die-cast aluminum with sight gauge	Manual	Air	PDF	PDF			
B84G-4AK-QP3-RMG	\$105.00	1.75			Polycarbonate bowl with bowl guard	Manual	-	PDF	PDF			
B84G-6AK-AD3-RMG	\$159.00	2.10			Die-cast aluminum with sight gauge	Automotic		PDF	PDF			
B84G-6AK-AP3-RMG	\$132.00	1.75	2/4"	2/4"	Polycarbonate bowl with bowl guard	Automatic		PDF	PDF			
B84G-6AK-QD3-RMG	\$132.00	2.10	3/4"	3/4"	Die-cast aluminum with sight gauge	Manual		PDF	PDF			
B84G-6AK-QP3-RMG	\$105.00	1.75			Polycarbonate bowl with bowl guard	Manual		PDF	PDF			

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).

Part No. B84G-3AK-AD3-RMG

Auto



Manual





Lubricator



Part No. L84M-3AP-EPN

Part No. L84M-6AP-EPN

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

The Excelon Plus 84 series Micro-fog lubricator has a unique micro mist fog generator built in to the unit creating very fine mist particles - less than 2 micron. These particles are suspended in the air line and can travel very long distances and lubricate very complex air pathways. They allow very fine control, ensuring that the systems are not over lubricated - a common problem with intricate pneumatic circuits, and are perfect for small rapidly moving applications.

Features

- Guarded polycarbonate bowl
- 2 micron oil mist particles for fine control
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Excelon Plus 84 Series Air Micro Fog Lubricators											
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Bowl	Fluid	Drawing LInk	Manufacturer Specs				
L84M-3AP-EPN	\$60.00	1.00	3/8"	3/8"			PDF	<u>PDF</u>				
L84M-4AP-EPN	\$60.00	1.00	1/2"	1/2"	Polycarbonate with bowl guard	Air	PDF	PDF				
<u>L84M-6AP-EPN</u>	\$60.00	1.00	3/4"	3/4"	, , , , , , , , , , , , , , , , , , ,		PDF	<u>PDF</u>				



JORGREN Excelon[®] Plus 84 Series Air - Manual Shut-Off Pressure Relief Valves



Part No. T84T-3AA-B1N Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust, and is suitable for most industrial applications.

The Excelon Plus 84 series lockable shut-off valve is available in a 3-way/2-position configuration with threaded exhaust and red knob. It is a full flow rotating ball valve and the restricted 1/4" NPT exhaust port allows fitting a silencer or piping the exhaust away. The valve has a 'pop up' padlock feature allowing the valve to be locked in the closed position for safety.

Features

- Downstream pressure is relieved when valve is closed
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)



Shut-Off Pressure Relief Valve





See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Excelon Plus 84 Series Air Manual Shut-Off Pressure Relief Valves												
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Exhaust Port (NPT)	Cv	Fluid	Drawing Link	Manufacturer Specs				
<u> T84T-3AA-B1N</u>	\$52.00	1.20	3/8"	3/8"	1/4"			PDF	<u>PDF</u>				
<u> T84T-4AA-B1N</u>	\$52.00	1.20	1/2"	1/2"	1/4"	12.8	Air	PDF	<u>PDF</u>				
<u> T84T-6AA-B1N</u>	\$52.00	1.20	3/4"	3/4"	1/4"			<u>PDF</u>	PDF				



NORGREN Excelon® Plus 84 Series Air Combination **Filter Regulator Lubricators**





Part No. BL84-351A



Auto w/Shut-Off Valve

BL84-301A



Auto w/o Shut-Off Valve

Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

Excelon Plus combination units come pre-assembled and ready to use. They include a filter regulator, lubricator and manual shutoff valve.

Features

- Die-cast aluminum or guarded polycarbonate bowls
- 4 to 145 psi (0.28 to 10 bar) pressure range
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)



wide variety of fitting options

	Excelon Plus 84 Series Air Combination Filter Regulator Lubricators												
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Drain Bowl	Drain Type	Shutoff	Fluid	Drawing Link	Manufacturer Specs			
<u>BL84-301A</u>	\$276.00	3.90	2/0"	3/8"	Polycarbonate				PDF	PDF			
<u>BL84-351A</u>	\$328.00	4.80	3/8"	3/0	Die-cast aluminum		Manual		PDF	PDF			
<u>BL84-401A</u>	\$276.00	3.90	1/2"	1/2"	Polycarbonate			A	PDF	PDF			
<u>BL84-451A</u>	\$328.00	4.80	1/2	1/2	Die-cast aluminum	- Automatic		Air	PDF	PDF			
<u>BL84-601A</u>	\$276.00	3.90	2/4"	2/4"	Polycarbonate				PDF	PDF			
<u>BL84-651A</u>	\$328.00	4.80	3/4"	3/4"	Die-cast aluminum				<u>PDF</u>	PDF			





Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

Excelon Plus 84 series soft start dump valve allows downstream pressure to gradually rise on initial start up, before fully opening to deliver line pressure. The dump function allows the system to be exhausted quickly when required, particularly in the event of a power failure or emergency stop.

Features

- 24VDC solenoid valve with DIN 43650 Form C (8mm) plug
- High flow dump capacity
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)
- Includes field wireable DIN connector



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Excelon Plus 84 Series Air Soft Start/Dump Valves											
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Exhaust Port (NPT)	Cv	Operating Voltage	Fluid	Drawing LInk	Manufacturer Specs		
<u> P84F-3AT-PFA</u>	\$276.00	2.50	3/8"	3/8"	1/2"	2.9			PDF	PDF		
<u> P84F-4AT-PFA</u>	\$274.00	2.50	1/2"	1/2"	1/2"	4.0	24VDC	Air	PDF	PDF		
<u> P84F-6AT-PFA</u>	\$276.00	2.50	3/4"	3/4"	1/2"	4.0			PDF	PDF		

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).

Part No. P84F-3AT-PFA

> 1 3 Soft Start/Dump Valve

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 Image: Norgen
 Excelon® Plus 84 Series Air Control

 Valves



Excelon Plus is the latest generation of Norgren Air Preparation equipment designed to meet the needs of today's customer. It offers exceptional performance, is compact, lightweight, robust and is suitable for most industrial applications.

Excelon Plus 84 series control valve uses a 24VDC to operate. In the off position, downstream system pressure is routed through the tapped exhaust port.

Features

- 24VDC solenoid valve with DIN 43650 Form C (8mm) plug
- High flow dump capacity
- 3/8", 1/2" and 3/4" PTF (FNPT female NPT threaded ports)
- Includes field wireable DIN connector



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Excelon Plus 84 Series Air Control Valves											
Part No.	Price	Weight (lbs)	Inlet(s) (NPT)	Outlet(s) (NPT)	Exhaust Port (NPT)	Cv	Operating Voltage	Fluid	Drawing LInk	Manufacturer Specs		
<u> P84C-3AT-PFA</u>	\$195.00	2.35	3/8"	3/8"	1/2"	3.0			PDF	PDF		
P84C-4AT-PFA	\$192.00	2.35	1/2"	1/2"	1/2"	4.0	24VDC	Air	PDF	PDF		
P84C-6AT-PFA	\$195.00	2.35	3/4"	3/4"	1/2"	4.6			PDF	PDF		

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).



Air Control Valve

1-800-633-0405

NORGREN Excelon® Plus 84 Series Accessories

			Excelon Plus 84 Series Accessories			
Item Photo	Part No.	Price	Description	Weight (lbs)	Drawing Link	Manufacturer Specs
Ø.	<u>840014-51KIT</u>	\$13.00	Norgren Quikclamp, for use with Excelon 84 series components.	0.08	PDF	<u>PDF</u>
J.	<u>840014-52KIT</u>	\$17.00	Norgren Quikclamp with bracket, for use with Excelon 84 series components.	0.06	PDF	<u>PDF</u>
e	<u>840015-02KIT</u>	\$25.00	Norgren port adapter, replacement, 1/4in NPT thread. For use with Excelon 84 series components.	0.07	N/A	<u>PDF</u>
0	<u>840015-03KIT</u>	\$25.00	Norgren port adapter, replacement, 3/8in NPT thread. For use with Excelon 84 series components.	0.07	N/A	<u>PDF</u>
0 0	<u>840015-04KIT</u>	\$25.00	Norgren port adapter, replacement, 1/2in NPT thread. For use with Excelon 84 series components.	0.07	N/A	<u>PDF</u>
*	<u>840024-50KIT</u>	\$14.50	Norgren mounting bracket, for use with Excelon 84 series components.	0.06	<u>PDF</u>	<u>PDF</u>
	<u>840038-50KIT</u>	\$20.00	Norgren particulate filter element, replacement, 5 micron particles, polypropylene. For use with Excelon 84 series particulate filters.	0.05	N/A	PDF
Ĩ	<u>840038-51KIT</u>	\$20.00	Norgren particulate filter element, replacement, 40 micron particles, polypropylene. For use with Excelon 84 series particulate filters.	0.05	N/A	PDF







For a variety of cable options see our website www.AutomationDirect.com

The NITRA Total Air Prep (TAP) unit is the latest technology for compressed air preparation. A single, high flow unit contains an semi-automatic drain air filter with clogged filter indicator, relieving regulator, lockable shut-off valve, pressure gauge and air dump. Electric models also have an adjustable electric soft start / shut-off valve and an adjustable pressure switch with indicator LEDs. Interchangeable inlet and outlet port inserts allow the TAP to easily mount to most pipe sizes.

Features:

- 20 micron air filter with semi-automatic drain (optional 5 micron filter element sold separately)
- 7-116 psi operating range
- Units ship with 1/2" NPT inlet/outlet ports. Optional NPT or BSPP port inserts in sizes 1/4" thru 1" (sold separately). Any combination of port sizes all in one small footprint!
- Units ship with panel mounting hardware. Optional thru-panel mount hardware sold separately.

	Nitra Total Air Prep (TAP) Units											
Part No.	Price	Description	Weight	Insert Link	Manual Link							
<u>TAP-3000</u>	\$362.00	NITRA pneumatic total air prep unit, 1/2in female NPT inlet(s), 1/2in female NPT outlet(s), 7-116 psi (0.5-8 bar) adjustable range, Rynite (PET) bowl, semi-automatic drain, clog indicator, manual shutoff valve, soft start valve, pressure switch.	3.0	<u>PDF</u>	<u>PDF</u>							
<u>TAP-1000</u>	\$199.00	NITRA pneumatic total air prep unit, 1/2in female NPT inlet(s), 1/2in female NPT outlet(s), 7-116 psi (0.5-8 bar) adjustable range, Rynite (PET) bowl, semi-automatic drain, clog indicator, manual shutoff valve.	2.5	<u>PDF</u>	<u>PDF</u>							

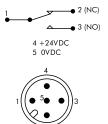
Nitra Total	Air Prep (TAP)	Unit Specificati	ons					
Specification	1/4" Units	3/8" Units	1/2" Units	3/4" Units	1" Units			
Flow rate at 91psi (6.3 bar) Δ p 7psi (0.5 bar)	78 scfm, 2200 NI/min	102 scfm, 2900 NI/min	1	27 scfm, 3600 NI/min				
Flow rate at 91psi (6.3 bar) Δ p 14psi (1 bar)	85 scfm, 2400 NI/min	116 scfm, 3300 NI/min	1	41 scfm, 4000 NI/min				
Flow rate on discarge at 14psi (6 bar)		56 sc	fm, 1600 NI/min					
1/4" Port flow rate of non-regulated filtered air at 91psi (6.3 bar) Δ pressure 1 bar		64 sc	fm, 1800 NI/min					
Flow rate of each supplementary 1/4" filtered and regulated air port at 91psi (6.3 bar) Δ pressure 1 bar*	ir 85 scfm, 2400 NI/min							
Fluid	Compressed air							
Setting Range		7-116	6 psi (0.5-8 bar)					
Degree of Filtration		5µm (yello	ow) or 20µm (white))				
Maximum Inlet Pressure		14	5psi (10 bar)					
Operating Temperature Range		-10 to 50	0°C (-14 to 122°F)					
Protection Class		IP 65	with connector					
Mounting	Front, wi	th M5 x 75 screws or bac	k with M6 x 70 scre	ws (screws are include	ed)			
Mounting Position			Vertical					
Direction of Flow		Fro	m left to right					
Approvals			CE					

* Total flow rate from two supplementary outlets and the main one cannot exceed 4000 NI/min at 6.3 bar with ΔP = 1



Nitra Total Air Prep (TAP)	Unit Specif	ications (T/	AP 3000 on	ly)					
Specification	1/4" Units	3/8" Units	1/2" Units	3/4" Units	1" Units				
Solenoid Valve Voltage			24VDC ± 10%	1					
Pressure Interval Settable on the Pressure Switch	7 to 145 psi (0.5 to 10 bar)								
Pressure Switch Hysteresis (not adjustable)	6 to 12 psi (0.4 to 0.8 bar)								
Maximum Pressure Switch Current		0.5 A (protected a	gainst overload a	nd short-circuit)					
Maximum Pressure Switch Voltage		3	to 30 VAC/VDC						
Pressure Switch Contacts		Normally Open ((NO) and Normally	y Closed (NC)					
Rated Switching Cycles			5 x 10 ⁶						
Protection Class		IP	65 with connector						
Solenoid Valve Insulation Class		Insulation of	class = F (155°C c	or 311°F)					
Switching Time			100% ED						
Electrical Connection		M12 x 1 5	pin to CEI IEC 60	947-5-2					

Wiring



Version with solenoid valve and pressure switch

Cable Assembly Wiring Colors:

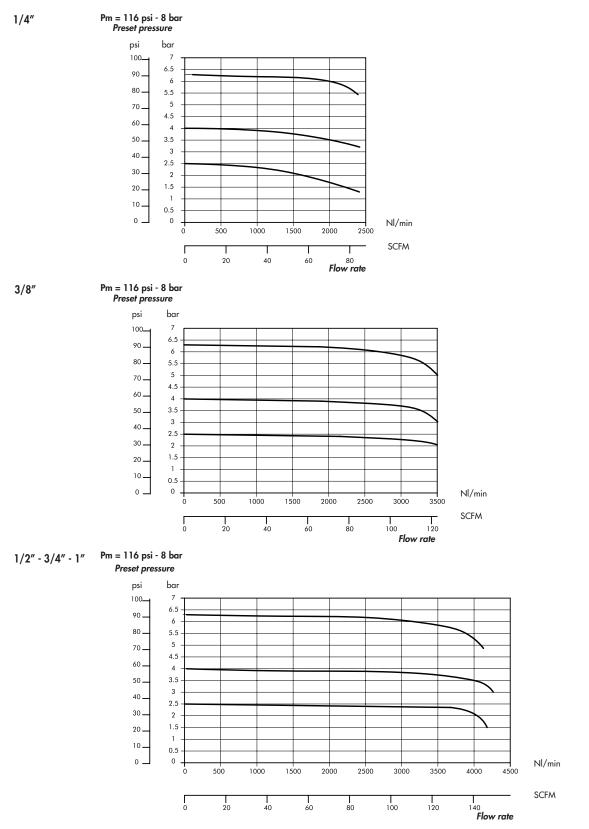
- Pin 1 Brown Pin 2 - White
- Pin 2 Winte Pin 3 - Blue
- Pin 4 Black
- Pin 5 Yellow/Green

Note: wiring colors are based on AutomationDirect CD12L and CD12M 5-pole cable assemblies.

Flow Charts:

PNEUMATICS

1-800-633-0405



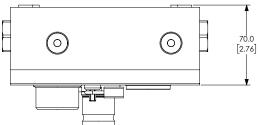


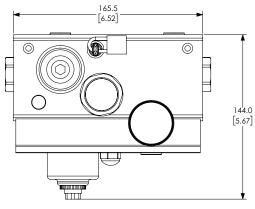
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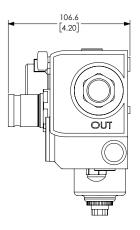
mm [inches]

UMATICS

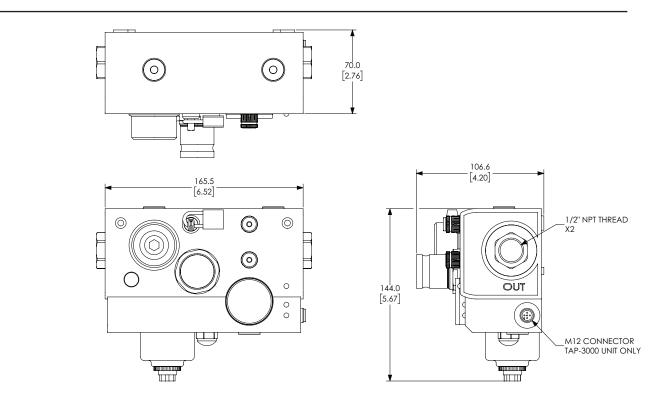
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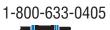


TAP-1000 Series



TAP-3000 Series

See our website www.AutomationDirect.com for complete Engineering drawings.

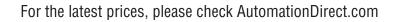


UMATICS

Total Air Prep (TAP) - Accessories

		Total .	Air Prep (TAP) - Accessories	
Items	Part No.	Price	Description	Weight (lbs)
	<u>TAP-ACC01</u>	\$15.50	NITRA panel mounting brackets, plated steel. For use with TAP unit. Mounting hardware included.	0.2
	<u>TAP-ACC02</u>	\$8.50	NITRA filter element, replacement, 20 micron, ultra high molecular weight polyethylene (UHMWPE). For use with TAP unit.	0.2
	<u>TAP-ACC03</u>	\$18.50	NITRA regulator, replacement, 0-120 psi (0-8 bar) adjustable range, acetal. For use with TAP unit.	0.3
	<u>TAP-ACC04</u>	\$8.50	NITRA filter element, replacement, 5 micron, ultra high molecular weight polyethylene (UHMWPE). For use with TAP unit.	0.1
	<u>TAP-ACC05</u>	\$8.75	NITRA regulator diaphragm, replacement, brass. For use with TAP unit.	0.1
1	<u>TAP-ACC06</u>	\$16.00	NITRA plug and filter element, replacement, 20 micron, acetal. For use with TAP unit.	0.1
	<u>TAP-ACC07</u>	\$18.00	NITRA port insert, 1/4in NPT, anodized aluminum. For use with TAP unit.	0.3
	<u>TAP-ACC08</u>	\$18.00	NITRA port insert, G1/4 BSPP, anodized aluminum. For use with TAP unit.	0.3
	<u>TAP-ACC09</u>	\$18.00	NITRA port insert, 3/8in NPT, anodized aluminum. For use with TAP unit.	0.3
	<u>TAP-ACC10</u>	\$18.00	NITRA port insert, G3/8 BSPP, anodized aluminum. For use with TAP unit.	0.3
	<u>TAP-ACC11</u>	\$21.50	NITRA port insert, replacement, 1/2in NPT, anodized aluminum. For use with TAP unit.	0.3
	TAP-ACC12	\$21.50	NITRA port insert, G1/2 BSPP, anodized aluminum. For use with TAP unit.	0.3

Note: For power cables see our Wiring Devices section online at www.AutomationDirect.com



1-800-633-0405

Total Air Prep (TAP) - Accessories											
Items	Part No.	Price	Description	Weight (lbs)							
	<u>TAP-ACC13</u>	\$24.50	NITRA port insert, 3/4in NPT, anodized aluminum. For use with TAP unit.	0.3							
	<u>TAP-ACC14</u>	\$24.50	NITRA port insert, G3/4 BSPP, anodized aluminum. For use with TAP unit.	0.3							
	TAP-ACC15	\$29.00	NITRA port insert, 1in NPT, anodized aluminum. For use with TAP unit.	0.3							
	<u>TAP-ACC16</u>	\$29.00	NITRA port insert, G1 BSPP, anodized aluminum. For use with TAP unit.	0.3							
	<u>TAP-ACC17</u>	\$5.00	NITRA regulator removal wrench, steel. For use with TAP unit.	0.3							
	<u>TAP-ACC18</u>	\$43.00	NITRA solenoid valve, replacement. For use with TAP-3000 unit.	0.3							
	<u>TAP-ACC20</u>	\$51.00	NITRA semi-automatic drain valve, replacement, acetal. For use with TAP unit.	0.3							
	<u>TAP-ACC21</u>	\$10.50	NITRA padlock, replacement, brass. For use with TAP unit.	0.3							
RIGH LOCK	<u>TAP-ACC23</u>	\$1.75	NITRA regulator knob, replacement, 0-120 psi (0-8 bar) adjustable range, acetal. For use with TAP unit.	0.1							

Total Air Prep (TAP) - Accessories

Note: For power cables see our Wiring Devices section online at www.AutomationDirect.com



Pneumatic Air Preparation - AF Series Filters



Modular Assembly Example

Air Filter



Mounting bracket included.

NITRA[®] pneumatic particulate and moisture separation air filters are available with 3/8" NPT female port sizes to meet a broad range of pneumatic air supply filtration applications. Available with either a manual, semi-automatic, or automatic drain. All-metal bowls with sight gauge are available on all sizes. Polycarbonate bowls are available on 3xx size, with metal bowl guards included on 3xx size. Replaceable 40-micron filter elements are standard. An optional 5-micron filter element (purchased separately and customer installable) is available when stricter filtration is required. Provided with a mounting bracket for stand-alone applications, the modular design also enables easy field assembly for combining with NITRA pneumatic regulators and lubricators (using modular assembly brackets purchased separately).

Features

- 3/8" NPT female port sizes
- 40-micron replaceable filter element standard; for stricter filtration an optional 5-micron filter element purchased separately is easily customer installable
- All-metal bowls with sight gauge available on all sizes. Polycarbonate bowls available on 3xx size, with metal bowl guards included on 3xx size.
- Manual, semi-automatic and automatic drains available
- · Mounting bracket provided for stand-alone applications
- Modular design enables easy field assembly for combining with NITRA regulators and lubricators
- 2-year warranty



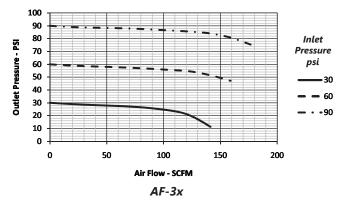
wide variety of fitting options

N

RA Pneumatic Air Preparation - AF Series Filters

	AF Series Filters Cont.												
Part No.	Price	Weight (lbs)	Port Size (FNPT)	Drain Bowl	Drain Type	Fluid	Temperature	Filtering Grade	Operating Pressure	Maximum Pressure	Proof Pressure		
<u>AF-333-MD</u>	\$31.50	1.0	3/8"	40cc Metal with sight gauge	Manual	Air	23~140°F (-4~60°C)	40µ (5µ element can be ordered separately and field installed)	20~130psi (0.14~0.90MPa) (1.4~9.0 bar)	130psi (0.90MPa) (9.0 bar)	215psi (1.5MPa) (15 bar)		

Performance Charts

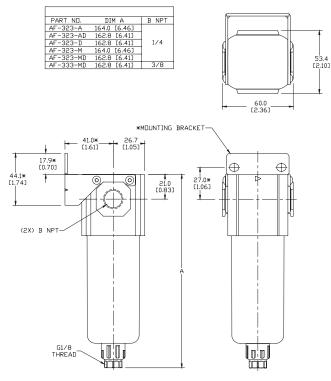


Dimensions

mm [inches]

AF-3x

*MOUNTING BRACKET INSTALLATION OPTIONAL



Note: Unit dimensions are the same for listed models; port NPT varies based on model.

See our Web site <u>www.AutomationDirect.com</u> for complete Engineering drawings.



Pneumatic Air Preparation - AF2 Series Filters



Modular Assembly Example



Air Filter

NITRA[®] pneumatic particulate and moisture separation air filters are available with 1/8", 1/4", 3/8", 1/2", 3/4" or 1" NPT female port sizes to meet a broad range of pneumatic air supply filtration applications. Available with either a manual / semiautomatic or automatic drain. All-metal bowls with sight gauge are available in all sizes. Polycarbonate bowls with metal bowl guards are available in 2xx, 3xx and 4xx sizes, or nylon bowls with metal bowl guards. Replaceable 40-micron filter elements are standard. An optional 5-micron filter element (purchased separately and customer installable) is available when stricter filtration is required. Provided with a mounting bracket for stand-alone applications, the modular design also enables easy field assembly for combining with NITRA pneumatic regulators and lubricators (using modular assembly brackets purchased separately).

Features

- 1/8", 1/4", 3/8", 1/2", 3/4" and 1" NPT female port sizes
- 40-micron replaceable filter element standard; for stricter filtration, an optional 5-micron filter element purchased separately is easily customer installable
- All-metal bowls with sight gauge available on all sizes. Polycarbonate or nylon bowls with metal bowl guards available on 2xx, 3xx and 4xx sizes.
- Manual / semi-automatic and automatic drains available
- Mounting bracket provided for stand-alone applications
- Modular design enables easy field assembly for combining with NITRA regulators and lubricators
- 2-year warranty



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	wide variety of fitting options											
					AF2 Se	eries	Filters					
Part No.	Price	Weight (lbs)	Port Size (FNPT)	Drain Bowl	Drain Type	Fluid	Тетр	Filtering Grade	Operating Pressure	Maximum Pressure	Proof Pressure	Drawing Link
<u>AF2-213-N</u>	\$22.00	0.65	1/8"	25cc nylon with metal bowl guard							215psi (1.5MPa) - (15 bar)	PDF
<u>AF2-213-D</u>	\$27.50	0.67		25cc die-cast aluminum bowl w/ sight				40μ (5μ element can be ordered separately and field installed)	20~145psi (0.15~1.0MPa) (1.4~10.0 bar)			<u>PDF</u>
<u>AF2-213</u>	\$22.00	0.66		25cc polycarbonate with metal bowl guard			-5°C to 70°C (23°F to 158°F)					<u>PDF</u>
<u>AF2-223-N</u>	\$22.00	0.64		25cc nylon with metal bowl guard	Manual/							PDF
<u>AF2-223-D</u>	\$27.50	0.67		25cc die-cast aluminum bowl w/ sight	Semi-	Semi- utomatic						<u>PDF</u>
<u>AF2-223</u>	\$22.00	0.65		25cc polycarbonate with metal bowl guard								PDF
<u>AF2-323-N</u>	\$25.50	1.06		60cc nylon with metal bowl guard		All						<u>PDF</u>
<u>AF2-323-D</u>	\$31.50	1.1	1/4"	60cc die-cast aluminum bowl w/ sight								<u>PDF</u>
<u>AF2-323</u>	\$25.50	1.08		60cc polycarbonate with metal bowl guard								<u>PDF</u>
<u>AF2-323-AN</u>	\$36.50	1.1		60cc nylon with metal bowl guard							-	<u>PDF</u>
<u>AF2-323-AD</u>	\$42.00	1.13		60cc die-cast aluminum bowl w/ sight	Automatic							<u>PDF</u>
<u>AF2-323-A</u>	\$36.50	1.12		60cc polycarbonate with metal bowl guard								PDF

See our Web site www.AutomationDirect.com for complete Engineering drawings.

Mounting bracket included.

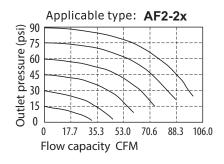


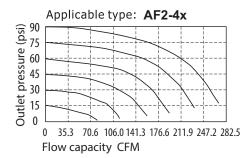
Pneumatic Air Preparation - AF2 Series Filters

					AF2 Seri	es Fil	ters Cont.				•	
Part No.	Price	Weight (lbs)	Port Size (FNPT)	Drain Bowl	Drain Type	Fluid	Temperature	Filtering Grade	Operating Pressure	Maximum Pressure	Proof Pressure	Drawing Link
<u>AF2-333-N</u>	\$25.50	1.04		60cc nylon with metal bowl guard								PDF
<u>AF2-333-D</u>	\$31.50	1.08		60cc die-cast aluminum bowl w/ sight	Manual/Semi- Automatic	Automatic					-	PDF
AF2-333	\$25.50	1.05	3/8"	60cc polycarbonate with metal bowl guard								PDF
AF2-333-AN	\$36.50	1.07	3/8	60cc nylon with metal bowl guard								PDF
AF2-333-AD	\$42.00	1.11		60cc die-cast aluminum bowl w/ sight	Automatic							PDF
AF2-333-A	\$36.50	1.09		60cc polycarbonate with metal bowl guard								PDF
AF2-443-N	\$38.00	1.74	-	100cc nylon with metal bowl guard	Manual/Semi- Automatic Air						PDF	
AF2-443-D	\$46.50	1.77		100cc die-cast aluminum bowl w/ sight		Air	-5°C to 70°C (23°F to 158°F)	40µ (5µ element can be ordered separately and field installed)	20~145psi (0.15~1.0MPa) (1.4~10.0 bar)	145psi (1.0MPa) (10.0 bar)	215psi (1.5MPa) (15 bar)	PDF
AF2-443	\$38.00	1.77	1/2"	100cc polycarbonate with metal bowl guard								PDF
AF2-443-AN	\$48.50	1.77	1/Z	100cc nylon with metal bowl guard								PDF
AF2-443-AD	\$57.00	1.81		100cc die-cast aluminum bowl w/ sight	Automatic							PDF
AF2-443-A	\$48.50	1.8		100cc polycarbonate with metal bowl guard								PDF
AF2-663-D	\$70.00	3.31	3/4"	205cc die-cast aluminum bowl w/ sight	Manual/Semi- Automatic							PDF
AF2-663-AD	\$81.00	3.35	3/4	205cc die-cast aluminum bowl w/ sight	Automatic							PDF
AF2-683-D	\$70.00	3.22	1"	205cc die-cast aluminum bowl w/ sight	Manual/Semi-						PDF	
AF2-683-AD	\$81.00	3.26		205cc die-cast aluminum bowl w/ sight	Automatic							<u>PDF</u>

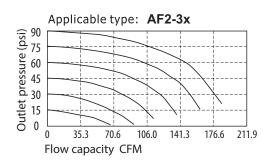
Performance Charts

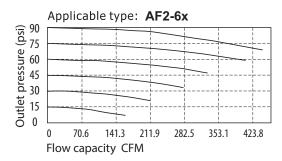
Flow chart





See our Web site <u>www.AutomationDirect.com</u> for complete Engineering drawings.







Pneumatic Air Preparation - AC Series Coalescing Filters



AC-444-AD

AC-334-N AC-224





AC-214

NITRA[®] pneumatic coalescing air filters are available with 1/8", 1/4", 3/8" or 1/2" NPT female port sizes to meet pneumatic air supply filtration applications that require oil mist and moisture removal to provide the best performance of modern pneumatic system components. Available with either a semi-automatic/ manual or automatic drain. All-metal bowls with sight gauge are available on 3xx and 4xx sizes. Polycarbonate or nylon bowls with metal bowl guards available on all sizes. Replaceable 0.3-micron filter elements are standard. An optional 0.01-micron filter element (purchased separately and customer installable) is available when stricter filtration is required. Provided with a mounting bracket for stand-alone applications, the modular design also enables easy field assembly for combining with NITRA pneumatic particulate filters and regulators (using modular assembly brackets purchased separately).

Features

- 1/8", 1/4", 3/8" and 1/2" NPT female port sizes
- 0.3-micron replaceable filter element standard; for stricter filtration an optional 0.01-micron filter element purchased separately is easily customer installable
- Polycarbonate and Nylon bowls with metal bowl guards available on all sizes. Metal bowls with sight gauge on 3xx and 4xx sizes.
- Semi-automatic/manual and automatic drains available
- Mounting bracket provided for stand-alone applications
- Modular design enables easy field assembly for combining with NITRA particulate filters and regulators
- 2-year warranty





See <u>www.AutomationDirect.com</u> for a wide variety of fitting options



Typical installation example shows AF series particulate filter (left), AR series pressure regulator (center) and AC series coalescing filter (right).



Pneumatic Air Preparation - AC Series Filters

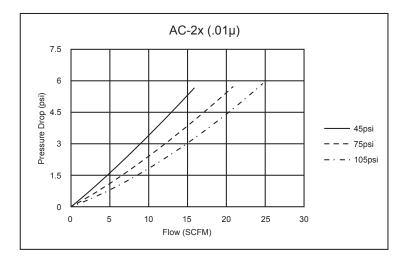
					AC Series	Filter	s Cont.				
Part No.	Price	Weight (Ibs)	Port Size (FNPT)	Drain Bowl	Drain Type	Fluid	Temperature	Filtering Grade	Operating Pressure	Maximum Pressure	Proof Pressure
<u>AC-214</u>	\$54.00	0.7	1/8"	19cc Polycarbonate with metal bowl guard							
<u>AC-214-N</u>	\$55.00	0.7		19cc Nylon with metal bowl guard							
<u>AC-224</u>	\$54.00	0.7		19cc Polycarbonate with metal bowl guard		Vanual/Semi- Automatic					
<u>AC-224-N</u>	\$55.00	0.7		19cc Nylon with metal bowl guard				0.3µ, 99.9% efficiency (0.01µ, 99.9% efficiency element may be ordered separately and field installed)	20~145psi (0.14~1.0MPa) (1.4~10.0 bar)		
<u>AC-324</u>	\$57.00	1.15		54.5cc Polycarbonate with metal bowl guard							
<u>AC-324-N</u>	\$58.00	1.15	1/4"	54.5cc Nylon with metal bowl guard							
<u>AC-324-D</u>	\$59.00	1.2	, .	54.5cc metal with sight gauge 54.5cc Polycarbonate with metal bowl guard							
<u>AC-324-A</u>	\$75.00	1.15									
<u>AC-324-AN</u>	\$76.00	1.15		54.5cc Nylon with metal bowl guard	Automatic						
<u>AC-324-AD</u>	\$77.00	1.2		54.5cc metal with sight gauge			23~140°F (-4~60°C)				
<u>AC-334</u>	\$57.00	1.15		54.5cc Polycarbonate with metal bowl guard		Air				145psi (1.0MPa) (10.0 bar)	215psi (1.5MPa) (15 bar)
<u>AC-334-N</u>	\$58.00	1.15		54.5cc Nylon with metal bowl guard	Manual/Semi- Automatic						
<u>AC-334-D</u>	\$59.00	1.2	3/8"	54.5cc metal with sight gauge							
<u>AC-334-A</u>	\$75.00	1.15	5/0	54.5cc Polycarbonate with metal bowl guard							
<u>AC-334-AN</u>	\$76.00	1.15		54.5cc Nylon with metal bowl guard	Automatic						
<u>AC-334-AD</u>	\$77.00	1.2		54.5cc metal with sight gauge							
<u>AC-444</u>	\$77.00	1.8		89cc Polycarbonate with metal bowl guard							
<u>AC-444-N</u>	\$80.00	1.8		89cc Nylon with metal bowl guard	Manual/Semi- Automatic						
<u>AC-444-D</u>	\$80.00	1.8	1/2"	89cc metal with sight gauge							
<u>AC-444-A</u>	\$95.00	1.8	1/2	89cc Polycarbonate with metal bowl guard							
<u>AC-444-AN</u>	\$98.00	1.8		89cc Nylon with metal bowl guard	Automatic						
<u>AC-444-AD</u>	\$98.00	1.8		89cc metal with sight gauge							

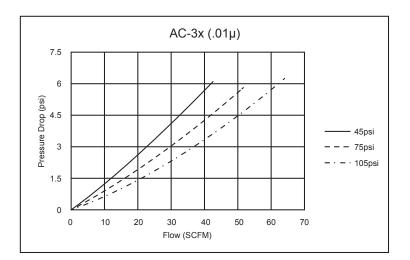
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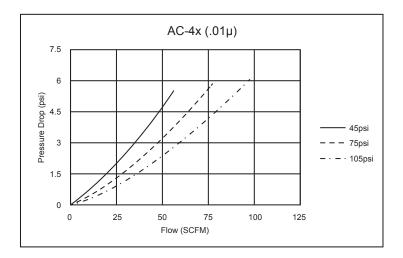
NITRA PNEUMATICS Pneu Filte

Pneumatic Air Preparation - AC Series Filters

Performance Charts - .01µ Coalescing Filters



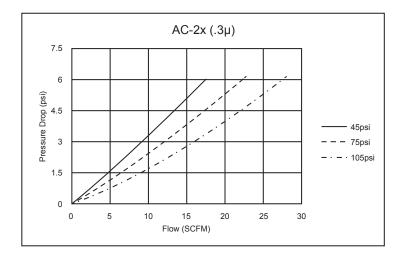


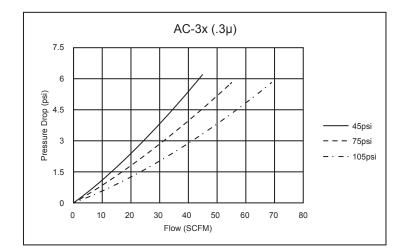


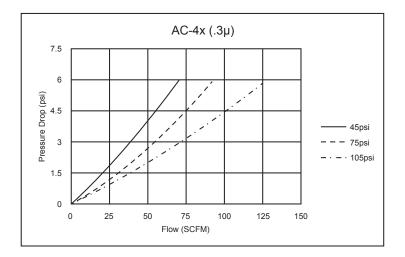


Pneumatic Air Preparation - AC Series Filters

Performance Charts - .3µ Coalescing Filters





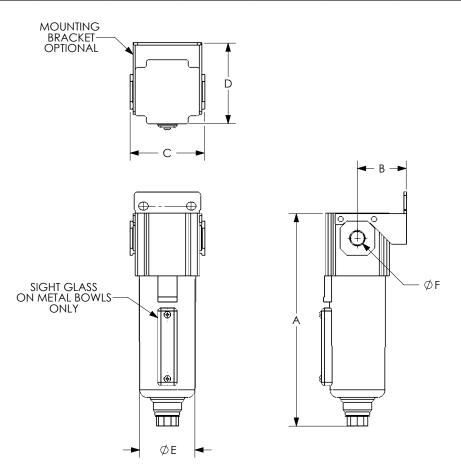




Pneumatic Air Preparation - AC Series

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	AC	Series Filter	Dimension	s - mm (inc	hes)	
Part No.	А	В	С	D	ØE	ØF
AC-214	137.0 [5.39]	33.0 [1.30]	52.5 {2.07]	54.5 [2.15]	36.1 [1.42]	1/8
AC-214-N	137.0 [5.39]	33.0 [1.30]	52.5 {2.07]	54.5 [2.15]	36.1 [1.42]	1/8
AC-224	137.0 [5.39]	33.0 [1.30]	52.5 {2.07]	54.5 [2.15]	36.1 [1.42]	1/4
AC-224-N	137.0 [5.39]	33.0 [1.30]	52.5 {2.07]	54.5 [2.15]	36.1 [1.42]	1/4
AC-324	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	1/4
AC-324-N	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	1/4
AC-324-D	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	1/4
AC-324-A	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	1/4
AC-324-AN	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	1/4
AC-324-AD	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	1/4
AC-334	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	3/8
AC-334-N	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	3/8
AC-334-D	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	3/8
AC-334-A	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	3/8
AC-334-AN	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	3/8
AC-334-AD	179.0 [7.05]	41.0 [1.61]	62.5 [2.46]	67.8 [2.67]	46.5 [1.83]	3/8
AC-444	202.4 [7.97]	50.0 [1.97]	80.0 [3.15]	84.0 [3.31]	58.0 [2.28]	1/2
AC-444-N	202.4 [7.97]	50.0 [1.97]	80.0 [3.15]	84.0 [3.31]	58.0 [2.28]	1/2
AC-444-D	202.4 [7.97]	50.0 [1.97]	80.0 [3.15]	84.0 [3.31]	58.0 [2.28]	1/2
AC-444-A	202.4 [7.97]	50.0 [1.97]	80.0 [3.15]	84.0 [3.31]	58.0 [2.28]	1/2
AC-444-AN	202.4 [7.97]	50.0 [1.97]	80.0 [3.15]	84.0 [3.31]	58.0 [2.28]	1/2
AC-444-AD	202.4 [7.97]	50.0 [1.97]	80.0 [3.15]	84.0 [3.31]	58.0 [2.28]	1/2



Note: Unit dimensions are the same for listed models; port NPT varies based on model.

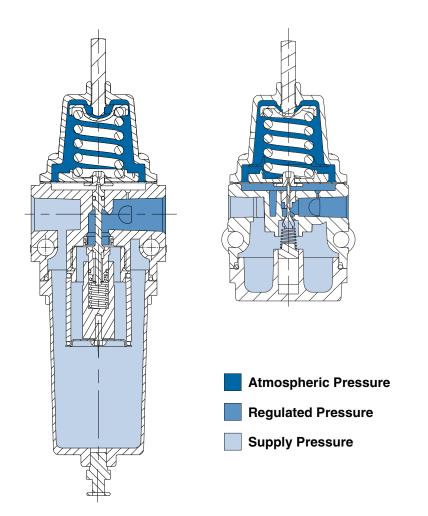
See our Web site <u>www.AutomationDirect.com</u> for complete Engineering drawings.



Pneumatic Regulators

Principles of Operation - Standard vs. Precision Regulators

Turning the adjusting screw changes the force exerted by the range spring on the diaphragm assembly. In equilibrium of set pressure, the force exerted by the range spring is balanced by the force from the output pressure acting underneath the diaphragm assembly. An unbalanced state between the output pressure and the set pressure causes a corresponding reaction in the diaphragm and supply valve assemblies. If the output pressure rises above the set pressure, an upward force is exerted on the diaphragm assembly causing the relief seat to lift and open. Excess pressure is vented to atmosphere until equilibrium is reached. If the output pressure drops below the set pressure the unbalanced force of the range spring causes a downward force on the diaphragm assembly. The supply valve then opens until the pressure builds up once more to the equilibrium condition. Under forward flow conditions, the range spring force is balanced by the diaphragm pressure force, with the supply valve open just enough to maintain the required equilibrium pressure. When high flow occurs, a specially designed aspirator helps maintain downstream pressure and compensates for droop.



Pneumatic Air Preparation - AR2 NEUMATICS Series Regulators



AR2-323

AR2-663



AR2-213

Mounting bracket included.



Air Regulator

NITRA [®] pneumatic air pressure regulators are available with 1/8", 1/4", 3/8", 1/2", 3/4" or 1" NPT female port sizes and adjustable pressure ranges of 7-130 psi or 7-60 psi to meet a broad range of pneumatic air supply pressure regulation applications. These regulators feature a locking pressure adjustment knob and integral pressure gauge. The regulators will relieve downstream pressure if the setpoint is reduced.

Regulators are provided with a mounting bracket for stand-alone applications. The modular design also enables easy field assembly for combining with NITRA pneumatic filters and lubricators (using modular assembly brackets purchased separately). The standard mounting orientation is with the adjustment knob up, however, they can be mounted with the adjustment knob down by moving the pressure gauge to the opposite side to maintain left-to-right flow direction.

Features

- 1/8", 1/4", 3/8", 1/2", 3/4" and 1" NPT female port sizes
- Adjustable ranges of 7-130 psi or 7-60 psi
- Locking pressure adjustment knob
- Integral pressure gauge
- Mounting bracket provided for stand-alone applications
- Modular design enables easy field assembly for combining with NITRA filters and lubricators
- 2 year warranty





See www.AutomationDirect.com for a wide variety of fitting options

				AR2	2 Series Reg	ulators			
Part No.	Price	Weight (lbs)	Port Size (FNPT)	Fluid	Temperature	Operating Pressure	Maximum Pressure	Proof Pressure	Drawing Link
<u>AR2-212</u>	\$28.00	0.53		1/8"		7~60psi (0.05~0.41MPa) (0.5~4.1 bar)	60psi (0.41MPa) (4.1 bar)		PDF
<u>AR2-213</u>	\$28.00	0.54	1/8"			7~130psi (0.05~0.90MPa) (0.5~9.0 bar)	130psi (0.90MPa) (9.0 bar)	1	PDF
<u>AR2-222</u>	\$28.00	0.53				7~60psi (0.05~0.41MPa) (0.5~4.1 bar)	60psi (0.41MPa) (4.1 bar)		PDF
<u>AR2-223</u>	\$28.00	0.53	- 1/4"			7~130psi (0.05~0.90MPa) (0.5~9.0 bar)	130psi (0.90MPa) (9.0 bar)		<u>PDF</u>
<u>AR2-322</u>	\$35.50	0.84	1/4			7~60psi (0.05~0.41MPa) (0.5~4.1 bar)	60psi (0.41MPa) (4.1 bar)	215psi	PDF
<u>AR2-323</u>	\$35.50	0.85		Air	-20°C to 70°C (-4°F to 158°F)	7~130psi (0.05~0.90MPa) (0.5~9.0 bar)	130psi (0.90MPa) (9.0 bar)	(1.5MPa) (15 bar)	PDF
<u>AR2-332</u>	\$35.50	0.81	- 3/8"			7~60psi (0.05~0.41MPa) (0.5~4.1 bar)	60psi (0.41MPa) (4.1 bar)		PDF
<u>AR2-333</u>	\$35.50	0.83	3/0						PDF
<u>AR2-443</u>	\$50.00	1.58	1/2"]		7~130psi	130psi (0.90MPa)		PDF
<u>AR2-663</u>	\$81.00	4.13	3/4"]		(0.05~0.90MPa) (0.5~9.0 bar)	(9.0 bar)		PDF
<u>AR2-683</u>	\$81.00	4.07	1"]					PDF

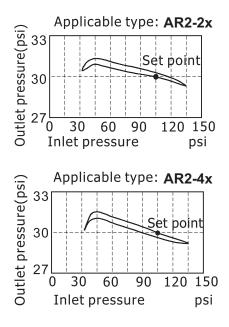
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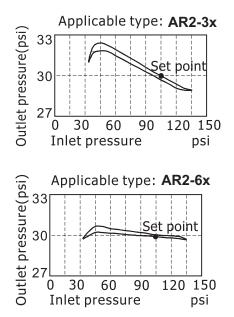


Pneumatic Air Preparation - AR2 ^s Series Regulators

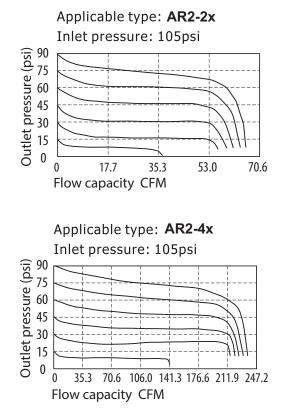
Performance Charts

Pressure chart

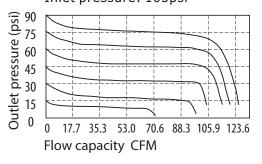


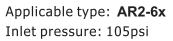


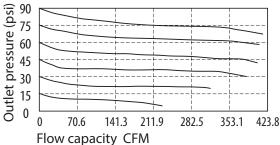
Flow chart



Applicable type: **AR2-3x** Inlet pressure: 105psi







For the latest prices, please check AutomationDirect.com

NITRA PNEUMATICS



BR-323



BR-341

NITRA[®] BR Series Regulators are designed for use in systems that require clean, accurate instrument air. They are constructed of durable materials ideal for industrial environments.

Features

Pneumatic - BR Series Regulators

- Diecast aluminum alloy, irridite and baked epoxy finish body
- Nitrile elastomer and nylon fabric diaphragm
- Nitrile elastomer valve seat
- Additional build materials include: brass, zinc plated steel and acetal
- Mounting by pipe, bracket or through body direct
- 1/4" and 1/2" NPT ports available
- 3 pressure ranges available
- Made in the USA



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options



Mounting bracket not included.

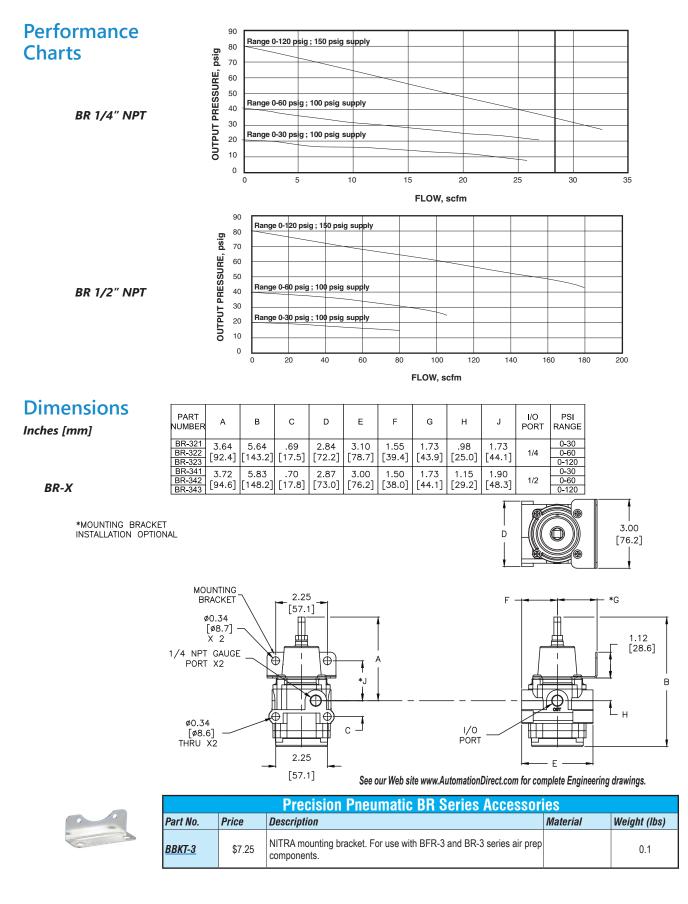


					Pne	eumatic B	R Serie	es Regulat	ors			
Part No.	Price	Weight (lbs)	Port Size (FNPT)	Fluid	Temperature	Operating Pressure	Maximum Supply Pressure	Supply Pressure Sensitivity	Exhaust Capacity	Sensitivity	Air Consumption	Effect of Supply Pressure Variation
<u>BR-321</u>	\$44.00	0.4	1/4"			0-30 psi (0-0.21 MPa) (0-2 bar)						
<u>BR-322</u>	\$44.00	0.4	1/4"			0-60 psi (0-0.41 MPa) (0-4 bar)		0.5 @ 150 psig suppy and 80 psig setpoint				Less than 0.25 psig (0.017 bar) for 25 psig
<u>BR-323</u>	\$44.00	0.4	1/4"	Air &	0~160°F	0-120 psi (0-0.83 MPa) (0-8 bar)	250psi		0.1 scfm (2.83 Nl/min) with	1" of water	Less than 5 scfh (2.5 NI/ min)	(1.7 bar) change
<u>BR-341</u>	\$83.00	0.4	1/2"	Inert	(-18~71°C	0-30 psi (0-0.21 MPa) (0-2 bar)	(1.72 MPa) (17bar)		downstream pressure 5 psig (0.3 bar) above set point			Less than 0.5 psig
<u>BR-342</u>	\$83.00	0.4	1/2"			0-60 psi (0-0.41 MPa) (0-4 bar)		2.5 @ 150 psig supply and 80 psig setpoint	F 2000			(0.035 bar) for 25 psig
<u>BR-343</u>	\$83.00	0.4	1/2"			0-120 psi (0-0.83 MPa) (0-8 bar)						(1.7 bar) change

Note: A filter (40 micron or less) is recommended ahead of regulator. If lubricator is used, it should be downstream of regulator.

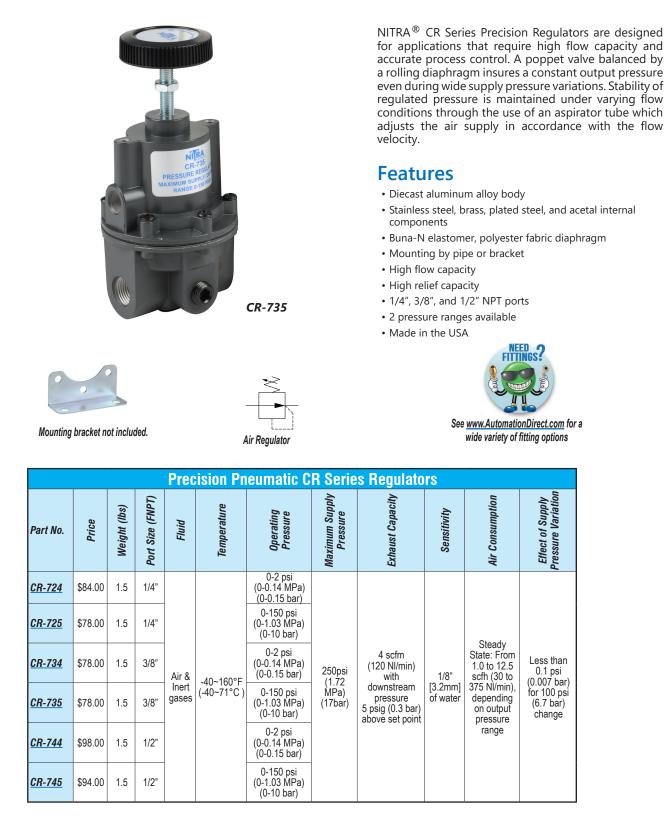
www.automationdirect.com

Pneumatic - BR Series Regulators





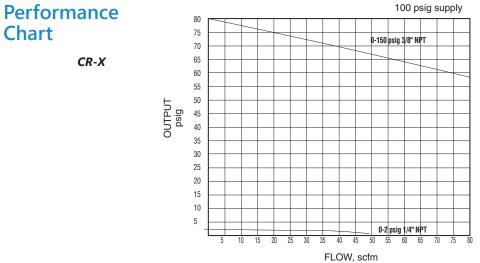
Precision Pneumatic - CR Series Regulators



Note: A filter (40 micron or less) is recommended ahead of regulator. If lubricator is used, it should be downstream of regulator.



Precision Pneumatic - CR Series Regulators

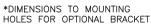


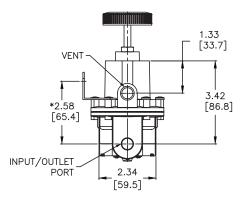
Dimensions

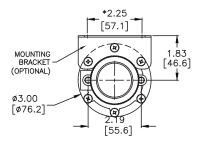
Inches [mm]

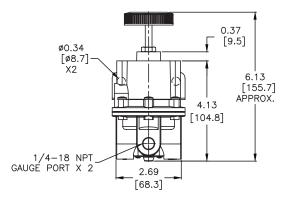
CR-X

PART NUMBER	PRESSURE RANGE PSI	INLET/OUTLET PORT SIZE
CR-724	0-2	1/4
CR-725	0-150	1/4
CR-734	0-2	3/8
CR-735	0-150	3/8
CR-744	0-2	1/2
CR-745	0-150	1/2









See our Web site www.AutomationDirect.com for complete Engineering drawings.



	Precision Pneumatic CR Series Accessories										
Part No.	Price	Description	Material	Weight (lbs)							
<u>CBKT-7</u>	\$7.50	NITRA mounting bracket. For use with CR-7 series air prep components.	Plated Steel	0.1							

Precision Pneumatic - DR Series Regulators



NITRA[®] DR Series Precision Regulators are well suited for processes that require precise regulation of air pressure in pipes and vessels. The DR Series is often used for: precision fluid control, air gauging, gas mixing, calibration standards, gate actuators, cylinder loading, and web tensioning.

Features

- Diecast zinc alloy body
- Stainless steel, brass, plated steel, and acetal internal components
- Buna-N elastomer, polyester fabric diaphragm
- Mounting by pipe or bracket
- (2) 1/4" NPT gauge ports
- 1/4" and 3/8" NPT ports
- Made in the USA

DR-126



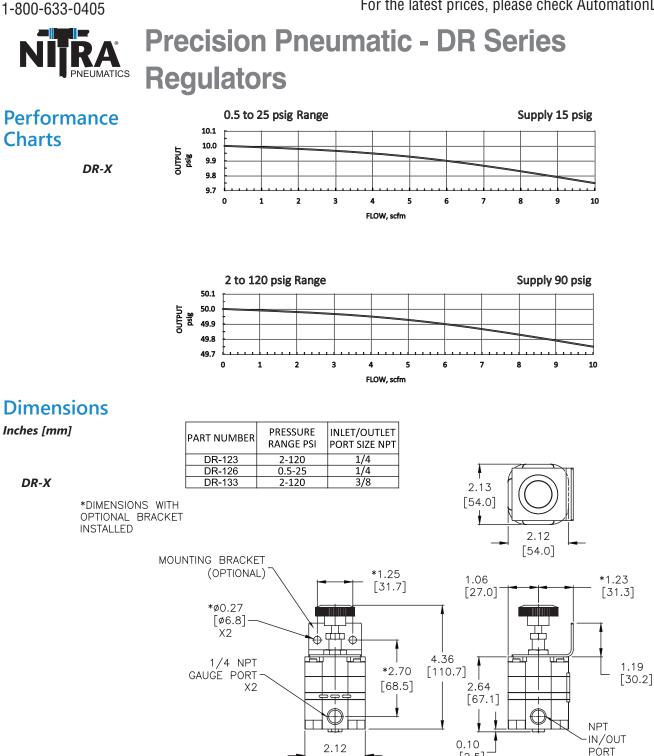
Mounting bracket not included.



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Precision Pneumatic DR Series Regulators											
Part No.	Price	Weight (Ibs)	Port Size (FNPT)	Fluid	Temperature	Operating Pressure	Maximum Supply Pressure	Pilot Pressure Chamber Bleed Rate	Exhaust Capacity	Sensitivity	Air Consumption	Effect of Supply Pressure Variation
<u>DR-123</u>	\$98.00	1.4	1/4"			2-120 psi (0.014-0.83 MPa) (0.138-8.27 bar)	150psi (1.03 MPa) (10.5 bar)		3 scfm			Less than
<u>DR-126</u>	\$116.00	1.4	1/4"	Air & Inert gases	-20~160°F (-29~71°C)	0.5-25 psi (0.003-0.17 MPa) (0.03-1.72 bar)	50psi (0.34 MPa) (3.4 bar)	less than 0.08 scfm (2.4 Nl/min)	(90 NI/min) with downstream pressure 5 psig (0.3	1/8" [3.2mm] of water	6 scfh (3 Nl/ min)	0.005 psi (0.003 bar) for 25 psig
<u>DR-133</u>	\$98.00	1.4	3/8"			2-120 psi (0.014-0.83 MPa) (0.138-8.27 bar)	150psi (1.03 MPa) (10.5 bar)		bar) above set point			(1.7 bar) change

Note: A filter (40 micron or less) is recommended ahead of regulator. If lubricator is used, it should be downstream of regulator.



See our Web site www.AutomationDirect.com for complete Engineering drawings.

[2.5]

	Precision Pneumatic DR Series Accessories									
Part No.	Price	Description	Material	Weight (lbs)						
<u>DBKT-1</u>	\$10.50	NITRA mounting bracket. For use with DR-1 series air prep components.	Plated Steel	0.1						

[54.0]

For the latest prices, please check AutomationDirect.com

Precision Pneumatic - ER Series Regulators



NITRA[®] ER Series Precision Regulators are miniature regulators that are designed to provide the highest level of regulation accuracy and repeatability available in a compact, lightweight housing. A force balanced pilot control maintains output pressure to within 0.05 psig (3.44 millibar) with minimal drift over time. They are ideal for applications that require exact pressure control and substantial flow capacity under variable operating conditions with limited space.

Features

- Diecast aluminum alloy, chromate and epoxy paint housing
- Nitrile elastomers
- Brass, aluminum, stainless steel and zinc plated internals
- Mounting by pipe or bracket
- (2) 1/8" NPT gauge ports
- Made in the USA



Mounting bracket not included.





See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	Precision Pneumatic ER Series Regulators											
Part No.	Price	Weight (Ibs)	Port Size (FNPT)	Fluid	Temperature	Operating Pressure	Supply Pressure Sensitivity	Maximum Supply Pressure	Exhaust Capacity	Sensitivity	Air Consumption	Repeatability
<u>ER-911</u>	\$70.00	0.4	1/8"	Air &	0~160°F	0.7-30 psig (0.005-0.21 MPa) (0.048-2.07 bar)	0.5 psig (0.034 bar) for a	150psi (1.03	7 scfm	1/4"	6 scfh (170 Nl/ hr)	±0.3%
<u>ER-913</u>	\$70.00	0.4	1/8"	Inert gases	(-18~71°C)	1.4-120 psig (0.010-0.83 MPa) (0.138- 8.27 bar)	100 psig (6.9 bar) change	(1.03 MPa) (10.5 bar)	(199 NI/min)	[6.4mm] of water	@́ 150psig (10 bar) supply	of span

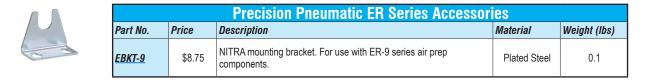
Note: A filter (40 micron or less) is recommended ahead of regulator. If lubricator is used, it should be downstream of regulator.



Precision Pneumatic - ER Series Regulators

Performance Charts FLOW CURVES PSIG 130 Range 1.4-120 psig; 150 psig supply ER-X 120 110 OUTPUT PRESSURE 100 90 Range 1.4-120 psig; 100 psig supply 80 70 60 50 40 30 Range 0.70-30 psig; 100 psig supply 20 10 0 SCFM 0 1 2 3 Δ 5 6 7 8 9 10 11 12 13 14 **Dimensions** Inches [mm] ER-X PART PRESSURE NUMBER RANGE PSI ER-911 0.7-30 ER-913 1.4-120 *DIMENSIONS FOR OPTIONAL BRACKET MOUNTING BRACKET (OPTIONAL) *1.10 *0.98 [27.9] [25.0] *ø0.18 [ø4.6] . X2 VENT -1.72 3.80 A [43.8] BLEED [96.5] *2.52 *2.17 1/8 NPT IN/OUT [64.1] [55.0] PORT Ø 1.37 0.38 1/8 NPT GAUGE [34.9] [9.5] PORT X2 1.37 [34.9]

See our Web site www.AutomationDirect.com for complete Engineering drawings.



15



For the latest prices, please check AutomationDirect.com

Electropneumatic Transducers (I/P) NCP1 Series



Part No. NCP1-20-315N



wide variety of fitting options

NITRA[®] NCP1 Series electropneumatic transducers (I/P) convert a 4-20 mA current signal(I) from a PLC or other controller to a linear pneumatic output pressure(P). Used in paper and paper converting, food and drug, petrochemical, HVAC, textile, and energy management industries, the NCP1 Series provides highly reliable and repeatable operation of pneumatic valve positioners, valve actuators, air cylinders, damper and louver actuators, web tensionsers, clutches and brakes. The NCP1 Series is available in several output pressure ranges and includes an integral volume booster for high flow applications.

The NCP1 transducer housing can be direct or bracket mounted, comes with additional output ports for use with a pressure gauge, a 1/2" NPT female conduit connection with wire leads, and is NEMA 4X (IP65) rated for installation in NEMA 4X (IP65) environments. The NCP1 Series comes standard with Factory Mutual (FM) approval for intrinsically safe applications.

Features

- 4-20 mA input compatible with PLCs and other controllers
- Several output pressure ranges applicable for industrial pneumatic and process control applications
- Additional output ports for use with a pressure gauge
- 1/2" NPT female conduit connection with wire leads
- Direct or bracket mounting (bracket included)
- Zero and span adjustments
- Integrated volume booster
- Low air consumption
- Split ranging (3-15 psig model)
- FM Approved for Hazardous Locations
- Made in the USA



	NCP1 Series I/P Transducers										
Part Number	Price	Weight (lhe)	Input	Output Range							
	Flice	Weight (lbs)	Input	psig	bar						
<u>NCP1-20-315N</u>	\$338.00	2.5	4-20 mA	3-15	0.2-1.0						
<u>NCP1-20-327N</u>	\$338.00	2.5	4-20 mA	3-27	0.2-1.9						
<u>NCP1-20-630N</u>	\$338.00	2.5	4-20 mA	6-30	0.4-2.0						
<u>NCP1-20-260N</u>	\$338.00	2.5	4-20 mA	2-60*	0.14-4.0						
<u>NCP1-20-3120N</u>	\$338.00	2.5	4-20 mA	3-120*	0.2-8.0						

* Output shown is as calibrated at the factory. Large span adjustment capability allows recalibration to achieve output ranges of 3-35 psig (0.2-2.4 bar) with 2-60 psig unit or 3-145 psig (0.2-10 bar) with 3-120 psig unit.

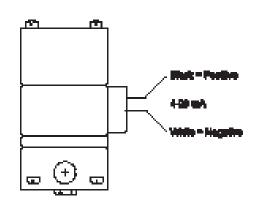
Electropneumatic Transducers (I/P) NCP1 Series

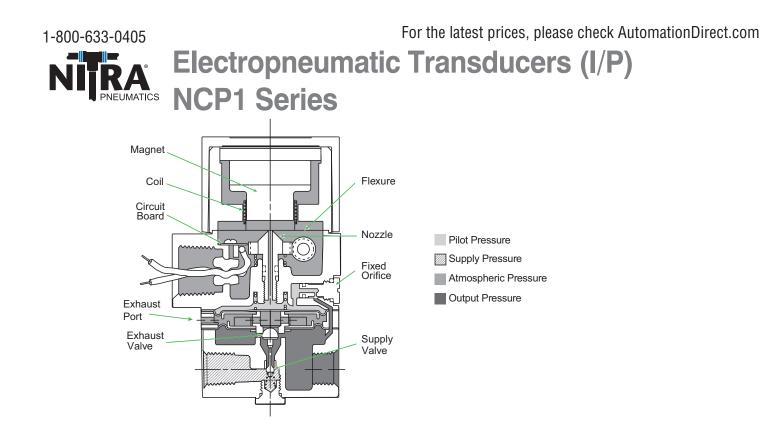
	NC	P1 Series I/P T	Transducers					
Part No.	NCP1-20-315N	NCP1-20-327N	NCP1-20-630N	NCP1-20-260N	NCP1-20-3120N			
	Functional Specifications							
Input			4-20 mA					
Outputs (psig - bar)	3-15* (0.2-1.0)	3-27 (0.2-1.8)	6-30 (0.4-2.0)	2-60 (0.14-4.0)	3-120 (0.2-8.0)			
Supply Pressure (psig - bar)	18 min -100 max (1.2 min - 6.7 max)	30 min - 100 max (2.0 min - 6.7 max)	33 min - 100 max (2.2 min - 6.7 max)	65 min - 150 max (4.3 min - 10.0 max)	125 min - 150 max (8.3 min - 10.0 max)			
Air Consumption	0.05 sc	0.05 scfm (1.4 Nl/min) midrange typical 0.07 scfm (2 Nl/min) mid						
Flow Capacity	4.5 scfm (12 12.0 scfm (34	27 NI/min) at 25 psig (1.7 40 NI/min) at 100 psig (6.	′ bar) supply .8 bar) supply	20.0 scfm (5 150 psig (10	66 Nl/min) at 5 bar) supply			
Relief Capacity	2 scfm (56.6 NI/min) at	5 psig (2.4 bar) above 2	0 psig (1.3 bar) setpoint	7 scfm (198 Nl/min) at 20 psig (1.3	10 psig (0.7 bar) above bar) setpoint			
Temperature Limits		-20°F to +140°F (-30°C to +60°C)						
Impedance	180 Ohms	225 Ohms	260 Ohms					
Linearity		<± 0.75% of span		<± 1.5% of span ty	vpical, ± 2.0% max.			
Hysteresis and Repeatability	< 1	.0% of span; < 0.5% of s	pan	< 0.5% of span	< 0.5% of span			
Supply Pressure Sensitivity	<± 0.1% of spar	n per psig (< \pm 0.15% of s	span per 0.1 bar)	<± 0.04% of span p	er 1.0 psig (0.07 bar)			
	1		Physical Specifications	3				
Pneumatic Port Sizes			1/4" NPT female					
Media		Oil free,	clean dry air filtered to 4	0 micron				
Electrical Connections		Conduit 1	/2" NPT female with 12"	wire leads				
Mounting		Direc	ct or bracket (bracket incl	uded)				
Housing		Chromate-treated	aluminum with epoxy pai	nt. NEMA 4X (IP65)				
Elastomers			Buna-N					
Trim		Stainless steel; brass; zinc-plated steel						
Environmental Ratings			NEMA 4X / IP65					
Approvals			FM (Haz-Loc)***					

* Can be recalibrated to provide 3-9 psig or 9-15 psig for split ranging applications.

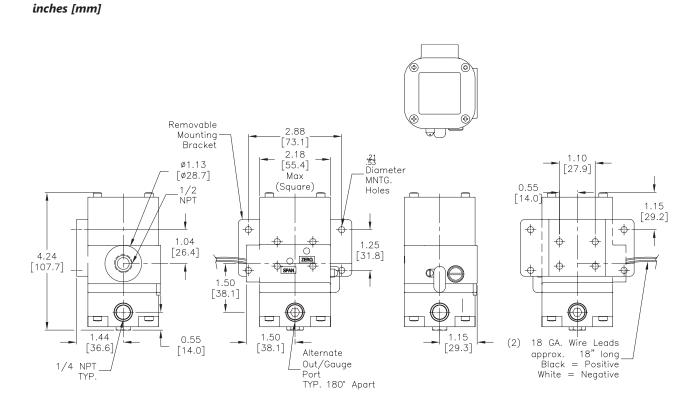
** The unit must be calibrated in the plane it is mounted in. *** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

Wiring

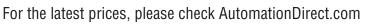




Dimensions



See our Web site <u>www.AutomationDirect.com</u> for complete Engineering drawings.



Electropneumatic Transducers (I/P) NCP2 Series



Part No. NCP2-20-315N



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

NITRA[®] NCP2 Series electropneumatic transducers (I/P) convert a 4-20 mA current signal(I) from a PLC or other controller to a linear pneumatic output pressure(P). Used in paper and paper converting, food and drug, petrochemical, HVAC, textile, and energy management industries, the NCP2 Series provides highly reliable and repeatable operation of pneumatic valve positioners, valve actuators, air cylinders, damper and louver actuators, web tensioners, clutches and brakes. The NCP2 Series is available in several output pressure ranges and includes an integral volume booster for high flow applications.

The NCP2 compact transducer housing is an excellent solution for spaceconstrained or high density panel installations and is NEMA 4X (IP65) rated for installation in NEMA 4X (IP65) environments. These transducers can be direct or bracket mounted and optional pipe and DIN rail mounting kits are also available. Models are offered with either a 1/2" NPT female conduit connection with wire leads or a field wireable DIN 43650 electrical connector. TheNCP2SeriescomesstandardwithFactoryMutual(FM)andCSAapprovalfor intrinsically safe applications.

Features

- Compact transducer housing
- 4-20 mA input compatible with PLCs and other controllers
- Several output pressure ranges applicable for industrial pneumatic and process control applications
- Flexible pneumatic connection with input/output pressure ports on front and back
- Models with 1/2" NPT female conduit connection and wire leads or field wireable DIN 43650 electrical connector
- Direct or bracket mounting (bracket included)
- Optional pipe and DIN rail mounting kits available
- Zero and span adjustments
- Integrated volume booster
- Low air consumption





- FM and CSA Approved for Hazardous Locations
- Made in the USA

		NCP2	Series I/P	Transducers		
Part Number	Price	Woight (lbs)	Input	Electrical Connection	Outpu	t Range
rait Nullidei	Filce	Weight (lbs)	Input	Electrical Connection	psig	bar
<u>NCP2-20-315N</u>	\$335.00	1.6	4-20 mA	1/2" female NPT with 12" wire leads	3-15	0.2-1.0
<u>NCP2-20-327N</u>	\$335.00	1.6	4-20 mA	1/2" female NPT with 12" wire leads	3-27	0.2-1.9
<u>NCP2-20-630N</u>	\$335.00	1.6	4-20 mA	1/2" female NPT with 12" wire leads	6-30	0.4-2.0
<u>NCP2-20-260N</u>	\$335.00	1.6	4-20 mA	1/2" female NPT with 12" wire leads	2-60*	0.14-4.0
<u>NCP2-20-3120N</u>	\$335.00	1.6	4-20 mA	1/2" female NPT with 12" wire leads	3-120*	0.2-8.0
<u>NCP2-20-315D</u>	\$341.00	2.5	4-20 mA	DIN 43650 Connector	3-15	0.2-1.0
<u>NCP2-20-327D</u>	\$341.00	2.5	4-20 mA	DIN 43650 Connector	3-27	0.2-1.9
<u>NCP2-20-630D</u>	\$341.00	2.5	4-20 mA	DIN 43650 Connector	6-30	0.4-2.0
<u>NCP2-20-260D</u>	\$341.00	2.5	4-20 mA	DIN 43650 Connector	2-60*	0.14-4.0
<u>NCP2-20-3120D</u>	\$341.00	2.5	4-20 mA	DIN 43650 Connector	3-120*	0.2-8.0

* Output shown is as calibrated at the factory. Large span adjustment capability allows recalibration to achieve output ranges of 3-35 psig (0.2-2.4 bar) with 2-60 psig unit or 3-145 psig (0.2-10 bar) with 3-120 psig unit.



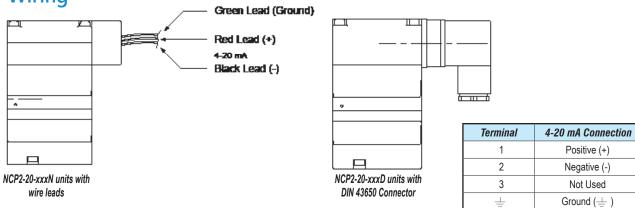
Electropneumatic Transducers (I/P) NCP2 Series

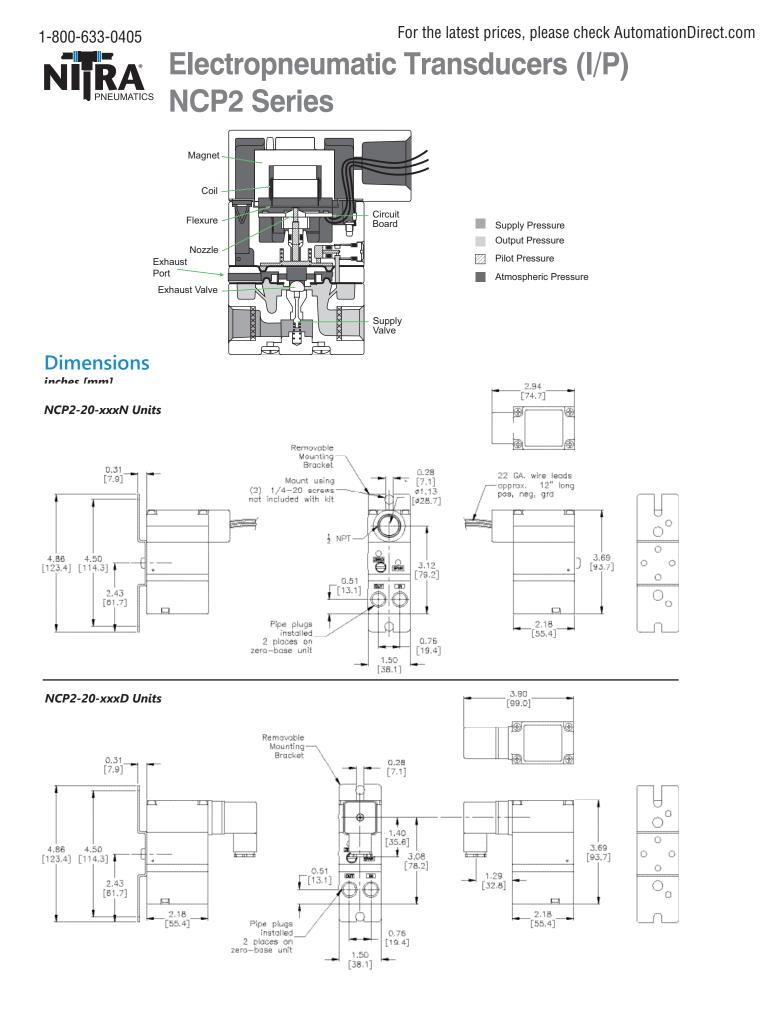
Part No.	NCP2-20-315N NCP2-20-315D	NCP2-20-327N NCP2-20-327D	NCP2-20-630N NCP2-20-630D	NCP2-20-260N NCP2-20-260D	NCP2-20-3120N NCP2-20-3120D	
		F	unctional Specification	s		
Input			4-20 mA			
Outputs (psig - bar)	3-15 (0.2-1.0)	3-27 (0.2-1.8)	6-30 (0.4-2.0)	2-60 (0.14-4.0)	3-120 (0.2-8.0)	
Supply Pressure (psig - bar)	20 min - 100 max (1.3 min - 6.7 max)	32 min - 100 max (2.1 min - 6.7 max)	35 min - 100 max (2.3 min - 6.7 max)	65 min - 150 max (4.3 min - 10.0 max)	125 min - 150 max (8.3 min - 10.0 max)	
Air Consumption	0.03 scfn	n (0.9 NL/min) at mid ran	ge typical) at mid range typical	
Flow Capacity	4.5 scfm (127 NL 12.0 scfm (340 NL	./min) at 25 psig (1.7 bar) ./min) at 100 psig (6.9 ba	supply pressure r) supply pressure	12.0 scfm (340 NL/ min) at 100 psig (6.9 bar) supply pressure	20.0 scfm (566 NL/min) at 150 psig (10.0 bar) supply pressure	
Relief Capacity	2 scfm (56.6 Nl/min) at	5 psig (2.4 bar) above 20) psig (1.3 bar) setpoint		10 psig (0.7 bar) above bar) setpoint	
Temperature Limits		-40°	F to 158°F (-40°C to +70)°C)		
Impedance	180 Ohms 240 Ohms 240 Ohms 245 Ohms 280					
		Per	formance Specification	ns*		
Linearity		<± 0.5% of span		<± 2.0%	6 of span	
Hysteresis and Repeatability		< 0.5% of span		< 0.5%	of span	
Supply Pressure Sensitivity	< 0.1%	of span per 1.0 psig (0.0)7 bar)	< 0.4% of span pe	r 1.0 psig (0.07 bar)	
		1	Physical Specifications	;		
Pneumatic Port Sizes			1/4" NPT female			
Media		Clean, dry, oil-	free, instrument air, filtere	ed to 40 micron		
Electrical Connections	Conduit 1	/2" NPT female with 12"	wire (NCP2-20-xxx-N) lea	ads or DIN 43650 (NCP2	-20-xxxD)	
Mounting	Direct, bracket (brack	et included), optional 1-1	/2" / 2" pipe mount kit (NG	CP2-P) or optional DIN ra	ail mount kit (NCP2-D)	
Housing		Chromate-treated a	aluminum with epoxy pair	nt. NEMA 4X (IP65)		
Elastomers			Buna-N			
Trim		Stainle	ss steel; brass; zinc-plate	ed steel		
Environmental Ratings			NEMA 4X / IP65			
Approvals		CSA	File # 269584, FM (Haz-L	_OC)**		

* The unit must be calibrated in the plane it is mounted in.

** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

Wiring





For the latest prices, please check AutomationDirect.com



Electropneumatic Transducers (I/P) NCP2 Series - Accessories





Part No. NCP2-D

Part No. NCP2-P

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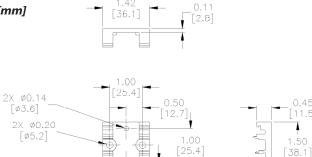
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	NCP2 Series I/P Transducers Accessories		
Part Number	Description	Price	Weight (lbs)
<u>NCP2-D</u>	NITRA DIN rail mount adapter, for use with NCP2 series IP transducers. Includes: 1) Bracket 2) 10-32 Machine Screws 2) 6-32 Machine Screws	\$7.50	0.1
<u>NCP2-P</u>	NITRA pipe mounting hardware, for use with NCP2 series IP transducers. Includes: 1) Bracket 2) 2.0 inch U-Bolt w/nuts 2) 2.5 inch U-Bolt w/nuts	\$20.00	0.6

Dimensions



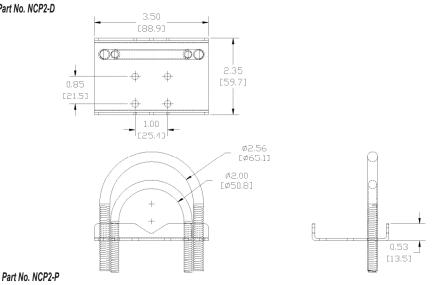


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Part No. NCP2-D



See our Web site www.AutomationDirect.com for complete Engineering drawings.

www.automationdirect.com



Pneumatic Air Preparation - AL2 Series Lubricators

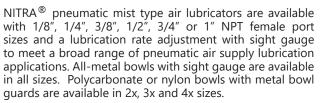






Air Lubricator

Mounting bracket included.



Provided with a mounting bracket for stand-alone applications, the modular design also enables easy field assembly for combining with NITRA pneumatic filters and regulators (using modular assembly brackets purchased separately).

Features

- 1/8", 1/4", 3/8", 1/2", 3/4" and 1" NPT female port sizes
- All-metal bowls with sight gauge available on all sizes. Polycarbonate or nylon bowls with metal bowl guards available on 2x, 3x and 4x sizes.
- Adjustable lubrication rate
- Mounting bracket provided for stand-alone applications
- Modular design enables easy field assembly for combining with NITRA filters and regulators
- Lubricators can be filled while pressurized
- 2 year warranty



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

	AL2 Series Lubricators													
Part No.	Price	Weight (lbs)	Port Size (FNPT)	Bowl	Fluid	Temperature	Operating Pressure	Maximum Pressure	Proof Pressure	Recommended Lubricant	Drawing Link			
<u>AL2-21-N</u>	\$23.00	0.64		36cc nylon with metal bowl guard							<u>PDF</u>			
<u>AL2-21-D</u>	\$29.00	0.66	1/8"	36cc die-cast aluminum bowl w/ sight							<u>PDF</u>			
<u>AL2-21</u>	\$23.00	0.65		36cc polycarbonate with metal bowl guard							<u>PDF</u>			
<u>AL2-22-N</u>	\$23.00	0.63		36cc nylon with metal bowl guard							<u>PDF</u>			
<u>AL2-22-D</u>	\$29.00	0.65		36cc die-cast aluminum bowl w/ sight		-5°C to 70°C (23°F to 158°F)	7~145psi (0.05~1.0MPa) (0.5~10.0 bar)	145psi (1.0MPa) (10.0 bar)	215psi (1.5MPa) (15 bar)	ISO VG32 or equivalent	<u>PDF</u>			
<u>AL2-22</u>	\$23.00	0.64	1/4"	36cc polycarbonate with metal bowl guard	Air						<u>PDF</u>			
<u>AL2-32-N</u>	\$35.50	1.08	1/4	98cc nylon with metal bowl guard	All						<u>PDF</u>			
<u>AL2-32-D</u>	\$33.00	1.12		98cc die-cast aluminum bowl w/ sight							<u>PDF</u>			
<u>AL2-32</u>	\$35.50	1.1		98cc polycarbonate with metal bowl guard							<u>PDF</u>			
<u>AL2-33-N</u>	\$35.50	1.08		98cc nylon with metal bowl guard							<u>PDF</u>			
<u>AL2-33-D</u>	\$33.00	1.12	3/8"	98cc die-cast aluminum bowl w/ sight							<u>PDF</u>			
<u>AL2-33</u>	\$35.50	1.09		98cc polycarbonate with metal bowl guard							<u>PDF</u>			

See our Web site www.AutomationDirect.com for complete Engineering drawings.

For the latest prices, please check AutomationDirect.com

1-800-633-0405

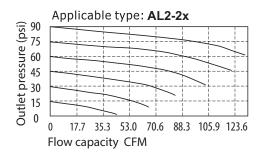
Pneumatic Air Preparation - AL2 Series Lubricators

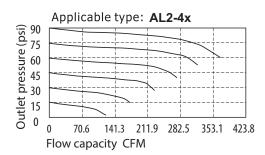
	AL2 Series Lubricators Cont.												
Part No.	Price	Weight (lbs)	Port Size	Bowl	Fluid	Temperature	Operating Pressure	Maximum Pressure	Proof Pressure	Recommended Lubricant	Drawing Link		
<u>AL2-44-N</u>	\$50.00	1.8		185cc nylon with metal bowl guard							<u>PDF</u>		
<u>AL2-44-D</u>	\$46.50	1.83	1/2"	185cc die-cast aluminum bowl w/ sight	Air		7~145psi (0.05~1.0MPa) (0.5~10.0 bar)	145psi (1.0MPa) (10.0 bar)	215psi (1.5MPa) (15 bar)	ISO VG32 or equivalent	PDF		
<u>AL2-44</u>	\$50.00	1.82		185cc polycarbonate with metal bowl guard		-5°C to 70°C (23°F to 158°F					<u>PDF</u>		
<u>AL2-66-D</u>	\$81.00	3.31	3/4"	410cc die-cast aluminum bowl w/ sigh							<u>PDF</u>		
<u>AL2-68-D</u>	\$81.00	3.27	1"	410cc die-cast aluminum bowl w/ sigh							<u>PDF</u>		

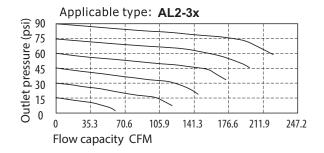
See our Web site <u>www.AutomationDirect.com</u> for complete Engineering drawings.

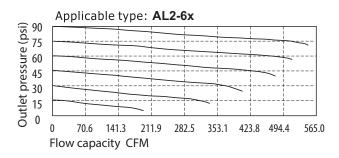
Performance Charts

Flow chart









1-800-633-0405 **Pneumatic Air Preparation - AFR2 Series Combination Filter and Regulators** EUMATICS





AFR2-6633-AD

AFR2-3233-D AFR2-2133-N





Combination Filter-Regulator

Mounting bracket included.

NITRA[®] pneumatic combination particulate/moisture separation air filters and adjustable pressure regulators are available with 1/8", 1/4", 3/8", 1/2", 3/4" or 1" NPT female port sizes to meet a broad range of pneumatic air supply filtration and regulation applications all in a single convenient unit. Available with either a manual / semi-automatic or automatic drain. All-metal bowls with sight gauge are available in all sizes. Polycarbonate or nylon bowls with metal bowl guards are available in 2xxx, 3xxx and 4xxx sizes. Replaceable 40-micron filter elements are standard. An optional 5-micron filter element (purchased separately and customer installable) is available when stricter filtration is required.

The pressure regulator features a locking pressure adjustment knob, integral pressure gauge and is available in adjustable pressure ranges of 20 - 60 psi or 20 - 130 psi. The regulator will relieve downstream pressure if the setpoint is reduced.

Provided with a mounting bracket for stand-alone applications, the modular design also enables easy field assembly with NITRA pneumatic lubricators (using modular assembly brackets purchased separately).

Features

- Air filtration and regulation all in a single convenient unit
- 1/8", 1/4", 3/8", 1/2", 3/4" and 1" NPT female port sizes
- 40-micron replaceable filter element standard; for stricter filtration an optional 5-micron filter element purchased separately is easily customer installable
- All-metal bowls with sight gauge available on all sizes. Polycarbonateor nylon bowls with metal bowl guards available on 2xxx, 3xxx and 4xxx sizes.
- · Manual / semi-automatic and automatic drains available
- Adjustable ranges of 20 60 psi and 20-130 psi
- Locking pressure adjustment knob
- Integral pressure gauge
- Mounting bracket provided for stand-alone applications
- Modular design enables easy field assembly with NITRA lubricators
- 2 year warranty



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options



For the latest prices, please check AutomationDirect.com

Pneumatic Air Preparation - AFR2 Series ⁵ Combination Filter and Regulators

AFR2 Series Combination Filter and Regulators												
Part No.	Price	Weight (Ibs)	Port Size (FNPT)	Drain Bowl Capacity	Drain Type	Fluid	Temperature	Filtering Grade	Operating Pressure	Maximum Pressure	Proof Pressure	Drawing Link
AFR2-2132-N	\$38.00	0.82		25cc nylon with metal bowl guard								PDF
AFR2-2132-D	\$43.50	0.85		25cc die-cast aluminum bowl w/ sight					20~60psi (0.14~0.41MPa)	60psi (0.41MPa)		PDF
AFR2-2132	\$38.00	0.83		25cc polycarbonate with metal bowl guard					(1.4~4.1 bar)	(4.1 bar)		PDF
AFR2-2133-N	\$38.00	0.83	1/8"	25cc nylon with metal bowl guard								PDF
AFR2-2133-D	\$43.50	0.86		25cc die-cast aluminum bowl w/ sight					20~130psi (0.14~0.90MPa)	145psi (1.0MPa)		PDF
AFR2-2133	\$38.00	0.84		25cc polycarbonate with metal bowl guard					(1.4~9.0 bar)	(10 bar)		PDF
AFR2-2232-N	\$38.00	0.82		25cc nylon with metal bowl guard							-	PDF
AFR2-2232-D	\$43.50	0.84		25cc die-cast aluminum bowl w/ sight	Semi-				20~60psi (0.14~0.41MPa)	60psi (0.41MPa)		PDF
AFR2-2232	\$38.00	0.82		25cc polycarbonate with metal bowl guard	Automatic				(1.4~4.1 bar)	(4.1 bar)		PDF
AFR2-2233-N	\$38.00	0.83		25cc nylon with metal bowl guard								PDF
AFR2-2233-D	\$43.50	0.86		25cc die-cast aluminum bowl w/ sight					20~130psi (0.14~0.90MPa)	145psi (1.0MPa)		PDF
AFR2-2233	\$38.00	0.84		25cc polycarbonate with metal bowl guard					(1.4~9.0 bar)	(10 bar)		PDF
AFR2-3232-N	\$43.00	1.34		60cc nylon with metal bowl quard	ith			40µ (5µ element can be ordered separately and field installed)			215psi (1.5MPa) (15 bar)	PDF
AFR2-3232-D	\$49.50	1.38		60cc die-cast aluminum bowl w/ sight					d (0.14~0.41MPa) ind (1.4~4.1 bar)	60psi (0.41MPa) (4.1 bar)		PDF
AFR2-3232	\$43.00	1.35		60cc polycarbonate with metal bowl guard								PDF
AFR2-3232-AN	\$54.00	1.37	1/4"	60cc nylon with metal bowl guard		Air						PDF
AFR2-3232-AD	\$60.00	1.41		60cc die-cast aluminum bowl w/ sight	Automatic							PDF
AFR2-3232-A	\$54.00	1.39		60cc polycarbonate with metal bowl guard								PDF
AFR2-3233-N	\$43.00	1.36		60cc nylon with metal bowl guard								PDF
AFR2-3233-D	\$49.50	1.39		60cc die-cast aluminum bowl w/ sight	Semi-							PDF
AFR2-3233	\$43.00	1.37		60cc polycarbonate with metal bowl guard	Automatic				20~130psi	145psi		PDF
AFR2-3233-AN	\$54.00	1.39		60cc nylon with metal bowl guard					(0.14~0.90MPa) (1.4~9.0 bar)	(1.0MPa) (10 bar)		PDF
AFR2-3233-AD	\$60.00	1.42		60cc die-cast aluminum bowl w/ sight	Automatic							PDF
AFR2-3233-A	\$54.00	1.4	1	60cc polycarbonate with metal bowl guard	1							PDF
<u>AFR2-3332-N</u>	\$43.00	1.33		60cc nylon with metal bowl guard								PDF
AFR2-3332-D	\$49.50	1.37	1	60cc die-cast aluminum bowl w/ sight	Semi-							PDF
AFR2-3332	\$43.00	1.35	2/0"	60cc polycarbonate with metal bowl guard	Automatic				20~60psi	60psi		PDF
AFR2-3332-AN	\$54.00	1.36	3/8"	60cc nylon with metal bowl guard					(0.14~0.41MPa) (1.4~4.1 bar)	(0.41MPa) (4.1 bar)		PDF
AFR2-3332-AD	\$60.00	1.38			Automatic	matic						PDF
AFR2-3332-A	\$54.00	1.38		60cc polycarbonate with metal bowl guard								PDF

See our Web site <u>www.AutomationDirect.com</u> for complete Engineering drawings.



For the latest prices, please check AutomationDirect.com

Pneumatic Air Preparation - AFR2 Series Combination Filter and Regulators

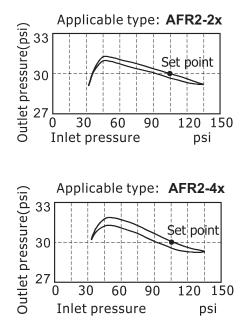
	AFR2 Series Combination Filter and Regulators Cont.												
Part No.	Price	Weight (lbs)	Port Size (FNPT)	Drain Bowl Capacity	Drain Type	Fluid	Temperature	Filtering Grade	Operating Pressure	Maximum Pressure	Proof Pressure	Drawing Link	
AFR2-3333-N	\$43.00	1.34		60cc nylon with metal bowl guard								PDF	
AFR2-3333-D	\$49.50	1.39		60cc die-cast aluminum bowl w/ sight	Manual/Semi- Automatic							PDF	
AFR2-3333	\$43.00	1.37	3/8"	60cc polycarbonate with metal bowl guard								PDF	
<u>AFR2-3333-AN</u>	\$54.00	1.37	3/0	60cc nylon with metal bowl guard								PDF	
AFR2-3333-AD	\$60.00	1.42		60cc die-cast aluminum bowl w/ sight	Automatic							PDF	
<u>AFR2-3333-A</u>	\$54.00	1.4		60cc polycarbonate with metal bowl guard		Automatic				145psi (1.0MPa) (10 bar)	215psi (1.5MPa) (15 bar)	PDF	
AFR2-4433-N	\$68.00	2.33		100cc nylon with metal bowl guard			ir -5°C to 70°C (23°F to 158°F	40µ (5µ element can be ordered separately and field installed)				PDF	
<u>AFR2-4433-D</u>	\$76.00	2.41		100cc die-cast aluminum bowl w/ sight								PDF	
AFR2-4433	\$68.00	2.4		100cc polycarbonate with metal bowl guard		Air						PDF	
AFR2-4433-AN	\$79.00	2.4	1/2"	100cc nylon with metal bowl guard								PDF	
<u>AFR2-4433-AD</u>	\$87.00	2.42		100cc die-cast aluminum bowl w/ sight	Automatic							PDF	
AFR2-4433-A	\$79.00	2.28		100cc polycarbonate with metal bowl guard								PDF	
AFR2-6633-D	\$116.00	5.26	0/47		Manual/Semi- Automatic							PDF	
AFR2-6633-AD	\$127.00	5.29	3/4"	205cc die-cast aluminum bowl w/ sight Mai	Automatic							PDF	
<u>AFR2-6833-D</u>	\$116.00	5.13	4.17		Manual/Semi- Automatic							PDF	
AFR2-6833-AD	\$127.00	5.27	1"		Automatic							PDF	

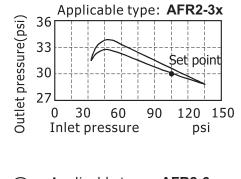
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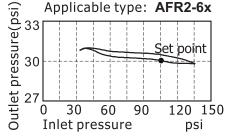
1-800-633-0405 **Pneumatic Air Preparation - AFR2 Series Combination Filter and Regulators** EUMATICS

Performance Charts

Pressure chart



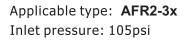


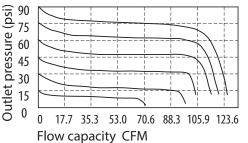


Flow chart

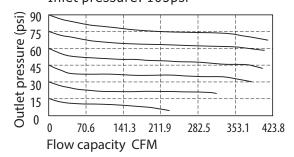
Applicable type: AFR2-2x Inlet pressure: 105psi 90 Outlet pressure (psi) 75 60 45 30 15 0 0 17.7 53.0 70.6 35.3 Flow capacity CFM Applicable type: AFR2-4x Inlet pressure: 105psi Outlet pressure (psi) 90 75 60 45 30 15 0

35.3 70.6 106.0 141.3 176.6 211.9 247.2 0 Flow capacity CFM





Applicable type: AFR2-6x Inlet pressure: 105psi



FA Pneumatic - BFR Series Combination Filter and Regulators



BFR-3233

Mounting bracket not included.





Air Filter / Regulator

NITRA[®] BFR Series Precision combination filter and regulators are designed for use in systems that require clean, accurate instrument air. They are constructed of durable materials ideal for industrial environments.

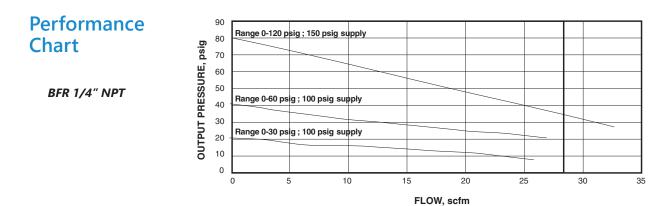
Features

- Diecast aluminum alloy, irridite and baked epoxy finish body
- Nitrile elastomer and nylon fabric diaphragm
- Nitrile elastomer valve seat
- Additional build materials include: brass, zinc plated steel and acetal
- Mounting on pipe, bracket or through body direct
- 40 micron polyethylene filter (5 micron optional)
- 1/4" and 1/2" NPT ports
- (2) 1/4" NPT gauge ports
- Manual drain
- Made in the USA

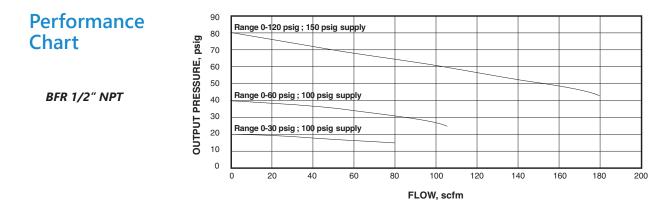


See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

									while variety of	intang optione	
				P	neumatic	BFR Series	-ilter / Re	gulators			
Part No.	Price	Weight (Ibs)	Port Size (FNPT)	Fluid	Temperature	Operating Pressure	Maximum Supply Pressure	Exhaust Capacity	Sensitivity	Air Consumption	Effect of Supply Pressure Variation
<u>BFR-3231</u>	\$48.50	0.4	1/4"			0-30psi (0-0.21 MPa) (0-2 bar)					Less than
<u>BFR-3232</u>	\$48.50	0.4	1/4"			0-60psi (0-0.41 MPa) (0-4 bar)	250psi (1.72 MPa) (17bar)	0.1 scfm (2.83 NI/min) with downstream pressure 5 psig (0.3 bar) above set point	1" of water	Less than 5 scfh (2.5 Nl/min)	0.25 psig (0.017 bar) for 25 psig
<u>BFR-3233</u>	\$48.50	0.4	1/4"	Air &	0~160°F	0-120psi (0-0.83 MPa) (0-8 bar)					(1.7 bar) change
<u>BFR-3431</u>	\$102.00	0.4	1/2"	Inert gases	(-18~71°C)	0-30psi (0-0.21 MPa) (0-2 bar)					Less than 0.5
<u>BFR-3432</u>	\$102.00	0.4	1/2"			0-60psi (0-0.41 MPa) (0-4 bar)					psig (0.035 bar) for 25 psig (1.7 bar)
<u>BFR-3433</u>	\$102.00	0.4	1/2"			0-120psi (0-0.83 MPa) (0-8 bar)					change



PREVIATION Pneumatic - BFR Series Combination Filter and Regulators



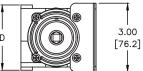
Dimensions

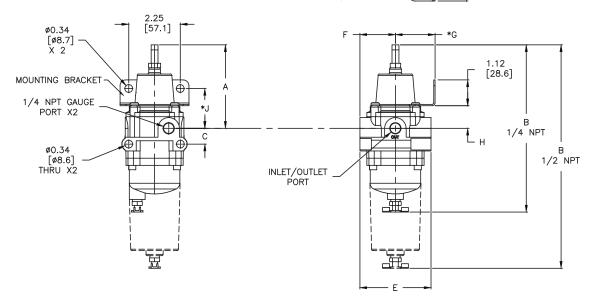
Inches [mm]

BFR-X

PART NUMBER	А	в	с	D	E	F	G	н	J	I/O PORT	PSI RANGE
-										PURI	
BFR-3231	3.64	7.29	0.69	2.84	3.10	1.55	1.73	.98	1.73		0-30
BFR-3232	[92.4]	[185.2]	[175]	[72.2]	[78.7]	[39.4]	[43.9]	[25.0]	[44.1]	1/4	0-60
BFR-3233	[92.4]	[105.2]	[[17.5]	[/2.2]	[[/0./]	[[]]	[+3.9]	[23.0]	[++.1]		0-120
BFR-3431	3.72	9.78	.70	2.87	3.00	1.5	1.73	1.15	1.90		0-30
BFR-3432	[94.6]	[248.4]	[17.8]	[77.0]	[76.2]	[38.0]	[44.1]	[29.2]	[48.3]	1/2	0-60
BFR-3433	[94.0]	[240.4]	[[1/.0]	[/3.0]	[[/0.2]	[30.0]	[44.1]	[29.2]	[40.3]		0-120

*MOUNTING BRACKET INSTALLATION OPTIONAL





See our Web site www.AutomationDirect.com for complete Engineering drawings.

For the latest prices, please check AutomationDirect.com

Precision Pneumatic - BFR Series Combination Filter and Regulators



BFE-43



	Pneumatic BFR Series Accessories											
Part No.	Price	Description	Material	Weight (lbs)								
<u>BFE-31</u>	\$11.50	NITRA particulate filter element, replacement, 5 micron, polyethylene. For use with BFR-32 series filter regulators.	Polyethylene (PE)	0.1								
<u>BFE-33</u>	\$11.50	NITRA particulate filter element, replacement, 40 micron, polyethylene. For use with BFR-32 series filter regulators.	Polyethylene (PE)	0.1								
<u>BFE-41</u>	\$11.50	NITRA particulate filter element, replacement, 5 micron, polyethylene. For use with BFR-34 series filter regulators.	Polyethylene (PE)	0.1								
<u>BFE-43</u>	\$11.50	NITRA particulate filter element, replacement, 40 micron, polyethylene. For use with BFR-34 series filter regulators.	Polyethylene (PE)	0.1								
<u>BBKT-3</u>	\$7.25	NITRA mounting bracket. For use with BFR-3 and BR-3 series air prep components.	Plated Steel	0.1								

BBKT-3

NITRA[®] pneumatic manual shut-off pressure relief valves are available with 1/8", 1/4", 3/8" or 1/2" female port sizes to meet a broad range of pneumatic air supply applications. The three-way, two-position (3 threaded ports) design is used to shut off upstream pressure and relieve downstream pressure. The

Provided with a mounting bracket for stand-alone applications, the modular design also enables easy field assembly with NITRA pneumatic filters, regulators and lubricators (using modular assembly brackets

• Three-way, two-position (3 threaded ports) design is used to shut off upstream

· Modular design enables easy field assembly with NITRA filters, regulators, lubricators

· Manually rotated knob can be locked out with the provided padlock

Mounting bracket provided for stand-alone applications

manually rotated knob can be locked out with the included padlock.

Pneumatic Air Preparation - ARV Series Manual Shut-off Pressure Relief Valves



ARV-21

1-800-633-0405

ARV-32 ARV-44





Mounting bracket included.

Modular Assembly Example

Manual Shut-off Relief Valve

2 year warranty

purchased separately).

• 1/8", 1/4", 3/8", and 1/2" NPT female port sizes

pressure and relieve down-stream pressure

and combination filter regulators

Features



See <u>www.AutomationDirect.com</u> for a wide varie of fitting options

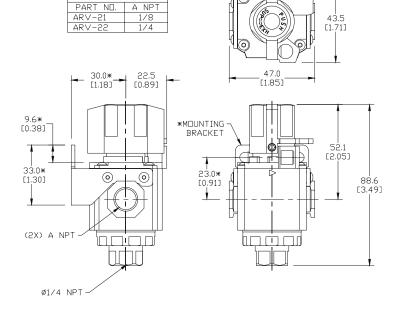
	ARV Series Valves													
Part No.	Price	Weight (lbs)	Port Size	Fluid	Acting Type	Valve Type	Temperature	Operating Pressure	Maximum Pressure	Proof Pressure	Operation Angle			
<u>ARV-21</u>	\$26.50	0.6	1/8"											
<u>ARV-22</u>	\$26.50	0.6	1/4"			3 way 2		20~130psi (0.15~0.90	130psi (0.90MPa)	215psi (1.5MPa)				
<u>ARV-32</u>	\$30.50	1.3	1/4"	Air	Manual	position (3	-5~60°C (23~140°F)	`MPa)			90°			
<u>ARV-33</u>	\$30.50	1.3	3/8"			threaded ports)	(20 140 1)	(1.5~9.0 bar)	(9.0 bar)	(15 bar)				
<u>ARV-44</u>	\$41.50	2.1	1/2"											

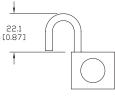
*MOUNTING BRACKET INSTALLATION OPTIONAL

Dimensions

mm [inches]

ARV-2x



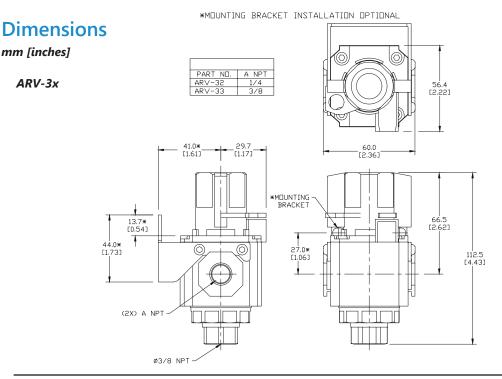


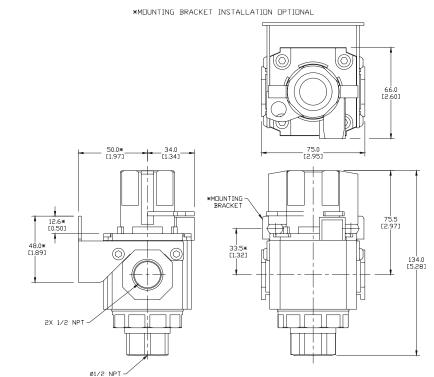
Note: lock included with valve

Note: Unit dimensions are the same for listed models, port NPT varies based on model.

See our Web site www.AutomationDirect.com for complete Engineering drawings.

Pneumatic Air Preparation - ARV Series PNEUMATICS Manual Shut-off Pressure Relief Valves





Note: Unit dimensions are the same for listed models, port NPT varies based on model. See our Web site www.AutomationDirect.com for complete Engineering drawings.

1-800-633-0405

mm [inches]

ARV-3x

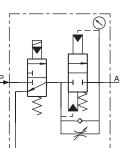
ARV-4x

1-800-633-0405 **Pneumatic Air Preparation - ASD Series NEUMATICS Soft-Start/Dump Valves**



₹R

ASD Series Valves



NITRA $^{\textcircled{8}}$ pneumatic soft start/dump valves are available with 1/8", 1/4", 3/8" or 1/2" NPT female port sizes and 24VDC or 120VAC solenoid voltages to meet a broad range of pneumatic air supply applications. The three-way, twoposition (3 threaded ports) design is used to gradually increase air pressure downstream when the solenoid is energized and to shut off upstream pressure and relieve downstream pressure when it is de-energized.

Provided with a mounting bracket for stand-alone applications, the modular design also enables easy field assembly with NITRA pneumatic filters, regulators and lubricators (using modular assembly brackets purchased separately).

Features

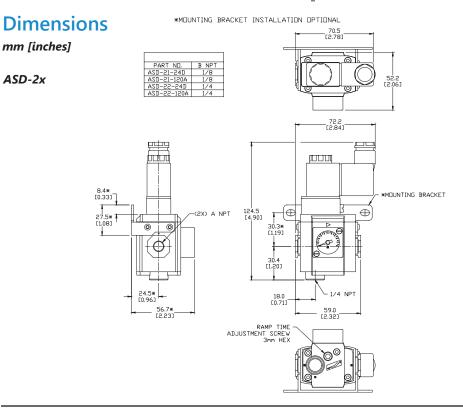
- 1/8", 1/4", 3/8" or 1/2" NPT ports
- 24 VDC or 120 VAC solenoid coils
- 11 mm DIN style wiring connector w/LED indication
- · Modular design enables easy field assembly with other NITRA components
- Maximum pressure 130psi
- 2 year warranty



See www.AutomationDirect.com for a wide variety of fitting options

ASD Soft-Start/Dump Valve Series Specifications													
Model	<u>ASD-21-24D</u>	ASD-21-120A	ASD-22-24D	<u>ASD-22-120A</u>	<u>ASD-32-24D</u>	ASD-32-120A	<u>ASD-33-24D</u>	ASD-33-120A	<u>ASD-44-24D</u>	ASD-44-120A			
Price	\$63.00	\$63.00	\$63.00	\$63.00	\$71.00	\$71.00	\$71.00	\$71.00	\$110.00	\$110.00			
Weight (Ibs)	0.9	0.9	0.9	0.9	1.4	1.4	1.4	1.4	2.0	2.0			
Fluid		Air											
Port Size (FNPT)	1,	1/8" 1/4" 3/8" 1/2"											
Exhaust Size	1/4"			1/4" 3/8" 1/2"									
Flow Coefficient (Cv)	7	.0	7	.5	1	2	15		24				
Acting Type				Sc	olenoid Operat	ed, 3/2 Soft-St	art						
Temperature					0 to 160°F (-18 to 71°C)							
Operating Pressure				35-130	psi, (0.24~0.9	0 MPa), (2.4~	9.0 bar)						
Maximum Pressure					145 psi, (1.0 l	MPa), (10 bar)							
Proof Pressure					215 psi, (1.5 l	MPa), (15 bar)							
Power Connection					11 mr	n DIN							
Voltage	24 VDC	120 VAC	24 VDC	120 VAC	24 VDC	120 VAC	24 VDC	120 VAC	24 VDC	120 VAC			
Voltage Range					-15% t	o +10%							
Insulation					Вс	lass							
Power Consumption	3.0 W	3.5 VA	3.0 W	3.5 VA	3.0 W	3.5 VA	3.0 W	3.5 VA	3.0 W	3.5 VA			

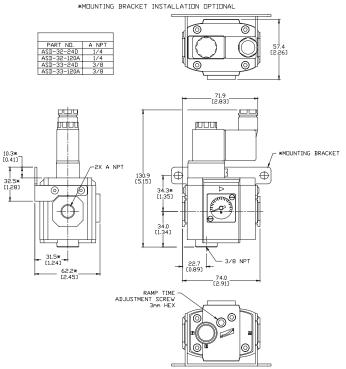
Pneumatic Air Preparation - ASD Series NEUMATICS Soft-Start/Dump Valves





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ASD-2x



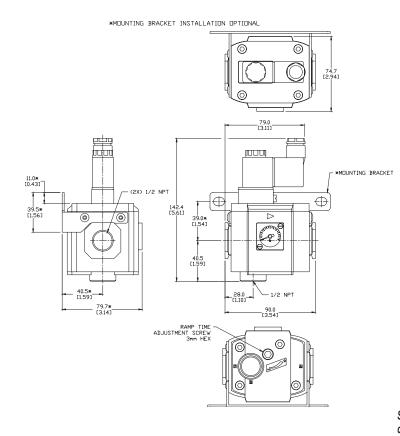
See our Web site www.AutomationDirect.com for complete Engineering drawings.



Dimensions

mm [inches]

ASD-4x



See our Web site www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Air Preparation Accessories

Pneumatic Air Prenaration Accessories



Part No. AGP-21



Part No. ADB-21



Part No. AB-4T



Part No. AB-4L



Part No. AB-4U

Part No.	Price	Description	Weight (lbs)
<u>AGP-21</u>	\$7.00	NITRA pneumatic gauge port adapter plate, 1/8 inch NPT female port, with mounting screws. Easy field assembly with NITRA pneumatic AR-2 series regulators and AFR-2 series filter / regulators.	0.03
<u>AGP-32</u>	\$7.00	NITRA pneumatic gauge port adapter plate, 1/4 inch NPT female port, with mounting screws. Easy field assembly with NITRA pneumatic AR-3, AR-4 and AR-6 series regulators and AFR-3, AFR-4 and AFR-6 series filter / regulators.	0.04
<u>ADB-21</u>	\$14.00	NITRA pneumatic distribution block with four (4) 1/8 inch NPT female ports. Modular design enables easy field assembly with NITRA pneumatic AF-21 series filters, AR-21 series regulators, AL-21 series lubricators and AFR-21 series filter / regulators.	0.1
<u>ADB-22</u>	\$14.00	NITRA pneumatic distribution block with four (4) 1/4 inch NPT female ports. Modular design enables easy field assembly with NITRA pneumatic AF-22 series filters, AR-22 series regulators, AL-22 series lubricators and AFR-22 series filter / regulators.	0.1
<u>ADB-32</u>	\$19.00	NITRA pneumatic distribution block with four (4) 1/4 inch NPT female ports. Modular design enables easy field assembly with NITRA pneumatic AF-32 series filters, AR-32 series regulators, AL-32 series lubricators and AFR-32 series filter / regulators.	0.2
<u>ADB-33</u>	\$19.00	NITRA pneumatic distribution block with four (4) 3/8 inch NPT female ports. Modular design enables easy field assembly with NITRA pneumatic AF-33 series filters, AR-33 series regulators, AL-33 series lubricators and AFR-33 series filter / regulators.	0.2
<u>ADB-44</u>	\$21.00	NITRA pneumatic distribution block with four (4) 1/2 inch NPT female ports. Modular design enables easy field assembly with NITRA pneumatic AF-44 series filters, AR-44 series regulators and AFR-44 series filter / regulators.	0.4
<u>AB-2T</u>	\$10.00	NITRA pneumatic modular assembly and mounting T-bracket with two mounting tangs, used to assemble and mount individual NITRA AF-2 series filters, AR-2 series regulators, AL-2 series lubricators and AFR-2 series filter/regulators as a combined unit	0.2
<u>AB-2L</u>	\$10.00	NITRA pneumatic modular assembly and mounting L-bracket with one mounting tang, used to assemble and mount individual NITRA AF-2 series filters, AR-2 series regulators, AL-2 series lubricators and AFR-2 series filter/regulators as a combined unit	0.2
<u>AB-2U</u>	\$10.00	NITRA pneumatic modular assembly U-bracket (no mounting tangs), used to assemble individual NITRAAF-2 series filters, AR-2 series regulators, AL-2 series lubricators and AFR-2 series filter/regulators as a combined unit	0.1
<u>AB-3T</u>	\$11.50	NITRA pneumatic modular assembly and mounting T-bracket with two mounting tangs, used to assemble and mount individual NITRA AF-3 series filters, AR-3 series regulators, AL-3 series lubricators and AFR-3 series filter/regulators as a combined unit	0.3
<u>AB-3L</u>	\$11.50	NITRA pneumatic modular assembly and mounting L-bracket with one mounting tang, used to assemble and mount individual NITRA AF-3 series filters, AR-3 series regulators, AL-3 series lubricators and AFR-3 series filter/regulators as a combined unit	0.3
<u>AB-3U</u>	\$11.50	NITRA pneumatic modular assembly U-bracket (no mounting tangs), used to assemble individual NITRAAF-3 series filters, AR-3 series regulators, AL-3 series lubricators and AFR-3 series filter/regulators as a combined unit	0.2
<u>AB-4T</u>	\$13.00	NITRA pneumatic modular assembly and mounting T-bracket with two mounting tangs, used to assemble and mount individual NITRA AF-4 series filters, AR-4 series regulators, AL-4 series lubricators and AFR-4 series filter/regulators as a combined unit	0.5
<u>AB-4L</u>	\$13.00	NITRA pneumatic modular assembly and mounting L-bracket with one mounting tang, used to assemble and mount individual NITRA AF-4 series filters, AR-4 series regulators, AL-4 series lubricators and AFR-4 series filter/regulators as a combined unit	0.5
<u>AB-4U</u>	\$13.00	NITRA pneumatic modular assembly U-bracket (no mounting tangs), used to assemble individual NITRAAF-4 series filters, AR-4 series regulators, AL-4 series lubricators and AFR-4 series filter/regulators as a combined unit	0.4
<u>AB-6T</u>	\$20.00	NITRA pneumatic modular assembly and mounting T-bracket with two mounting tangs, used to assemble and mount individual NITRA AF-6 series filters, AR-6 series regulators, AL-6 series lubricators and AFR-6 series filter/regulators as a combined unit	1.3
<u>AB-6L</u>	\$20.00	NITRA pneumatic modular assembly and mounting L-bracket with one mounting tang, used to assemble and mount individual NITRA AF-6 series filters, AR-6 series regulators, AL-6 series lubricators and AFR-6 series filter/regulators as a combined unit	1.2
<u>AB-6U</u>	\$20.00	NITRA pneumatic modular assembly U-bracket (no mounting tangs), used to assemble individual NITRA AF-6 series filters, AR-6 series regulators, AL-6 series lubricators and AFR-6 series filter/regulators as a combined unit	0.8



Pneumatic Air Preparation Accessories



Part No. AFE2-43



Part No. AFE2-41



Part No. AFE-24



Part No. AFE-35

Pneumatic Air Preparation Accessories								
Part No.	Price	Description	Weight (lbs)					
NITRA Gen 2 Particulate Filters								
<u>AFE2-23</u>	\$1.25	NITRA particulate filter element, replacement, 40 micron particles, high-density polyethylene (HDPE). For use with AF-2 series filters or AFR-2 series filter regulators.	0.01					
<u>AFE2-33</u>	\$2.25	NITRA particulate filter element, replacement, 40 micron particles, high-density polyethylene (HDPE). For use with AF-3 series filters or AFR-3 series filter regulators.	0.01					
<u>AFE2-43</u>	\$3.00	NITRA particulate filter element, replacement, 40 micron particles, high-density polyethylene (HDPE). For use with AF-4 series filters or AFR-4 series filter regulators.	0.01					
<u>AFE2-63</u>	\$8.25	NITRA particulate filter element, replacement, 40 micron particles, high-density polyethylene (HDPE). For use with AF-6 series filters or AFR-6 series filter regulators.	0.04					
<u>AFE2-21</u>	\$1.25	NITRA particulate filter element, replacement, 5 micron particles, high-density polyethylene (HDPE). For use with AF-2 series filters or AFR-2 series filter regulators.	0.01					
<u>AFE2-31</u>	\$2.25	NITRA particulate filter element, replacement, 5 micron particles, high-density polyethylene (HDPE). For use with AF-3 series filters or AFR-3 series filter regulators.	0.01					
<u>AFE2-41</u>	\$3.00	NITRA particulate filter element, replacement, 5 micron particles, high-density polyethylene (HDPE). For use with AF-4 series filters or AFR-4 series filter regulators.	0.01					
<u>AFE2-61</u>	\$8.25	NITRA particulate filter element, replacement, 5 micron particles, high-density polyethylene (HDPE). For use with AF-6 series filters or AFR-6 series filter regulators.	0.04					
		NITRA Coalescing Filters						
<u>AFE-24</u>	\$12.50	NITRA coalescing oil removal filter element, replacement, 0.3 micron particles, borosilicate glass microfiber. For use with AC-2 series coalescing filters.	0.05					
<u>AFE-34</u>	\$15.50	NITRA coalescing oil removal filter element, replacement, 0.3 micron particles, borosilicate glass microfiber. For use with AC-3 series coalescing filters.	0.05					
<u>AFE-44</u>	\$25.00	NITRA coalescing oil removal filter element, replacement, 0.3 micron particles, borosilicate glass microfiber. For use with AC-4 series coalescing filters.	0.1					
<u>AFE-25</u>	\$12.50	NITRA coalescing oil removal filter element, replacement, 0.01 micron particles, borosilicate glass microfiber. For use with AC-2 series coalescing filters.	0.04					
<u>AFE-35</u>	\$15.50	NITRA coalescing oil removal filter element, replacement, 0.01 micron particles, borosilicate glass microfiber. For use with AC-3 series coalescing filters.	0.05					
<u>AFE-45</u>	\$25.00	NITRA coalescing oil removal filter element, replacement, 0.01 micron particles, borosilicate glass microfiber. For use with AC-4 series coalescing filters.	0.1					

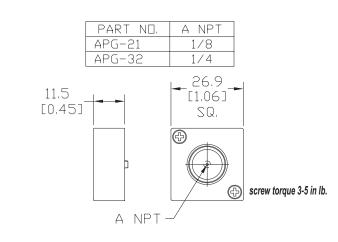


Pneumatic Air Preparation Accessories

Dimensions

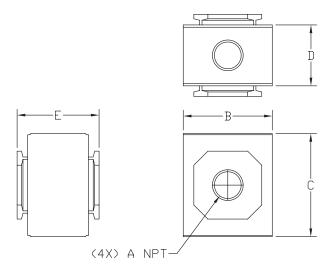
mm [inches]

AGP-x



ADB-x

PART NO.	A NPT	DIM B	DIM C	DIM D	DIM E
ADB-21	1/8	30.0 [1.18]	36.0 [1.42]	19.5 [0.77]	28.5 [1.12]
ADB-22	1/4	30.0 [1.18]	36.0 [1.42]	19.5 [0.77]	28.5 [1.12]
ADB-32	1/4	38.0 [1.50]	44.0 [1.73]	26.0 [1.02]	35.0 [1.38]
ADB-33	3/8	38.0 [1.50]	44.0 [1.73]	26.0 [1.02]	35.0 [1.38]
ADB-44	1/2	52.0 [2.05]	52.0 [2.05]	30.0 [1.18]	42.0 [1.65]



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Pneumatic Air Preparation Accessories

Dimensions

mm [inches]

AB-xT

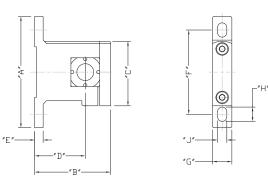


	TABLE 1											
PART NUMBER	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"			
AB-2T	66.0 [2.60)	45.0 [1.77]	38.3 [1.51]	30.0 [1.18]	5.0 [0.20]	50.0 [1.97]	11.5 [0.45]	8.5 [0.33]	5.5 [0.22]			
AB-3T	88.0 [3.46]	60.5 [2.38]	49.3 [1.94]	41.5 [1.63]	7.0 [0.28]	70.0 [2.76]	12.5 [0.49]	9.0 [0.35]	6.5 [0.26]			
AB-4T	104.0 [4.09]	76.0 [2.99]	58.5 [2.30]	50.0 [1.97]	7.0 [0.28]	80.0 [3.15]	15.5 [0.61]	12.0 [0.47]	8.6 [0.34]			
AB-6T	128.0 [5.04]	104.0 [4.09]	79.5 [3.13]	70.0 [2.76]	10.0 [0.39]	100.0 [3.94]	19.5 [0.77]	16.0 [0.63]	11.0 [0.43]			

AB-xL

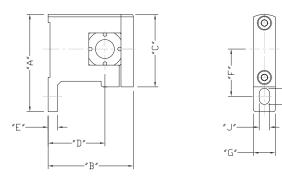


	TABLE 1										
PART NUMBER	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"		
AB-2L	51.3 [2.02]	45.0 [1.77]	38.3 [1.51]	30.0 [1.18]	5.0 [0.20]	25.0 [0.98]	11.5 [0.45]	8.5 [0.33]	5.5 [0.22]		
AB-3L	68.6 [2.70]	60.5 [2.38]	49.3 [1.94]	41.5 [1.63]	7.0 [0.28]	35.0 [1.38]	12.5 [0.49]	9.0 [0.35]	6.5 [0.26]		
AB-4L	79.5 [3.13]	76.0 [2.99]	58.5 [2.30]	50.0 [1.97]	7.0 [0.28]	40.0 [1.57]	15.5 [0.61]	12.0 [0.47]	8.6 [0.34]		
AB-6L	103.5 [4.07]	104.0 [4.09]	79.5 [3.13]	70.0 [2.76]	10.0 [0.39]	50.0 [1.97]	19.5 [0.77]	16.0 [0.63]	11.0 [0.43]		

See our Web site <u>www.AutomationDirect.com</u> for complete Engineering drawings.

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For the latest prices, please check AutomationDirect.com

Pneumatic Air Preparation Accessories

Dimensions

mm [inches]

AB-xU

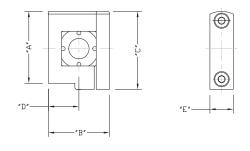


	TABLE 1										
PART NUMBER	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"						
AB-2U	35.5 [1.39]	30.0 [1.18]	38.3 [1.51]	15.0 [0.59]	11.5 [0.45]						
AB-3U	43.8 [1.72]	38.0 [1.50]	49.3 [1.94]	19.5 [0.75]	12.5 [0.49]						
AB-4U	52.5 [2.07]	52.0 [2.05]	58.5 [2.30]	26.0 [1.02]	15.5 [0.61]						
AB-6U	76.5 [3.01]	68.0 [2.68]	79.5 [3.13]	34.0 [1.34]	19.5 [0.77]						



GEN 2 Pneumatic Air Prep Accessories



Part No. AGP2-21



	GEN 2 Pneumatic Air Preparation Accessories										
Part No.	art No. Price Description										
<u>AGP2-21</u>	\$3.75	NITRA pneumatic gauge port adapter plate, 1/8in female NPT connection(s), aluminum. For use with Ax-2 series air prep components. (3) o-rings included.	0.02	<u>PDF</u>							
<u>AGP2-31</u>	\$4.75	NITRA pneumatic gauge port adapter plate, 1/8in female NPT connection(s), aluminum. For use with Ax-3 series air prep components. (3) o-rings included.	0.04	<u>PDF</u>							
<u>AGP2-42</u>	\$5.25	NITRA pneumatic gauge port adapter plate, 1/4in female NPT connection(s), aluminum. For use with Ax-4 and Ax-6 series air prep components. (3) o-rings included.	0.04	PDF							

Part No. AGP2-31



Part No. AGP2-42

For the latest prices, please check AutomationDirect.com



SLV Series Pneumatic Lockout Valves



NITRA SLV Series lockout valves are typically the first valvefollowing the FRL components in the line supplying compressed air to pneumatic equipment. They are critical components in any safety lock-out/tagout system. Available accessories include air mufflers and air pressure visual indicators.

Features

- Seven sizes from 1/4" NPT to 1-1/4" NPT available
- Critical component for OSHA lockout/tagout
- Easy push-pull activation
- Teflon ${}^{\textcircled{R}}$ seals that won't stick
- Oversized exhaust ports for quick pressure release
- Inlet pressure: 15 to 145 psig (1 to 10 bar)



	NITRA SLV Series Pneumatic Lockout Valves								
Part No.	Description	Price	Weight (lbs)						
<u>SLV-14N38N</u>	NITRA pneumatic lockout valve, OSHA compliant, 1/4in female NPT inlet(s), 1/4in female NPT outlet(s), 3/8in female NPT exhaust(s), aluminum body.	\$79.00	0.9						
<u>SLV-38N38N</u>	NITRA pneumatic lockout valve, OSHA compliant, 3/8in female NPT inlet(s), 3/8in female NPT outlet(s), 3/8in female NPT exhaust(s), aluminum body.	\$79.00	0.9						
<u>SLV-38N34N</u>	NITRA pneumatic lockout valve, OSHA compliant, 3/8in female NPT inlet(s), 3/8in female NPT outlet(s), 3/4in female NPT exhaust(s), aluminum body.	\$105.00	1.5						
<u>SLV-12N34N</u>	NITRA pneumatic lockout valve, OSHA compliant, 1/2in female NPT inlet(s), 1/2in female NPT outlet(s), 3/4in female NPT exhaust(s), aluminum body.	\$105.00	2.4						
<u>SLV-34N34N</u>	NITRA pneumatic lockout valve, OSHA compliant, 3/4in female NPT inlet(s), 3/4in female NPT outlet(s), 3/4in female NPT exhaust(s), aluminum body.	\$105.00	2.3						
<u>SLV-34N114N</u>	NITRA pneumatic lockout valve, OSHA compliant, 3/4in female NPT inlet(s), 3/4in female NPT outlet(s), 1-1/4in female NPT exhaust(s), aluminum body.	\$145.00	3.4						
<u>SLV-1N114N</u>	NITRA pneumatic lockout valve, OSHA compliant, 1in female NPT inlet(s), 1in female NPT outlet(s), 1-1/4in female NPT exhaust(s), aluminum body.	\$145.00	3.5						

NITRA S	NITRA SLV Series Pneumatic Lockout Valve Specifications				
Fluid		Filtered air (5 micron recommended)			
Pressure Range	SLV-14N38N & SLV-38N38N	0 to 150 psig (0 to 10.34 bar)			
l'recoure nange	All others	0 to 300 psig (0 to 20.68 bar)			
Cv		Dependant on silencer (muffler) size			
Temperature Range	e	40°F to 175°F (4°C to 80°C)			
Approvals		None			

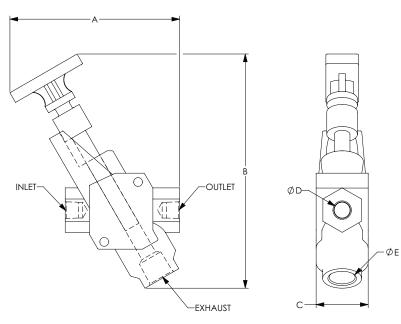
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SLV Series Pneumatic Lockout Valves



Dimensions										
Part #	A	В	С	ØD	ØE					
<u>SLV-14N38N</u>	2.3 [58.42]	6.9 [175.26]	1.0 [25.40]	1/4" NPT	3/8" NPT					
<u>SLV-38N38N</u>	2.3 [58.42]	6.9 [175.26]	1.0 [25.40]	3/8" NPT	3/8" NPT					



Dimensions									
Part #	A	В	C	ØD	ØE				
<u>SLV-38N34N</u>	6.6 [167.64]	9.0 [228.60]	2.0 [50.80]	3/8" NPT	3/4" NPT				
<u>SLV-12N34N</u>	6.6 [167.64]	9.0 [228.60]	2.0 [50.80]	1/2" NPT	3/4" NPT				
<u>SLV-34N34N</u>	6.6 [167.64]	9.0 [228.60]	2.0 [50.80]	3/4" NPT	3/4" NPT				
<u>SLV-34N114N</u>	7.7 [195.58]	10.8 [274.32]	2.3 [58.42]	3/4" NPT	1-1/4" NPT				
<u>SLV-1N114N</u>	7.7 [195.58]	10.8 [274.32]	2.3 [58.42]	1" NPT	1-1/4" NPT				

NITRA PNEUMATICS



HVM-34N



SLV-PU

Note: HVM series exhaust silencers have a maximum pressure of 250PSI (17 bar).

Features

Accessories

Silencers (mufflers) are aluminum constructionHigh flow rates needed for safety lockout valves



• Pressure indicator pops out when pressure of 5psi or more is present

SLV Series Pneumatic Lockout Valves

NITRA SLV Series Pneumatic Lockout Valve Accessories									
Part No.	Description	Price	Weight (Ibs)						
<u>HVM-18N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=2, 1/8in male NPT	\$15.50	0.1						
<u>HVM-14N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=2.7, 1/4in male NPT	\$15.50	0.1						
<u>HVM-38N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=3.2, 3/8in male NPT	\$15.00	0.1						
<u>HVM-38N-H</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=4.9, 3/8in male NPT	\$21.00	0.2						
<u>HVM-12N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=5.9, 1/2in male NPT	\$21.00	0.2						
<u>HVM-34N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=5.9, 3/4in male NPT	\$21.00	0.2						
<u>HVM-34N-H</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=13.5, 3/4in male NPT	\$41.00	0.6						
<u>HVM-1N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=16.7, 1in male NPT	\$41.00	0.6						
<u>HVM-114N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=17.4, 1-1/4in male NPT	\$41.00	0.6						
<u>SLV-PU</u>	NITRA pneumatic pop up pressure indicator, 5 psi, 1/8in male NPT	\$21.50	0.1						

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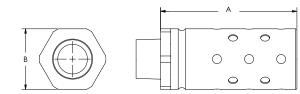


SLV Series Pneumatic Lockout Valves Accessories

Nitra High Volume Silencers (Mufflers)

Dimensions

inches [mm]

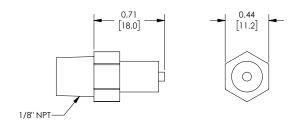


Muffler Dimensions									
Part #	A	В							
<u>HVM-18N</u>	1.6 [40.64]	0.8 [20.32]							
<u>HVM-14N</u>	1.6 [40.64]	0.8 [20.32]							
<u>HVM-38N</u>	1.6 [40.64]	0.8 [20.32]							
<u>HVM-38N-H</u>	2.9 [73.66]	1.3 [33.02]							
<u>HVM-12N</u>	2.9 [73.66]	1.3 [33.02]							
<u>HVM-34N</u>	2.9 [73.66]	1.3 [33.02]							
<u>HVM-34N-H</u>	4.5 [114.30]	2.0 [50.80]							
<u>HVM-1N</u>	4.5 [114.30]	2.0 [50.80]							
<u>HVM-114N</u>	4.5 [114.30]	2.0 [50.80]							

Nitra Pop Up Pressure Indicator

Dimensions

inches [mm]



Pneumatic Directional Control Solenoid Valves – AVP Series



1-800-633-0405

NITRA[™] pneumatic AVP series directional control solenoid valves are 3-way stackable poppet style valves with 1/8" NPT ports. They provide 2-position, normally closed, spring return operation with either 24 VDC or 120 VAC solenoid coils. The AVP series can be used in individual valve applications or multiple valves can be field assembled (stacked) to share supply air, simplifying piping connections. The DIN style wiring connector includes LED indication of the solenoid coil status.

Features

- 3-way stackable poppet style valves
- 1/8" NPT ports
- 2-position, normally closed, spring return
- 24VDC or 120VAC solenoid coils
- DIN style wiring connector with LED indication
- Single valve or multiple stacked valve applications
- 2 year warranty



See <u>www.AutomationDirect.com</u> for a wide variety of fitting options





RF

	AVP Series Specifications								
Model	<u>AVP-31C1-24D</u>	<u>AVP-31C1-120A</u>							
Price	\$23.50	\$23.50							
Weight (lbs)	0	.3							
Valve Type	3-way 2	position							
Acting	Direct acting, normally closed, spring return								
Diagram	A								
Port Size	1,	8"							
Orifice Size	1.2 mm,	Cv=0.051							
Fluid	Air (to be filtered by	/ 40µ filter element)							
Operating Pressure	20~130Psi, (0.15~0.	9MPa), (1.5~9.0 bar)							
Voltage	20.4 - 26.4 VDC	102 - 132 VAC (50/60 Hz)							
Power Consumption	DC: 3.0W AC: 4.5 VA; c	ontinuous duty (100% ED)							
Maximum Frequency	10 сус	les/sec							
Operating Life	50,000,0	00 cycles							
Insulation	Bc	lass							
Min Response	0.05	5 sec							
Temperature	-5~60°C (23~140°F)							
Lubrication	Not Re	equired							
Protection	IP65 (DI	N40050)							
Connection	11mm DIN Termi	nal with Grommet							
Material of Body	Alumini	um Alloy							
Agency Approvals	Solenoid CE r	marked; RoHS							

62.4 [2.46]

0

63.4 [2.50]

complete Engineering drawings.

See our website www.AutomationDirect.com for



Stacked example using AVP-31KIT stacking screw kit and shown with mounting bracket AVP-31BKT



AVP-31KIT Note: One kit is required for each additional AVP-31 valve added to the stack.

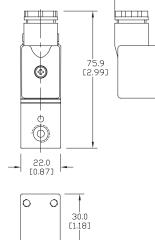


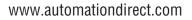
AVP-31BKT

Dimensions in mm [inches]

Dimensions

mm [inches] AVP-31C1





1-800-633-0405					For	the lates	st prices	, please (check Au	utomatior	Direct.com
	Pne	eum	atic	Dire	ctior	nal C	Cont	rol S	Sole r	noid	
	[°] Val	ves	– AV	5-3	Seri	es					
AVS-3221				port NPT prov sole Sole DIN Feat • Bo • 1/4 • 2-	ed 3-port with flow ide 2-posi noid mode noid coils style wirin <i>ures</i> dy ported, 8", 1/4" or 3	(3-way) sp coefficien ition, norn its provide are availa g connect 3-port (3-w i/8" NPT po ngle solenoi	bool valves ts (Cv) fro mally close 2-positior ble in eith tor include vay) spool va orts id normally	s. Available m 0.67 to d, spring i n, energize er 24VDC s LED india alves	e port size 1.67. The return ope open/ene or 120VA cation of t	es are 1/8", single sole eration and ergize close C control v	ves are body 1/4" or 3/8" noid models d the double ed operation. roltages. The d coil status.
		Call in the second		en	ergize close	ed					
		P			VDC or 120			indication			
	Α	VS-3211			cking manu	-	or with LED r	Indication	FITTI	ngs?	
Diagram "A" A	Diag	ram "B"	А		/ear warran	-				5	YEAR
				⊲7٦							WARRANTY
	∖ ⊲́ R		 P_ R						www.Automati		CE
2-Pos, Spring R		2-Pos, D	ouble Soleno	id				for a	wide variety o	f fitting options	
			AVS-3	Series	Specifica	ations					
					opeenie						
Model	AVS-3111-24D	AVS-3111-120A	<u>AVS-3211-24D</u>	AVS-3211-120A	<u>AVS-3221-24D</u>	AVS-3221-1204	AVS-3212-24D	AVS-3212-120A	AVS-3222-24D	AVS-3222-120A	
Price	\$22.50	\$22.50	\$26.50	\$26.50	\$41.50	\$40.00	\$26.50	\$26.50	\$41.50	\$41.50	
Weight (lb)	0.3	0.3	0.5	0.5	0.8	0.7	0.5	0.5	0.7	0.7	
Valve Type					3 port 2	position					
Acting					Internally	y Piloted					
Diagram		A		Ą	E	3	1	Ą		В	
Port Size	In/Ou	it=1/8"		In/Ou	t=1/8"		In/Out=1/4"				
Orifice Size	12mm² (Cv=0 67)	In/Out=1/8" In/Out=1/8" In/Out=1/4" 12mm² (Cv=0.67) 14mm² (Cv=0.78) 16mm² (Cv=0.89)								
				14mm² (Cv=0.78)			16mm² (01 0.00)		
Fluid		,		Air (to	be filtered by	•	,		,		
Fluid Pressure		Worl	-	Air (to psi, (0.15~0.8	be filtered by MPa), (1.5~8	.0 bar); Proc	of: 215 psi, (1.	48 MPa), (14.	8 bar)		
	24VDC single solenoid	Worl 120VAC single solenoid	king: 20~115 24VDC single solenoid	Air (to	be filtered by	•	,		,	120VAC double solenoid	
Pressure	single solenoid DC: 2.5W continuous	Worl 120VAC single	24VDC single	Air (to psi, (0.15~0.8 120VAC single	be filtered by MPa), (1.5~8 24VDC double solenoid	.0 bar); Proc 120VAC double solenoid	of: 215 psi, (1. 24VDC single	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	
Pressure Voltage	single solenoid DC: 2.5W continuous	Worl 120VAC single solenoid AC: 3.5 VA; duty (100%	24VDC single	Air (to psi, (0.15~0.8 120VAC single	be filtered by MPa), (1.5~8 24VDC double solenoid	.0 bar); Proc 120VAC double solenoid AC: 4.5 VA; co	of: 215 psi, (1. 24VDC single solenoid	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	
Pressure Voltage Power Consumption	single solenoid DC: 2.5W continuous	Worl 120VAC single solenoid AC: 3.5 VA; duty (100%	24VDC single	Air (to psi, (0.15~0.8 120VAC single	be filtered by MPa), (1.5~8 24VDC double solenoid DC: 3.0W /	.0 bar); Proc 120VAC double solenoid AC: 4.5 VA; co es/sec	of: 215 psi, (1. 24VDC single solenoid	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	
Pressure Voltage Power Consumption Max Frequency	single solenoid DC: 2.5W continuous	Worl 120VAC single solenoid AC: 3.5 VA; duty (100%	24VDC single	Air (to psi, (0.15~0.8 120VAC single	be filtered by MPa), (1.5~8 24VDC double solenoid DC: 3.0W / 5 cycle	.0 bar); Proc 120VAC double solenoid AC: 4.5 VA; co es/sec 00 cycles	of: 215 psi, (1. 24VDC single solenoid	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	
Pressure Voltage Power Consumption Max Frequency Operating Life	single solenoid DC: 2.5W continuous	Worl 120VAC single solenoid AC: 3.5 VA; duty (100%	24VDC single	Air (to psi, (0.15~0.8 120VAC single	be filtered by MPa), (1.58 24VDC double solenoid DC: 3.0W / 5 cycle 50,000,00	.0 bar); Proc 120VAC double solenoid AC: 4.5 VA; cc es/sec 00 cycles ass	of: 215 psi, (1. 24VDC single solenoid	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	
Pressure Voltage Power Consumption Max Frequency Operating Life Insulation	single solenoid DC: 2.5W continuous	Worl 120VAC single solenoid AC: 3.5 VA; duty (100%	24VDC single	Air (to psi, (0.15~0.8 120VAC single	be filtered by MPa), (1.5~8 24VDC double solenoid DC: 3.0W / 5 cycle 50,000,00 B cl	.0 bar); Proc 120VAC double solenoid AC: 4.5 VA; cc es/sec 20 cycles ass sec	of: 215 psi, (1. 24VDC single solenoid	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	
Pressure Voltage Power Consumption Max Frequency Operating Life Insulation Min Response	single solenoid DC: 2.5W continuous	Worl 120VAC single solenoid AC: 3.5 VA; duty (100%	24VDC single	Air (to psi, (0.15~0.8 120VAC single	be filtered by MPa), (1.5~8 24VDC double solenoid DC: 3.0W / 5 cycle 50,000,00 B cl 0.05	.0 bar); Proc 120VAC double solenoid AC: 4.5 VA; co es/sec 00 cycles ass sec 23~140°F)	of: 215 psi, (1. 24VDC single solenoid	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	
Pressure Voltage Power Consumption Max Frequency Operating Life Insulation Min Response Temperature	single solenoid DC: 2.5W continuous	Worl 120VAC single solenoid AC: 3.5 VA; duty (100%	24VDC single	Air (to psi, (0.15~0.8 120VAC single	be filtered by MPa), (1.5~8 24VDC double solenoid DC: 3.0W / 5 cycle 50,000,00 B cl 0.05 -5~60°C (2	.0 bar); Proc 120VAC double solenoid AC: 4.5 VA; cc es/sec 00 cycles ass sec 23~140°F) equired	of: 215 psi, (1. 24VDC single solenoid	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	
Pressure Voltage Power Consumption Max Frequency Operating Life Insulation Min Response Temperature Lubrication	single solenoid DC: 2.5W continuous E	Worl 120VAC single solenoid AC: 3.5 VA; duty (100%	24VDC single	Air (to psi, (0.15~0.8 120VAC single	be filtered by MPa), (1.5~8 24VDC double solenoid DC: 3.0W / 5 cycle 50,000,00 B cl 0.05 -5~60°C (2 Not Re	.0 bar); Proc 120VAC double solenoid AC: 4.5 VA; ca es/sec 00 cycles ass sec 23~140°F) equired N40050)	of: 215 psi, (1. 24VDC single solenoid	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	
Pressure Voltage Power Consumption Max Frequency Operating Life Insulation Min Response Temperature Lubrication Protection	single solenoid DC: 2.5W continuous E	Worl 120VAC single solenoid AC: 3.5 VA; duty (100% D)	24VDC single	Air (tr psi, (0.15~0.8 120VAC single solenoid	be filtered by MPa), (1.5~8 24VDC double solenoid DC: 3.0W / 5 cycle 50,000,00 B cl 0.05 -5~60°C (2 Not Re	.0 bar); Proc 120VAC double solenoid AC: 4.5 VA; cc es/sec 20 cycles ass sec 23~140°F) equired N40050) 11mm DIM im Alloy	of: 215 psi, (1. 24VDC single solenoid ontinuous duty	48 MPa), (14. 120VAC single solenoid	8 bar) 24VDC double	double	

1-800-633-0405



Pneumatic Directional Control Solenoid Valves – AVS-3 Series

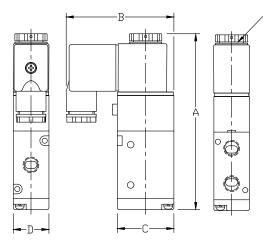
	AVS-3 Series Specifications											
Model	AVS-3312-24D	AVS-3312-120A	AVS-3322-24D	AVS-3322-120A	AVS-3313-24D	AVS-3313-120A	AVS-3323-24D	AVS-3323-120A				
Price	\$37.50	\$37.50	\$50.00	\$46.00	\$37.50	\$37.50	\$51.00	\$49.00				
Weight (lb)	0.7	0.7	0.9	0.9	0.7	0.7	0.9	0.9				
Valve Type				3 port 2	position							
Acting				Internall	y Piloted		1					
Diagram	/	4	I	3	ŀ	4		В				
Port Size		In/Ou	t=1/4"			In/Ou	it=3/8"					
Orifice Size		16mm² (Cv=1.39)			25mm² (Cv=1.67)					
Fluid			Ai	r (to be filtered by	y 40µ filter eleme	nt)						
Pressure		Working: 20	0∼115 psi, (0.15∼	0.8 MPa), (1.5~8	3.0 bar); Proof: 2	215 psi, (1.48 MF	Pa), (14.8 bar)					
Voltage	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid				
Power Consumption			DC: 3.0V	V AC: 4.5 VA; co	ontinuous duty (1	00% ED)						
Max Freq				5 cycl	es/sec							
Insulation				Вс	lass							
Min Response				0.05	sec							
Temperature				-5~60°C (23~140°F)							
Lubrication		Not Required										
Protection		IP65 (DIN40050)										
Connection		11mm DIN Terminal										
Body				Aluminu	um Alloy							
Agency Approvals				Solenoid CE r	marked; RoHS							

·Ε

Dimensions

mm [inches]

AVS-311x, AVS-321x, AVS-331x

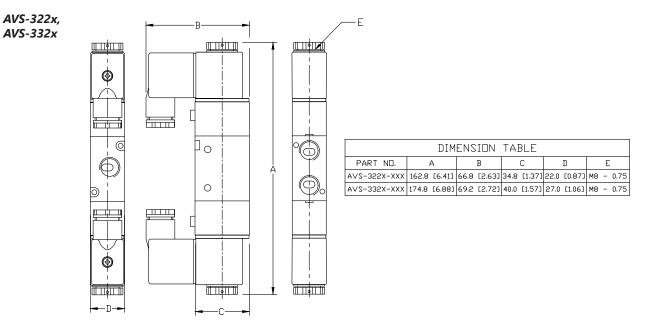


DIMENSION TABLE										
PART NO.	A	В	С	D	E					
AVS-311X-XXX	88.4 [3.48]	54.6 [2.15]	27.0 [1.06]	18.0 [0.71]	M7 - 0.5					
AVS-321X-XXX	109.0 [4.29]	66.7 [2.63]	35.0 [1.38]	22.0 [0.87]	M8 - 0.75					
AVS-331X-XXX	119.8 [4.72]	69.1 [2.72]	40.0 [1.57]	27.0 [1.06]	M8 - 0.75					

1-800-633-0405 **Pneumatic Directional Control Solenoid** PNEUMATICS Valves – AVS-3 Series

Dimensions

mm [inches]







Stacked solenoids shown mounted on

optional manifold

AVS-5221

NITRA[™] pneumatic AVS-5 series directional control solenoid valves are body ported 5-port (4-way) spool valves. Available port sizes are 1/8", 1/4", 3/8" or 1/2" NPT with flow coefficients (Cv) from 0.50 to 2.79. Models are available with single solenoid, spring return or double solenoid 2-position operation. In addition, double solenoid models are available with 3-position, center closed or center exhaust operation. Solenoid coils are available in either 24VDC or 120VAC control voltages. The AVS-5 series can be used in individual valve applications or multiple valves can be field assembled on AM-5 series manifolds simplifying piping connections. AM-5 series manifolds are available in 2, 4, 6 or 8 stations. The DIN style wiring connector includes LED indication of the solenoid coil status.

Features

- Body ported, 5-port (4-way) spool valves
- 1/8", 1/4", 3/8" or 1/2" NPT ports
- 2-position, single solenoid normally closed, spring return; 2-position, double solenoid, energize open/energize closed; 3-position, double solenoid center closed or center exhaust
- 24VDC or 120VAC solenoid coils
- DIN style wiring connector with LED indication
- Single valve or multiple manifold mounted valve applications
- Locking manual operator
- 2 year warranty





See <u>www.AutomationDirect.com</u> for a wide variety of fitting and cable options

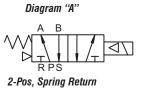
					AV	8-5 S	eries	Speci	ficatio	ons						
Model	<u>AVS-5111-24D</u>	<u>AVS-5111-120A</u>	<u>AVS-5121-24D</u>	<u>AVS-5121-120A</u>	<u>AVS-513C1-24D</u>	<u>AVS-513C1-120A</u>	AVS-513E1-24D	AVS-513E1-120A	<u>AVS-5211-24D</u>	AVS-5211-120A	<u>AVS-5221-24D</u>	AVS-5221-120A	<u>AVS-5212-24D</u>	AVS-5212-120A	<u>AVS-5222-24D</u>	AVS-5222-120A
Price	\$22.50	\$22.50	\$37.00	\$37.00	\$53.00	\$53.00	\$53.00	\$53.00	\$26.50	\$26.50	\$41.50	\$41.50	\$26.50	\$26.50	\$41.50	\$41.50
Weight (lb)	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.5	0.5	0.8	0.8
Valve Type		5 port 2	position			5 port 3	position					5 port 2	position			
Acting								Internall	y Piloted							
Diagram	A	-		3	0	-	[4	E	-		A	-	3
Port Size			naust=1/8	"	lı	n/Out/Exh		33		n/Out/Exl		33	In/C	Out=1/4",		1/8"
Orifice Size		12mm² (Cv=0.67)			9mm² (C	/			14mm² (/			16mm² (Cv=0.89)	
Fluid									40µ filte		,					
Pressure			\	Norking					.0 bar); I	Proof: 21	5 psi, (1.	48 MPa),	(14.8 ba	r)		
VOITAGE (VAC @	single	120VAC single solenoid	double	120VAC double solenoid	24VDC center closed double solenoid	double	center exhaust double	center exhaust double	24VDC single solenoid	single	24VDC double solenoid	double	single	120VAC single solenoid	double	120VAC double solenoid
Power Consumption		DC: 2.5	5W AC: 3	3.5 VA; co	ontinuous	duty (100	0% ED)			DC: 3.0	W AC: 4	1.5 VA; co	ontinuous	duty (10	0% ED)	
Max Freqency		5 cycl	es/sec			3 cycle	es/sec					5 cycl	es/sec			
Operating Life								50,000,0	00 cycles							
Insulation								B cl	ass							
Min Response	0.05 sec															
Temperature	-5~60°C (23~140°F)															
Lubrication								Not Re	-							
Protection	IP65 (DIN40050)															
Connection	9.4 mm DIN Terminal 11mm DIN Terminal															
Body								Aluminu	im Alloy							
Agency Approvals							Sole	noid CE r	narked; F	RoHS						



For the latest prices, please check AutomationDirect.com

Pneumatic AVS Directional Control Solenoid Valves – AVS-5 Series





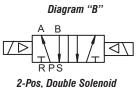
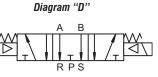


Diagram "C"





3-Pos, Closed Center

3-Pos, Exhaust Center

					AV	S-5 S	eries S	pecifi	cation	S						
Model	<u>AVS-5312-24D</u>	<u>AVS-5312-120A</u>	<u>AVS-5322-24D</u>	<u>AVS-5322-120A</u>	<u>AVS-5313-24D</u>	AVS-5313-120A	<u>AVS-5323-24D</u>	AVS-5323-120A	AVS-523C1-24D	AVS-523C1-120A	AVS-523E1-24 <u>D</u>	AVS-523E1-120A	AVS-523C2-24D	AVS-523C2-120A	AVS-523E2-24D	AVS-523E2-120A
Price	\$37.50	\$37.50	\$52.00	\$52.00	\$37.50	\$37.50	\$52.00	\$52.00	\$71.00	\$71.00	\$71.00	\$71.00	\$71.00	\$71.00	\$71.00	\$56.00
Weight (lb)	0.8	0.8	1.0	1.0	0.7	0.7	1.0	1.0	0.9	0.8	0.9	0.9	0.9	0.8	0.9	0.8
Valve Type				5 port 2	position							5 port 3	position			
Acting								Internall	y Piloted							
Diagram	ļ	4	E	3	ļ	Ą	E	3	(С	[)	(С	[D
Port Size		In/Out/Ext	naust=1/4"		ln/	Out=3/8",	Exhaust=1	/4"		In/Out/Ext	naust=1/8"		In/	Out=1/4",	Exhaust=1	1/8"
Orifice Size		25mm² ((Cv=1.4)			30mm² (Cv=1.68)					12mm² (Cv=0.67)			
Fluid							Air (to be	filtered by	/ 40µ filter	element)						
Pressure				Work	ing: 20~1	15 psi, (0.	15~0.8 MF	Pa), (1.5~8	8.0 bar); P	roof: 215	psi, (1.48	MPa), (14	.8 bar)			
Voltage (VAC @ 50/60 Hz)	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid	24VDC center closed double solenoid	120VAC center closed double solenoid	24VDC center exhaust double solenoid	120VAC center exhaust double solenoid	24VDC center closed double solenoid	120VAC center closed double solenoid	24VDC center exhaust double solenoid	120VAC center exhaust double solenoid
Power Consumption						DC: 3	3.0W AC:	4.5 VA; co	ontinuous	duty (100%	% ED)					
Max Frequency				4 cycle	es/sec							3 cycl	es/sec			
Operating Life								50,000,0	00 cycles							
Insulation								Вc	lass							
Min Response								0.05	sec							
Temperature								-5~60°C (23~140°F)						
Lubrication								Not Re	equired							
Protection		IP65 (DIN40050)														
Connection		11mm DIN Terminal														
Body		Aluminum Alloy														
Agency Approvals							Sole	enoid CE r	marked; R	oHS						



Pneumatic AVS Directional Control Solenoid Valves – AVS-5 Series

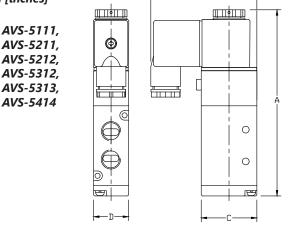
					AVS	8-5 Se	eries S	Specif	icatio	ns						
Model	<u>AVS-533C2-24D</u>	<u>AVS-533C2-120A</u>	AVS-533E2-24D	AVS-533E2-120A	<u>AVS-533C3-24D</u>	AVS-533C3-120A	AVS-533E3-24D	AVS-533E3-120A	<u>AVS-5414-24D</u>	AVS-5414-120A	<u>AVS-5424-24D</u>	AVS-5424-120A	<u>AVS-543C4-24D</u>	AVS-543C4-120A	AVS-543E4-24D	AVS-543E4-120A
Price	\$98.00	\$98.00	\$98.00	\$98.00	\$98.00	\$98.00	\$98.00	\$98.00	\$56.00	\$56.00	\$71.00	\$71.00	\$98.00	\$98.00	\$98.00	\$98.00
Weight (lb)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.3	1.3	1.5	1.5	1.7	1.7	1.7	1.7
Valve Type				5 port 3	position					5 port 2	position			5 port 3	position	
Acting								Internall	y Piloted							
Diagram	(0	[)	(2	[)	A	4	E	3	(C	[)
Port Size	li	n/Out/Exł	naust=1/4	."	In/C)ut=3/8",	Exhaust=	1/4"			l	n/Out/Exł	naust=1/2	"		
Orifice Size				18mm² (Cv=1.0)					50mm² (Cv=2.79)			30mm² (Cv=1.68)	
Fluid						A	Air (to be	filtered by	40µ filte	r element	:)					
Pressure			\	Norking	: 20~115	psi, (0.15	~0.8 MP	a), (1.5~8	.0 bar); I	Proof: 21	5 psi, (1.	48 MPa),	(14.8 bai	r)		
Voltage (VAC @ 50/60 Hz)	24VDC center closed double solenoid	120VAC center closed double solenoid	center exhaust double	120VAC center exhaust double solenoid	center closed double	120VAC center closed double solenoid	center exhaust double	double	24VDC single solenoid	120VAC single solenoid	double	120VAC double solenoid		120VAC center closed double solenoid	24VDC center exhaust double solenoid	double
Power Consumption						DC: 3.0)W AC: 4	1.5 VA; co	ontinuous	duty (10	0% ED)					
Max Frequency								3 cycl	es/sec				-			
Operating Life								50,000,0	00 cycles							
Insulation								Bc	ass							
Min Response								0.05	sec	-						
Temperature									23~140°F	-)						
Lubrication								Not Re	equired							
Protection		IP65 (DIN40050)														
Connection		11mm DIN Terminal														
Body								Aluminu	im Alloy	-						
Agency Approvals							Sole	noid CE r	narked; R	RoHS						

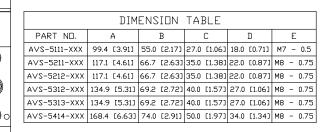
Ε

BI

Dimensions



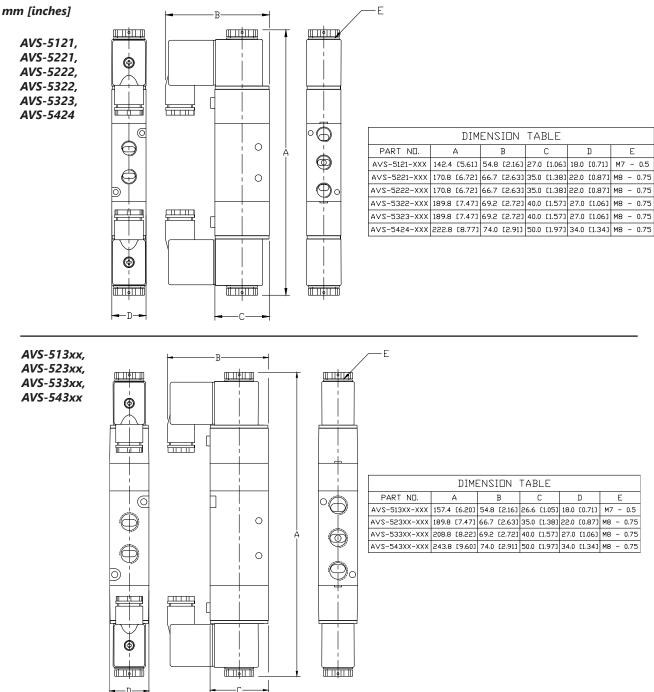






Pneumatic Directional Control Solenoid Valves – AVS-5 Series

Dimensions





Pneumatic A-Series Direction Control Solenoid Valves - Accessories



AVC1-12D



AVC2-12D

		Accessories	
Part No.	Price	Description	Weight (lb)
<u>AVC1-12D</u>	\$8.75	NITRA solenoid coil, 12VDC, 2.5 W. For use with AVS-31 and AVS-51 series valves.	0.1
<u>AVC1-24D</u>	\$8.75	NITRA solenoid coil, 24VDC, 2.5 W. For use with AVS-31 and AVS-51 series valves.	0.1
<u>AVC1-24A</u>	\$8.75	NITRA solenoid coil, 24VAC, 4.0 VA. For use with AVS-31 and AVS-51 series valves.	0.1
<u>AVC1-120A</u>	\$8.75	NITRA solenoid coil, 120VAC, 3.5 VA. For use with AVS-31 and AVS-51 series valves.	0.1
<u>AVC2-12D</u>	\$8.75	NITRA solenoid coil, 12VDC, 3.0 W. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53 and AVS-54 series valves.	0.2
<u>AVC2-24D</u>	\$8.75	NITRA solenoid coil, 24VDC, 3.0 W. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53 and AVS-54 series valves.	0.2
<u>AVC2-24A</u>	\$8.75	NITRA solenoid coil, 24VAC, 5.0 VA. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53 and AVS-54 series valves.	0.2
<u>AVC2-120A</u>	\$8.75	NITRA solenoid coil, 120VAC, 4.5 VA. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53 and AVS-54 series valves.	0.2
<u>AVP-31BKT</u>	\$1.25	NITRA individual mounting bracket, plated steel. For use with AVP-31 directional control valves.	0.1
<u>AVP-31KIT</u>	\$2.00	NITRA stacking screws, for use with AVP-31 directional control valves. One kit is required for each additional AVP-31 valve added to the stack.	0.1

Pneumatic A-Series Directional Control Solenoid Valve Series



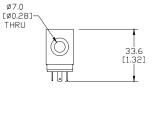
AVP-31BKT

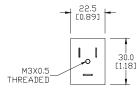


AVP-31KIT

Dimensions







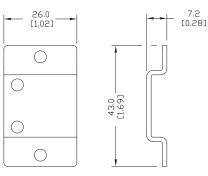
Ø9.0 [Ø0.35]-

THRU

AVC1 Series Coils

M3X0.5 THREADED 17.6 [0.69]

AVC2 Series Coils



AVP-31BKT

See our website www.AutomationDirect.com for complete Engineering drawings. 41.6 [1.64]



Pneumatic Directional Control Solenoid Valve Manifolds and Accessories



AM-3 Series Manifolds



AM-31BP

Pneur	natic	Directional Control Solenoid Valve Series Acces	sories
Part No.	Price	Description	Weight (lb)
<u>AM-312</u>	\$16.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.2
<u>AM-314</u>	\$23.50	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.3
<u>AM-316</u>	\$29.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.4
<u>AM-318</u>	\$38.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.5
<u>AM-31BP</u>	\$3.75	NITRA blanking plate, plated steel. For use with AM-31 series manifolds.	0.1
<u>AM-322</u>	\$16.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.2
<u>AM-324</u>	\$26.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.4
<u>AM-326</u>	\$38.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.5
<u>AM-328</u>	\$49.50	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.7
<u>AM-32BP</u>	\$3.75	NITRA blanking plate, plated steel. For use with AM-32 series manifolds.	0.1
<u>AM-332</u>	\$17.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	0.4
<u>AM-334</u>	\$31.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	0.6
<u>AM-336</u>	\$54.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	0.9
<u>AM-338</u>	\$58.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	1.1
<u>AM-33BP</u>	\$3.75	NITRA blanking plate, plated steel. For use with AM-33 series manifolds.	0.1
<u>AM-512</u>	\$9.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	0.4
<u>AM-514</u>	\$16.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	0.6
<u>AM-516</u>	\$23.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	0.8
<u>AM-518</u>	\$32.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	1.1
<u>AM-51BP</u>	\$4.75	NITRA blanking plate, plated steel. For use with AM-51 series manifolds.	0.1
<u>AM-522</u>	\$12.50	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	0.5
<u>AM-524</u>	\$25.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	0.9
<u>AM-526</u>	\$38.50	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	1.2
<u>AM-528</u>	\$51.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	1.5
<u>AM-52BP</u>	\$5.25	NITRA blanking plate, plated steel. For use with AM-52 series manifolds.	0.1

1-800-633-0405



Pneumatic Directional Control Solenoid Valve Manifolds and Accessories



AM-5 Series Manifolds



AM-31GS

Pneu	matic	Directional Control Solenoid Valve Series Acces	sories
		Continued	
Part No.	Price	Description	Weight (lb)
<u>AM-532</u>	\$20.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	0.8
<u>AM-534</u>	\$38.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	1.4
<u>AM-536</u>	\$58.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	1.9
<u>AM-538</u>	\$76.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	2.5
<u>AM-53BP</u>	\$5.25	NITRA blanking plate, plated steel. For use with AM-53 series manifolds.	0.1
<u>AM-542</u>	\$21.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	1.7
<u>AM-544</u>	\$42.50	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	2.8
<u>AM-546</u>	\$69.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	4.0
<u>AM-548</u>	\$78.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	5.2
<u>AM-54BP</u>	\$4.75	NITRA blanking plate, plated steel. For use with AM-54 series manifolds.	0.1
<u>AM-31GS</u>	\$3.75	NITRA manifold mounting set, for use with AM-31 series manifolds.	0.1
<u>AM-32GS</u>	\$4.25	NITRA manifold mounting set, for use with AM-32 series manifolds.	0.1
<u>AM-33GS</u>	\$4.25	NITRA manifold mounting set, for use with AM-33 series manifolds.	0.1
<u>AM-51GS</u>	\$3.75	NITRA manifold mounting set, for use with AM-51 series manifolds.	0.1
<u>AM-52GS</u>	\$4.25	NITRA manifold mounting set, for use with AM-52 series manifolds.	0.1
<u>AM-53GS</u>	\$4.50	NITRA manifold mounting set, for use with AM-53 series manifolds.	0.1
<u>AM-54GS</u>	\$4.75	NITRA manifold mounting set, for use with AM-54 series manifolds.	0.1

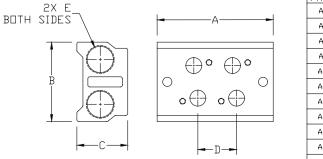


Pneumatic Directional Control Solenoid Valve Manifolds and Accessories

Dimensions

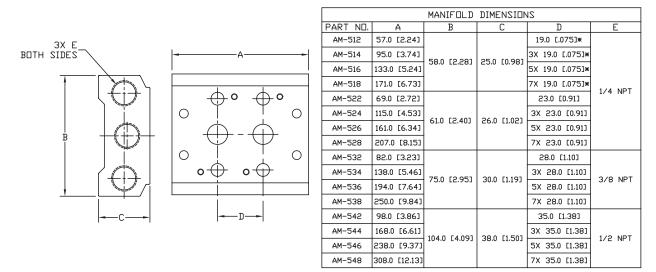
mm [inches]

AM 3x Series Manifolds



	MANIFOLD DIMENSIONS									
PART NO.	A	В	С	D	E					
AM-312	57.0 [2.24]			19.0 [.075]						
AM-314	95.0 [3.74]	39.0 [1.54]	25.0 [0.98]	3X 19.0 [.075]						
AM-316	133.0 [5.24]	37.0 LI.J4J	23.0 10.981	5X 19.0 [.075]						
AM-318	171.0 [6.73]			7X 19.0 [.075]	1/4 NPT					
AM-322	69.0 [2.72]			23.0 [0.91]	174 NFT					
AM-324	115.0 [4.53]	45.0 [1.77]	25.0 [0.98]	3X 23.0 [0.91]						
AM-326	161.0 [6.34]	4J.U LI.//J	23.0 10.981	5X 23.0 [0.91]						
AM-328	207.0 [8.15]			7X 23.0 [0.91]						
AM-332	82.0 [3.23]			28.0 [1.10]						
AM-334	138.0 [5.46]	52.0 [2.05]	29.0 [1.14]	3X 28.0 [1.10]						
AM-336	194.0 [7.64]	JE'N [5'03]	27.0 LI.14J	5X 28.0 [1.10]	3/8 NPT					
AM-338	250.0 [9.84]			7X 28.0 [1.10]						

AM 5x Series Manifolds



* Exhaust holes have 1mm offset from spacing centerline.

Control Distribution Blocks for AVS Series Solenoid Valves



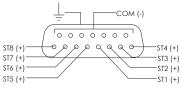
NITRA pneumatic control distribution blocks are a convenient way to connect a bank of valves to a controller. Replace all the wiring connectors supplied with the solenoid valves with this distribution block, and replace a bundle of solenoid cables with one DB15 cable. Each block matches up with a manifold of two to eight stations and includes built-in surge suppression and LED indication.

Features

- Single DB15 wiring connection
- Built-in surge suppression
- LED indication
- IP 65 rating
- 2 to 8 stations
- Use AVPS1-BP or AVPS2-BP plugs for any unused stations
- Mounting hardware and gaskets included
- Made in USA

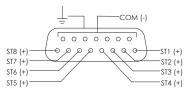
	oution Block Te ecifications	chnical							
Specification	VDC Units	VAC Units							
Voltage Range	12-24 VDC	24-120 VAC							
Temperature Range 0°F to 120°F (-20°C to 49°C)									
Max. Coil Power	4W	4VA							
Electrical Connection	15-Pin D-Sub	o (DB15) Male							
Circuit Protection	N4004 Diode	MOV							
Enclosure Rating	IP	65							
LED Indicator Yes									
Material	ABS (Acrylonitrile but	adiene styrene) Body							

Wiring



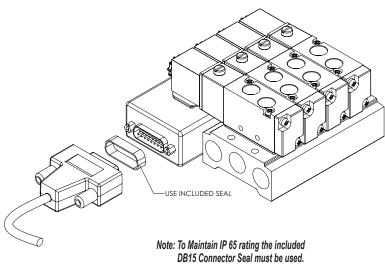
Control Distribution Block Pinout

AVPS1 Series Distribution Blocks



Control Distribution Block Pinout

AVPS2 / 3 / 4 Series Distribution Blocks





AVS-31 and AVS-51 Series Control Distribution Blocks



Part No. AVPS1-6A

AVS	-31 and A	VS-51 Ser	ies Control D	istribution	Blocks
Part No.	Voltage	Stations	Dimension "A" in [mm]	Price	Weight (lbs)
<u>AVPS1-2A</u>	AC	2	2.60 [66.0]	\$46.00	0.2
<u>AVPS1-2D</u>	DC	Z	2.00 [00.0]	\$46.00	0.2
<u>AVPS1-4A</u>	AC	4	4 00 [104 0]	\$92.00	0.3
<u>AVPS1-4D</u>	DC	4	4.09 [104.0]	\$96.00	0.3
<u>AVPS1-6A</u>	AC	6	E E0 [142.0]	\$136.00	0.3
AVPS1-6D	DC	0	5.59 [142.0]	\$141.00	0.3
<u>AVPS1-8A</u>	AC	8	7 00 [190 0]	\$181.00	0.4
<u>AVPS1-8D</u>	DC	0	7.09 [180.0]	\$188.00	0.4

Dimensions

mm [inches]

AVPS1-XX Series 26.4 Δ [1.04] 2 \odot F 0 0 0 0 0 0 0 47.0 $\square \bigcirc \square$ [1.85] (0) $\square \bigcirc \square$ P F Ô Л DB15 MALE Ø3.3 THRU 19.0 [0.75] CONNECTOR -∟ ø7,0 ▼ 6,4 X2



AVS-32 and AVS-52 Series Control Distribution Blocks



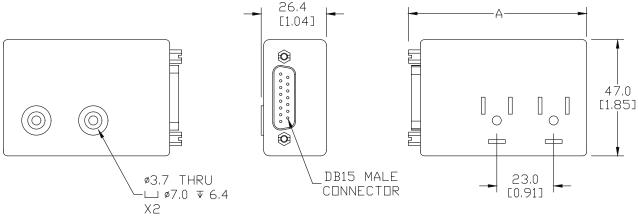
Part No. AVPS2-6A

AVS	-32 and A	VS-52 Ser	ries Control D	istribution	Blocks
Part No.	Voltage	Stations	Dimension "A" in [mm]	Price	Weight (lbs)
AVPS2-2A	AC	2	2 94 (72 4)	\$44.50	0.2
AVPS2-2D	DC	Z	2.84 [72.1]	\$44.50	0.2
AVPS2-4A	AC	4	4.65 [118.1]	\$89.00	0.3
<u>AVPS2-4D</u>	DC	4	4.05 [110.1]	\$93.00	0.3
<u>AVPS2-6A</u>	AC	6	6 46 (164 1)	\$132.00	0.3
AVPS2-6D	DC	0	6.46 [164.1]	\$137.00	0.3
AVPS2-8A	AC	8	8.27 [210.1]	\$175.00	0.4
AVPS2-8D	DC	0	0.27 [210.1]	\$182.00	0.4

Dimensions

mm [inches]

AVPS2-XX Series





AVS-33 and AVS-53 Series Control Distribution Blocks



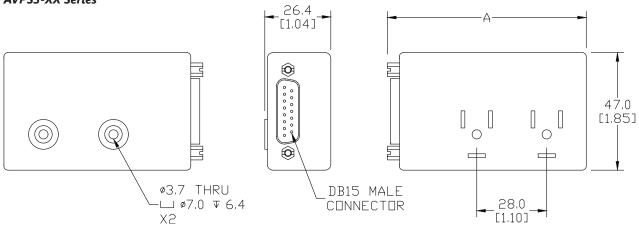
Part No. AVPS3-6A

AVS	-33 and A	VS-53 Ser	ies Control D	istribution	Blocks
Part No.	Voltage	Stations	Dimension "A" in [mm]	Price	Weight (lbs)
<u>AVPS3-2A</u>	AC	2	3.13 [79.5]	\$44.50	0.2
<u>AVPS3-2D</u>	DC	2	5.15[79.5]	\$44.50	0.2
<u>AVPS3-4A</u>	AC	4	5.33 [135.5]	\$89.00	0.3
AVPS3-4D	DC	4		\$93.00	0.3
<u>AVPS3-6A</u>	AC	6	7.54 [191.5]	\$132.00	0.3
<u>AVPS3-6D</u>	DC	0	7.54 [191.5]	\$137.00	0.3
<u>AVPS3-8A</u>	AC	8	9.74 [247.5]	\$175.00	0.4
<u>AVPS3-8D</u>	DC	0	9.74 [247.5]	\$182.00	0.4

Dimensions

mm [inches]

AVPS3-XX Series



For the latest prices, please check AutomationDirect.com





Part No. AVPS4-6A

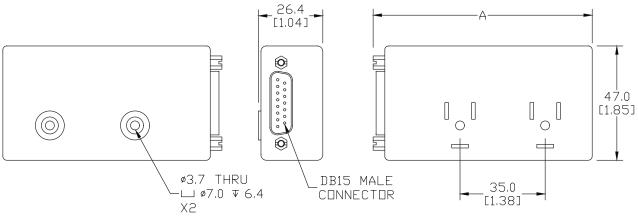
Blocks

	AVS-54	Series Co	ntrol Distribu	tion Blocks	3
Part No.	Voltage	Stations	ions Dimension "A" in [mm]		Weight (lbs)
<u>AVPS4-2A</u>	AC	2	2 54 (00.01	\$44.50	0.2
AVPS4-2D	DC	Z	3.54 [90.0]	\$44.50	0.2
<u>AVPS4-4A</u>	AC	4	6 20 [160 0]	\$89.00	0.3
AVPS4-4D	DC	4	6.30 [160.0]	\$89.00	0.3
<u>AVPS4-6A</u>	AC	6	0.06 (020.0)	\$132.00	0.3
AVPS4-6D	DC	o	9.06 [230.0]	\$132.00	0.3
AVPS4-8A	AC	8	11 91 [200 0]	\$175.00	0.4
AVPS4-8D	DC	0	11.81 [300.0]	\$175.00	0.4

Dimensions

mm [inches]

AVPS4-XX Series



AVS-54 Series Control Distribution



AVPS Series Control Distribution

Blocks Accessories



Part No. AVPS1-BP



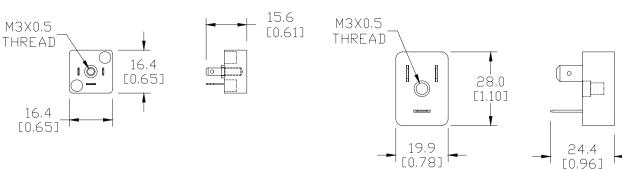
Part No. AVPS2-BP

	AVPS Series Control Distribution Blocks Accessories									
Part No.	Description	Price	Weight (lbs)							
<u>AVPS1-BP</u>	NITRA blanking plug, for use with AVPS1-x control distribution blocks.	\$14.00	0.2							
<u>AVPS2-BP</u>	NITRA blanking plug, for use with AVPS2-x, AVPS3-x and AVPS4-x control distribution blocks.	\$14.00	0.3							

Dimensions

mm [inches]

APVS1-BP



APVS2-BP

For the latest prices, please check AutomationDirect.com

Process Pipeline Solenoid Valves

The NITRA™ DVD-2A Series valves are 2-way, 2-position, normally closed valves for the control of air, oil, water, or media that is compatible with valve materials of manufacture. These valves feature an all brass body and a zero minimum pressure differential while still boasting a full flow 1/2" orifice. Available in 1/4", 3/8" and 1/2" FNPT port sizes, the DVD-2A valves can handle pressures to 230psi. The encapsulated coil construction ensures that the valve functions well under long periods of energization (100% duty), as well as providing a high degree of environmental protection (NEMA Type 4). The inner valve functions as a direct assist using a flat diaphragm and orifice plate. Pressure differentials shift the valve to full open. A push, non-locking manual

CE ROHS





Part No. DVD-2AC3A-24D

Valve Symbol



2-way, 2-pos

Features • 2-way diaphragm style valves

• 1/4, 3/8, or 1/2" FNPT ports

override is standard.

· 2-position, normally closed, spring return

DVD-2A Series

- 24VDC, 24VAC, or 120VAC solenoids
- DIN style wiring connector



See www.AutomationDirect.com for a wide variety of fitting and cable options

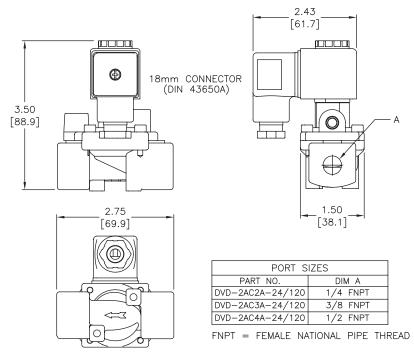
		DVD-2A	Series So	lenoid Va	lve Snec	ifications			
Model	DVD-2AC2A-24D	DVD-2AC2A-24A	DVD-2AC2A-120A	DVD-2AC3A-24D	DVD-2AC3A-24A	DVD-2AC3A-120A	DVD-2AC4A-24D	DVD-2AC4A-24A	DVD-2AC4A-120A
Price	\$86.00	\$86.00	\$86.00	\$86.00	\$86.00	\$86.00	\$86.00	\$86.00	\$86.00
Weight (lbs)	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0
Valve Type				2	-way, 2-positio	n			
Acting				Diaphragm, r	ormally closed	, spring return			
Port Size		1/4" FNPT			3/8" FNPT			1/2" FNPT	
Orifice Size					1/2" [12.7 mm]				
Cv		1.55			1.95			2.45	
Media				Air, oil, wa	ter, emulsion, i	nert gases			
Pressure Range	1–180 psi [0–12.4 bar]	1–160 psi [0–11.0 bar]	0–230 psi [0–15.9 bar]	1–180 psi [0–12.4 bar]	1–160 psi [0–11.0 bar]	0–230 psi [0–15.9 bar]	1–180 psi [0–12.4 bar]	1–160 psi [0–11.0 bar]	0–230 psi [0–15.9 bar]
Voltage (± 10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz
Inrush AC	-	10.	5 VA	-	10.	5 VA	-	10.	5 VA
Power Consumption	10W	8'	VA	10W	8'	VA	10W	8	VA
Max Freq					12.5 Hz				
Insulation				Class	F (continuous	duty)			
Min Response				20–8	0 ms complete	cycle			
Temperature		Max fl	uid 194 deg F (90 deg C); Aml	pient 14 deg F	to 122 deg F (-	10 deg C to 50	deg C)	
Lubrication					Not required				
Protection					NEMA Type 4				
Connection				18	8mm DIN termi	nal			
Construction				Brass body;	Viton seals; Op	perator Brass			
Life Cycle					10 million				
Agency Approvals					CE				



Process Pipeline Solenoid Valves ³ DVD-2A Series

Dimensions

inches [mm]



See our website www.AutomationDirect.com for complete Engineering drawings.

Accessories

	DVD-2A Series Solenoid Valve Accessories								
Part No.	Description	Price	Weight (lbs)						
<u>DVD-1VSEAL</u>	Seal kit, replacement, Viton, for DVD-2AC series NITRA pneumatic solenoid valves. Includes one Viton diaphragm.	\$9.50	0.1						



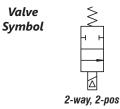
Part No. DVD-1VSEAL



Process Pipeline Solenoid Valves DVD-2B Series



Part No. DVD-2BC3A-120A



The NITRA[™] DVD-2B Series valves are engineered composite 2-way, 2-position solenoid/air operated valves designed for the control of liquid media and inert gas. The valves are available with a large 1/2" or 1-1/8" orifice and five port sizes, 1/4", 3/8", 1/2", 3/4", and 1" FNPT. The valve's compact design utilizes the latest in material sciences with the use of composite materials in the valve body. The solenoid pilot is power saving low wattage, made of stainless steel working components and is miniaturized to fit in tight places. The fully encapsulated coils are available in three voltages with a DIN connector attached. Typical applications are for installations where there is a need to control inert fluids and gases, condensate drainage, hot water plumbing and sprinkler systems.

CE ROHS

Features

- 2-way diaphragm style valves
- 1/4, 3/8, 1/2, 3/4, or 1" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC, or 120VAC solenoids
- DIN style wiring connector



See <u>www.AutomationDirect.com</u> for a wide variety of fitting and cable options

			DVD	-2B S	eries	Solenoi	d Valve	Specif	ication	S	-		
Model	<u>DVD-2BC2A-24D</u>	DVD-2BC2A-24A	DVD-2BC2A-120A	DVD-2BC3A-24D	DVD-2BC3A-24A	DVD-2BC3A-120A	DVD-2BC4A-24D	DVD-2BC4A-24A	DVD-2BC4A-120A	DVD-2BC5F-24D	DVD-2BC5F-120A	DVD-2BC6F-24D	DVD-2BC6F-120A
Price	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$112.00	\$112.00	\$112.00	\$112.00
Weight (lbs)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
Valve Type							2-way, 2-p	position					
Acting						Diaphragm	, normally c	closed, sprin	g return				
Port Size		1/4" FNPT			3/8" FNP	Т		1/2" FNPT		3/4"	FNPT	1" F	NPT
Orifice Size					1/2" [12.]	7 mm]					1.125" [2	28.6 mm]	
Cv		1.55			1.95			2.45			1	4	
Media						A	ir, oil, water	r, inert gas					
Pressure Range					7–150 [0.5–10.	psi* 3 bar]				10–120 psi [0.7–8.3 bar]			
Voltage (± 10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	120VAC 50/60 Hz	24VDC	120VAC 50/60 Hz
Inrush AC	-		VA	-	1	0VA	_	10	VA	_	8VA	_	8VA
Power Consumption	6.5 W	8.5	VA	6.5 W	8.	5 VA	6.5 W	8.5	VA	6 W	9 VA	6 W	9 VA
Max Freq					12.5	Hz					8.33	3 Hz	
Insulation						Cla	ass F (conti	nuous duty)					
Min Response				20–8	30 ms con	nplete cycle				8	0–120 ms c	omplete cyc	le
Temperature						14°F	to 122°F [-	10°C to 50°	C]				
Lubrication							Not req	uired					
Protection							NEMA T	ype 4					
Connection				1	1mm DIN	terminal						N terminal	
Construction			Glass fi	lled nylon	body; Vite	on seals; Op	erator Bras	s		Glass fille	ed nylon boo	dy; Viton se rator	als; Brass
Life Cycle							10 mil	lion		l	ope		
Agency Approvals							CE						

* Requires minimum sealing pressure

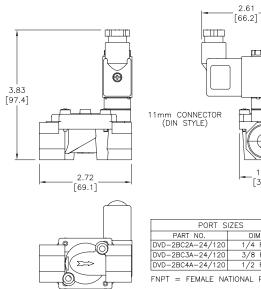


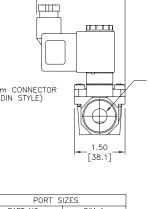
Process Pipeline Solenoid Valves DVD-2B Series NEUMATICS

Dimensions

inches [mm]

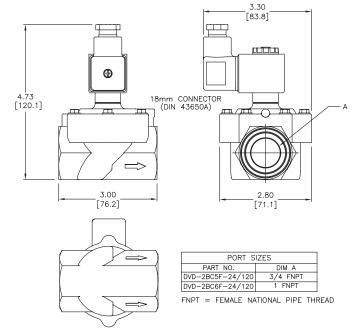
DVD-2BCXX





PURIS	IZES	
PART NO.	DIM A	
DVD-2BC2A-24/120	1/4 FNPT	
DVD-2BC3A-24/120		
DVD-2BC4A-24/120	1/2 FNPT	
FNPT = FEMALE NA	TIONAL PIPE THE	READ

DVD-2BC5&6



Accessories

See our website www.AutomationDirect.com for complete Engineering drawings.

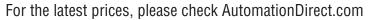


Part No. DVD-2VSEAL



Part No. DVD-3VSEAL

DVD-2B Series Solenoid Valve Accessories									
Part No.	Description	Price	Weight (lbs)						
DVD-2VSEAL	Seal kit, replacement, Viton, for DVD-2BC2A, DVD-2BC3A and DVD-2BC4A series NITRA pneumatic solenoid valves. Includes one Viton diaphragm.	\$9.50	0.1						
DVD-3VSEAL	Seal kit, replacement, Viton, for DVD-2BC5F or DVD-2BC6F series NITRA pneumatic solenoid valves. Includes one Viton diaphragm.	\$26.50	0.6						

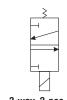






Part No. DVP-2CC1C-24A

Valve 3 Symbols



2-way, 2-pos, NC 3-

3-way, 2-pos, NC

Process Pipeline Solenoid Valves DVP-2C & DVP-3C Series

The NITRA[™] DVP-2C and DVP-3C Series valves can be stacked into a multiple output bank of solenoid valves. The DVP-2C and 3C valves feature a fully encapsulated coil, spring compensated plunger seats for long life, and a miniature stackable composite valve body. The advantage to this design is the versatility to stock single units and build, mix, and match to meet specifications. In most cases these valves reduce inventory costs and lower installation costs over a conventional manifold valve series. The coils are available with DIN connectors installed.

Features

CE ROHS

- 2-way and 3-way stackable poppet style valves
- 1/8" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC or 120VAC solenoids
- DIN style wiring connector



See <u>www.AutomationDirect.com</u> for a wide variety of fitting and cable options

DVF	2C & DVP.	3C Series So	lenoid Valve	Snecificatio	nne		
Model	DVP-2CC1C-24D	DVP-2CC1C-24A	DVP-2CC1C-120A	DVP-3CC1C-24D	DVP-3CC1C-24A	DVP-3CC1C-120A	
Price	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00	
Weight (Ibs)	0.3	0.3	0.3	0.3	0.3	0.3	
Valve Type		2-way, 2-position			3-way, 2-position		
Acting		Stacka	ble poppet valve, no	rmally closed, spring	g return		
Port Size			1/8"	FNPT			
Orifice Size			0.6" [1	.5 mm]			
CV		0.08			0.08 (exhaust 0.08)		
Media			Air, oil, inert gas	, water, caustics*			
Pressure Range		0–200 psi [0–13.8 bar]		1–150 psi [0–10.3 bar]			
Voltage (± 10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	
Inrush AC	-	10	VA	-	10	VA	
Power Consumption	6.5 W	8.5	5 VA	6.5 W	8.5	VA	
Max Freq			71.4	4 Hz			
Insulation			Class F (con	tinuous duty)			
Min Response				omplete cycle			
Temperature			14°F to 122°F	[-10°C to 50°C]			
Lubrication				quired			
Protection			NEMA	Туре 4			
Connection				N terminal			
Construction		Glass	filled nylon body; V	iton seals; Operator	Brass		
Life Cycle			20 m	nillion			
Agency Approvals			C	E			

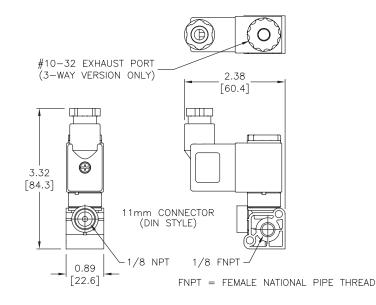
* Check the chemical compatibility of the valve materials with the process media being used.



Process Pipeline Solenoid Valves NEUMATICS DVP-2C & DVP-3C Series

Dimensions

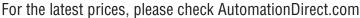
inches [mm]



	DVP-2C & DVP-3C Series Solenoid Valve Accessories										
Part No.	Description	Price	Weight (lbs)								
DVP-2BKT	Mounting kit for DVP-2C & 3C series valves, 2 station. Includes (2) #8-32 x 2 inch screws, (2) #8 lock nuts and (1) Viton o-ring.	\$5.25	0.1								
<u>DVP-3BKT</u>	Mounting kit for DVP-2C & 3C series valves, 3 station. Includes (2) #8-32 x 3 inch screws, (2) #8 lock nuts and (2) Viton o-rings.	\$7.25	0.1								
<u>DVP-4BKT</u>	Mounting kit for DVP-2C & 3C series valves, 4 station. Includes (2) #8-32 x 4 inch screws, (2) #8 lock nuts and (3) Viton o-rings.	\$8.75	0.1								
DVP-5BKT	Mounting kit for DVP-2C & 3C series valves, 5 station. Includes (2) #8-32 x 5 inch screws, (2) #8 lock nuts and (4) Viton o-rings.	\$10.50	0.1								
<u>DVP-6BKT</u>	Mounting kit for DVP-2C & 3C series valves, 6 station. Includes (2) #8-32 x 6 inch screws, (2) #8 lock nuts and (5) Viton o-rings.	\$13.00	0.1								







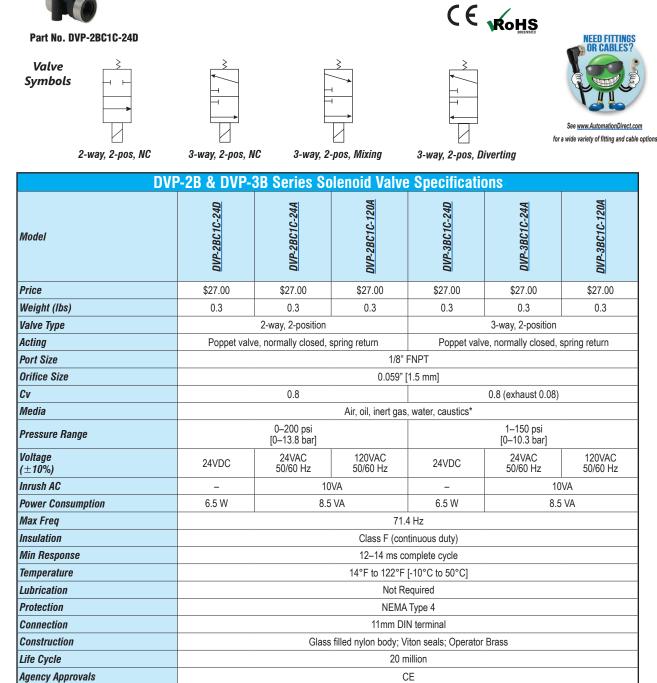


Process Pipeline Solenoid Valves DVP-2B & DVP-3B Series

The NITRA[™] DVP-2B and DVP-3B Series valves are composite body solenoid valves offered in both 2-way and 3-way normally closed styles. Component features include the proven solenoid operator available in brass/ stainless or all stainless pilot design. The glass filled composite material is media compatible, eliminating the need for stocking multiple body materials.

Features

- 2-way and 3-way poppet style valves
- 1/8" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC or 120VAC solenoids
- DIN style wiring connectors



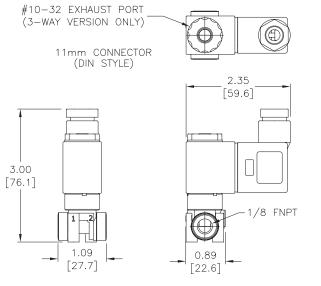
* Check the chemical compatibility of the valve materials with the process media being used.



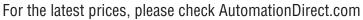
Process Pipeline Solenoid Valves DVP-2B & DVP-3B Series

Dimensions

inches [mm]



FNPT = FEMALE NATIONAL PIPE THREAD







Part No. DVP-2DC1D-24D

Valve Symbols

2-way, 2-pos, NC

Process Pipeline Solenoid Valves DVP-2D & DVP-3D Series

CE ROHS

The Nitra DVP-2D and DVP-3D Series valves are composite body solenoid valves offered in both 2-way and 3-way normally closed styles in three orifice sizes. Features include a direct acting solenoid utilizing a long-life spring compensated poppet at the heart of an all stainless solenoid operator. Body construction is glass filled nylon with Viton seals, making the valves compatible with air, oil, inert gas, water and caustics*. Operating voltages of 24VDC, 24VAC or 120VAC are available.

Features

- 2-way and 3-way poppet style valves
- 1/8, 1/4 or 3/8" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC or 120VAC solenoids
- DIN style wiring connector



See <u>www.AutomationDirect.com</u> for a wide variety of fitting and cable options

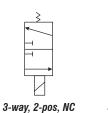
		DVP-2D Series Solenoid Valve Specifications									
Model	DVP-2DC1D-24D	DVP-2DC1D-24A	DVP-2DC1D-120A	DVP-2DC2E-24D	DVP-2DC2E-24A	DVP-2DC2E-120A	DVP-2DC3F-24D	DVP-2DC3F-24A	DVP-2DC3F-120 <u>A</u>		
Price	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50		
Weight (lbs)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		
Valve Type				2	2-way, 2-positio	n					
Acting		Popper	t valve, normall	y closed, spring	g return		Poppet val	ve, normally clo return	osed, spring		
Port Size		1/8" FNPT			1/4" FNPT		3/8" FNPT				
Orifice Size		0.062" [1.6 mm]	0.094" [2.4 mm]			0.118" [3.0 mm]				
Cv		0.12			0.245			0.315			
Media				Air, oil, ir	nert gas, water,	caustics*					
Pressure Range			0–25 [0–17	i0 psi .2 bar]			0–150 psi [0–10.3 bar]		0–250 psi [0–17.2 bar]		
Voltage (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz		
Inrush AC	-	26	SVA	-	26	VA	_	26	SVA		
Power Consumption	10W	11.5	5 VA	10W	11.5	5 VA	10W	11.	5 VA		
Max Freq					25Hz						
Insulation				Class	s F (continuous	duty)					
Min Response					16–40 ms						
Temperature				14°F to	122°F [-10°C f	to 50°C]					
Lubrication					Not Required						
Protection					NEMA Type 4						
Connection				18	3mm DIN termir	nal					
Construction			Glass fi	lled nylon body	; Viton seals; O	perator Stainle	ss Steel				
Life Cycle					10 million				-		
Agency Approvals					CE						

* Check the chemical compatibility of the valve materials with the process media being used.



Process Pipeline Solenoid Valves DVP-2D & DVP-3D Series

Valve Symbols







3-way, 2-pos, Diverting

		DVP-3D	Series So	lenoid Va	lve Spec	ifications					
Model	DVP-3DC1D-24D	DVP-3DC1D-24A	DVP-3DC1D-120A	DVP-3DC2E-24D	DVP-3DC2E-24A	DVP-3DC2E-120A	DVP-3DC3F-24D	DVP-3DC3F-24A	DVP-3DC3F-120A		
Price	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50		
Weight (lbs)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		
Valve Type				3	8-way, 2-positio	n					
Acting				Poppet valve,	normally closed	d, spring return					
Port Size		1/8" FNPT			1/4" FNPT			3/8" FNPT			
Orifice Size		0.062" [1.6 mm			0.094" [2.4 mm]			0.118" [3.0 mm]			
Cv	0.12	(exhaust port	0.08)	0.245	5 (exhaust port	0.08)	0.31	5 (exhaust port	0.08)		
Media				Air, oil, in	ert gas, water,	caustics*					
Pressure Range		0–220 psi [0–15.2 bar]			1–120 psi [0–8.3 bar] [0–10.3 bar]			1–82 psi 1 [0–5.7 bar] [0-			
<i>Voltage</i> (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz		
Inrush AC	-	26	VA	-	26	VA	-	26	VA		
Power Consumption	10W	11.5	5 VA	10W	11.5	5 VA	10W	11.5	5 VA		
Max Freq					25Hz						
Insulation				Class	F (continuous	duty)					
Min Response					16–40 ms						
Temperature				14°F to	122°F [-10°C	to 50°C]					
Lubrication					Not Required						
Protection					NEMA Type 4						
Connection				18	8mm DIN termir	nal					
Construction			Gla	iss filled nylon l	body; Viton sea	lls; Operator Br	ass				
Life Cycle					10 million						
Agency Approvals					CE						

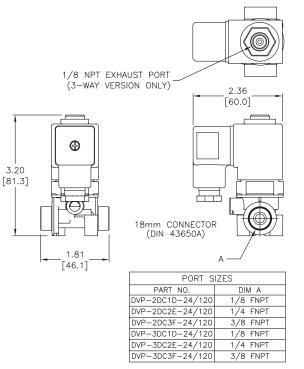
* Check the chemical compatibility of the valve materials with the process media being used.



Process Pipeline Solenoid Valves DVP-2D & DVP-3D Series

Dimensions

inches [mm]



FNPT = FEMALE NATIONAL PIPE THREAD







Part No. DVM-2BC2E-24D

Valve **Symbols**

2-way, 2-pos, NC

For the latest prices, please check AutomationDirect.com

Process Pipeline Solenoid Valves DVM-2B Series

The Nitra DVM-2B Series valves are media separated, dry operator, 2-way, 2-position solenoid operated valves for use with gases or fluids where the metal working components of the valves do not come into contact with the working fluid. Three orifice

sizes are offered. Body construction is glass filled nylon with Viton seals, making the valves compatible with air, gases, water and chemicals. Operating voltages of 24VDC, 24VAC or 120VAC are available.

Features

- 2-way media separated diaphragm style valve
- 1/8 or 1/4" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC or 120VAC solenoids

• DIN style wiring connector

CE ROHS



See www.AutomationDirect.con for a wide variety of fitting and cable options

		DVM-2B	Series S	olenoid V	alve Spec	ifications	\$			
Model	DVM-2BC1B-24D	DVM-2BC1B-24 <u>A</u>	DVM-2BC1B-120A	DVM-2BC2E-24D	DVM-2BC2E-24A	DVM-2BC2E-120A	DVM-2BC2G-24D	DVM-2BC2G-24A	DVM-2BC2G-120A	
Price	\$53.00	\$53.00	\$53.00	\$86.00	\$86.00	\$86.00	\$86.00	\$86.00	\$86.00	
Weight (lbs)	0.2	0.2	0.2	0.6	0.6	0.6	0.6	0.6	0.6	
Valve Type					2-way, 2-positio	on				
Acting			Me	dia separated v	alve, normally	closed, spring	return			
Port Size		1/8" FNPT				1/4"	FNPT			
Orifice Size		0.047" [1.2 mm]).094" [2.4 mm]]		0.157" [4.0 mn	ו]	
Cv		0.065 0.24 0.52								
Media	Water,	Water, chemicals, air, gases Air, noble gases, oils, medical fluid applications*								
Pressure Range		0 to 120 psi [0 to 8.3 bar]		15" Hg (mercury) to 120psi [-0.5 to 8.3 bar]	15" Hg (merci [-0.5 to	ury) to 120psi 8.3 bar]	15" Hg (mercury) to 45psi [-0.5 to 3.1 bar]	15" Hg (mercury) to 45psi [-0.5 to 3.1 bar]	15" Hg (mercury) to 55psi [-0.5 to 3.8 bar]	
Maximum Allowable Back Pressure				20ps	regardless of	voltage				
Voltage (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	
Inrush AC	-	10	VA	-	10.5	5 VA	-	20	SVA	
Power Consumption	6.5 W	8.5	VA	10W	9\	/Α	10W	9	VA	
Max Freq		40Hz				38	.5 Hz			
Insulation				Clas	s F (continuous	s duty)				
Min Response	18–2	5 ms complete	cycle			18–26 ms c	omplete cycle			
Temperature	14°F to	14°F to 131°F [-10°C to 55°C] 14°F to 122°F [-10°C to 50°C]								
Lubrication					Not required					
Protection					NEMA Type 4	ļ				
Connection	11	mm DIN termin	nal			18mm D	IN terminal			
Construction				Glass fille	ed nylon body;	Viton seals				
Life Cycle	10 million									
Agency Approvals					CE					

* Check the chemical compatibility of the valve materials with the process media being used.



Process Pipeline Solenoid Valves DVM-2B Series

	DVM-2	B Series Sole	noid Valve S	pecifications					
Model	DVM-2BC3E-24D	DVM-2BC3E-24A	DVM-2BC3E-120A	DVM-2BC3G-24D	DVM-2BC3G-24A	DVM-2BC3G-120A			
Price	\$86.00	\$86.00	\$86.00	\$86.00	\$86.00	\$86.00			
Weight (lbs)	0.6	0.6	0.6	0.6	0.6	0.6			
Valve Type			Media sepa	arated valve					
Acting		2-	way, 2-position, norm	ally closed, spring retu	urn				
Port Size			3/8"	FNPT					
Orifice Size		0.094" [2.4 mm]			0.157" [4.0 mm]				
Cv		0.24			0.52				
Fluid		Ai	r, noble gases, oils, m	edical fluid application	าร*				
Pressure Range	15" vacuum to 120psi [0.04–8.3 bar]	15" vacuur [0.04–	n to 120psi 8.3 bar]	15" vacuum to 45psi [0.04–3.1 bar]	15" vacuum to 55psi [0.04–3.8 bar]	15" vacuum to 45psi [0.04–3.1 bar]			
Maximum Allowable Back Pressure			20psi regardl	ess of voltage					
Voltage (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz			
Inrush AC	-	26	iVA	_	26	VA			
Power Consumption	10W	11.5	5 VA	10W	11.5	VA			
Max Freq			38.	5 Hz					
Insulation				tinuous duty)					
Min Response				omplete cycle					
Temperature			14°F to 122°F	[-10°C to 50°C]					
Lubrication	Not required								
Protection				Туре 4					
Connection			-	N terminal					
Construction			Glass filled nylon	body; Viton seals					
Life Cycle			10 n	nillion					
Agency Approvals			C	E					

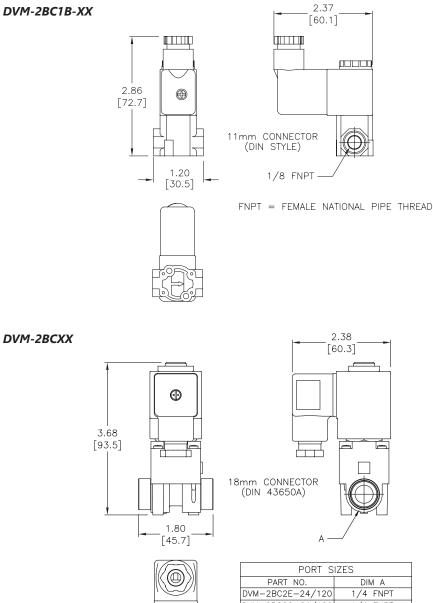
* Check the chemical compatibility of the valve materials with the process media being used.



Process Pipeline Solenoid Valves DVM-2B Series

Dimensions

inches [mm]



6

PORT S	IZES
PART NO.	DIM A
DVM-2BC2E-24/120	1/4 FNPT
DVM-2BC2G-24/120	1/4 FNPT
DVM-2BC3E-24/120	3/8 FNPT
DVM-2BC3G-24/120	3/8 FNPT

FNPT = FEMALE NATIONAL PIPE THREAD

See our website www.AutomationDirect.com for complete Engineering drawings.

Solenoid Valve Cables and Connectors



These high quality connectors and over-molded cables help reduce wiring time. The lower voltage models, 24V or 110V AC/DC, include built-in surge suppression, Yellow LED indicator and are rated for connecting with electronics. The 230V AC/DC models are rated for straight wired products. All models are available in five sizes based on DIN 43650.

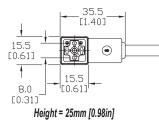
Features

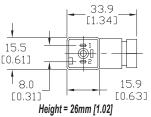
- 8mm, 9.4mm, 10mm, 11mm and 18mm square DIN styles
- Fits most popular solenoid valves and sensors
- Suppression and LED indication available in 24V or 110V AC/DC models
- PVC jacketed cables in 1, 3 or 5 meter lengths on select connectors
- Field wireable connectors on select models
- Polarity insensitive (follow solenoid, sensor, or other devices wiring diagram)

8mm Connectors

1-800-633-0405







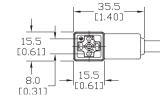
Field Wireable Connector

					Conn	ector with Cab	le		Field	Nireable Connecto	r	
				8mm	(3-pole) C	onnecto	rs (p	er DIN 43650 Foi	'm C)			
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/ Torque	Weight (lbs)	Agency Approval
<u>SC8-LS24-3</u>	\$13.50	24 ±20%						zener diode	1	m2.5-	0.40	
<u>SC8-LS24-5</u>	\$16.00	24 ±20 %	max 4A				VOC	(D-Z DO-15 47V 2W)	I	0.45x25mm/	0.65	CSA
<u>SC8-LS110-3</u>	\$16.50	110 ±10%	111dX 4/A	67	18 AWG	0.23	yes	zener diode	7	0.4 Nm (3.5 in lb)	0.41	(080128-0-000)
<u>SC8-LS110-5</u>	\$19.00	110 ± 10 %						(D-Z DO-41 ZY200 2W)	1	(3.5 111 0)	0.63	
<u>SC8-3</u>	\$11.00								2		0.39	
<u>SC8-0</u>	\$5.75	230	max 6A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.20 to 0.24	no	none	9	m2.5- 0.45x25mm/ 0.5 Nm (4.4 in lb)	0.10	none
<u>SC8-1</u>	\$11.50			67	18 AWG	0.23			2	(0.10	
<u>SC8-5</u>	\$15.00			0/	TO AWG	0.23			Z		0.68	

Last digit in part number denotes cable length in meters, a 0 indicates field termination.

8mm Transmitter Connector

Dimensions shown mm [inches]



Height = 25mm [0.98in]

Connector with Cable

			8mm	ı (4-pol	e) Con	nectors (per C	DIN 43650	Form	C)		
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/ Torque	Weight (lbs)	Agency Approval
<u>SC8-5T</u>	\$20.50	230	max 6A	67	18 AWG	0.26	yes	none	8	m3-0.5x42mm/ 0.5 Nm (4.4 in lb)	0.80	CSA (080128-0- 000)

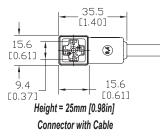
Last numeric digit in part number denotes cable length in meters, a 0 indicates field termination.

1-800-633-0405 For the latest prices, please Solenoid Valve Cables and Connectors

9.4mm Connectors

Dimensions shown mm [inches]



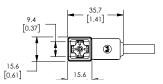


			9.4mn	n (3-p	ole)	Connect	ors	(DIN Style, Fo	rm C Ir	idustrial)		
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/ Torque	Weight (lbs)	Agency Approval
<u>SC9-LS24-3</u>	\$13.50	24 ±20%						zener diode	1		0.40	
<u>SC9-LS24-5</u>	\$16.00	24 ±20%	max 4A					(D-Z DO-15 47V 2W)	I	m3-0.5x26mm/ 0.4 Nm	0.64	CSA (080128-0-000)
<u>SC9-LS110-3</u>	\$16.50	110 ±10%	-	07	18		yes	zener diode	7	(3.5 in lb)	0.40	CSA (000120-0-000)
<u>SC9-LS110-5</u>	\$19.00	110 ±10%		67	AWG	0.23		(D-Z DO-41 ZY200 2W)	1	· · · ·	0.64	
<u>SC9-3</u>	\$11.00									m3-0.5x26mm/	0.40	
<u>SC9-5</u>	\$15.00	230	max 6A				no	none	2	0.5 Nm (4.4 in lb)	0.64	none

9.4mm Connectors

Dimensions shown mm [inches]





Height = 25mm [0.98in] Connector with Cable

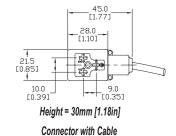
		9.4 n	nm (4-	pole)	Conn	ectors	(DIN Styl	e, F	orm C In	dustria	l)		
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia.	Cable Length	LED	Surge Protection	Wiring Figure	Screw Size/ Torque	Weight (Ibs)	Agency Approval
7000-94141-6270300	\$15.50	220 1/00/			10	F 6 6 0	9.8ft/3m				m3-	0.50	CSA
<u>7000-94141-6270500</u>	\$21.00	230 VAC/ VDC	max 6A	IP67	18 AWG	5.6–6.2 mm	16.4ft/5m	no	none	8	0.5x26mm/ 0.4 Nm (3.5 in lb)	0.79	(080128-0-000)/ RoHS

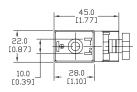
1-800-633-0405 For the latest prices, please of the latest prices of the

10mm Connectors

Dimensions shown mm [inches]







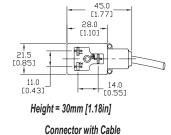
Height = 41mm [1.61in] Field Wireable Connector

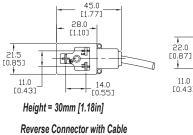
			10 m	nm (3-	-pole) Con	nectors	(pe	r DIN 43650 For	m B)			
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/ Torque	Weight (lbs)	Agency Approval
<u>SC10-LS24-3</u>	\$13.50	04 . 000/						zener diode	10		0.43	
SC10-LS24-5	\$16.00	24 ±20%	max 4A					(D-Z DO-15 47V 2W)	10		0.68	
<u>SC10-LS110-3</u>	\$16.50	110 ±10%	may 14	67	18 AWG	0.02	yes	zener diode	6	m3-0.5x30mm/	0.43	CSA
<u>SC10-LS110-5</u>	\$19.00	110 ± 10%	max 1A	07	TO AWG	0.23		(D-Z DO-41 ZY200 2W)	0	0.4 Nm (3.5 in lb)	0.68	(080128-0- 000)
<u>SC10-3</u>	\$11.00	230	max 10A					2020	3	, ,	0.43	*
<u>SC10-5</u>	\$15.00	230	max IUA				no	none	3		0.68	
<u>SC10-LS24-0</u>	\$11.00	24 ±20%	max 4A		Solid 12 AWG Stranded 14	field wireable		zener diode (D-Z DO-15 47V 2W)	4	m3-0.5x42mm/	0.07	
<u>SC10-LS110-0</u>	\$12.00	110 ±10%	max 1A	1A 65	AWG w/Ferrule	gland size 0.24 to	yes	mov (SIOV S10 K130)	5	0.5 Nm (4.4 in lb)	0.07	none
<u>SC10-0</u>	\$8.75	230	max 10A		16 AWG	0.32	no	none	9		0.06	

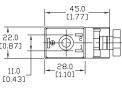
Last digit in part number denotes cable length in meters, a 0 indicates field termination.

11mm Connectors

Dimensions shown mm [inches]







Height = 41mm [1.61in]

Field Wireable Connector

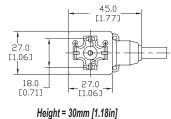
			11mm	(3-pol	e) Connec	tors (DI	N St	yle, Form B In	dustri	al)		2
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in)	LED	Surge Protection	Wiring Figure	Screw Size/ Torque	Weight (lbs)	Agency Approval
<u>SC11-LS24-3</u>	\$13.50	24 ±20%	may 1A					zener diode	10		0.44	
<u>SC11-LS24-5</u>	\$16.00	24 ±20%	max 4A					(D-Z DO-15 47V 2W)	10		0.67	
<u>SC11-LS110-3</u>	\$16.50	110 ±10%	max 1A					zener diode	6		0.44	
SC11-LS110-5	\$19.00	$110 \pm 10\%$	max rA					(D-Z DO-41 ZY200 2W)	0		0.67	
<u>SC11-LS24-3R</u>	\$13.50	04.000/		67	10 0100	0.00	yes	zener diode	10	m3-0.5x30mm/	0.44	CSA
<u>SC11-LS24-5R</u>	\$16.00	24 ±20%	max 4A	67	18 AWG	0.23		(D-Z DO-15 47V 2W)	10	0.4 Nm (3.5 in lb)	0.67	(080128-0-000)
<u>SC11-LS110-3R</u>	\$16.50	110 . 100/						zener diode	6	()	0.44	, , ,
<u>SC11-LS110-5R</u>	\$19.00	110 ±10%	max 1A					(D-Z DO-41 ZY200 2W)	6		0.67	
<u>SC11-3</u>	\$11.00	230		1					3		0.44	
<u>SC11-5</u>	\$15.00	230	max 10A				no	none	3		0.67	
<u>SC11-LS24-0</u>	\$11.00	24 ±20%	max 4A		Solid 12 AWG Stranded 14	field wireable		zener diode (D-Z DO-15 47V 2W)	4	m3-0.5x42mm/	0.07	
<u>SC11-LS110-0</u>	\$12.00	110 ±10%	max 1A	65	AWG w/Ferrule 16	gland size 0.24 to	yes	mov (SIOV S10 K130)	5	0.5 Nm (4.4 in lb)	0.07	none
<u>SC11-0</u>	\$9.00	230	max 10A		AWG	0.32	no	none	9	- *	0.07	

Last numeric digit in part number denotes cable length in meters, a 0 indicates field termination.

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18mm Connectors





Connector with Cable

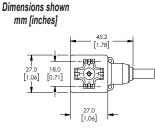
45.0 (1.77) 28.0 (1.10) 18.0 (0.71) Height = 41mm [1.61in]

Field Wireable Connector

			18m	m (3-	pole) Conn	ectors (per	DIN 43650 Foi	m A)			
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in)	LED	Surge Protection	Wiring Figure	Screw Size/ Torque	Weight (lbs)	Agency Approval
<u>SC18-LS24-3</u>	\$13.50	24 ±20%	may 14					zener diode			0.44	
SC18-LS24-5	\$16.00	24 ±20%	max 4A					(D-Z DO-15 47V 2W)	7		0.69	
<u>SC18-LS110-3</u>	\$16.50	110 . 100/		67	10 0000	0.00	yes	zener diode	1	m3-0.5x30mm/	0.44	CSA
<u>SC18-LS110-5</u>	\$19.00	110 ±10%	max 1A	67	18 AWG	0.23		(D-Z DO-41 ZY200 2W)		0.4 Nm (3.5 in lb)	0.69	(080128-0- 000)
SC18-3	\$11.00	230							2		0.44	
SC18-5	\$15.00	230	max 10A				no	none	Z		0.69	
<u>SC18-LS24-0</u>	\$11.00	24 ±20%	max 4A		Solid 12 AWG	field wireable		zener diode (D-Z DO-15 47V 2W)	4	m3-0.5x42mm/	0.07	
<u>SC18-LS110-0</u>	\$12.00	110 ±10%	max 1A	65 AWG gl w/Ferrule 16		gland size 0.24 to	yes	mov (SIOV S10 K130)	5	0.5 Nm (4.4 in lb)	0.07	none
SC18-0	\$9.00	230	max 10A		AWG	0.32	no	none	9		0.07	

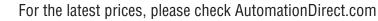
Last digit in part number denotes cable length in meters, a 0 indicates field termination.



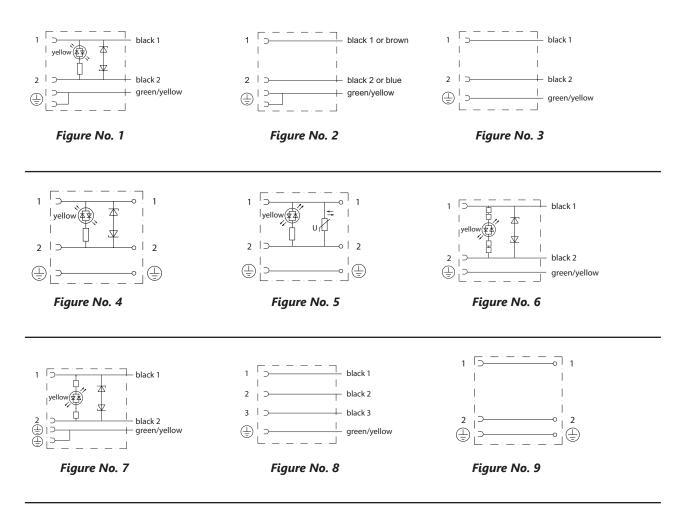


Height = 30mm [1.18in] Connector with Cable

		18 mi	m (4-p	ole) C	onne	ctors (D	IN Styl	e, Fo	orm A Inc	lustria)		
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia.	Cable Length	LED	Surge Protection	Wiring Figure	Screw Size/ Torque	Weight (lbs)	Agency Approval
7000-18111-6270300	\$15.50	230 VAC/			18	5.6 –	9.8ft/3m				m3- 0.5x26mm/	0.53	CSA
<u>7000-18111-6270500</u>	\$21.00	VDC	max 10A	67	AWG	6.2mm	16.4ft/5m	no	none	8	0.5x26////// 0.4 Nm (3.5 in lb)	0.83	(080128-0- 000)/RoHS



1-800-633-0405 **Solenoid Valve Cables and Connectors Wiring** Diagrams



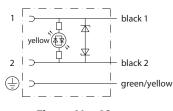


Figure No. 10

Pneumatic Automation Link (PAL)



The Pneumatic Automation Link (PAL) system is defined as an electro-pneumatic system as it can contain both electrical I/O as well as a solenoid valve bank. In effect, a single assembly can combine solenoid valves of various types, digital or analog I/O and common power sources for all of the above.

Using a limited variety of basic components many different configurations can be built. Valves supported are compact yet have high flow ratings (Cv) and high performance. The system can be controlled by direct wiring if only pneumatic valves are used or via Ethernet/IP if a combination of electrical I/O and valves are part of your application. To simplify wiring and system design, DC power is connected through a central module using M8 connections. All PAL components come with an efficient diagnostic system.

NITRA Presunatic Automation Link Values • Mand / AUTO Strong & C

Click on the thumbnail or go to <u>https://www.automationdirect.com/VID-PN-0055</u> for a short video on the Nitra PAL system.



Click or scan the QR code to be taken to <u>https://cdn.automationdirect.com/static/manuals/nitrapal/nitrapal.html</u> for online PAL system Documentaiton including Manual and Module Options Insert.

P	AL System - G	eneral Specifica	tions							
Nominal Supply Voltage		1:	2 or 24 VDC							
Minimum Operating Voltage			10.8 V *							
Maximum Operating Voltage			31.2 V							
Maximum Admissible Voltage			32V **							
Power for Each Controlled Pilot		3W for 15m	ns, then holding 0.3 W							
Drive (for multi-pole)		F	PNP or NPN							
Solenoid Rating			100% ED							
Protection	Overload and short-circuit protected solenoid pilot Output									
Maximum Number of Solenoid Pilots	21 or 38 multi-pole connection; field bus 128									
Ambient Temperature	-10°C to + 50°C (at 8 bar) 14°F to 122°F (at 8 bar)									
	5/2 and 5/3 3/2									
Operating Pressure	Size and 5/3 Size and 5/3<									
operating rressure	Separate pilot supply	Assisted valves	Vacuum to 10ba	r (Vacuum to 145psi)						
	Separate pilot supply	Pilot pressure	3 to 8 bar	(43 to 116 psi)						
	TRA/TRR v	alve 2/2 and 3/2	14	/ 28 ms						
		2 monostable and shut-off valve	12	/ 45 ms						
Actuation Response Time (TRA) / Reset Response Time (TRR) at 6 bar	TRA/TRR v	alve 5/2 bistable	12	/ 14 ms						
	TRA/T	RR valve 5/3	15	/ 45 ms						
	TRA/TRR va	alve 3/2 high flow	13	/ 36 ms						
Fluid	Unlubricated air									
Air Quality Required	ISO 8573-1 class 4-7-3									
Degree of Protection		IP65 (with connectors	connected or plugged if not	used)						
Agency Approvals			CE, cURus							
* Minimum voltage 10.8V required at solenoid pilots. ** IMPORTANT! Voltage greater than 32VDC can permanen	tly damage the system.									

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N

RA[•] PAL System - EtherNet/IP Modules

EtherNet/IP Bus Couplers and Conventional Electrical Modules

Control interface with the PAL system is via one of the units shown below. If I/O modules are to be used, the PAL-EIP bus coupler is required and EtherNet/IP communications is used. For pneumatic only systems, one of the electrical connection modules can be used.

	PAL System - EtherNet/IP Modules									
Item	Part No.	Price	Description	Electrical Cables	Weight (Ibs)	Drawing Link				
	<u>PAL-EIP</u>	\$441.00	NITRA bus coupler, 12-24 VDC, (2) Ethernet 10/100Base-T (M12) port(s), EtherNet/IP, 10/100 Mbps, (128) solenoid(s) per system, IP65. For use with PAL series. Requires 4-pin M8 power cable.	Power: 4-Pole Pico (M8) cable EtherNet: M12	1.05	<u>PDF</u>				
	<u>PAL-EAD</u>	\$218.00	NITRA local expansion coupler, 12-24 VDC, (1) 4-pin M8 quick- disconnect port(s), CAN, up to 100 Mbps, number of solenoid(s) inclusive of main system, IP65. For use with PAL series. Requires 4-pin M8 power cable.	4-Pole, D-Coded cable	1	<u>PDF</u>				
		PAL S	System - Conventional Electrical Modules							
	<u>PAL-E25</u>	\$100.00	NITRA electrical connection module, 12-24 VDC, (21) solenoid(s), IP65. For use with PAL series. Requires PAL series 25-pin male D-sub control cable.	Listed below	0.5	<u>PDF</u>				
	<u>PAL-E44</u>	\$105.00	NITRA electrical connection module, 12-24 VDC, (38) solenoid(s), IP65. For use with PAL series. Requires PAL series 44-pin male D-sub control cable.		0.5	<u>PDF</u>				

PAL System - EtherN	let/IP Module Specifications
Maximum Admissible Current (PAL-EIP, PAL-EAD)	4A continuous, 6A instantaneous for valve supply 4A continuous, 6A instantaneous for bus and signal supply
Maximum Admissible Current (PAL-E25, PAL-E44)	With multi-pole connection 6A continuous, 9A instantaneous With fieldbus connection 4A continuous, 6A instantaneous for valve supply; 4A continuous, 6A instantaneous for bus and signal supply
Protection	Overload and short-circuit protected solenoid pilot Output
Diagnostics	LED signal on valve, LED on electrical connection and software message regarding: short- circuited solenoid pilot; solenoid pilot with coil failure; voltage out of range (undervoltage and overvoltage); module communication control; on switching, configuration other than that stored
Maximum Number of Solenoid Pilots	128
Maximum number of simultaneously controllable solenoid pilots*	38
Maximum Number of I/O	128 digital inputs, 128 digital outputs, 16 analog inputs, 16 analog outputs
Maximum Number of Modules	40 Bases for valves + 16 digital inputs + 16 digital outputs + 4 analog inputs + 4 analog outputs
Maximum Number of Class 1 Input Only/Listen Only Connections	8
Maximum Number of Class 3 Connections	8
Maximum Number of Concurrent TCP Connections (thinking of resources for Unconnected Explicit Messaging)	30
*Note - To actuate a greater number of solenoid pilots at the same time, Intermediate mod	lule PAL-M12P with electrical connection must be added.



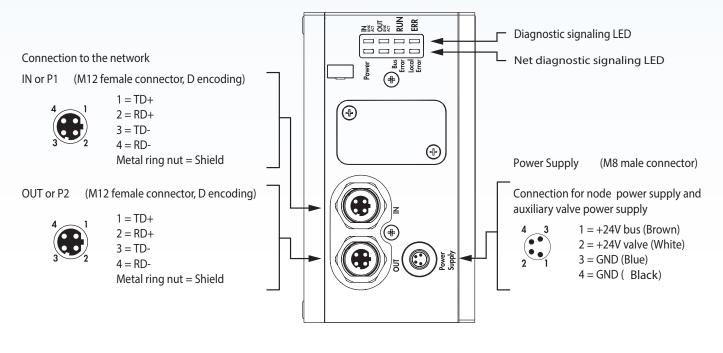
Click the icon or scan the QR code to be taken to <u>https://www.automationdirect.com/selectors/pal</u> for our online PAL system Configuration Tool for further selection assistance.

PAL System - EtherNet/IP Modules

The cables listed below were designed to fit the electrical connection modules and maintain IP65 protection.

	Electrical Module Power Cables										
ltem	Part No.	Price	Description	Length	Weight (lbs)	Drawing Link					
	PAL-ACC04	\$36.50	NITRA control cable, 25-pin D-sub right-angle female to pigtail, IP65, 3.2ft/1m cable length. For use with PAL-E25 electrical connection module.	3.2 ft (1m)	0.40	PDF					
	PAL-ACC05	\$50.00	NITRA control cable, 25-pin D-sub right-angle female to pigtail, IP65, 8.2ft/2.5m cable length. For use with PAL-E25 electrical connection module.	8.2 ft (2.5 m)	0.85	PDF					
	PAL-ACC06	\$64.00	NITRA control cable, 25-pin D-sub right-angle female to pigtail, IP65, 16.4ft/5m cable length. For use with PAL-E25 electrical connection module.	16.4 ft (5m)	1.60	PDF					
	<u>Pal-ACC07</u>	\$48.00	NITRA control cable, 44-pin D-sub right-angle female to pigtail, IP65, 3.2ft/1m cable length. For use with PAL-E44 electrical connection module.	3.2 ft (1m)	0.65	<u>PDF</u>					
	PAL-ACC08	\$67.00	NITRA control cable, 44-pin D-sub right-angle female to pigtail, IP65, 8.2ft/2.5m cable length. For use with PAL-E44 electrical connection module.	8.2 ft (2.5 m)	1.40	<u>PDF</u>					
N. C.	PAL-ACC09	\$87.00	NITRA control cable, 44-pin D-sub right-angle female to pigtail, IP65, 16.4ft/5m cable length. For use with PAL-E44 electrical connection module.	16.4 ft (5m)	2.65	PDF					

EtherNet/IP Wiring





RA®

D-SUB 25-PIN CONNECTOR

Female

/14

PAL System - EtherNet/IP Modules

1

PIN Color of the corresponding Function

14

wire (DIN 47100)

14 Brown + Green ring

PIN Color of the corresponding Function

wire (DIN 47100)

1 White

Wiring

Male

 $\frac{14}{\sqrt{}}$

N

4 1	1 14	1	white			14	Brown + Gree		14
XX		2	Brown	2		15	White + Yello	0	15
		3	Green	3		16	Yellow + Brow	•	16
		4	Yellow	4		17	White + Grey	0	17
		5	Grey	5		18	Grey + Brown	-	18
		6	Pink	6		19	White + Pink	-	19
		7	Blue	7		20	Pink + Brown	-	20
		8	Red	8		21	White + Blue	-	21
		9	Black	9		22	Brown + Blue	0	Fault reporting
5 13	13 25	10	Violet	10		23	White + Red	U	* Config. PNP/NPI
ANK side	CABLE side	11	Grey + Pink ring	11		24	Brown + Red	ring	+VDC
AININ SILLE	CADLE SILE	12	Red + Blue ring	12		25	White + Black	< ring	0VDC
		13	White + Green ring	13					
SUB 44-PIN	I CONNECTOR	PIN	Color of the corresponding	Function		PIN	Color of the co		Function
Male	Female	_	wire (DIN 47100)		_		wire (DIN 4710		
16 1	1 16 31	1	White	1			White + Red	-	23
\mathcal{H}		2	Brown	2		24	Brown + Red	-	24
		3	Green	3		25	White + Black	•	25
		4	Yellow	4		26	Brown + Blac	0	26
		5	Grey	5		27	Grey + Greer	•	27
		6	Pink	6		28	Yellow + Grey	U U	28
		7	Blue	7		29	Pink + Green	-	29
		8	Red	8		30	Yellow + Pink	•	30
		9	Black	9		31	Green + Blue	-	31
	15	10	Violet	10		32	Yellow + Blue	-	32
30 15	30 \44	11	Grey + Pink ring	11		33	Green + Red	ring	33
ANK side	CABLE side	12	Red + Blue ring	12		34	Yellow + Red	ring	34
		13	White + Green ring	13		35	Green + Blac	k ring	35
		14	Brown + Green ring	14		36	Yellow + Blac	k ring	36
		15	White + Yellow ring	15		37	Grey + Blue r	ing	37
		16	Yellow + Brown ring	16		38	Pink + Blue ri	ng	38
		17	White + Grey ring	17		39	Grey + Red ri	ng	Fault reporting
		18	Grey + Brown ring	18		40	Pink + Red ri	ng	* Config. PNP/NPI
		19	White + Pink ring	19		41	Grey + Black	•	+VDC
		20	Pink + Brown ring	20		42	Pink + Black	-	+VDC
		21	White + Blue ring	21		43	Blue + Black	ring	0VDC
		22	Brown + Blue ring	22		44	Red + Black	0	0VDC
	12 - 24 VDC		•						
					P	AL - I	25	PA	L - E44
				[PNP / NPN)		NFIG PNP / NPN)
PNP					PIN 24 (+			PIN 41 & 42	
DURCING	nC		·		PIN 25 (0 PIN 1	VDC)		PIN 43 & 44 PIN 1	+ (U VDC)
UTPUTS	YO			[1 111 1				
	12 - 24 VDC				D/	4L - E	25		E44
	0 VDC -						25 PNP / NPN)		 E44 NFIG PNP / NPN)
					PIN 25 (C PIN 24 (+		TINE / INFIN)	PIN 40 (COI PIN 41 & 42	
NPN					PIN 25 (0			PIN 43 & 44	
	YO				PIN 1			PIN 1	
NPN SINKING DUTPUTS	nC Y0				PIN 25 (0			PIN 43 & 44	

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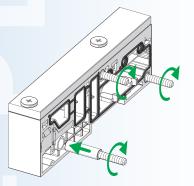
PAL System - Closed End Spacer

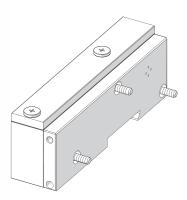
Closed End Spacer Module

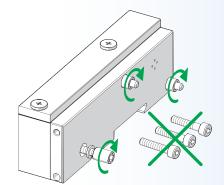
To use the PAL system bank without pneumatics the closed end spacer module is needed. Only one module per bank required.



	PAL System - Closed End Spacer Module										
Item	Part No.	Price	Description	Weight (lbs)	Drawing Link						
Sector State	<u>PAL-SPC</u>	\$29.50	NITRA closed end spacer, IP65. For use with PAL series assemblies without pneumatics.	0.4	<u>PDF</u>						







Note: Version used to make up a PAL Base without pneumatic valves, but only with "S" signal modules and fieldbus or additional electrical connection "E". Pneumatic bases and valves cannot be added.

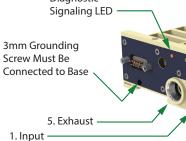


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NI RA Bases Diagnostic

Conventional Stand-Alone Valve Bases

The PAL stand-alone base is a 4-position electro-pneumatic manifold base for PAL valves, available in 2 configurations, with 4 or 8 controls for solenoid pilots. Up to 4 valves with one solenoid pilot can be installed on the manifold base with 4 controls, and up to 4 valves with one or two solenoid pilots can be installed on the manifold base with 8 controls.

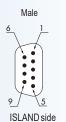


3. Exhaust

	PAL System - Stand-Alone Valve Bases										
Item	Part No.	Price	Description	Weight (Ibs)	Drawing Link						
A CONTRACTOR OF	<u>PAL-CB4414</u>	\$112.00	NITRA pneumatic stand-alone valve base, fiberglass-reinforced thermoplastic, (4) solenoid(s), (4) stations, (1) 1/4in female NPT inlet(s), (8) 1/4in push-to-connect tubing outlet(s), (2) 1/4in female NPT exhaust(s), IP65. For use with PAL series.	0.85	<u>PDF</u>						
A LA SERVICE	<u>PAL-CB4814</u>	\$127.00	NITRA pneumatic stand-alone valve base, fiberglass-reinforced thermoplastic, (8) solenoid(s), (4) stations, (1) 1/4in female NPT inlet(s), (8) 1/4in push-to-connect tubing outlet(s), (2) 1/4in female NPT exhaust(s), IP65. For use with PAL series.	0.85	<u>PDF</u>						
	PAL-ACC19	\$19.50	NITRA control cable, 9-pin D-sub axial female to pigtail, IP65, 3.2ft/1m cable length. For use with PAL series stand-alone valve base.	0.15	<u>PDF</u>						
	PAL-ACC20	\$21.00	NITRA control cable, 9-pin D-sub axial female to pigtail, IP65, 8.2ft/2.5m cable length. For use with PAL series stand-alone valve base.	0.35	<u>PDF</u>						
	PAL-ACC21	\$24.00	NITRA control cable, 9-pin D-sub axial female to pigtail, IP65, 16.4ft/5m cable length. For use with PAL series stand-alone valve base.	0.60	<u>PDF</u>						

Wiring

CONNECTOR D-Sub 9 PIN PRE-WIRED



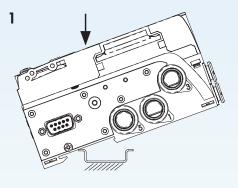
Female

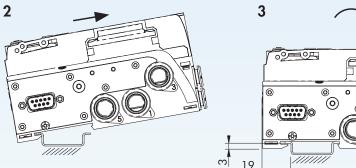
Electric contact position	Color conductor cable	Function	4-position base	8-position base
1	White	1 + VDC	Solenoid pilot 14 valve 1	Solenoid pilot 14 valve 1
2	Brown	2 + VDC	Solenoid pilot 14 valve 2	Solenoid pilot 12 valve 1
3	Green	3 + VDC	Solenoid pilot 14 valve 3	Solenoid pilot 14 valve 2
4	Yellow	4 + VDC	Solenoid pilot 14 valve 4	Solenoid pilot 12 valve 2
5	Grey	5 + VDC	1	Solenoid pilot 14 valve 3
6	Pink	6 + VDC	1	Solenoid pilot 12 valve 3
7	Blue	7 + VDC	1	Solenoid pilot 14 valve 4
8	Red	8 + VDC	1	Solenoid pilot 12 valve 4
9	Black	COM 0VDC	Common	Common

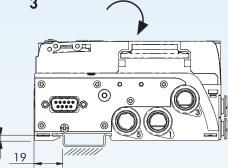
PAL System - Stand-Alone Valve Bases

Mounting Options

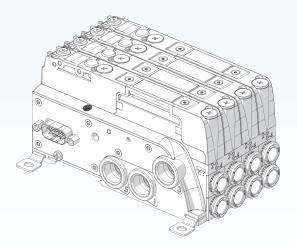
Mounting to DIN rail is done per the sequence shown below:



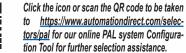




Mounting with brackets: The 3 brackets are included with each PAL stand-alone valve base. Push them firmly into the appropriate seats on the bases until they "click".







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NIRA PAL System - Compressed Air Connection Modules

Compressed Air Connection Modules

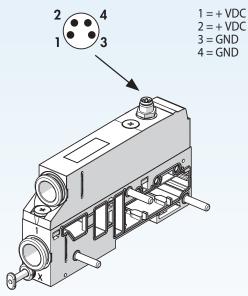
The PAL-P12 compressed air connection module is the primary interface for the compressed air supply and PAL system solenoid valves. It features a 1/2" push-to-connect main supply and 5/32"(4mm) pilot supply. Used in the default configuration, pilot pressure of 3 to 8 bar (43 to 116 psi) is supplied to port X, allowing the main supply to be in the range of vacuum to 10 bar (145 psi). If the total system is operated in the range of 3.5 to 8 bar (51 to 116 psi), the PAL-P12 can be easily converted to require only the single main supply connection for complete operation.

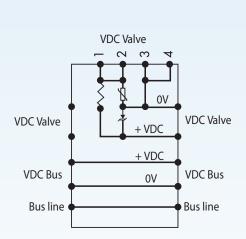
	PAL Sy	stem - C	ompressed Air Connection Module		
Item	Part No.	Price	Description	Weight (Ibs)	Drawing Link
S. Marina	<u>PAL-P12</u>	\$29.50	NITRA pneumatic compressed air module, left supply/exhaust, Cv=3.76, 1/2in push-to-connect tubing inlet(s), silenced exhaust(s), 5/32in (4mm) push-to-connect tubing pilot(s), IP65. For use with PAL series.	0.45	<u>PDF</u>
	PAL Sys	tem - In	termediate Air Connection Modules		
C 111	<u>PAL-M12</u>	\$63.00	NITRA pneumatic air module, intermediate through, Cv=3.76, 1/2in push-to-connect tubing inlet(s), 5/32in (4mm) push-to-connect tubing pilot(s), IP65. For use with PAL series. Without additional power connection.	0.4	<u>PDF</u>
A TILL AND	<u>PAL-M12P</u>	\$109.00	NITRA pneumatic air module, intermediate through, Cv=3.76, 1/2in push-to-connect tubing inlet(s), 5/32in (4mm) push-to-connect tubing pilot(s), IP65. For use with PAL series. Requires power cable. With additional power connection.	0.45	<u>PDF</u>
	<u>PAL-PC12</u>	\$6.50	NITRA pneumatic push-to-connect cartridge, replacement, 1/2in tubing. Package of 2. For use with PAL-P12 compressed air supply module.	0.05	PDF
	PAL-ACC13	\$4.25	NITRA pneumatic exhaust silencer, replacement. For use with PAL-P12 compressed air supply module.	0.05	N/A
and the	<u>PAL-ACC14</u>	\$8.00	NITRA gasket, replacement. Package of 10. For use with PAL series base interface between valve bases.	0.05	N/A
	<u>PAL-ACC15</u>	\$9.00	NITRA gasket, replacement. Package of 10. For use with PAL-P12 or PAL-SPC lower/upper body.	0.05	N/A

PAL System - Compressed Air Connection Modules

Intermediate Wiring

M8 male connector







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NIRA PAL System - Valve Bases

Valve Bases

The PAL Bases for valves can be provided with 3 or 4 positions. A version is available with an electrical connection for a single control of each position, suitable for 5/2 single solenoid valves or 3/2 high flow valves (physically impossible to install other valves). Another version comes with two electrical connections for each position and is suitable for all types of valves. The electronics in the base controls the signal coming from both the multi-pole connector and the fieldbus, so the base is the same, regardless of the control system of the island. The air delivery ports (ports 2 and 4) are made up of easy to replace cartridge-style push-in fittings.

		PAL	System - Valve Bases		
ltem	Part No.	Price	Description	Weight (lbs)	Drawing Link
333 120	<u>PAL-B3314</u>	\$79.00	NITRA pneumatic modular valve base, fiberglass-reinforced thermoplastic, (3) solenoid(s), (3) stations, (6) 1/4in push-to- connect tubing outlet(s), IP65. For use with PAL series.	0.6	PDF
338 200	<u>PAL-B3614</u>	\$84.00	NITRA pneumatic modular valve base, fiberglass-reinforced thermoplastic, (6) solenoid(s), (3) stations, (6) 1/4in push-to- connect tubing outlet(s), IP65. For use with PAL series.	0.6	PDF
8333 FED 1	<u>PAL-B4414</u>	\$95.00	NITRA pneumatic modular valve base, fiberglass-reinforced thermoplastic, (4) solenoid(s), (4) stations, (8) 1/4in push-to- connect tubing outlet(s), IP65. For use with PAL series.	0.75	PDF
8388 F300	<u>PAL-B4814</u>	\$103.00	NITRA pneumatic modular valve base, fiberglass-reinforced thermoplastic, (8) solenoid(s), (4) stations, (8) 1/4in push-to- connect tubing outlet(s), IP65. For use with PAL series.	0.75	PDF

Valve Flow Rate (scfm) @ 91.4 psi (6.3 bar) ΔP 14.5 psi (1 bar)									
Valve	Ø 4mm (5/32")	Ø 6mm	Ø 8mm (5/16")	Ø 1/4" (Default)	Ø 3/8"*				
3-way/2-position	12.4	21.2	24.7	21.2	44.1				
5-way/2-position	12.4	23.0	28.3	23.0	44.1 - 49.4				
5-way/3-position	12.4	16.2	17.7	16.2	35.3 - 44.1				
PAL-V1-SR	-	-	-	-	35.3				
* Using high-flow valves o	or connected va	lves with PA	L-Y38						



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NI RA PAL System - Valve Bases

	PAL System - Valve Base Accessories									
Item	Part No.	Price	Description	Weight (lbs)	Drawing Link					
F	<u>PAL-PC04M</u>	\$21.00	NITRA pneumatic push-to-connect cartridge, 5/32in (4mm) tubing. Package of 10. For use with PAL series valve bases.	0.25	<u>PDF</u>					
Sec	<u>PAL-PC06M</u>	\$21.00	NITRA pneumatic push-to-connect cartridge, 6mm tubing. Package of 10. For use with PAL series valve bases.	0.2	<u>PDF</u>					
%	<u>PAL-PC08M</u>	\$21.00	NITRA pneumatic push-to-connect cartridge, 5/16in (8mm) tubing. Package of 10. For use with PAL series valve bases.	0.15	<u>PDF</u>					
E	<u>PAL-PC14</u>	\$21.00	NITRA pneumatic push-to-connect cartridge, replacement, 1/4in tubing. Package of 10. For use with PAL series valve bases.	0.2	<u>PDF</u>					
	PAL-ACC16	\$11.00	NITRA gasket, replacement. Package of 10. For use with PAL series base and valve.	0.05	N/A					

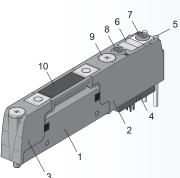


PAL System - Solenoid Valves

Solenoid Valves

The valves in the PAL system are designed to ensure high flow using only one small size valve (14 mm wide), without the need of installing a larger size one, to the benefit of component standardization. Models are available with all the main air supply diagrams - from 3/2 to 5/3. The valves are secured to the base with two sturdy M4 captive screws. They come with all the accessories that facilitate their use: manual control, LED light, plate with air supply diagram and technical data and white ID tags. The range also includes:

- High-flow valves which have an innovative system that reaches flow rates that are uncommon for this size of valve.
- Bypass element that makes it possible to boost supply and reliefs or create special pneumatic circuits.
- Circuit shut-off valve PAL-V1-SR to connect/disconnect all station valves.
- Blanking plate to plug blank base positions.



- 1. BODY: technopolymer
- 2. CONTROL: technopolymer
- 3. BASE: technopolymer
- 4. SOLENOID PILOT
- 5. DISPLAY: LED light and optical tester in technopolymer
- 6. TAG: removable
- 7. MANUAL CONTROL 14, for port 4: locking, brass
- 8. MANUAL CONTROL 12, for port 2: locking, brass
- 9. SCREW FOR MOUNTING TO THE BASE: M4 with PH 1 Phillips-head, galvanized steel. Max. torque: 1.2 Nm

10. TAG: technopolymer with laser-etched wording

PAL System - Solenoid Valves										
Item	Part No.	Price	Description	Weight (lbs)	Drawing Link					
21000	<u>PAL-V2-32C</u>	\$43.50	NITRA solenoid valve, 3-way, 2-position, 2 N.C., single solenoid spring return, reinforced technopolymer body, IP65, locking manual override, Cv=0.64, 12-24 VDC.	0.2	PDF					
C. S. C. S. C. S.	<u>PAL-V2-32A</u>	\$48.50	NITRA solenoid valve, 3-way, 2-position, 2 N.O., single solenoid spring return, reinforced technopolymer body, IP65, locking manual override, Cv=0.64, 12-24 VDC.	0.2	PDF					
2	<u>PAL-V2-32C32A</u>	\$48.50	NITRA solenoid valve, 3-way, 2-position, 1 N.C. / 1 N.O., single solenoid spring return, reinforced technopolymer body, IP65, locking manual override, Cv=0.64, 12-24 VDC.	0.2	PDF					
2.42.00	<u>PAL-V1-52</u>	\$32.00	NITRA solenoid valve, 5-way, 2-position, single solenoid spring return, reinforced technopolymer body, IP65, locking manual override, Cv=0.7, 12-24 VDC.	0.15	PDF					
Careford and	PAL-V2-52	\$45.00	NITRA solenoid valve, 5-way, 2-position, double solenoid, reinforced technopolymer body, IP65, locking manual override, Cv=0.7, 12-24 VDC.	0.2	PDF					
-	<u>PAL-V2-53C</u>	\$48.50	NITRA solenoid valve, 5-way, 3-position, center closed, double solenoid, reinforced technopolymer body, IP65, locking manual override, Cv=0.49, 12-24 VDC.	0.2	PDF					





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N

PAL System - Solenoid Valves

PAL System - Solenoid Valves					
ltem	Part No.	Price	Description	Weight (Ibs)	Drawing Link
2	<u>PAL-V1-32C</u>	\$36.00	NITRA solenoid valve, 3-way, 2-position, 1 high-flow N.C., single solenoid spring return, reinforced technopolymer body, IP65, locking manual override, Cv=1.28, 12-24 VDC.	0.15	<u>PDF</u>
C. S.	<u>PAL-V1-32A</u>	\$36.00	NITRA solenoid valve, 3-way, 2-position, 1 high-flow N.O., single solenoid spring return, reinforced technopolymer body, IP65, locking manual override, Cv=1.28, 12-24 VDC.	0.15	<u>PDF</u>
	<u>PAL-V1-SR</u>	\$55.00	NITRA solenoid bank shut-off pressure relief valve, 5-way, 2-position, single solenoid spring return, reinforced technopolymer body, IP65, locking manual override, Cv=1.07, 12-24 VDC.	0.2	<u>PDF</u>
Part of	<u>PAL-VO-PLUG</u>	\$6.50	NITRA blanking plug, fiberglass reinforced plastic. For use with PAL series valve bases.	0.1	<u>PDF</u>
	<u>PAL-Y38</u>	\$4.00	NITRA pneumatic push-to-connect fitting, Y, reinforced technopolymer body, (2) 5/16in (8mm) plug-in to 3/8in push-to-connect.	0.05	PDF
	<u>Pal-acc17</u>	\$5.00	NITRA base screw, replacement. Package of 10. For use with PAL series.	0.05	N/A

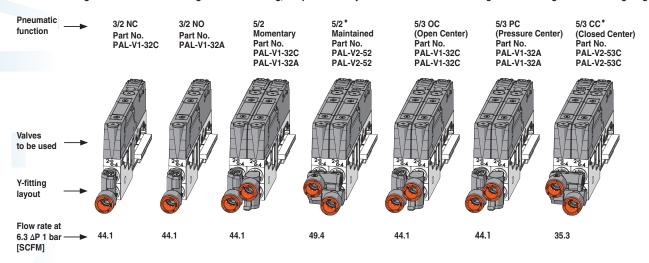
PAL	System - General	Specification	S		
Nominal Supply Voltage		12 or 24	VDC		
Minimum Operating Voltage		10.8	V *		
Maximum Operating Voltage		31.2	V		
Maximum Admissible Voltage		32V	**		
Power for Each Controlled Pilot		3W for 15ms, then holding 0.3 W			
Drive (for multi-pole)		PNP or NPN			
Solenoid Rating		100% ED			
			5/2 and 5/3	3/2	
Operating Pressure	Common supply	Port 1	3 to 8 bar (43 to 116 psi)	3.5 to 8 bar (51 to 116 psi)	
	Sonorato pilot aupply	Assisted valves	Vacuum to 10bar (Vacuu	m to 145psi)	
	Separate pilot supply	Pilot pressure	3 to 8 bar (43 to 116 psi)		

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HOW TO GET HIGH-FLOW RATE FOR EACH PNEUMATIC FUNCTION

Note: The two cartridges on the base (2 and 4) must fit the Ø 8mm pipe. Outputs 2 and 4 must be connected one to the other. To do this, you can use the special PAL-Y38 fitting. When connecting one or more valves using the PAL-Y38 fitting, the pneumatic system functions must be configured according to the following diagram.



In order to get 5/2 momentary, 5/2 maintained and 5/3 CC high flow, use two parallel valves, by energizing the solenoids simultaneously.

* The PAL-Y38 fittings of this valve must be installed longitudinally with one PAL-Y38 fitting connecting the two outputs (2) and the other the two outputs (4). The solenoid pilots must be operated simultaneously.

Solenoid Valve Diagrams

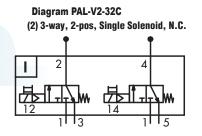


Diagram PAL-V1-52 5-way, 2-pos, Single Solenoid, non-locking

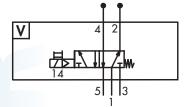


Diagram PAL-V1-32C 3-way, 2-pos, Single Solenoid, N.C., high flow

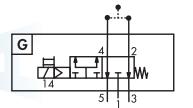


Diagram PAL-V2-32A (2) 3-way, 2-pos, Single Solenoid, N.O.

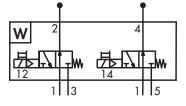


Diagram PAL-V2-52 5-way, 2-pos, Single Solenoid, locking

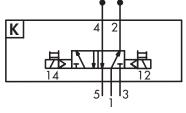


Diagram PAL-V1-32A 3-way, 2-pos, Single Solenoid, N.O., high flow

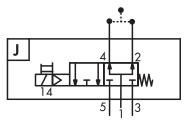


Diagram PAL-V2-32C32A (2) 3-way, 2-pos, Single Solenoid, N.C./N.O.

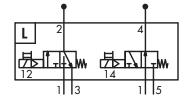
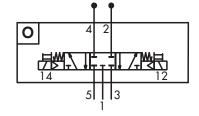
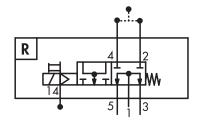


Diagram PAL-V2-53C 5-way, 3-pos, Double Solenoids, Center Closed









Signal Modules

R

The PAL systems can be configured with a variety of input or output signal modules, which can be mounted on systems with a fieldbus electrical connection. The signal modules can be added at any time. You only need to unscrew the aluminum plate to the left side of the electrical connection module and install the signal modules (mounting tie rods included) and retighten the end plate to the left.

	PAL System - Discrete Input Module					
Item	Part No.	Price	Description	Weight (lbs)	Drawing Link	
	<u>PAL-S01</u>	\$265.00	NITRA discrete input module, 8-point, 12-24 VDC, PNP/ NPN, 1 common(s), 8 point(s) per common, IP65. For use with PAL series. Mounting hardware included. Requires PAL-EIP bus coupler.	0.6	PDF	

PAL System - Discrete Input Module Specifications				
Sensors Supply Voltage	Corresponding to the supply voltage			
Current for Each Connector 200mA max				
Current for Each Module 500mA max				
Input Impedance 3.9 kΩ				
Type of Input	Software-configurable PNP/NPN			
Protection	Overload and short-circuit protected inputs			
Connections 8 M8 3-pole female connectors				
Input Active Signals One LED for each input				





Click the icon or scan the QR code to be taken to https://www.automationdirect.com/selectors/pal for our online PAL system Configuration Tool for further selection assistance.

PAL System - I/O Modules N

	PAL System - Discrete Output Modules					
Item	Part No.	Price Description Weight (Ibs)			Drawing Link	
	<u>PAL-S02</u>	\$268.00	NITRA discrete output module, 8-point, 12-24 VDC, PNP/NPN, 1 common(s), 8 point(s) per common, 1A/point, 4A/common, short circuit and overload protection, IP65. Mounting hardware included. Requires PAL-EIP bus coupler.	0.6	<u>PDF</u>	
	<u>PAL-SO3</u>	\$276.00	NITRA discrete output module, 6-point, 12-24 VDC, PNP/NPN, 1 common(s), 6 point(s) per common, 1A/point, 4A/common, short circuit and overload protection, IP65. Mounting hardware included. Requires PAL-EIP bus coupler and power cable.	0.6	PDF	

PAL System - Discrete Output Module Specifications				
	PAL-S02	PAL-S03		
Supply Voltage Range	N/A	12V -10% 24V +30%		
Minimum Operating Voltage	N/A	10.8 V*		
Maximum Operating Voltage	N/A	31.2 V		
Maximum Admissible Voltage	N/A	32V **		
Output Voltage	Corresponding to the supply voltage			
Current for Each Connector	500mA max	1000mA max		
Current for Each Module	3000mA max	4000mA max		
Type of Output	Software-c	configurable PNP/NPN		
Protection	Overload and s	hort-circuit protected inputs		
Connections	8 M8 3-pole female connectors	6 M8 3-pole female connectors for Signals 1 M8 4-pole male connector for Supply		
Status Indicator	One LED for each output			
* Minimum voltage 10.8V required at solenoid pilots. ** IMPORTANT! Voltage greater than 32VDC can permanently dama	ge the system.			



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NIRA PAL System - I/O Modules

PAL System - Analog Modules					
Item	Part No.	Price	ce Description Weight (Ibs)		Drawing Link
	<u>PAL-S04</u>	\$301.00	NITRA analog input module, 4-channel, current/voltage, 15-bit, input current signal range(s) of 0-20 mA, 4-20 mA, input voltage signal range(s) of 0-5 VDC, 0-10 VDC, +/- 5 VDC, +/- 10 VDC, IP65.	0.55	<u>PDF</u>
	<u>PAL-S05</u>	\$388.00	NITRA analog output module, 4-channel, current/voltage, 15-bit, output current signal range(s) of 0-20 mA and 4-20 mA, output voltage signal range(s) of 0-5 VDC, +/- 5 VDC, 0-10 VDC and +/- 10 VDC, IP65.	0.55	PDF

PAL Sys	PAL System - Analog Module Specifications					
	PAL-S04 PAL-S05					
Supply Voltage Range	Corresponding to the supply voltage					
Current for Each Connector	200mA max					
Current for Each Module	650mA max					
Type of Input	Software configurable: 0/10 V; 0/5 V; +/-10 V; +/-5 V; 4/20 mA; 0/20 mA					
Type of Output	N/A	Software configurable: 0/10 V; 0/5 V; +/-10 V; +/-5 V; 4/20 mA; 0/20 mA				
Protection	Overload and short-	-circuit protected inputs				
Connections	4 M8 4-pin female connectors					
Signal Indicator	One LED for each input or output					
Digital Convert Resolution	15 bit + prefix					



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PAL System - I/O Modules Ν

	PAL System - Wired Discrete Modules				
Item	Part No.	Price	Description	Weight (Ibs)	Drawing Link
A CONTRACT OF CONTRACT.	<u>PAL-SO6</u>	\$301.00	NITRA discrete input module, 16-point, 12-24 VDC, PNP/ NPN, 1 common(s), 16 point(s) per common, IP40. For use with PAL series. Mounting hardware included. Requires PAL-EIP bus coupler.	0.5	PDF
	<u>PAL-S07</u>	\$408.00	NITRA discrete output module, 16-point, 12-24 VDC, PNP/NPN, 1 common(s), 16 point(s) per common, 0.5A/ point, 3A/common, short circuit and overload protection, IP40. Mounting hardware included. Requires PAL-EIP bus coupler.	0.5	<u>PDF</u>

PAL System - Wired Discrete Module Specifications						
	PAL-S06	PAL-S07				
Supply Voltage Range	Corresponding to the supply voltage N/A					
Output Voltage	N/A	Corresponding to the supply voltage				
Current for Each Connector	200mA max 500mA max					
Current for Each Module	500mA max 3000mA max*					
Input Impedance	3.9 kΩ N/A					
Type of Input	Software-configurable PNP/NPN N/A					
Type of Output	N/A Software-configurable PNP/NP					
Protection	Overload and short-circuit protected inputs					
Connections	4 12-pin connectors	with spring clamping				
Maximum Wire Size	20 AWG	(0.5 mm²)				
Status Indicator	One LED for each input or output					
Degree of Protection	egree of Protection IP40					
* IMPORTANT: the module is powered via the field	bus. Check that the total current of connected outputs	is not greater than 3.5 A.				



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PAL System - I/O Modules N

	PAL System - Temperature Input Module					
Item	Part No.	Price	Description	Weight (lbs)	Drawing Link	
	<u>PAL-S08</u>	\$499.00	NITRA temperature input module, RTD/thermocouple, 4-channel, 15-bit resolution, IP65. Mounting hardware included. Requires PAL-EIP bus coupler.	0.55	<u>PDF</u>	

PAL System	PAL System - Temperature Input Module Specifications			
Sensors Supply Voltage	Corresponding to the supply voltage			
Maximum Input Voltage	30VDC			
Sensor Type (RTD)	Platinum (-200 to +850°C): Pt100, Pt200, Pt500, Pt1000 (TK = 0.00385 and TK = 0.00391) Nickel (-60 to +180°C): Ni100, Ni120, Ni500, Ni1000 (TK = 0.00618)			
Connections Type (RTD)	2, 3 or 4-wire			
Type of Thermocouple (TC)	J, E, T, K, N, S, B, R			
Cold Junction Compensation for Thermocouples	Internal: With internal electronic sensor included External (recommended in case of sudden changes in the ambient temperature): PT1000 sensor for connection with the M8 thermocouple connector			
Temperature Range	-200 to + 800 °C (-328 to + 1472 °F)			
Digital Convert Resolution	15 bit + prefix			
Max Error Compared to Ambient Temperature	±0.5% (TC) ±0.06% (RTD)			
Max. Basic Error (Ambient T 25°C)	±0.6 °C (with 4-wire RTD with 0.1 resolution) ±0.2 °C (with 4-wire RTD with 0.01 resolution)			
Repeatability (Ambient T 25°C)	±0.03%			
Address Employment	2 bytes for each input - 8 bytes per module			
Cycle time (Module)	240ms			
	For RTD: Piecewise linear approximation			
Software Linearization	For TC: NIST (National Institute of Standards and Technology) Linearization based on ITS-90 scale (International Temperature Scale of 1990) for the thermocouple linearization			
Maximum Length of Shielded Cable for the Connection	< 30m			
Status Indicator	One LED for each input and reporting to the Master			



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A PAL System - End Plates

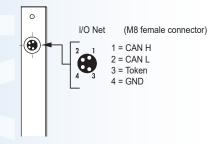
End Plates

N

The closed end plate is the last element on the right hand end of each PAL system. PAL-C4 is used for direct wired systems. For fieldbus systems, PAL-C2 can be used for a single PAL system or PAL-C3 is used to allow daisy-chaining separate PAL subsystems that share a common IP address. The end plate houses the system for mechanically mounting the base to external supports i.e. DIN rail.

	PAL System - End Plates											
Item	Part No.	Price	Description	Weight (lbs)	Drawing Link							
and a	<u>PAL-C2</u>	\$62.00	NITRA closed end plate, IP65. For use with PAL series single fieldbus assemblies.	0.4	PDF							
inter .	PAL-C3	\$87.00	NITRA closed end plate, IP65. For use with PAL series fieldbus assemblies and expansion. Requires PAL series expansion cable or PAL-ACC18 M8 terminator. Used for local expansion.	0.4	PDF							
and the second	<u>PAL-C4</u>	\$32.00	NITRA closed end plate, IP65. For use with PAL series wired assemblies.	0.25	<u>PDF</u>							
	<u>PAL-ACC10</u>	\$22.00	NITRA expansion cable, 4-pin M8 axial male to 4-pin M8 axial male, IP65, 3.2ft/1m cable length. For use with PAL series bus expansion coupler.	0.10	PDF							
	<u>PAL-ACC11</u>	\$33.00	NITRA expansion cable, 4-pin M8 axial male to 4-pin M8 axial male, IP65, 16.4ft/5m cable length. For use with PAL series bus expansion coupler.	0.45	PDF							
	<u>PAL-ACC12</u>	\$48.00	NITRA expansion cable, 4-pin M8 axial male to 4-pin M8 axial male, IP65, 32.8ft/10m cable length. For use with PAL series bus expansion coupler.	0.90	<u>PDF</u>							
ii lag	<u>PAL-ACC18</u>	\$17.50	NITRA M8 terminator, for use with PAL-C3 end plate.	0.05	<u>PDF</u>							

PAL-C3 Wiring





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PAL System - Accessories and Mounting Options

			PAL System - Accessories		
Item	Part No.	Price	Description	Weight (lbs)	Drawing Link
	<u>PAL-ACC01</u>	\$11.00	NITRA base mount, panel. Package of 2. For use with PAL series. Mounting screws included.	0.1	PDF
	PAL-ACCO2	\$2.00	NITRA M8 protective cap, for use with PAL series.	0.05	N/A
	<u>PAL-ACC03</u>	\$1.00	NITRA M12 protective cap, for use with PAL series.	0.05	N/A

Mounting Options

Using the PAL-ACC01

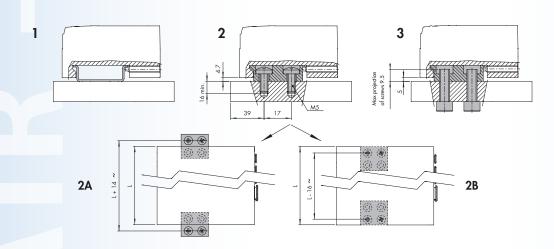
1. Mounting to DIN rail: tighten the set screws into modules E (electrical connection) and C (closed end plate).

2. Mounting on a flat surface: use the pair of brackets part number PAL-ACC001 and the M5x20 screws supplied.

You can choose where to position the brackets in relation to the base:

- 2a. Protruding brackets: Can be used to install the base + brackets unit from above. First secure the brackets to the modules E and C using the set screws, then secure everything with M5x20 screws.
- 2b. Concealed brackets: the overall dimensions of the base are reduced. First secure the brackets to the flat top with M5x20 screws, then place the base onto the brackets and lock the two set screws provided in the modules E and C.
- 3. Mounting through a wall: use the brackets part number PAL-ACC001. The brackets come with M6 threaded holes and can be fixed with M6 screws (not included in the supply) passing through the wall. The brackets can fixed either protruded or concealed.

Note: Planar surfaces are required to ensure correct mounting. Avoid twisting or bending the valve units.







Unit assembly shows Compact Modular Valve bank with EIP Module attached.



Unit assembly shows Compact Modular Valve bank with D-Sub Module attached.

NITRA compact modular valves are the ideal solution for those requiring the unbeatable performance, flexibility and modularity of multiple valves combined with sturdy mechanics and a high degree of protection. Each valve is enclosed in a reinforced technopolymer (Celcon®) protective shell that acts as a shock-absorber and prevents the infiltration of dirt. The smooth, rounded design makes the system ideal for applications requiring frequent washing. All the pneumatic connections are on one side, with built-in push-to-connect fittings. The systems offer a variety of flexibility from one to 16 solenoids. Valves can be mixed to use tubing of different sizes and can be individually replaced. The electrical signals are relayed from one valve to the next by gold-plated contacts so the electrical connections are entirely automatic. Both EtherNet/IP or 25-pin D-Sub connector electrical connections are available (Ethernet models require a separate power cable and include a ground strap). Inlet/exhaust end plates and intermediate modules provide flexibility to operate valve banks at vacuum or dual pressures.

Building the Valve Bank:

Step 1. Select the control interface: EtherNet/IP or D-Sub connector.

Step 2. Determine operating pressure and volume.

- Single input/pilot: 45-100 psi, Cv = 12.4
- Duel inlet: vacuum-145 psi, Cv = 12.4 or 16.6; Pilot: 45-100 psi
- Right end dual: vacuum-145 psi, Cv = 16.6

Step 3. Choose Valves:

- 3-way -> (2) Separate valves per module
- 5-way -> 2-position or 3-position
- NOTE: Maximum (16) solenoids (not valves) per bank

Step 4. (Optional) Choose intermediate module

- Through Adds an inlet and exhaust, others pass thru
- Blind Blocks inlets from left, adds (2) inlets that feed to the right, and splits a bank into (2) smaller banks.
- Exhaust Adds an exhaust port, others pass thru

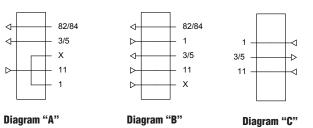


Click on the thumbnail or go to <u>https://www.automationdirect.com/VID-PN-0040</u> for a short video on Selecting CMV Valve Components



Compact Modular Valves - End Plates

One left and one right end plate is required per manifold. For continuous flow that will exceed the Cv of the end plates, consider adding an intermediate plate.



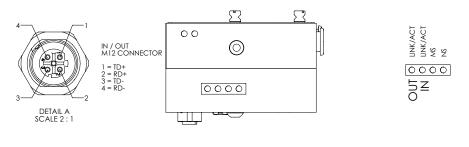
		Co	mpact Modular Valve - End Plates			
ltem	Part No.	Price	Description	Diagram	Operating Pressure	Weight (Ibs)
	<u>CMV-E1X-4X</u>	\$636.00	NITRA pneumatic EtherNet/IP enabled modular plate, left supply/ exhaust end, Cv=12.4, 3/8in push-to-connect tubing inlet(s), 3/8in female NPT exhaust(s), anodized aluminum body.	A	45-100 psi	1.0
	<u>CMV-E2X-4X</u>	\$644.00	NITRA pneumatic EtherNet/IP enabled modular plate, left supply/ exhaust end, Cv=12.4, (2) 3/8in push-to-connect tubing inlet(s), 3/8in female NPT exhaust(s), 5/32in (4mm) push-to-connect tubing pilot(s), anodized aluminum body.	В	vacuum-145 psi	1.0
	<u>CMV-C1X-4X</u>	\$66.00	NITRA pneumatic modular plate, left supply/exhaust end, Cv=12.4, 3/8in push-to-connect tubing inlet(s), 3/8in female NPT exhaust(s), anodized aluminum body.	A	45-100 psi	0.8
	<u>CMV-C2X-4X</u>	\$68.00	NITRA pneumatic modular plate, left supply/exhaust end, Cv=12.4, (2) 3/8in push-to-connect tubing inlet(s), 3/8in female NPT exhaust(s), 5/32in (4mm) push-to-connect tubing pilot(s), anodized aluminum body.	В	vacuum-145 psi	0.8
	<u>CMV-C2X-5X</u>	\$84.00	NITRA pneumatic modular plate, left supply/exhaust end, Cv=16.6, (2) 1/2in push-to-connect tubing inlet(s), 3/8in female NPT exhaust(s), 5/32in (4mm) push-to-connect tubing pilot(s), anodized aluminum body.	В	vacuum-145 psi	0.8
	<u>CMV-C3X-5X</u>	\$66.00	NITRA pneumatic modular plate, right supply/exhaust end, Cv=16.6, (2) 1/2in push-to-connect tubing inlet(s), 3/8in female NPT exhaust(s), anodized aluminum body.	С	vacuum-145 psi	1.4
· · · ·	<u>CMV-C4X</u>	\$25.50	NITRA pneumatic modular plate, right blind end, anodized aluminum body.	N/A	N/A	0.5

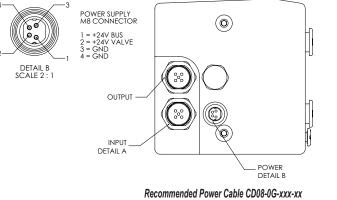


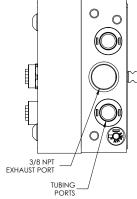
EtherNet/IP Enabled Mo	dular End Plate Specifications
Field Buses	EtherNet/IP (IO/Explicit Messaging) - 10/100 Mbit/s Half-duplex - Full-duplex Supports Auto-Negotiation
Factory Settings	Module name CMV series - Address IP 192.168.192.30
Addressing	Software DHCP/BOOTP
Voltage Range	24VDC ±10%
Maximum Number of Solenoids (out)	16
Maximum Number of Valves	16
ICC Bus Supply Current	Nominal Icc 120mA Instantaneous Icc (< 2ms) 450mA
Maximum Absorption of a Valve Distribution (black with 16 mono-stable valves)	Nominal Icc with 120mA OFF valves Nominal Icc with 580mA ON valves
Protections	Module protected against overload and polarity reversal. Outputs protected against overloads and short-circuits.
Connections	Field bus: (2) M12 Female, D-coded, internal switch Supply: M8 4-pin
Data Bit Value	0 = not enabled 1 = enabled
Output Status in the Absence of Communication	Not enabled
Approvals	N/A

Note: For EtherNet/IP communication use a quality Cat5e straight through Ethernet cable such as AutomationDirect CAB-ETH-M0x patch cables. See our Communication Products section online at www.AutomationDirect.com

Wiring and Ports







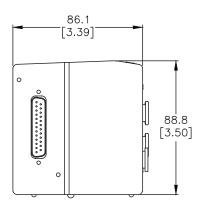
1-800-633-0405

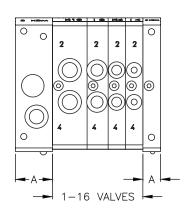


Compact Modular Valves

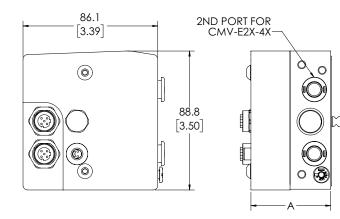
Dimensions

mm [inches]





DIM 7	TABLE
PART NO.	DIM A
CMV-E1X-4X	51.0 [2.01]
CMV-E2X-4X	51.0 [2.01]
CMV-C1X-4X	24.5 [0.96]
CMV-C2X-4X	24.5 [0.96]
CMV-C2X-5X	24.5 [0.96]
CMV-C3X-5X	32.0 [1.25]
CMV-C4X	11.7 [0.46]



See our website www.AutomationDirect.com for complete Engineering drawings.

Features:

1-800-633-0405

- Mix valve sizes as needed
- (2) 3/2, 5/2 and 5/3 valves available

FUMATICS

- Single solenoid spring return or dual solenoids per valve
- Up to 16 valves (16 solenoids max) per manifold
- Locking manual operator

Diagram "A"

(2) 3-way, 2-pos, Single Solenoids, N.C.

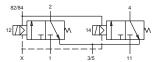


Diagram "D" 5-way, 2-pos, Single Solenoid





- NBR / Buna-N gaskets and O-ring
- Surge Suppression TRANSIL[™] TVS (Transient
- Voltage Surge Suppressor)
- 2 year warranty



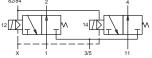


Diagram "E" 5-way, 2-pos, Double Solenoid

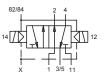


Diagram "C" (2) 3-way, 2-pos, Single Solenoids, N.C./N.O.

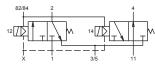
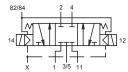


Diagram "F" 5-way, 3-pos, Double Solenoid, Center Closed



			Com	pact Mo	odular \	lalve Sp	oecifica	tions				
Models	CMV-A1L-1A	<u>CMV-A2L-1A</u>	<u>CMV-A3L-1A</u>	CMV-B1L-1A	CMV-B2L-1A	CMV-B3L-1A	CMV-A1L-2A	<u>CMV-A2L-2A</u>	СМИ-АЗL-2А	CMV-B1L-2A	CMV-B2L-2A	CMV-B3L-2A
Price	\$118.00	\$118.00	\$118.00	\$82.00	\$103.00	\$115.00	\$120.00	\$120.00	\$120.00	\$85.00	\$118.00	\$118.00
Weight (lbs)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Valve Type	(2) 3-way 2-position N.C. single solenoids	(2) 3-way 2-position N.O. single solenoids	(2) 3-way 2-position N.O./N.C. single solenoids	5-way 2-position single solenoid	5-way 2-position double solenoid	5-way 3-position double solenoid center closed	(2) 3-way 2-position N.C. single solenoids	(2) 3-way 2-position N.O. single solenoids	(2) 3-way 2-position N.O./N.C. single solenoids	5-way 2-position single solenoid	5-way 2-position double solenoid	5-way 3-position double solenoid center closed
Acting		Internally Piloted										
Diagram	А	В	С	D	E	F	А	В	С	D	E	F
Port Size	Out=5/32" or 4mm Out=1/4"											
Orifice Size*			Cv=	:0.2					Cv=0.5			Cv=0.3
Fluid					Air (to b	e filtered by	40µ filter e	lement)				
Nom Pressure			Vacu	um - 145 psi	(vacuum - '	10 bar) valve	e supply / 45	-100 psi (3-	7 bar) pilot s	supply		
Voltage ±10%						24V	/DC					
Power Consumption						0.9W (per	solenoid)					
Max Frequency						8 cycle	es/sec					
Insulation					F class	s (155°C / 31	11°F max co	oil only)				
Min Response		8n	ns		20	ms		8r	ns		20	ms
Temperature						-10-60°C [
Lubrication				Filtered air	without lubr	ication; lubri	cation, if use	ed, must be	continuous			
Protection						(when usin	•	,				
Body					Aluminum	with technology	opolymer (C	elcon) shell				
Agency Approvals						No	ne					

* Cv test conditions of 90psi inlet, $\Delta P = 14.5$ psi, temperature 70°F (21.1°C)



	Compact Modular Valve Specifications										
Models	CMV-A1L-3A	<u>CMV-A2L-3A</u>	СМИ-АЗІ-ЗА	CMV-B1L-3A	<u>CMV-B2L-3A</u>	СМИ-ВЗL-ЗА	CMV-A1L-3B	CMV-A2L-3B	<u>CMV-A3L-3B</u>		
Price	\$123.00	\$123.00	\$123.00	\$88.00	\$122.00	\$123.00	\$178.00	\$178.00	\$178.00		
Weight (lbs)	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.3	0.3		
Valve Type	(2) 3-way 2-position N.C. single solenoids	(2) 3-way 2-position N.O. single solenoids	(2) 3-way 2-position N.O./N.C. single solenoids	5-way 2-position single solenoid	5-way 2-position double solenoid	5-way 3-position double solenoid center closed	(2) 3-way 2-position N.C. single solenoids	(2) 3-way 2-position N.O. single solenoids	(2) 3-way 2-position N.O./N.C. single solenoids		
Acting	Internally Piloted										
Diagram	А	В	С	D	E	F	А	В	С		
Port Size	Out=5/16" or 8mm										
Orifice Size*			Cv=0.65			Cv=0.3		Cv=1.0			
Fluid				Air (to be filt	ered by 40µ fi	ter element)					
Nom Pressure		Vaci	uum - 145 psi (vacuum - 10 ba	ar) valve supply	/ / 45-100 psi (3	8-7 bar) pilot su	ipply			
Voltage ±10%					24VDC						
Power Consumption				0.9	9W (per solend	id)					
Max Frequency					8 cycles/sec						
Insulation				F class (15	5°C / 311°F m	ax coil only)					
Min Response		8r	ns		20	ms		8ms			
Temperature				-10)-60°C [14-140	°F]					
Lubrication			Filtered air w	ithout lubrication	on; lubrication,	if used, must be	e continuous				
Protection				IP65 (wh	en using NITR	A cables)					
Body			ŀ	luminum with f	echnolopolym	er (Celcon) she					
Agency Approvals					None						

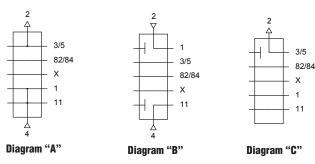
		Comp	oact Modu	lar Valve	Specifica	ntions				
Models	CMV-B1L-3B	CMV-B2L-3B CMV-B3L-3B CMV-A1L-4A CMV-A2L-4A CMV-B3L-4A CMV-B3L-4A CMV-B2L-4A CMV-B2L-4A						CMV-B3L-4A		
Price	\$141.00	\$165.00	\$174.00	\$173.00	\$173.00	\$173.00	\$141.00	\$157.00	\$167.00	
Weight (lbs)	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
Valve Type	5-way 2-position single solenoid	5-way 2-position double solenoid	5-way 3-position double solenoid center closed	(2) 3-way 2-position N.C. single solenoids	(2) 3-way 2-position N.O. single solenoids	(2) 3-way 2-position N.O./N.C. single solenoids	5-way 2-position single solenoid	5-way 2-position double solenoid	5-way 3-position double solenoid center closed	
Acting					nternally Piloted	ł				
Diagram	D	Е	F	А	В	С	D	Е	F	
Port Size	0	ut=5/16" or 8m	m	Out=3/8"						
Orifice Size*	Cv=	:1.0	Cv=0.5				Cv=0.5			
Fluid				Air (to be fil	tered by 40µ fil	ter element)				
Nom Pressure		Va	cuum - 145 psi (vacuum - 10 ba	/	/ 45-100 psi (3	-7 bar) pilot su	oply		
Voltage ±10%					24VDC					
Power Consumption				0.	9W (per soleno	id)				
Max Frequency				E 1 (45	8 cycles/sec					
Insulation				F class (15	5°C / 311°F ma	.,				
Min Response	8ms	20	lms	8ms 20ms					lms	
Temperature)-60°C [14-140					
Lubrication			Filtered air v		on; lubrication,		e continuous			
Protection				· · · ·	en using NITR	/				
Body			1	Aluminum with	technolopolyme	er (Celcon) shel				
Agency Approvals					None					

* Cv test conditions of 90psi inlet, $\triangle P$ = 14.5 psi, temperature 70°F (21.1°C)



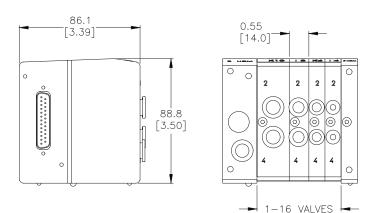
Compact Modular Valves - Intermediate Modules

In applications with a large number of high flow valves, an intermediate through module (CMV-D1X-3X) provides additional air inlets. If dual pressures are desired in a manifold, an intermediate blind module (CMV-D2X-3X) provides an independent supply to valves to its right while blocking the main supply from the left. For applications requiring quicker exhaust on some valves, an intermediate exhaust module (CMV-D3X-3X) provides a dedicated exhaust for valves to its right while blocking exhaust from valves to its left.



	Compact Modular Valve - Intermediate Modules											
Item	Part No.	Price	Description	Diagram	Weight (lbs)							
	<u>CMV-D1X-3X</u>	\$60.00	NITRA pneumatic modular plate, intermediate, through, (2) 5/16 inch (8 mm) push-to-connect tubing inlet port(s), Cv=0.65, reinforced technopolymer body. For use with CMV series solenoid valves.	A	0.3							
	<u>CMV-D2X-3X</u>	\$58.00	NITRA pneumatic modular plate, intermediate, blind, (2) 5/16 inch 8 mm) push-to-connect tubing inlet port(s), Cv=0.65, reinforced echnopolymer body. For use with CMV series solenoid valves.		0.3							
	<u>CMV-D3X-3X</u>	\$53.00	NITRA pneumatic modular plate, intermediate, exhaust, 5/16 inch (8 mm) push-to-connect tubing exhaust port, Cv=0.65, reinforced technopolymer body. For use with CMV series solenoid valves.	С	0.3							

Dimensions mm [inches]



See our website www.AutomationDirect.com for complete Engineering drawings.



Compact Modular Valves

	Compact Modular Valve Accessories						
Item	Part No.	Price	Description	Weight (lbs)			
	<u>CMV-SW-CD</u>	\$11.50	NITRA configuration software, CD. For use with CMV series EtherNet/IP modules. OS compatibility: Windows XP, 32 bit Windows 7, 64 bit Windows 8, 32 & 64 bit Win 8.1, 32 & 64 bit Win 10, 64 bit	0.1			
	<u>CMV-SW-USB</u>	\$11.50	NITRA configuration software, USB. For use with CMV series EtherNet/IP modules. OS compatibility: Windows XP, 32 bit Windows 7, 64 bit Windows 8, 32 & 64 bit Win 8.1, 32 & 64 bit Win 10, 64 bit	0.1			
	<u>CMV-ACC01</u>	\$39.50	NITRA pigtail cable, 25-pin D-sub female connector, IP65, 45 degree cable entry, 28AWG, 1 meter (3.3 ft.) length	0.4			
O	<u>CMV-ACC02</u>	\$52.00	NITRA pigtail cable, 25-pin D-sub female connector, IP65, 45 degree cable entry, 28AWG, 2.5 meter (8.2 ft.) length	0.9			
	<u>CMV-ACC03</u>	\$73.00	NITRA pigtail cable, 25-pin D-sub female connector, IP65, 45 degree cable entry, 28AWG, 5 meter (16.4 ft.) length	1.6			
•	<u>CMV-ACC04</u>	\$8.75	NITRA pneumatic mounting bracket, attaches CMV series valve assemblies to 35mm DIN rail. Includes mounting screws.	0.1			
	<u>CMV-ACC06</u>	\$3.00	NITRA pneumatic release tool, for push-to-connect fittings, tube diameters 1/8 inch through 3/8 inch	0.1			
2	<u>CMV-ACCO7</u>	\$1.50	NITRA pneumatic release tool, for push-to-connect fittings, tube diameters 5/32 inch through 1/2 inch	0.1			
No co	<u>CMV-ACC08</u>	\$3.75	NITRA pneumatic screw set, replacement, for CMV series solenoid valves. Includes (1) M4-0.7x5 cone point screw and (1) M4-0.7x34 cone point screw.	0.1			
Ê	<u>CMV-ACC09</u>	\$6.00	NITRA pneumatic gasket, replacement, for CMV series solenoid valves. 5 per package.	0.1			



Compact Modular Valves - Accessories

	Compact Modular Valve Accessories								
Item	tem Part No. Price Description								
\bigcirc	<u>CMV-ACC10</u>	\$4.75	NITRA pneumatic molded O-ring, replacement, for CMV series solenoid valves. 5 per package.	0.1					
	<u>CMV-ACC11</u>	\$21.50	NITRA connector, 25-pin female D-sub, 45-degree cable entry, accepts 0.19 to 0.39 inch diameter cable, accepts wire size 22 - 18 AWG, solder connections, IP65. For use with CMV series solenoid valves.	0.2					
88 million	<u>CMV-ACC12</u>	\$2.75	NITRA blank marking tag, replacement. Package of 10. For use with CMV cable connectors.	0.1					

RA Pneumatic GVP Series Miniature Solenoid Valves

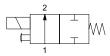


Part No. GVP-211C-12D



Part No. GVP-321C-12D

Diagram "A"



2-way, 2-position, Spring Return

NITRA[™] pneumatic miniature solenoid valves are an excellent choice for many automation applications with low flow requirements. Valves must be mounted to a GM-3 series manifold (sold separately).

Features

3

3-way, 2-position, Spring Return

Diagram "B"

- 10mm and 15mm valve widths
- Available in 2-way or 3-way normally closed configurations
- 12 or 24 VDC solenoids
- GM-3 series manifolds sold separately





See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

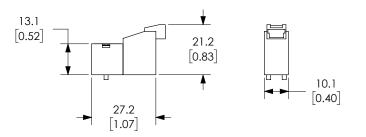
	GVP Series Miniature Solenoid Valves							
Models	GVP-211C-12D	GVP-211C-12D GVP-211C-24D GVP-311C-12D GVP-311C-12D GVP-321C-12D GVP-321C-12D						
Price	\$33.00	\$33.00	\$33.00	\$33.00	\$28.50	\$28.50	\$28.50	
Weight (lbs)		0.05				0.1		
Size		10mm				15mm		
Valve Type	2-way, 2-positior	n, Normally Closed		tion, Normally sed	2-way, 2-position, Normally Closed		tion, Normally sed	
Acting		Single solenoid spring return poppet						
Diagram		A	I	3	А		В	
Fluid		Air	or Inert Gas (to	be filtered by 40)µ filter element)			
Min. / Max. Pressure			0 to 10	5 psi (0 to 7.24	bar)			
Flow (Cv)	0.013	0.013	0.013	0.013	0.047	0.047	0.047	
Port		Require	es GM type 10m	nm or 15mm ma	nifolds for operation	on		
Voltage	12VDC	24VDC	12VDC	24VDC	12VDC	12VDC	24VDC	
Continuous ON Power		1.3 W				1.6 W		
Expected Life			50,000,000 cy	cles at max 3 cy	cles/second			
Wiring	Connec	tor Receptacle (Wir	e connector rec	uired)	1	8" Flying Leads		
Response Time			6m	s (on), 8ms (off)			
Indication				LED				
Temperature - Operation and Storage			14~1	22°F (-10~50°	C)			
Lubrication				Not Required				
Body			G	ass-filled nylon				
Protection				n/a				



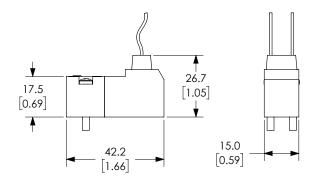
Pneumatic GVP Series Miniature ^s Solenoid Valves

Dimensions

mm [inches]



GVP-x11C-xxD



GVP-x21C-xxD

Pneumatic GVP Series Miniature Latching Solenoid Valves



Part No. GVP-311CL-24D



Part No. GVP-321CL-12D

Diagram "A"

3

3-way, 2-position, Spring Return

GVP S	eries Miniature Latching Sole	noid Valves				
Model	GVP-311CL-24D	GVP-321CL-12D				
Price	\$51.00	\$50.00				
Weight (lbs)	0.05	0.1				
Size	10mm	15mm				
Valve Type	3-way, 2-position, Normally Closed	3-way, 2-position, Normally Closed				
Acting	Single latching solenoid spr	ing return poppet				
Diagram	A	A				
Fluid	Air or Inert Gas (to be filtered b	by 40µ filter element)				
Min. / Max. Pressure	0 to 105 psi (0 to 7	7.24 bar)				
Flow (Cv)	0.013	0.047				
Port	Requires GM type 10mm or 15mm	n manifolds for operation				
Voltage	24VDC	12VDC				
Continuous ON Power	1.3 W	1.6 W				
Expected Life	50,000,000 cycles at max	2 cycles/second				
Wiring	Connector Receptacle (Wire connector required)	18" Flying Leads				
Response Time	6ms (on), 8ms	(off)				
Indication	LED					
Temperature - Operation and Storage	14~122°F (-10~50°C)					
Lubrication	Not Require	ed				
Body	Glass-filled ny	/lon				
Protection	n/a					

NITRA pneumatic latching solenoid valves will stay open after being momentarily energized thus saving power consumption and reducing heat. Valves must be mounted to a GM-3 series manifold (sold separately).

Features

- 10mm and 15mm valve widths
- 3-way normally closed configuration
- Reversing polarity changes state
- GM-3 series manifolds sold separately





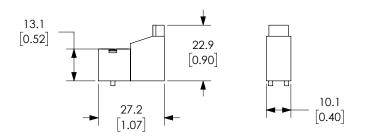
See <u>www.AutomationDirect.com</u> for a wide variety of fitting options



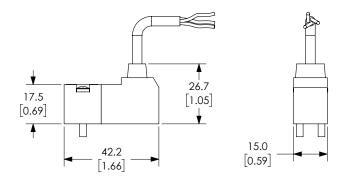
Pneumatic GVP Series Miniature Latching Solenoid Valves

Dimensions

mm [inches]



GVP-x11CL-xxD



GPV-x21CL-xxD





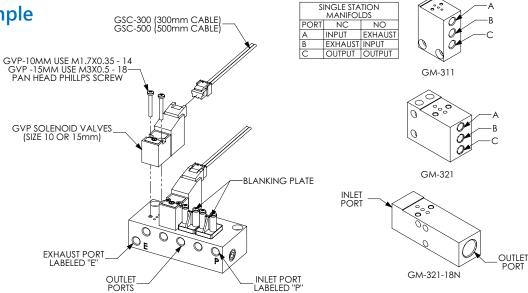
NITRA manifolds designed to work with 10mm wide GVP series valves.

- Single to 6 stations
- #10-32 female threaded ports
- Precision machined
- Compact
- Anodized aluminum for corrosion resistance
- Made in USA



Nitra Pneumatic GVP Series 10mm Miniature Solenoid Valve Manifolds							
Item	Part No. Description in				Weight (lbs)		
	<u>GM-311</u>	NITRA pneumatic valve manifold, anodized aluminum, rectangular, (1) station, #10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s). For use with GVP-21 and GVP-31 series solenoid valves.	N/A	\$18.00	0.05		
0000	<u>GM-312</u>	NITRA pneumatic valve manifold, anodized aluminum, rectangular, (2) stations, #10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s). For use with GVP-21 and GVP-31 series solenoid valves.	1.42 [36.1]	\$25.00	0.05		
3 ⁹ 9 9 9 8	<u>GM-314</u>	NITRA pneumatic valve manifold, anodized aluminum, rectangular, (4) stations, #10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s). For use with GVP-21 and GVP-31 series solenoid valves.	2.25 [78.2]	\$28.00	0.10		
······e	<u>GM-316</u>	NITRA pneumatic valve manifold, anodized aluminum, rectangular, (6) stations, #10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s). For use with GVP-21 and GVP-31 series solenoid valves.	3.08 [78.2]	\$33.00	0.15		

Assembly Example



Pneumatic GVP Series Miniature Solenoid Valve Manifolds

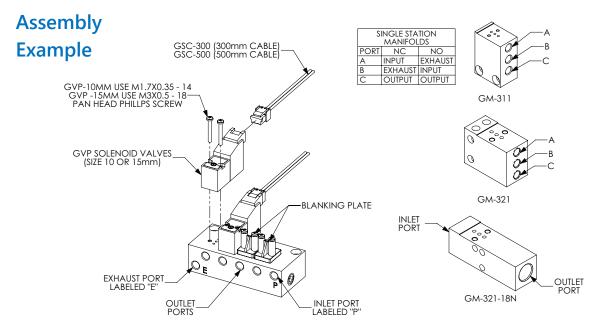


NITRA manifolds designed to work with 15mm wide GVP series valves.

- Single to 4 stations
- #10-32 threaded or 1/8in NPT female ports
- Precision machined
- Compact
- Anodized aluminum for corrosion resistance
- Made in USA



Nitra P	Nitra Pneumatic GVP Series 15mm Miniature Solenoid Valve Manifolds							
Item	Part No.	Description	A inches [mm]	Price	Weight (Ibs)			
0 0 0	<u>GM-321</u>	NITRA pneumatic valve manifold, anodized aluminum, rectangular, (1) station, #10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s). For use with GVP-22 and GVP-32 series solenoid valves.	N/A	\$18.50	0.05			
Do an F	<u>GM-322</u>	NITRA pneumatic valve manifold, anodized aluminum, rectangular, (2) stations, 1/8in female NPT inlet(s), #10-32 female threaded outlet(s), 1/8in female NPT exhaust(s). For use with GVP-22 and GVP-32 series solenoid valves.	2.13 [54.0]	\$23.00	0.15			
8 8 t	<u>GM-324</u>	NITRA pneumatic valve manifold, anodized aluminum, rectangular, (4) stations, 1/8in female NPT inlet(s), #10-32 female threaded outlet(s), 1/8in female NPT exhaust(s). For use with GVP-22 and GVP-32 series solenoid valves.	3.37 [85.7]	\$30.50	0.25			
11	<u>GM-321-18N</u>	NITRA pneumatic valve manifold, anodized aluminum, rectangular, (1) station, 1/8in female NPT inlet(s), 1/8in female NPT outlet(s), vent hole exhaust(s). For use with GVP-22 and GVP-32 series solenoid valves.	N/A	\$21.50	0.6			



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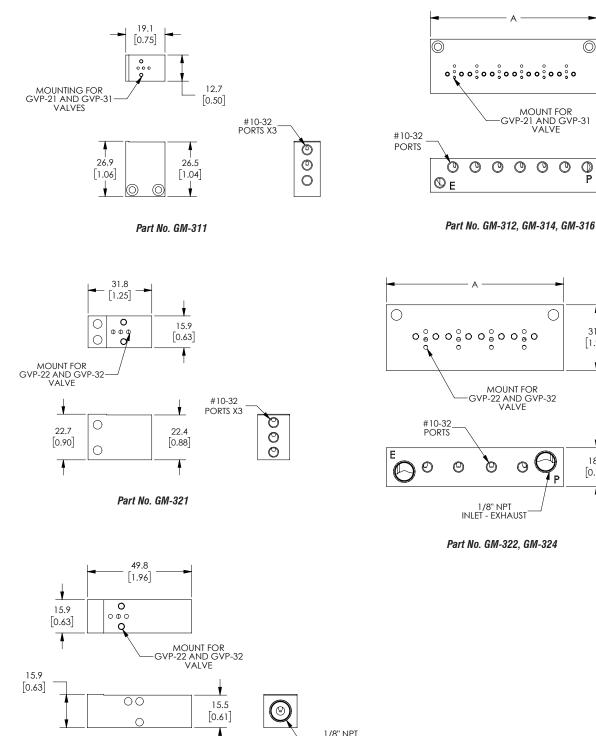
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Pneumatic GVP Series Miniature Solenoid Valve Manifolds

Dimensions

mm [inches]



INLET-OUTLET

Part No. GM-321-18N

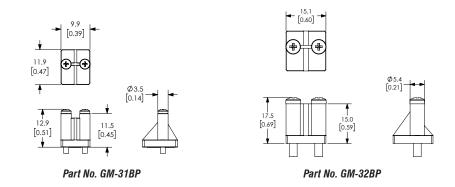


Pneumatic GVP Series Miniature Solenoid Manifold Accessories



Nitra Pneumati	c GVP Serie	es Miniature Solenoid Valve Manifold Acco	essorie	es
Item	Part No.	Description	Price	Weight (lbs)
	<u>GM-31BP</u>	NITRA blanking plate, nylon. For use with GM-31 series manifolds. Gasket and mounting screws included.	\$5.00	0.05
	<u>GM-32BP</u>	NITRA blanking plate, nylon. For use with GM-32 series manifolds. Gasket and mounting screws included.	\$4.25	0.05
	<u>GSC-300</u>	NITRA solenoid valve cable, miniature pin plug to pigtail, 11.8in/300mm cable length. For use with GVP series solenoid valves.	\$4.50	0.05
ALL I	<u>GSC-500</u>	NITRA solenoid valve cable, miniature pin plug to pigtail, 19.6in/500mm cable length. For use with GVP series solenoid valves.	\$4.50	0.05

Dimensions mm [inches]



For the latest prices, please check AutomationDirect.com

Pneumatic Directional Control Solenoid Valves – BVS-3 Series



EUMATICS

1-800-633-0405



BVS Series Solenoid with Leads BVS Ser

BVS Series Solenoid with DIN 43650 Form C

Valve Symbols

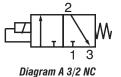


Diagram B 3/2 NO

NITRA pneumatic BVS-3 series modular solenoid valves are body ported 3-port (3-way) poppet valves available in 2-position, normally open or normally closed configurations. Most models have removable flying leads that can be used with BVM series manifolds. Two models are available with an 8 mm Micro DIN connector. Units are only DIN rail mountable when used with BVM series manifolds.

Features

- Body ported, 3-port (3-way) poppet valves
- 5/32" (4mm) push-to-connect ports
- Flow coefficients (Cv) from 0.02 to 0.05
- 2-position, single solenoid spring return
- Normally open or normally closed
- 12VDC, 24VDC or 120VAC solenoid coils with LED status indication & surge suppression diode
- Flying leads or 8mm DIN connection
- Pushbutton manual operator
- 2-year warranty

	BVS (3-port, 2-posi	tion) Seri	ies Speci	fications			
Models	BVS-32C1-12D	BVS-32C1-12D BVS-32A1-24D BVS-32C1-24D BVS-32C1-120A BVS-32C1-120A BVS-33C1-12D BVS-33C1-12D						BVS-33C1-24D
Price	\$34.00	\$34.00	\$34.00	\$36.50	\$32.50	\$32.50	\$34.00	\$34.00
Weight (lbs)				0.1				
Valve Type	Normally Closed	Normally Open	Normally Closed	Normally Closed	Normally Closed	Normally Closed	Normally Closed	Normally Closed
Acting			Direc	t Solenoid Pop	opet			
Diagram	A	В	А	А	А	А	А	А
Port Size			5/32" (41	mm) Push-to-C	onnect			
Orifice Size		0.9	9 mm (Cv=0.02	2)			1.4 mm (Cv=0.05)
Fluid			r Inert Gas (to	be filtered by 4	l0µ filter eleme	ent)		
Min. / Max. Pressure	0 - max 120psi (8.3 bar)	0 - max 90psi (6.2 bar)		0 - max 120	psi (8.3 bar)		0 - max 30	osi (2.1 bar)
Vacuum				28 in. Hg				
Body			Glass Re	inforced Therm	oplastic			
Voltage	12VDC	24VDC	24VDC	120VAC	12VDC	24VDC	12VDC	24VDC
Inrush Power	1.6 W	1.4 W	1.4 W	1.7 W	1.6 W	1.4 W	1.6 W	1.4 W
Continuous ON Power	1.3 W	1.2 W	1.2 W	1.5 W	1.3 W	1.2 W	1.3 W	1.2 W
Expected Life	50,000,000 cycles at max 3 cycles/second	10,000,000 cycles at max 3 cycles/second		50,000),000 cycles at	max 3 cycles/s	second	
Wiring		Removable 18" Flying	Leads		DIN 4365	0 Form C		e 18" Flying ads
Response Time				0.01 sec				
Temperature - Operation and Storage		0~120°F (-18~49°C)						
Lubrication				Not Required				
Protection		n/a			IP	65	n	/a



Pneumatic Directional Control Solenoid Valves – BVS-3 Series Low Current





BVS Series Solenoid with Leads

BVS Series Solenoid with DIN 43650 Form C

Valve Symbols

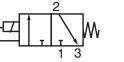
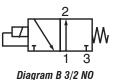


Diagram A 3/2 NC



NITRA pneumatic BVS-3 series modular solenoid valves are body ported 3-port (3-way) poppet valves available in 2-position, normallyopenornormallyclosed configurations.Mostmodelshave removable flying leads that can be used with BVM series manifolds. Four models are available with an 8 mm Micro DIN connector. Units are only DIN rail mountable when used with BVM series manifolds.

Features

- Body ported, 3-port (3-way) poppet valves
- 5/32" (4mm) push-to-connect ports
- Flow coefficients (Cv) of 0.02
- 2-position, single solenoid spring return
- Normally open or normally closed
- 3VDC, 5VDC, 12VDC or 24VDC solenoid coils with LED status indication & surge suppression diode
- Flying leads or 8mm DIN connection
- Pushbutton manual operator
- 2-year warranty

	BVS (3-po	BVS (3-port, 2-position) Low Current Series Specifications							
Models	BVS-32A1-3DL	BVS-32A1-5DL	BVS-32A1-12DL	BVS-32A1-24DL	BVS-32C1-3DL	BVS-32C1-5DL	BVS-32C1-12DL	BVS-32C1-24DL	
Price	\$31.00	\$31.00	\$31.00	\$31.00	\$31.00	\$31.00	\$31.00	\$32.00	
Weight (lbs)				0.1					
Valve Type		Normally (Open			Normall	y Closed		
Acting				Direct Solenoi	d Poppet				
Diagram		B A							
Port Size		5/32" (4mm) Push-to-Connect							
Orifice Size				0.9 mm (Cv	=0.02)				
Fluid			Air or Inert G	as (to be filtere	d by 40µ filter e	lement)			
Min. / Max. Pressure		0 - max 37psi	(2.5 bar)			0 - max 4	ōpsi (3bar)		
Vacuum				28 in. H	łg				
Body			Gla	ass Reinforced	Thermoplastic				
Voltage	3VDC	5VDC	12VDC	24VDC	3VDC	5VDC	12VDC	24VDC	
Inrush Power	0.56 W	0.50 W	0.56 W	0.53 W	0.56 W	0.50 W	0.56 W	0.53 W	
Continuous ON Power	0.51 W	0.47 W	0.51 W	0.49 W	0.51 W	0.47 W	0.51 W	0.49 W	
Expected Life			50,000,0	000 cycles at ma	ax 3 cycles/seco	ond			
Wiring			R	emovable 18" F	lying Leads				
Response Time				0.01 se	ec.				
Temperature - Operation and Storage		0~120°F (-18~49°C)							
Lubrication				Not Requ	ired				
Protection				n/a					

For the latest prices, please check AutomationDirect.com



PREUMATICS Pneumatic Directional Control Solenoid Valves – BVS-3 Series Low Current

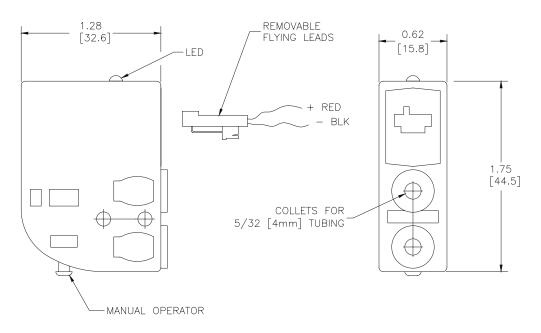
	BVS (3-po	rt, 2-positio	n) Low Cı	irrent Ser	ies Speci	ications		
Models	BVS-32A2-3DL	BVS-32A2-5DL	BVS-32A2-12DL	BVS-32A2-24DL	BVS-32C2-3DL	BVS-32C2-5DL	BVS-32C2-12DL	BVS-32C2-24DL
Price	\$31.00	\$31.00	\$31.00	\$31.00	\$31.00	\$31.00	\$31.00	\$31.00
Weight (Ibs)				0.1				
Valve Type		Normally (Open			Normall	y Closed	
Acting				Direct Solenoi	id Poppet			
Diagram		В					A	
Port Size			5/	32" (4mm) Pusł	n-to-Connect			
Orifice Size				0.9 mm (Cv	/=0.02)			
Fluid			Air or Inert G	as (to be filtere	d by 40µ filter e	lement)		
Min. / Max. Pressure		0 - max 37psi	(2.5 bar)			0 - max 4	5psi (3bar)	
Vacuum				28 in. I	Hg			
Body			Gla	ss Reinforced	Thermoplastic			
Voltage	3VDC	5VDC	12VDC	24VDC	3VDC	5VDC	12VDC	24VDC
Inrush Power	0.56 W	0.50 W	0.56 W	0.53 W	0.56 W	0.50 W	0.56 W	0.53 W
Continuous ON Power	0.51 W	0.47 W	0.51 W	0.49 W	0.51 W	0.47 W	0.51 W	0.49 W
Expected Life			50,000,0	000 cycles at ma	ax 3 cycles/sec	ond		
Wiring				DIN 43650 I	Form C			
Response Time				0.01 se	ec			
Temperature - Operation and Storage		0~120°F (-18~49°C)						
Lubrication				Not Requ	uired			
Protection				IP 65	5			



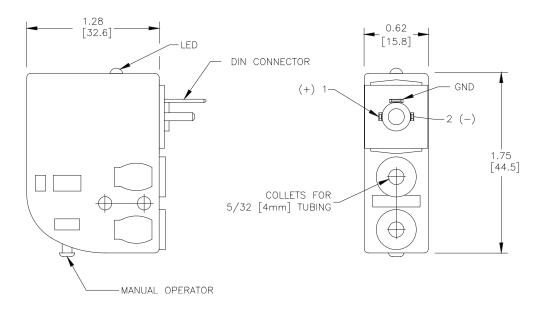
Pneumatic Directional Control Solenoid Valves – BVS-3 Series Dimensions

Dimensions

inches [mm]



BVS w/Removable Leads



BVS w/DIN 43650 Form C



BVM - 4-Station



BVM - 8-Station

Manifolds for Modular Solenoid Valves – BVM-3 Series

NITRA pneumatic BVM-3 series modular manifolds simplify the mounting and wiring of BVS-3 series solenoid valves*. Made of sturdy glass reinforced thermoplastic with DIN rail mounting clips included, they are available in 4 and 8-station models. Pushto-connect inlet and out connections and a 9-pin D-sub connector allow quick and easy tubing and wiring.

Features

- No tools required to install/remove valves
- 2, 3, 4 or 8-station manifolds available
- 6mm or 1/4" tube inlets
- 35mm DIN rail mounting clips included
- 9-pin D-sub connector for easy wiring
- 2-year warranty

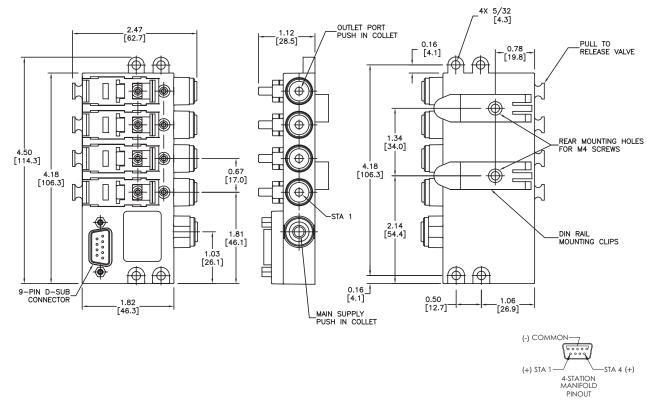
	BVM Series Manifolds								
Part No.	Stations	Inlet	Outlet	Connection	Price	Weight (lbs)			
BVM-3425	4	1/4"			\$64.00	0.3			
BVM-346M	4	6mm	E/20" (4mm)	9-pin D-sub	\$60.00	0.3			
BVM-3825	8	1/4"	5/32" (4mm)		\$101.00	0.5			
<u>BVM-386M</u>	8	6mm			\$97.00	0.5			

* Works with BVS series valves with flying leads ONLY. Does not accept DIN connector valves

Dimensions

inches [mm]

4-Station Manifold



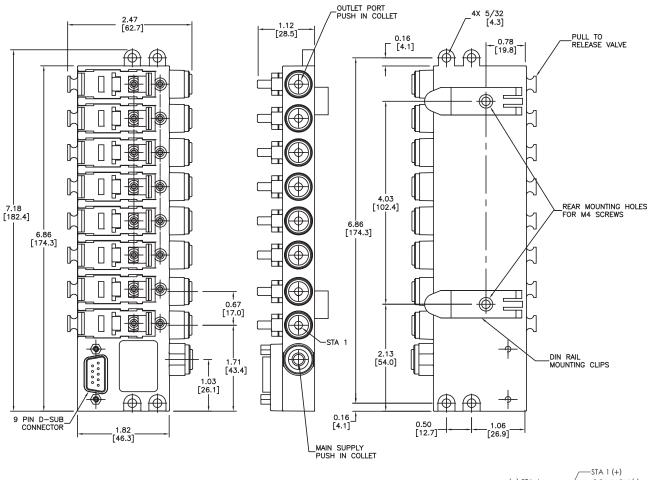


Manifolds for Modular Solenoid Valves – BVM-3 Series

Dimensions

inches [mm]

8-Station Manifold





Pneumatic Directional Control Solenoid Valves – BVS Series - Accessories

Accessories

1-800-633-0405

BVM Series Manifold Accessories						
Part No.	Description	Price	Weight (lbs)			
<u>BVM-3BP</u>	Blanking plug, fiberglass reinforced plastic. For use with BVM-3x manifolds.	\$8.75	0.1			
ZL-DB9F-CBL-2P	ZIP Link pigtail cable with 9-pin D-sub female connector, 28AWG, 2.0 meter (6.6 ft) length	\$10.00	0.3			
<u>ZL-DB9F-CBL-5P</u>	ZIP Link pigtail cable with 9-pin D-sub female connector, 28AWG, 5.0 meter (16.4 ft) length	\$18.50	0.5			

BVM-3BP



ZL-DB9F-CBL-xP





See solenoid valve cables and connectors section





pin out

P1	P2	for BVM Series	for BVM Series
		4-station man	8-station man
1	black	N/A	station 4
2	brown	N/A	station 3
3	red	N/A	station 2
4	orange	eN/A	station 1
5	yellow	common	common
б	green-	station 1	station 5
7	blue	station 2	station 6
		station 3	
9	grey	station 4	station 8



Above photo shows an assembled BVM Series manifold with BVS Series Solenoids and BVM blanking plug

Note: Manifold must have a BVS valve (flying leads ONLY) or BVM-3BP blanking plug installed in each station for proper operation. For the latest prices, please check AutomationDirect.com

Pneumatic Directional Control Solenoid Valves – BVS-4 Series



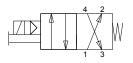
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BVS Series Solenoid with Leads

BVS Series Solenoid with DIN 43650 Form C

Valve Symbol



NITRA pneumatic BVS-4 series modular solenoid valves are body ported 4-port (4-way) spool valve models have removable flying leads or an 8 mm Micro DIN connector. Units are only DIN rail mountable when used with BVM series manifolds.

Features

- Body ported, 4-port (4-way) spool valves
- 1/4" (6mm) push-to-connect ports
- Flow coefficients (Cv) 0.8
- 2-position, single solenoid spring return
- 12VDC, 24VDC, 24VAC or 120VAC solenoid coils
- with LED status indication & surge suppression diode
- Flying leads or 8mm DIN connection
- Lever manual operator latching
- 2-year warranty

	BVS	(4-port, 2-p	osition) 4	Series Sp	pecificatio	ns	2		
Models	<u>BVS-4251-12D</u>	BVS-4252-12D	BVS-4251-24D	BVS-4252-24D	BVS-4251-24A	BVS-4252-24A	BVS-4251-120A	BVS-4252-120A	
Price	\$53.00	\$56.00	\$53.00	\$56.00	\$56.00	\$59.00	\$55.00	\$59.00	
Weight (lbs)				0.2					
Acting				Spool (2-Po	osition)				
Port Size				1/4" Push-to-	Connect				
Orifice Size				0.2" [5.0 mm] ((Cv = 0.8)				
Fluid			Air or Inert G	as (to be filtere	d by 40µ filter e	lement)			
Min. / Max. Pressure			30	0psi (2bar) - 120)psi (8.3 bar)				
Vacuum		Air pilot models	can be used in	vacuum applica	ations with exter	nal air signal to	pilot ports.		
Body			Gla	ass Reinforced	Thermoplastic				
Voltage	12	/DC	24\	/DC	24\	/AC	120VAC		
Inrush Power		6 W		W		VA	1.7 VA		
Continuous ON Power	1.3	3 W	1.2	2 W	1.2	VA	1.5	VA	
Expected Life			20,000,0	000 cycles at ma	ax 3 cycles/seco	ond			
Wiring	Removable 18" Flying Leads	DIN 43650 Form C	Removable 18" Flying Leads	DIN 43650 Form C	Removable 18" Flying Leads	DIN 43650 Form C	Removable 18" Flying Leads	DIN 43650 Form C	
Response Time				0.016 s	ec				
Temperature - Operation and Storage				0~120°F (-18	3~49°C)				
Lubrication				Not Requ	uired				
Protection				IP 65	;				



PNEUMATICS Pneumatic Directional Control Solenoid Valves – BVS-4 Series

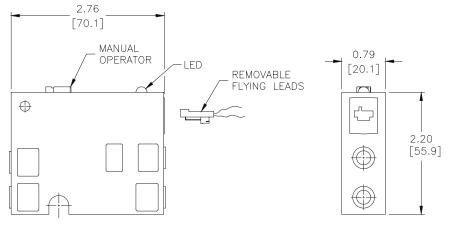
	BVS	(4-port, 2-p	osition) 4	Series Sp	pecificatio	ns			
Models	<u>BVS-46M1-12D</u>	BVS-46M2-12D	BVS-46M1-24D	BVS-46M2-24D	BVS-46M1-24A	BVS-46M2-24A	BVS-46M1-120A	BVS-46M2-120A	
Price	\$51.00	\$54.00	\$53.00	\$56.00	\$55.00	\$57.00	\$53.00	\$57.00	
Weight (lbs)				0.2					
Acting				Spool (2-Po	osition)				
Port Size				6mm Push-to-	-Connect				
Orifice Size				0.2" [5.0 mm] ((Cv = 0.8)				
Fluid			Air or Inert G	as (to be filtere	d by 40µ filter e	lement)			
Min. / Max. Pressure			30)psi (2bar) - 120)psi (8.3 bar)				
Vacuum		Air pilot models	can be used in	vacuum applica	ations with exter	nal air signal to	pilot ports.		
Body			Gla	ass Reinforced	Thermoplastic				
Voltage	12	/DC	24\	/DC	24\	/AC	120VAC		
Inrush Power	1.6	6 W	1.4	W	1.4	VA	1.7	' VA	
Continuous ON Power	1.3	3 W	1.2	W	1.2	2 VA	1.5	5 VA	
Expected Life			20,000,0	000 cycles at ma	ax 3 cycles/seco	ond			
Wiring	Removable 18" Flying Leads	DIN 43650 Form C	Removable 18" Flying Leads	DIN 43650 Form C	Removable 18" Flying Leads	DIN 43650 Form C	Removable 18" Flying Leads	DIN 43650 Form C	
Response Time				0.016 s	ec				
Temperature - Operation and Storage				0~120°F (-18	3~49°C)				
Lubrication				Not Requ	lired				
Protection				IP 65					



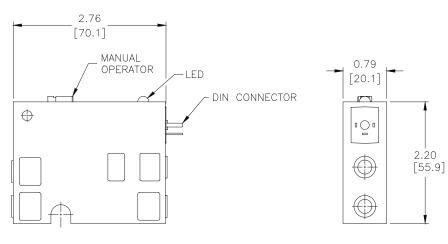
Pneumatic Directional Control Solenoid Valves – BVS-4 Series

Dimensions

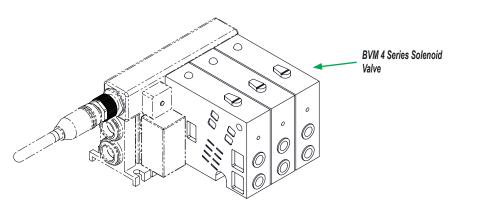
inches [mm]



BVS 4 Series w/Removable Leads



BVS 4 Series w/DIN 43650 Form C







BVM - 2-Station



BVM - 3-Station



BVM - 4-Station

Dimensions inches [mm]

2-Station Manifold

		BVN	l Series M	anifolds		
Part No.	Stations	Inlet	Outlet	Dimension "A" in [mm]	Price	Weight (lbs)
BVM-4225	2	3/8"	3/8"	0.74 (69.0)	\$25.50	0.3
<u>BVM-426M</u>	2	10mm	10mm	2.71 [68.9]	\$24.50	0.3
BVM-4325	3	3/8"	3/8"	2 54 190 01	\$28.00	0.3
<u>BVM-436M</u>	3	10mm	10mm	3.54 [89.9]	\$27.00	0.3
BVM-4425	4	3/8"	3/8"	4 27 [110 0]	\$30.00	0.3
<u>BVM-446M</u>	4	10mm	10mm	4.37 [110.9]	\$29.00	0.3

VIII 4 Series

¢0.40 [¢10.0] + SIDES 1.75 [44.5] 1.76

See our website www.AutomationDirect.com for

complete Engineering drawings.

For the latest prices, please check AutomationDirect.com

Manifolds for Modular Solenoid Valves – BVM-4 Series

NITRA pneumatic BVM-4 series modular manifolds simplify the mounting of BVS-4 series solenoid valves. Made of sturdy glass reinforced thermoplastic with DIN rail mounting clips included, they are available in 2, 3 and 4-station models. Push-to-connect inlet and outlet ports allow quick and easy tubing connections.

Features

- No tools required to install/remove valves
- 2, 3 or 4-station manifolds available
- 3/8" or 10mm tube inlets and outlets
- 35 mm DIN rail mounting clips included
- 2-year warranty



BVS-4 Series Control Distribution Blocks



Part No. BVPS-4

NITRA pneumatic control distribution blocks are a convenient way to connect a bank of valves to a controller. Replace a bundle of solenoid cables with one 5-pole M12 cable. Each block matches up with a manifold of two to four stations.

Features

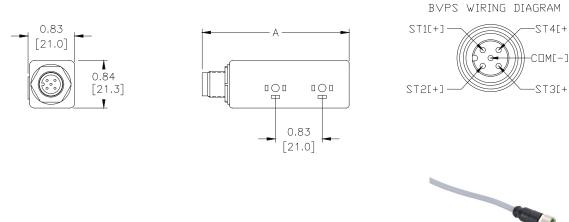
- Single 5-pole M12 wiring connection
- IP 65 rating
- 2 to 4 stations

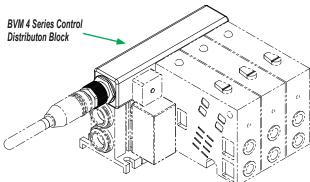
	BVS-4 Series Control Distribution Blocks										
Part No.	Description	Dimension "A" in [mm]	Price	Weight (lbs)							
<u>BVPS-2</u>	NITRA control distribution block, AC/DC, 2 stations, M12 connector. For use with BVS-4 series valves.	2.60 [66.0]	\$51.00	0.2							
<u>BVPS-3</u>	NITRA control distribution block, AC/DC, 3 stations, M12 connector. For use with BVS-4 series valves.	3.43 [87.0]	\$77.00	0.3							
<u>BVPS-4</u>	NITRA control distribution block, AC/DC, 4 stations, M12 connector. For use with BVS-4 series valves.	4.25 [108.0]	\$102.00	0.3							

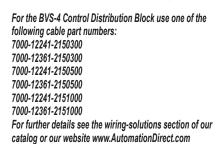
Dimensions

inches [mm]

Wiring







ST4[+]

ST3[+]

Price

\$14.00

\$16.00

\$16.00

Weight (lbs)

0.1

0.1

0.1

1-800-633-0405



BVS-4 Series Control Distribution Blocks

AVPS Series Control Distribution Blocks Accessories

Description

NITRA blanking plug, for use with BVPS series

NITRA blanking plug, fiberglass reinforced plastic.

NITRA blanking plug, fiberglass reinforced plastic.

control distribution blocks.

For use with BVM-4x25 manifolds.

For use with BVM-4x6M manifolds.

BVS-4 Series Control Distribution Blocks Accessories

Part No.

BVPS-BP

BVM-4BP1

BVM-4BP2



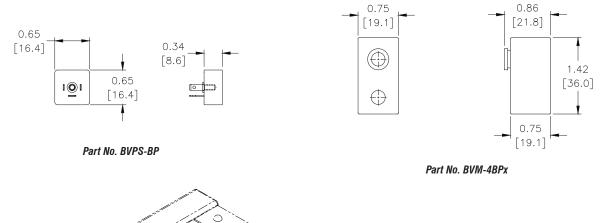
BVPS-BP



BVM-4BP1

Dimensions

inches [mm]





Pneumatic Modular Air Pilot Valves – BVS Series



BVS Single Air Pilot

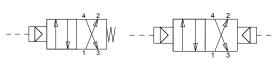


BVS Double Air Pilot

NITRA pneumatic BVS series modular piloted valves are body ported 4-port (4-way) valves. Models are single pilot, spring return or double pilot operated.

Features

- Body ported 4-port (4-way) spool valves
- 1/4" or 6mm push-to-connect inlet/outlet ports
- 5/32" (4mm) push-to-connect pilot ports
- Flow coefficient (Cv) 0.8
- 2-position
 - 2-year warranty



Valve Symbols

Diagram A

Diagram B

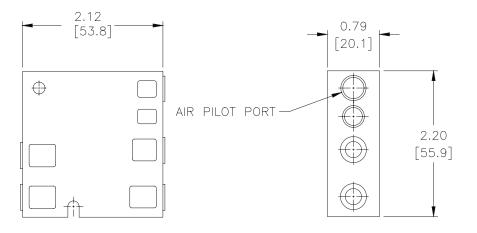
B	/S 4-Way Air Pi	lot Specifications						
Models	BVS-425-1P	BVS-46M-1P	BVS-425-2P	BVS-46M-2P				
Price	\$35.00	\$35.00	\$39.50	\$38.00				
Weight (lbs)	0.13							
Acting	Spool (2-Position), spring return Spool (2-Position), double air pilot							
Diagram		А	В					
Port Size	(1) 1/4" inlet (2) 1/4" outlet (1) 1/4" exhaust (1) 5/32" (4mm) pilot	(1) 6mm inlet (2) 6mm outlet (1) 6mm exhaust (1) 5/32" (4mm) pilot	(1) 1/4" inlet (2) 1/4" outlet (1) 1/4" exhaust (2) 5/32" (4mm) pilot	(1) 6mm inlet (2) 6mm outlet (1) 6mm exhaust (2) 5/32" (4mm) pilot				
Orifice Size		0.2" [5.0 mm] (0	Cv = 0.8)					
Fluid	Ai	r or Inert Gas (to be filtered	by 40µ filter element)					
Min. / Max. Pressure		30psi (2bar) - 120p	osi (8.3 bar)					
Vacuum	Air pilot models can	be used in vacuum applicat	ions with external air s	ignal to pilot ports.				
Body		Glass Reinforced TI	nermoplastic					
Expected Life		20,000,000 cycles at ma:	x 3 cycles/second					
Temperature - Operation and Storage		0~120°F (-18-	~49°C)					
Lubrication		Not Requi	red					
Protection		IP 65						



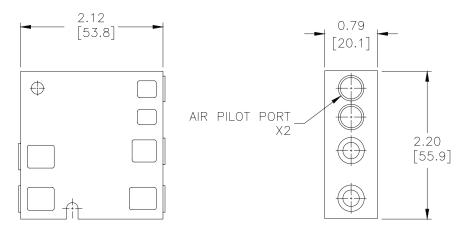
Pneumatic Modular Air Pilot Valves – BVS Series

Dimensions

inches [mm]



BVS Single Air Pilot



BVS Double Air Pilot

Pneumatic Directional Control Valves – AVS Air Pilot Valves NEUMATICS



Single Pilot Valve



Double Pilot Valve

NITRA[™] pneumatic AVS-5 series directional control air valves are body ported 5-port (4-way) spool valves. Available port sizes are 1/8", 1/4", 3/8" or 1/2" NPT with flow coefficients (Cv) from 0.67 to 2.79. Models are available with single pilot spring return or double pilot 2-position operation. In addition, double pilot models are available with 3-position center closed operation. The AVS series can be used in individual valve applications, or multiple valves can be field assembled on AM-5 series manifolds for simplifying piping connections (AVS-52 & AVS-53 series only). AM-5 series manifolds are available in 2, 4, 6 or 8 stations.

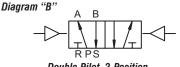
Features

- Body ported, 5-port (4-way) spool valves
- 1/8", 1/4", 3/8" or 1/2" NPT ports
- · 2-position, single pilot normally closed, spring return; 2-position, double pilot; 3-position, double pilot center closed
- · Single valve or multiple manifold mounted valve applications
- 2 year warranty

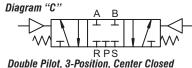


See www.AutomationDirect.com for a wide variety of fitting options





Double Pilot, 2-Position



			AVS	Series	Air Pile	ot Valve	Specifi	cations	3			
Models	<u>AVS-5241</u>	<u>AVS-5251</u>	AVS-526C1	AVS-5242	<u>AVS-5252</u>	<u>AVS-526C2</u>	<u>AVS-5343</u>	<u>AVS-5353</u>	<u>AVS-536C3</u>	AVS-5444	AVS-5454	<u>AVS-546C4</u>
Price	\$19.00	\$25.00	\$41.00	\$21.00	\$29.00	\$42.00	\$29.00	\$35.00	\$45.00	\$37.50	\$45.00	\$58.00
Weight (lbs)	0.3	0.4	0.5	0.3	0.4	0.5	0.5	0.6	0.7	1.1	1.2	1.4
Valve Type		5-port 2-position 2-position closed center		5-port 2-position		5-port 3-position closed	5-p 2-pos			5-port 2-position		5-port 3-position closed center
Acting	single air pilot	doubl	e air pilot	single air pilot	double	air pilot	single air pilot			single air pilot double air pilot		le air pilot
Diagram	Α	В	С	A	В	С	А	В	С	А	В	С
Port Size		1/8" NP	Г	Inlet por	t 1/4" NPT 1/8" NPT	- Exhaust	Inlet port	3/8" NPT - 1/4" NPT	Exhaust		1/2" NPT	Г
Pilot Port Size						1/8	NPT					
Flow Cv	0.	78	0.67	0.	89	0.67	1.6	67	1.00	2.7	79	1.68
Fluid					Air (to	be filtered b	y 40µ filter e	element)				
Min. / Max. Pressure				20-	115Psi (Pil	ot must be a	t least 50% o	of inlet pres	sure)			
Max Activate Rate	5 cycl	es/sec	3 cycles/sec	5 cycl	es/sec	3 cycles/ sec	5 cycle	es/sec		3 сус	cles/sec	
Temperature						-5~60°C	(23~140°F)					
Lubrication						Not R	equired					
Body						Alumin	um Alloy					
Drawing Figure	1	2	3	1	2	3	4	5	6	7	8	9

For the latest prices, please check AutomationDirect.com



Pneumatic Directional Control - Foot Pedal Valve with Guard



Foot Pedal Valve with Guard

NITRA[™] pneumatic CVS series directional control foot pedal valves are 5-port (4-way) spool valves that are ideal for nonelectrical operator control applications. Available in 1/4" NPT with a flow coefficient (Cv) of 0.80. Models are available with momentary or latching operation.

Features

- Body ported, 5-port (4-way) spool valves
- 1/4" NPT ports
- Momentary or latching models
- Includes guard to prevent accidental actuation
- 2 year warranty





See <u>www.AutomationDirect.com</u> for a wide variety of fitting options

Diagram "A"

5-Port, 2-Pos. Foot Pedal Without Lock (Momentary)

Diagram "B"	ВА	
		J
	SPR	

5-Port, 2-Pos. Foot Pedal With Lock (Latching)

CVS Series Air Pil	ot Valve Specifica	tions				
Model	<u>CVS-5272-FP</u> (Momentary)	<u>CVS-527D2-FP</u> (Latching)				
Price	\$37.00	\$41.50				
Weight (lbs)	2.3	2.4				
Valve Type	5-port 2-position					
Acting	Direct A	cting				
Diagram	А	В				
Port Size	1/4" N	PT				
Flow Cv	0.80)				
Fluid	Air (to be filtered by 4	0µ filter element)				
Min. / Max. Pressure	0-115	^o si				
Temperature	-5~60°C (23	~140°F)				
Lubrication	Not Req	uired				
Body	Aluminum	Alloy				
Drawing Figure	10					

Diagram "B"

Diagram "F"

1-800-633-0405 MATICS

Pneumatic Directional Control Manual Valves

NITRA[™] pneumatic directional control manual valves are body ported spool or ball valves. Available port sizes are 1/8", 1/4" or 1/2 NPT with flow coefficients (Cv) from 0.78 to 5.29. Models are available in 2-position or 3-position, detented or spring return operation styles.

Features

- Body ported, 5-port spool or 4-port rotary valves
- 2-position or 3-position detented operation models
- 2-position or 3-position spring return models
- 2 year warranty





See www.AutomationDirect.com for a wide variety of fitting options



Toggle Style Hand Lever Valve

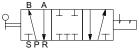


5-Port, 2-Pos. Toggle Detented

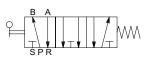
Diagram "E"

Diagram "C"

Diagram "D"



5



5-Port, 2-Pos. Spring Return

5-Port, 3-Pos. Center Exhaust Spring Return

	\ ¥			1 1	1	1 1	
S	PR						
5-Po	rt. 3-	Pos	. Ce	ente	r	Clo	sed
	·	Def					
		DCI	ษณ	GU .			

5-Port, 3-Pos. Center Exhaust Detented

5-Port,	3-Pos.	Center	Closed
	Spring	Return	

			Toggl	<u>e Style I</u>	Hand Lev	ver Valve	<u>e Specifi</u>	cations				
Models	AVS-527D1-HL	AVS-537D2-HL	<u>AVS-5271-HL</u>	AVS-528DC1-HL	AVS-528DE1-HL	AVS-538DC1-HL	AVS-538DE1-HL	AVS-528C1-HL	AVS-528E1-HL	AVS-538C1-HL	AVS-538E1-HL	AVS-5372-HL
Price	\$21.00	\$29.50	\$37.50	\$37.50	\$38.50	\$49.00	\$50.00	\$49.00	\$49.00	\$54.00	\$54.00	\$48.00
Weight (lbs)	0.40	0.60	0.40	0.60	0.40	0.40	0.60	0.60	0.40	0.40	0.60	0.60
Valve Type	2-po	port sition ented	5-port 2-position spring return	5-port 3-position center closed detented	5-port 3-position center exhaust detented	5-port 3-position center closed detented	5-port 3-position center exhaust detented	5-port 3-position center closed spring return	5-port 3-position center exhaust spring return	5-port 3-position center closed spring return	5-port 3-position center exhaust spring return	5-port 2-position spring return
Acting						Direct Action	Hand Lever					
Diagram		A	В	С	D	С	D	E	F	E	F	В
Port Size	1/8" NPT	1/4" NPT	1/8" NPT	1/8" NPT	1/8" NPT	1/4" NPT	1/4" NPT	1/8" NPT	1/8" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Flow Cv	0.78	1.39	0.78	0.67	0.67	1.00	1.00	0.67	0.67	1.00	1.00	1.39
Fluid					Air (to	be filtered by	40µ filter ele	ement)				
Min. / Max. Pressure						0-11	5Psi					
Temperature						-5~60°C (2	23~140°F)					
Lubrication						Not Re	quired					
Body						Aluminu	im Alloy					
Drawing Figure						1	1					

www.automationdirect.com

For the latest prices, please check AutomationDirect.com



Pneumatic Directional Control - Manual Valves





a wide variety of fitting options

Push-Pull Valves

Diagram "A"

А В Ψ<u></u>η (⊨ RPS 5-Port, 2-Pos. Push-Pull Detented

Push-Pull Valve Specifications				
Models	<u>AVS-527D1-PP</u>	<u>AVS-537D2-PP</u>		
Price	\$20.50	\$28.00		
Weight (lbs)	0.3	0.6		
Valve Type	5-port 2-position detented			
Acting	Direct Acting Push-Pull			
Diagram		4		
Port Size	1/8" NPT	1/4" NPT		
Flow Cv	0.78	1.39		
Fluid	Air (to be filtered by 40µ filter element)			
Min. / Max. Pressure	0-115Psi			
Temperature	-5~60°C (23~140°F)			
Lubrication	Not Required			
Body	Aluminum Alloy			
Drawing Figure	1	2		





Pneumatic Directional Control – Manual Valves

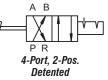




Rotary Style Hand Lever Valve



Diagram "B"



Rotary Style Hand Lever Valve Specifications						
Models	<u>CVR-437D2-HL</u>	<u>CVR-438D2-HL</u>	<u>CVR-447D4-HL</u>	<u>CVR-448D4-HL</u>		
Price	\$21.50	\$21.50	\$25.50	\$25.50		
Weight (lbs)	1.5	1.5	3.1	3.1		
Valve Type	4-port 2-position detented	4-port 3-position detented closed center	4-port 2-position detented	4-port 3-position detented closed center		
Acting	Rotary Style Hand Lever					
Diagram	А	В	A	В		
Port Size	1/4" NPT	1/4" NPT	1/2" NPT	1/2" NPT		
Flow Cv	0.89	0.89	5.29	5.29		
Fluid	Air (to be filtered by 40µ filter element)					
Min. / Max. Pressure	0-145Psi					
Temperature	-5~63°C (23~145°F)					
Lubrication	Not Required					
Body	Aluminum Alloy					
Drawing Figure	13					

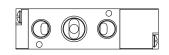


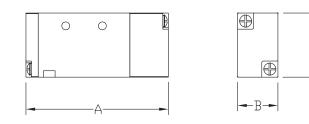
Pneumatic Directional Control – Manual Valve Dimensions

Dimensions

mm [inches]

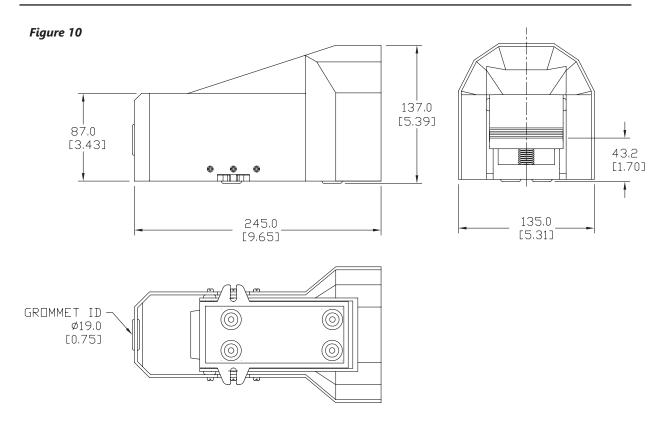
Figures 1-9





PILOT VALVE DIMENSIONS									
DWG FIGURE	1	2	3	4	5	6	7	8	9
DIM. A	77.7 [3.06]	92.0 [3.62]	111.0 [4.37]	95.5 [3.76]	111.0 [4.37]	130.0 [5.12]	128.0 [5.04]	142.0 [5.51]	163.0 [6.42]
DIM. B	22.0 [0.87]	22.0 [0.87]	22.0 [0.87]	27.0 [1.06]	27.0 [1.06]	27.0 [1.06]	34.0 [1.34]	34.0 [1.34]	34.0 [1.34]
DIM. C	35.0 [1.38]	35.0 [1.38]	35.0 [1.38]	40.0 [1.57]	40.0 [1.57]	40.0 [1.57]	50.0 [1.97]	50.0 [1.97]	50.0 [1.97]

See our website <u>www.AutomationDirect.com</u> for complete Engineering drawings



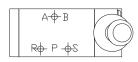


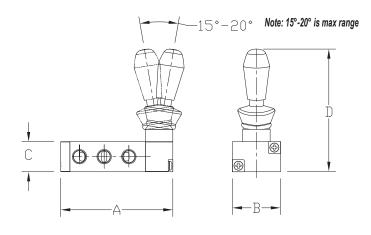
Pneumatic Directional Control - Manual Valve Dimensions

Dimensions

mm [inches]

Figure 11





Push-Pull Valve Specifications							
Model	A mm [inches]	B mm [inches]	C mm [inches]	D mm [inches]			
<u>AVS-527D1-HL</u>	81.8 [3.22]	35.0 [1.38]	22.0 [0.87]	89.5 [3.52]			
<u>AVS-537D2-HL</u>	100.9 [3.97]	40.2 [1.58]	27.1 [1.07]	91.6 [3.61]			
<u>AVS-5271-HL</u>	81.5 [3.21]	35.0 [1.38]	22.0 [0.87]	89.9 [3.54]			
AVS-528DC1-HL	81.5 [3.21]	35.0 [1.38]	22.0 [0.87]	89.9 [3.54]			
<u>AVS-528DE1-HL</u>	81.5 [3.21]	35.0 [1.38]	22.0 [0.87]	89.9 [3.54]			
AVS-538DC1-HL	101.0 [3.98]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]			
AVS-538DE1-HL	101.0 [3.98]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]			
<u>AVS-528C1-HL</u>	100.5 [3.96]	35.0 [1.38]	22.0 [0.87]	90.4 [3.56]			
<u>AVS-528E1-HL</u>	100.5 [3.96]	35.0 [1.38]	22.0 [0.87]	90.4 [3.56]			
<u>AVS-538C1-HL</u>	120.0 [4.72]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]			
<u>AVS-538E1-HL</u>	120.0 [4.72]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]			
<u>AVS-5372-HL</u>	101.0 [3.98]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]			



Pneumatic Directional Control – Manual Valve Dimensions

Dimensions

mm [inches]

Figure 12



PUSH-PULL VALVE DIMENSIONS					
PART NUMBER	AVS-527D1-PP	AVS-537D2-PP			
DIM. A	35.0 [4.96]	40.0 [1.57]			
DIM. B	22.0 [0.87]	27.0 [1.06]			
DIM. C	65.8 [2.59]	80.8 [3.18]			
DIM. D	98.3 [3.87]	115.8 [4.56]			
DIM. E	4.01 [0.16]	5.08 [0.20]			
DIM. F	M14 X 1.0	M16 X 1.0			

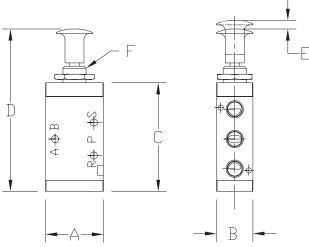
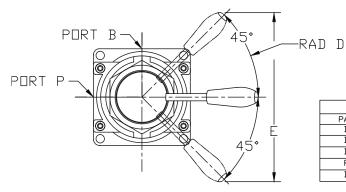
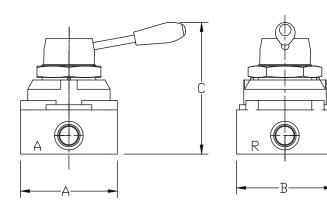


Figure 13



ROTARY VALVE DIMENSIONS					
PART NO	CRV-43_D2-HL	CRV-44_D4-HL			
DIM. A	73.7 [2.90]	94.0 [3.70]			
DIM. B	73.7 [2.90]	102.0 [4.02]			
DIM. C	100.3 [3.95]	126.0 (4.96]			
RAD D	101.6 [4.00]	113.0 [4.45]			
DIM. E	144.8 [5.70]	160.0 [6.30]			





CE

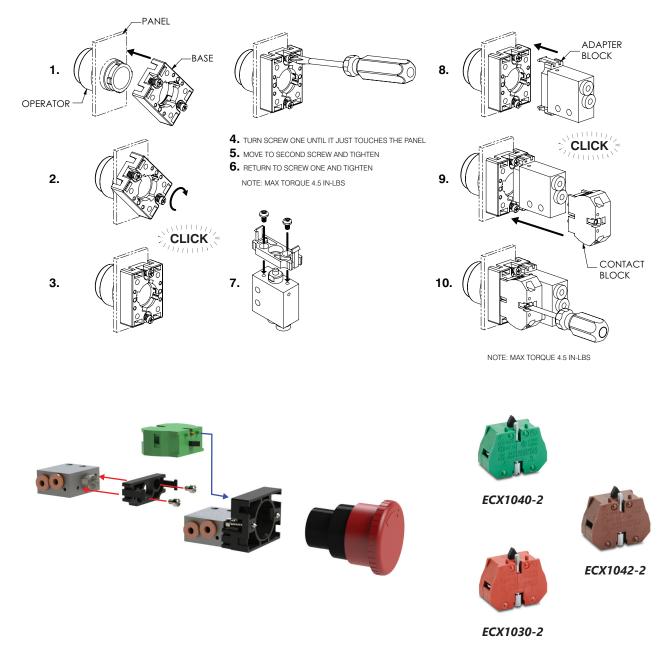
NITRA[®] pneumatic pushbuttons are all plastic and come with adapters to allow mounting of up to two 3-way valves, or one valve and one to three contact blocks. They fit in a standard 22.5mm hole, just like electrical pushbuttons.

Features

- Plastic bezel and button
- Valve adapters and mounting screws included
- Valves sold separately
- Bases will work with GCX plastic operators and **only** the three ECX Series contact blocks shown below

Adapter Block Installation

Pushbutton Specifications Operating Temperature -13 to 158°F (-25 to +70°C) Storage Temperature -40 to 176°F (-40 to +80°C) Mechanical Life 1,000,000 cycles Switching Cycles 3600 cycles/hr (4) M3x5 valve mounting screws Mounting (Valve) included Protection IP65 after installation Approvals CE





Pneumatic Pushbuttons, 22mm

Momentary flush pushbuttons with protective plastic ring (30mm diameter actuator)



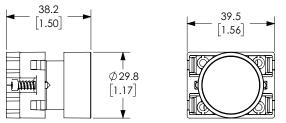
ECP3100

Part Number	Color	Description	Weight (lbs)	Price
<u>ECP3100</u>	Black	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: black, flush, 30mm, round, plastic.	0.07	\$2.75
<u>ECP3101</u>	Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: red, flush, 30mm, round, plastic.	0.07	\$2.75
<u>ECP3102</u>	Green	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: green, flush, 30mm, round, plastic.	0.07	\$2.75
<u>ECP3103</u>	Yellow	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: yellow, flush, 30mm, round, plastic.	0.07	\$2.75
<u>ECP3104</u>	Blue	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: blue, flush, 30mm, round, plastic.	0.07	\$2.75
<u>ECP3105</u>	White	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: white, flush, 30mm, round, plastic.	0.07	\$2.75
<u>ECP3106</u>	Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: red, flush, 30mm, round, plastic, operator text "(O)".	0.07	\$3.00
<u>ECP3107</u>	Green	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: green, flush, 30mm, round, plastic, operator text "(I)".	0.07	\$3.00

Dimensions mm [inches]

Ν ECP ECP ECP ECP

ECP ECP



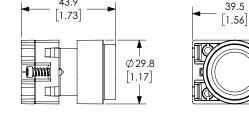
Momentary extended pushbuttons with protective plastic ring (30mm diameter actuator)



ECP3110

Part lumber	Color	Description	Weight (lbs)	Price
P <u>3110</u>	Black	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: black, extended, 30mm, round, plastic.	0.07	\$2.75
P <u>3111</u>	Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: red, extended, 30mm, round, plastic.	0.07	\$2.75
P <u>3112</u>	Green	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: green, extended, 30mm, round, plastic.	0.07	\$2.75
P <u>3113</u>	Yellow	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: yellow, extended, 30mm, round, plastic.	0.07	\$2.75
P <u>3114</u>	Blue	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: blue, extended, 30mm, round, plastic.	0.07	\$2.75
P <u>3115</u>	White	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: white, extended, 30mm, round, plastic.	0.07	\$2.75

Dimensions mm [inches]



43.9

Weight



RA Pneumatic Pushbuttons, 22mm Mushroom

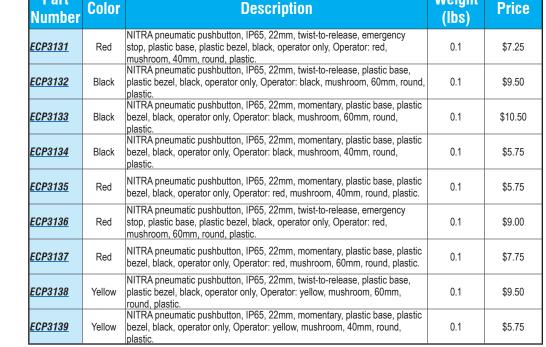
Mushroom pushbutton operator (40mm & 60mm diameter actuator)



ECP3131



ECP3133





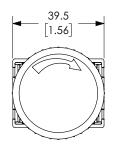
Dimensions mm [inches]

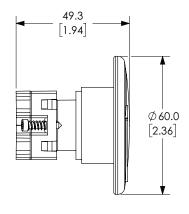
40mm Versions

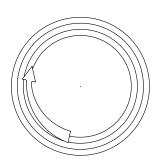
Part

ECP3138

56.8 [2.23] Ø 40.0 [1.57]







60mm Versions

For the latest prices, please check AutomationDirect.com

NITRA

Pneumatic Pushbuttons, 22mm Key Operated & Double Headed

Mushroom pushbutton operator - key operated (40mm dia. actuator)



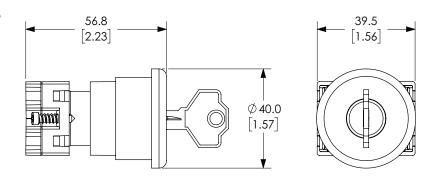
Part Number	Color	Description	Weight (lbs)	Price
<u>CP3141</u>	Red	NITRA pneumatic pushbutton, IP65, 22mm, key operated release, plastic base, plastic bezel, black, operator only, Operator: red, mushroom, 40mm, round, plastic.	0.19	\$11.50
~	Note: Keyed	I switches come with two keys. All plastic 22mm keyed switches are keyed the same.		

Replacement keys are available. Order part no. ECX1067-2 (pkg. of 2). Keys for plastic 22mm

ECP3141

Dimensions mm [inches]

mm [incnes]



keyed switches are not compatible with Cutler-Hammer key switches.

Double headed pushbutton operator



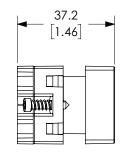


ECP3150

ECP3152

Dimensions





Part

Number

ECP3150

ECP3152

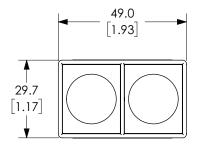
Color

Green/

Red

Green/

Red



Description

NITRA pneumatic pushbutton, IP65, 22mm, momentary,

plastic base, plastic bezel, black, operator only, Operator:

green and red, double headed, rectangular, plastic. NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator:

green and red, double headed, rectangular, plastic,

operator text "(I) and (O)".

See our website www.AutomationDirect.com for complete Engineering drawings.

Weight

(lbs)

0.08

0.08

Price

\$5.00

\$5.75



Pneumatic Selector Switches, 22mm Lever

Knob selector switches

NEUMATICS

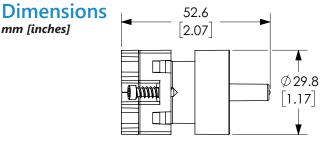
NOX	

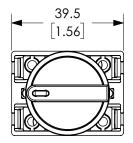
ECP3300

Part Number	Color	Description	(lbs)	Price
<u>ECP3300</u>	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, maintained, plastic base, plastic bezel, operator only, Operator: black, knob, 30mm, round, plastic.	0.09	\$4.75
<u>ECP3310</u>	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, spring return from right, plastic base, plastic bezel, operator only, Operator: black, knob, 30mm, round, plastic.	0.09	\$6.00
<u>ECP3320</u>	Black	NITRA pneumatic selector switch, IP65, 22mm, 3-position, maintained, plastic base, plastic bezel, operator only, Operator: black, knob, 30mm, round, plastic.	0.09	\$4.75
<u>ECP3330</u>	Black	NITRA pneumatic selector switch, IP65, 22mm, 3-position, spring return to center from right or left, plastic base, plastic bezel, operator only, Operator: black, knob, 30mm, round, plastic.	0.09	\$5.75



ECP3320





Long lever selector switches

mm [inches]



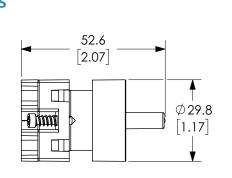
ECP3350

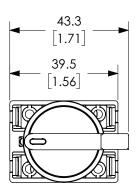
Weight Part Color Description Price Number (lbs) NITRA pneumatic selector switch, IP65, 22mm, 2-position, maintained, ECP3350 Black plastic base, plastic bezel, operator only, Operator: black, lever, 30mm, 0.09 \$6.00 round, plastic. NITRA pneumatic selector switch, IP65, 22mm, 2-position, spring return from ECP3360 Black right, plastic base, plastic bezel, operator only, Operator: black, lever, 30mm, 0.09 \$6.25 round, plastic. NITRA pneumatic selector switch, IP65, 22mm, 3-position, maintained, ECP3370 Black plastic base, plastic bezel, operator only, Operator: black, lever, 30mm, 0.09 \$6.00 round, plastic. NITRA pneumatic selector switch, IP65, 22mm, 3-position, spring return to ECP3380 Black center from right or left, plastic base, plastic bezel, operator only, Operator: 0.09 \$6.25 black, lever, 30mm, round, plastic





ECP3370





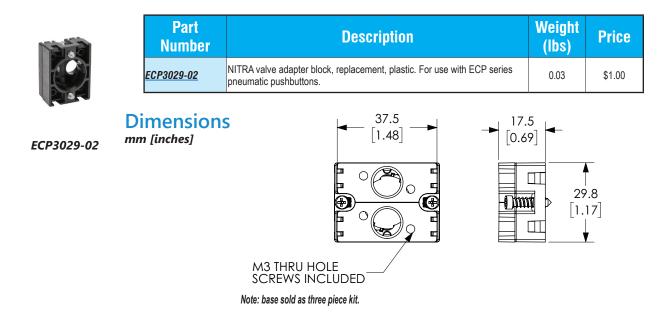


Pneumatic Key Selector Switches, 22mm

Key selector switches

	Part Number	Color	Description	Weight (lbs)	Price
	<u>ECP3420</u>	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, maintained, key removable in all positions, plastic base, plastic bezel, operator only, Operator: black, key, 30mm, round, plastic.	0.17	\$11.50
(Second Se Second Second Seco	<u>ECP3430</u>	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, spring return from right, key removable left position, plastic base, plastic bezel, operator only, Operator: black, key, 30mm, round, plastic.	0.17	\$11.50
ECP3420	<u>ECP3470</u>	Black	NITRA pneumatic selector switch, IP65, 22mm, 3-position, maintained, key removable in all positions, plastic base, plastic bezel, operator only, Operator: black, key, 30mm, round, plastic.	0.17	\$10.50
	Ô.	Repla	d switches come with two keys. All plastic 22mm keyed switches are keyed the same. icement keys are available. Order part no. ECX1067-2 (pkg. of 2). Keys for plastic 22mm I switches are not compatible with Cutler-Hammer key switches.	1	
	Dim mm [ü	ension (hes)	2005 49.4 [1.94]		
ECP3470					

Pneumatic switch accessory - support base with adapters



See our website www.AutomationDirect.com for complete Engineering drawings.

Ø29.8

[1.17]

39.5

1.56

Diagram "B"

Pneumatic Manual Valves

Valve Symbols

Pneumatic Manual Valve Materials

- 1. Aluminum valve body
- 2. Chemically nickel-plated brass button

UMATICS

- 3. Brass distance plates
- 4. NBR gaskets

1-800-633-0405

- 5. Stainless steel, brass and plastic push-to-connect cartridges
- 6. Stainless steel springs

Pneumatic Metal Plunger Valves

These pneumatic valves are used with Nitra pneumatic pushbuttons and switches

Features

- Available in normally open or normally closed
- 5/32" [4mm] push-to-connect ports located on side or end



EVP-CA-PL

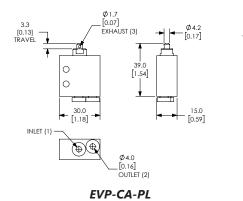
Models	EVP-CA-PL	EVP-AA-PL	EVP-CS-PL	EVP-AS-PL	
Price	\$20.50	\$22.50	\$18.50	\$20.50	
Weight (lbs)	0.1	0.1	0.1	0.1	
Valve Type		2-port (3-wa	y) 2-position		
Acting	Metal plunger, normally closed, spring return	Metal plunger, normally open, spring return	Metal plunger, normally closed, spring return	Metal plunger, normally open, spring return	
Diagram	В	A	В	A	
Port Size	Port Size Axial ports 5/32in (4mm)		Side ports 5/32in (4mm)		
Flow (Cv)	0.13	0.13	0.13	0.13	
Fluid		Air (to be filtered by	/ 40µ filter element)		
Min. / Max. Pressure	7.25 to 145 psi (0.5 to 10 bar)				
Temperature	14°F to 140°F (-10°C to 60°C)				
Lubrication	Not Required				
Body	Aluminum				
Protection		IP	65		

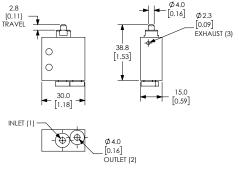
Specifications

EVP-CS-PL

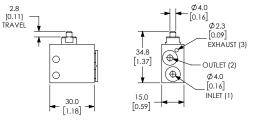
Dimensions

mm [inches]





EVP-AA-PL



See our website <u>www.AutomationDirect.com</u> for complete Engineering drawings.

EVP-CS-PL / EVP-AS-PL

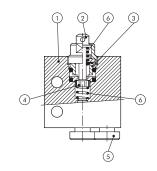


Diagram "A"



Pneumatic Manual Valves

Pneumatic Metal Plunger Valves with metal roller

Features

- These valves function as pneumatic limit switches
- Available in normally open or normally closed
- 5/32" [4mm] push-to-connect ports located on side or end



EVP-CA-R

Valve Symbols



Diagram "C"

 (\mathbf{x})

Diagram "D"

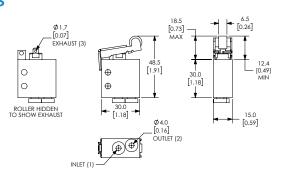
	S	pecifications			
Models	EVP-CA-R	EVP-AA-R	EVP-CS-R	EVP-AS-R	
Price	\$24.00	\$24.00	\$22.00	\$24.50	
Weight (lbs)	0.1	0.1	0.1	0.1	
Valve Type		2-port (3-wa	y) 2-position		
Acting	Metal plunger with metal roller, normally closed, spring return	Metal plunger with metal roller, normally open, spring return	Metal plunger with metal roller, normally closed, spring return	Metal plunger with metal roller, normally open, spring return	
Diagram	D	С	D	С	
Port Size	Axial ports 5	5/32in (4mm)	Side ports 5	s 5/32in (4mm)	
Flow (Cv)	0.13	0.13	0.13	0.13	
Fluid	Air (to be filtered by 40µ filter element)				
Min. / Max. Pressure	7.25 to 145 psi (0.5 to 10 bar)				
Temperature	14°F to 140°F (-10°C to 60°C)				
Lubrication	Not Required				
Body	Aluminum				
Protection	IP65				

_ _ _

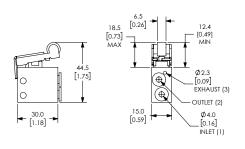
EVP-AS-R

Dimensions

mm [inches]



EVP-CA-R / EVP-AA-R



EVP-CS-R / EVP-AS-R

For the latest prices, please check AutomationDirect.com



Pneumatic Manual Valves

Pneumatic Metal Plunger Valves with one-way metal roller

Features

- These valves function as pneumatic limit switches
- Available in normally closed
- 5/32" [4mm] push-to-connect ports located on side or end



Valve Symbol

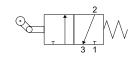


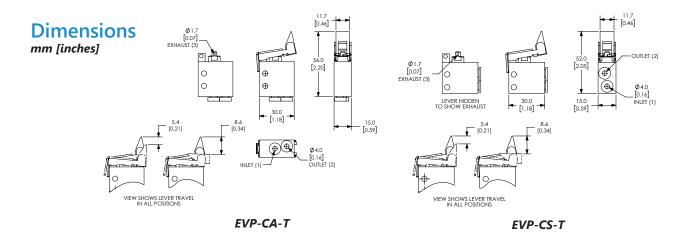
Diagram "E"

EVP-CA-T



EVP-CS-T

	Specifications		
Models	<u>EVP-CA-T</u>	<u>EVP-CS-T</u>	
Price	\$25.50	\$23.50	
Weight (lbs)	0.1	0.1	
Valve Type	2-port (3-wa	y) 2-position	
Acting	Metal plunger with one -way metal roller, normally closed, spring return	Metal plunger with one-way metal roller, normally closed, spring return	
Diagram	E	E	
Port Size	Axial ports 5/32in (4mm)	Side ports 5/32in (4mm)	
Flow (Cv)	0.13	0.13	
Fluid	Air (to be filtered by	ν 40μ filter element)	
Min. / Max. Pressure	7.25 to 145 psi	(0.5 to 10 bar)	
Temperature	14°F to 140°F (-10°C to 60°C)		
Lubrication	Not Required		
Body	Aluminum		
Protection	IP	65	



For the latest prices, please check AutomationDirect.com



Pneumatic Manual Valves

Pneumatic Metal Plunger Valves for thru-panel mounting

Features

- These valves function as pneumatic limit switches
- Available in normally closed
- 5/32" [4mm] push-to-connect ports located on side or end
- Fits 1/2" diameter hole in panel



Valve Symbol

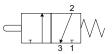


Diagram "B"

EVP-CA-PL-PNL

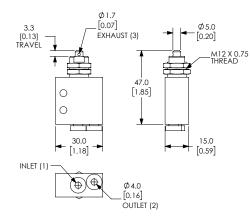


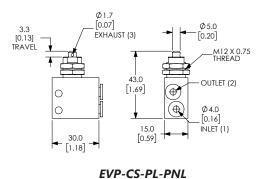
EVP-CS-PL-PNL

Specifications					
Models	EVP-CA-PL-PNL	EVP-CS-PL-PNL			
Price	\$22.00	\$20.00			
Weight (lbs)	0.1	0.1			
Valve Type	2-port (3-wa	y) 2-position			
Acting	Metal plunger, normally closed, spring return, through panel mount	Metal plunger, normally closed, spring return, through panel mount			
Diagram	В	В			
Port Size	Axial ports 5/32in (4mm)	Side ports 5/32in (4mm)			
Flow (Cv)	0.13	0.13			
Fluid	Air (to be filtered by	y 40µ filter element)			
Min. / Max. Pressure	7.25 to 145 ps	i (0.5 to 10 bar)			
Temperature	14°F to 140°F (-10°C to 60°C)				
Lubrication	Not Required				
Body	Aluminum				
Protection	IP	65			

Dimensions

mm [inches]





EVP-CA-PL-PNL



For the latest prices, please check AutomationDirect.com **Pneumatic Manual Valves**

Manual Valves, Normally Closed, Spring Return, Pushbutton



Part No. GVP-3C2P-PB



Part No. GVP-3C1M2P-PB

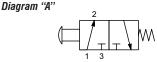


Part No. GVP-3C1F-PB

NITRA GVP manual valves offer a simple, convenient method for directional control and other pneumatic valve applications. All valves can be through panel mounted for a very clean looking operator interface. Valves with male NPT inlets can be threaded into MR series air manifolds to simplify supply connections.

- · Swivel output port
- High flow
- Poppet design contributes to product life
- Made in USA



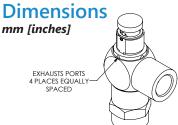


3-port, 2-position

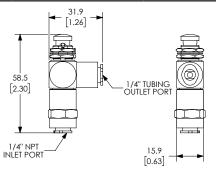
	Specifications						
Models	<u>GVP-3C2P-PB</u> <u>GVP-3C1M2P-PB</u> <u>GVP-3C1F-PB</u>						
Price	\$26.50	\$25.00	\$23.50				
Weight (lbs)	0.1	0.1	0.1				
Valve Type		3-port (3-way) 2-position					
Acting	Pushbutton, no	rmally closed, spring return, throug	gh panel mount				
Diagram	А	А	А				
Port Size	90-degree ports, 1/4in tube inlet(s), 1/4in tube outlet(s), (1) vent hole exhaust(s)	90-degree ports, 1/8in male NPT inlet(s), 1/4in tube outlet(s), (1) vent hole exhaust(s)	90-degree ports, 1/8in female NPT inlet(s), 1/8in FNPT outlet(s), (1) vent hole exhaust(s)				
Flow (Cv)	0.29	0.29	0.29				
Fluid	Ai	r (to be filtered by 40µ filter eleme	nt)				
Min. / Max. Pressure	0 to 125 psi (0 to 8.62 bar)						
Temperature	-20°F to 160°F (-51°C to 71°C)						
Lubrication	Not Required						
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Stainless Steel, Nylon, Acetal Copolymer, Buna-N						
Protection		IP65					



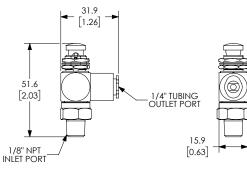
Note: For panel mounting Maximum thickness 0.25" · Diameter Ø 0.484 thru



TYPICAL EXHAUST ON GVP- VALVES LOCK NUTS AND WASHERS NOT SHOWN FOR CLARITY



Part No. GVP-3C2P-PB



Part No. GVP-3C1M2P-PB

29.0 [1.14] 53.0 [2.09] 1/8" NPT FEMALE OUTLET PORT 159 1/8" NP FFMALI [0.63] FEMALE-

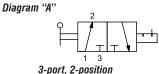
Part No. GVP-3C1F-PB



For the latest prices, please check AutomationDirect.com **Pneumatic Manual Valves**

Manual Valves, Normally Closed, Detented, Toggle

NITRA GVP manual valves offer a simple, convenient method for directional control and other pneumatic valve applications. All valves can be through panel mounted for a very clean looking operator interface. Valves with male NPT inlets can be threaded into MR series air manifolds to simplify supply connections.



- Swivel output port
- · High flow
- Poppet design contributes to product life
- Made in USA



Part No. GVP-3C2P-TD



Part No. GVP-3C1M2P-TD



Part No. GVP-3C1F-TD

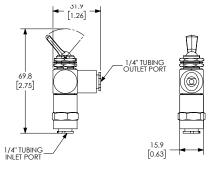
	Spe	cifications		
Models	GVP-3C2P-TD	GVP-3C1M2P-TD	GVP-3C1F-TD	
Price	\$28.00	\$28.00	\$26.50	
Weight (lbs)	0.1	0.1	0.1	
Valve Type		3-port (3-way) 2-position, NC		
Acting	Toggle style actua	ator, normally closed, detented, thr	ough panel mount	
Diagram	A	A	A	
Port Size	90-degree ports, 1/4in tube inlet(s), 1/4in tube outlet(s), (1) vent hole exhaust(s)	90-degree ports, 1/8in male NPT inlet(s), 1/4in tube outlet(s), (1) vent hole exhaust(s)	90-degree ports, 1/8in female NPT inlet(s), 1/8in FNPT outlet(s), (1) vent hole exhaust(s)	
Flow (Cv)	0.23	0.23	0.23	
Fluid	Ai	ir (to be filtered by 40µ filter eleme	nt)	
Min. / Max. Pressure	0 to 125 psi (0 to 8.62 bar)			
Temperature	-20°F to 160°F (-51°C to 71°C)			
Lubrication	Not Required			
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Stainless Steel, Nylon, Acetal Copolymer, Buna-N			
Protection	IP65			

Dimensions mm [inches]

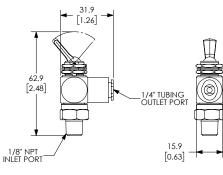
Note: For panel mounting Maximum thickness 0.25" · Diameter Ø 0.484 thru



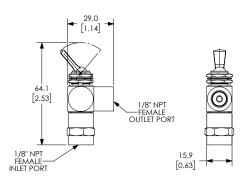
SHOWN FOR CLARITY



Part No. GVP-3C2P-TD



Part No. GVP-3C1M2P-TD



Part No. GVP-3C1F-TD

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www.automationdirect.com

For the latest prices, please check AutomationDirect.com

1-800-633-0405

Pneumatic Manual Valves

303 Stainless Steel Single Stem Style



Part No. GVS-3C0F-TD-SS

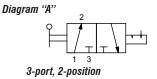


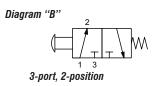
Part No. GVS-3C0F-PB-SS

NITRA GVS manual valves offer a simple, convenient method for directional control and other pneumatic valve applications. All valves can be through panel mounted for a very clean looking operator interface.

- Single stem design
- Stainless Steel construction
- High flow Made in USA



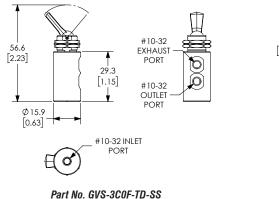




	Specifications					
Models	<u>GVS-3C0F-TD-SS</u>	<u>GVS-3C0F-PB-SS</u>				
Price	\$32.00	\$30.50				
Weight (lbs)	0.1	0.1				
Valve Type	3-port (3-wa	y) 2-position				
Acting	Toggle style actuator, normally closed, detented, through panel mount	Pushbutton, normally closed, spring return, through panel mount				
Diagram	А	В				
Port Size	90-degree ports, #10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s)	90-degree ports, #10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s)				
Flow (Cv)	0.27	0.27				
Fluid	Air (to be filtered by	γ 40μ filter element)				
Min. / Max. Pressure	26" Hg to 125 psi (-0.8 to 8.62 bar)					
Temperature	-20°F to 160°F (-51°C to 71°C)					
Lubrication	Not Required					
Body	Brass/ Electroless Nickel, Aluminum/ Anodize, Stainless Steel, Buna-N					
Protection	IP	65				

Dimensions mm [inches]

Note: For panel mounting · Maximum thickness 0.25" · Diameter Ø 0.484 thru



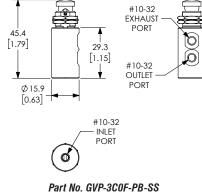


Diagram "B"

3

3-port, 2-position

WN

3

3-port, 2-position

Pneumatic Manual Valves

NITRA GVS manual valves offer a simple, Diagram "A"

convenient method for directional control and other pneumatic valve applications. All valves can

bethrough panel mounted for a very clean looking

Aluminum Single Stem Style

operator interface.

· Single stem design



1-800-633-0405

PNEUMATICS

Part No. GVS-3C1F-TD



Part No. GVS-3C1F-PB



Part No. GVS-3CS1F-TD



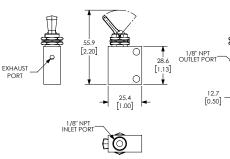
Part No. GVS-3CS1F-PB



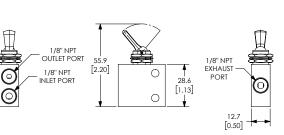
Dimensions

mm [inches]

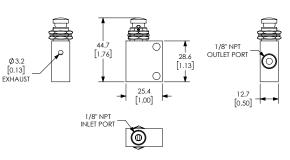
Note: For panel mounting · Maximum thickness 0.25" · Diameter Ø 0.484 thru



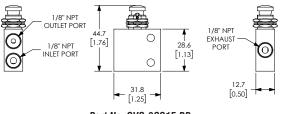
Part No. GVS-3C1F-TD



Part No. GVS-3CS1F-TD



Part No. GVS-3C1F-PB



Part No. GVS-3CS1F-PB

Pneumatic Manual Valves

Diagram "C"

Aluminum and Stainless Single Stem Style NITRA GVS manual valves offer the

PNEUMATICS



1-800-633-0405

Part No. GVS-331F-TD



Part No. GVS-331F-TM



Part No. GVS-231F-TD

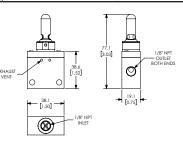


Part No. GVS-231F-TM

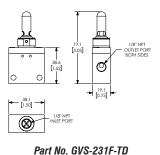
Dimensions

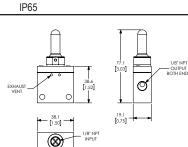
mm [inches]

Note: For panel mounting • Maximum thickness 0.25" · Diameter Ø 0.781 thru

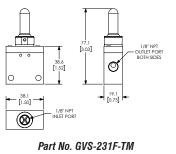


Part No. GVS-331F-TD

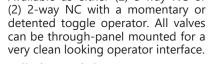




Part No. GVS-331F-TM



See our website www.AutomationDirect.com for complete Engineering drawings.



unique feature of two spool valves in one body with a common inlet port. Available as either (2) 3-way NC or

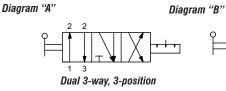
- Single stem design
- High flow

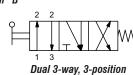


Models



GVS-331F-TD







GVS-231F-TD

Dual 2-way, 3-position

M

GVS-231F-TM

Dual 2-way, 3-position

Price	\$47.50	\$47.50	\$47.50	\$49.00	
Weight (lbs)	0.3	0.3	0.3	0.3	
Valve Type	Dual 3-way, 3-position, center exhaust Dual 2-way, 3-position, center c		sition, center closed		
Acting	Toggle style actuator, detented, through panel mount	Toggle style, spring return, through panel mount	Toggle style actuator, detented, through panel mount	Toggle style, spring return through panel mount	
Diagram	A	В	С	D	
Port Size	1/8in female NPT inlet(s), 1/8in female NPT outlet(s), 1 vent hole exhaust(s)	1/8in female NPT inlet(s), 1/8in female NPT outlet(s), 1 vent hole exhaust(s)	1/8in female NPT inlet(s), 1/8in female NPT outlet(s)	1/8in female NPT inlet(s), 1/8in female NPT outlet(s)	
Flow (Cv)	0.54	0.54	0.54	0.54	
Fluid		Air (to be filtered b	y 40µ filter element)		
Min. / Max. Pressure	0 to 125 psi (0 to 8.62 bar)				
Temperature	-20°F to 160°F (-51°C to 71°C)				
Lubrication	Not Required				
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Acetal, Stainless Steel, Nylon, Brass, Buna-N				
Protection		IF	P65		

Specifications

GVS-331F-TM

1-800-633-0405

Pneumatic Manual Valves

Heavy Duty Toggle and Pushbutton Valves



Part No. GVS-520F-PB



Part No. GVS-520F-TD



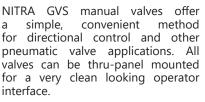
Part No. GVS-521F-PB



Part No. GVS-521F-TD

Dimensions mm [inches]

Note: For panel mounting · Maximum thickness 0.25" · Diameter Ø 0.484 thru

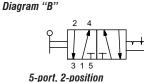


- Single stem design
- High flow
- Made in USA

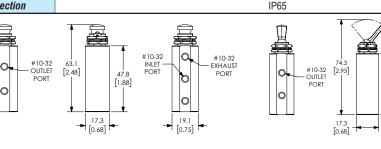




Diagram "A"



Specifications Models GVS-520F-TD GVS-520F-PB GVS-521F-PB GVS-521F-TD Price \$23.50 \$24.50 \$26.00 \$28.00 Weight (lbs) 0.1 0.1 0.1 0.15 Valve Type 5-port (4-way) 2-position Toggle style actuator. Toggle style actuator, Pushbutton, spring return, Pushbutton, spring return, detented, through panel detented, through panel Acting through panel mount through panel mount mount mount Diagram В R A А #10-32 female threaded #10-32 female threaded 1/8in FNPT inlet(s), 1/8in inlet(s), #10-32 female inlet(s), #10-32 female 1/8in FNPT inlet(s), 1/8in FNPT outlet(s), 1/8in Port Size threaded outlet(s), threaded outlet(s), FNPT outlet(s), 1/8in FNPT FNPT exhaust(s) #10-32 female threaded #10-32 female threaded exhaust(s) exhaust(s) exhaust(s) Flow (Cv) 0.37 0.37 0.23 0.23 Fluid Air (to be filtered by 40µ filter element) Min. / Max. 0 to 125 psi (0 to 8.62 bar) Pressure -20°F to 160°F (-51°C to 71°C) Temperature Lubrication Not Required Aluminum/ Anodize, Brass/ Electroless Nickel, Acetal, Stainless Steel, Nylon, Brass, Buna-N Body Protection



Part No. GVS-520F-PB

Part No. GVS-520F-TD

47 8

1.88

#10-32 INLET PORT

> 19.1 [0.75]

> > \odot

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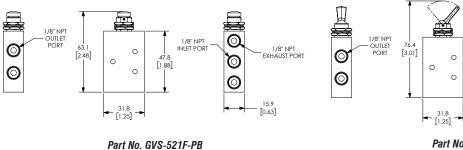
1/8" NPT INLET PORT

47.8

[1.88]

#10-32 EXHAUST PORT

1/8" NPT EXHAUST PORT



Part No. GVS-521F-TD

See our website www.AutomationDirect.com for complete Engineering drawings.

15.9

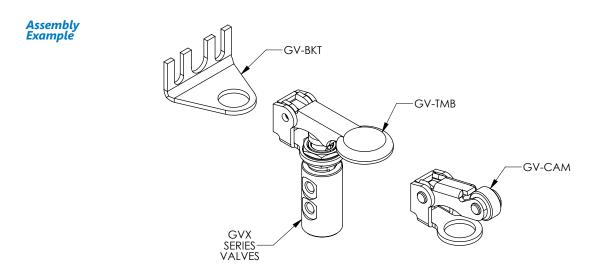
[0.63]



GVP and GVS Series Pneumatic Valve Accessories



Nitra Pneumatic GVP and GVS Series Pneumatic Valve Accessories							
Item	Part No.	Description	Price	Weight (lbs)			
m	<u>GV-BKT</u>	NITRA 90 degree mounting bracket, plated steel. For use with all GVP and GVS valves.	\$2.50	0.5			
	<u>GV-CAM</u>	NITRA roller cam actuator, plated steel, for use with all GVP and GVS valves. The roller is manufactured from durable acetal plastic. All cams feature a unique acetal pad which minimizes side load and virtually eliminates wear.	\$10.50	0.5			
	<u>GV-TMB</u>	NITRA thumb actuator, plated steel, for use with all GVP and GVS valves.	\$10.50	0.5			



1-800-633-0405

to reduce noise. Features

• Plastic cylindrical

EUMATICS

 Inch and metric sizes available • Bronze cone and flat styles

• Maximum pressure = 150 psi (10 bar)

Exhaust Silencers





SBC Series

A

MNPT

1/8

MNPT

1/4

Price

\$2.75

\$3.00

ack Pres

NITRA

СН

0.47

[12.0]

0.63

[16.0]

тм

D1

0.32

[8.0]

0.47 0.40 [12.0] [10.0]

SBF Series

Inch Sizes - dimensions in inches [mm]

D2

0.28

[7.0]

F

0.24

[6.0]

0.32

[8.0]

Bronze Cone Silencers

Η

0.94

[24.0] [14.0]

1.18 0.71 [30.0] [18.0]

L

0.55

N

0.16

[4.0]

0.16

[4.0]

SPL Series

Package

Weight (lb)

0.01

0.01

Qty. per

pack

2

2

SBC Silencers	Part No.
D2	<u>SBC-18N</u>
D1	<u>SBC-14N</u>
BREINZE	<u>SBC-38N</u>
	<u>SBC-12N</u>
	<u>SBC-M5</u>
	<u>SBC-18R</u>
F	<u>SBC-14R</u>

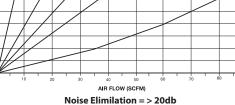
NITRA[™] exhaust silencers are available in three styles and nine popular NPT and BSPT sizes. Add these to the exhaust ports of NITRA directional control solenoid valves

Flow Characteristics

Bronze Cone Silencers

A: SBC-M5	
B: SBC-18N	; SBC-18R
C: SBC-14N	; SBC-14R
D: SBC-38N	; SBC-38R
E: SBC-12N	; SBC-12R

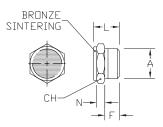
		1/-1	[[10.0]	[12.0]	[[10.0]	[0.0]	[00.0]	[[10.0]	[4.0]	
<u>SBC-38N</u>	\$4.75	MNPT 3/8	0.71 [18.0]	0.55 [14.0]	0.39 [11.0]	0.35 [9.0]	1.38 [35.0]	0.83 [21.0]	0.197 [5.0]	0.05
<u>SBC-12N</u>	\$8.50	MNPT 1/2	0.94 [24.0]	0.75 [19.0]	0.59 [15.0]	0.40 [10.0]	1.73 [44.0]	1.10 [28.0]	0.24 [6.0]	0.15
			Metri	ic Sizes	s - dim	ension	s in inc	hes [m	<i>m]</i>	
<u>SBC-M5</u>	\$2.00	M5	0.31 [8.0]	0.20 [5.0]	0.16 [4.0]	0.20 [5.0]	0.79 [20.0]	0.47 [12.0]	0.12 [3.0]	0.01
<u>SBC-18R</u>	\$2.75	R 1/8	0.47 [12.0]	0.32 [8.0]	0.28 [7.0]	0.24 [6.0]	0.94 [24.0]	0.55 [14.0]	0.16 [4.0]	0.01
<u>SBC-14R</u>	\$3.00	R 1/4	0.63 [16.0]	0.47 [12.0]	0.40 [10.0]	0.32 [8.0]	1.18 [30.0]	0.71 [18.0]	0.16 [4.0]	0.01
<u>SBC-38R</u>	\$4.75	R 3/8	0.71 [18.0]	0.55 [14.0]	0.39 [11.0]	0.35 [9.0]	1.38 [35.0]	0.83 [21.0]	0.197 [5.0]	0.05
<u>SBC-12R</u>	\$8.50	R 1/2	0.94 [24.0]	0.75 [19.0]	0.59 [15.0]	0.40 [10.0]	1.73 [44.0]	1.10 [28.0]	0.24 [6.0]	0.15
	ssure (PSIG)		3/ C		D				E	



Filtered Element = 40 micron

NITRA™ Bronze Flat Silencers									
Inch Sizes - dimensions in inches [mm]									
Part No.	Price	A	СН	F	L	N	Package Weight (lb)	Qty. per pack	
<u>SBF-18N</u>	\$2.75	MNPT 1/8	0.47 [12.0]	0.24 [6.0]	0.47 [12.0]	0.16 [4.0]	0.01		
<u>SBF-14N</u>	\$3.00	MNPT 1/4	0.67 [17.0]	0.32 [8.0]	0.59 [15.0]	0.16 [4.0]	0.01	2	
<u>SBF-38N</u>	\$4.25	MNPT 3/8	0.75 [19.0]	0.35 [9.0]	0.67 [17.0]	0.20 [5.0]	0.05	2	
<u>SBF-12N</u>	\$8.75	MNPT 1/2	0.94 [24.0]	0.40 [10.0]	0.71 [18.0]	0.24 [6.0]	0.15		
		Metric	: Sizes - d	dimension	s in inch	es [mm]	1		
<u>SBF-M5</u>	\$1.75	M5	0.31 [8.0]	0.20 [5.0]	0.35 [9.0]	0.12 [3.0]	0.01		
<u>SBF-18R</u>	\$2.75	R 1/8	0.47 [12.0]	0.24 [6.0]	0.47 [12.0]	0.16 [4.0]	0.01		
<u>SBF-14R</u>	\$3.00	R 1/4	0.67 [17.0]	0.32 [8.0]	0.59 [15.0]	0.16 [4.0]	0.01	2	
<u>SBF-38R</u>	\$4.25	R 3/8	0.75 [19.0]	0.35 [9.0]	0.67 [17.0]	0.20 [5.0]	0.05		
<u>SBF-12R</u>	\$8.75	R 1/2	0.94 [24.0]	0.40 [10.0]	0.71 [18.0]	0.24 [6.0]	0.15		

SBF Silencers



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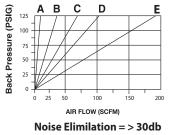


Exhaust Silencers

Flow Characteristics

Bronze Flat Silencers

A: SBF-M5 B: SBF-18N; SBF-18R C: SBF-14N; SBF-14R D: SBF-28N; SBF-14R E: SBF-12N; SBF-12R

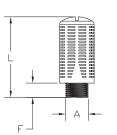


Filtered Element = 40 micron

SPL Silencers



- D



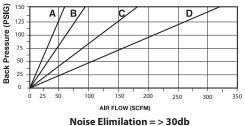
Note: SPL series plastic exhaust silencers have a maximum pressure of 80 PSI (5.5 bar).

Flow Characteristics

Plastic Silencers

A: SPL-18N; SPL-18R B: SPL-14N; SPL-14R C: SPL-38N; SPL-38R D: SPL-12N; SPL-12R

	NITRA™ Plastic Exhaust Silencers								
Inch Sizes - dimensions in inches [mm]									
Part No.	Price	A	D	L	F	Package Weight (lbs)	Qty. per pack		
<u>SPL-18N</u>	\$2.25	MNPT 1/8	0.55 [13.8]	1.28 [32.4]	0.33 [8.3]	0.02			
<u>SPL-14N</u>	\$2.50	MNPT 1/4	0.68 [17.3]	1.68 [42.5]	0.39 [9.9]	0.03	2		
<u>SPL-38N</u>	\$2.75	MNPT 3/8	0.87 [22.0]	2.10 [53.4]	0.40 [10.0]	0.06	2		
<u>SPL-12N</u>	\$2.75	MNPT 1/2	1.00 [25.4]	2.66 [67.6]	0.44 [11.1]	0.08			
	IV	letric Size	es - dime	nsions in .	inches [mm]			
<u>SPL-18R</u>	\$2.25	R 1/8	0.60 [15.2]	1.33 [33.7]	0.24 [6.1]	0.02			
<u>SPL-14R</u>	\$2.50	R 1/4	0.60 [18.8]	1.60 [40.6]	0.31 [7.7]	0.03	2		
<u>SPL-38R</u>	\$2.75	R 3/8	0.94 [24.0]	2.20 [55.9]	0.39 [9.9]	0.06	2		
<u>SPL-12R</u>	\$2.75	R 1/2	0.94 [24.0]	2.20 [55.9]	0.39 [9.9]	0.08			



Filtered Element = 40 micron



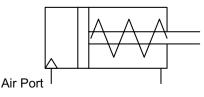
Pneumatic Cylinders - A-Series

Nitra A-Series Pneumatic Stainless Steel Round Body Air Cylinders

The NITRA Pneumatics A-Series non-repairable stainless steel round body cylinders includes bore sizes from 7/16" to 2" and stroke lengths from 1/2" to 18" to meet a broad range of applications. These high quality cylinders are constructed with stainless steel bodies and double rolled-in high strength aluminum end caps with full flow ports. To minimize friction the inside of the cylinder body is polished to a mirror finish and all cylinders are factory lubricated for optimum performance and long, reliable life. The high strength aluminum alloy piston is securely threaded and sealed to a piston rod that is ground and roller burnished 303 stainless steel (7/16" and 9/16" bores) or ground and polished high strength steel (3/4'' - 2''bores) with roll-formed threads for exceptional strength. Low friction wear compensating Buna N U-cup rod and piston seals, sintered bronze rod guide bushing (except 7/16" and 9/16" bores), and end caps with slots all combine for smooth breakaway even at low pressures.

Operation

Single-acting cylinders with spring return have one compressed air port to extend the rod in the "push" direction. The internal spring retracts in the "pull" direction.



Single-Acting Cylinder with Spring Return (Force in Push Direction)

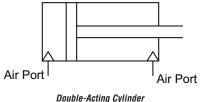
Mounting Options



Features

- Interchangeable with other common brands of round body cylinders
- Available bore sizes: 7/16", 9/16", 3/4", 7/8", 1-1/16", 1-1/4", 1-1/2", 2"
- Excellent selection of stroke lengths
- Single-acting (spring return) and double-acting models
- Nose, pivot and double-end mounting options
- Type 304 stainless steel body with high-strength aluminum alloy end caps
- Factory lubricated for long, maintenance-free operation
- 250 psi operating pressure
- Models available with magnetic piston for position indication
- All models are available for same-day shipment
- Made in North America
- 3-year warranty

Double-acting cylinders have two compressed air ports. One of the ports will extend the rod in the "push" direction and the other port will retract the rod in the "pull" directon.



(Force in Push and Pull Direction)

Nose mount uses one AMB bracket and one AN nut.

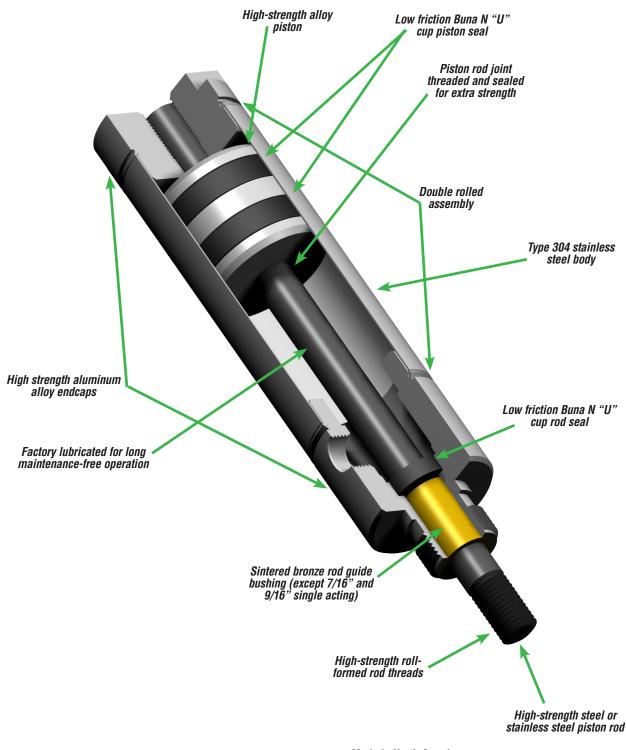
Pivot mount uses one APB or one APBP bracket.

Double end mount uses two AMB brackets and two AN nuts.



Pneumatic Cylinders - A-Series

Cylinder Features



Made in North America



7/16 in. Bore, Single-acting, Spring Return, Front Nose Mount



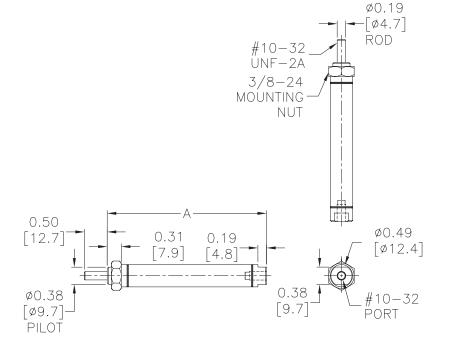
NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 7/16 inch bore, #10-32 port, single acting, spring return, front nose mount.

Cylinder, 7/16	in bore, single-act	ting, spring retur	n, front nos	e mount		
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price		
<u>A07005SN</u>	0.5	2.25	0.1	\$12.50		
<u>A07010SN</u>	1.0	3.19	0.1	\$14.00		
A07015SN	1.5	4.13	0.1	\$15.50		
A07020SN	2	5.07	0.1	\$16.50		
	Speci	fications				
304 SS cylinder body		0.15 sq. in. piston area				
High strength aluminum	end caps	Pre-lubricated for maintenance-free life				
303 SS piston rod		Pressure rating 250 psi				
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi =	15.0 lb.	Spring force = 1 lb. relaxed, 2 lb. compressed				

Mount Style		Bracket	Nut
Front Nose Mount		AMB-3	AN-38-24*
Rear Pivot Mount	-	-	
Double End Mount	Front	-	-
Double End Mount	Rear	-	-

* (1) Nut included with cylinder Cylinder rod clevis ARC-10-32 See end of 7/16" bore section for Accessories

Dimensions





7/16 in. Bore, Single-acting, Spring Return, Rear Pivot Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 7/16 inch bore, #10-32 port, single acting, spring return, rear pivot mount (pivot pin included).

Cylinder, 7/16 in bore, single acting, spring return, rear pivot mount							
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price			
A07005SP	0.5	2.69	0.1	\$16.50			
A07010SP	1.0	3.63	0.1	\$17.50			
A07015SP	1.5	4.57	0.1	\$19.00			
A07020SP	2	5.51	0.1	\$20.50			
	Speci	fications					
304 SS cylinder body		0.15 sq. in. piston area					
High strength aluminum	end caps	Pre-lubricated for maintenance-free life					
303 SS piston rod		Pressure rating 250 psi					
Low friction Buna-N seals	3	Temperature range -20°F to 200°F (-28 to 93°C)					
Extend force at 100 psi =	15.0 lb.	Spring force = 1 lb. relaxed, 2 lb. compressed					

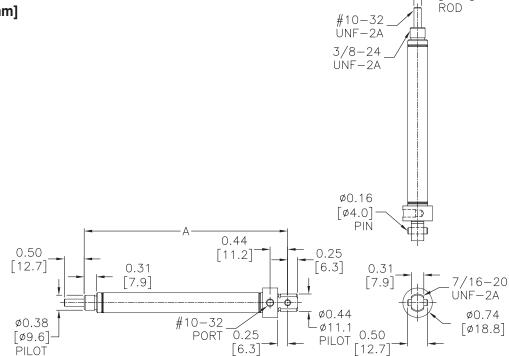
Mount Style		Bracket	Nut
Front Nose Mount		AMB-3	AN-38-24
Rear Pivot Mount		APB-1	-
Double End Mount	Front	AMB-3	AN-38-24
Double End Mount	Rear	AMB-4	AN-716-24

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[Ø4.7]

Cylinder rod clevis ARC-10-32 See end of 7/16" bore section for Accessories Note: Drive pin out for double end mounting

Dimensions





7/16 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 7/16 inch bore, #10-32 ports, double acting, front nose mount.

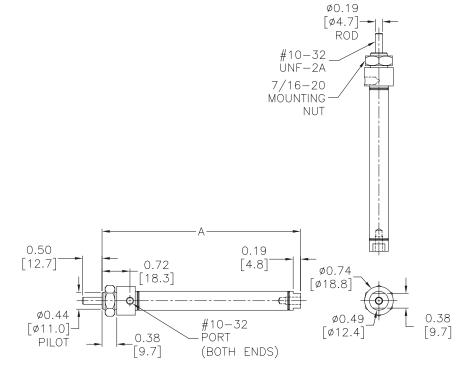
Part no. A07020DN

Cylinder	Cylinder, 7/16 in bore, double acting, front nose mount								
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price					
<u>A07005DN</u>	0.5	2.62	0.1	\$17.00					
A07010DN	1.0	3.12	0.1	\$18.50					
<u>A07015DN</u>	1.5	3.62	0.1	\$19.00					
A07020DN	2.0	4.12	0.1	\$20.00					
<u>A07030DN</u>	3.0	5.12	0.1	\$21.50					
<u>A07040DN</u>	4.0	6.12	0.2	\$22.50					
A07060DN	6.0	8.12	0.2	\$26.50					
	Speci	fications							
304 SS cylinder body		0.15 sq. in. piston area							
High strength aluminum	end caps	Pre-lubricated for maintenance-free life							
303 SS piston rod		Pressure rating 250 psi							
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)							
Extend force at 100 psi =	15.0 lb.	Retract force at 100 psi = 13.8 lb.							

Mount Style		Bracket	Nut
Front Nose Mount		AMB-4	AN-716-20*
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double Ena Mount	Rear	-	-

* (1) Nut included with cylinder Cylinder rod clevis ARC-10-32 See end of 7/16" bore section for Accessories

Dimensions





7/16 in. Bore, Double-acting, Rear Pivot Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 7/16 inch bore, #10-32 ports, double acting, rear pivot mount (pivot pin included).

Cylinder,	7/16 in bore, dou	ble acting, rea	ar pivot mou	nt	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
A07005DP	0.5	3.06	0.1	\$21.00	
A07010DP	1.0	3.56	0.1	\$21.50	
A07015DP	1.5	4.06	0.1	\$22.50	
A07020DP	2.0	4.56	0.1	\$23.00	
A07030DP	3.0	5.56	0.1	\$25.00	
	Specifi	cations			
304 SS cylinder body		0.15 sq. in. piston ar	ea		
High strength aluminum	end caps	Pre-lubricated for maintenance-free life			
303 SS piston rod Pressure rating 250 psi					
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)					
Extend force at 100 psi = 15.0 lb. Retract force at 100 psi = 13.8 lb.					

Mount Style		Bracket	Nut
Front Nose Mount		AMB-4	AN-716-20
Rear Pivot Mount		<u>APB-1</u>	-
Double End Mount	Pront Front		AN-716-20
Double End Mount	Rear	AMB-4	AN-716-20

Cylinder rod clevis ARC-10-32

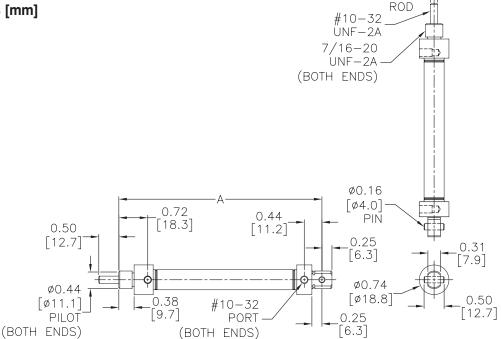
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See end of 7/16" bore section for Accessories Note: Drive pin out for double end mounting

Dimensions







A-Series Pneumatic Cylinders 7/16 inch Bore Accessories

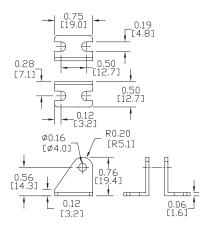
	A-Series Pneumatic Cylinder 7/16 inch Bore Accessories						
Part Number	Description	Pcs/Pkg	Wt (lb)	Price			
<u>APB-1</u>	Cylinder pivot mounting bracket without pivot pin used to mount 7/16 and 9/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.50			
	Cylinder mounting bracket used to mount 7/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.00			
	Cylinder mounting bracket used to mount 7/16 and 9/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.00			
<u>ARC-10-32</u>	Cylinder rod clevis and hex nut, #10-32 thread, for use with 7/16 and 9/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.50			
	Cylinder mounting nut with 3/8-24 UNF-2B threads used to mount 7/16 inch bore NITRA pneu- matic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$1.00			
	Cylinder mounting nut with 7/16-20 UNF-2B threads used to mount 7/16 inch and 9/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.2	\$1.00			

Dimensions

inches [mm]

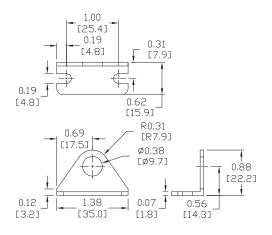
APB-1





AMB-3







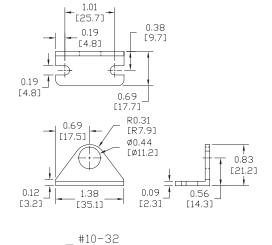
A-Series Pneumatic Cylinders 7/16 inch Bore Accessories

Dimensions

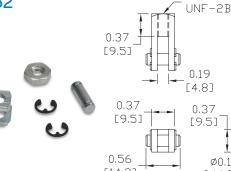
inches [mm]

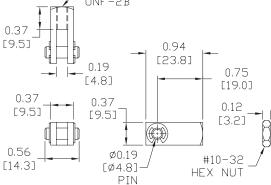






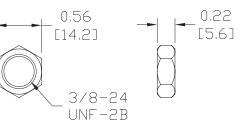






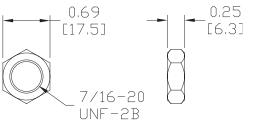
AN-38-24





AN-716-20







9/16 in. Bore, Single-acting, Spring Return, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 9/16 inch bore, #10-32 port, single acting, spring return, front nose mount.

Cylinder, 9/16 in	n bore, single acti	ng, spring retu	rn, front nos	se mount	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
<u>A09005SN</u>	0.5	2.34	0.1	\$13.00	
<u>A09010SN</u>	1.0	3.15	0.1	\$14.50	
<u>A09020SN</u>	2.0	4.77	0.2	\$17.00	
<u>A09030SN</u>	3.0	6.39	0.2	\$20.00	
	Specif	ications			
304 SS cylinder body		0.25 sq. in. piston are	a		
High strength aluminum	end caps	Pre-lubricated for maintenance-free life			
303 SS piston rod		Pressure rating 250 psi			
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi =	Extend force at 100 psi = 25.0 lb. Spring force = 2 lb. relaxed, 4 lb. compressed				

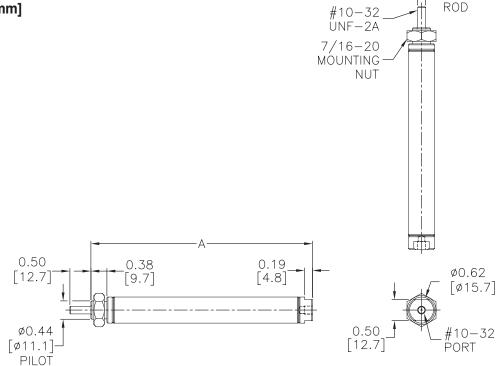
Mount Style		Bracket	Nut
Front Nose Mount		AMB-4	AN-716-20*
Rear Pivot Mount		-	-
Double End Mount Front Rear		-	-
		-	-

Ø0.19

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* (1) Nut included with cylinder Cylinder rod clevis ARC-10-32 See end of 9/16" bore section for Accessories

Dimensions





9/16 in. Bore, Single-acting, Spring Return, Double End Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 9/16 inch bore, #10-32 port, single acting, spring return, double end mount.

Part no. A09020SD

Cylinder, 9/16 in	n bore, single acti	ng, spring ret	urn, double ei	nd mount	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
<u>A09005SD</u>	0.5	2.62	0.1	\$17.50	
<u>A09010SD</u>	1.0	3.43	0.1	\$18.50	
<u>A09020SD</u>	2.0	5.05	0.2	\$21.00	
<u>A09030SD</u>	3.0	6.67	0.2	\$23.00	
	Speci	fications			
304 SS cylinder body		0.25 sq. in. piston ar	ea		
High strength aluminum	end caps	Pre-lubricated for ma	intenance-free life		
303 SS piston rod Pressure rating 250 psi					
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)				93°C)	
Extend force at 100 psi =	Extend force at 100 psi = 25.0 lb. Spring force = 2 lb. relaxed, 4 lb. compressed				

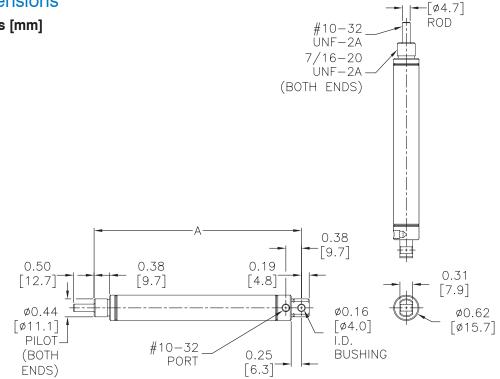
Mount Style		Bracket	Nut
Front Nose Mount		AMB-4	AN-716-20
Rear Pivot Mount		APBP-2	-
Front		AMB-4	AN-716-20
Double End Mount	Rear	AMB-4	AN-716-20

Cylinder rod clevis ARC-10-32

See end of 9/16" bore section for Accessories

Ø0.19

Dimensions





9/16 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 9/16 inch bore, #10-32 ports, double acting, front nose mount.

Cylinder,	9/16 in bore, doub	ole acting, fro	nt nose mou	int			
Part Number	Stroke Length (in.)	Stroke Length (in.) "A" (in) Weight (lbs) P					
A09005DN	0.5	2.78	0.1	\$17.50			
<u>A09010DN</u>	1.0	3.28	0.1	\$18.50			
A09020DN	2.0	4.28	0.1	\$20.50			
<u>A09030DN</u>	3.0	5.28	0.2	\$22.00			
<u>A09040DN</u>	4.0	6.28	0.2	\$23.50			
A09060DN	6.0	8.28	0.2	\$26.50			
Specifications							
304 SS cylinder body 0.25 sq. in. piston area							
High strength aluminum end caps Pre-lubricated for maintenance-free life							

Pressure rating 250 psi

Retract force at 100 psi = 22.2 lb.

Temperature range -20°F to 200°F (-28 to 93°C)

Mount Style		Bracket	Nut
Front Nose Mount		AMB-4	AN-716-20*
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double End Mount	Rear	-	-

Ø0.19

[ø4.7]

* (1) Nut included with cylinder Cylinder rod clevis ARC-10-32 See end of 9/16" bore section for Accessories

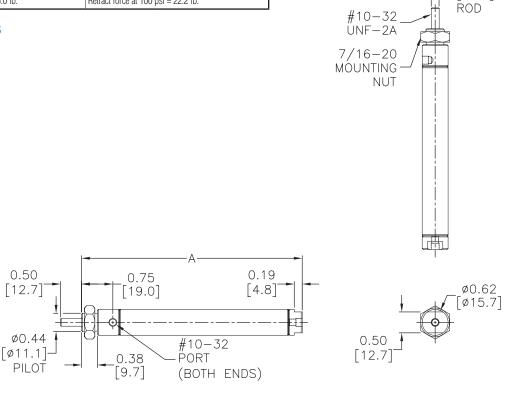
Dimensions

Low friction Buna-N seals

Extend force at 100 psi = 25.0 lb.

inches [mm]

303 SS piston rod





9/16 in. Bore, Double-acting, Double End Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 9/16 inch bore, #10-32 ports, double acting, double end mount.

Part no. A09020DD

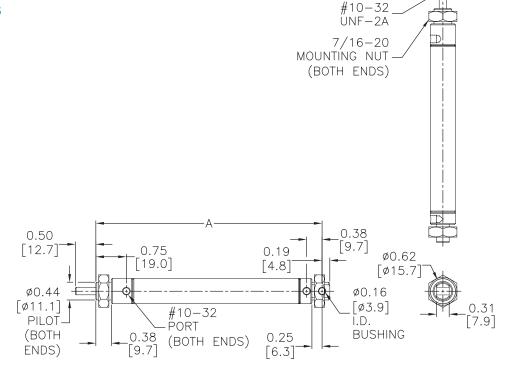
Cylinder,	9/16 in bore, doub	le acting, dou	ible end mou	ınt
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price
A09005DD	0.5	3.06	0.1	\$21.50
A09010DD	1.0	3.56	0.1	\$22.00
A09020DD	2.0	4.56	0.1	\$23.50
<u>A09030DD</u>	3.0	5.56	0.2	\$25.50
A09040DD	4.0	6.56	0.2	\$27.50
A09060DD	6.0	8.56	0.2	\$31.00
	Specifi	cations		
304 SS cylinder body		0.25 sq. in. piston area		
High strength aluminum	end caps	Pre-lubricated for maintenance-free life		
303 SS piston rod		Pressure rating 250 psi		
Low friction Buna-N seal	Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C			to 93°C)
Extend force at 100 psi =	Extend force at 100 psi = 25.0 lb. Retract force at 100 psi = 22.2 lb.			

Mount Style		Bracket	Nut
Front Nose Mount		AMB-4	AN-716-20*
Rear Pivot Mount		APBP-2	-
Double End Mount	Front	AMB-4	AN-716-20*
Double End Mount	Rear	AMB-4	AN-716-20*

* (2) Nuts included with cylinder Cylinder rod clevis ARC-10-32 See end of 9/16" bore section for Accessories

> Ø0.19 [ø4.7 ROD

Dimensions





9/16 in. Bore, Double-acting, Double End Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 9/16 inch bore, #10-32 ports, double acting, double end mount, magnetic piston.

Part no. A09020DD-M

Cylinder, 9/16 in bore, double acting, double end mount, magnetic piston					
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
<u>A09010DD-M</u>	1.0	3.56	0.1	\$32.00	
<u>A09020DD-M</u>	2.0	4.56	0.1	\$35.00	
A09030DD-M	3.0	5.56	0.2	\$36.50	
<u>A09040DD-M</u>	4.0	6.56	0.2	\$37.50	
A09060DD-M 6.0 8.56 0.2 \$41.0				\$41.00	
	Specifica	tions			

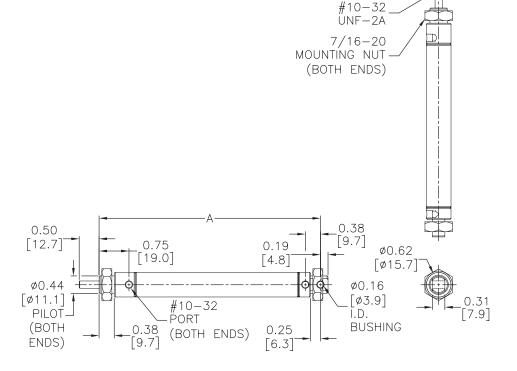
04 SS cylinder body 0.25 sq. in. piston area			
High strength aluminum end caps	Pre-lubricated for maintenance-free life		
303 SS piston rod	Pressure rating 250 psi		
Low friction Buna-N seals	Temperature range -20°F to 200°F (-28 to 93°C)		
Extend force at 100 psi = 25.0 lb.	Retract force at 100 psi = 22.2 lb.		

Mount Style		Bracket	Nut
Front Nose Mount		AMB-4	AN-716-20*
Rear Pivot Mount		APBP-2	-
Pouble End Mount		AMB-4	AN-716-20*
Double End Mount	Rear	AMB-4	AN-716-20*

* (2) Nuts included with cylinder Cylinder rod clevis ARC-10-32 See end of 9/16" bore section for Accessories

> Ø0.19 [Ø4.7] ROD

Dimensions



0.83 [21.2]

0.56 [14.3]



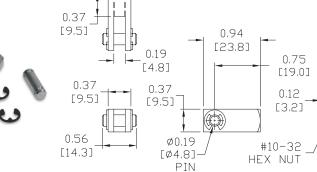
A-Series Pneumatic Cylinders 9/16 inch Bore Accessories

A-Series Pneumatic Cylinder 9/16 inch Bore Accessories						
Part Number	Description	Pcs/Pkg	Wt (lb)	Price		
<u>AMB-4</u>	Cylinder mounting bracket used to mount 7/16 and 9/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.00		
<u>ARC-10-32</u>	Cylinder rod clevis and hex nut, #10-32 thread, for use with 7/16 and 9/16 inch bore NITRA pneu- matic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.50		
<u>APBP-2</u>	Cylinder pivot mounting bracket with pivot pin used to mount 9/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$4.00		
	Cylinder mounting nut with 7/16-20 UNF-2B threads used to mount 7/16 inch and 9/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.2	\$1.00		

Dimensions

inches [mm]

____1.01 [25.7] AMB-4 0.38 [9.7] 0.19 [4.8] 0.19 [4.8] 1 0.69 [17.7] R0.31 [R7.9] 0.69 [17.5] Ø0.44 [ø11.2] 0.12] 0.09 1.38 [3.2] [35.1] [2.3] #10-32 ARC-10-32 UNF-2B 0.37 [9.5]





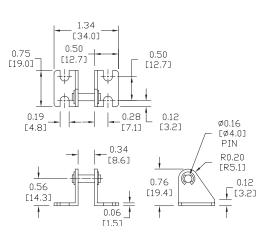
A-Series Pneumatic Cylinders 9/16 inch Bore Accessories

Dimensions

inches [mm]

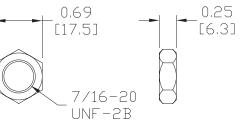
APBP-2





AN-716-20







3/4 in. Bore, Single-acting, Spring Return, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 3/4 inch bore, 1/8 NPT port, single acting, spring return, front nose mount.

Cylinder, 3/4 in	bore, single actin	g, spring retu	rn, front nos	e mount	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
<u>A12005SN</u>	0.5	2.69	0.1	\$14.00	
<u>A12010SN</u>	1.0	3.19	0.2	\$15.50	
<u>A12015SN</u>	1.5	4.38	0.2	\$16.50	
<u>A12020SN</u>	2.0	4.88	0.3	\$17.50	
<u>A12030SN</u>	3.0	6.57	0.3	\$20.50	
A12040SN	4.0	8.26	0.4	\$22.00	
<u>A12050SN</u>	5.0	9.95	0.5	\$24.50	
<u>A12060SN</u>	6.0	11.64	0.6	\$26.50	
	Specifi	cations			
304 SS cylinder body		0.40 sq. in. piston area			
High strength aluminum end caps		Pre-lubricated for maintenance-free life			
High-strength carbon-steel piston rod		Pressure rating 250 psi			
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi =	40.0 lb.	Spring force = 3 lb. r	elaxed, 6 lb. compr	essed	

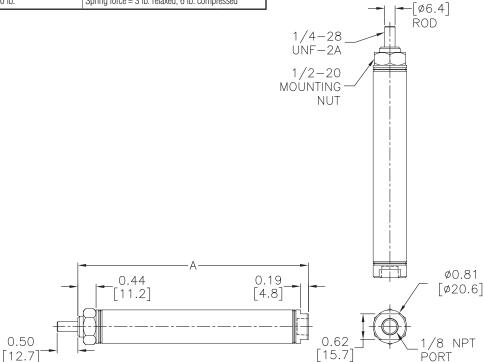
Mount Style		Bracket	Nut
Front Nose Mount		AMB-5	AN-12-20*
Rear Pivot Mount		-	-
Pront Front		-	-
Double End Mount	Rear	-	-

Ø0.25

* (1) Nut included with cylinder Cylinder rod clevis ARC-14-28

See end of 3/4" bore section for Accessories

Dimensions





3/4 in. Bore, Single-acting, Spring Return, Rear Pivot Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 3/4 inch bore, 1/8 NPT port, single acting, spring return, rear pivot mount (pivot pin included).

Cylinder, 3/4 in	bore, single actir	ıg, spring retu	ırn, rear pivo	ot mount	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
A12005SP	0.5	3.13	0.2	\$17.50	
A12010SP	1.0	3.97	0.2	\$18.50	
A12015SP	1.5	4.82	0.3	\$20.50	
A12020SP	2.0	5.66	0.3	\$21.50	
A12030SP	3.0	7.35	0.4	\$23.50	
A12040SP	4.0	9.04	0.5	\$25.50	
A12050SP	5.0	10.73	0.5	\$28.00	
A12060SP	6.0	12.42	0.6	\$31.00	
	Specifi	ications			
304 SS cylinder body		0.40 sq. in. piston area			
High strength aluminum	end caps	Pre-lubricated for maintenance-free life			
High-strength carbon-steel piston rod		Pressure rating 250 psi			
Low friction Buna-N sea	ls	Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi =	= 40.0 lb.	Spring force = 3 lb.	relaxed, 6 lb. compi	ressed	

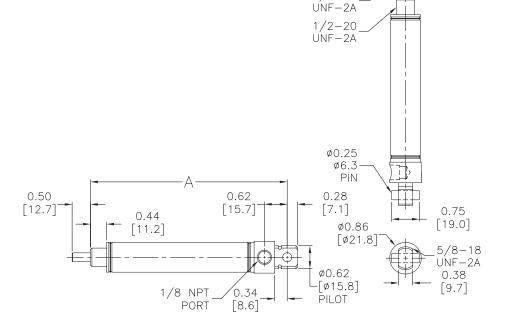
Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-5</u>	AN-12-20
Rear Pivot Mount		<u>APB-2</u>	-
Pouble End Mount		AMB-5	AN-12-20
Double End Mount	Rear	AMB-6	AN-58-18

Ø0.25 [Ø6.4] ROD

Cylinder rod clevis ARC-14-28 See end of 3/4" bore section for Accessories Note: Drive pin out for double end mounting

1/4-28

Dimensions





3/4 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 3/4 inch bore, 1/8 NPT ports, double acting, front nose mount.

Part no. A12020DN

Cylinder, 3/4 in bore, double acting, front nose mount						
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price		
<u>A12005DN</u>	0.5	3.47	0.2	\$21.50		
<u>A12010DN</u>	1.0	3.97	0.2	\$18.50		
<u>A12015DN</u>	1.5	4.47	0.3	\$22.50		
<u>A12020DN</u>	2.0	4.97	0.3	\$20.50		
<u>A12030DN</u>	3.0	5.97	0.3	\$22.00		
A12040DN	4.0	6.97	0.3	\$23.50		
A12050DN	5.0	7.97	0.4	\$25.50		
<u>A12060DN</u>	6.0	8.97	0.4	\$26.50		
<u>A12080DN</u>	8.0	10.97	0.5	\$31.00		
A12100DN	10.0	12.97	0.5	\$35.50		
A12120DN	12.0	14.97	0.6	\$38.00		
	Specific	ations				
304 SS cylinder body		0.40 sq. in. pistor	n area			
High strength aluminum	High strength aluminum end caps		Pre-lubricated for maintenance-free life			
High-strength carbon-ste	el piston rod	Pressure rating 250 psi				
Low friction Buna-N seal	S	Temperature rang	e -20°F to 200°F (-2	28 to 93°C)		
Extend force at 100 psi =	40.0 lb.	Retract force at 10)0 psi = 35.1 lb.			

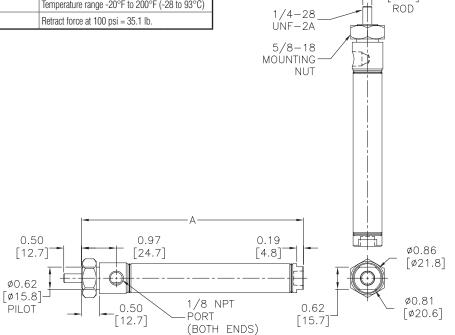
Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-6</u>	AN-58-18*
Rear Pivot Mount		-	-
Pront Front		-	-
Double End Mount	Rear	-	-

Ø0.25 [ø6.4]

* (1) Nut included with cylinder

Cylinder rod clevis ARC-14-28 See end of 3/4" bore section for Accessories

Dimensions





3/4 in. Bore, Double-acting, Rear Pivot Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 3/4 inch bore, 1/8 NPT ports, double acting, rear pivot mount (pivot pin included).

Part no. A12020DP

Cylinder, 3/4 in bore, double acting, rear pivot mount					
Gylinder,				nt	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
A12005DP	0.5	4.25	0.2	\$21.50	
A12010DP	1.0	4.75	0.2	\$22.00	
A12020DP	2.0	5.75	0.3	\$23.50	
A12030DP	3.0	6.75	0.3	\$25.50	
A12040DP	4.0	7.75	0.3	\$26.50	
<u>A12050DP</u>	5.0	8.75	0.4	\$28.50	
A12060DP	6.0	9.75	0.4	\$31.00	
A12080DP	8.0	11.75	0.5	\$35.50	
A12100DP	10.0	13.75	0.5	\$38.00	
A12120DP	12.0	15.75	0.6	\$41.50	
	Specific	ations			
304 SS cylinder body		0.40 sq. in. pistor	n area		
High strength aluminum	end caps	Pre-lubricated for maintenance-free life			
High-strength carbon-ste	High-strength carbon-steel piston rod Pressure rating 250 psi				
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi =	40.0 lb.	Retract force at 100 psi = 35.1 lb.			

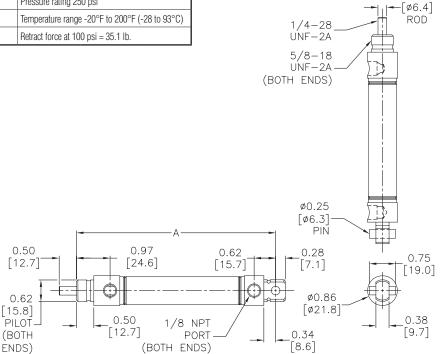
Mount Style		Bracket	Nut
Front Nose Mount		AMB-6	AN-58-18
Rear Pivot Mount		<u>APB-2</u>	-
Pront Front		AMB-6	AN-58-18
Double End Mount	Rear	AMB-6	AN-58-18

Cylinder rod clevis ARC-14-28

See end of 3/4" bore section for Accessories Note: Drive pin out for double end mounting

Dimensions

inches [mm]



Ø0.25



3/4 in. Bore, Double-acting, Rear Pivot Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 3/4 inch bore, 1/8 NPT ports, double acting, rear pivot mount (pivot pin included), magnetic piston.

Part no. A12020DP-M

Cylinder, 3/4 in	bore, double acti	ng, rear pivot	mount, Magno	etic Piston	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
A12010DP-M	1.0	4.75	0.2	\$32.00	
A12020DP-M	2.0	5.75	0.3	\$35.00	
<u>A12030DP-M</u>	3.0	6.75	0.3	\$36.00	
<u>A12040DP-M</u>	4.0	7.75	0.3	\$37.50	
<u>A12050DP-M</u>	5.0	8.75	0.4	\$39.00	
<u>A12060DP-M</u>	6.0	9.75	0.4	\$41.00	
<u>A12080DP-M</u>	8.0	11.75	0.5	\$44.50	
<u>A12100DP-M</u>	10.0	13.75	0.5	\$48.00	
<u>A12120DP-M</u>	12.0	15.75	0.6	\$51.00	
	Spec	ifications			
304 SS cylinder body		0.40 sq. in. piston area			
High strength aluminum	end caps	Pre-lubricated for maintenance-free life			
303 SS piston rod		Pressure rating 250 psi			
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)			93°C)		
Extend force at 100 psi =	40.0 lb.	Retract force at 100 p	osi = 35.1 lb.		

0.50

0.62 [15.8]

PILOT-

(BOTH

ENDS)

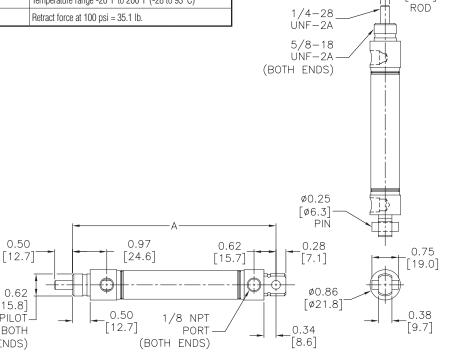
Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-6</u>	AN-58-18
Rear Pivot Mount		<u>APB-2</u>	-
Double End Mount	Front	<u>AMB-6</u>	AN-58-18
	Rear	AMB-6	AN-58-18

Cylinder rod clevis ARC-14-28

See end of 3/4" bore section for Accessories Note: Drive pin out for double end mounting

Dimensions

inches [mm]



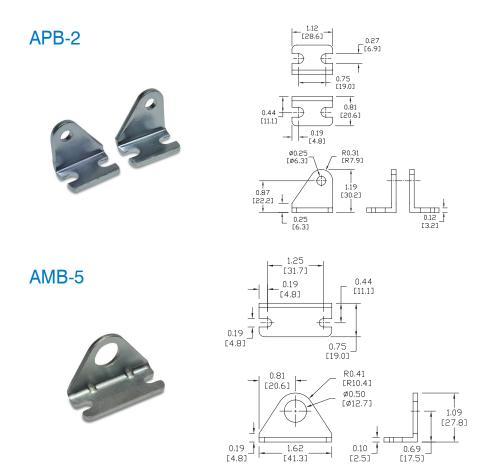
Ø0.25 [Ø6.4]



A-Series Pneumatic Cylinders 3/4 inch Bore Accessories

	A-Series Pneumatic Cylinder 3/4 inch Bore Accessories					
Part Number	Description	Pcs/Pkg	Wt (lb)	Price		
<u>APB-2</u>	Cylinder pivot mounting bracket without pivot pin used to mount 3/4, 7/8, and 1-1/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.50		
<u>AMB-5</u>	Cylinder mounting bracket used to mount 3/4 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$2.75		
<u>AMB-6</u>	Cylinder mounting bracket used to mount 3/4, 7/8, and 1-1/16 inch bore NITRA pneumatic stain- less steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.50		
<u>ARC-14-28</u>	Cylinder rod clevis and hex nut, 1/4-28 thread, for use with 3/4 and 7/8 inch bore NITRA pneu- matic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.75		
<u>AN-58-18</u>	Cylinder mounting nut with 5/8-18 UNF-2B threads used to mount 3/4, 7/8 and 1-1/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$1.00		
<u>AN-12-20</u>	Cylinder mounting nut with 1/2-10 UNF-2B threads used to mount 3/4 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.2	\$1.00		

Dimensions





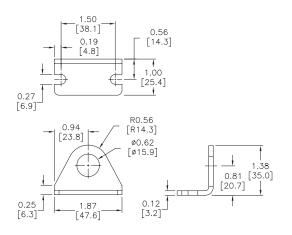
A-Series Pneumatic Cylinders 3/4 inch Bore Accessories

Dimensions

inches [mm]

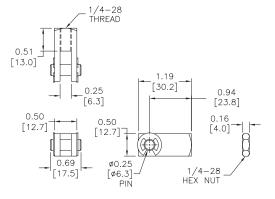
AMB-6





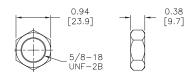
ARC-14-28





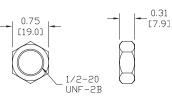
AN-58-18





AN-12-20







7/8 in. Bore, Single-acting, Spring Return, Front Nose Mount

Spring force = 3 lb. relaxed, 6 lb. compressed



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 7/8 inch bore, 1/8 NPT port, single acting, spring return, front nose mount.

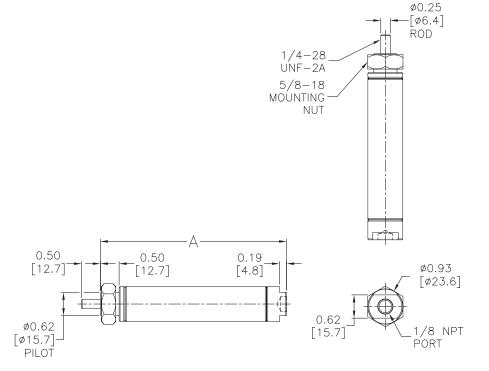
Part Number Stroke Length (in.) "A" (in) Weight (Ibs) Price						
<u>A14010SN</u>	1.0	3.40	0.3	\$16.50		
A14020SN	2.0	4.96	0.4	\$19.00		
A14030SN	3.0	6.52	0.4	\$22.00		
	Specifi	cations				
304 SS cylinder body 0.60 sq. in. piston area						
High strength aluminum end caps		Pre-lubricated for maintenance-free life				
High strength carbon steel piston rod		Pressure rating 250 psi				
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)				

Mount Style		Bracket	Nut
Front Nose Mount		AMB-6	AN-58-18*
Rear Pivot Mount		-	-
Pront Front		-	-
Double End Mount	Rear	-	-

* (1) Nut included with cylinder Cylinder rod clevis ARC-14-28 See end of 7/8" bore section for Accessories

Dimensions

Extend force at 100 psi = 60.0 lb.





7/8 in. Bore, Single-acting, Spring Return, Rear Pivot Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 7/8 inch bore, 1/8 NPT port, single acting, spring return, rear pivot mount (pivot pin included).

Part no. A14020SP

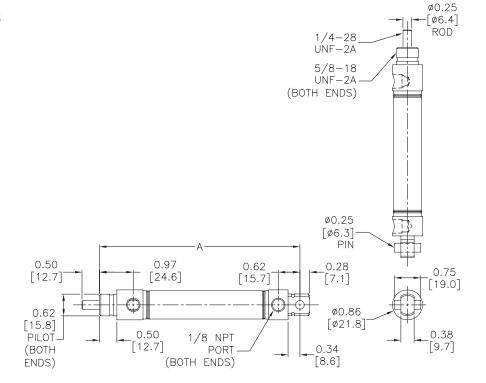
Cylinder, 7/8 in bore, single acting, spring return, rear pivot mount					
Part Number	Stroke Length (in.)	Price			
<u>A14010SP</u>	1.0	4.03	0.3	\$20.50	
<u>A14020SP</u>	2.0	5.59	0.4	\$23.00	
<u>A14030SP</u>	3.0	7.15	0.4	\$25.50	
Specifications					
304 SS cylinder body		0.60 sq. in. piston ar	ea		
High strength aluminum	end caps	Pre-lubricated for ma	aintenance-free life		
High strength carbon steel piston rod Pressure rating 250 psi					
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)				to 93°C)	
Extend force at 100 psi = 60.0 lb. Spring force = 3 lb. relaxed, 6 lb. compressed				essed	

Mount Style		Bracket	Nut
Front Nose Mount		AMB-6	AN-58-18
Rear Pivot Mount		<u>APB-2</u>	-
Double End Mount	Front	AMB-6	AN-58-18
Double End Mount	Rear	AMB-6	AN-58-18

Cylinder rod clevis ARC-14-28

See end of 7/8" bore section for Accessories Note: Drive pin out for double end mounting

Dimensions





7/8 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 7/8 inch bore, 1/8 NPT ports, double acting, front nose mount.

Part no. A14020DN

Cylinder,	7/8 in bore, doub	le acting, froi	nt nose mou	nt
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price
<u>A14010DN</u>	1.0	3.94	0.3	\$20.50
<u>A14020DN</u>	2.0	4.94	0.3	\$22.00
<u>A14030DN</u>	3.0	5.94	0.3	\$23.50
<u>A14040DN</u>	4.0	6.94	0.4	\$25.00
	Specifi	cations		
304 SS cylinder body		0.60 sq. in. piston ar	ea	
High strength aluminum	end caps	Pre-lubricated for ma	aintenance-free life	
High strength carbon steel piston rod Pressure rating 250 psi				
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)				to 93°C)
Extend force at 100 psi =	Extend force at 100 psi = 60.0 lb. Retract force at 100 psi = 55.1 lb.			

Mount Style		Bracket	Nut
Front Nose Mount		AMB-6	AN-58-18*
Rear Pivot Mount		-	-
Pront Front		-	-
Double End Mount	Rear	-	-

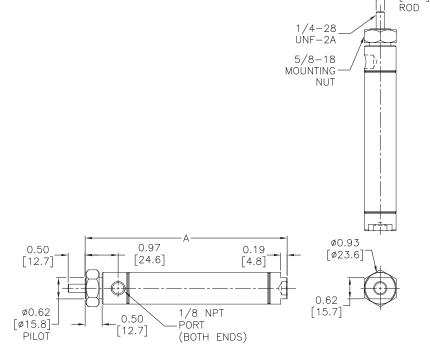
Ø0.25

[ø6.4]

* (1) Nut included with cylinder

Cylinder rod clevis ARC-14-28 See end of 7/8" bore section for Accessories

Dimensions





7/8 in. Bore, Double-acting, Double End Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 7/8 inch bore, 1/8 NPT ports, double acting, double end mount.

Part no. A14020DD

Cylinder, 7/8 in bore, double acting, double end mount					
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
<u>A14010DD</u>	1.0	4.56	0.4	\$26.00	
<u>A14020DD</u>	2.0	5.56	0.4	\$28.00	
<u>A14030DD</u>	3.0 6.56 0.4		\$29.00		
<u>A14040DD</u>	4.0	7.56	0.4	\$31.50	
	Specific	ations			
304 SS cylinder body		0.60 sq. in. pistor	area		
High strength aluminum	end caps	Pre-lubricated for	maintenance-free li	fe	
303 SS piston rod Pressure rating 250 psi					
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)					
Extend force at 100 psi = 60.0 lb. Retract force at 100 psi = 55.1 lb.					

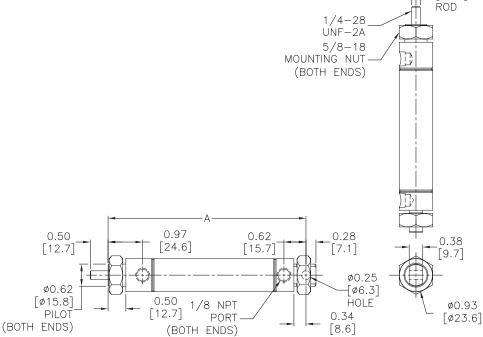
Mount Style		Bracket	Nut
Front Nose Mount		AMB-6	AN-58-18*
Rear Pivot Mount		APBP-3	-
Double End Mount	Front	AMB-6	AN-58-18*
Double End Mount	Rear	AMB-6	AN-58-18*

ø0.25

[ø6.4]

* (2) Nut included with cylinder Cylinder rod clevis ARC-14-28 See end of 7/8" bore section for Accessories

Dimensions inches [mm]





7/8 in. Bore, Double-acting, Double end Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 7/8 inch bore, 1/8 NPT ports, double acting, double end mount, magnetic piston.

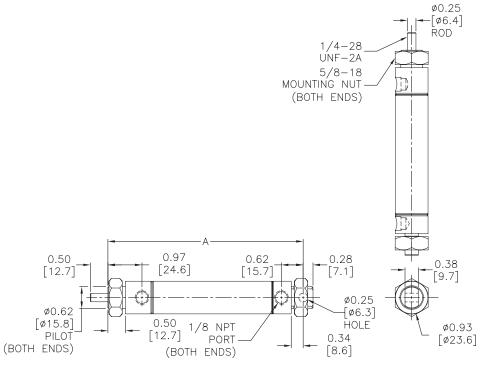
Part no. A14020DD-M

Cylinder, 7/8 in	bore, double actin	ig, double e	nd mount, mag	Cylinder, 7/8 in bore, double acting, double end mount, magnetic piston					
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price					
<u>A14010DD-M</u>	1.0	4.56	0.4	\$36.50					
<u>A14020DD-M</u>	2.0	5.56	0.4	\$38.00					
<u>A14030DD-M</u>	3.0	6.56	0.4	\$39.50					
<u>A14040DD-M</u>	4.0	7.56	0.4	\$41.50					
	Spec	ifications							
304 SS cylinder body		0.60 sq. in. pistor	n area						
High strength aluminum	end caps	Pre-lubricated for	maintenance-free life						
303 SS piston rod	303 SS piston rod Pressure rating 250 psi								
Low friction Buna-N seal	Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)								
Extend force at 100 psi = 60.0 lb. Retract force at 100 psi = 55.1 lb.									

Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-6</u>	AN-58-18*
Rear Pivot Mount		APBP-3	-
Proventia Fred Manual Fre		AMB-6	AN-58-18*
Double End Mount	Rear	AMB-6	AN-58-18*

* (2) Nuts included with cylinder Cylinder rod clevis ARC-14-28 See end of 7/8" bore section for Accessories

Dimensions





A-Series Pneumatic Cylinders 7/8 inch Bore Accessories

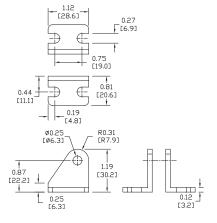
	A-Series Pneumatic Cylinder 7/8 inch Bore Accessories						
Part Number	Description	Pcs/Pkg	Wt (lb)	Price			
<u>APB-2</u>	Cylinder pivot mounting bracket without pivot pin used to mount 3/4, 7/8, and 1-1/16 inch bore, NITRA pneumatic, stainless stee,I round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.50			
<u>AMB-6</u>	Cylinder mounting bracket used to mount 3/4, 7/8, and 1-1/16 inch bore NITRA pneumatic, stain- less steel, round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.50			
<u>APBP-3</u>	Cylinder pivot mounting bracket with pivot pin used to mount 7/8 inch bore NITRA pneumatic, stainless steel, round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.75			
<u>ARC-14-28</u>	Cylinder rod clevis and hex nut, 1/4-28 thread, for use with 3/4 and 7/8 inch bore NITRA pneu- matic, stainless steel, round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.75			
<u>AN-58-18</u>	Cylinder mounting nut with 5/8-18 UNF-2B threads used to mount 3/4, 7/8 and 1-1/16 inch bore NITRA pneumatic, stainless steel, round body, interchangeable, non-repairable cylinders.	1	0.1	\$1.00			

Dimensions

inches [mm]

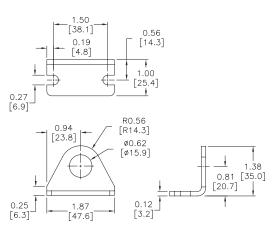
APB-2





AMB-6



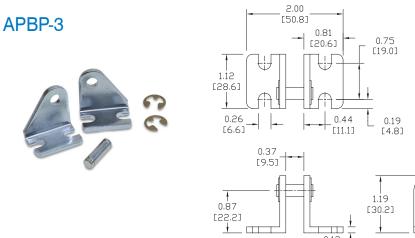


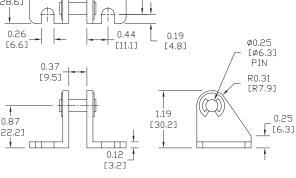


A-Series Pneumatic Cylinders 7/8 inch Bore Accessories

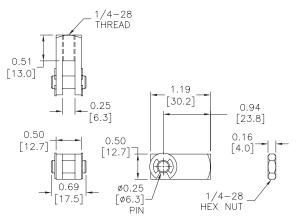
Dimensions

inches [mm]



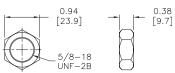






AN-58-18







1-1/16 in. Bore, Single-Acting, Spring Return, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/16 inch bore, 1/8 NPT port, single acting, spring return, front nose mount.

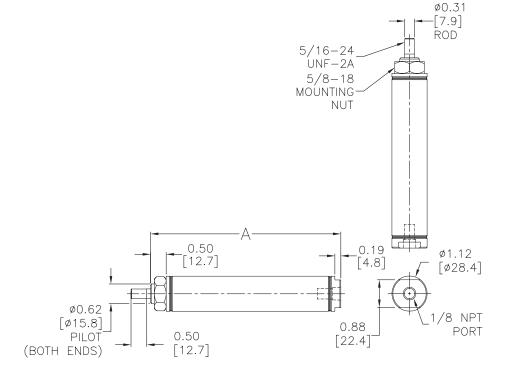
Part no. A17020SN

Cylinder, 1-1/16 in bore, single acting, spring return, front nose mount						
Part Number	Stroke Length (in)	"A" (in)	Weight (lbs)	Price		
<u>A17010SN</u>	1.0	3.50	0.3	\$17.50		
<u>A17020SN</u>	2.0	5.06	0.5	\$20.50		
<u>A17030SN</u>	3.0	6.62	0.6	\$23.00		
Specifications						
304 SS cylinder body	304 SS cylinder body 0.90 sq. in. piston area					
High strength aluminum	end caps	Pre-lubricated for ma	iintenance-free life			
High strength carbon stee	High strength carbon steel piston rod Pressure rating 250 psi					
Low friction Buna-N seals	S	Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi =	Extend force at 100 psi = 90.0 lb. Spring force = 3 lb. relaxed, 6 lb. compressed			ł		

Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-6</u>	AN-58-18*
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double End Mount	Rear	-	-

* (1) Nut included with cylinder Cylinder rod clevis ARC-516-24 See end of 1-1/16" bore section for Accessories

Dimensions





1-1/16 in. Bore, Single-acting, Spring Return, Rear Pivot Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/16 inch bore, 1/8 NPT port, single acting, spring return, rear pivot mount (pivot pin included).

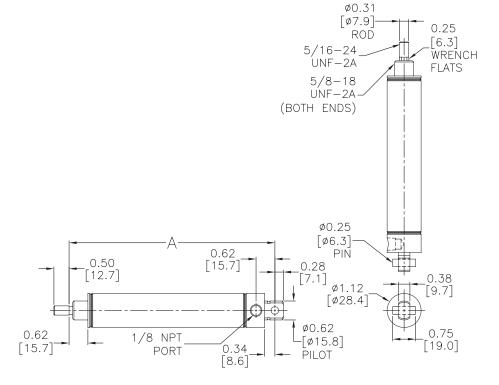
Cylinder, 1-1/16 in bore, single acting, spring return, rear pivot mount						
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price		
A17010SP	1.0	4.22	0.4	\$21.50		
A17020SP	2.0	5.78	0.5	\$23.50		
A17030SP	3.0	7.34	0.6	\$26.50		
Specifications						
304 SS cylinder body		0.90 sq. in. piston area				
High strength aluminum	end caps	Pre-lubricated for maintenance-free life				
High strength carbon steel piston rod		Pressure rating 250 psi				
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi =	90.0 lb.	Spring force = 3 lb. relaxed, 6 lb. compressed				

Mount Style		Bracket	Nut
Front Nose Mount		AMB-6	AN-58-18
Rear Pivot Mount		<u>APB-2</u>	-
Double End Mount	Front	AMB-6	AN-58-18
Double End Mount	Rear	AMB-6	AN-58-18

Cylinder rod clevis ARC-516-24

See end of 1-1/16" bore section for Accessories Note: Drive pin out for double end mounting

Dimensions





1-1/16 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, 1-1/16 inch bore, 1/8 NPT ports, double acting, front nose mount.

Cylinder	, 1-1/16 in bore, d	ouble acting	j, front nose mou	nt	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
<u>A17005DN</u>	0.5	3.62	0.4	\$21.00	
<u>A17010DN</u>	1.0	4.12	0.4	\$21.50	
A17020DN	2.0	5.12	0.4	\$23.00	
<u>A17030DN</u>	3.0	6.12	0.5	\$25.00	
<u>A17040DN</u>	4.0	7.12	0.5	\$26.00	
<u>A17050DN</u>	5.0	8.12 0.6			
<u>A17060DN</u>	6.0	9.12	0.6	\$29.50	
<u>A17080DN</u>	8.0	11.12 0.7			
<u>A17100DN</u>	10.0	13.12	0.8	\$37.50	
<u>A17120DN</u>	12.0	15.12	0.9	\$41.00	
	Spec	ifications			
304 SS cylinder body		0.90 sq. in. piston area			
High strength aluminum	end caps	Pre-lubricated for maintenance-free life			
High Strength carbon ste	el piston rod	Pressure rating 250 psi			
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi =	90.0 lb.	Retract force at 10	0 psi = 82.3 lb.		

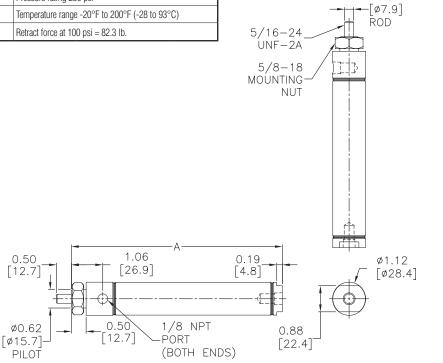
Mount Style		Bracket	Nut
Front Nose Mount		AMB-6	AN-58-18*
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double End Mount	Rear	-	-

Ø0.31

* (1) Nut included with cylinder Cylinder rod clevis ARC-516-24

See end of 1-1/16" bore section for Accessories

Dimensions





1-1/16 in. Bore, Double-acting, Rear Pivot Mount



NITRA pneumatic stainless steel round body, interchangeable, 1-1/16 inch bore, 1/8 NPT ports, double acting, rear pivot mount (pivot pin included).

Cylinde	er, 1-1/16 in bore,	double acting	, rear pivot mount		
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
<u>A17010DP</u>	1.0	4.84	0.4	\$25.00	
<u>A17020DP</u>	2.0	5.84	0.4	\$26.50	
A17030DP	3.0	6.84	0.5	\$28.50	
<u>A17040DP</u>	4.0	7.84	0.5	\$31.00	
<u>A17050DP</u>	5.0	8.84	0.6	\$33.00	
A17060DP	6.0	9.84	0.6	\$35.00	
A17080DP	8.0	11.84	0.7	\$38.00	
A17100DP	10.0	13.84 0.8		\$41.50	
A17120DP	12.0	15.84	0.9	\$45.00	
	Spe	cifications			
304 SS cylinder body		0.90 sq. in. piston ar	ea		
High strength aluminum	ligh strength aluminum end caps		Pre-lubricated for maintenance-free life		
High strength carbon stee	el piston rod	Pressure rating 250 psi			
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi =	90.0 lb.	Retract force at 100 p	si = 82.3 lb.		

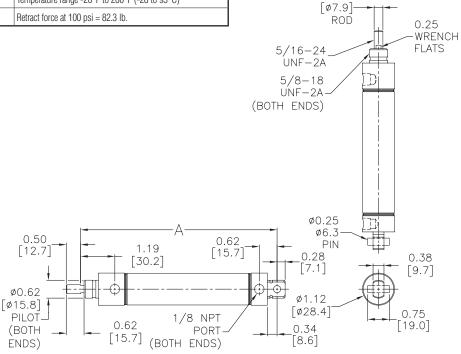
Mount Style		Bracket	Nut
Front Nose Mount		AMB-6	AN-58-18
Rear Pivot Mount		<u>APB-2</u>	-
Double End Mount	Front	AMB-6	AN-58-18
	Rear	AMB-6	AN-58-18

Cylinder rod clevis ARC-516-24

See end of 1-1/16" bore section for Accessories Note: Drive pin out for double end mounting

Ø0.31

Dimensions





1-1/16 in. Bore, Double-acting, Rear Pivot Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, 1-1/16 inch bore, 1/8 NPT ports, double acting, rear pivot mount, magnetic piston (pivot pin included).

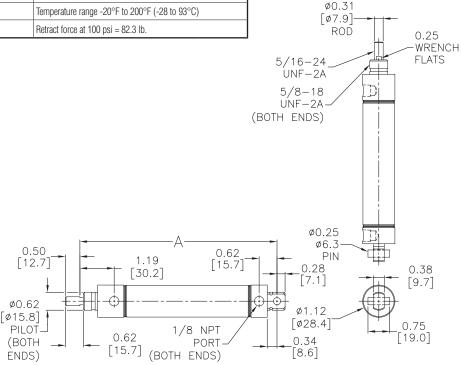
Cylinder, 1-1/16 in bore, double acting, rear pivot mount, magnetic piston Part Number Stroke Length (in) "A" (in) Weight (lbs) Price A17010DP-M 1.0 4.84 0.4 \$38.00 A17020DP-M 2.0 5.84 0.4 \$39.50 3.0 6.84 0.5 A17030DP-M \$41.50 A17040DP-M 4.0 7.84 0.5 \$43.00 A17050DP-M 5.0 8.84 0.6 \$45.00 A17060DP-M 6.0 9.84 0.6 \$47.00 A17080DP-M 0.7 8.0 11.84 \$50.00 A17100DP-M 10.0 13.84 0.8 \$53.00 A17120DP-M 12.0 15.84 0.9 \$57.00 **Specifications** 0.90 sq. in. piston area 304 SS cylinder body High strength aluminum end caps Pre-lubricated for maintenance-free life 303 SS piston rod Pressure rating 250 psi Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C) Extend force at 100 psi = 90.0 lb. Retract force at 100 psi = 82.3 lb.

Mount Style		Bracket	Nut
Front Nose Mount		AMB-6	AN-58-18
Rear Pivot Mount		<u>APB-2</u>	-
Double End Mount	Front	AMB-6	AN-58-18
	Rear	<u>AMB-6</u>	AN-58-18

Cylinder rod clevis ARC-516-24

See end of 1-1/16" bore section for Accessories Note: Drive pin out for double end mounting

Dimensions





A-Series Pneumatic Cylinders 1-1/16 inch Bore Accessories

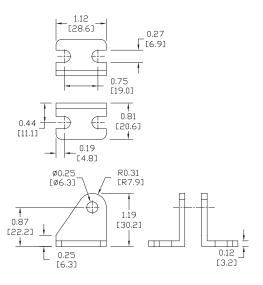
A-Series Pneumatic Cylinder 1-1/16 inch Bore Accessories							
Part Number	Description	Pcs/Pkg	Wt (lb)	Price			
<u>APB-2</u>	Cylinder pivot mounting bracket without pivot pin used to mount 3/4, 7/8, and 1-1/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.2	\$3.50			
<u>AMB-6</u>	Cylinder mounting bracket used to mount 3/4, 7/8, and 1-1/16 inch bore NITRA pneumatic stain- less steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.50			
<u>ARC-516-24</u>	Cylinder rod clevis and hex nut, 5/16-24 thread, for use with 1-1/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$3.75			
<u>AN-58-18</u>	Cylinder mounting nut with 5/8-18 UNF-2B threads used to mount 3/4, 7/8 and 1-1/16 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$1.00			

Dimensions

inches [mm]

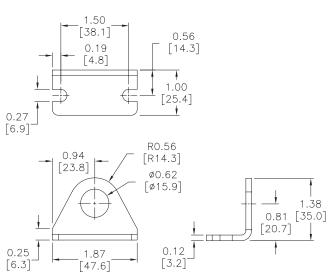
APB-2





AMB-6







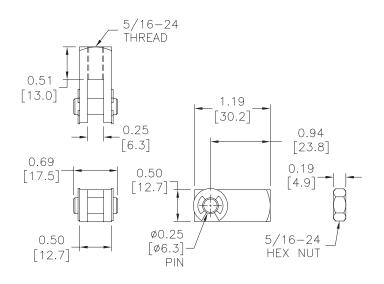
A-Series Pneumatic Cylinders 1-1/16 inch Bore Accessories

Dimensions

inches [mm]

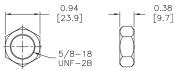
ARC-516-24





AN-58-18







1-1/4 in. Bore, Single-acting, Spring Return, Front Nose Mount



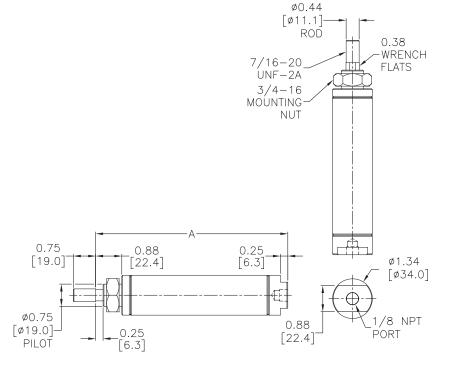
NITRA pneumatic stainless steel round body interchangeable, non-repairable cylinder, 1-1/4 inch bore, 1/8 NPT port, single acting, spring return, front nose mount.

Cylinder, 1-1/4	Cylinder, 1-1/4 in bore, single acting, spring return, front nose mount						
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price			
<u>A20010SN</u>	1.0	4.47	0.6	\$27.50			
A20020SN	2.0	6.28	0.8	\$31.50			
A20030SN	3.0	8.09	1.0	\$35.50			
Specifications							
304 SS cylinder body	304 SS cylinder body 1.2 sq. in. piston area						
High strength aluminum	end caps	Pre-lubricated for ma	aintenance-free life				
High strength carbon ste	High strength carbon steel piston rod Pressure rating 250 psi						
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)			to 93°C)				
Extend force at 100 psi =	120.0 lb.	Spring force = 7.5 lb	. relaxed, 15 lb. cor	mpressed.			

Mount Style		Bracket	Nut
Front Nose Mount		AMB-7	AN-34-16*
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double End Mount	Rear	-	-

* (1) Nut included with cylinder Cylinder rod clevis ARC-716-20 See end of 1-1/4" bore section for Accessories

Dimensions





1-1/4 in. Bore, Single-acting, Spring Return, Double End Mount



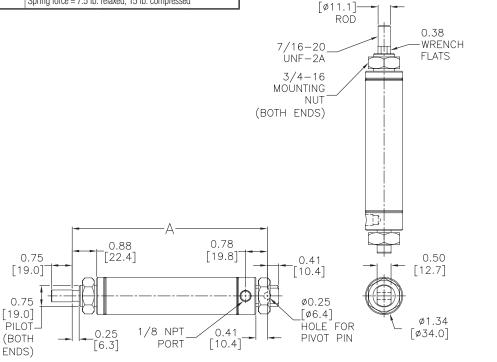
NITRA pneumatic stainless steel round body interchangeable, non-repairable cylinder, 1-1/4 inch bore, 1/8 NPT port, single acting, spring return, double end mount.

Cylinder, 1-1/	Cylinder, 1-1/4 in bore, single acting, spring return, double end mount					
Part Number	Stroke Length (in)	"A" (in)	Weight (lbs)	Price		
<u>A20010SD</u>	1.0	5.19	0.7	\$34.00		
<u>A20020SD</u>	2.0	7.00	1.0	\$37.50		
A20030SD	3.0	8.81	1.2	\$41.00		
	Spo	ecifications				
304 SS cylinder body		1.2 sq. in. piston are	a			
High strength aluminu	m end caps	Pre-lubricated for ma	iintenance-free life			
High strength carbon steel piston rod Pressure rating 250 psi						
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)						
Extend force at 100 psi = 120.0 lb. Spring force = 7.5 lb. relaxed, 15 lb. compressed						

Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-7</u>	AN-34-16*
Rear Pivot Mount		APBP-4	-
Pouble End Mount Front		AMB-7	AN-34-16*
Double End Mount	Rear	AMB-7	AN-34-16*

* (2) Nuts included with cylinder Cylinder rod clevis ARC-716-20 See end of 1-1/4" bore section for Accessories

Ø0.44



Dimensions



1-1/4 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body interchangeable, non-repairable cylinder, 1-1/4 inch bore, 1/8 NPT ports, double acting, front nose mount.

Cylinder	, 1-1/4 in bore, do	uble acting, f	ront nose moui	nt	
Part Number	Stroke Length (in)	"A" (in)	Weight (lbs)	Price	
A20010DN	1.0	5.00	0.7	\$33.00	
A20020DN	2.0	6.00	0.7	\$35.50	
A20030DN	3.0	7.00	0.8	\$37.50	
<u>A20040DN</u>	4.0	8.00	0.9	\$39.50	
<u>A20050DN</u>	5.0	9.00	1.0	\$41.50	
A20060DN	6.0	10.0	1.1	\$44.50	
A20080DN	8.0	12.0	1.2	\$48.50	
	Speci	fications			
304 SS cylinder body		1.2 sq. in. piston are	a		
High strength aluminum	High strength aluminum end caps Pre-lubricated for maintenance-free life				
High strength carbon ste	gh strength carbon steel piston rod Pressure rating 250 psi				
Low friction Buna-N seal	riction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)			3°C)	
Extend force at 100 psi =	120.0 lb.	Retract force at 100 psi = 105.0 lb.			

Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-7</u>	AN-34-16*
Rear Pivot Mount		-	-
Pront Front		-	-
Double End Mount	Rear	-	-

* (1) Nut included with cylinder

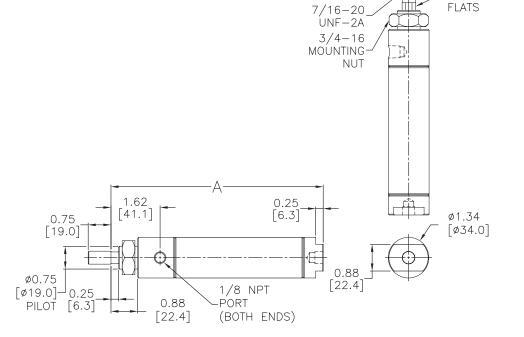
Cylinder rod clevis ARC-716-20

See end of 1-1/4" bore section for Accessories

Ø0.44 [Ø11.1] ROD

Dimensions

inches [mm]



0.38 WRENCH



1-1/4 in. Bore, Double-acting, Double End Mount



NITRA pneumatic stainless steel round body interchangeable, non-repairable cylinder, 1-1/4 inch bore, 1/8 NPT ports, double acting, double end mount.

Cylinder	, 1-1/4 in bore, do	uble acting, d	ouble end mou	nt	
Part Number	Stroke Length (in)	"A" (in)	Weight (lbs)	Price	
A20010DD	1.0	5.72	0.8	\$38.50	
A20020DD	2.0	6.72	0.9	\$41.00	
<u>A20030DD</u>	3.0	7.72	1.0	\$43.00	
A20040DD	4.0	8.72	1.0	\$46.00	
<u>A20050DD</u>	5.0	9.72	1.1	\$48.00	
<u>A20060DD</u>	6.0	10.72 1.2		\$49.50	
A20080DD	8.0	12.72	1.4	\$53.00	
A20100DD	10.0	14.72	1.5	\$59.00	
A20120DD	12.0	16.72	1.7	\$63.00	
	Spec	ifications			
304 SS cylinder body		1.2 sq. in. piston area			
High strength aluminum	High strength aluminum end caps		Pre-lubricated for maintenance-free life		
High strength carbon ste	High strength carbon steel piston rod		d Pressure rating 250 psi		
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi =	120.0 lb.	Retract force at 100 p	si = 105.0 lb.		

0.88

0.25

[6.3]

0.75

[19.0]

0.75

[19.0]

(BOTH

ENDS)

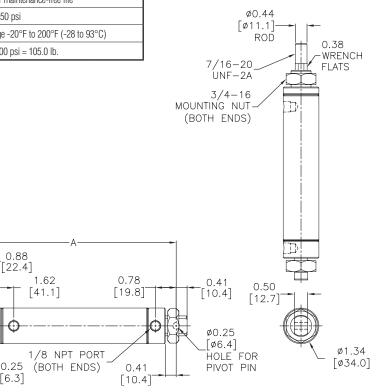
PILOT-

Mount Style		Bracket	Nut
Front Nose Mount		AMB-7	AN-34-16*
Rear Pivot Mount		APBP-4	-
Pouble Fred Mount Front		AMB-7	AN-34-16*
Double End Mount	Rear	AMB-7	AN-34-16*

* (2) Nuts included with cylinder Cylinder rod clevis ARC-716-20

See end of 1-1/4" bore section for Accessories

Dimensions





1-1/4 in. Bore, Double-acting, Double End Mount, Magnetic Piston



NITRA pneumatic stainless steel round body interchangeable, non-repairable cylinder, 1-1/4 inch bore, 1/8 NPT ports, double acting, double end mount, magnetic piston.

Cylinder, 1-1/4 in	ı bore, double act	ing, double er	nd mount, magnet	tic piston		
Part Number	Stroke Length (in)	"A" (in)	Weight (lbs)	Price		
A20010DD-M	1.0	5.72	0.8	\$50.00		
<u>A20020DD-M</u>	2.0	6.72	0.9	\$53.00		
<u>A20030DD-M</u>	3.0	7.72	1.0	\$55.00		
<u>A20040DD-M</u>	4.0	8.72	1.0	\$57.00		
<u>A20050DD-M</u>	5.0	9.72	1.1	\$59.00		
<u>A20060DD-M</u>	6.0	10.72	1.2	\$62.00		
<u>A20080DD-M</u>	8.0	12.72	1.4	\$66.00		
<u>A20100DD-M</u>	10.0	14.72	1.5	\$72.00		
A20120DD-M	12.0	16.72	1.7	\$75.00		
	Spec	ifications				
304 SS cylinder body		1.2 sq. in. piston area				
High strength aluminum e	High strength aluminum end caps		Pre-lubricated for maintenance-free life			
303 SS piston rod		Pressure rating 250 psi				
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi = 1	20.0 lb.	Retract force at 100 p	osi = 105.0 lb.			

0.75

0.75

[19.0]

PILOT

(BOTH

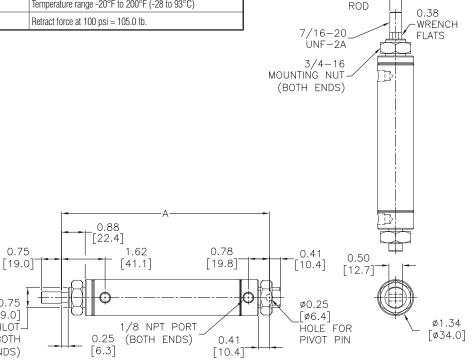
ENDS)

Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-7</u>	AN-34-16*
Rear Pivot Mount		APBP-4	-
Pouble Fred Mount		<u>AMB-7</u>	AN-34-16*
Double End Mount	Rear	<u>AMB-7</u>	AN-34-16*

* (2) Nuts included with cylinder Cylinder rod clevis ARC-716-20 See end of 1-1/4" bore section for Accessories

> Ø0.44 [ø11.1]

Dimensions





A-Series Pneumatic Cylinders 1-1/4 inch Bore Accessories

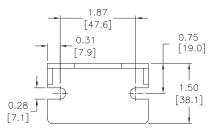
	A-Series Pneumatic Cylinder 1-1/4 inch Bore Accessories						
Part Number	Description	Pcs/Pkg	Wt (lb)	Price			
<u>AMB-7</u>	Cylinder mounting bracket used to mount 1-1/4 and 1-1/2 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.2	\$5.25			
<u>APBP-4</u>	Cylinder pivot mounting bracket with pivot pin used to mount 1-1/4 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$7.25			
<u>ARC-716-20</u>	Cylinder rod clevis and hex nut, 7/16-20 thread, for use with 1-1/4 and 1-1/2 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$6.25			
<u>AN-34-16</u>	Cylinder mounting nut with 3/4-16 UNF-2B threads used to mount 1-1/4 and 1-1/2 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$1.00			

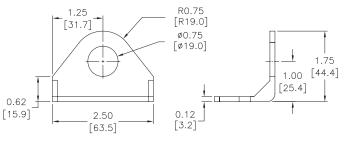
Dimensions

inches [mm]



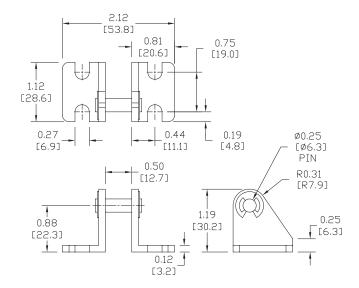






APBP-4



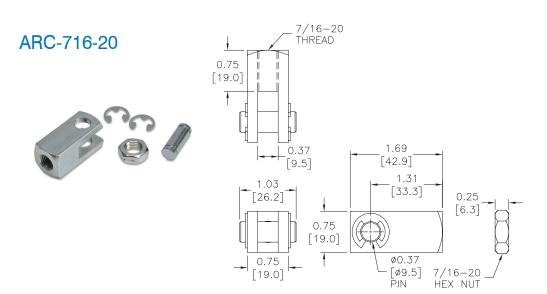




A-Series Pneumatic Cylinders 1-1/4 inch Bore Accessories

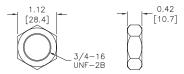
Dimensions

inches [mm]



AN-34-16







1-1/2 in. Bore, Single-acting, Spring Return, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/2 inch bore, 1/8 NPT port, single acting, spring return, front nose mount.

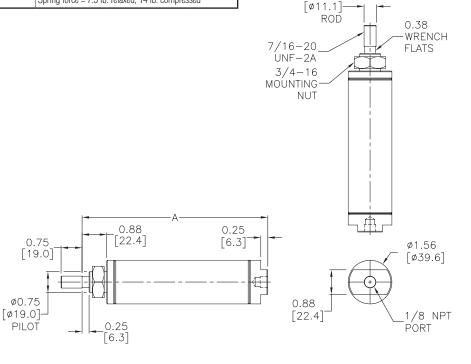
Cylinder, 1-1/2	in bore, single ac	ting, spring re	eturn, front nos	e mount	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
A24010SN	1.0	4.13	0.7	\$31.00	
<u>A24020SN</u>	2.0	5.82	0.9	\$36.00	
A24030SN	3.0	7.51	1.1	\$39.50	
A24040SN	4.0	9.20	1.3	\$44.50	
A24050SN	5.0	10.89	1.5	\$48.50	
<u>A24060SN</u>	6.0	12.58	1.8	\$52.00	
	Speci	ifications			
304 SS cylinder body		1.7 sq. in. piston are	а		
High strength aluminum	High strength aluminum end caps		Pre-lubricated for maintenance-free life		
High strength carbon ste	High strength carbon steel piston rod		Pressure rating 250 psi		
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi =	170.0 lb.	Spring force = 7.5 lb. relaxed, 14 lb. compressed			

Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-7</u>	AN-34-16*
Rear Pivot Mount		-	-
Pouble Ford Mount Front		-	-
Double End Mount	Rear	-	-

* (1) Nut included with cylinder Cylinder rod clevis ARC-716-20 See end of 1-1/2" bore section for Accessories

Ø0.44

Dimensions





1-1/2 in. Bore, Single-acting, Spring Return, Rear Pivot Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/2 inch bore, 1/8 NPT port, single acting, spring return, rear pivot mount (pivot pin included). Cylinder cannot be double end mounted.

Cylinder, 1-1/2 in bore, single acting, spring return, rear pivot mount						
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price		
A24010SP	1.0	4.81	0.7	\$36.50		
A24020SP	2.0	6.50	0.9	\$40.00		
A24030SP	3.0	8.19	1.1	\$45.00		
A24040SP	4.0	9.88	1.3	\$49.00		
A24050SP	5.0	11.57	1.6	\$53.00		
A24060SP	6.0	13.26	1.8	\$57.00		
Specifications						
304 SS cylinder body	1.7 sq. in. piston area					
High strength aluminum	end caps	Pre-lubricated for maintenance-free life				

Pressure rating 250 psi

Temperature range -20°F to 200°F (-28 to 93°C)

Spring force = 7.5 lb. relaxed, 14 lb. compressed

Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-7</u>	AN-34-16
Rear Pivot Mount		APB-3	-
Pouble Fred Mount		-	-
Double End Mount		-	-

Cylinder rod clevis ARC-716-20

See end of 1-1/2" bore section for Accessories

Ø0.44

ROD

0.38

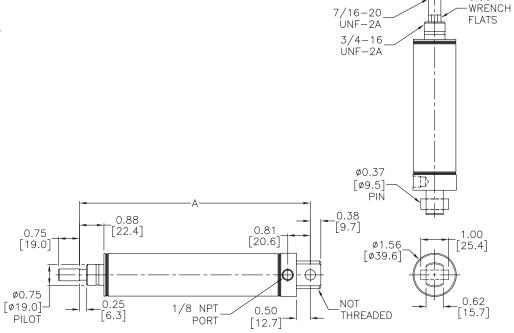
[ø11.1]

Dimensions

Low friction Buna-N seals

High strength carbon steel piston rod

Extend force at 100 psi = 170.0 lb.





1-1/2 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/2 inch bore, 1/8 NPT ports, double acting, front nose mount.

Part no. A24020DN

Cylinder	, 1-1/2 in bore, do	uble acting, f	ront nose mour	nt	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
<u>A24010DN</u>	1.0	4.69	0.8	\$36.00	
<u>A24015DN</u>	1.5	5.19	0.8	\$37.00	
<u>A24020DN</u>	2.0	5.69	0.9	\$38.00	
<u>A24030DN</u>	3.0	6.69	0.9	\$41.00	
<u>A24040DN</u>	4.0	7.69	1.0	\$44.00	
<u>A24050DN</u>	5.0	8.69	1.1	\$46.50	
<u>A24060DN</u>	6.0	9.69	1.2	\$50.00	
A24070DN	7.0	10.69	1.3	\$51.00	
<u>A24080DN</u>	8.0	11.69	1.3	\$53.00	
A24090DN	9.0	12.69	1.4	\$57.00	
<u>A24100DN</u>	10.0	13.69	1.5	\$59.00	
A24110DN	11.0	14.69	1.6	\$62.00	
A24120DN	12.0	15.69	1.7	\$64.00	
	Speci	fications			
304 SS cylinder body		1.7 sq. in. piston are	а		
High strength aluminum	end caps	Pre-lubricated for maintenance-free life			
High strength carbon ste	High strength carbon steel piston rod		Pressure rating 250 psi		
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi =	170.0 lb.	Retract force at 100 p	osi = 155.0 lb.		

0.75

[19.0]

PILOT [6.3]

0.25

ø0.75

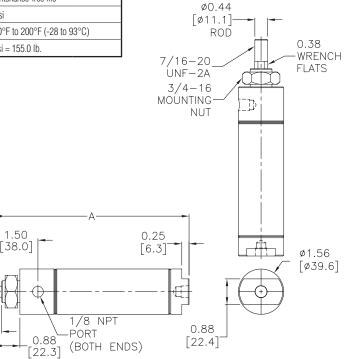
[ø19.0]-

Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-7</u>	AN-34-16*
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double End Mount	Rear	-	-

* (1) Nut included with cylinder Cylinder rod clevis ARC-716-20

See end of 1-1/2" bore section for Accessories

Dimensions





1-1/2 in. Bore, Double-acting, Rear Pivot Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/2 inch bore, 1/8 NPT ports, double acting, rear pivot mount (pivot pin included). Cylinder cannot be double end mounted.

Cylinde	r, 1-1/2 in bore, do	buble acting, i	ear pivot moun	t		
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price		
A24010DP	1.0	5.38	0.8	\$40.00		
A24020DP	2.0	6.38	0.9	\$43.00		
A24030DP	3.0	7.38	1.0	\$46.00		
A24040DP	4.0	8.38	1.1	\$48.50		
A24050DP	5.0	9.38	1.1	\$50.00		
A24060DP	6.0	10.38	1.2	\$53.00		
<u>A24070DP</u>	7.0	11.38	1.3	\$56.00		
<u>A24080DP</u>	8.0	12.38	1.4	\$59.00		
A24090DP	9.0	13.38	1.5	\$61.00		
A24100DP	10.0	14.38	1.5	\$64.00		
A24120DP	12.0	16.38	1.7	\$71.00		
	Speci	ifications				
304 SS cylinder body		1.7 sq. in. piston area				
High strength aluminum	High strength aluminum end caps		Pre-lubricated for maintenance-free life			
High strength carbon steel piston rod		Pressure rating 250 psi				
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi =	170.0 lb.	Retract force at 100 p	osi = 155.0 lb.			

1.50

[38.1]

0.75

[19.0]

0.25

[6.3]

ø0.75

[ø19.0]

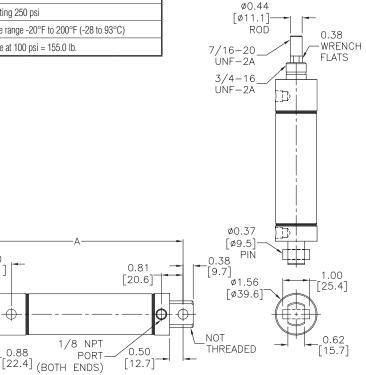
PILOT

Mount Style		Bracket	Nut
Front Nose Mount		AMB-7	AN-34-16
Rear Pivot Mount		<u>APB-3</u>	-
Pront Front		-	-
Double End Mount Rear		-	-

Cylinder rod clevis ARC-716-20

See end of 1-1/2" bore section for Accessories

Dimensions





1-1/2 in. Bore, Double-acting, Rear Pivot Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/2 inch bore, 1/8 NPT ports, double acting, rear pivot mount, magnetic piston (pivot pin included). Cylinder cannot be double end mounted.

Cylinder, 1-1/2 in bore, double acting, rear pivot mount, magnetic piston							
Cylinder, 1-1/2 in	bore, double acti	ng, rear pivot	mount, magnet	ic piston			
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price			
A24010DP-M	1.0	5.38	0.8	\$54.00			
A24020DP-M	2.0	6.38	0.9	\$57.00			
A24030DP-M	3.0	7.38	1.0	\$60.00			
A24040DP-M	4.0	8.38	1.1	\$62.00			
A24050DP-M	5.0	9.38	1.1	\$66.00			
<u>A24060DP-M</u>	6.0	10.38	1.2	\$70.00			
A24070DP-M	7.0	11.38	1.3	\$62.00			
A24080DP-M	8.0	12.38	1.4	\$74.00			
A24090DP-M	9.0	13.38	1.5	\$76.00			
A24100DP-M	10.0	14.38	1.5	\$75.00			
A24120DP-M	12.0	16.38	1.7	\$84.00			
	Specif	ications					
304 SS cylinder body		1.7 sq. in. piston area					
High strength aluminum end caps Pre-lubricated for maintenance			aintenance-free life				
303 SS piston rod Pressure rating 250 psi							
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)					
Extend force at 100 psi = 17	'0.0 lb.	Retract force at 100 p	osi = 155.0 lb.				

1.50

[38.1]

0.88

0.75

[19.0]

0.25

[6.3]

Ø0.75

PILOT

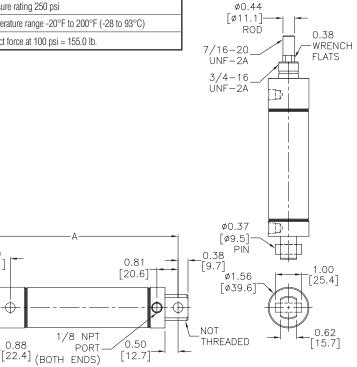
[ø19.0]-

Mount Style		Bracket	Nut
Front Nose Mount		AMB-7	AN-34-16
Rear Pivot Mount		APB-3	-
Pront Front		-	-
Double End Mount Rear		-	-

Cylinder rod clevis ARC-716-20

See end of 1-1/2" bore section for Accessories

Dimensions





A-Series Pneumatic Cylinders 1-1/2 inch Bore Accessories

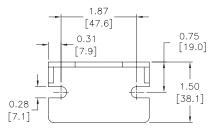
A-Series Pneumatic Cylinder 1-1/2 inch Bore Accessories							
Part Number	Part Number Description						
<u>AMB-7</u>	Cylinder mounting bracket used to mount 1-1/4 and 1-1/2 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.2	\$5.25			
<u>APB-3</u>	Cylinder pivot mounting bracket without pivot pin used to mount 1-1/2 bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.2	\$7.00			
<u>ARC-716-20</u>	Cylinder rod clevis and hex nut, 7/16-20 thread, for use with 1-1/4 and 1-1/2 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$6.25			
<u>AN-34-16</u>	Cylinder mounting nut with 3/4-16 UNF-2B threads used to mount 1-1/4 and 1-1/2 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.1	\$1.00			

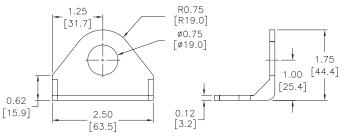
Dimensions

inches [mm]

AMB-7

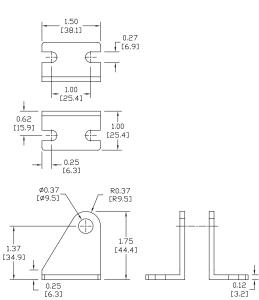






APB-3



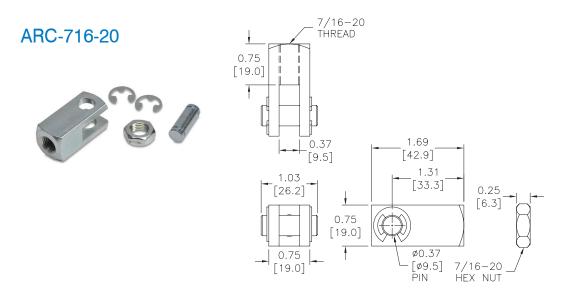




A-Series Pneumatic Cylinders 1-1/2 inch Bore Accessories

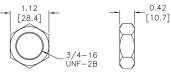
Dimensions

inches [mm]



AN-34-16







2 in. Bore, Single-acting, Spring Return, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 2 inch bore, 1/4 NPT port, single acting, spring return, front nose mount.

Cylinder, 2 i	n bore, single acti	ng, spring retu	ırn, front nose ı	nount	
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price	
<u>A32010SN</u>	1.0	5.41	1.5	\$60.00	
<u>A32020SN</u>	2.0	7.41	1.9	\$66.00	
<u>A32030SN</u>	3.0	8.66	2.3	\$73.00	
	Spec	ifications			
304 SS cylinder body		3.1 sq. in. piston area	a		
High strength aluminum	end caps	Pre-lubricated for maintenance-free life			
High strength carbon ste	el piston rod	Pressure rating 250 psi			
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)			°C)		
Extend force at 100 psi =	310.0 lb.	Spring force = 15 lb.	relaxed, 30 lb. compress	sed	

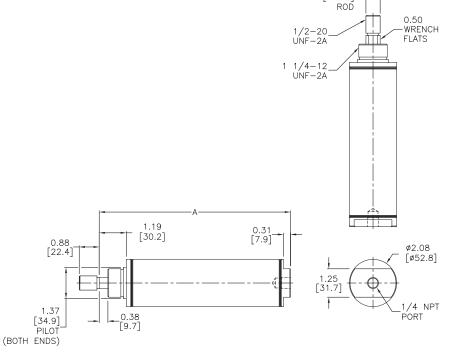
Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-11</u>	AN-114-12
Rear Pivot Mount		-	-
Double End Mount Front Rear		-	-
		-	-

Cylinder rod clevis ARC-12-20

Ø0.62 [Ø15.9]

See end of 2" bore section for Accessories

Dimensions





2 in. Bore, Single-acting, Spring Return, Double End Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 2 inch bore, 1/4 NPT port, single acting, spring return, double end mount.

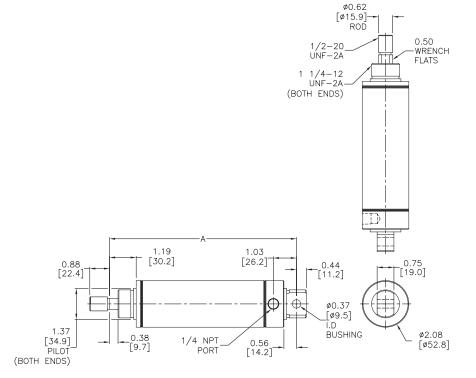
Cylinder, 2 in bore, single acting, spring return, double end mount						
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price		
<u>A32010SD</u>	1.0	6.34	1.7	\$73.00		
<u>A32020SD</u>	2.0	8.34	2.1	\$78.00		
<u>A32030SD</u>	3.0	9.59	2.6	\$83.00		
	Spec	ifications				
304 SS cylinder body		3.1 sq. in. piston area	a			
High strength aluminum	end caps	Pre-lubricated for ma	iintenance-free life			
303 SS piston rod Pressure rating 250 psi						
Low friction Buna-N seals Temperature range -20°F to 200°F (-28 to 93°C)			°C)			
Extend force at 100 psi =	310.0 lb.	Spring force = 15 lb.	relaxed, 30 lb. compress	sed		

Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-11</u>	AN-114-12
Rear Pivot Mount		APBP-5	-
Double End Mount Front Rear		<u>AMB-11</u>	AN-114-12
		AMB-11	AN-114-12

Cylinder rod clevis ARC-12-20

See end of 2" bore section for Accessories

Dimensions





2 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 2 inch bore, 1/4 NPT ports, double acting, front nose mount.

Cylind	Cylinder, 2 in bore, double acting, front nose mount					
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price		
A32010DN	1.0	5.69	1.6	\$55.00		
<u>A32020DN</u>	2.0	6.69	1.7	\$58.00		
<u>A32030DN</u>	3.0	7.69	1.9	\$61.00		
<u>A32040DN</u>	4.0	8.69	2.0	\$64.00		
A32050DN	5.0	9.69	2.2	\$68.00		
A32060DN	6.0	10.69	2.3	\$71.00		
	Speci	ifications				
304 SS cylinder body		3.1 sq. in. piston area				
High strength aluminum end caps		Pre-lubricated for maintenance-free life				
High strength carbon steel piston rod		Pressure rating 250 psi				
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi = 310.0 lb. Retract force at 100 psi = 279.3 lb.						

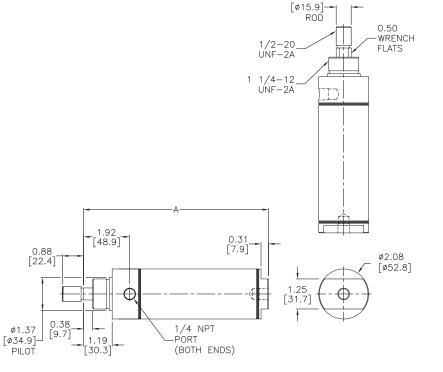
Mount Style		Bracket	Nut
Front Nose Mount		<u>AMB-11</u>	AN-114-12
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
	Rear	-	-

Cylinder rod clevis ARC-12-20

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See end of 2" bore section for Accessories

Dimensions





2 in. Bore, Double-acting, Double End Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 2 inch bore, 1/4 NPT ports, double acting, double end mount.

Cylinder, 2 in bore, double acting, double end mount						
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price		
<u>A32010DD</u>	1.0	6.62	1.8	\$66.00		
<u>A32020DD</u>	2.0	7.62	1.9	\$70.00		
<u>A32030DD</u>	3.0	8.62	2.1	\$73.00		
<u>A32040DD</u>	4.0	9.62	2.2	\$75.00		
<u>A32050DD</u>	5.0	10.62	2.4	\$78.00		
A32060DD	6.0	11.62	2.5	\$80.00		
A32070DD	7.0	12.62	2.7	\$84.00		
A32080DD	8.0	13.62	2.8	\$89.00		
<u>A32100DD</u>	10.0	15.62	3.1	\$94.00		
<u>A32120DD</u>	12.0	17.62	3.4	\$99.00		
<u>A32140DD</u>	14.0	19.62	3.7	\$104.00		
<u>A32160DD</u>	16.0	21.62	4.0	\$112.00		
<u>A32180DD</u>	18.0	23.62	4.3	\$118.00		
	Spec	ifications				
304 SS cylinder body		3.1 sq. in. piston area				
High strength aluminum end caps		Pre-lubricated for maintenance-free life				
303 SS piston rod		Pressure rating 250 psi				
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)				

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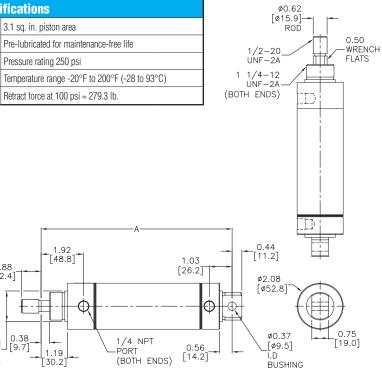
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(BOTH ENDS)

Mount Style		Bracket	Nut	
Front Nose Mount		<u>AMB-11</u>	AN-114-12	
Rear Pivot Mount		APBP-5	-	
Double End Mount	Front	<u>AMB-11</u>	AN-114-12	
Double End Mount	Rear	<u>AMB-11</u>	AN-114-12	

Cylinder rod clevis ARC-12-20

See end of 2" bore section for Accessories



Dimensions

Extend force at 100 psi = 310.0 lb.



2 in. Bore, Double-acting, Double End Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 2 inch bore, 1/4 NPT ports, double acting, double end mount, magnetic piston.

Cylinder, 2 in bore, double acting, double end mount, magnetic piston						
Part Number	Stroke Length (in.)	"A" (in)	Weight (lbs)	Price		
A32010DD-M	1.0	6.62	1.8	\$83.00		
<u>A32020DD-M</u>	2.0	7.62	1.9	\$86.00		
A32030DD-M	3.0	8.62	2.1	\$90.00		
A32040DD-M	4.0	9.62	2.2	\$93.00		
<u>A32050DD-M</u>	5.0	10.62	2.4	\$96.00		
A32060DD-M	6.0	11.62	2.5	\$98.00		
A32070DD-M	7.0	12.62	2.7	\$100.00		
A32080DD-M	8.0	13.62	2.8	\$103.00		
<u>A32100DD-M</u>	10.0	15.62	3.1	\$110.00		
<u>A32120DD-M</u>	12.0	17.62	3.4	\$110.00		
<u>A32140DD-M</u>	14.0	19.62	3.7	\$122.00		
<u>A32160DD-M</u>	16.0	21.62	4.0	\$128.00		
<u>A32180DD-M</u>	18.0	23.62	4.3	\$134.00		
Specifications						
304 SS cylinder body		3.10 sq. in. piston area				
High strength aluminum end caps		Pre-lubricated for maintenance-free life				
303 SS piston rod		Pressure rating 250 psi				
Low friction Buna-N seal	S	Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi =	310 lb.	Retract force at 100 psi = 279.3 lb.				

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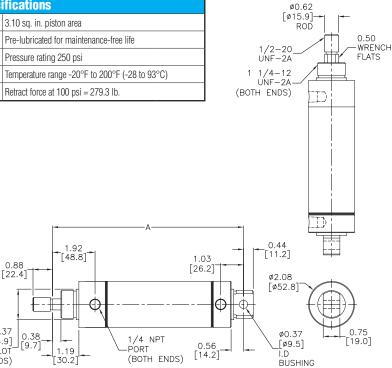
(BOTH ENDS)

PILOT

Mount Style		Bracket	Nut	
Front Nose Mount		<u>AMB-11</u>	AN-114-12	
Rear Pivot Mount		APBP-5	-	
Dauble End Mount	Front	<u>AMB-11</u>	AN-114-12	
Double End Mount	Rear	<u>AMB-11</u>	AN-114-12	

Cylinder rod clevis ARC-12-20

See end of 2" bore section for Accessories



Dimensions



A-Series Pneumatic Cylinders 2 inch Bore Accessories

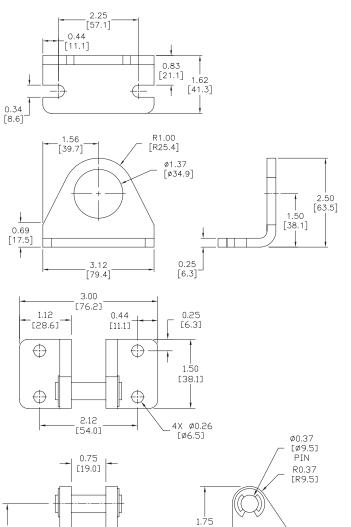
A-Series Pneumatic Cylinder 2 inch Bore Accessories					
Part Number	lumber Description			Price	
<u>AMB-11</u>	Cylinder mounting bracket used to mount 2 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.5	\$12.00	
<u>APBP-5</u>	Cylinder pivot mounting bracket with pivot pin used to mount 2 inch bore NITRA pneumatic stain- less steel round body, interchangeable, non-repairable cylinders.	1	0.4	\$14.00	
<u>ARC-12-20</u>	Cylinder rod clevis and hex nut, 1/2-20 thread, for use with 2 inch bore NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.2	\$6.25	
<u>AN-114-12</u>	Cylinder mounting nut with 1-1/14-12 UNF-2B threads used to mount 2 inch bore NITRA pneu- matic stainless steel round body, interchangeable, non-repairable cylinders.	1	0.3	\$5.00	

Dimensions

inches [mm]

AMB-11





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APBP-5



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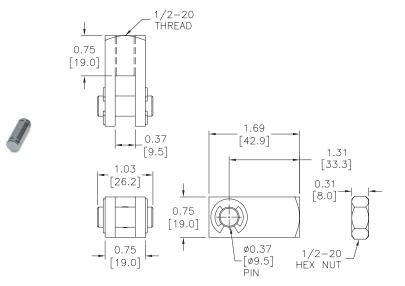


A-Series Pneumatic Cylinders 2 inch Bore Accessories

Dimensions

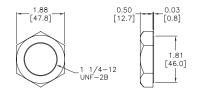
inches [mm]

ARC-12-20



AN-114-12







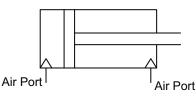
Pneumatic Cylinders - F-Series All Stainless Steel

Nitra F-Series Pneumatic Stainless Steel Round Body Air Cylinders

The NITRA Pneumatics F-Series non-repairable stainless steel round body cylinders includes bore sizes from 3/4" to 2" and stroke lengths from 1/2" to 18" to meet a broad range of applications. These high quality cylinders are constructed with stainless steel bodies and end caps with full flow ports. To minimize friction the inside of the cylinder body is polished to a mirror finish and all cylinders are factory lubricated for optimum performance and long, reliable life. The aluminum piston is securely threaded and sealed to a piston rod that is ground and roller burnished 300 series stainless steel with roll-formed threads for exceptional strength. Low friction wear compensating Buna N U-cup rod and piston seals, PTFE rod guide bushing and slotted end caps all combine for smooth breakaway, even at low pressures.

Operation

Double-acting cylinders have two compressed air ports. One of the ports will extend the rod in the "push" direction and the other port will retract the rod in the "pull" directon.



Double-Acting Cylinder (Force in Push and Pull Direction)

Mounting Options



Nose mount uses one FMB bracket and one FN nut.



Rear Pivot mount uses one FPBP bracket.



Double end mount uses two FMB brackets and two FN nuts.

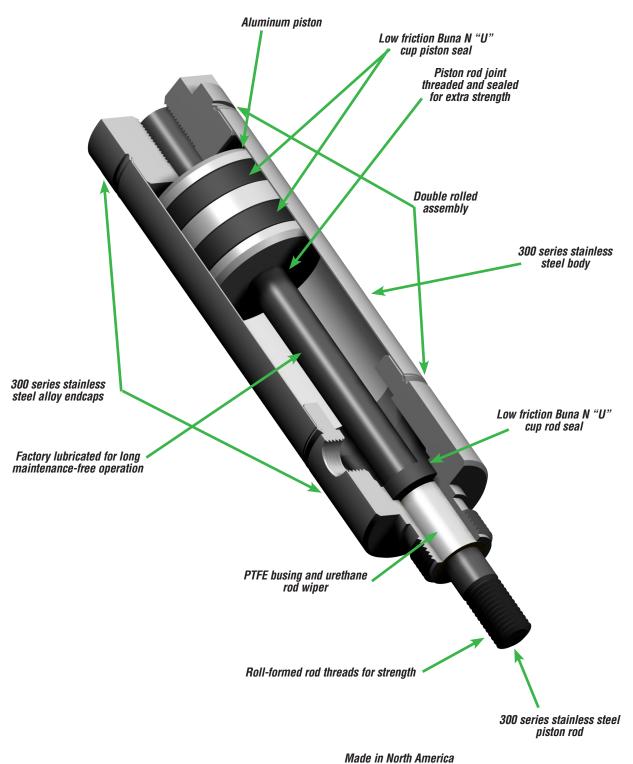
Features

- Interchangeable with other common brands of round body cylinders
- Available bore sizes: 3/4", 1-1/16", 1-1/2", 2"
- Excellent selection of stroke lengths
- Double-acting models
- Nose, rear pivot and double-end mounting options
- Type 300 series stainless steel body, end caps, and rod
- Factory lubricated for long, maintenance-free operation
- 250 psi operating pressure
- Models available with magnetic piston for position indication
- All models are typically available for same-day shipment
- Made in North America
- 2-year warranty



Pneumatic Cylinders - F-Series All Stainless Steel







F-Series All Stainless Steel Pneumatic Cylinders - 3/4 inch Bore

3/4 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 3/4 inch bore, 1/8 inch female NPT ports, double acting, front nose mount.

Part no. F12030DN

All Stainless Steel Cylinder 3/4 in. bore, double acting, front nose mount						
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link		
F12005DN	0.5	0.3	\$80.00	PDF		
<u>F12010DN</u>	1.0	0.3	\$82.00	PDF		
F12015DN	1.5	0.5	\$83.00	PDF		
<u>F12020DN</u>	2.0	0.5	\$83.00	<u>PDF</u>		
<u>F12030DN</u>	3.0	0.5	\$83.00	PDF		
<u>F12040DN</u>	4.0	0.5	\$88.00	PDF		
F12050DN	5.0	0.6	\$89.00	PDF		
F12060DN	6.0	0.6	\$90.00	PDF		
F12080DN	8.0	0.8	\$94.00	PDF		
F12100DN	10.0	0.8	\$97.00	PDF		
F12120DN	12.0	0.9	\$100.00	PDF		
	Specific	ations				
300 series stainless steel cy	linder body	0.40 sq. in. piston area				
300 series stainless steel end caps		Pre-lubricated for maintenance-free life				
300 series stainless steel pis	ston rod	Pressure rating 250 psi				
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi = 40	.0 lb.	Retract force at 100 psi = 35.1 lb.				

Mount Style		Bracket	Nut
Front Nose Mount		FMB-6	FN-58-18
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double End Mount	Rear	-	-

Cylinder rod clevis FRC-14-28



For the latest prices, please check AutomationDirect.com **F-Series All Stainless Steel Pneumatic Cylinders - 3/4 inch Bore**

3/4 in. Bore, Double-acting, Double End Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 3/4 inch bore, 1/8 inch female NPT ports, double acting, double end mount.

Part no. F12030DD

3/4	All Stainless S 4 in. bore, double act	teel Cylinder ing, double en	d mount		
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link	
<u>F12005DD</u>	0.5	0.3	\$86.00	PDF	
<u>F12010DD</u>	1.0	0.3	\$95.00	PDF	
<u>F12020DD</u>	2.0	0.5	\$101.00	PDF	
<u>F12030DD</u>	3.0	0.5	\$102.00	<u>PDF</u>	
<u>F12040DD</u>	4.0	0.5	\$103.00	PDF	
<u>F12050DD</u>	5.0	0.6	\$105.00	PDF	
<u>F12060DD</u>	6.0	0.6	\$104.00	PDF	
<u>F12080DD</u>	8.0	0.8	\$107.00	PDF	
<u>F12100DD</u>	10.0	0.8	\$115.00	PDF	
<u>F12120DD</u>	12.0	0.9	\$115.00	PDF	
	Specific	ations			
300 series stainless steel cylir	nder body	0.40 sq. in. piston area			
300 series stainless steel end caps		Pre-lubricated for maintenance-free life			
300 series stainless steel pisto	300 series stainless steel piston rod		Pressure rating 250 psi		
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)			
Extend force at 100 psi = 40.0	Extend force at 100 psi = 40.0 lb.		Retract force at 100 psi = 35.1 lb.		

Mount Style		Bracket	Nut
Front Nose Mount		FMB-6	FN-58-18
Rear Pivot Mount		FPBP-2	-
Double End Mount	Front	FMB-6	FN-58-18
Double End Mount	Rear	FMB-6	FN-58-18

Cylinder rod clevis FRC-14-28



F-Series All Stainless Steel Pneumatic Cylinders - 3/4 inch Bore

3/4 in. Bore, Double-acting, Double End Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 3/4 inch bore, 1/8 inch female NPT ports, double acting, double end mount, magnetic piston.

Part no. F12030DD-M

All Stainless Steel Cylinder 3/4 in. bore, double acting, double end mount, magnetic piston						
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link		
<u>F12010DD-M</u>	1.0	0.3	\$104.00	PDF		
<u>F12020DD-M</u>	2.0	0.5	\$110.00	PDF		
<u>F12030DD-M</u>	3.0	0.5	\$108.00	PDF		
<u>F12040DD-M</u>	4.0	0.5	\$114.00	PDF		
<u>F12050DD-M</u>	5.0	0.6	\$110.00	PDF		
<u>F12060DD-M</u>	6.0	0.6	\$114.00	PDF		
<u>F12080DD-M</u>	8.0	0.8	\$118.00	PDF		
<u>F12100DD-M</u>	10.0	0.8	\$121.00	PDF		
<u>F12120DD-M</u>	12.0	0.9	\$124.00	PDF		
	Speci	fications				
300 series stainless steel cyl	inder body	0.40 sq. in. piston area				
300 series stainless steel end caps		Pre-lubricated for maintenance-free life				
300 series stainless steel piston rod		Pressure rating 250 psi				
Low friction Buna-N seals	Low friction Buna-N seals		Temperature range -20°F to 185°F (-28 to 85°C)			
Extend force at 100 psi = 40.	0 lb.	Retract force at 100 psi = 35.1 lb.				

Mount Style		Bracket	Nut
Front Nose Mount		FMB-6	FN-58-18
Rear Pivot Mount		FPBP-2	-
Double End Mount	Front	FMB-6	FN-58-18
Double End Mount Rear		FMB-6	FN-58-18

Cylinder rod clevis FRC-14-28

1-800-633-0405

For the latest prices, please check AutomationDirect.com

F-Series All Stainless Steel Pneumatic Cylinders - 1-1/16 inch Bore

1-1/16 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/16 inch bore, 1/8 inch female NPT ports, double acting, front nose mount.

Part no. F17030DN

1-	All Stainless Steel Cylinder 1-1/16 in. bore, double acting, front nose mount						
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link			
<u>F17005DN</u>	0.5	0.6	\$87.00	PDF			
<u>F17010DN</u>	1.0	0.6	\$89.00	PDF			
<u>F17020DN</u>	2.0	0.6	\$90.00	PDF			
<u>F17030DN</u>	3.0	0.8	\$93.00	PDF			
<u>F17040DN</u>	4.0	0.8	\$94.00	PDF			
<u>F17050DN</u>	5.0	0.9	\$95.00	PDF			
F17060DN	6.0	0.9	\$97.00	PDF			
F17080DN	8.0	1.1	\$100.00	PDF			
<u>F17100DN</u>	10.0	1.2	\$100.00	PDF			
<u>F17120DN</u>	12.0	1.4	\$107.00	PDF			
	Spec	ifications					
300 series stainless steel cy	/linder body	0.90 sq. in. piston a	rea				
300 series stainless steel er	nd caps	caps Pre-lubricated for maintenance-free life					
300 series stainless steel p	00 series stainless steel piston rod Pressure rating 250 psi						
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)					
Extend force at 100 psi = 90	0.0 lb.	Retract force at 100 psi = 82.3 lb.					

Mount Style		Bracket	Nut
Front Nose Mount		FMB-6	FN-58-18
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double End Mount	Rear	-	-

Cylinder rod clevis FRC-516-24



F-Series All Stainless Steel Pneumatic Cylinders - 1-1/16 inch Bore

1-1/16 in. Bore, Double-acting, Double End Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/16 inch bore, 1/8 inch female NPT ports, double acting, double end mount.

Part no. F17030DD

All Stainless Steel Cylinder 1-1/16 in. bore, double acting, double end mount						
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link		
<u>F17010DD</u>	1.0	0.6	\$105.00	PDF		
<u>F17020DD</u>	2.0	0.6	\$107.00	PDF		
<u>F17030DD</u>	3.0	0.8	\$109.00	PDF		
<u>F17040DD</u>	4.0	0.8	\$112.00	PDF		
<u>F17050DD</u>	5.0	0.9	\$107.00	PDF		
<u>F17060DD</u>	6.0	0.9	\$114.00	PDF		
<u>F17080DD</u>	8.0	1.1	\$118.00	PDF		
<u>F17100DD</u>	10.0	1.2	\$121.00	<u>PDF</u>		
<u>F17120DD</u>	12.0	1.4	\$124.00	PDF		
	Spe	cifications				
300 series stainless steel cy	linder body	0.90 sq. in. piston area				
300 series stainless steel er	nd caps	Pre-lubricated for maintenance-free life				
300 series stainless steel piston rod		Pressure rating 250 psi				
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi = 90).0 lb.	Retract force at 100 psi = 82.3 lb.				

Mount Style		Bracket	Nut
Front Nose Mount		FMB-6	FN-58-18
Rear Pivot Mount		FPBP-2	-
Double End Mount	Front	FMB-6	FN-58-18
Double End Mount Rear		FMB-6	FN-58-18

Cylinder rod clevis FRC-516-24 See end of F-series section for Accessories



F-Series All Stainless Steel Pneumatic Cylinders - 1-1/16 inch Bore

1-1/16 in. Bore, Double-acting, Double End Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/16 inch bore, 1/8 inche female NPT ports, double acting, double end mount, magnetic piston.

1-1/16 in. bore, double acting, double end mount, magnetic piston						
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link		
<u>F17010DD-M</u>	1.0	0.6	\$118.00	PDF		
<u>F17020DD-M</u>	2.0	0.6	\$119.00	PDF		
<u>F17030DD-M</u>	3.0	0.8	\$121.00	<u>PDF</u>		
<u>F17040DD-M</u>	4.0	0.8	\$123.00	<u>PDF</u>		
<u>F17050DD-M</u>	5.0	0.9	\$124.00	PDF		
<u>F17060DD-M</u>	6.0	0.9	\$125.00	PDF		
<u>F17080DD-M</u>	8.0	1.1	\$129.00	PDF		
<u>F17100DD-M</u>	10.0	1.2	\$132.00	PDF		
<u>F17120DD-M</u>	12.0	1.4	\$136.00	PDF		
Specifications						
300 series stainless stee	cylinder body	0.90 sq. in. piston area				
300 series stainless stee	end caps	Pre-lubricated for maintenance-free life				
300 series stainless stee	piston rod	Pressure rating 250 psi				

Temperature range -20°F to 185°F (-28 to 85°C)

Retract force at 100 psi = 82.3 lb.

All Stainless Steel Cylinder

Mount Style		Bracket	Nut
Front Nose Mount		FMB-6	FN-58-18
Rear Pivot Mount		FPBP-2	-
Double End Mount	Front	FMB-6	FN-58-18
Double End Mount Real		FMB-6	FN-58-18

Cylinder rod clevis FRC-516-24 See end of F-series section for Accessories

Low friction Buna-N seals

Extend force at 100 psi = 90.0 lb.

1-800-633-0405 NEUMATICS For the latest prices, please check AutomationDirect.com

F-Series All Stainless Steel Pneumatic Cylinders - 1-1/2 inch Bore

1-1/2 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/2 inch bore, 1/8 inch female NPT ports, double acting, front nose mount.

Part no. F24030DN

All Stainless Steel Cylinder 1-1/2 in. bore, double acting, front nose mount							
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link			
F24010DN	1.0	1.2	\$98.00	PDF			
<u>F24015DN</u>	1.5	1.2	\$99.00	PDF			
<u>F24020DN</u>	2.0	1.4	\$100.00	PDF			
<u>F24030DN</u>	3.0	1.4	\$103.00	PDF			
<u>F24040DN</u>	4.0	1.5	\$105.00	PDF			
<u>F24050DN</u>	5.0	1.6	\$108.00	PDF			
<u>F24060DN</u>	6.0	1.8	\$112.00	PDF			
<u>F24080DN</u>	8.0	2.0	\$112.00	PDF			
<u>F24100DN</u>	10.0	2.3	\$121.00	PDF			
<u>F24120DN</u>	12.0	2.5	\$127.00	PDF			
	Speci	fications					
300 series stainless steel cy	/linder body	1.7 sq. in. piston area					
300 series stainless steel end caps		Pre-lubricated for maintenance-free life					
300 series stainless steel piston rod		Pressure rating 250 psi					
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)					
Extend force at 100 psi = 1	70.0 lb.	Retract force at 100 psi	= 155.0 lb.				

Mount Style		Bracket	Nut
Front Nose Mount		FMB-7	FN-34-16
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double End Mount	Rear	-	-

Cylinder rod clevis FRC-716-20

F-Series All Stainless Steel Pneumatic Cylinders - 1-1/2 inch Bore

1-1/2 in. Bore, Double-acting, Double End Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/2 inch bore, 1/8 inch female NPT ports, double acting, double end mount.

Part no. F24030DD

1-800-633-0405

PNEUMATICS

All Stainless Steel Cylinder 1-1/2 in. bore, double acting, double end mount							
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link			
<u>F24010DD</u>	1.0	1.2	\$113.00	PDF			
F24020DD	2.0	1.4	\$115.00	PDF			
<u>F24030DD</u>	3.0	1.5	\$118.00	PDF			
<u>F24040DD</u>	4.0	1.7	\$120.00	<u>PDF</u>			
<u>F24050DD</u>	5.0	1.7	\$123.00	PDF			
<u>F24060DD</u>	6.0	1.8	\$127.00	PDF			
<u>F24080DD</u>	8.0	2.1	\$132.00	PDF			
<u>F24100DD</u>	10.0	2.3	\$137.00	<u>PDF</u>			
<u>F24120DD</u>	12.0	2.6	\$141.00	PDF			
	Spec	ifications					
300 series stainless steel cy	linder body	1.7 sq. in. piston area					
300 series stainless steel end caps		Pre-lubricated for maintenance-free life					
300 series stainless steel piston rod		Pressure rating 250 psi					
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)					
Extend force at 100 psi = 17	'0.0 lb.	Retract force at 100 psi	= 155.0 lb.				

Mount Style		Bracket	Nut
Front Nose Mount		FMB-7	FN-34-16
Rear Pivot Mount		FPBP-3	-
Double End Mount	Front	FMB-7	FN-34-16
Double End Mount	Rear	FMB-7	FN-34-16

Cylinder rod clevis FRC-716-20

1-800-633-0405

For the latest prices, please check AutomationDirect.com

F-Series All Stainless Steel Pneumatic Cylinders - 1-1/2 inch Bore

1-1/2 in. Bore, Double-acting, Double End Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 1-1/2 inch bore, 1/8 inch female NPT ports, double acting, double end mount, magnetic piston.

1-1/2 in. b (All Stainless pre, double acting, d	s Steel Cylinder ouble end moun	t, magnetic pisto	n	
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link	
F24010DD-M	1.0	1.2	\$123.00	PDF	
<u>F24020DD-M</u>	2.0	1.4	\$129.00	PDF	
<u>F24030DD-M</u>	3.0	1.5	\$131.00	<u>PDF</u>	
<u>F24040DD-M</u>	4.0	1.7	\$136.00	PDF	
<u>F24050DD-M</u>	5.0	1.7	\$137.00	PDF	
<u>F24060DD-M</u>	6.0	1.8	\$139.00	PDF	
F24080DD-M	8.0	2.1	\$145.00	PDF	
<u>F24100DD-M</u>	10.0	2.3	\$151.00	PDF	
<u>F24120DD-M</u>	12.0	2.6	\$160.00	<u>PDF</u>	
	Speci	fications			
300 series stainless steel cylind	ler body	1.7 sq. in. piston area			
300 series stainless steel end caps		Pre-lubricated for maintenance-free life			
300 series stainless steelpiston rod		Pressure rating 250 psi			
Low friction Buna-N seals		Temperature range -20°F to 185°F (-28 to 85°C)			
Extend force at 100 psi = 170.0	lb.	Retract force at 100 psi = 155.0 lb.			

Mount Style		Bracket	Nut
Front Nose Mount		<u>FMB-7</u>	FN-34-16
Rear Pivot Mount		FPBP-3	-
Double End Mount	Front	FMB-7	FN-34-16
Double End Mount	Rear	FMB-7	FN-34-16

Cylinder rod clevis FRC-716-20 See end of F-series section for Accessories

F-Series All Stainless Steel Pneumatic Cylinders - 2 inch Bore NEUMATICS

2 in. Bore, Double-acting, Front Nose Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 2 inch bore, 1/4 inch female NPT ports, double acting, front nose mount.

Part no. F32030DN

1-800-633-0405

All Stainless Steel Cylinder 2 in. bore, double acting, front nose mount							
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link			
F32010DN	1.0	2.4	\$105.00	PDF			
<u>F32020DN</u>	2.0	2.6	\$108.00	PDF			
<u>F32030DN</u>	3.0	2.9	\$112.00	PDF			
<u>F32040DN</u>	4.0	3.0	\$115.00	PDF			
<u>F32050DN</u>	5.0	3.3	\$118.00	PDF			
<u>F32060DN</u>	6.0	3.5	\$121.00	PDF			
	Spec	ifications					
300 series stainless steel cyli	nder body	3.1 sq. in. piston area					
300 series stainless steel end	l caps	Pre-lubricated for mainte	enance-free life				
300 series stainless steel piston rod		Pressure rating 250 psi					
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)					
Extend force at 100 psi = 310	0.0 lb.	Retract force at 100 psi -	= 279.3 lb.				

Mount Style		Bracket	Nut
Front Nose Mount		<u>FMB-11</u>	FN-114-12
Rear Pivot Mount		-	-
Double End Mount	Front	-	-
Double Ella Moull	Rear	-	-

Cylinder rod clevis FRC-12-20



F-Series All Stainless Steel Pneumatic Cylinders - 2 inch Bore

2 in. Bore, Double-acting, Double End Mount



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 2 inch bore, 1/4 inch female NPT ports, double acting, double end mount.

Part no. F32030DD

	All Stainles 2 in. bore, double a	s Steel Cylinder cting, double er	, nd mount			
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link		
F32010DD	1.0	2.7	\$121.00	PDF		
<u>F32020DD</u>	2.0	2.8	\$124.00	PDF		
<u>F32030DD</u>	3.0	3.2	\$127.00	PDF		
<u>F32040DD</u>	4.0	3.3	\$124.00	PDF		
<u>F32050DD</u>	5.0	3.6	\$132.00	PDF		
<u>F32060DD</u>	6.0	3.8	\$137.00	PDF		
<u>F32080DD</u>	8.0	4.2	\$141.00	PDF		
<u>F32100DD</u>	10.0	4.6	\$149.00	PDF		
<u>F32120DD</u>	12.0	5.1	\$154.00	PDF		
<u>F32140DD</u>	14.0	5.6	\$152.00	PDF		
<u>F32160DD</u>	16.0	6.0	\$167.00	PDF		
<u>F32180DD</u>	18.0	6.5	\$174.00	PDF		
	Spec	ifications				
300 series stainless steel cyl	inder body	3.1 sq. in. piston area				
300 series stainless steel end caps		Pre-lubricated for maintenance-free life				
300 series stainless steel pis	300 series stainless steel piston rod		Pressure rating 250 psi			
Low friction Buna-N seals		Temperature range -20°F to 200°F (-28 to 93°C)				
Extend force at 100 psi = 31	0.0 lb.	Retract force at 100 psi	= 279.3 lb.			

Mount Style		Bracket	Nut
Front Nose Mount		<u>FMB-11</u>	FN-114-12
Rear Pivot Mount		FPBP-4	-
Double End Mount	Front	FMB-11	FN-114-12
	Rear	FMB-11	FN-114-12

Cylinder rod clevis FRC-12-20

1-800-633-0405 PNEUMATICS For the latest prices, please check AutomationDirect.com

F-Series All Stainless Steel Pneumatic Cylinders - 2 inch Bore

2 in. Bore, Double-acting, Double End Mount, Magnetic Piston



NITRA pneumatic stainless steel round body, interchangeable, non-repairable cylinder, 2 inch bore, 1/4 inch female NPT ports, double acting, double end mount, magnetic piston.

Part no. F32030DD-M

All Stainless Steel Cylinder 2 in. bore, double acting, double end mount, magnetic piston							
Part Number	Stroke Length (in.)	Weight (lbs)	Price	Drawing Link			
F32010DD-M	1.0	2.7	\$137.00	PDF			
<u>F32020DD-M</u>	2.0	2.8	\$140.00	PDF			
<u>F32030DD-M</u>	3.0	3.2	\$142.00	<u>PDF</u>			
<u>F32040DD-M</u>	4.0	3.3	\$147.00	PDF			
<u>F32050DD-M</u>	5.0	3.6	\$150.00	<u>PDF</u>			
<u>F32060DD-M</u>	6.0	3.8	\$152.00	<u>PDF</u>			
<u>F32080DD-M</u>	8.0	4.2	\$159.00	PDF			
F32100DD-M	10.0	4.6	\$166.00	<u>PDF</u>			
F32120DD-M	12.0	5.0	\$172.00	PDF			
<u>F32140DD-M</u>	14.0	5.6	\$177.00	PDF			
<u>F32160DD-M</u>	16.0	6.0	\$183.00	PDF			
F32180DD-M	18.0	6.5	\$180.00	PDF			
	Spec	ifications					
300 series stainless steel cyl	inder body	3.10 sq. in. piston area					
300 series stainless steel end caps		Pre-lubricated for maintenance-free life					
300 series stainless steel pis	ton rod	Pressure rating 250 psi					
Low friction Buna-N seals		Temperature range -20°F to 185°F (-28 to 85°C)					
Extend force at 100 psi = 310) lb.	Retract force at 100 psi :	= 279.3 lb.				

Mount Style		Bracket	Nut
Front Nose Mount		<u>FMB-11</u>	FN-114-12
Rear Pivot Mount		FPBP-4	-
Double End Mount	Front	FMB-11	FN-114-12
Double End Mount	Rear	FMB-11	FN-114-12

Cylinder rod clevis FRC-12-20



F-Series All Stainless Steel Pneumatic Cylinder Accessories

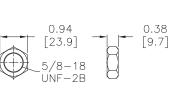
	F-Series All Stainless Steel Pneumatic Cylinder Accessories		•	
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
FN-58-18	Cylinder mounting nut with 5/8-18 UNF-2B threads, stainless steel, used to mount 3/4 and 1-1/16 inch bore NITRA F-series round body air cylinders	1	0.1	\$2.50
FN-34-16	Cylinder mounting nut with 3/4-16 UNF-2B threads, stainless steel, used to mount 1-1/2 inch bore NITRA F-series round body air cylinders	1	0.1	\$3.50
<u>FN-114-12</u>	Cylinder mounting nut with 1-1/4-12 UNF-2B threads, stainless steel, used to mount 2 inch bore NITRA F-series round body air cylinders	1	0.3	\$8.25
<u>FMB-6</u>	Cylinder mounting bracket, stainless steel, used to mount 3/4 and 1-1/16 inch bore NITRA F-series round body air cylinders	1	0.1	\$7.75
<u>FMB-7</u>	Cylinder mounting bracket, stainless steel, used to mount 1-1/2 inch bore NITRA F-series round body air cylinders	1	0.2	\$22.50
<u>FMB-11</u>	Cylinder mounting bracket, stainless steel, used to mount 2 inch bore NITRA F-series round body air cylinders	1	0.5	\$33.00
FPBP-2	Cylinder pivot mounting bracket with pivot pin, stainless steel, used to mount 3/4 and 1-1/16 inch bore NITRA F-series round body air cylinders	1	0.1	\$21.00
FPBP-3	Cylinder pivot mounting bracket with pivot pin, stainless steel, used to mount 1-1/2 inch bore NITRA F-series round body air cylinders	1	0.2	\$25.50
FPBP-4	Cylinder pivot mounting bracket with pivot pin, stainless steel, used to mount 2 inch bore NITRA F-series round body air cylinders	1	0.3	\$31.50
FRC-14-28	Cylinder rod clevis and hex nut, stainless steel, 1/4-28 thread, for use with 3/4 inch bore NITRA F-series round body air cylinders	1	0.1	\$26.00
FRC-516-24	Cylinder rod clevis and hex nut, stainless steel, 5/16-24 thread, for use with 1-1/16 inch bore NITRA F-series round body air cylinders	1	0.1	\$30.00
FRC-716-20	Cylinder rod clevis and hex nut, stainless steel, 7/16-20 thread, for use with 1-1/2 inch bore NITRA F-series round body air cylinders	1	0.2	\$37.50
FRC-12-20	Cylinder rod clevis and hex nut, stainless steel, 1/2-20 thread, for use with 2 inch bore NITRA F-series round body air cylinders	1	0.2	\$44.00

Dimensions

inches [mm]

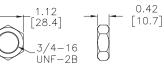
FN-58-18





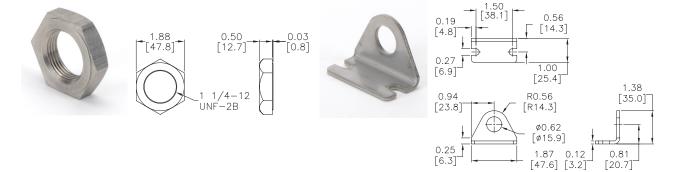
FN-34-16





FN-114-12







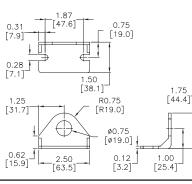
F-Series All Stainless Steel Pneumatic Cylinder Accessories

Dimensions

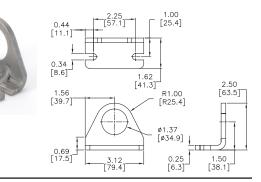
inches [mm]

FMB-7





FMB-11

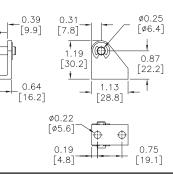


FPBP-2

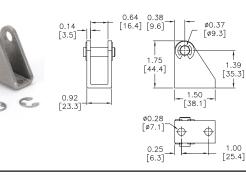


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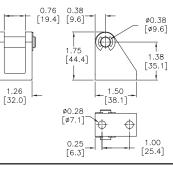


FPBP-3



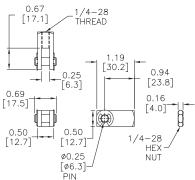
FPBP-4





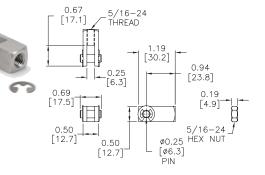
FRC-14-28





FRC-516-24

8003





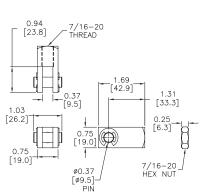
F-Series All Stainless Steel Pneumatic Cylinder Accessories

Dimensions

inches [mm]

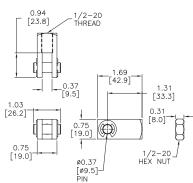
FRC-716-20





FRC-12-20







Pneumatic Cylinders - C-Series

Nitra Pneumatic Compact Air Cylinders

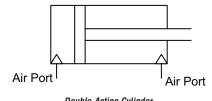
The NITRA Pneumatics C-Series compact cylinders includes bore sizes from 9/16" to 3" and stroke lengths from 1/4" to 4" to meet a broad range of applications where space is limited. These high quality cylinders are constructed with stainless steel bodies and high strength aluminum alloy end caps. To minimize friction the inside of the cylinder body is polished to a mirror finish and all cylinders are factory lubricated for optimum performance and long, reliable life. The compact piston is securely connected to a piston rod that is ground and polished 303 stainless steel. Oil impregnated bronze rod guide bushing and Buna-N o-ring piston and rod seals ensure smooth reliable operation.

Features

- Interchangeable with other common brands of compact cylinders
- Available bore sizes: 9/16", 3/4", 1-1/16", 1-1/2", 2", 2-1/2", 3"
- Excellent selection of stroke lengths
- All models are double-acting
- Head and tail caps drilled for mounting
- Type 304 stainless steel body with high-strength aluminum alloy end caps
- Factory lubricated for long, low-maintenance operation
- 200 psi operating pressure (150 psi for 2" and larger bores)
- All models are available for same-day shipment
- Made in the USA

Operation

Double-acting cylinders have two compressed air ports. One of the ports will extend the rod in the "push" direction and the other port will retract the rod in the "pull" directon.



Double-Acting Cylinder (Force in Push and Pull Direction)

Mounting Options

Plate mount: The cylinder has holes that allow easy mounting to a plate or other surfaces.

Clevis bracket mount uses a bracket that allows a pivoted mount.Clevis Bracket part number is CCB-40.

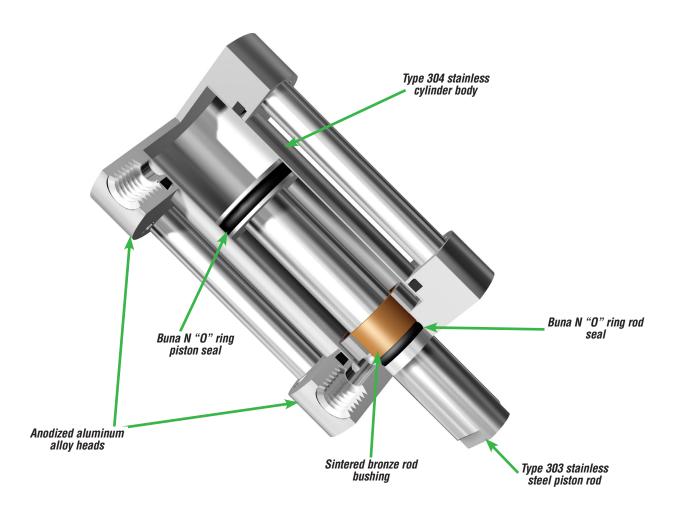








Cylinder Features





C-Series Pneumatic Cylinders 9/16 inch Bore

Double-acting



NITRA pneumatic cylinder, stainless steel body, 9/16 inch bore, #10-32 ports, double-acting, single end rod, counter-bored mounting holes, interchangeable with other brands. 2-year warranty.

Part no. C090025D

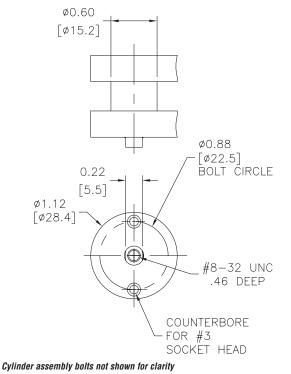
Cylinder, 9/16 in. bore, double-acting						
Part Number	Stroke Length (in.)	"A" (in)	Weight (lb)	Price		
<u>C090025D</u>	0.25	0.81	0.09	\$43.00		
<u>C09005D</u>	0.50	1.06	0.10	\$44.00		
Specifications						
304 SS cylinder body	304 SS cylinder body 0.25 sq. in. piston area					
High strength aluminum	High strength aluminum end caps Pre-lubricated for maintenance-free life					
303 SS piston rod	303 SS piston rod Pressure rating 200 psi					
Buna-N o-ring seals Temperature range -20°F to 150°F (-28° to 66°C)				to 66°C)		
Extend force at 100 psi = 25.0 lb. Retract force at 100 psi = 19.9 lb.						

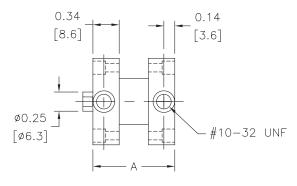
Accessories

Part No.	Description	Price
<u>CCB-17</u>	Clevis bracket, anodized aluminum, stainless steel pin, for use with 9/16, 3/4 and 1-1/16 inch bore NITRA C-series compact cylinders	\$19.00
<u>CRP-09</u>	Rod eye, #8-32 UNC threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 9/16 inch bore NITRA C-series compact cylinders	\$12.00

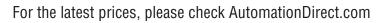
See end of C-Series cylinder section for additional accessory details.

Dimensions





Dimensions inches [mm]







Part no. C12005D

C-Series Pneumatic Cylinders 3/4 inch Bore

NITRA pneumatic cylinder, stainless steel body, 3/4 inch bore, #10-32 ports, double-acting, single end rod, counter-bored mounting holes, interchangeable with other brands. 2-year warranty.

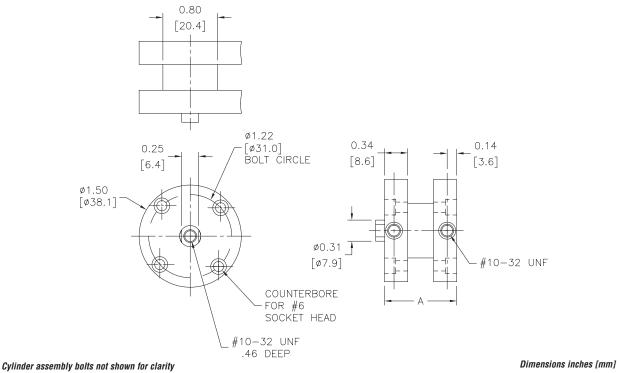
Accessories

Cylinder, 3/4 in. bore, double-acting					
Part Number	Stroke Length (in.)	"A" (in.)	Weight (lb.)	Price	
<u>C12005D</u>	0.50	1.06	0.14	\$46.50	
<u>C120075D</u>	0.75	1.31	0.16	\$47.00	
<u>C12010D</u>	1.00	1.56	0.17	\$48.00	
<u>C12015D</u>	1.50	2.06	0.19	\$48.50	
	Speci	ifications			
304 SS cylinder body		0.44 sq. in. piston ar	ea		
High strength aluminum	end caps	Pre-lubricated for ma	iintenance-free life		
303 SS piston rod Pressure rating 200 psi					
Buna-N o-ring seals	Buna-N o-ring seals Temperature range -20°F to 150°F (-28° to 66°C)			6°C)	
Extend force at 100 psi =	44.2 lb.	Retract force at 100 psi = 36.5 lb.			

Part No.	Description	Price
<u>CCB-17</u>	Clevis bracket, anodized aluminum, stainless steel pin, for use with 9/16, 3/4 and 1-1/16 inch bore NITRA C-series compact cylinders	\$19.00
<u>CRP-12</u>	Rod eye, #10-32 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 3/4 inch bore NITRA C-series compact cylinders	\$14.00

See end of C-Series cylinder section for additional accessory details.

Dimensions







Part no. C17005D

For the latest prices, please check AutomationDirect.com

C-Series Pneumatic Cylinders 1-1/16 inch Bore

NITRA pneumatic cylinder, stainless steel body, 1-1/16 inch bore, 1/8 inch NPT ports, doubleacting, single end rod, counter-bored mounting holes, interchangeable with other brands. 2-year warranty.

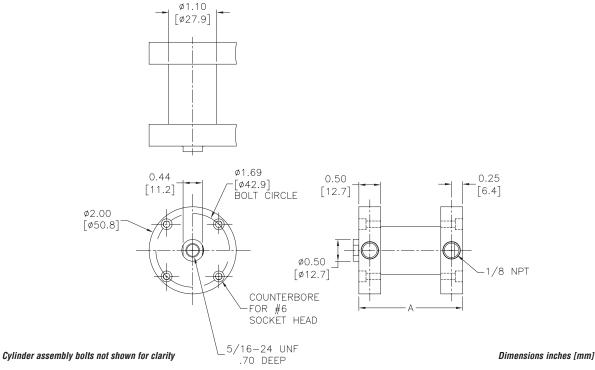
Accessories

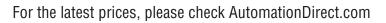
	Cylinder, 1-1/16 in. bore, double-acting						
Part Number	Stroke Length (in.)	"A" (in.)	Weight (lb.)	Price			
<u>C170025D</u>	0.25	1.13	0.34	\$57.00			
<u>C17005D</u>	0.50	1.38	0.38	\$57.00			
C170075D	0.75	1.63	0.42	\$58.00			
<u>C17010D</u>	1.00	1.88	0.46	\$59.00			
<u>C17015D</u>	1.50	2.38	0.53	\$60.00			
<u>C17020D</u>	2.00	2.88	0.61	\$61.00			
<u>C17025D</u>	2.50	3.38	0.68	\$63.00			
<u>C17030D</u>	3.00	3.88	0.76	\$66.00			
	Spec	ifications					
304 SS cylinder body		0.89 sq. in. piston ar	ea				
High strength aluminum	end caps	Pre-lubricated for maintenance-free life					
303 SS steel piston rod Pressure rating 200 psi							
Buna-N o-ring seals Temperature range -20°F to 150°F (-28° to 66°C)			6°C)				
Extend force at 100 psi =	- 88.7 lb.	Retract force at 100 psi = 69.0 lb.					

Part No. Description Price CCB-17 Clevis bracket, anodized aluminum, stainless steel pin, for use with 9/16, 3/4 and 1-1/16 inch bore NITRA C-series compact cylinders \$19.00 CRP-17 Rod eye, 5/16-24 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 1-1/16 inch bore NITRA C-series compact cylinders \$13.00

See end of C-Series cylinder section for additional accessory details.

Dimensions









Part no. C24005D

NITRA pneumatic cylinder, stainless steel body, 1-1/2 inch bore, 1/8 inch NPT ports, doubleacting, single end rod, counter-bored mounting holes, interchangeable with other brands. 2-year warranty.

C-Series Pneumatic Cylinders

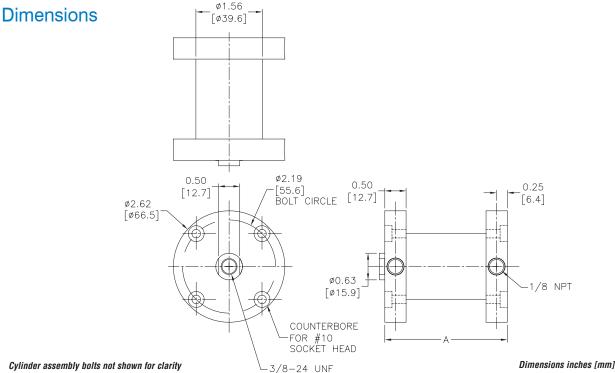
1-1/2 inch Bore

Accessories

	Cylinder, 1-1/2 in. bore, double-acting					
Part Number	Stroke Length (in.)	"A" (in.)	Weight (lb.)	Price		
<u>C24005D</u>	0.50	1.38	0.70	\$71.00		
<u>C240075D</u>	0.75	1.63	0.75	\$71.00		
<u>C24010D</u>	1.00	1.88	0.80	\$73.00		
<u>C24015D</u>	1.50	2.38	0.90	\$75.00		
<u>C24020D</u>	2.00	2.88	1.00	\$77.00		
<u>C24025D</u>	2.50	3.38	1.10	\$79.00		
<u>C24030D</u>	3.00	3.88	1.20	\$82.00		
<u>C24035D</u>	3.50	4.38	1.30	\$82.00		
<u>C24040D</u>	4.00	4.88	1.40	\$86.00		
	Spec	ifications				
304 SS cylinder body		1.77 sq. in. piston ar	ea			
High strength aluminum end caps		Pre-lubricated for maintenance-free life				
303 SS piston rod		Pressure rating 200 psi				
Buna-N o-ring seals		Temperature range -20°F to 150°F (-28° to 66°C)				
Extend force at 100 psi = 176.7 lb. Retract force at 100 psi = 146.0 lb.						

Part No. Description Price Clevis bracket, anodized aluminum, stainless steel pin, for use with 1-1/2, CCB-40 \$28.00 2 and 2-1/2 inch bore NITRA C-series compact cylinders Rod eye, 3/8-24 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 1-1/2 inch bore NITRA C-series compact cylinders \$14.50 CRP-24

See end of C-Series cylinder section for additional accessory details.



Cylinder assembly bolts not shown for clarity





Part no. C32005D

For the latest prices, please check AutomationDirect.com

C-Series Pneumatic Cylinders 2 inch Bore

NITRA pneumatic cylinder, stainless steel body, 2 inch bore, 1/8 inch NPT ports, double-acting, single end rod, counter-bored mounting holes, interchangeable with other brands. 2-year warranty.

Accessories

Cylinder, 2 in. bore, double-acting						
Part Number	Stroke Length (in.)	"A" (in.)	Weight (lb.)	Price		
<u>C32005D</u>	0.50	1.44	0.94	\$83.00		
<u>C320075D</u>	0.75	1.69	1.00	\$83.00		
<u>C32010D</u>	1.00	1.94	1.06	\$84.00		
<u>C32015D</u>	1.50	2.44	1.19	\$89.00		
<u>C32020D</u>	2.00	2.94	1.31	\$94.00		
<u>C32025D</u>	2.50	3.44	1.44	\$97.00		
<u>C32030D</u>	3.00	3.94	1.56	\$101.00		
<u>C32035D</u>	3.50	4.44	1.69	\$103.00		
	Speci	ifications				
304 SS cylinder body		3.14 sq. in. piston ar	ea			
High strength aluminum end caps		Pre-lubricated for maintenance-free life				
303 SS piston rod		Pressure rating 150 psi				
Buna-N o-ring seals		Temperature range -2	20°F to 150°F (-28° to 6	6°C)		
Extend force at 100 psi =	314.2 lb.	Retract force at 100 p	osi = 270.0 lb.			

Part No.	Description	Price
<u>CCB-40</u>	Clevis bracket, anodized aluminum, stainless steel pin, for use with 1-1/2, 2 and 2-1/2 inch bore NITRA C-series compact cylinders	\$28.00
<u>CRP-40</u>	Rod eye, 1/2-20 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 2 or 2-1/2 inch bore NITRA C-series compact cylinders	\$14.50

See end of C-Series cylinder section for additional accessory details.

2.06 [52.3] **Dimensions** ø3.12 0.63 0.53 0.25 [Ø79.2] [16.0] [13.5] [6.4] ø2.69 [Ø68.3] BOLT CIRCLE ø0.75 [ø19.1] 1/8 NPT COUNTERBORE -FOR #10 SOCKET HEAD 1/2-20 UNF .70 DEEP

Cylinder assembly bolts not shown for clarity

Dimensions inches [mm]



C-Series Pneumatic Cylinders 2-1/2 inch Bore

Double-acting



NITRA pneumatic cylinder, stainless steel body, 2-1/2 inch bore, 1/4 inch NPT ports, doubleacting, single end rod, counter-bored mounting holes, interchangeable with other brands. 2-year warranty.

Part no. C40005D

Part Number

C40005D

C40010D

C40020D

C40025D

304 SS cylinder body

303 SS piston rod

Buna-N o-ring seals

High strength aluminum end caps

Extend force at 100 psi = 490.1 lb.

Cylinder, 2-1/2 in. bore, double-acting

Specifications

"A" (in.)

1.69

2.19

3.19 3.69

4.91 sq. in. piston area

Pressure rating 150 psi

Pre-lubricated for maintenance-free life

Retract force at 100 psi = 446.7 lb.

Temperature range -20°F to 150°F (-28° to 66°C)

Weight (lb.)

1.55

1.70

2.00

2.15

Stroke Length (in.)

0.50

1.00

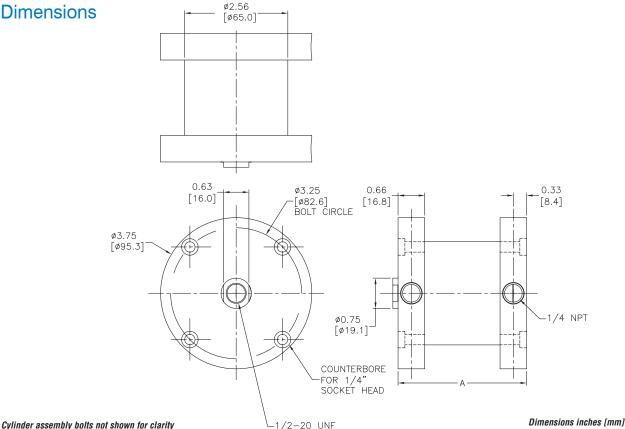
2.00

2.50

Accessories

Part No.	Description	Price
	Clevis bracket, anodized aluminum,	
<u>CCB-40</u>	2 and 2-1/2 inch bore NITRA C-series	\$28.00
	compact cylinders	
<u>CRP-40</u>	steel, bronze pivot bushing and nut for use with 2 or 2-1/2 inch bore NITRA	\$14.50
	<u>CCB-40</u>	CCB-40 Clevis bracket, anodized aluminum, stainless steel pin, for use with 1-1/2, 2 and 2-1/2 inch bore NITRA C-series compact cylinders Rod eye, 1/2-20 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for

See end of C-Series cylinder section for additional accessory details.



Cylinder assembly bolts not shown for clarity



C-Series Pneumatic Cylinders 3 inch Bore

Double-acting



Part no. C48005D

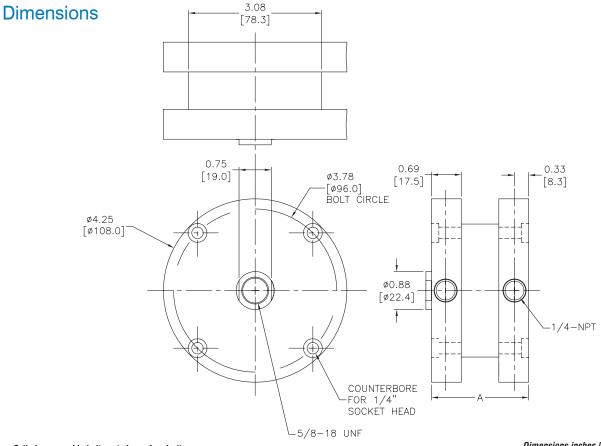
NITRA pneumatic cylinder, stainless steel body, 3 inch bore, 1/4 inch NPT ports, double-acting, single end rod, counter-bored mounting holes, interchangeable with other brands. 2-year warranty.

Accessories

Cylinder, 3 in. bore, double-acting						
Part Number	Stroke Length (in.)	"A" (in.)	Weight (lb.)	Price		
<u>C48005D</u>	0.50	1.75	2.01	\$125.00		
<u>C48010D</u>	1.00	2.25	2.21	\$128.00		
Specifications						
304 SS cylinder body	304 SS cylinder body 7.07 sq. in. piston area					
High strength aluminum	h strength aluminum end caps Pre-lubricated for maintenance-free life					
303 SS steel piston rod	303 SS steel piston rod Pressure rating 150 psi					
Buna-N o-ring seals Temperature range -20°F to 150°F (-28° to 66°C)				6°C)		
Extend force at 100 psi = 706.9 lb. Retract force at 100 psi = 646.7 lb.						

Part No.	Description	Price		
<u>CCB-48</u>	Clevis bracket, anodized aluminum, stainless steel pin, for use with 3 inch bore NITRA C-series compact cylinders	\$36.50		
<u>CRP-48</u>	Rod eye, 5/8-18 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 3 inch bore NITRA C-series compact cylinders	\$16.50		
See end of C-Series cylinder section for additional accessory				

See end of C-Series cylinder section for additional accessory details.



Cylinder assembly bolts not shown for clarity

Dimensions inches [mm]



C-Series Pneumatic Cylinders Accessories

C-Series Pneumatic Cylinder Accessories								
Part Number	Description	Pcs/Pkg	Wt (lb)	Price				
<u>CCB-17</u>	Clevis bracket, anodized aluminum, stainless steel pin, for use with CRP-09, CRP-12 or CRP-17 Rod Eyes	1	0.20	\$19.00				
<u>CCB-40</u>	Clevis bracket, anodized aluminum, stainless steel pin, for use with CRP-24 or CRP-40 Rod Eyes	1	0.30	\$28.00				
<u>CCB-48</u>	Clevis bracket, anodized aluminum, stainless steel pin, for use with CRP-48 Rod Eye	1	0.40	\$36.50				
<u>CRP-09</u>	Rod eye, #8-32 UNC threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bush- ing and nut for use with 9/16 inch bore NITRA C-series compact cylinders	1	0.10	\$12.00				
<u>CRP-12</u>	Rod eye, #10-32 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 3/4 inch bore NITRA C-series compact cylinders	1	0.10	\$14.00				
<u>CRP-17</u>	Rod eye, 5/16-24 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 1-1/16 inch bore NITRA C-series compact cylinders	1	0.20	\$13.00				
<u>CRP-24</u>	Rod eye, 3/8-24 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 1-1/2 inch bore NITRA C-series compact cylinders	1	0.30	\$14.50				
<u>CRP-40</u>	Rod eye, 1/2-20 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 2 or 2-1/2 inch bore NITRA C-series compact cylinders	1	0.40	\$14.50				
<u>CRP-48</u>	Rod eye, 5/8-18 UNF threads, zinc plated, high strength, heat treated alloy steel, bronze pivot bushing and nut for use with 3 inch bore NITRA C-series compact cylinders	1	0.50	\$16.50				

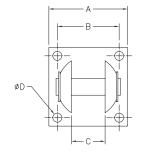


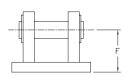
Photo shows C-series pneumatic cylinder with optional clevis bracket and rod eye.

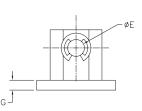
CCB Clevis Brackets



Part No. CCB-40







PART NUMBER	А	В	С	D	E	F	G
CCB-17	1.00 [25.4]	0.75 [19.1]	0.39 [9.9]	#6	0.19 [4.8]	0.56 [14.2]	0.16 [4.1]
CCB-40	1.75 [44.5]	1.38 [35.1]	0.75 [19.1]	#10	0.38 [9.7]	0.94 [23.9]	0.22 [5.6]
CCB-48	2.50 [63.5]	2.00 [50.8]	1.00 [25.4]	0.25 [6.4]	0.63 [16.0]	1.25 [31.8]	0.25 [6.4]

Dimensions inches [mm]

- A —

R



C-Series Pneumatic Cylinders Accessories

CRP Rod Eyes



Part No. CRP-24

PART NUMBER	CYLINDER BORE SIZE	THREAD SIZE	А	В	С	øD	E
CRP-09	9/16" [14.3]	#8-32 UNC	0.38 [9.6]	0.47 [11.9]	0.25 [6.4]	0.19 [4.8]	0.38 [9.6]
CRP-12	3/4" [19.1]	#10-32 UNF	0.38 [9.6]	0.47 [11.9]	0.25 [6.4]	0.19 [4.8]	0.38 [9.6]
CRP-17	1 1/16" [27.0]	5/16-24 UNF	0.63 [16.0]	0.47 [11.9]	0.25 [6.4]	0.19 [4.8]	0.38 [9.6]
CRP-24	1 1/2" [38.1]	3/8-24 UNF	0.63 [16.0]	0.72 [18.3]	0.44 [11.2]	0.38 [9.6]	0.75 [19.1
CRP-40	2.00" [50.8]	1/2-20 UNF	0.75 [19.1]	0.72 [18.3]	0.44 [11.2]	0.38 [9.6]	0.75 [19.1
CRP-40	2 1/2" [63.5]	1/2-20 UNF	0.75 [19.1]	0.72 [18.3]	0.44 [11.2]	0.38 [9.6]	0.75 [19.1
CRP-48	3.00" [76.2]	5/8-18 UNF	0.88 [22.4]	1.00 [25.4]	0.63 [16.0]	0.63 [16.0]	1.00 [25.4

Dimensions inches [mm]

ØD

E



D-Series Heavy Duty Pneumatic Cylinders

Nitra Heavy Duty Pneumatic Air Cylinders

The NITRA Pneumatics D-Series heavy duty cylinders include bore sizes from 1-1/2'' to 4" and stroke lengths from 1" to 24" to meet a broad range of applications where abusive conditions exist. These heavy duty cylinders are constructed with high quality aluminum components and a magnetic piston fitted with a PTFE wear band.

The cylinders are fitted with a Teflon[®] impregnated and hardcoat anodized heavy-duty external rod bearing. This bearing ensures smooth rod motion while maintaining rod rigidity and stability.

All D-Series cylinders have a magnetic piston that can be used along with solid state or reed switches for rod position sensing. The solid state and reed switches sense the rod position by emitting an electrical signal when the magnetized piston reaches a point adjacent to their location. Tie rod mounting allows fast and accurate positioning setup.

Cushioned cylinders are also available to provide end-ofstroke deceleration at both ends. The cushions decelerate the piston rod at the end-of-stroke and are adjustable with a flat head screwdriver.

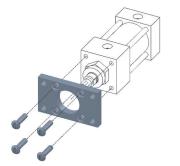
Mounting Options

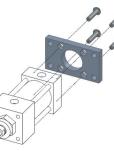
Flange Mounted:

The cylinder has holes on the ends of the end caps that allow easy mounting to a plate or other surfaces. See Flange Mount Kits in Accessories section.

Front Flange Mount (MF1)

Rear Flange Mount (MF2)

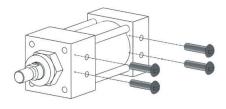




Side Mounted:

The cylinder has holes on the sides of the end caps that allow easy mounting to a surface. No mounting kit needed, only bolts.

Side Tap Mount (MS4)

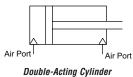


Features

- Interchangeable with other popular brands of NFPA cylinders
- Available bore sizes: 1-1/2", 2", 2-1/2", 3-1/4", 4"
- Wide selection of stroke lengths
- All models are double-acting
- Head and tail caps drilled for mounting
- All models have a magnetic piston
- Teflon[®] impregnated and hardcoat anodized heavy-duty external rod bearing
- 250 psi max operating pressure
- Some models available with adjustable cushions (both ends)
- Made in the USA
- All models are typically available for same-day shipment

Operation

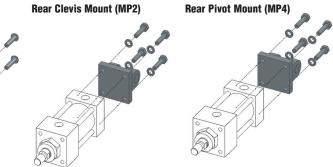
Double-acting cylinders have two compressed air ports. One of the ports will extend the rod in the "push" direction and the other port will retract the rod in the "pull" direction.



(Force in Push and Pull Direction)

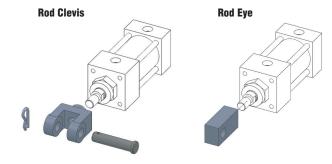
Rear Clevis and Rear Pivot Mount:

Clevis and Pivot mounts use a bracket that allows a pivoted mount. See Rear Clevis and Pivot Attachments in Accessories section.



Rod Clevis:

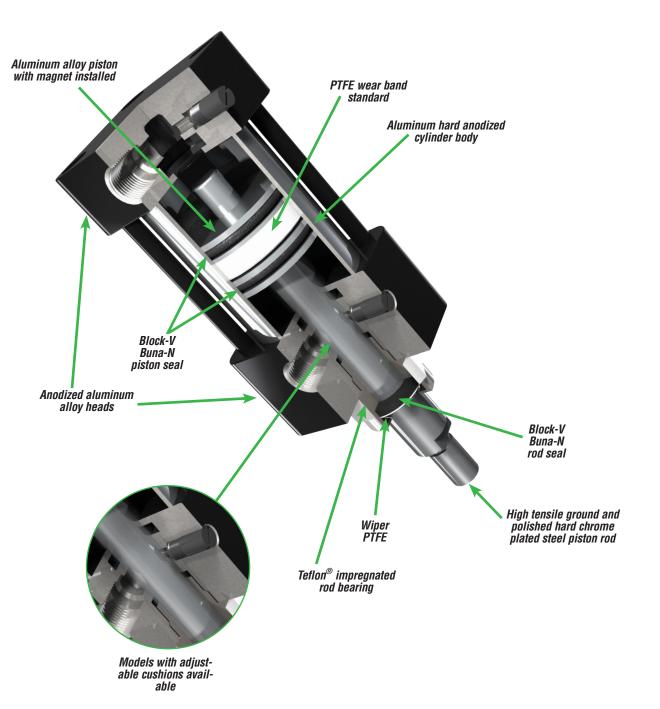
The Rod Clevis uses a rod-mounted bracket and pin that allows a pivoted mount. Rod Eye uses a rod-mounted block with eye that allows a pivoted mount. See Accessories Section.





D-Series Heavy Duty Pneumatic Cylinders

Cylinder Features





D-Series Heavy Duty Pneumatic Cylinders – 1-1/2 inch Bore

1-1/2 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston



NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 1-1/2 inch bore, 5/8" diameter piston rod, 1/4" female NPT ports, double acting, tapped end caps and one side for mount; flange, pivot and clevis mount options available. Some models available with cushions on both ends.

Part no. D24060DT-M

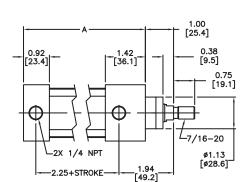
	1-1/2 in bore, double acting, tapped end caps								
Part Number no Cushions	Price	Part Number w/ Cushions*	Price	Stroke Length (in)	"A" (in [mm])	Weight (lb)			
D24030DT-M	\$118.00	<u>D24030DT-MC</u>	\$198.00	3	6.63 [168.4]	1.9			
D24070DT-M	\$132.00	-		7	10.63 [270.0]	2.8			
D24080DT-M	\$135.00	-		8	11.63 [295.4]	3.0			
-		<u>D24100DT-MC</u>	\$216.00	10	13.63 [346.2]	3.5			
D24140DT-M	\$154.00	-		14	17.63 [447.8]	4.4			
-		<u>D24240DT-MC</u>	\$250.00	24	27.63 [701.8]	6.6			

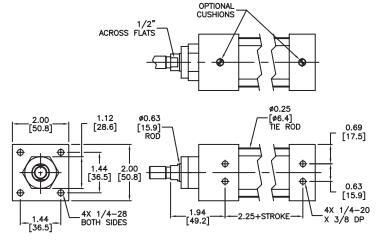
Specifications					
Aluminum hard anodized to 60 Rc cylinder body	1.77 sq. in. piston area				
Solid aluminum bar, black anodized end caps	Pressure rating 250 psi, AIR ONLY				
High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended				
Low friction Buna-N seals	Temperature range -40°F to 250°F (-40 to 121°C)				
Extend force at 100 psi = 177 lb.	Retract force at 100 psi = 146 lb.				
Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.					

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Dimensions

inches [mm]





1-800-633-0405

For the latest prices, please check AutomationDirect.com



D-Series Heavy Duty Pneumatic Cylinders - 2 inch Bore

2 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston



NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 2 inch bore, 5/8" diameter piston rod, 1/4" female NPT ports, double acting, tapped end caps and one side for mount, flange, pivot and clevis mount options available. Some models available with cushions on both ends.

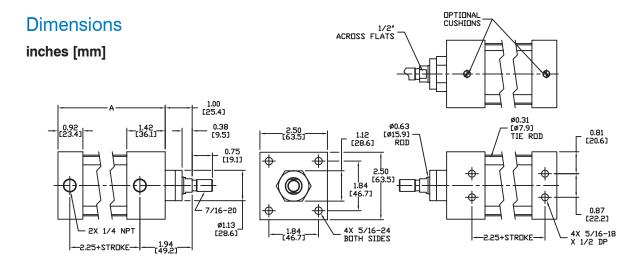
Part no. D32060DT-M

	2 in bore, double acting, tapped end caps							
Part Number no Cushions	Price	Part Number w/ Cushions*	Price	Stroke Length (in)	"A" (in [mm])	Weight (lb)		
-		<u>D32010DT-MC</u>	\$211.00	1	4.63 [117.6]	2.5		
-		<u>D32030DT-MC</u>	\$222.00	3	6.63 [168.4]	2.9		
-		<u>D32050DT-MC</u>	\$230.00	5	8.63 [219.2]	3.4		
-		<u>D32060DT-MC</u>	\$236.00	6	9.63 [244.6]	3.7		
<u>D32070DT-M</u>	\$153.00	-		7	10.63 [270.0]	3.9		
-		<u>D32100DT-MC</u>	\$242.00	10	13.63 [346.2]	4.6		
_		<u>D32160DT-MC</u>	\$253.00	16	19.63 [498.6]	6.0		
D32180DT-M	\$191.00	-		18	21.63 [549.4]	6.5		
-		<u>D32200DT-MC</u>	\$261.00	20	23.63 [600.2]	7.0		

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

	Specifications						
t	Aluminum hard anodized to 60 Rc cylinder body	3.14 sq. in. piston area					
	Solid aluminum bar, black anodized end caps	Pressure rating 250 psi, AIR ONLY					
	High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended					
	Low friction Buna-N seals	Temperature range -40°F to 250°F (-40 to 121°C)					
-	Extend force at 100 psi = 314 lb.	Retract force at 100 psi = 283 lb.					
	Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.						

Mounting Accessories					
Style	NFPA Designation	Part No.			
Rear Pivot	MP4	DPA-2			





D-Series Heavy Duty Pneumatic Cylinders – 2-1/2 inch Bore

2-1/2 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston



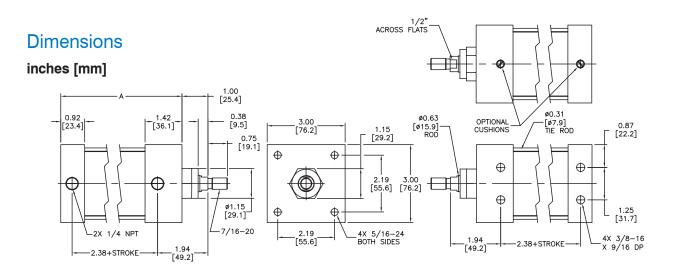
NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 2-1/2 inch bore, 5/8" diameter piston rod, 1/4" female NPT ports, double acting, tapped end caps and one side for mount, flange, pivot and clevis mount options available. Some models available with cushions on both ends.

	2-1/2 in bore, double acting, tapped end caps							
Part Number no Cushions	Price	Part Number w/ Cushions*	Price	Stroke Length (in)	"A" (in [mm])	Weight (lb)		
-		<u>D40010DT-MC</u>	\$230.00	1	4.75 [120.6]	3.4		
-		<u>D40020DT-MC</u>	\$237.00	2	5.75 [146.0]	3.7		
-		<u>D40050DT-MC</u>	\$250.00	5	8.75 [222.2]	4.4		
-		D40080DT-MC	\$259.00	8	11.75 [298.4]	5.2		
D40090DT-M	\$174.00	-		9	12.75 [323.8]	5.5		
<u>D40160DT-M</u>	\$205.00	-		16	19.75 [501.6]	7.3		

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Specifications							
Aluminum hard anodized to 60 Rc cylinder body	4.91 sq. in. piston area						
Solid aluminum bar, black anodized end caps	Pressure rating 250 psi, AIR ONLY						
High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended						
Low friction Buna-N seals	Temperature range -40°F to 250°F (-40 to 121°C)						
Extend force at 100 psi = 491 lb.	Retract force at 100 psi = 460 lb.						
Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.							

Mounting Accessories				
Style NFPA Designation Part N				
Front Flange	MF1	<u>DFM-3</u>		
Rear Flange	MF2	DFM-3		





D-Series Heavy Duty Pneumatic Cylinders – 3-1/4 inch Bore

3-1/4 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston



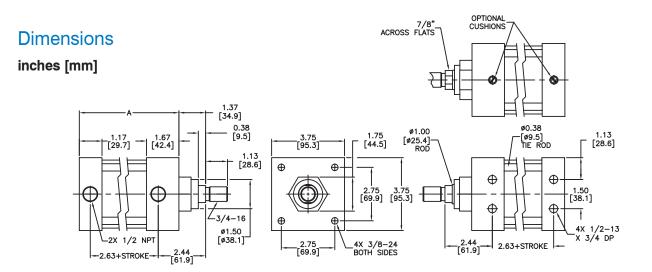
NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 3-1/4 inch bore, 1 inch diameter piston rod, 1/2" female NPT ports, double acting, tapped end caps and one side for mount, flange, pivot and clevis mount options available. Some models available with cushions on both ends.

3	3-1/4 in bore, double acting, tapped end caps								
Part Number no CushionsPricePart Number w/ Cushions*PriceStroke Length (in)"A" (in [mm])						Weight (lbs)			
D52070DT-M	\$230.00	-		7	11.25 [285.7]	9.4			
-		<u>D52160DT-MC</u>	\$370.00	16	20.25 [514.3]	13.4			

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Specifications				
Aluminum hard anodized to 60 Rc cylinder body	8.3 sq. in. piston area			
Solid aluminum bar, black anodized Pressure rating 250 psi AIR ONLY				
High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended			
Low friction Buna-N seals	Temperature range -40°F to 250°F (-40 to 121°C)			
Extend force at 100 psi = 830 lb.	Retract force at 100 psi = 751 lb.			
Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.				

Mounting Accessories				
Style	NFPA Designation	Part No.		
Rear Pivot	MP4	DPA-4		



1-800-633-0405

For the latest prices, please check AutomationDirect.com

D-Series Heavy Duty Pneumatic Cylinders – 4 inch Bore

4 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston

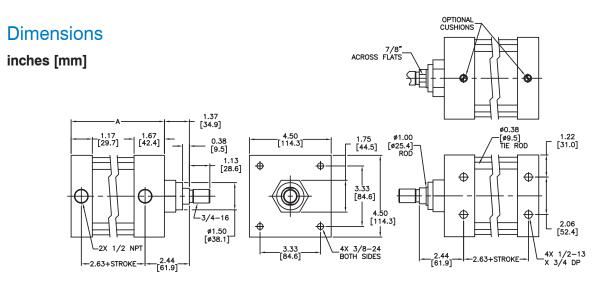


NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 4 inch bore, 1 inch diameter piston rod, 1/2" female NPT ports, double acting, tapped end caps and one side for mount, flange, pivot and clevis mount options available. Some models available with cushions on both ends.

4 in bore, double acting, tapped end caps							
Part Number no Cushions	Price	Part Number w/ Cushions*	Price	Stroke Length (in)	"A" (in [mm])	Weight (lb)	
-		<u>D64010DT-MC</u>	\$348.00	1	5.25 [133.3]	8.7	
-		<u>D64030DT-MC</u>	\$360.00	3	7.25 [184.1]	9.7	
-		D64200DT-MC	\$439.00	20	24.25 [615.9]	17.9	

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Specifications				
Aluminum hard anodized to 60 Rc cylinder body	12.57 sq. in. piston area			
Solid aluminum bar, black anod- ized end caps	Pressure rating 250 psi, AIR ONLY			
High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended			
Low friction Buna-N seals	Temperature range -40°F to 250°F (-40 to 121°C)			
Extend force at 100 psi = 1,257 lb.	Retract force at 100 psi = 1,178 lb.			
Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.				





D-Series Heavy Duty Pneumatic Cylinders – Accessories

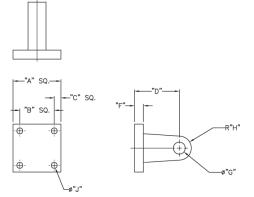
	D-Series Heavy Duty Pneumatic Cylinder Accessories									
Part Number	Description	Pcs/Pkg	Wt (lb)	Price						
<u>DPA-2</u>	NFPA style MP4 cylinder rear pivot eye and attaching hardware, for 2 inch bore NITRA NFPA D-series pneumatic cylinders	1	0.5	\$25.50						
DPA-4	NFPA style MP4 cylinder rear pivot eye and attaching hardware, for 3-1/4 inch bore NITRA NFPA D-series pneumatic cylinders	1	1.3	\$46.50						
<u>DFM-3</u>	NFPA style MF1 or MF2 cylinder flange mounting plate and attaching hardware, for 2-1/2 inch bore NITRA NFPA D-series pneumatic cylinders	1	0.5	\$30.50						



D-Series Heavy Duty Pneumatic Cylinders – Accessories

Rear Pivot Eye Dimensions inches [mm]





	Rear Pivot Eye Dimension Table									
Part #	A	В	C	D	Ε	F	(Dia) G	(R) H	(Dia) J	
DPA-2	2.50	1.84	0.33	1.13	0.75	0.37	ø0.5	R 0.50	ø0.34	
	[63.5]	[46.7]	[8.4]	[28.6]	[19.1]	[9.50]	[ø12.7]	[R 12.7]	[ø8.6]	
<u>DPA-4</u>	3.80	2.77	0.52	1.87	1.25	0.63	ø0.75	R 0.75	ø0.41	
	[96.5]	[70.4]	[13.1]	[47.6]	[31.8]	[15.9]	[ø19.1]	[R 19.1]	[ø10.4]	



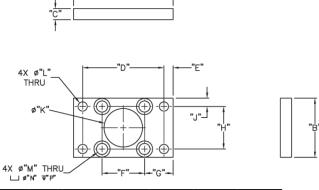
D-Series Heavy Duty Pneumatic Cylinders – Accessories

Flange Attachment

Dimensions

inches [mm]





	Flange Attachment Dimension Table													
Part #	A	В	C	D	Ε	F	G	H	J	(Dia) K	(Dia) L	(Dia) M	(Dia) N	Р
<u>DFM-3</u>	4.63 [117.6]	3.00 [76.2]	0.38 [9.7]	3.88 [98.6]	0.38 [9.7]	2.19 [55.6]	1.22 [31.0]	2.19 [55.6]	0.41 [10.4]	ø1.74 [ø44.2]	ø0.38 [ø9.7]	ø0.38 [ø9.7]	ø0.66 [ø16.8]	0.16 [4.1]

For the latest prices, please check AutomationDirect.com

1-800-633-0405

D2-Series Heavy Duty Pneumatic Cylinders

Nitra Heavy Duty Pneumatic Air Cylinders

The NITRA Pneumatics D2-Series heavy duty cylinders include bore sizes from 1-1/2'' to 4'' and stroke lengths from 1'' to 32''to meet a broad range of applications where abusive conditions exist. These NFPA heavy duty cylinders are constructed with high quality aluminum components and a magnetic piston fitted with a PTFE wear band.

The cylinders feature flush-mount sleeve nuts on the tie rods and are fitted with a PTFE coated cast iron bushing. This bearing ensures smooth rod motion while maintaining rod rigidity and stability.

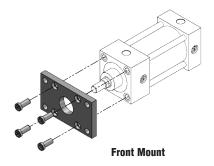
All D2-Series cylinders have a magnetic piston that can be used along with solid state or reed switches for rod position sensing. The solid state and reed switches sense the rod position by emitting an electrical signal when the magnetized piston reaches a point adjacent to their location. Tie rod mounting allows fast and accurate positioning setup.

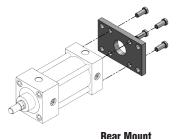
Cushioned cylinders are also available to provide end-ofstroke deceleration at both ends. The cushions decelerate the piston rod at the end-of-stroke and are adjustable with a flat head screwdriver.

Mounting Options and Accessories

Front or Rear Flange Mount (MF1 or MF2)

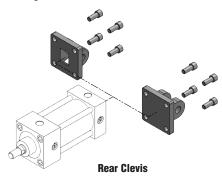
For Front or Rear Flange mounting, use the Flange Mount Kit. Use the drawings below for installation reference.





Rear Clevis Mount (MP1 or MP2)

For Rear Clevis mounting, use the Rear Clevis Mount Kit. Use the drawing below for installation reference.





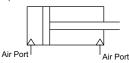
Click on the thumbnail or go to <u>https://www.automationdirect.com/VID-PN-0047</u> for a short video on NITRA D2 Series Heavy Duty Cylinders.

Features

- Interchangeable with other popular brands of NFPA cylinders
- Available bore sizes: 1-1/2", 2", 2-1/2", 3-1/4", 4"
- Wide selection of stroke lengths
- All models are double-acting
- Head and end caps drilled for mounting
- All models have a magnetic piston
- PTFE coated cast iron bushing
- 250 psi max operating pressure
- Some models available with adjustable cushions (both ends)
- Made in the USA
- All models are typically available for same-day shipment
- Temperature range is –20° F to 200° F

Operation

Double-acting cylinders have two compressed air ports. One of the ports will extend the rod in the "push" direction and the other port will retract the rod in the "pull" direction.



Double-Acting Cylinder (Force in Push and Pull Direction)



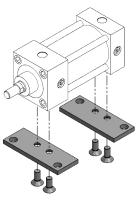
D2-Series Heavy Duty Pneumatic Cylinders

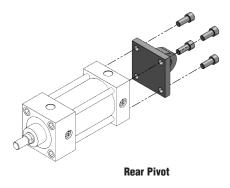
Base Mount Bracket (Non NFPA)

For base mounting, use the Base Mount Bracket Kit. Use the drawing below for installation reference.

Rear Pivot Mount (MP4)

For Rear Pivot mounting, use the Pivot Attachment Kit. Use the drawing below for installation reference.





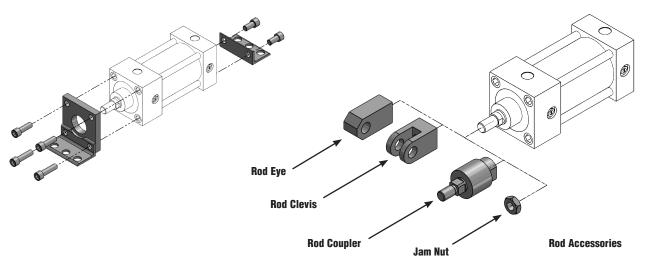
Base Mount

Angle Mount Bracket (MS1)

For angle mounting, use the Angle Mount Bracket Kit. Use the drawing below for installation reference.

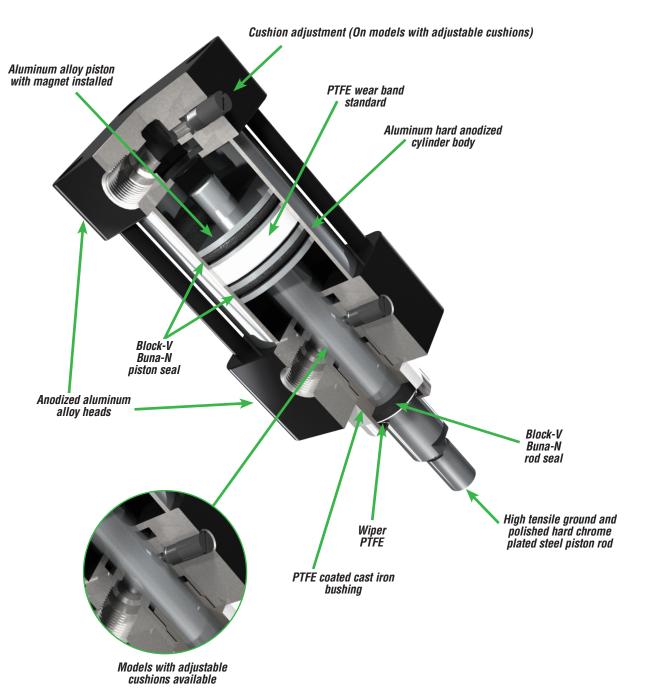
Rod Accessories

There is a Rod Eye, Rod Clevis and Self-Aligning Rod Coupler to fit each size piston rod. 7/16-20 thread size fits 1-1/2'', 2'' and 2-1/2'' bore cylinders. 3/4-16 thread fits 3-1/4'' and 4'' bore cylinders. Jam nuts are sold separately.



D2-Series Heavy Duty Pneumatic Cylinders

Cylinder Features



For the latest prices, please check AutomationDirect.com

D2-Series Heavy Duty Pneumatic Cylinders – 1-1/2 inch Bore

1-1/2 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston



NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 1-1/2" bore, 5/8" diameter piston rod, 7/16"-20 male threaded end, 1/4" female NPT ports, double acting, tapped end caps and one side for mount; flange, pivot and clevis mount options available. Some models available with cushions on both ends.

Part no. D224030DT-M

		1-1/2 in bo	ore, double acting	g, tapped er	nd caps		
Part Number no Cushions	Price	Drawing Link	Part Number w/ Cushions*	Price	Drawing Link	Stroke Length (in)	Weight (lb)
<u>D224010DT-M</u>	\$130.00	PDF	<u>D224010DT-MC</u>	\$192.00	PDF	1	1.5
<u>D224020DT-M</u>	\$134.00	PDF	<u>D224020DT-MC</u>	\$197.00	PDF	2	1.7
<u>D224030DT-M</u>	\$138.00	PDF	<u>D224030DT-MC</u>	\$202.00	PDF	3	1.9
<u>D224040DT-M</u>	\$142.00	PDF	<u>D224040DT-MC</u>	\$206.00	PDF	4	2.2
<u>D224050DT-M</u>	\$148.00	PDF	<u>D224050DT-MC</u>	\$211.00	PDF	5	2.4
D224060DT-M	\$152.00	PDF	<u>D224060DT-MC</u>	\$216.00	PDF	6	2.6
D224070DT-M	\$156.00	PDF	<u>D224070DT-MC</u>	\$220.00	PDF	7	2.8
D224080DT-M	\$160.00	PDF	<u>D224080DT-MC</u>	\$226.00	PDF	8	3.0
D224100DT-M	\$168.00	PDF	<u>D224100DT-MC</u>	\$235.00	PDF	10	3.5
D224120DT-M	\$177.00	PDF	<u>D224120DT-MC</u>	\$244.00	PDF	12	3.9
D224140DT-M	\$186.00	PDF	<u>D224140DT-MC</u>	\$254.00	PDF	14	4.4
D224160DT-M	\$194.00	PDF	<u>D224160DT-MC</u>	\$263.00	PDF	16	4.8
D224180DT-M	\$203.00	PDF	<u>D224180DT-MC</u>	\$274.00	PDF	18	5.3
D224200DT-M	\$211.00	PDF	<u>D224200DT-MC</u>	\$283.00	PDF	20	5.7
<u>D224220DT-M</u>	\$220.00	PDF	<u>D224220DT-MC</u>	\$292.00	PDF	22	6.1
D224240DT-M	\$229.00	PDF	<u>D224240DT-MC</u>	\$302.00	PDF	24	6.6
D224280DT-M	\$245.00	PDF	D224280DT-MC	\$320.00	PDF	28	7.1
D224320DT-M	\$263.00	PDF	<u>D224320DT-MC</u>	\$340.00	PDF	32	7.5

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Specifications								
Aluminum hard anodized to 60 Rc cylinder body	1.77 sq. in. piston area							
Solid aluminum bar, black anodized end caps	Pressure rating 250 psi, AIR ONLY							
High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended							
Low friction Buna-N seals	Temperature range -20°F to 200°F (-25 to 90°C)							
Extend force at 100 psi = 177 lb.	Retract force at 100 psi = 146 lb.							
Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.								

Mounting Accessories							
Style	NFPA Designation	Part No.					
Front Flange	MF1	D2FM-1					
Rear Flange	MF2	D2FM-1					
Rear Clevis	MP2	D2PC-1					
Rear Clevis Short	MP1	D2SPC-1					
Rear Pivot	MP4	D2PA-1					
Angle Mount	MS1	D2AM-1					
Base Mount	None	D2BB-1					

Rod Accessories						
Style Part No.						
Rod Clevis	D2RC-1					
Rod Eye	D2RE-1					
Rod Couplers	D2RCP-1					
Rod Nuts	D2-716-20					
Seal Kit	D2SK-24					

UMATICS

For the latest prices, please check AutomationDirect.com

D2-Series Heavy Duty Pneumatic Cylinders – 2 inch Bore

2 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston



NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 2" bore, 5/8" diameter piston rod, 7/16"-20 male threaded end, 1/4" female NPT ports, double acting, tapped end caps and one side for mount, flange, pivot and clevis mount options available. Some models available with cushions on both ends.

Part no. D232030DT-M

		2 in bore,	double acting, tag	ped end	caps		
Part Number no Cushions	Price	Drawing Link	Part Number w/ Cushions*	Price	Drawing Link	Stroke Length (in)	Weight (lb)
<u>D232010DT-M</u>	\$149.00	PDF	-	-	-	1	2.5
<u>D232020DT-M</u>	\$153.00	PDF	<u>D232020DT-MC</u>	\$217.00	PDF	2	2.7
D232030DT-M	\$158.00	PDF	<u>D232030DT-MC</u>	\$223.00	PDF	3	2.9
<u>D232040DT-M</u>	\$162.00	PDF	<u>D232040DT-MC</u>	\$228.00	PDF	4	3.2
<u>D232050DT-M</u>	\$166.00	PDF	<u>D232050DT-MC</u>	\$233.00	PDF	5	3.4
D232060DT-M	\$172.00	PDF	<u>D232060DT-MC</u>	\$238.00	PDF	6	3.7
D232070DT-M	\$176.00	PDF	<u>D232070DT-MC</u>	\$243.00	PDF	7	3.9
<u>D232080DT-M</u>	\$181.00	PDF	<u>D232080DT-MC</u>	\$249.00	PDF	8	4.1
<u>D232100DT-M</u>	\$189.00	PDF	<u>D232100DT-MC</u>	\$258.00	PDF	10	4.6
D232120DT-M	\$199.00	PDF	<u>D232120DT-MC</u>	\$268.00	PDF	12	5.1
<u>D232140DT-M</u>	\$208.00	PDF	<u>D232140DT-MC</u>	\$279.00	<u>PDF</u>	14	5.6
D232160DT-M	\$217.00	PDF	<u>D232160DT-MC</u>	\$289.00	PDF	16	6.0
D232180DT-M	\$227.00	PDF	<u>D232180DT-MC</u>	\$298.00	PDF	18	6.5
D232200DT-M	\$235.00	PDF	<u>D232200DT-MC</u>	\$309.00	<u>PDF</u>	20	7.0
D232220DT-M	\$244.00	PDF	<u>D232220DT-MC</u>	\$319.00	PDF	22	7.5
<u>D232240DT-M</u>	\$254.00	PDF	<u>D232240DT-MC</u>	\$330.00	PDF	24	7.9
<u>D232280DT-M</u>	\$272.00	PDF	D232280DT-MC	\$349.00	PDF	28	8.4
<u>D232320DT-M</u>	\$290.00	<u>PDF</u>	D232320DT-MC	\$370.00	<u>PDF</u>	32	8.9

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Specifications							
Aluminum hard anodized to 60 Rc cylinder body	3.14 sq. in. piston area						
Solid aluminum bar, black anodized end caps	Pressure rating 250 psi, AIR ONLY						
High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended						
Low friction Buna-N seals	Temperature range -20°F to 200°F (-25 to 90°C)						
Extend force at 100 psi = 314 lb.	Retract force at 100 psi = 283 lb.						
Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.							

Mounting Accessories							
Style	NFPA Designation	Part No.					
Front Flange	MF1	D2FM-2					
Rear Flange	MF2	D2FM-2					
Rear Clevis	MP2	D2PC-2					
Rear Clevis Short	MP1	D2SPC-2					
Rear Pivot	MP4	D2PA-2					
Angle Mount	MS1	D2AM-2					
Base Mount	None	D2BB-2					

Rod Accessories						
Style	Part No.					
Rod Clevis	D2RC-1					
Rod Eye	D2RE-1					
Rod Couplers	D2RCP-1					
Rod Nuts	D2-716-20					
Seal Kit	D2SK-32					

For the latest prices, please check AutomationDirect.com

D2-Series Heavy Duty Pneumatic Cylinders – 2-1/2 inch Bore

2-1/2 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston



NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 2-1/2" bore, 5/8" diameter piston rod, 7/16"-20 male threaded end, 1/4" female NPT ports, double acting, tapped end caps and one side for mount, flange, pivot and clevis mount options available. Some models available with cushions on both ends.

Part no. D240030DT-M

	2-1/2 in bore, double acting, tapped end caps									
Part Number no Cushions	Price	Drawing Link	Part Number w/ Cushions*	Price	Drawing Link	Stroke Length (in)	Weight (lb)			
<u>D240010DT-M</u>	\$163.00	PDF	-			1	3.4			
<u>D240020DT-M</u>	\$168.00	PDF	<u>D240020DT-MC</u>	\$235.00	<u>PDF</u>	2	3.7			
D240030DT-M	\$173.00	PDF	D240030DT-MC	\$240.00	PDF	3	4.0			
D240040DT-M	\$178.00	PDF	D240040DT-MC	\$245.00	PDF	4	4.2			
D240050DT-M	\$183.00	PDF	<i>D240050DT-MC</i>	\$251.00	PDF	5	4.4			
D240060DT-M	\$187.00	PDF	<i>D240060DT-MC</i>	\$256.00	PDF	6	4.7			
D240070DT-M	\$192.00	PDF	D240070DT-MC	\$261.00	PDF	7	5.0			
D240080DT-M	\$198.00	PDF	D240080DT-MC	\$266.00	<u>PDF</u>	8	5.2			
<u>D240100DT-M</u>	\$207.00	PDF	<u>D240100DT-MC</u>	\$278.00	PDF	10	5.8			
<u>D240120DT-M</u>	\$216.00	PDF	<u>D240120DT-MC</u>	\$288.00	PDF	12	6.3			
D240140DT-M	\$226.00	PDF	D240140DT-MC	\$298.00	PDF	14	6.8			
D240160DT-M	\$236.00	PDF	D240160DT-MC	\$309.00	PDF	16	7.3			
D240180DT-M	\$245.00	PDF	D240180DT-MC	\$320.00	<u>PDF</u>	18	7.8			
<u>D240200DT-M</u>	\$255.00	PDF	<u>D240200DT-MC</u>	\$331.00	<u>PDF</u>	20	8.4			
D240240DT-M	\$275.00	PDF	D240240DT-MC	\$353.00	PDF	24	9.1			
D240280DT-M	\$293.00	PDF	D240280DT-MC	\$373.00	PDF	28	9.8			
D240320DT-M	\$313.00	<u>PDF</u>	D240320DT-MC	\$395.00	<u>PDF</u>	32	10.5			

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjust-

able. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Specific	ations		
Aluminum hard anodized to 60 Rc cylinder body	4.91 sq. in. piston area		
Solid aluminum bar, black anodized end caps	Pressure rating 250 psi, AIR ONLY		
High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended		
Low friction Buna-N seals	Temperature range -20°F to 200°F (-25 to 90°C)		
Extend force at 100 psi = 491 lb. Retract force at 100 psi = 460			
Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.			

Mounting Accessories							
Style	Style NFPA Designation Part No.						
Front Flange	MF1	D2FM-3					
Rear Flange	MF2	D2FM-3					
Rear Clevis	MP2	D2PC-3					
Rear Clevis Short	MP1	D2SPC-3					
Rear Pivot	MP4	D2PA-3					
Angle Mount	MS1	D2AM-2					
Base Mount	None	D2BB-3					

Rod Accessories		
Style	Part No.	
Rod Clevis	D2RC-1	
Rod Eye	D2RE-1	
Rod Couplers	D2RCP-1	
Rod Nuts	D2-716-20	
Seal Kit	D2SK-40	

NELIMATICS

D2-Series Heavy Duty Pneumatic Cylinders – 3-1/4 inch Bore

3-1/4 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston



NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 3-1/4" bore, 1" diameter piston rod, 3/4"-16 male threaded end, 3/8" female NPT ports, double acting, tapped end caps and one side for mount, flange, pivot and clevis mount options available. Some models available with cushions on both ends.

Part no. D252030DT-M

	3-1/4 in bore, double acting, tapped end caps							
Part Number no Cushions	Price	Drawing Link	Part Number w/ Cushions*	Price	Drawing Link	Stroke Length (in)	Weight (lbs)	
<u>D252010DT-M</u>	\$213.00	PDF	_	-	-	1	6.8	
D252020DT-M	\$220.00	PDF	D252020DT-MC	\$305.00	PDF	2	7.3	
D252030DT-M	\$228.00	PDF	D252030DT-MC	\$313.00	PDF	3	7.7	
D252040DT-M	\$235.00	PDF	D252040DT-MC	\$321.00	<u>PDF</u>	4	8.1	
D252050DT-M	\$241.00	PDF	D252050DT-MC	\$329.00	PDF	5	8.6	
D252060DT-M	\$249.00	PDF	D252060DT-MC	\$337.00	PDF	6	9.0	
D252070DT-M	\$256.00	PDF	D252070DT-MC	\$344.00	PDF	7	9.4	
D252080DT-M	\$263.00	PDF	D252080DT-MC	\$353.00	PDF	8	9.9	
D252100DT-M	\$278.00	PDF	D252100DT-MC	\$368.00	PDF	10	10.7	
D252120DT-M	\$291.00	PDF	D252120DT-MC	\$384.00	<u>PDF</u>	12	11.6	
D252140DT-M	\$306.00	PDF	D252140DT-MC	\$399.00	PDF	14	12.5	
D252160DT-M	\$319.00	PDF	D252160DT-MC	\$416.00	<u>PDF</u>	16	13.4	
D252180DT-M	\$334.00	PDF	D252180DT-MC	\$432.00	PDF	18	14.2	
D252200DT-M	\$348.00	PDF	D252200DT-MC	\$447.00	PDF	20	15.1	
D252240DT-M	\$376.00	PDF	D252240DT-MC	\$478.00	PDF	24	16.8	
D252280DT-M	\$405.00	PDF	D252280DT-MC	\$511.00	PDF	28	18.5	
<u>D252320DT-M</u>	\$434.00	PDF	D252320DT-MC	\$542.00	PDF	32	20.2	

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Specifica	tions			
Aluminum hard anodized to 60 Rc cylinder body	8.3 sq. in. piston area			
Solid aluminum bar, black anodized end caps	Pressure rating 250 psi, AIR ONLY			
High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended			
Low friction Buna-N seals	Temperature range -20°F to 200°F (-25 to 90°C)			
Extend force at 100 psi = 830 lb. Retract force at 100 psi = 751 lb.				
Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.				

Mounting Accessories						
Style	Style NFPA Designation Part No.					
Front Flange	MF1	D2FM-4				
Rear Flange	MF2	D2FM-4				
Rear Clevis	MP2	D2PC-4				
Rear Clevis Short	MP1	D2SPC-4				
Rear Pivot	MP4	D2PA-4				
Angle Mount	MS1	D2AM-4				
Base Mount	None	D2BB-4				

Rod Accessories				
Style	Part No.			
Rod Clevis	D2RC-2			
Rod Eye D2RE-2				
Rod Couplers	D2RCP-2			
Rod Nuts	D2-34-16			
Seal Kit	D2SK-52			



D2-Series Heavy Duty Pneumatic Cylinders – 4 inch Bore

4 in. Bore, Double-acting, Tapped End Caps, Magnetic Piston



NITRA heavy duty pneumatic, NFPA interchangeable cylinder, 4" bore, 1" diameter piston rod, 3/4"-16 male threaded end, 3/8" female NPT ports, double acting, tapped end caps and one side for mount, flange, pivot and clevis mount options available. Some models available with cushions on both ends.

Part no.D264030DT-M

4 in bore, double acting, tapped end caps							
Part Number no Cushions	Price	Drawing Link	Part Number w/ Cushions*	Price	Drawing Link	Stroke Length (in)	Weight (lb)
D264010DT-M	\$252.00	PDF	-	-	-	1	8.7
<u>D264020DT-M</u>	\$259.00	PDF	-	-	-	2	9.2
<u>D264030DT-M</u>	\$266.00	PDF	D264030DT-MC	\$357.00	PDF	3	9.7
<u>D264040DT-M</u>	\$275.00	PDF	D264040DT-MC	\$365.00	PDF	4	10.2
D264050DT-M	\$282.00	PDF	D264050DT-MC	\$373.00	PDF	5	10.7
<u>D264060DT-M</u>	\$289.00	PDF	D264060DT-MC	\$382.00	PDF	6	11.1
D264070DT-M	\$296.00	PDF	D264070DT-MC	\$390.00	PDF	7	11.6
<u>D264080DT-M</u>	\$305.00	PDF	D264080DT-MC	\$398.00	PDF	8	12.1
<u>D264100DT-M</u>	\$319.00	PDF	D264100DT-MC	\$415.00	PDF	10	13.1
<u>D264120DT-M</u>	\$334.00	PDF	D264120DT-MC	\$432.00	PDF	12	14.0
D264140DT-M	\$349.00	PDF	D264140DT-MC	\$448.00	PDF	14	15.0
<u>D264160DT-M</u>	\$364.00	PDF	D264160DT-MC	\$465.00	PDF	16	15.9
D264180DT-M	\$380.00	PDF	D264180DT-MC	\$482.00	PDF	18	16.9
D264200DT-M	\$394.00	PDF	D264200DT-MC	\$499.00	PDF	20	17.9
D264240DT-M	\$424.00	PDF	D264240DT-MC	\$532.00	PDF	24	19.8
D264280DT-M	\$454.00	PDF	D264280DT-MC	\$566.00	PDF	28	21.7
<u>D264320DT-M</u>	\$485.00	<u>PDF</u>	<u>D264320DT-MC</u>	\$599.00	<u>PDF</u>	32	23.6

* The cushions decelerate the piston rod over the last 11/16 inch (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Specifications					
Aluminum hard anodized to 60 Rc cylinder body	12.57 sq. in. piston area				
Solid aluminum bar, black anod- ized end caps	Pressure rating 250 psi, AIR ONLY				
High tensile ground and polished hard chrome plated steel piston rod	Non-detergent petroleum based oil is recommended				
Low friction Buna-N seals	Temperature range -20°F to 200°F (-25 to 90°C)				
Extend force at 100 psi = 1,257 lb. Retract force at 100 psi = 1,178					
Filtration: Not essential, however a standard 40 micron filter placed upstream will prolong seal life.					

Mounting Accessories							
Style	Style NFPA Designation Part No.						
Front Flange	MF1	D2FM-5					
Rear Flange	MF2	D2FM-5					
Rear Clevis	MP2	D2PC-5					
Rear Clevis Short	MP1	D2SPC-5					
Rear Pivot	MP4	D2PA-5					
Angle Mount	MS1	D2AM-5					
Base Mount	None	D2BB-5					

Rod	Accessories		
Style	Part No.		
Rod Clevis	D2RC-2		
Rod Eye D2RE-2			
Rod Couplers	D2RCP-2		
Rod Nuts	D2-34-16		
Seal Kit	D2SK-64		

For the latest prices, please check AutomationDirect.com



D2-Series Heavy Duty Pneumatic Cylinders – Accessories

Rod Clevis



Part no. D2RC-2



Note: Comes with Pivot Pin installed.

	D2-Series Heavy Duty Pneumatic Cylinder Accessories								
Part Number									
<u>D2RC-1</u>	NITRA rod clevis, 7/16-20 UNF thread, steel. For use with D2 series NFPA cylinders.	1	0.3	\$19.00	PDF				
<u>D2RC-2</u>	NITRA rod clevis, 3/4-16 UNF thread, steel. For use with D2 series NFPA cylinders.	1	0.8	\$26.00	PDF				

Rod Eye



Part no. D2RE-2

	D2-Series Heavy Duty Pneumatic Cylinder Accessories										
Part Number	Description	Pcs/Pkg	Wt (lb)	Price	Drawing Link						
<u>D2RE-1</u>	NITRA rod eye, 7/16-20 UNF thread, steel. For use with D2 series NFPA cylinders.	1	0.4	\$24.00	<u>PDF</u>						
<u>D2RE-2</u>	NITRA rod eye, 3/4-16 UNF thread, steel. For use with D2 series NFPA cylinders.	1	1.2	\$32.00	<u>PDF</u>						

For the latest prices, please check AutomationDirect.com



D2-Series Heavy Duty Pneumatic Cylinders – Accessories

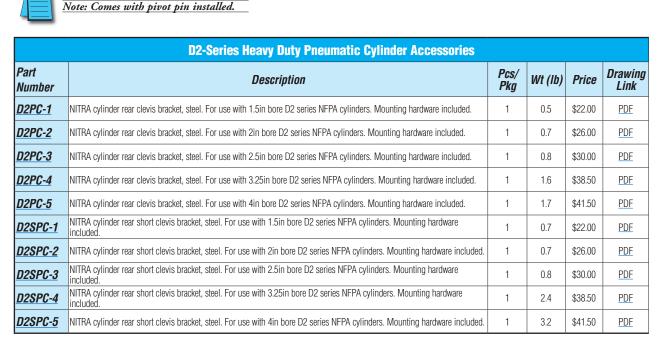
Rear Clevis





Part no. D2SPC-3

Part no. D2PC-3



Rear Pivot Eye



Part no. D2PA-3

	D2-Series Heavy Duty Pneumatic Cylinder Accessories				
Part Number	Description	Pcs/ Pkg	Wt (lb)	Price	Drawing Link
<u>D2PA-1</u>	NITRA rear pivot eye, steel. For use with 1.5in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.4	\$22.00	<u>PDF</u>
<u>D2PA-2</u>	NITRA rear pivot eye, steel. For use with 2in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.5	\$26.00	<u>PDF</u>
<u>D2PA-3</u>	NITRA rear pivot eye, steel. For use with 2.5in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.7	\$30.00	<u>PDF</u>
<u>D2PA-4</u>	NITRA rear pivot eye, steel. For use with 3.25in bore D2 series NFPA cylinders. Mounting hardware included.	1	1.3	\$38.50	<u>PDF</u>
<u>D2PA-5</u>	NITRA rear pivot eye, steel. For use with 4in bore D2 series NFPA cylinders. Mounting hardware included.	1	1.4	\$41.50	<u>PDF</u>

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D2-Series Heavy Duty Pneumatic Cylinders – Accessories

Flange Attachment



Part no. D2FM-2

	D2-Series Heavy Duty Pneumatic Cylinder Accessories				
Part Number	Description	Pcs/ Pkg	Wt (lb)	Price	Drawing Link
<u>D2FM-1</u>	NITRA flange mount plate, steel. For use with 1.5in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.3	\$22.00	<u>PDF</u>
<u>D2FM-2</u>	NITRA flange mount plate, steel. For use with 2in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.4	\$25.00	<u>PDF</u>
<u>D2FM-3</u>	NITRA flange mount plate, steel. For use with 2.5in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.5	\$28.00	<u>PDF</u>
<u>D2FM-4</u>	NITRA flange mount plate, steel. For use with 3.25in bore D2 series NFPA cylinders. Mounting hardware included.	1	3.0	\$36.50	<u>PDF</u>
<u>D2FM-5</u>	NITRA flange mount plate, steel. For use with 4in bore D2 series NFPA cylinders. Mounting hardware included.	1	4.3	\$40.50	<u>PDF</u>

Rod Couplers



NITRA self-aligning rod couplers reduce cylinder alignment issues by compensating for $\pm 1^{\circ}$ angular error and 1/16'' lateral misalignment on both the extension and retraction strokes. Better reliability by reducing cylinder and component wear.

Part no. D2RCP-2

	D2-Series Heavy Duty Pneumatic Cylinder Accessories										
Part Number	Description	Pcs/ Pkg	Wt (lb)	Price	Drawing Link						
D2RCP-1	NITRA self-aligning rod coupler, 7/16-20 UNF thread, steel. For use with D2 series NFPA cylinders.	1	0.5	\$31.00	<u>PDF</u>						
<u>D2RCP-2</u>	NITRA self-aligning rod coupler, 3/4-16 UNF thread, steel. For use with D2 series NFPA cylinders.	1	0.6	\$47.00	<u>PDF</u>						

Jam Nuts



Part no. D2-34-16

	D2-Series Heavy Duty Pneumatic Cylinder Accessories										
Part Number	Description	Pcs/ Pkg	Wt (lb)	Price	Drawing Link						
<u>D2-716-20</u>	NITRA jam nut, 7/16-20 UNF thread, steel. For use with D2 series NFPA cylinders.	1	0.02	\$1.25	<u>PDF</u>						
<u>D2-34-16</u>	NITRA jam nut, 3/4-16 UNF thread, steel. For use with D2 series NFPA cylinders.	1	0.07	\$3.50	<u>PDF</u>						



D2-Series Heavy Duty Pneumatic Cylinders – Accessories

Mount Brackets





Part no. D2AM-3

Part no. D2BB-3

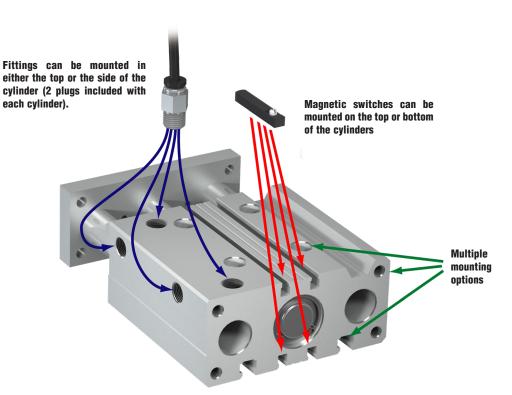
	D2-Series Heavy Duty Pneumatic Cylind	er Acces	sories		
Part Number	Description	Pcs/Pkg	Wt (lb)	Price	Drawing Link
<u>D2AM-1</u>	NITRA angle mount bracket, steel. For use with 1.5in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.5	\$21.00	PDF
<u>D2AM-2</u>	NITRA angle mount bracket, steel. For use with 2in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.9	\$24.00	PDF
<u>D2AM-3</u>	NITRA angle mount bracket, steel. For use with 2.5in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.9	\$27.00	PDF
<u>D2AM-4</u>	NITRA angle mount bracket, steel. For use with 3.25in bore D2 series NFPA cylinders. Mounting hardware included.	1	1.5	\$34.50	PDF
<u>D2AM-5</u>	NITRA angle mount bracket, steel. For use with 4in bore D2 series NFPA cylinders. Mounting hardware included.	1	2.2	\$38.50	PDF
<u>D2BB-1</u>	NITRA base mount bracket, anodized aluminum. For use with 1.5in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.3	\$25.00	PDF
<u>D2BB-2</u>	NITRA base mount bracket, anodized aluminum. For use with 2in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.4	\$29.00	PDF
<u>D2BB-3</u>	NITRA base mount bracket, anodized aluminum. For use with 2.5in bore D2 series NFPA cylinders. Mounting hardware included.	1	0.6	\$34.50	PDF
<u>D2BB-4</u>	NITRA base mount bracket, anodized aluminum. For use with 3.25in bore D2 series NFPA cylinders. Mounting hardware included.	1	1.1	\$40.50	PDF
<u>D2BB-5</u>	NITRA base mount bracket, anodized aluminum. For use with 4in bore D2 series NFPA cylinders. Mounting hardware included.	1	1.2	\$40.50	PDF

Seal Kits



	D2-Series Heavy Duty Pneumatic Cylinder Replacement Seal Kit										
Part Number	Description	Pcs/Pkg	Wt (lb)	Price							
<u>D2SK-24</u>	NITRA seal kit, for use with 1.5in bore NFPA cylinders. All wear parts for both D-series and D2-series NFPA cylinders included.	1	0.1	\$60.00							
D2SK-32	NITRA seal kit, for use with 2in bore NFPA cylinders. All wear parts for both D-series and D2-series NFPA cylinders included.	1	0.1	\$64.00							
D2SK-40	NITRA seal kit, for use with 2.5in bore NFPA cylinders. All wear parts for both D-series and D2-series NFPA cylinders included.	1	0.1	\$67.00							
D2SK-52	NITRA seal kit, for use with 3.25in bore NFPA cylinders. All wear parts for both D-series and D2-series NFPA cylinders included.	1	0.2	\$81.00							
D2SK-64	NITRA seal kit, for use with 4in bore NFPA cylinders. All wear parts for both D-series and D2-series NFPA cylinders included.	1	0.2	\$88.00							





NITRA pneumatic guided actuator with dual guide rods, bronze bushings, extruded aluminum housing and switch mounting tracks.

Eight bore sizes

- Interchangeable with other popular brands
- Work with 4mm square T-slot cylinder switches
- Chrome plated stainless steel guide rods
- Mild steel tooling plate
- Nitrile / Buna-N O-rings



	E-Series Dual Guide Rod Cylinder Specifications											
Bore Size (mm)	12	16	20	25	32	40	50	63				
Action	Double acting											
Fluid	Air (clean/dry)											
Temperature Range	23 to 158°F (-5 to 70°C)											
Pressure Range	18-142 psi (1.2-10 bar)											
Proof Pressure				213 psi	(15 bar)							
Lubrication				Not re	quired							
Cushion Type				Urethane	e Bumper							
Non-Rotate Tolerance	±0.	.10°	±0.	09°	±0.	08°	±0.	06°				
Port Size	M5	M5x0.8 1/8-NPT 1/4-NPT										
Extend Force @ 100 psi (lbs.)	17.5	31.2	48.7	76.1	124.7	194.8	304.3	483.2				
Retract Force @ 100 psi (lbs.)	9.7	19.0	31.2	44.9	76.0	146.1	255.6	434.5				



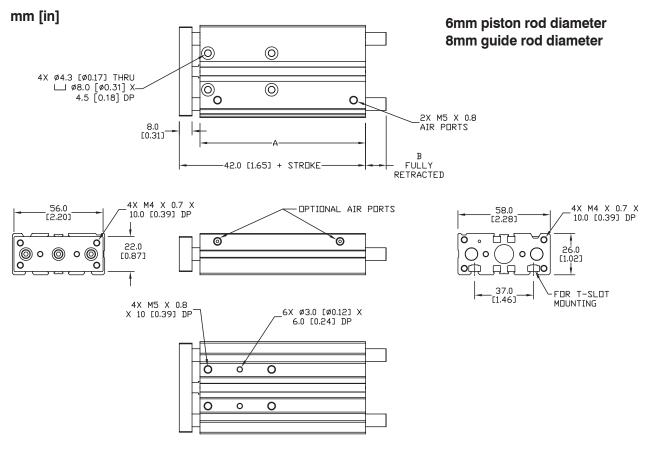
12 mm Bore, Double Acting



Part No. E12M050MD-M

12 m	m Bore E-Series	s Dual Guide Ro	d Cylinders - Do	uble Acting	
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Weight (lbs)	Price
<u>E12M010MD-M</u>	10	39.0 [1.53]	-4.0 [-0.16]	0.6	\$119.00
<u>E12M020MD-M</u>	20	49.0 [1.93]	-4.0 [-0.16]	0.6	\$119.00
<u>E12M025MD-M</u>	25	54.0 [2.13]	-4.0 [-0.16]	0.7	\$119.00
<u>E12M030MD-M</u>	30	59.0 [2.32]	-4.0 [-0.16]	0.7	\$127.00
<u>E12M040MD-M</u>	40	69.0 [2.72]	-4.0 [-0.16]	0.8	\$127.00
<u>E12M050MD-M</u>	50	79.0 [3.11]	-4.0 [-0.16]	0.9	\$127.00
<u>E12M075MD-M</u>	75	104.0 [4.09]	13.0 [0.51]	1.2	\$131.00
<u>E12M100MD-M</u>	100	129.0 [5.08]	13.0 [0.51]	1.4	\$138.00
E12M125MD-M	125	154.0 [6.06]	43.0 [1.69]	1.7	\$145.00
<u>E12M150MD-M</u>	150	179.0 [7.05]	43.0 [1.69]	1.9	\$152.00

Dimensions



E12MXXXMD-M

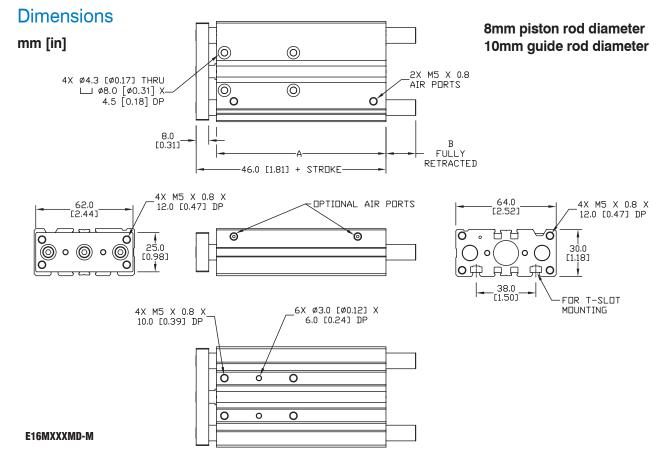


16 mm Bore, Double Acting



Part No. E16M050MD-M

16 mm Bore E-Series Dual Guide Rod Cylinders - Double Acting											
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Weight (lbs)	Price						
E16M010MD-M	10	43.0 [1.69]	-3.0 [-0.12]	0.8	\$133.00						
<u>E16M020MD-M</u>	20	53.0 [2.09]	-3.0 [-0.12]	0.9	\$133.00						
E16M025MD-M	25	58.0 [2.28]	-3.0 [-0.12]	1.0	\$144.00						
E16M030MD-M	30	63.0 [2.48]	-3.0 [-0.12]	1.0	\$144.00						
<u>E16M040MD-M</u>	40	73.0 [2.87]	-3.0 [-0.12]	1.2	\$144.00						
E16M050MD-M	50	83.0 [3.27]	-3.0 [-0.12]	1.3	\$144.00						
E16M075MD-M	75	108.0 [4.25]	19.0 [0.75]	1.7	\$152.00						
E16M100MD-M	100	133.0 [5.27]	19.0 [0.75]	2.0	\$167.00						
E16M125MD-M	125	158.0 [6.22]	49.0 [1.93]	2.3	\$179.00						
E16M150MD-M	150	183.0 [7.20]	49.0 [1.93]	2.6	\$185.00						
E16M175MD-M	175	208.0 [8.19]	49.0 [1.93]	2.9	\$194.00						
E16M200MD-M	200	233.0 [9.17]	49.0 [1.93]	3.2	\$197.00						





20 mm Bore, Double Acting



Part No. E20M050MD-M

Dimensions

20 m r	20 mm Bore E-Series Dual Guide Rod Cylinders - Double Acting											
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Weight (lbs)	Price							
<u>E20M020MD-M</u>	20	57.0 [2.24]	-2.0 [-0.079]	1.6	\$162.00							
<u>E20M025MD-M</u>	25	62.0 [2.44]	-2.0 [-0.079]	1.7	\$172.00							
<u>E20M030MD-M</u>	30	67.0 [2.64]	-2.0 [-0.079]	1.8	\$172.00							
<u>E20M040MD-M</u>	40	77.0 [3.03]	-2.0 [-0.079]	2.0	\$172.00							
<u>E20M050MD-M</u>	50	87.0 [3.43]	-2.0 [-0.079]	2.1	\$172.00							
<u>E20M075MD-M</u>	75	112.0 [4.41]	27.0 [1.06]	2.8	\$184.00							
<u>E20M100MD-M</u>	100	137.0 [5.39]	27.0 [1.06]	3.2	\$192.00							
<u>E20M125MD-M</u>	125	162.0 [6.38]	51.0 [2.01]	3.8	\$205.00							
<u>E20M150MD-M</u>	150	187.0 [7.36]	51.0 [2.01]	4.2	\$217.00							
<u>E20M175MD-M</u>	175	212.0 [8.35]	51.0 [2.01]	4.6	\$228.00							
E20M200MD-M	200	237.0 [9.33]	51.0 [2.01]	5.1	\$240.00							
<u>E20M250MD-M</u>	250	287.0 [11.30]	69.0 [2.72]	6.0	\$261.00							

mm [in] 10mm piston rod diameter 12mm guide rod diameter \odot 0 4X Ø5.6 [Ø0.22] THRU 2X 1/8" NPT └ Ø9.5 [Ø0.37] X-5.5 [0.22] DP AIR PORTS $\overline{\bigcirc}$ \bigcirc \bigcirc С 10.0 [0.39] B FULLY RETRACTED -53.0 [2.08] + STROKE-4X M5 X 0.8 X 13.0 [.51] DP OPTIONAL AIR PORTS _ 83.0 [3.27] 4X M5 X 0.8 X 13.0 [.51] DP 81.0 [3.19] ප പ് ó 0 0 \odot 0 ó \odot 36.0 [1.42] 30.0 [1.18] o C \bigcirc 0 ത 0 $(\bigcirc$ o Ó 0 0 山 _ 44.0 [1.73] FOR T-SLOT MOUNTING 4X M6 X 1.0 X 12.0 [0.47] DP 6X Ø3.0 [Ø0.12] X 6.0 [0.24] DP Ò 6 0 0 0 0

E20MXXXMD-M

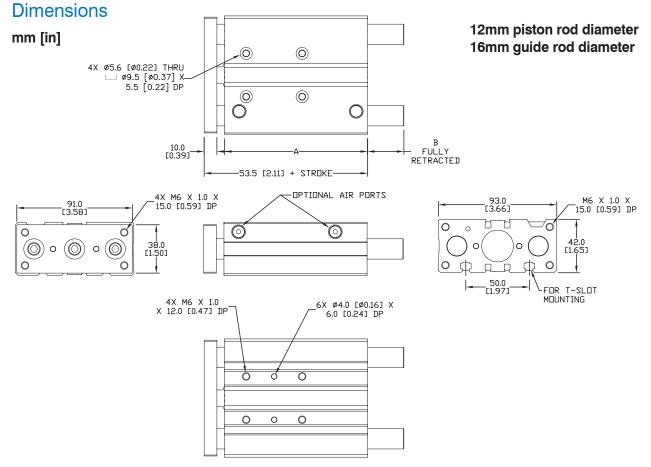


25 mm Bore, Double Acting



Part No. E25M050MD-M

25 m	m Bore E-Series	s Dual Guide Roc	l Cylinders - Dou	ible Acting	
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Weight (lbs)	Price
E25M020MD-M	20	57.5 [2.26]	-1.5 [-0.06]	2.2	\$181.00
<u>E25M025MD-M</u>	25	62.5 [2.40]	-1.5 [-0.06]	2.3	\$194.00
<u>E25M030MD-M</u>	30	67.5 [2.66]	-1.5 [-0.06]	2.4	\$194.00
<u>E25M040MD-M</u>	40	77.5 [3.05]	-1.5 [-0.06]	2.7	\$194.00
<u>E25M050MD-M</u>	50	87.5 [3.44]	-1.5 [-0.06]	2.9	\$194.00
<u>E25M075MD-M</u>	75	112.5 [4.43]	28.5 [1.12]	3.9	\$210.00
<u>E25M100MD-M</u>	100	137.5 [5.41]	28.5 [1.12]	4.5	\$224.00
<u>E25M125MD-M</u>	125	162.5 [6.40]	51.0 [2.01]	5.3	\$236.00
<u>E25M150MD-M</u>	150	187.5 [7.38]	51.0 [2.01]	5.8	\$252.00
<u>E25M175MD-M</u>	175	212.5 [8.37]	51.0 [2.01]	6.5	\$267.00
<u>E25M200MD-M</u>	200	237.5 [9.35]	51.0 [2.01]	7.1	\$283.00
E25M250MD-M	250	287.5 [11.32]	68.5 [2.70]	8.4	\$305.00



E25MXXXMD-M

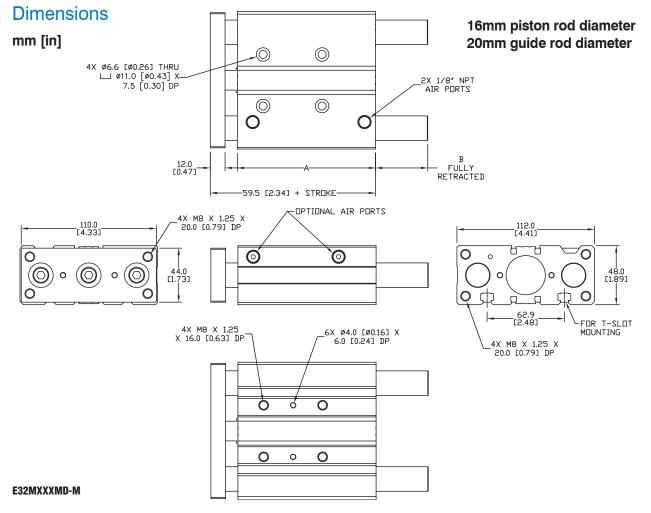


32 mm Bore, Double Acting



Part No. E32M050MD-M

32 m r	32 mm Bore D-Series Dual Guide Rod Cylinders - Double Acting						
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Weight (lbs)	Price		
<u>E32M025MD-M</u>	25	62.5 [2.40]	18.5 [0.73]	3.3	\$236.00		
<u>E32M030MD-M</u>	30	67.5 [2.66]	18.5 [0.73]	3.5	\$258.00		
<u>E32M040MD-M</u>	40	77.5 [3.05]	18.5 [0.73]	3.8	\$258.00		
<u>E32M050MD-M</u>	50	87.5 [3.44]	18.5 [0.73]	4.1	\$258.00		
<u>E32M075MD-M</u>	75	112.5 [4.43]	42.5 [1.67]	5.8	\$280.00		
<u>E32M100MD-M</u>	100	137.5 [5.41]	42.5 [1.67]	6.6	\$294.00		
<u>E32M125MD-M</u>	125	162.5 [6.40]	58.5 [2.30]	7.6	\$319.00		
E32M150MD-M	150	187.5 [7.38]	58.5 [2.30]	8.4	\$336.00		
E32M175MD-M	175	212.5 [8.37]	58.5 [2.30]	9.3	\$350.00		
<u>E32M200MD-M</u>	200	237.5 [9.35]	58.5 [2.30]	10.1	\$373.00		
E32M250MD-M	250	287.5 [11.32]	80.0 [3.15]	12.0	\$409.00		



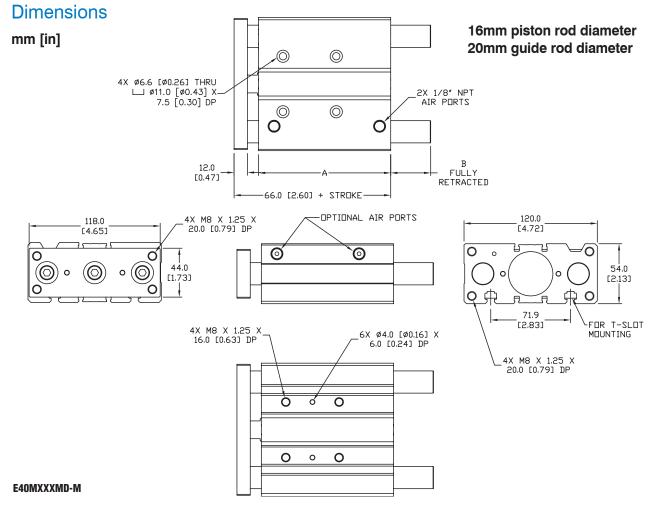


40 mm Bore, Double Acting



Part No. E40M050MD-M

40 m	m Bore E-Series	Dual Guide Rod	Cylinders - Dou	ble Acting	
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Weight (lbs)	Price
<u>E40M025MD-M</u>	25	69.0 [2.72]	12.0 [0.47]	3.8	\$252.00
E40M030MD-M	30	74.0 [2.91]	12.0 [0.47]	4.0	\$264.00
E40M040MD-M	40	84.0 [3.31]	12.0 [0.47]	4.4	\$269.00
E40M050MD-M	50	94.0 [3.70]	12.0 [0.47]	4.7	\$269.00
E40M075MD-M	75	119.0 [4.69]	36.0 [1.42]	6.5	\$293.00
E40M100MD-M	100	144.0 [5.67]	36.0 [1.42]	7.4	\$309.00
E40M125MD-M	125	169.0 [6.65]	52.0 [2.05]	8.5	\$330.00
E40M150MD-M	150	194.0 [7.64]	52.0 [2.05]	9.4	\$349.00
E40M175MD-M	175	219.0 [8.62]	52.0 [2.05]	10.5	\$363.00
E40M200MD-M	200	244.0 [9.61]	52.0 [2.05]	11.3	\$385.00
E40M250MD-M	250	294.0 [11.6]	74.0 [2.91]	13.4	\$422.00



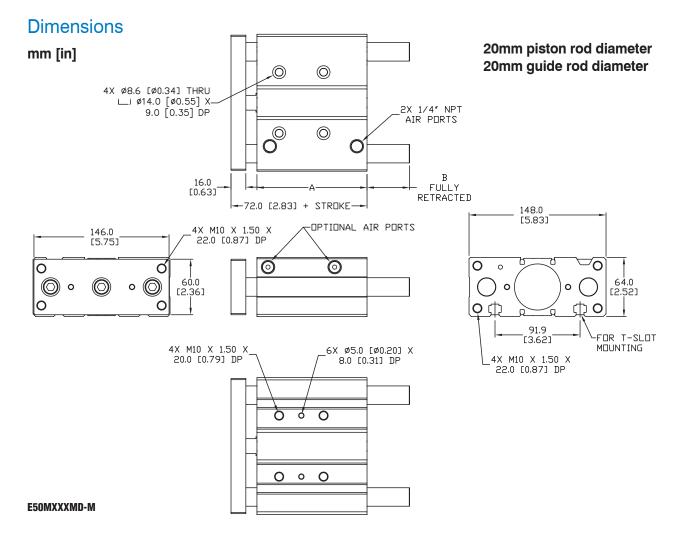


50 mm Bore, Double Acting



Part No. E50M050MD-M

50 m	m Bore E-Series	Dual Guide Rod	Cylinders - Dou	ble Acting	
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Weight (lbs)	Price
E50M025MD-M	25	69.0 [2.72]	17.0 [0.67]	6.0	\$290.00
E50M030MD-M	30	74.0 [2.91]	17.0 [0.67]	6.3	\$317.00
E50M040MD-M	40	84.0 [3.31]	17.0 [0.67]	6.8	\$317.00
<u>E50M050MD-M</u>	50	94.0 [3.70]	17.0 [0.67]	7.3	\$317.00
E50M075MD-M	75	119.0 [4.69]	46.0 [1.81]	9.8	\$335.00
E50M100MD-M	100	144.0 [5.67]	46.0 [1.81]	11.0	\$357.00
E50M125MD-M	125	169.0 [6.65]	62.0 [2.44]	12.5	\$380.00
E50M150MD-M	150	194.0 [7.64]	62.0 [2.44]	13.8	\$402.00
E50M175MD-M	175	219.0 [8.62]	62.0 [2.44]	15.1	\$422.00
E50M200MD-M	200	244.0 [9.61]	62.0 [2.44]	16.4	\$446.00
E50M250MD-M	250	294.0 [11.6]	89.0 [3.50]	19.6	\$506.00



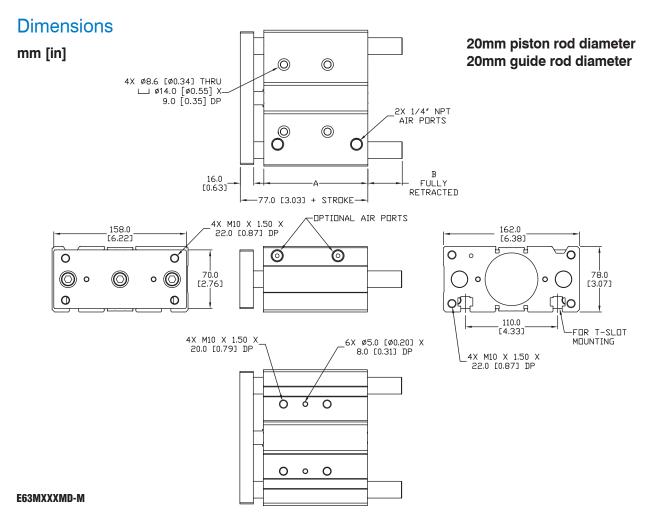


63 mm Bore, Double Acting



Part No. E63M050MD-M

63 mm Bore E-Series Dual Guide Rod Cylinders - Double Acting						
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Weight (lbs)	Price	
<u>E63M025MD-M</u>	25	74.0 [2.91]	12.0 [0.47]	7.6	\$303.00	
<u>E63M030MD-M</u>	30	79.0 [3.11]	12.0 [0.47]	8.0	\$327.00	
<u>E63M040MD-M</u>	40	89.0 [3.50]	12.0 [0.47]	8.6	\$327.00	
E63M050MD-M	50	99.0 [3.90]	12.0 [0.47]	9.2	\$328.00	
E63M075MD-M	75	124.0 [4.88]	41.0 [1.61]	11.9	\$356.00	
<u>E63M100MD-M</u>	100	149.0 [5.87]	41.0 [1.61]	13.5	\$371.00	
<u>E63M125MD-M</u>	125	174.0 [6.85]	57.0 [2.24]	15.3	\$393.00	
E63M150MD-M	150	199.0 [7.83]	57.0 [2.24]	16.7	\$422.00	
E63M175MD-M	175	224.0 [8.82]	57.0 [2.24]	18.2	\$436.00	
E63M200MD-M	200	249.0 [9.80]	57.0 [2.24]	19.7	\$467.00	
E63M250MD-M	250	299.0 [11.8]	84.0 [3.31]	23.1	\$502.00	





E-Series Dual Guide Rod Cylinders -Load and Torque Ratings

	Cylinder Max Side Load Ratings (lbs)												
Bore Size		Stroke (mm)											
(mm)	10	20	25	30	40	50	75	100	125	150	175	200	250
12	9.9	7.4	6.5	5.9	9.2	8.1	5.9	5.0	4.3	3.8	-	-	-
16	15	11	9.5	8.3	14	13	8.3	7.2	6.1	5.4	5.0	4.5	-
20	-	18	14	13	28	25	20	17	15	13	12	11	9.5
25	-	21	20	17	32	29	23	19	20	18	16	15	12
32	-	-	46	43	40	37	41	35	32	29	26	24	20
40	-	-	46	43	40	37	41	35	32	29	26	24	20
50	-	-	67	64	60	55	61	54	49	44	40	37	32
<i>63</i>	-	-	67	64	60	55	61	54	49	44	40	37	32

Conversion: 1 lb = 4.45 N

	Cylinder Max Torque Ratings (in-lb)												
Bore Size		Stroke (mm)											
(mm)	10	20	25	30	40	50	75	100	125	150	175	200	250
12	7.97	6.99	6.28	5.75	6.82	6.37	4.43	3.19	2.74	2.39	-	-	-
16	10.7	9.20	8.32	7.79	10.89	9.82	6.11	5.13	4.43	3.89	3.54	3.19	-
20	-	13.9	12.6	11.6	21.2	19.0	16.6	14.4	12.7	11.3	10.3	9.38	7.97
25	-	21.2	19.6	17.8	32.4	29.7	26.2	22.7	20.0	17.9	16.2	14.8	12.6
32	-	-	56.2	53.1	50.7	45.4	50.4	44.0	39.1	35.2	32.0	29.3	25.1
40	-	-	62.0	58.4	54.1	50.1	55.5	48.5	43.1	38.8	35.2	32.3	27.7
50	-	-	115	112	97.4	95.6	106	93.8	84.1	76.1	69.6	64.1	55.2
63	-	-	130	120	114	107	119	105	94.7	85.8	78.4	72.2	62.3

Conversion: 1 in-lb = 0.113 N-m

G3.

G32

G3.

G32

G32

G32

G32

G32

G32

G32



G-Series ISO Pneumatic Cylinders – 32mm Bore

32mm Bore, Double-acting, Magnetic Piston, Cushions



Adjustable cushions on both ends. See the end of the section for accessory details. **Features**

Adjustable cushions



NBR (Nitrile Butadiene Rubber) buffer +

NBR (Nitrile Butadiene Rubber) cushioning

Brass cushioning needle with needle out

Pressure rating 145 psi [10 bar], AIR ONLY

Temperature rating 14°F to 176°F [-10°C

Retract force at 100 psi = 107.1 lb.

- Internal magnet for sensor switching
- Three sides with longitudinal slots for inserting and securing retractable sensors such as type CPS9F and CPS9Q (see position switches at the end of the cylinder section for further details)

Specifications

Plastoferrite magnet

movement safety system

static o-rings

aasket

to 80°C1

NITRA pneumatic ISO 15552 interchangeable cylinder, 32mm bore, 12mm diameter piston rod, G1/8 (BSPP) female ports, double acting; flange, pivot and clevis mount options available.

• G (BSPP) threaded ports

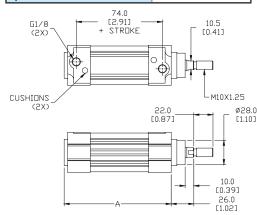
32mm bore	e, doub	le acting, tap	ped end cap	S	Specifica
Part Number	Price	Stroke Length (mm)	"A" (mm [inch])	Weight (lb)	Aluminum body and end caps
32M025MD-MC	\$66.00	25	119 [4.69]	1.1	C45 chromed piston rod
B2M050MD-MC	\$68.00	50	144 [5.67]	1.3	
32M075MD-MC	\$72.00	75	169 [6.65]	1.4	Die cast aluminum head
32M100MD-MC	\$73.00	100	194 [7.64]	1.6	NBR (Nitrile Butadiene Rubber) piston and piston rod gasket
<u> 82M125MD-MC</u>	\$75.00	125	219 [8.62]	1.9	Steel guide bushing with bronze and PTFE
32M150MD-MC	\$76.00	150	244 [9.61]	2.0	(Teflon) insert
32M200MD-MC	\$80.00	200	294 [11.57]	2.4	Drawn anodized aluminum body
32M250MD-MC	\$84.00	250	344 [13.54]	2.7	Self-lubricating technopolymer piston
<u> 32M300MD-MC</u>	\$87.00	300	394 [15.51]	3.1	
32M400MD-MC	\$94.00	400	494 [19.45]	3.7	Extend force at 100 psi = 124.6 lb.
32M500MD-MC	\$100.00	500	594 [23.39]	4.4	BSPP = British Standard Pipe Parallel
32M600MD-MC	\$107.00	600	694 [27.32]	5.1	
		à			

<u>G32M500MD-MC</u>	\$100.00	500	594 [23.39]	4.4
<u>G32M600MD-MC</u>	\$107.00	600	694 [27.32]	5.1
* The cushions decele stroke and are adjus orifice and pre-lubric	table. Cus	chioned cylinders h		,

e cushion seal.		
Mounting Ac	cessories	1 [
Style	Part No.	5
Foot Mount	GMB-32MM	F
Front or Rear Flange	<u>GFL-32MM</u>	F
Male Rear Clevis	<u>GMC-32MM</u>	5
Spherical Male Clevis	GSMC-32MM	F

Dimensions

mm [inches]



Rod Accessories						
Style	Part No.					
Rod Clevis	<u>GRC-M10-125</u>					
Rod Eye	<u>GRE-M10-125</u>					
Self Aligning Rod Coupler	<u>GRCP-M10-125</u>					
Rod Nut	<u>GN-M10-125</u>					





G-Series ISO Pneumatic Cylinders – 40mm Bore

40mm Bore, Double-acting, Magnetic Piston, Cushions



Part no. G40M125MD-MC

NITRA pneumatic ISO 15552 interchangeable cylinder, 40mm bore, 16mm diameter piston rod, G1/4 (BSPP) female ports, double acting; flange, pivot and clevis mount options available. Adjustable cushions on both ends. See the end of the section for accessory details.

Features

- Adjustable cushions
- Internal magnet for sensor switching
- Three sides with longitudinal slots for inserting and securing retractable sensors such as type CPS9F and CPS9Q (see position switches at the end of the cylinder section for further details)
- G (BSPP) threaded ports

40mm bore	, doub	le acting, tap	ped end cap	S	
Part Number	Price	Stroke Length (mm)	"A" (mm [inch])	Weight (lb)	Aluminum body and end c
<u>G40M025MD-MC</u>	\$77.00	25	130 [5.12]	1.8	C45 chromed piston rod
G40M050MD-MC	\$79.00	50	155 [6.10]	2.0	
G40M075MD-MC	\$80.00	75	180 [7.09]	2.2	Die cast aluminum head
G40M100MD-MC	\$84.00	100	205 [8.07]	2.5	NBR (Nitrile Butadiene Rul rod gasket
<u>G40M125MD-MC</u>	\$85.00	125	230 [9.06]	2.7	Steel quide bushing with b
<u>G40M150MD-MC</u>	\$87.00	150	255 [10.04]	2.9	(Teflon) insert
<u>G40M200MD-MC</u>	\$92.00	200	305 [12.01]	3.4	Drawn anodized aluminum
G40M250MD-MC	\$96.00	250	355 [13.98]	3.8	Self-lubricating technopoly
<u>G40M300MD-MC</u>	\$100.00	300	405 [15.94]	4.3	
<u>G40M400MD-MC</u>	\$108.00	400	505 [19.88]	5.1	Extend force at 100 psi = 1
G40M500MD-MC	\$118.00	500	605 [23.82]	6.0	BSPP = British Standard
G40M600MD-MC	\$126.00	600	705 [27.76]	6.9	

Specifications							
Aluminum body and end caps	Plastoferrite magnet						
C45 chromed piston rod	NBR (Nitrile Butadiene Rubber) buffer + static o-rings						
Die cast aluminum head	NBR (Nitrile Butadiene Rubber) cushioning gasket						
NBR (Nitrile Butadiene Rubber) piston and piston rod gasket	Brass cushioning needle with needle out movement safety system						
Steel guide bushing with bronze and PTFE (Teflon) insert	Pressure rating 145 psi [10 bar], AIR ONLY						
Drawn anodized aluminum body	Temperature rating 14°F to 176°F [-10°C						
Self-lubricating technopolymer piston	to 80°C]						
Extend force at 100 psi = 194.6 lb.	Retract force at 100 psi = 163.4 lb.						

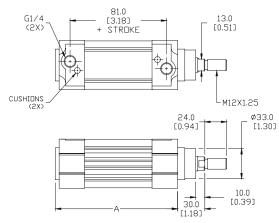
rd Pipe Parallel

The cushions decelerate the piston rod over the last mm (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Mounting Accessories				
Style Part No.				
Foot Mount	GMB-40MM			
Front or Rear Flange	GFL-40MM			
Male Rear Clevis	GMC-40MM			
Spherical Male Clevis	GSMC-40MM			

Dimensions

mm [inches]



Rod Accessories		
Style	Part No.	
Rod Clevis	GRC-M12-125	
Rod Eye	<u>GRE-M12-125</u>	
Self Aligning Rod Coupler	GRCP-M12-125	
Rod Nut	<u>GN-M12-125</u>	





Part Number

G50M025MD-MC

G50M050MD-MC

G50M075MD-MC

G50M100MD-MC

G50M150MD-MC

G50M400MD-MC

G50M125MD-MC \$100.00

G50M200MD-MC \$107.00

G50M250MD-MC \$112.00

G50M300MD-MC \$119.00

G50M500MD-MC \$141.00

G50M600MD-MC \$152.00

G-Series ISO Pneumatic Cylinders – 50mm Bore

50mm Bore, Double-acting, Magnetic Piston, Cushions

"**A**"

(mm [inch])

131 [5.16]

156 [6.14]

181 [7.13]

206 [8.11]

231 [9.09]

256 [10.08]

306 [12.05]

356 [14.06]

406 [15.98]

506 [19.92]

606 [23.86]

706 [27.80]

Weight

(*lb*)

2.8

3.2

3.5

3.8 4.1

4.5

5.1

5.8

6.4

7.7

9.0

10.3



Part no. G50M125MD-MC

50mm bore, double acting, tapped end caps

Price

\$88.00

\$93.00

\$95.00

\$97.00

\$102.00

\$130.00

Stroke Length

(mm)

25

50

75

100

125

150

200

250

300

400

500

600

NITRA pneumatic ISO 15552 interchangeable cylinder, 50mm bore, 20mm diameter piston rod, G1/4 (BSPP) female ports, double acting; flange, pivot and clevis mount options available. Adjustable cushions on both ends. See the end of the section for accessory details.

Features



- Internal magnet for sensor switching
- Three sides with longitudinal slots for inserting and securing retractable sensors such as type CPS9F and CPS9Q (see position switches at the end of the cylinder section for further details)
- G (BSPP) threaded ports

Specifications			
Aluminum body and end caps	Plastoferrite magnet		
C45 chromed piston rod	NBR (Nitrile Butadiene Rubber) buffer + static o-rings		
Die cast aluminum head	NBR (Nitrile Butadiene Rubber) cushioning gasket		
NBR (Nitrile Butadiene Rubber) piston and piston rod gasket	Brass cushioning needle with needle out movement safety system		
Steel guide bushing with bronze and PTFE (Teflon) insert	Pressure rating 145 psi [10 bar], AIR ONLY		
Drawn anodized aluminum body	Temperature rating 14°F to 176°F [-10°C		
Self-lubricating technopolymer piston	to 80°C]		
Extend force at 100 psi = 304.3 lb.	Retract force at 100 psi = 255.6 lb.		

BSPP = British Standard Pipe Parallel

* The cushions decelerate the piston rod over the last mm (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Mounting Acces	ssories	
Style	Part No.	S
Foot Mount	GMB-50MM	R
Front or Rear Flange	GFL-50MM	R
Male Rear Clevis	GMC-50MM	R S R
Spherical Male Clevis	GSMC-50MM	l R
G1/4 (2X) (2X) (2X) (2X) (3.07) + STRDKE		
	M16×1.	5 38.0 [1.50]

37.0

[1.46]

Rod Accessories		
Style	Part No.	
Rod Clevis	<u>GRC-M16-15</u>	
Rod Eye	<u>GRE-M16-15</u>	
Self Aligning Rod Coupler	GRCP-M16-15	
Rod Nut	<u>GN-M16-15</u>	



See our website <u>www.AutomationDirect.com</u> for complete Engineering drawings.

Dimensions

mm [inches]



Part Number

G63M025MD-MC

G63M050MD-MC

G63M075MD-MC

G63M100MD-MC

G63M125MD-MC

G63M150MD-MC

G63M200MD-MC

G63M250MD-MC G63M300MD-MC

G63M400MD-MC

G63M500MD-MC

G63M600MD-MC

G-Series ISO Pneumatic Cylinders – 63mm Bore

63mm Bore, Double-acting, Magnetic Piston, Cushions

"**A**"

(mm [inch])

146 [5.75]

171 [6.73]

196 [7.72]

221 [8.70]

246 [9.69]

271 [10.67]

321 [12.64]

371 [14.61]

421 [16.57]

521 [20.51]

621 [24.45]

721 [28.39]

Weight

(*lb*)

3.7

4.0

4.4

4.7

5.0

5.3

6.0

6.6

7.3

8.6

9.8

11.2



63mm bore, double acting, tapped end caps

Stroke Length

(mm)

25

50

75

100

125

150

200

250

300

400

500

600

Part no. G63M125MD-MC

Price

\$108.00

\$111.00

\$115.00

\$120.00

\$122.00

\$124.00

\$130.00

\$135.00

\$141.00

\$152.00

\$165.00

\$177.00

NITRA pneumatic ISO 15552 interchangeable cylinder, 63mm bore, 20mm diameter piston rod, G3/8 (BSPP) female ports, double acting; flange, pivot and clevis mount options available. Adjustable cushions on both ends. See the end of the section for accessory details.

Features



- Adjustable cushions
- Internal magnet for sensor switching
- Three sides with longitudinal slots for inserting and securing retractable sensors such as type CPS9F and CPS9Q (see position switches at the end of the cylinder section for further details)
- G (BSPP) threaded ports

Specifications			
Aluminum body and end caps	Plastoferrite magnet		
C45 chromed piston rod	NBR (Nitrile Butadiene Rubber) buffer + static o-rings		
Die cast aluminum head	NBR (Nitrile Butadiene Rubber) cushioning gasket		
NBR (Nitrile Butadiene Rubber) piston and piston rod gasket	Brass cushioning needle with needle out movement safety system		
Steel guide bushing with bronze and PTFE (Teflon) insert	Pressure rating 145 psi [10 bar], AIR ONLY		
Drawn anodized aluminum body	Temperature rating 14°F to 176°F [-10°C		
Self-lubricating technopolymer piston	to 80°C]		
Extend force at 100 psi = 483.0 lb.	Retract force at 100 psi = 434.4 lb.		

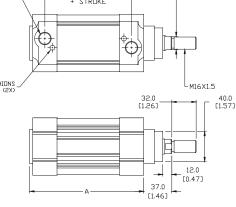
BSPP = British Standard Pipe Parallel

* The cushions decelerate the piston rod over the last mm (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Mounting Accessories			
Style	Part No.		
Foot Mount	GMB-63MM		
Front or Rear Flange	GFL-63MM		
Male Rear Clevis GMC-63MM			
Spherical Male Clevis	GSMC-63MM		
G3/8 (2X) + STRD			
	L _{M16}		
	32.0		

Dimensions

mm [inches]



KOO ACCESSORIES			
Style	Part No.		
Rod Clevis	<u>GRC-M16-15</u>		
Rod Eye	<u>GRE-M16-15</u>		
Self Aligning Rod Coupler	GRCP-M16-15		
Rod Nut	<u>GN-M16-15</u>		





80mm bore.

Price

\$126.00

\$130.00

\$134.00

\$137.00

\$142.00

\$146.00

\$154.00

\$165.00

\$174.00

\$189.00

\$208.00

\$224.00

Part Number

G80M025MD-MC

G80M050MD-MC

G80M075MD-MC

G80M100MD-MC

G80M125MD-MC

G80M150MD-MC

G80M200MD-MC

G80M250MD-MC

G80M300MD-MC

G80M400MD-MC

G80M500MD-MC

G80M600MD-MC

G-Series ISO Pneumatic Cylinders – 80mm Bore

80mm Bore, Double-acting, Magnetic Piston, Cushions



Part no. G80M125MD-MC

double acting, tapped end caps

Stroke Length

(mm)

25

50

75

100

125

150

200

250

300

400

500

600

"**A**"

(mm [inch])

153 [6.02]

178 [7.01]

203 [7.99]

228 [8.98]

253 [9.96]

278 [10.94]

328 [12.91]

378 [14.88]

428 [16.85]

528 [20.79]

628 [24.72]

728 [28.66]

Weight

(IĎ)

6.9

7.4 7.9

8.4

8.9

9.4

10.4

11.4

12.4

14.4

16.4

18.4

NITRA pneumatic ISO 15552 interchangeable cylinder, 80mm bore, 25mm diameter piston rod, G3/8 (BSPP) female ports, double acting; flange, pivot and clevis mount options available. Adjustable cushions on both ends. See the end of the section for accessory details.

Features

Adjustable cushions
Internal magnet for sensor switching



- Three sides with longitudinal slots for inserting and securing retractable sensors such as type CPS9F and CPS9Q (see position switches at the end of the cylinder section for further details)
- G (BSPP) threaded ports

Specifications			
Aluminum body and end caps	Plastoferrite magnet		
C45 chromed piston rod	NBR (Nitrile Butadiene Rubber) buffer + static o-rings		
Die cast aluminum head	NBR (Nitrile Butadiene Rubber) cushioning gasket		
NBR (Nitrile Butadiene Rubber) piston and piston rod gasket	Brass cushioning needle with needle out movement safety system		
Steel guide bushing with bronze and PTFE (Teflon) insert	Pressure rating 145 psi [10 bar], AIR ONLY		
Drawn anodized aluminum body	Temperature rating 14°F to 176°F [-10°C		
Aluminum piston with PTFE (Teflon) pad	to 80°C]		
Extend force at 100 psi = 779.1 lb.	Retract force at 100 psi = 703.0 lb.		

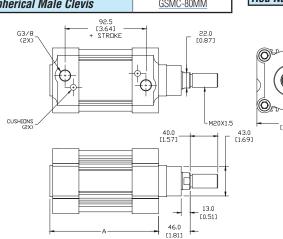
BSPP = British Standard Pipe Parallel

* The cushions decelerate the piston rod over the last mm (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

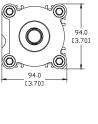
Mounting Accessories				
Style Part No.				
Foot Mount	GMB-80MM			
Front or Rear Flange	GFL-80MM			
Male Rear Clevis	GMC-80MM			
Spherical Male Clevis	GSMC-80MM			

Dimensions

mm [inches]



Rod Accessories				
Style Part No.				
Rod Clevis	<u>GRC-M20-15</u>			
Rod Eye	<u>GRE-M20-15</u>			
Self Aligning Rod Coupler	<u>GRCP-M20-15</u>			
Rod Nut	<u>GN-M20-15</u>			





G-Series ISO Pneumatic Cylinders – 100mm Bore

100mm Bore, Double-acting, Magnetic Piston, Cushions



Part no. G100M125MD-MC

NITRA pneumatic ISO 15552 interchangeable cylinder, 100mm bore, 25mm diameter piston rod, G1/2 (BSPP) female ports, double acting; flange, pivot and clevis mount options available. Adjustable cushions on both ends. See the end of the section for accessory details.

Features

- Adjustable cushions
- Internal magnet for sensor switching



- Three sides with longitudinal slots for inserting and securing retractable sensors such as type CPS9F and CPS9Q (see position switches at the end of the cylinder section for further details)
- G (BSPP) threaded ports

100mm bore, double acting, tapped end caps				
Part Number	Price	Stroke Length (mm)	"A" (mm [inch])	Weight (lb)
G100M025MD-MC	\$174.00	25	163 [6.42]	9.3
<u>G100M050MD-MC</u>	\$178.00	50	188 [7.40]	9.8
<u>G100M075MD-MC</u>	\$182.00	75	213 [8.39]	10.3
<u>G100M100MD-MC</u>	\$186.00	100	238 [9.37]	10.8
G100M125MD-MC	\$190.00	125	263 [10.35]	11.4
G100M150MD-MC	\$193.00	150	288 [11.34]	11.9
<u>G100M200MD-MC</u>	\$204.00	200	338 [13.31]	13.0
<u>G100M250MD-MC</u>	\$215.00	250	388 [15.28]	14.0
<u>G100M300MD-MC</u>	\$223.00	300	438 [17.24]	15.0
<u>G100M400MD-MC</u>	\$240.00	400	538 [21.18]	17.1
G100M500MD-MC	\$260.00	500	638 [25.12]	19.2
<u>G100M600MD-MC</u>	\$277.00	600	738 [29.10]	21.3

Specifica	ations
Aluminum body and end caps	Plastoferrite magnet
C45 chromed piston rod	NBR (Nitrile Butadiene Rubber) buffer + static o-rings
Die cast aluminum head	NBR (Nitrile Butadiene Rubber) cushioning gasket
NBR (Nitrile Butadiene Rubber) piston and piston rod gasket	Brass cushioning needle with needle out movement safety system
Steel guide bushing with bronze and PTFE (Teflon) insert	Pressure rating 145 psi [10 bar], AIR ONLY
Drawn anodized aluminum body	Temperature rating 14°F to 176°F [-10°C
Aluminum piston with PTFE (Teflon) pad	to 80°C]
Extend force at 100 psi = 1217.4 lb.	Retract force at 100 psi = 1141.3 lb.

BSPP = British Standard Pipe Parallel

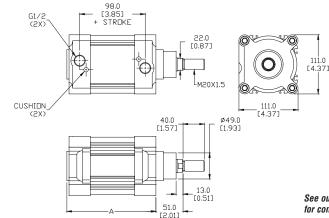
* The cushions decelerate the piston rod over the last mm (approx.) of stroke and are adjustable. Cushioned cylinders have an adjustable orifice and pre-lubricated nitrile cushion seal.

Mounting Accessories							
Style	Part No.						
Foot Mount	GMB-100MM						
Front or Rear Flange	GFL-100MM						
Male Rear Clevis	GMC-100MM						
Spherical Male Clevis	GSMC-100MM						

Rod Accessories							
Style	Part No.						
Rod Clevis	<u>GRC-M20-15</u>						
Rod Eye	GRE-M20-15						
Self Aligning Rod Coupler	GRCP-M20-15						
Rod Nut	<u>GN-M20-15</u>						

Dimensions

mm [inches]





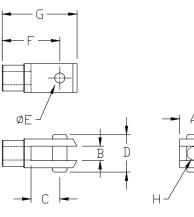
	D-Series Heavy Duty Pneumatic Cylinder Accessories			
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
GRC-M10-125	Rod clevis, M10 X 1.25 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	0.2	\$4.25
<u>GRC-M12-125</u>	Rod clevis, M12 X 1.25 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	0.3	\$7.25
GRC-M16-15	Rod clevis, M16 X 1.5 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	0.8	\$15.50
GRC-M20-15	Rod clevis, M20 X 1.5 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	1.5	\$25.00
GRE-M10-125	Rod eye, M10 X 1.25 thread, spherical bearing, zinc plated steel. For use with NITRA G-series cylinders.	1	0.2	\$24.00
GRE-M12-125	Rod eye, M12 X 1.25 thread, spherical bearing, zinc plated steel. For use with NITRA G-series cylinders.	1	0.3	\$27.50
GRE-M16-15	Rod eye, M16 X 1.5 thread, spherical bearing, zinc plated steel. For use with NITRA G-series cylinders.	1	0.5	\$51.00
GRE-M20-15	Rod eye, M20 X 1.5 thread, spherical bearing, zinc plated steel. For use with NITRA G-series cylinders.	1	0.9	\$68.00
GRCP-M10-125	Self-aligning rod coupler, M10 X 1.25 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	0.5	\$55.00
GRCP-M12-125	Self-aligning rod coupler, M12 X 1.25 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	0.7	\$58.00
GRCP-M16-15	Self-aligning rod coupler, M16 X 1.5 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	1.4	\$75.00
GRCP-M20-15	Self-aligning rod coupler, M20 X 1.5 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	1.5	\$92.00
<u>GMB-32MM</u>	Foot mount bracket, zinc plated steel. For use with 32mm bore NITRA G-series cylinders.	1	0.2	\$6.75
GMB-40MM	Foot mount bracket, zinc plated steel. For use with 40mm bore NITRA G-series cylinders.	1	0.3	\$8.00
GMB-50MM	Foot mount bracket, zinc plated steel. For use with 50mm bore NITRA G-series cylinders.	1	0.4	\$9.25
<u>GMB-63MM</u>	Foot mount bracket, zinc plated steel. For use with 63mm bore NITRA G-series cylinders.	1	0.6	\$10.00
<u>GMB-80MM</u>	Foot mount bracket, zinc plated steel. For use with 80mm bore NITRA G-series cylinders.	1	1.0	\$14.50
<u>GMB-100MM</u>	Foot mount bracket, zinc plated steel. For use with 100mm bore NITRA G-series cylinders.	1	1.3	\$23.00
<u>GMC-32MM</u>	Rear pivot eye, zinc plated steel. For use with 32mm bore NITRA G-series cylinders.	1	0.2	\$17.50
<u>GMC-40MM</u>	Rear pivot eye, zinc plated steel. For use with 40mm bore NITRA G-series cylinders.	1	0.3	\$18.50
<u>GMC-50MM</u>	Rear pivot eye, zinc plated steel. For use with 50mm bore NITRA G-series cylinders.	1	0.6	\$21.00
<u>GMC-63MM</u>	Rear pivot eye, zinc plated steel. For use with 63mm bore NITRA G-series cylinders.	1	0.9	\$25.00
<u>GMC-80MM</u>	Rear pivot eye, zinc plated steel. For use with 80mm bore NITRA G-series cylinders.	1	1.5	\$31.00
<u>GMC-100MM</u>	Rear pivot eye, zinc plated steel. For use with 100mm bore NITRA G-series cylinders.	1	2.4	\$43.00
GSMC-32MM	Rear spherical pivot, spherical bearing, zinc plated steel. For use with 32mm bore NITRA G-series cylinders.	1	0.3	\$24.00
GSMC-40MM	Rear spherical pivot, spherical bearing, zinc plated steel. For use with 40mm bore NITRA G-series cylinders.	1	0.4	\$26.00
GSMC-50MM	Rear spherical pivot, spherical bearing, zinc plated steel. For use with 50mm bore NITRA G-series cylinders.	1	0.5	\$37.50
<u>GSMC-63MM</u>	Rear spherical pivot, spherical bearing, zinc plated steel. For use with 63mm bore NITRA G-series cylinders.	1	0.7	\$48.00
<u>GSMC-80MM</u>	Rear spherical pivot, spherical bearing, zinc plated steel. For use with 80mm bore NITRA G-series cylinders.	1	1.3	\$60.00
<u>GSMC-100MM</u>	Rear spherical pivot, spherical bearing, zinc plated steel. For use with 100mm bore NITRA G-series cylinders.	1	1.9	\$81.00
<u>GFL-32MM</u>	Flange mount plate, zinc plated steel. For use with 32mm bore NITRA G-series cylinders.	1	0.5	\$11.50
<u>GFL-40MM</u>	Flange mount plate, zinc plated steel. For use with 40mm bore NITRA G-series cylinders.	1	0.6	\$12.50
GFL-50MM	Flange mount plate, zinc plated steel. For use with 50mm bore NITRA G-series cylinders.	1	1.2	\$15.50
GFL-63MM	Flange mount plate, zinc plated steel. For use with 63mm bore NITRA G-series cylinders.	1	1.5	\$22.00
<u>GFL-80MM</u>	Flange mount plate, zinc plated steel. For use with 80mm bore NITRA G-series cylinders.	1	3.1	\$25.00
<u>GFL-100MM</u>	Flange mount plate, zinc plated steel. For use with 100mm bore NITRA G-series cylinders.	1	4.5	\$30.00
<u>GN-M10-125</u>	Rod nut, M10 X 1.25 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	0.2	\$1.50
<u>GN-M12-125</u>	Rod nut, M12 X 1.25 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	0.2	\$1.75
<u>GN-M16-15</u>	Rod nut, M16 X 1.5 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	0.2	\$2.00
GN-M20-15	Rod nut, M20 X 1.5 thread, zinc plated steel. For use with NITRA G-series cylinders.	1	0.2	\$2.25



Rod Clevis



Part no. GRC-M10-125





Note: Comes with Pivot Pin installed.

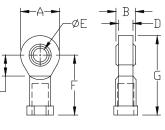
Rod Clevis Dimension Table									
Part #	A	В	C	D	Ε	F	G	Н	
<u>GRC-M10-125</u>	20.00 [0.78]	10.00 [0.39]	10.00 [0.39]	26.00 [1.02]	10.00 [0.39]	40.00 [1.57]	52.00 [2.04]	M10x1.25	
<u>GRC-M12-125</u>	24.00 [0.94]	12.00 [0.47]	24.00 [0.94]	32.00 [1.25]	12.00 [0.47]	48.00 [1.88]	62.00 [2.44]	M12x1.25	
<u>GRC-M16-15</u>	32.00 [1.25]	16.00 [0.62]	32.00 [1.25]	40.00 [1.57]	16.00 [0.62]	64.00 [2.51]	83.00 [3.26]	M16x1.5	
<u>GRC-M20-15</u>	40.00 [1.57]	20.00 [0.78]	40.00 [1.57]	48.00 [1.88]	20.00 [0.78]	80.00 [3.14]	105.00 [4.13]	M20x1.5	

Rod Eye



Dimensions mm [inches]







	Rod Eye Dimension Table									
Part #	A	В	C	D	Ε	F	G	Н	1	
<u>GRE-M10-125</u>	28.00 [1.10]	14.00 [0.55]	15.00 [0.59]	10.50 [0.41]	10.00 [0.39]	43.00 [1.69]	57.00 [2.24]	M10x1.25	19 [0.74]	
<u>GRE-M12-125</u>	32.00 [1.25]	16.00 [0.62]	17.00 [0.66]	12.00 [0.47]	12.00 [0.47]	50.00 [1.96]	66.00 [2.59]	M12x1.25	19 [0.74]	
<u>GRE-M16-15</u>	42.00 [1.65]	21.00 [0.82]	22.00 [0.86]	15.00 [0.59]	16.00 [0.62]	64.00 [2.51]	85.00 [3.34]	M16x1.5	22 [0.86]	
<u>GRE-M20-15</u>	50.00 [1.96]	25.00 [0.98]	26.00 [1.02]	18.00 [0.70]	20.00 [0.78]	77.00 [3.03]	102.00 [4.01]	M20x1.5	27 [1.06]	

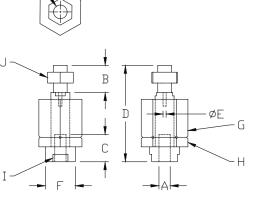


Self Aligning Rod Coupler



Part no. GRCP-M10-125

Dimensions mm [inches]



Self Aligning Rod Coupler Dimension Table										
Part #	A	В	С	D	Ε	F	G	H	1	J
<u>GRCP-M10-125</u>	M10x1.25	20.00 [0.78]	20.00 [0.78]	71.00 [2.79]	4.00 [0.15]	22.00 [0.86]	30.00 [1.18]	30.00 [1.18]	19.00 [0.74]	17.00 [0.66]
<u>GRCP-M12-125</u>	M12x1.25	24.00 [0.94]	20.00 [0.78]	75.00 [2.95]	4.00 [0.15]	22.00 [0.86]	30.00 [1.18]	30.00 [1.18]	19.00 [0.74]	19.00 [0.74]
<u>GRCP-M16-15</u>	M16x1.5	32.00 [1.25]	32.00 [1.25]	103.00 [4.05]	4.00 [0.15]	32.00 [1.25]	41.00 [1.61]	41.00 [1.61]	30.00 [1.18]	24.00 [0.94]
<u>GRCP-M20-15</u>	M20x1.5	40.00 [1.57]	40.00 [1.57]	119.00 [4.68]	4.00 [0.15]	32.00 [1.25]	41.00 [1.61]	41.00 [1.61]	30.00 [1.18]	30.00 [1.18]

ØΑ

(2X)

F

Α

Foot Mount Bracket



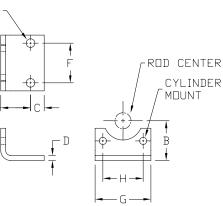
mm [inches]

Dimensions

Part no. GMB-32MM



Note: Individually packed with 2 screws



Foot Mount Dimension Table **C** D F Part # A B Ε G Η 24.00 7.00 32.00 11.00 4.00 32.00 45.00 32.5 GMB-32MM [1.25] [0.43] [0.15] [0.94] [1.25] [1.77] [1.28] [0.27] 9.00 [0.35] 36.00 [1.41] 15.00 [0.59] 4.00 [0.15] 28.00 [1.10] 36.00 [1.41] 52.00 [2.04] 38.0 [1.50] GMB-40MM 9.00 [0.35] 4.00 [0.15] 32.00 [1.25] 52.00 [2.04] 45.00 45.00 46.5 15.00 GMB-50MM [1.77] [0.59] [1.77] [1.83] 75.00 [2.95] 15.00 [0.59] 32.00 [1.25] 56.5 [2.22] 6.00 [0.23] 9.00 50.00 50.00 GMB-63MM [0.35] [1.96] [1.96] 12.00 63.00 20.00 6.00 41.00 63.00 95.00 63.0 GMB-80MM [0.47] [2.48] [0.78] [0.23] [1.61] [2.48] [3.74] [2.48] 14.00 [0.55] 71.00 [2.79] 25.00 [0.98] 6.00 [0.23] 41.00 [1.61] 75.00 [2.95] 115.00 [4.52] 89.0 [3.50] GMB-100MM

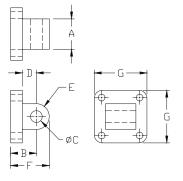


Rear Pivot Eye



Dimensions

mm [inches]



Part no. GMC-32MM

4

Note: Supplied with 4 screws, 4 washers

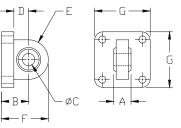
	Male Rear Clevis Dimension Table									
Part #	A	В	C	D	Ε	F	G			
<u>GMC-32MM</u>	26.00	22.00	10.00	12.00	11.00	33.00	45.00			
	[1.02]	[0.86]	[0.39]	[0.47]	[0.43]	[1.29]	[1.77]			
<u>GMC-40MM</u>	28.00	25.00	12.00	15.00	13.00	38.00	52.00			
	[1.10]	[0.98]	[0.47]	[0.59]	[0.51]	[1.49]	[2.04]			
<u>GMC-50MM</u>	32.00	27.00	12.00	15.00	13.00	40.00	65.00			
	[1.25]	[1.06]	[0.47]	[0.59]	[0.51]	[1.57]	[2.55]			
<u>GMC-63MM</u>	40.00	32.00	16.00	20.00	17.00	49.00	75.00			
	[1.57]	[1.25]	[0.62]	[0.78]	[0.66]	[1.92]	[2.95]			
<u>GMC-80MM</u>	50.00	36.00	16.00	20.00	17.00	53.00	95.00			
	[1.96]	[1.41]	[0.62]	[0.78]	[0.66]	[2.08]	[3.74]			
<u>GMC-100MM</u>	60.00	41.00	20.00	25.00	21.00	62.00	115.00			
	[2.36]	[1.61]	[0.78]	[0.98]	[0.82]	[2.44]	[4.52]			

Spherical Rear Pivot



Dimensions

mm [inches]



Part no. GSMC-32MM



Note: Supplied with 4 screws, 4 washers

	Spherical Male Clevis Dimension Table									
Part #	A	В	C	D	Ε	F	G			
<u>GSMC-32MM</u>	14.00	22.00	10.00	12.00	16.00	38.00	45.00			
	[0.55]	[0.86]	[0.39]	[0.47]	[0.62]	[1.49]	[1.77]			
<u>GSMC-40MM</u>	16.00	25.00	12.00	15.00	19.00	44.00	52.00			
	[0.62]	[0.98]	[0.47]	[0.59]	[0.74]	[1.73]	[2.04]			
<u>GSMC-50MM</u>	16.00	27.00	12.00	15.00	19.00	46.00	65.00			
	[0.62]	[1.06]	[0.47]	[0.59]	[0.74]	[1.81]	[2.55]			
<u>GSMC-63MM</u>	21.00	32.00	16.00	20.00	24.00	56.00	75.00			
	[0.82]	[1.25]	[0.62]	[0.78]	[0.94]	[2.20]	[2.95]			
<u>GSMC-80MM</u>	21.00	36.00	16.00	20.00	24.00	60.00	95.00			
	[0.82]	[1.41]	[0.62]	[0.78]	[0.94]	[2.36]	[3.74]			
<u>GSMC-100MM</u>	25.00	41.00	20.00	25.00	30.00	71.00	115.00			
	[0.98]	[1.61]	[0.78]	[0.98]	[1.18]	[2.79]	[4.52]			

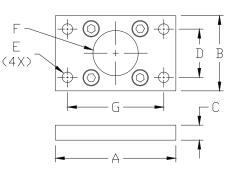


Front or Rear Flange



Dimensions

mm [inches]



Part no. GFL-32MM



Note: Supplied with 4 screws

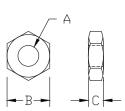
	Front or Rear Flange Dimension Table									
Part #	А	В	C	D	Ε	F	G			
<u>GFL-32MM</u>	80.00	50.00	10.00	32.00	7.00	32.00	64.00			
	[3.14]	[1.96]	[0.39]	[1.25]	[1.25]	[1.25]	[2.52]			
<u>GFL-40MM</u>	90.00	55.00	10.00	36.00	9.00	40.00	72.00			
	[3.54]	[2.16]	[0.39]	[1.41]	[0.35]	[1.57]	[2.83]			
<u>GFL-50MM</u>	110.00	65.00	12.00	45.00	9.00	50.00	90.00			
	[4.33]	[2.55]	[0.47]	[1.77]	[0.35]	[1.96]	[3.54]			
<u>GFL-63MM</u>	120.00	75.00	12.00	50.00	9.00	63.00	100.00			
	[4.72]	[2.95]	[0.47]	[1.96]	[0.35]	[2.48]	[3.93]			
GFL-80MM	153.00	95.00	16.00	63.00	12.00	80.00	126.00			
	[6.02]	[3.74]	[0.62]	[2.48]	[0.47]	[3.14]	[4.96]			
<u>GFL-100MM</u>	178.00	115.00	16.00	75.00	14.00	100.00	150.00			
	[7.00]	[4.52]	[0.62]	[2.95]	[0.55]	[3.93]	[5.90]			

Rod Nut



Dimensions

mm [inches]

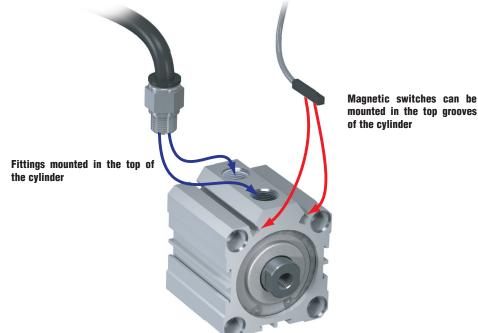


Rod Nut Dimension Table									
Part #	A	В	С						
<u>GN-M10-125</u>	M10x1.25	17.00 [0.66]	6.00 [0.23]						
<u>GN-M12-125</u>	M12x1.25	19.00 [0.74]	7.00 [0.27]						
<u>GN-M16-15</u>	M16x1.5	24.00 [0.94]	8.00 [0.31]						
<u>GN-M20-15</u>	M20x1.5	30.00 [1.18]	9.00 [0.35]						



H-Series Pneumatic Cylinders

NITRA Pneumatic Compact Extruded Body Air Cylinders



mounted in the top grooves of the cylinder

The NITRA Pneumatics H-Series compact extruded body cylinders includes bore sizes from 12mm to 100mm and stroke lengths from 5mm to 100mm to meet a broad range of limited space applications. These high quality cylinders are constructed with hard anodized extruded aluminum bodies and end caps. Cylinder switch mounting slots are built in to the bodies. All sizes include a magnet in the piston and a chrome plated steel piston rod. Interchangeable with other common brands, these cylinders are factory lubricated for optimum performance and long, reliable life.

Features

- Ten bore sizes
- Eight stroke lengths
- Interchangeable with other popular brands
- Work with 4mm square T-slot cylinder switches
- Nitrile / Buna-N O-rings



H-Series Cylinder Specifications										
Bore Size (mm)	12	16	20	25	32	40	50	63	80	100
Action					Double	e acting				
Fluid		Air (clean/dry)								
Temperature Range		-4 to 176°F (-20 to 80°C)								
Pressure Range		14 to 145 psi (0.96 to 9.9 bar)								
Proof Pressure		215psi (14.8 bar)								
Lubrication		Not required								
Cushion Type				Bumper - Pol	yurethane (ø12	- ø25); Buna-N	V (ø32 - ø100)			
Speed Range					30 to 50)0 mm/s				
Stroke Tolerance					+1.0 /	-0 mm				
Port Size		M5	x0.8		1/8-NPT		1/4-	1/4-NPT		NPT
Extend Force @ 87psi (lbs.)	15	27	42	66	108	169	264	420	678	1059
Retract Force @ 87psi (lbs.)	11	20	32	51	81	142	222	378	611	950
Sensor Switch Compatibility					CPS9H Ser	ies Switches				



H-Series 12mm Pneumatic Cylinders

12mm Bore, Double Acting with Magnet



Part No. H12M005MD-M

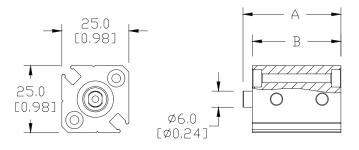
12mm Bore H-Series Cylinders - Double Acting w/ Magnet									
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (lbs)	Price			
<u>H12M005MD-M</u>	5	36.5 [1.44]	33.0 [1.30]		0.1	\$23.50			
<u>H12M010MD-M</u>	10	41.5 [1.63]	38.0 [1.50]		0.2	\$24.00			
<u>H12M015MD-M</u>	15	46.5 [1.83]	43.0 [1.69]		0.2	\$24.50			
<u>H12M020MD-M</u>	20	51.5 [2.03]	48.0 [1.89]		0.2	\$25.00			
<u>H12M025MD-M</u>	25	56.5 [2.22]	53.0 [2.09]	M5x0.8	0.2	\$25.50			
<u>H12M030MD-M</u>	30	61.5 [2.42]	58.0 [2.28]		0.2	\$26.50			
<u>H12M040MD-M</u>	40	71.5 [2.81]	68.0 [2.68]		0.3	\$31.50			
<u>H12M050MD-M</u>	50	81.5 [3.21]	78.0 [3.07]		0.7	\$36.00			

Mounting Accessories				
Rod Clevis	<u>HRC-12M</u>			
Rod Male Adapter	<u>HMA-12M</u>			
Female Rear Clevis	<u>HFC-12M</u>			

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]





H-Series 16mm Pneumatic Cylinders

16mm Bore, Double Acting with Magnet



Part No. H16M005MD-M

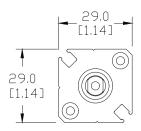
16mm Bore H-Series Cylinders - Double Acting w/ Magnet								
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (lbs)	Price		
<u>H16M005MD-M</u>	5	39.0 [1.54]	35.5 [1.40]		0.2	\$30.50		
<u>H16M010MD-M</u>	10	44.0 [1.73]	40.5 [1.59]		0.2	\$31.50		
<u>H16M015MD-M</u>	15	49.0 [1.93]	45.5 [1.79]		0.2	\$33.00		
H16M020MD-M	20	54.0 [2.13]	50.5 [1.99]	M5x0.8	0.3	\$35.00		
H16M025MD-M	25	59.0 [2.32]	55.5 [2.19]	0.0XCIVI	0.3	\$36.00		
H16M030MD-M	30	64.0 [2.52]	60.5 [2.38]		0.3	\$37.00		
<u>H16M040MD-M</u>	40	74.0 [2.91]	70.5 [2.78]		0.4	\$39.50		
<u>H16M050MD-M</u>	50	84.0 [3.31]	80.5 [3.17]		0.4	\$43.00		

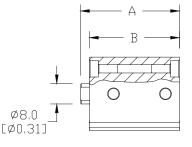
Mounting Acces	ssories
Rod Clevis	HRC-16M
Rod Male Adapter	<u>HMA-16M</u>
Female Rear Clevis	HFC-16M

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]







H-Series 20mm Pneumatic Cylinders

20mm Bore, Double Acting with Magnet



Part No. H20M005MD-M

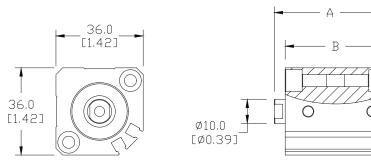
20mm Bore H-Series Cylinders - Double Acting w/ Magnet									
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (Ibs)	Price			
H20M005MD-M	5	41.0 [1.61]	36.5 [1.44]		0.3	\$37.00			
<u>H20M010MD-M</u>	10	46.0 [1.81]	41.5 [1.63]		0.3	\$38.00			
H20M015MD-M	15	51.0 [2.01]	46.5 [1.83]	- - M5x0.8	0.4	\$39.50			
<u>H20M020MD-M</u>	20	56.0 [2.20]	51.5 [2.03]		0.4	\$41.00			
H20M025MD-M	25	61.0 [2.40]	56.5 [2.22]		0.4	\$42.00			
<u>H20M030MD-M</u>	30	66.0 [2.60]	61.5 [2.42]	0.0XCIVI	0.4	\$43.00			
H20M040MD-M	40	76.0 [2.99]	71.5 [2.81]		0.4	\$46.00			
<u>H20M050MD-M</u>	50	86.0 [3.39]	81.5 [3.21]		0.5	\$47.00			
H20M075MD-M	75	111.0 [4.37]	106.5 [4.19]		0.7	\$48.00			
<u>H20M100MD-M</u>	100	136.0 [5.35]	131.5 [5.18]		0.7	\$51.00			

Mounting Accessories				
Rod Clevis	<u>HRC-20M</u>			
Rod Male Adapter	<u>HMA-20M</u>			
Female Rear Clevis	HFC-20M			

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]





H-Series 25mm Pneumatic Cylinders

25mm Bore, Double Acting with Magnet



Part No. H25M005MD-M

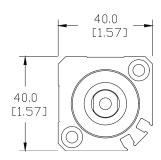
25mm Bore H-Series Cylinders - Double Acting w/ Magnet								
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (lbs)	Price		
<u>H25M005MD-M</u>	5	42.5 [1.67]	37.5 [1.48]		0.4	\$42.00		
<u>H25M010MD-M</u>	10	47.5 [1.87]	42.5 [1.67]		0.4	\$43.00		
<u>H25M015MD-M</u>	15	52.5 [2.07]	47.5 [1.87]	_	0.4	\$44.50		
<u>H25M020MD-M</u>	20	57.5 [2.26]	52.5 [2.07]		0.4	\$46.00		
<u>H25M025MD-M</u>	25	62.5 [2.46]	57.5 [2.26]	M5x0.8	0.5	\$47.00		
<u>H25M030MD-M</u>	30	67.5 [2.66]	62.5 [2.46]	0.0XCIVI	0.5	\$48.00		
<u>H25M040MD-M</u>	40	77.5 [3.05]	72.5 [2.85]		0.6	\$49.50		
<u>H25M050MD-M</u>	50	87.5 [3.44]	82.5 [3.25]		0.7	\$50.00		
H25M075MD-M	75	112.5 [4.43]	107.5 [4.23]	1	0.9	\$51.00		
H25M100MD-M	100	137.5 [5.41]	132.5 [5.22]		1.1	\$64.00		

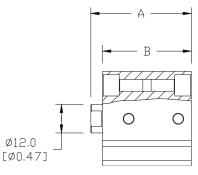
Mounting Accessories				
Rod Clevis	<u>HRC-25M</u>			
Rod Male Adapter	<u>HMA-25M</u>			
Female Rear Clevis	<u>HFC-25M</u>			

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]







H-Series 32mm Pneumatic Cylinders

32mm Bore, Double Acting with Magnet



Part No. H32M005MD-M

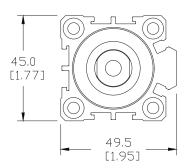
32mm Bore H-Series Cylinders - Double Acting w/ Magnet								
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (lbs)	Price		
<u>H32M005MD-M</u>	5	45.0 [1.77]	38.0 [1.50]	-	0.5	\$50.00		
<u>H32M010MD-M</u>	10	50.0 [1.97]	43.0 [1.69]		0.5	\$51.00		
H32M015MD-M	15	55.0 [2.17]	48.0 [1.89]		0.6	\$51.00		
H32M020MD-M	20	60.0 [2.36]	53.0 [2.09]		0.7	\$53.00		
H32M025MD-M	25	65.0 [2.56]	58.0 [2.28]	1/0 NDT	0.7	\$54.00		
H32M030MD-M	30	70.0 [2.76]	63.0 [2.48]	1/8-NPT	0.7	\$55.00		
H32M040MD-M	40	80.0 [3.15]	73.0 [2.87]		0.8	\$57.00		
H32M050MD-M	50	90.0 [3.54]	83.0 [3.27]		0.8	\$58.00		
H32M075MD-M	75	115.0 [4.53]	108.0 [4.25]		1.3	\$62.00		
H32M100MD-M	100	140.0 [5.51]	133.0 [5.24]		1.7	\$69.00		

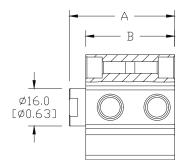
Rod Male Adapter HMA-32M			
Rod Clevis	HRC-32M		
Rod Male Adapter	<u>HMA-32M</u>		
Female Rear Clevis	<u>HFC-32M</u>		
Note: For full details see Accessories at the end of			

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]







H-Series 40mm Pneumatic Cylinders

40mm Bore, Double Acting with Magnet



Part No. H40M005MD-M

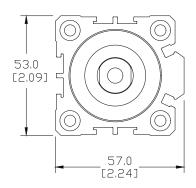
40mm Bore H-Series Cylinders - Double Acting w/ Magnet								
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (lbs)	Price		
<u>H40M005MD-M</u>	5	51.5 [2.03]	44.5 [1.75]		0.6	\$57.00		
<u>H40M010MD-M</u>	10	56.5 [2.22]	49.5 [1.95]		0.7	\$58.00		
H40M015MD-M	15	61.5 [2.42]	54.5 [2.15]		0.7	\$59.00		
<u>H40M020MD-M</u>	20	66.5 [2.62]	59.5 [2.34]		0.8	\$60.00		
H40M025MD-M	25	71.5 [2.81]	64.5 [2.54]		0.9	\$61.00		
H40M030MD-M	30	76.5 [3.01]	69.5 [2.74]	1/8-NPT	0.9	\$62.00		
H40M040MD-M	40	86.5 [3.41]	79.5 [3.13]		1.0	\$63.00		
H40M050MD-M	50	96.5 [3.80]	89.5 [3.52]	-	1.1	\$66.00		
H40M075MD-M	75	121.5 [4.78]	114.5 [4.51]		1.6	\$71.00		
H40M100MD-M	100	146.5 [5.77]	139.5 [5.49]		2.0	\$74.00		

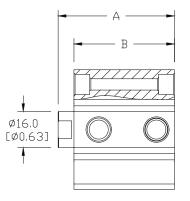
Mounting Accessories				
Rod Clevis HRC-40M				
Rod Male Adapter	<u>HMA-40M</u>			
Female Rear Clevis HFC-40M				
	antes at the and at			

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]







H-Series 50mm Pneumatic Cylinders

50mm Bore, Double Acting with Magnet



Part No. H50M005MD-M

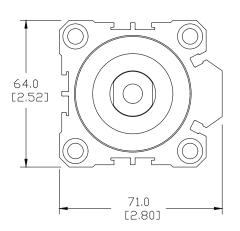
50mm Bore H-Series Cylinders - Double Acting w/ Magnet								
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (lbs)	Price		
<u>H50M005MD-M</u>	5	53.5 [2.11]	45.5 [1.79]		1.0	\$69.00		
<u>H50M010MD-M</u>	10	58.5 [2.30]	50.5 [1.99]		1.1	\$70.00		
<u>H50M015MD-M</u>	15	63.5 [2.50]	55.5 [2.19]		1.1	\$71.00		
<u>H50M020MD-M</u>	20	68.5 [2.70]	60.5 [2.38]		1.2	\$72.00		
<u>H50M025MD-M</u>	25	73.5 [2.89]	65.5 [2.58]	1/4-NPT	1.3	\$73.00		
<u>H50M030MD-M</u>	30	78.5 [3.09]	70.5 [2.78]	1/4-INP1	1.4	\$74.00		
<u>H50M040MD-M</u>	40	88.5 [3.48]	80.5 [3.17]		1.6	\$76.00		
<u>H50M050MD-M</u>	50	98.5 [3.88]	90.5 [3.56]		1.7	\$79.00		
<u>H50M075MD-M</u>	75	123.5 [4.86]	115.5 [4.55]		2.2	\$86.00		
<u>H50M100MD-M</u>	100	148.5 [5.85]	140.5 [5.53]		2.6	\$93.00		

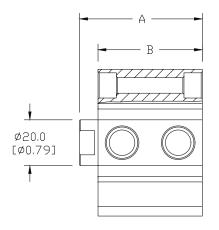
Mounting Accessories				
Rod Clevis HRC-50M				
Rod Male Adapter HMA-50M				
Female Rear Clevis HFC-50M				

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]







H-Series 63mm Pneumatic Cylinders

63mm Bore, Double Acting with Magnet



Part No. H63M005MD-M

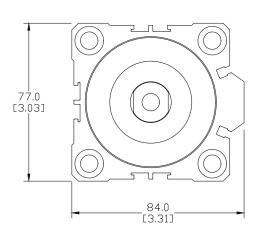
63mm Bore H-Series Cylinders - Double Acting w/ Magnet								
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (lbs)	Price		
<u>H63M005MD-M</u>	5	59.0 [2.32]	51.0 [2.01]		1.5	\$79.00		
<u>H63M010MD-M</u>	10	64.0 [2.52]	56.0 [2.20]		1.6	\$82.00		
<u>H63M015MD-M</u>	15	69.0 [2.72]	61.0 [2.40]		1.7	\$84.00		
<u>H63M020MD-M</u>	20	74.0 [2.91]	66.0 [2.60]		1.8	\$86.00		
<u>H63M025MD-M</u>	25	79.0 [3.11]	71.0 [2.80]	1/4-NPT	1.9	\$89.00		
<u>H63M030MD-M</u>	30	84.0 [3.31]	76.0 [2.99]	1/4-INF I	2.0	\$92.00		
<u>H63M040MD-M</u>	40	94.0 [3.70]	86.0 [3.39]		2.2	\$94.00		
<u>H63M050MD-M</u>	50	104.0 [4.09]	96.0 [3.78]		2.4	\$96.00		
<u>H63M075MD-M</u>	75	129.0 [5.08]	121.0 [4.76]		3.0	\$99.00		
<u>H63M100MD-M</u>	100	154.0 [6.06]	146.0 [5.75]		3.5	\$104.00		

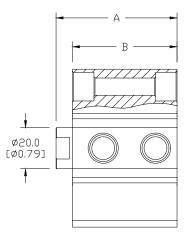
Mounting Accessories				
Rod Clevis HRC-63M				
Rod Male Adapter	<u>HMA-63M</u>			
Female Rear Clevis	<u>HFC-63M</u>			

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]







H-Series 80mm Pneumatic Cylinders

80mm Bore, Double Acting with Magnet



Part No. H80M005MD-M

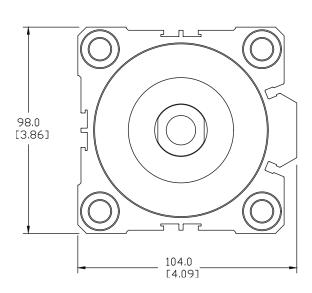
80mm Bore H-Series Cylinders - Double Acting w/ Magnet								
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (lbs)	Price		
<u>H80M005MD-M</u>	5	68.5 [2.70]	58.5 [2.30]		2.6	\$99.00		
<u>H80M010MD-M</u>	10	73.5 [2.89]	63.5 [2.50]		2.9	\$101.00		
<u>H80M015MD-M</u>	15	78.5 [3.09]	68.5 [2.70]		3.0	\$103.00		
<u>H80M020MD-M</u>	20	83.5 [3.29]	73.5 [2.89]		3.2	\$105.00		
<u>H80M025MD-M</u>	25	88.5 [3.48]	78.5 [3.09]	3/8-NPT	3.4	\$108.00		
<u>H80M030MD-M</u>	30	93.5 [3.68]	83.5 [3.29]	3/0-INF I	3.5	\$110.00		
<u>H80M040MD-M</u>	40	103.5 [4.07]	93.5 [3.68]		3.8	\$113.00		
<u>H80M050MD-M</u>	50	113.5 [4.47]	103.5 [4.07]		4.2	\$115.00		
<u>H80M075MD-M</u>	75	138.5 [5.45]	128.5 [5.06]		5.3	\$121.00		
<u>H80M100MD-M</u>	100	163.5 [6.44]	153.5 [6.04]		6.4	\$127.00		

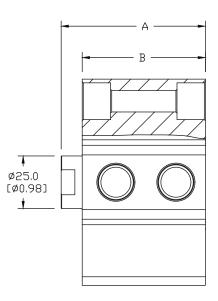
Mounting Accessories				
Rod Clevis HRC-80M				
Rod Male Adapter HMA-80M				
Female Rear Clevis HFC-80M				

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]







H-Series 100mm Pneumatic Cylinders

100mm Bore, Double Acting with Magnet



Part No. H100M005MD-M

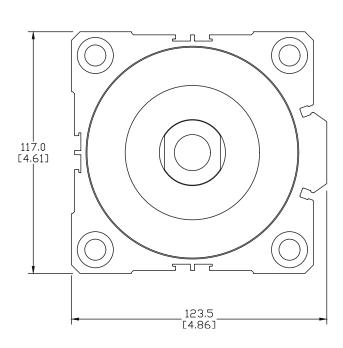
100mm Bore H-Series Cylinders - Double Acting w/ Magnet								
Part Number	Stroke Length (mm)	"A" (mm [in])	"B" (mm [in])	Port Size	Weight (lbs)	Price		
H100M005MD-M	5	80.0 [3.15]	68.0 [2.68]		4.9	\$127.00		
<u>H100M010MD-M</u>	10	85.0 [3.35]	73.0 [2.87]		4.9	\$141.00		
<u>H100M015MD-M</u>	15	90.0 [3.54]	78.0 [3.07]		5.1	\$146.00		
<u>H100M020MD-M</u>	20	95.0 [3.74]	83.0 [3.27]		5.4	\$151.00		
H100M025MD-M	25	100.0 [3.94]	88.0 [3.46]	3/8-NPT	5.6	\$156.00		
<u>H100M030MD-M</u>	30	105.0 [4.13]	93.0 [3.66]	3/8-INP1	5.8	\$161.00		
<u>H100M040MD-M</u>	40	115.0 [4.53]	103.0 [4.06]		6.2	\$166.00		
<u>H100M050MD-M</u>	50	125.0 [4.92]	113.0 [4.45]		7.5	\$172.00		
H100M075MD-M	75	150.0 [5.91]	138.0 [5.43]		9.7	\$176.00		
<u>H100M100MD-M</u>	100	175.0 [6.89]	163.0 [6.42]		11.9	\$181.00		

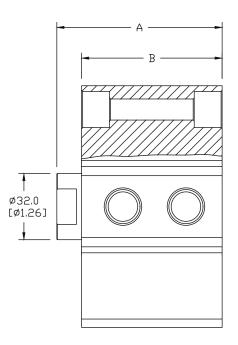
Mounting Accessories				
Rod Clevis	HRC-100M			
Rod Male Adapter	<u>HMA-100M</u>			
Female Rear Clevis	HFC-100M			

Note: For full details see Accessories at the end of the section.

Dimensions

mm [inches]







H-Series Pneumatic Cylinder Accessories

	H-Series Pneumatic Cylinder Accessories			
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
HRC-12M	NITRA cylinder rod clevis, plated steel, M5 x 0.8 thread. For use with 12 mm H-series cylinders. Male adapter and hex nut included.	1	0.1	\$9.00
HRC-16M	NITRA cylinder rod clevis, plated steel, M6 x 1.0 thread. For use with 16 mm H-series cylinders. Male adapter and hex nut included.	1	0.1	\$9.50
HRC-20M	NITRA cylinder rod clevis, plated steel, M8 x 1.25 thread. For use with 20 mm H-series cylinders. Male adapter and hex nut included.	1	0.1	\$10.00
HRC-25M	NITRA cylinder rod clevis, plated steel, M10 X 1.25 thread. For use with 25 mm H-series cylinders. Male adapter and hex nut included.	1	0.2	\$10.00
<u>HRC-32M</u>	NITRA cylinder rod clevis, cast iron, M14 x 1.5 thread. For use with 32 mm H-series cylinders. Male adapter and hex nut included.	1	0.3	\$10.50
HRC-40M	NITRA cylinder rod clevis, cast iron, M14 x 1.5 thread. For use with 40 mm H-series cylinders. Male adapter and hex nut included.	1	0.3	\$10.50
HRC-50M	NITRA cylinder rod clevis, cast iron, M18 x 1.5 thread. For use with 50 mm H-series cylinders. Male adapter and hex nut included.	1	0.6	\$11.50
HRC-63M	NITRA cylinder rod clevis, cast iron, M18 x 1.5 thread. For use with 63 mm H-series cylinders. Male adapter and hex nut included.	1	0.6	\$12.50
<u>HRC-80M</u>	NITRA cylinder rod clevis, cast iron, M22 X 1.5 thread. For use with 80 mm H-series cylinders. Male adapter and hex nut included.	1	1.5	\$17.00
<u>HRC-100M</u>	NITRA cylinder rod clevis, cast iron, M26 x 1.5 thread. For use with 100 mm H-series cylinders. Male adapter and hex nut included.	1	2.0	\$21.50
<u>HMA-12M</u>	NITRA cylinder male adapter, stainless steel, M5 x 0.8 thread. For use with 12 mm H-series cylinders. Hex nut included.	1	0.1	\$6.00
<u>HMA-16M</u>	NITRA cylinder male adapter, stainless steel, M6 x 1.0 thread. For use with 16 mm H-series cylinders. Hex nut included.	1	0.1	\$6.00
HMA-20M	NITRA cylinder male adapter, stainless steel, M8 x 1.25 thread. For use with 20 mm H-series cylinders. Hex nut included.	1	0.1	\$7.00
HMA-25M	NITRA cylinder male adapter, stainless steel, M10 X 1.25 thread. For use with 25 mm H-series cylinders. Hex nut included.	1	0.1	\$7.00
HMA-32M	NITRA cylinder male adapter, stainless steel, M14 x 1.5 thread. For use with 32 mm H-series cylinders. Hex nut included.	1	0.1	\$7.75
<u>HMA-40M</u>	NITRA cylinder male adapter, stainless steel, M14 x 1.5 thread. For use with 40 mm H-series cylinders. Hex nut included.	1	0.1	\$7.75
<u>HMA-50M</u>	NITRA cylinder male adapter, stainless steel, M18 x 1.5 thread. For use with 50 mm H-series cylinders. Hex nut included.	1	0.2	\$8.50
<u>HMA-63M</u>	NITRA cylinder male adapter, stainless steel, M18 x 1.5 thread. For use with 63 mm H-series cylinders. Hex nut included.	1	0.2	\$8.50
<u>HMA-80M</u>	NITRA cylinder male adapter, stainless steel, M22 x 1.5 thread. For use with 80 mm H-series cylinders. Hex nut included.	1	0.4	\$10.50
<u>HMA-100M</u>	NITRA cylinder male adapter, stainless steel, M26 x 1.5 thread. For use with 100 mm H-series cylinders. Hex nut included.	1	0.5	\$11.50
HFC-12M	NITRA cylinder rear clevis bracket, aluminum. For use with 12 mm H-series cylinders. Mounting hardware and pivot pin included.	1	0.1	\$9.00
<u>HFC-16M</u>	NITRA cylinder rear clevis bracket, aluminum. For use with 16 mm H-series cylinders. Mounting hardware and pivot pin included.	1	0.1	\$9.50
<u>HFC-20M</u>	NITRA cylinder rear clevis bracket, aluminum. For use with 20 mm H-series cylinders. Mounting hardware and pivot pin included.	1	0.2	\$10.00
<u>HFC-25M</u>	NITRA cylinder rear clevis bracket, aluminum. For use with 25 mm H-series cylinders. Mounting hardware and pivot pin included.	1	0.2	\$12.50
<u>HFC-32M</u>	NITRA cylinder rear clevis bracket, cast iron. For use with 32 mm H-series cylinders. Mounting hardware and pivot pin included.	1	0.4	\$14.50
<u>HFC-40M</u>	NITRA cylinder rear clevis bracket, cast iron. For use with 40 mm H-series cylinders. Mounting hardware and pivot pin included.	1	0.4	\$14.50
<u>HFC-50M</u>	NITRA cylinder rear clevis bracket, cast iron. For use with 50 mm H-series cylinders. Mounting hardware and pivot pin included.	1	0.8	\$20.50
<u>HFC-63M</u>	NITRA cylinder rear clevis bracket, cast iron. For use with 63 mm H-series cylinders. Mounting hardware and pivot pin included.	1	1.3	\$20.50
HFC-80M	NITRA cylinder rear clevis bracket, cast iron. For use with 80 mm H-series cylinders. Mounting hardware and pivot pin included.	1	2.3	\$27.50
<u>HFC-100M</u>	NITRA cylinder rear clevis bracket, cast iron. For use with 100 mm H-series cylinders. Mounting hardware and pivot pin included.	1	3.8	\$29.50



H-Series Pneumatic Cylinder Accessories

Rod Clevis



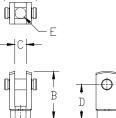
Part no. HRC-20M

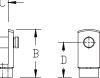


Part no. HRC-32M



mm [inches]





HRC-12M - HRC-25M

Note: Comes with Pivot Pin installed. Includes Rod Male Adapter (see below)

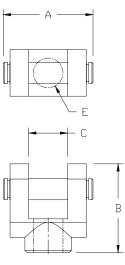
Rod Clevis Dimension Table								
Part #	A	В	С	D	Ε			
<u>HRC-12M</u>	14.6 [0.57]	22.0 [0.87]	5.3 [0.21]	16.0 [0.63]	M5x0.8			
<u>HRC-16M</u>	16.8 [0.66]	28.0 [1.10]	6.6 [0.26]	21.0 [0.83]	M6x1.0			
<u>HRC-20M</u>	21.0 [0.83]	34.0 [1.34]	8.3 [0.33]	25.0 [0.98]	M8x1.25			
<u>HRC-25M</u>	26.4 [1.04]	41.0 [1.61]	10.3 [0.41]	30.0 [1.18]	M10x1.5			
<u>HRC-32M</u>	42.4 [1.67]	42.0 [1.65]	18.4 [0.72]	30.0 [1.18]	M14x1.5			
<u>HRC-40M</u>	42.4 [1.67]	42.0 [1.65]	18.4 [0.72]	30.0 [1.18]	M14x1.5			
<u>HRC-50M</u>	50.4 [1.98]	56.0 [2.20]	22.4 [0.88]	40.0 [1.57]	M18x1.5			
<u>HRC-63M</u>	50.4 [1.98]	56.0 [2.20]	22.4 [0.88]	40.0 [1.57]	M18x1.5			
<u>HRC-80M</u>	63.6 [2.50]	71.0 [2.80]	28.4 [1.12]	50.0 [1.97]	M22x1.5			
<u>HRC-100M</u>	72.6 [2.86]	79.0 [3.11]	32.4 [1.28]	55.0 [2.17]	M26x1.5			

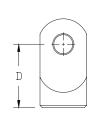
Rod Male Adapter



Part no. HMA-32M

Rod	Male Adap	ter Dimen	sion Table	
Part #	A	В	С	D
<u>HMA-12M</u>	15.0 [0.59]	10.5 [0.41]	8.0 [0.31]	M5x0.8
<u>HMA-16M</u>	18.0 [0.71]	12.0 [0.47]	10.0 [0.39]	M6x1.0
<u>HMA-20M</u>	19.5 [0.77]	14.0 [0.55]	12.0 [0.47]	M8x1.25
<u>HMA-25M</u>	26.5 [1.04]	17.5 [0.69]	17.0 [0.67]	M10x1.25
<u>HMA-32M</u>	31.5 [1.24]	21.5 [0.85]	19.0 [0.75]	M14x1.5
<u>HMA-40M</u>	31.5 [1.24]	21.5 [0.85]	19.0 [0.75]	M14x1.5
<u>HMA-50M</u>	36.5 [1.44]	25.5 [1.00]	27.0 [1.06]	M18x1.5
<u>HMA-63M</u>	36.5 [1.44]	25.5 [1.00]	27.0 [1.06]	M18x1.5
<u>HMA-80M</u>	49.5 [1.95]	33.5 [1.32]	32.0 [1.26]	M22x1.5
<u>HMA-100M</u>	51.5 [2.03]	31.5 [1.24]	36.0 [1.42]	M26x1.5

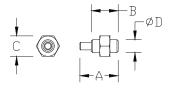




HRC-32M - HRC-100M

Dimensions

mm [inches]



HMA-12M - HMA-100M



H-Series Pneumatic Cylinder Accessories

Female Rear Clevis



Part no. HFC-20M



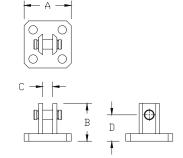
Part no. HFC-32M

Note: Comes with Pivot Pin installed.

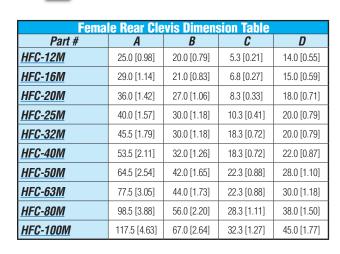
Mounting Hardware Included.

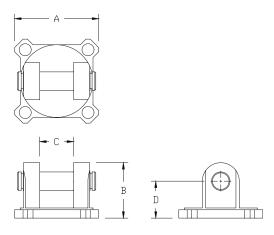
Dimensions

mm [inches]



HFC-12M - HFC-25M





HFC-32M - HFC-100M

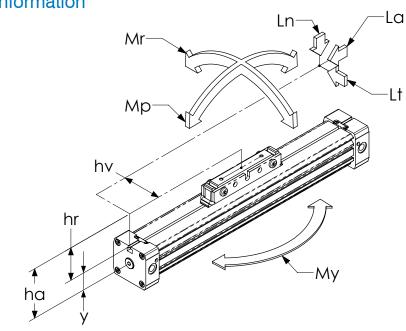




NITRA L-Series Rodless Cylinders offer a robust design in a compact package. Rodless cylinders can offer the same stroke as rodded cylinders in a smaller space. All sizes have magnetic pistons and are double acting. Mounting brackets and cylinder position switches are sold separately.

Features

- Rodless cylinder design
- Double acting with magnetic piston
- Front and rear adjustable cushions
- Tapped end caps mount
- 16mm to 40mm bore sizes available
- 100mm to 1000mm stroke lengths avaiable
- Operating pressure: 1 to 8 bar (14.5 to 116 psi)
- Temperature range: -10 to +80°C (14 to 176°F)
- 2-year warranty



	NITRA L-Series Rodless Pneumatic Cylinder Force and Torque Information											
Bore	Center Distance Y	Actual Force F at 6 bar [N]	Cushioning Stroke [mm]	Max. Load Ln [N]	Mp Max [Nm]	Mr Max [Nm]	My Max [Nm]					
16	9	110	15	120	4	0.3	0.5					
25	14	250	21	300	15	1	3					
32	18	420	26	450	30	2	4					
40	22	640	32	750	60	4	8					

Note: When the cylinder is subjected simultaneously to targue and force, use the following equations, where the lengths have to be given in meters.

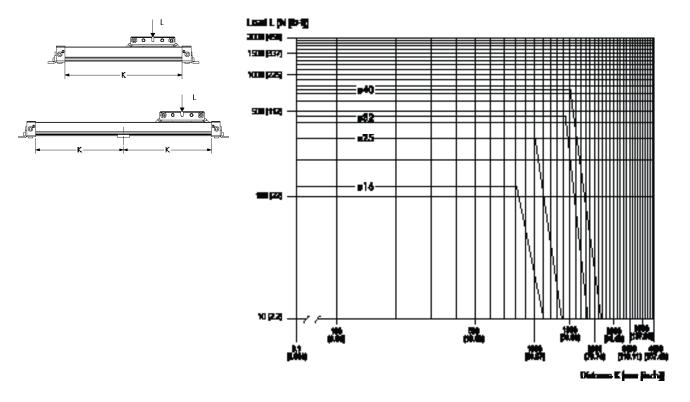
Mp=Fitha Mr=Lithy+Lithy My=Fithe

<mark>My ___</mark> ≤ 1; <u>La</u>___ ≤ 1; <u>Mp</u>___+<u>Mr</u>___+0.22 ± <u>My</u>___+0.4 <u>La</u>___ ≤ 1 My ____

Torque Information

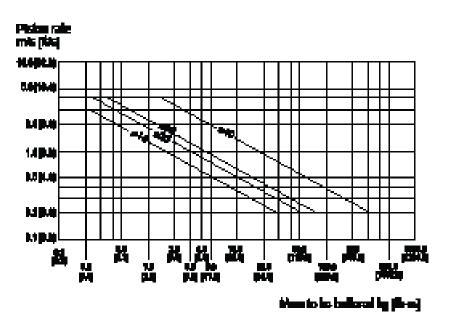


Load Information



Speed and Maximum Cushionable Load

For the cylinder to reach the end-of-stroke position without intense or repeated impact which would damage it, it is necessary to annul the kinetic energy of the moving mass and the work generated. The maximum cushionable load depends on the traversing speed and the absorption of the air buffer supplied standard with the various cylinders. The diagram shows the speeds and cushionable mass for the various diameters at a pressure of 6 bar (87psi).



www.automationdirect.com



	NITRA L-Series R	odless Pneumatic Cy	linder Selection	
Part No.	Bore (mm)	Stroke (mm)	Weight (lbs)	Price
L16M0100MD-MC		100	1.84	\$230.00
L16M0200MD-MC		200	1.88	\$241.00
L16M0300MD-MC		300	2.68	\$246.00
L16M0400MD-MC	16	400	2.69	\$252.00
<u>L16M0500MD-MC</u>		500	2.71	\$257.00
<u>L16M0600MD-MC</u>		600	4.08	\$266.00
<u>L16M0800MD-MC</u>		800	4.11	\$274.00
<u>L25M0200MD-MC</u>		200	4.46	\$285.00
<u>L25M0300MD-MC</u>	25	300	4.64	\$291.00
<u>L25M0400MD-MC</u>		400	5.33	\$303.00
<u>L25M0500MD-MC</u>		500	6.2	\$310.00
<u>L25M0600MD-MC</u>		600	6.37	\$320.00
<u>L25M0800MD-MC</u>		800	7.42	\$328.00
<u>L25M1000MD-MC</u>		1000	8.45	\$336.00
<u>L32M0200MD-MC</u>		200	7.24	\$337.00
<u>L32M0300MD-MC</u>		300	7.74	\$346.00
<u>L32M0400MD-MC</u>		400	8.14	\$358.00
<u>L32M0500MD-MC</u>	32	500	9.96	\$380.00
<u>L32M0600MD-MC</u>		600	10.44	\$386.00
<u>L32M0800MD-MC</u>		800	12.16	\$400.00
<u>L32M1000MD-MC</u>		1000	13.56	\$409.00
<u>L40M0200MD-MC</u>		200	10.19	\$365.00
<u>L40M0300MD-MC</u>		300	10.75	\$387.00
<u>L40M0400MD-MC</u>		400	12.01	\$397.00
<u>L40M0500MD-MC</u>	40	500	14.36	\$421.00
<u>L40M0600MD-MC</u>		600	14.94	\$428.00
<u>L40M0800MD-MC</u>		800	17.44	\$462.00
<u>L40M1000MD-MC</u>		1000	19.44	\$493.00

Click on the thumbnail or go to https://www.automationdirect.com/VID-PN-0045

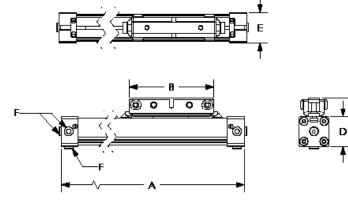
for a short video on NITRA Rodless Cylinders.





Dimensions

inches [mm]



			L-Serie	es Rodless	Pneuma	tic Cylinde	r Dimens	sions			
Model		A		В		C		D		Ε	F
	mm	[inches]	тт	[inches]	тт	[inches]	тт	[inches]	mm	[inches]	G (BSPP)
<u>L16M0100MD-MC</u>	230.0	9.06	76.0	2.99	43.5	1.71	27.0	1.06	27.0	1.06	M5
<u>L16M0200MD-MC</u>	330.0	12.99	76.0	2.99	43.5	1.71	27.0	1.06	27.0	1.06	M5
L16M0300MD-MC	430.0	16.93	76.0	2.99	43.5	1.71	27.0	1.06	27.0	1.06	M5
L16M0400MD-MC	530.0	20.87	76.0	2.99	43.5	1.71	27.0	1.06	27.0	1.06	M5
L16M0500MD-MC	630.0	24.80	76.0	2.99	43.5	1.71	27.0	1.06	27.0	1.06	M5
L16M0600MD-MC	730.0	28.74	76.0	2.99	43.5	1.71	27.0	1.06	27.0	1.06	M5
L16M0800MD-MC	930.0	36.61	76.0	2.99	43.5	1.71	27.0	1.06	27.0	1.06	M5
L25M0200MD-MC	400.0	15.75	120.0	4.72	66.0	2.60	40.0	1.57	40.0	1.57	1/8
<u>L25M0300MD-MC</u>	500.0	19.69	120.0	4.72	66.0	2.60	40.0	1.57	40.0	1.57	1/8
<u>L25M0400MD-MC</u>	600.0	23.62	120.0	4.72	66.0	2.60	40.0	1.57	40.0	1.57	1/8
L25M0500MD-MC	700.0	27.56	120.0	4.72	66.0	2.60	40.0	1.57	40.0	1.57	1/8
L25M0600MD-MC	800.0	31.50	120.0	4.72	66.0	2.60	40.0	1.57	40.0	1.57	1/8
L25M0800MD-MC	1000.0	39.37	120.0	4.72	66.0	2.60	40.0	1.57	40.0	1.57	1/8
<u>L25M1000MD-MC</u>	1200.0	47.24	120.0	4.72	66.0	2.60	40.0	1.57	40.0	1.57	1/8
<u>L32M0200MD-MC</u>	450.0	17.72	150.0	5.91	86.0	3.39	56.0	2.20	42.0	1.65	1/4
<u>L32M0300MD-MC</u>	550.0	21.65	150.0	5.91	86.0	3.39	56.0	2.20	42.0	1.65	1/4
<u>L32M0400MD-MC</u>	650.0	25.59	150.0	5.91	86.0	3.39	56.0	2.20	42.0	1.65	1/4
<u>L32M0500MD-MC</u>	750.0	29.53	150.0	5.91	86.0	3.39	56.0	2.20	42.0	1.65	1/4
<u>L32M0600MD-MC</u>	850.0	33.46	150.0	5.91	86.0	3.39	56.0	2.20	42.0	1.65	1/4
L32M0800MD-MC	1050.0	41.34	150.0	5.91	86.0	3.39	56.0	2.20	42.0	1.65	1/4
L32M1000MD-MC	1250.0	49.21	150.0	5.91	86.0	3.39	56.0	2.20	42.0	1.65	1/4
L40M0200MD-MC	500.0	19.69	150.0	5.91	97.0	3.82	69.0	2.72	72.0	2.83	1/4
L40M0300MD-MC	600.0	23.62	150.0	5.91	97.0	3.82	69.0	2.72	72.0	2.83	1/4
L40M0400MD-MC	700.0	27.56	150.0	5.91	97.0	3.82	69.0	2.72	72.0	2.83	1/4
L40M0500MD-MC	800.0	31.50	150.0	5.91	97.0	3.82	69.0	2.72	72.0	2.83	1/4
L40M0600MD-MC	900.0	35.43	150.0	5.91	97.0	3.82	69.0	2.72	72.0	2.83	1/4
L40M0800MD-MC	1100.0	43.31	150.0	5.91	97.0	3.82	69.0	2.72	72.0	2.83	1/4
L40M1000MD-MC	1300.0	51.18	150.0	5.91	97.0	3.82	69.0	2.72	72.0	2.83	1/4



L-Series Rodless Pneumatic Cylinder Accessories

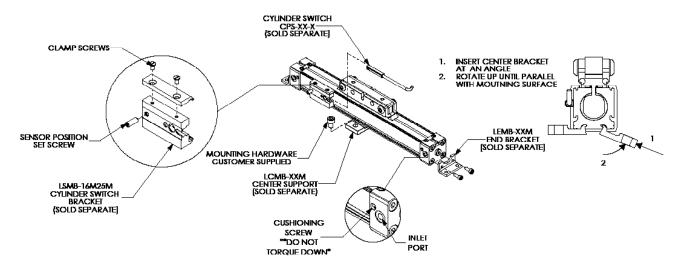
NITRA L-Series accessories include end mounting brackets and center support brackets for longer cylinders. Refer to load chart in this section to determine if a center support is required. Sensor clamp brackets are required for 16mm and 25mm bore cylinders.

	NITRA L-Sei	ries Rodless Pneumatic Cylinder Accessories		
ltem	Part No.	Description	Weight (lbs)	Price
	LEMB-16M	NITRA mounting bracket, end, stainless steel. For use with L16M series rodless cylinders. Mounting screws included.	0.03	\$5.25
C	<u>LEMB-25M</u>	NITRA mounting bracket, end, stainless steel. For use with L25M series rodless cylinders. Mounting screws included.	0.07	\$5.75
	<u>LEMB-32M</u>	NITRA mounting bracket, end, aluminum. For use with L32M series rodless cylinders. Mounting screws included.	0.2	\$20.50
· · · · ·	<u>LEMB-40M</u>	NITRA mounting bracket, end, aluminum. For use with L40M series rodless cylinders. Mounting screws included.	0.25	\$28.50
0/	<u>LCMB-16M</u>	NITRA mounting bracket, center, aluminum. For use with L16M series rodless cylinders.	0.02	\$12.00
01	<u>LCMB-25M</u>	NITRA mounting bracket, center, aluminum. For use with L25M series rodless cylinders.	0.02	\$13.50
	LCMB-32M	NITRA mounting bracket, center, aluminum. For use with L32M series rodless cylinders. Mounting screws included.	0.16	\$28.00
	LCMB-40M	NITRA mounting bracket, center, aluminum. For use with L40M series rodless cylinders. Mounting screws included.	0.23	\$29.00
	LSMB-16M25M	NITRA mounting bracket, switch, aluminum. For use with L16M and L25M series rodless cylinders. Mounting screws included.	0.03	\$11.50

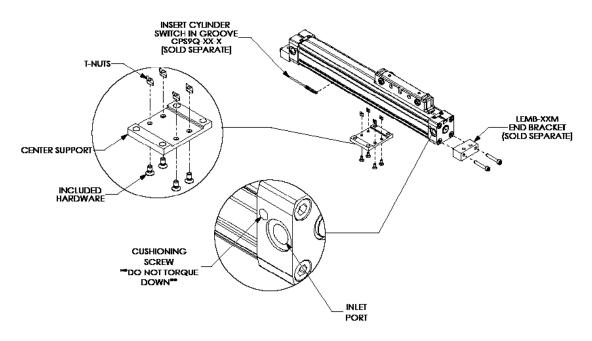


L-Series Rodless Pneumatic Cylinder Accessories

Mounting guidelines for 16mm and 25mm bore cylinders



Mounting guidelines for 32mm and 40mm bore cylinders



NITRA

Rotary Actuator

Double Acting



J10MD-M

NITRA Pneumatics rotary actuators are an excellent choice for many automation applications. Available in four body sizes with or without shock absorbers. All are double acting and have an adjustable travel range from zero to 190 degrees. Anodized aluminum bodies include integral mounting slots for position switches.

Features

- Four body sizes (10, 20, 30, 50 lb•in @ 80 psi)
- Anodized aluminum bodies
- Available with rubber bumpers or shock absorbers
- Position switch ready with integral mounting slots
- Zero to 190 degrees adjustable rotation

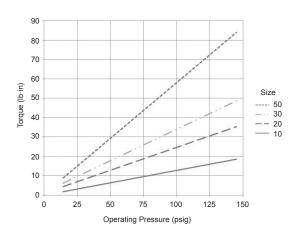


		NITRA R				1			
Part No.	Description	Action	Size *	Air Consumption (cc/deg)	End Stops	Body	Port(s)	Price	Weight (lbs)
<u>J10MD-M</u>				0.04	Rubber bumpers		M5 x 0.8	\$233.00	1.3
J10MD-MA			10		Shock Absorber			\$287.00	1.3
J20MD-M			00	0.08	Rubber bumpers	Anodized aluminum 		\$266.00	2.3
J20MD-MA			20		Shock Absorber			\$324.00	2.3
<u> J30MD-M</u>	- NITRA pneumatic rotary actuator	Double acting	00	0.40	Rubber bumpers		1/8in female NPT	\$287.00	3.0
J30MD-MA			30	0.10	Shock Absorber			\$348.00	3.0
<u> J50MD-M</u>			50	0.40	Rubber bumpers			\$328.00	4.9
J50MD-MA				0.18	Shock Absorber			\$406.00	4.9

* lb•in torque @ 80 psi

NI	TRA Rotary Acutuato	r Specifications		
Fluid		Air (clean/dry)		
Action		Double rack and pinion (double acting)		
Drocouro Dongo	Bolt Adjustment	14 to 145 psig (0.97 to 9.99 bar)		
Pressure Range	Shock Adjustment	14 to 87 psig (0.97 to 5.99 bar)		
Proof Pressure		175 psig		
Temperature Ran	ge	32°F to 140°F (0°C to 60°C)		
Adjustment Angle	Range	0° to 190° Rotation		
Repeatable	Bolt Adjustment	0.2°		
Precision	Shock Adjustment	0.05°		
Rotation Times	Bolt Adjustment	0.2 - 1.0		
(s/90°)	Shock Adjustment	0.2 - 0.7		
Cuphian Tuna	Bolt Adjustment	Rubber Bumper		
Cushion Type	Shock Adjustment	Shock Absorber		
Port Size		M5 x 0.8 (sizes 10 and 20) Rear ports 1/8 NPT / Side ports M5 x 0.8 (sizes 30 and 50)		
Sensor Switch Co	mpatibility	Nitra CPS9C-xx-x		
Includes		Magnet		
Approvals		None		

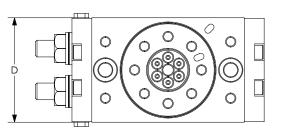
Torque Output

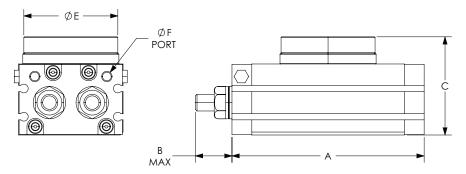




Rotary Actuator

Dimensions mm [inches]





	Ro	tary Actu	ator Dim	ensions		
Part #	A	В	B C		ØE	ØF
<u>J10MD-M</u>	92.0 [3.62]	17.5 [0.69]	47.0 [1.85]	50.0 [1.97]	45.0 [1.77]	M5 x 0.8
J10MD-MA	92.0 [3.62]	28.5 [1.12}	47.0 [1.85]	50.0 [1.97]	45.0 [1.77]	M5 x 0.8
<u>J20MD-M</u>	117.0 [4.61]	26.0 [1.02]	54.0 [2.13]	65.0 [2.56]	60.0 [2.36]	M5 x 0.8
J20MD-MA	117.0 [4.61]	39.0 [1.54]	54.0 [2.13]	65.0 [2.56]	60.0 [2.36]	M5 x 0.8
<u> J30MD-M</u>	127.0 [5.00]	25.5 [1.00]	57.0 [2.24]	70.0 [2.76]	65.0 [2.56]	1/8 NPT
J30MD-MA	127.0 [5.00]	39.0 [1.54]	57.0 [2.24]	70.0 [2.76]	65.0 [2.56]	1/8 NPT
<u> J50MD-M</u>	152.0 [5.98]	31.5 [1.24]	66.0 [2.60]	80.0 [3.15]	75.0 [2.95]	1/8 NPT
J50MD-MA	152.0 [5.98]	51.0 [2.01]	66.0 [2.60]	80.0 [3.15]	75.0 [2.95]	1/8 NPT

See our website <u>www.AutomationDirect.com</u> for complete Engineering drawings.

Accessories



J2030M-SA

	NITRA Rotary Actuator Accessories									
Part No.	Description	Price	Weight (Ibs)							
J10M-SA	NITRA shock absorber, for use with J-series size 10 rotary actuators.	\$29.50	0.1							
J2030M-SA	NITRA shock absorber, for use with J-series sizes 20 and 30 rotary actuators.	\$33.00	0.2							
J50M-SA	NITRA shock absorber, for use with J-series size 50 rotary actuators.	\$40.00	0.2							



Double Acting



KP06MD-M

NITRA Pneumatics grippers are an excellent choice for many automation applications. They are available in both parallel and angular travels in seven different body sizes. Grippers are either double acting, single acting normally closed or single acting normally open. Anodized aluminum bodies include integral mounting slots for position switches.

Features

- Seven sizes available (6 to 40mm bore)
- Double acting or single acting N.O. or N.C.
- Anodized aluminum bodies
- Position switch ready with integral mounting slots



	NITRA Pneumatic Gripper - Parallel (Side Mount Grip) - Double Acting												
Part No.	Description	Style	Action	Size - Bore (mm)	Stroke (mm)	Grip	Body	Port(s)	Price	Weight (lbs)			
<u>KP06MD-M</u>				6	4			M3 x 0.5	\$160.00	0.1			
<u>KP10MD-M</u>				10	4		Anodized aluminum	1013 × 0.5	\$173.00	0.2			
<u>KP16MD-M</u>		RA pneumatic gripper Parallel	Double acting	16	6			M5 x 0.8	\$172.00	0.3			
<u>KP20MD-M</u>	NITRA pneumatic gripper			20	10				\$240.00	0.5			
<u>KP25MD-M</u>				25	14				\$290.00	1.0			
<u>KP32MD-M</u>				32	22				\$435.00	1.9			
<u>KP40MD-M</u>				40	30				\$498.00	3.1			

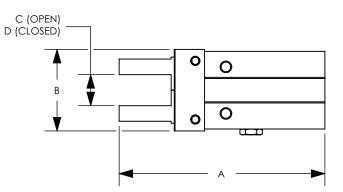
	NITRA Pneumat	ic Gripper Specifications				
Fluid		Air (clean/dry)				
Brocouro Bongo	6mm, 10mm	29 to 101 psig (1.99 to 6.96 bar)				
Pressure Range	16mm to 40mm	22 to 101 psig (1.52 to 6.96 bar)				
Proof Pressure		175 psig				
Temperature Rang	ge	-4°F to 160°F (-20°C to 60°C)				
Lubrication		Not required				
Donootohilitu	6mm to 25mm	± 0.01 mm				
Repeatability	32mm to 40mm	± 0.02 mm				
Max Eroquanov	6mm to 25mm	180 cycles/min				
Max Frequency	32mm to 40mm	60 cycles/min				
Port Size		M3 x 0.5 (6 to 10mm units) M5 x 0.8 (16 to 40mm units)				
Sensor Switch Co	mpatibility	Nitra CPS9H-xx-x or CPS9C-xx-x				
Includes		Magnet				
Approvals		None				

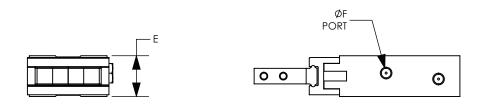


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Dimensions mm [inches]





	Pne	umatic G	ripper Din	nensions			
Part #	A	В	С	D	Ε	ØF	
<u>KP06MD-M</u>	53.0 [2.09]	21.0 [0.83]	11.0 [0.43]	8.0 [0.31]	10.5 [0.41]	M3 x 0.5	
<u>KP10MD-M</u>	57.0 [2.24]	30.0 [1.18]	15.5 [0.61]	11.5 [0.45]	16.5 [0.65]	M3 x 0.5	
<u>KP16MD-M</u>	67.5 [2.65]	39.0 [1.54]	21.0 [0.83]	15.0 [0.59]	23.5 [0.93]	M5 x 0.8	
<u>KP20MD-M</u>	84.5 [3.32]	53.0 [2.09]	26.5 [1.04]	16.5 [0.65]	27.5 [1.08]	M5 x 0.8	
KP25MD-M	102.5 [4.04]	71.0 [2.80]	33.5 [1.31]	19.5 [0.77]	33.5 [1.32]	M5 x 0.8	
<u>KP32MD-M</u>	113.0 [4.45]	106.0 [4.17]	48.0 [1.89]	26.0 [1.02]	40.0 [1.57]	M5 x 0.8	
<u>KP40MD-M</u>	139.0 [5.47]	119.0 [4.70]	60.0 [2.36]	30.0 [1.18]	48.0 [1.89]	M5 x 0.8	



Single Acting - Normally Closed



KP06MSC-M

NITRA Pneumatics grippers are an excellent choice for many automation applications. They are available in both parallel and angular travels in seven different body sizes. Grippers are either double acting, single acting normally closed or single acting normally open. Anodized aluminum bodies include integral mounting slots for position switches.

Features

- Seven sizes available (6 to 40mm bore)
- Double acting or single acting N.O. or N.C.
- Anodized aluminum bodies
- Position switch ready with integral mounting slots



	NITRA Pneumatic Gripper - Parallel (Side Mount Grip) - Single Acting - Normally Closed												
Part No.	Description	Style	Action	Size - Bore (mm)	Stroke (mm)	Grip	Body	Port(s)	Price	Weight (Ibs)			
KP06MSC-M				6	4	Side mount		M3 x 0.5	\$153.00	0.1			
<u>KP10MSC-M</u>				10	4		Anodized aluminum		\$166.00	0.2			
<u>KP16MSC-M</u>		^C Parallel	Single acting, normally closed	16	6			M5 x 0.8	\$172.00	0.3			
<u>KP20MSC-M</u>	NITRA pneumatic gripper			20	10				\$240.00	0.5			
KP25MSC-M				25	14				\$290.00	1.0			
<u>KP32MSC-M</u>				32	22				\$435.00	1.9			
KP40MSC-M				40	30				\$498.00	3.1			

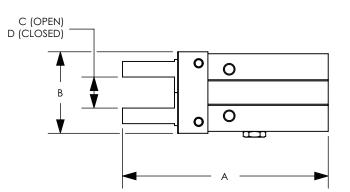
	NITRA Pneumat	ic Gripper Specifications
Fluid		Air (clean/dry)
Drocouro Dongo	6mm, 10mm	50 to 101 psig (3.45 to 6.96 bar)
Pressure Range	16mm to 40mm	36 to 101 psig (2.48 to 6.96 bar)
Proof Pressure		175 psig
Temperature Rang	ge	-4°F to 160°F (-20°C to 60°C)
Lubrication		Not required
Repeatability	6mm to 25mm	± 0.01 mm
	32mm to 40mm	± 0.02 mm
Max Fraguenay	6mm to 25mm	180 cycles/min
Max Frequency	32mm to 40mm	60 cycles/min
Port Size		M3 x 0.5 (6 to 10mm units) M5 x 0.8 (16 to 40mm units)
Sensor Switch Co	mpatibility	Nitra CPS9H-xx-x or CPS9C-xx-x
Includes		Magnet
Approvals		None

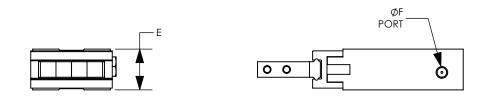


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Dimensions mm [inches]





	Pne	umatic G	ripper Din	nensions		
Part #	A	В	С	D	Ε	ØF
KP06MSC-M	53.0 [2.09]	21.0 [0.83]	11.0 [0.43]	8.0 [0.31]	10.5 [0.41]	M3 x 0.5
KP10MSC-M	57.0 [2.24]	30.0 [1.18]	15.5 [0.61]	11.5 [0.45]	16.5 [0.65]	M3 x 0.5
<u>KP16MSC-M</u>	67.5 [2.65]	39.0 [1.54]	21.0 [0.83]	15.0 [0.59]	23.5 [0.93]	M5 x 0.8
KP20MSC-M	84.5 [3.32]	53.0 [2.09]	26.5 [1.04]	16.5 [0.65]	27.5 [1.08]	M5 x 0.8
<u>KP25MSC-M</u>	102.5 [4.04]	71.0 [2.80]	33.5 [1.31]	19.5 [0.77]	33.5 [1.32]	M5 x 0.8
KP32MSC-M	122.0 [4.80]	106.0 [4.17]	48.0 [1.89]	26.0 [1.02]	40.0 [1.57]	M5 x 0.8
<u>KP40MSC-M</u>	152.0 [5.98]	119.0 [4.69]	60.0 [2.36]	30.0 [1.18]	48.0 [1.89]	M5 x 0.8



Single Acting - Normally Open



KP06MSA-M

NITRA Pneumatics grippers are an excellent choice for many automation applications. They are available in both parallel and angular travels in seven different body sizes. Grippers are either double acting, single acting normally closed or single acting normally open. Anodized aluminum bodies include integral mounting slots for position switches.

Features

- Seven sizes available (6 to 40mm bore)
- Double acting or single acting N.O. or N.C.
- Anodized aluminum bodies
- Position switch ready with integral mounting slots



	NITRA Pneumatic Gripper - Parallel (Side Mount Grip) - Single Acting - Normally Open											
Part No.	Description	Style	Action	Size - Bore (mm)	Stroke (mm)	Grip	Body	Port(s)	Price	Weight (lbs)		
<u>KP06MSA-M</u>				6	4			M3 x 0.5	\$153.00	0.1		
<u>KP10MSA-M</u>				10	4				\$166.00	0.2		
<u>KP16MSA-M</u>			Single	16	6				\$172.00	0.3		
<u>KP20MSA-M</u>	NITRA pneumatic gripper	Parallel	acting, normally	20	10	Side mount	Anodized aluminum		\$240.00	0.5		
<u>KP25MSA-M</u>			open	25	14			M5 x 0.8	\$290.00	1.0		
<u>KP32MSA-M</u>				32	22				\$435.00	1.9		
<u>KP40MSA-M</u>				40	30				\$498.00	3.1		

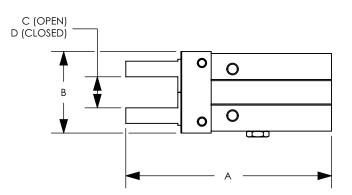
	NITRA Pneumat	ic Gripper Specifications			
Fluid		Air (clean/dry)			
Drocouro Dongo	6mm, 10mm	50 to 101 psig (3.45 to 6.96 bar)			
Pressure Range	16mm to 40mm	36 to 101 psig (2.48 to 6.96 bar)			
Proof Pressure		175 psig			
Temperature Ran	ge	-4°F to 160°F (-20°C to 60°C)			
Lubrication		Not required			
Repeatability	6mm to 25mm	± 0.01 mm			
	32mm to 40mm	± 0.02 mm			
Max Fraguanay	6mm to 25mm	180 cycles/min			
Max Frequency	32mm to 40mm	60 cycles/min			
Port Size		M3 x 0.5 (6 to 10mm units) M5 x 0.8 (16 to 40mm units)			
Sensor Switch Co	mpatibility	Nitra CPS9H-xx-x or CPS9C-xx-x			
Includes		Magnet			
Approvals		None			

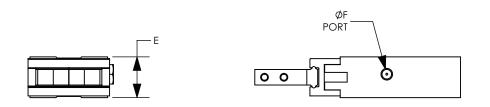


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Dimensions mm [inches]





	Pne	umatic G	ripper Dir	nensions		
Part #	A	В	С	D	Ε	ØF
<u> KP06MSA-M</u>	53.0 [2.09]	21.0 [0.83]	11.0 [0.43]	8.0 [0.31]	10.5 [0.41]	M3 x 0.5
<u>KP10MSA-M</u>	57.0 [2.24]	30.0 [1.18]	15.5 [0.61]	11.5 [0.45]	16.5 [0.65]	M3 x 0.5
<u>KP16MSA-M</u>	67.5 [2.65]	39.0 [1.54]	21.0 [0.83]	15.0 [0.59]	23.5 [0.93]	M5 x 0.8
<u>KP20MSA-M</u>	84.5 [3.32]	53.0 [2.09]	26.5 [1.04]	16.5 [0.65]	27.5 [1.08]	M5 x 0.8
<u>KP25MSA-M</u>	102.5 [4.04]	71.0 [2.80]	33.5 [1.31]	19.5 [0.77]	33.5 [1.32]	M5 x 0.8
<u>KP32MSA-M</u>	122.0 [4.80]	106.0 [4.17]	48.0 [1.89]	26.0 [1.02]	40.0 [1.57]	M5 x 0.8
<u>KP40MSA-M</u>	152.0 [5.98]	119.0 [4.69]	60.0 [2.36]	30.0 [1.18]	48.0 [1.89]	M5 x 0.8



Double Acting



KP06MD-MB

NITRA Pneumatics grippers are an excellent choice for many automation applications. They are available in both parallel and angular travels in seven different body sizes. Grippers are either double acting, single acting normally closed or single acting normally open. Anodized aluminum bodies include integral mounting slots for position switches.

Features

- Seven sizes available (6 to 40mm bore)
- Double acting or single acting N.O. or N.C.
- Anodized aluminum bodies
- Position switch ready with integral mounting slots



	NITRA Pneumatic Gripper - Parallel (End Mount Grip) - Double Acting											
Part No.	Description	Style	Action	Size - Bore (mm)	Stroke (mm)	Grip	Body	Port(s)	Price	Weight (Ibs)		
<u>KP06MD-MB</u>				6	4			M3 x 0.5	\$153.00	0.1		
<u>KP10MD-MB</u>				10	4			IVI3 X U.S	\$166.00	0.2		
<u>KP16MD-MB</u>				16	6				\$172.00	0.3		
<u>KP20MD-MB</u>	NITRA pneumatic gripper	Parallel	Double acting	20	10	End mount	Anodized aluminum		\$172.00	0.5		
<u>KP25MD-MB</u>				25	14			M5 x 0.8	\$290.00	1.0		
<u>KP32MD-MB</u>				32	22				\$435.00	1.9		
<u>KP40MD-MB</u>				40	30				\$498.00	3.1		

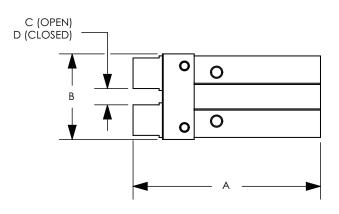
	NITRA Pneumat	ic Gripper Specifications				
Fluid		Air (clean/dry)				
Drocouro Dongo	6mm, 10mm	29 to 101 psig (1.99 to 6.97 bar)				
Pressure Range	16mm to 40mm	22 to 101 psig (1.52 to 6.97 bar)				
Proof Pressure		175 psig				
Temperature Ran	ge	-4°F to 160°F (-20°C to 60°C)				
Lubrication		Not required				
Repeatability	6mm to 25mm	± 0.01 mm				
	32mm to 40mm	± 0.02 mm				
May Francisco	6mm to 25mm	180 cycles/min				
Max Frequency	32mm to 40mm	60 cycles/min				
Port Size	,	M3 x 0.5 (6 to 10mm units) M5 x 0.8 (16 to 40mm units)				
Sensor Switch Co	mpatibility	Nitra CPS9H-xx-x or CPS9C-xx-x				
Includes		Magnet				
Approvals		None				

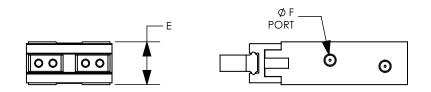


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Dimensions mm [inches]





	Pne	umatic G	ripper Dir	nensions		
Part #	A	В	С	D	Ε	ØF
<u>KP06MD-MB</u>	46.0 [1.81]	21.0 [0.83]	4.0 [0.16]	1.5 [0.06]	10.5 [0.41]	M3 x 0.5
<u>KP10MD-MB</u>	48.7 [1.92]	30.0 [1.18]	5.5 [0.22]	1.5 [0.06]	16.5 [0.65]	M3 x 0.5
KP16MD-MB	58.3 [2.30]	39.0 [1.54]	7.5 [0.30]	1.5 [0.06]	23.5 [0.93]	M5 x 0.8
<u>KP20MD-MB</u>	73.0 [2.87]	53.0 [2.09]	11.5 [0.45]	1.5 [0.06]	27.5 [1.08]	M5 x 0.8
KP25MD-MB	88.1 [3.47]	71.0 [2.80]	16.0 [0.63]	2.0 [0.08]	33.5 [1.32]	M5 x 0.8
<u>KP32MD-MB</u>	106.0 [4.17]	106.0 [4.17]	25.0 [0.98]	3.0 [0.12]	40.0 [1.57]	M5 x 0.8
<u>KP40MD-MB</u>	133.0 [5.24]	132.0 [5.20]	33.0 [1.30]	3.0 [0.12]	48.0 [1.89]	M5 x 0.8



Single Acting - Normally Closed



NITRA Pneumatics grippers are an excellent choice for many automation applications. They are available in both parallel and angular travels in seven different body sizes. Grippers are either double acting, single acting normally closed or single acting normally open. Anodized aluminum bodies include integral mounting slots for position switches.

Features

- Seven sizes available (6 to 40mm bore)
- Double acting or single acting N.O. or N.C.
- Anodized aluminum bodies
- Position switch ready with integral mounting slots



	NITRA Pneumatic Gripper - Parallel (End Mount Grip) - Single Acting Normally Closed										
Part No.	Description	Style	Action	Size - Bore (mm)	Stroke (mm)	Grip	Body	Port(s)	Price	Weight (lbs)	
KP06MSC-MB				6	4			M3 x 0.5 \$153.00 \$166.00	\$153.00	0.1	
<u>KP10MSC-MB</u>				10	4				0.2		
KP16MSC-MB			Single	16	6				\$172.00	0.3	
<u>KP20MSC-MB</u>	NITRA pneumatic gripper	Parallel	acting, normally	20	10	End Mount	Anodized aluminum		\$240.00	0.5	
KP25MSC-MB			closed	25	14			M5 x 0.8	\$290.00 \$435.00	1.0	
KP32MSC-MB				32	22					1.9	
KP40MSC-MB				40	30				\$498.00	3.1	

	NITRA Pneumat	ic Gripper Specifications					
Fluid		Air (clean/dry)					
Dracaura Danga	6mm, 10mm	50 to 101 psig (3.45 to 6.96 bar)					
Pressure Range	16mm to 40mm	36 to 101 psig (2.48 to 6.96 bar)					
Proof Pressure		175 psig					
Temperature Ran	ge	-4°F to 160°F (-20°C to 60°C)					
Lubrication		Not required					
Repeatability <i>t</i>	6mm to 25mm	± 0.01 mm					
	32mm to 40mm	± 0.02 mm					
Repeatability 6mm to 25mm 32mm to 40mm 6mm to 25mm	180 cycles/min						
Max Frequency	32mm to 40mm	60 cycles/min					
Port Size		M3 x 0.5 (6 to 10mm units) M5 x 0.8 (16 to 40mm units)					
Sensor Switch Co	ompatibility	Nitra CPS9H-xx-x or CPS9C-xx-x					
Includes		Magnet					
Approvals		None					

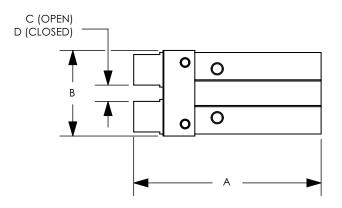


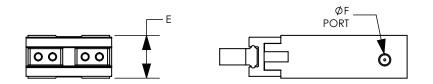
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Dimensions

mm [inches]





	Pne	umatic G	ripper Din	nensions		
Part #	А	В	С	D	Ε	ØF
KP06MSC-MB	46.0 [1.81]	21.0 [0.83]	4.0 [0.16]	1.5 [0.06]	10.5 [0.41]	M3 x 0.5
KP10MSC-MB	48.7 [1.92]	30.0 [1.18]	5.5 [0.22]	1.5 [0.06]	16.5 [0.65]	M3 x 0.5
<u>KP16MSC-MB</u>	58.3 [2.30]	39.0 [1.54]	7.5 [0.30]	1.5 [0.06]	23.5 [0.93]	M5 x 0.8
KP20MSC-MB	73.0 [2.87]	53.0 [2.09]	11.5 [0.45]	1.5 [0.06]	27.5 [1.08]	M5 x 0.8
<u>KP25MSC-MB</u>	88.1 [3.47]	71.0 [2.80]	16.0 [0.63]	2.0 [0.08]	33.5 [1.32]	M5 x 0.8
<u>KP32MSC-MB</u>	106.0 [4.17]	106.0 [4.17]	25.0 [0.98]	3.0 [0.12]	40.0 [1.57]	M5 x 0.8
<u>KP40MSC-MB</u>	133.0 [5.24]	132.0 [5.20]	33.0 [1.30]	3.0 [0.12]	48.0 [1.89]	M5 x 0.8



Single Acting - Normally Open



KP06MSA-MB

NITRA Pneumatics grippers are an excellent choice for many automation applications. They are available in both parallel and angular travels in seven different body sizes. Grippers are either double acting, single acting normally closed or single acting normally open. Anodized aluminum bodies include integral mounting slots for position switches.

Features

- Seven sizes available (6 to 40mm bore)
- Double acting or single acting N.O. or N.C.
- Anodized aluminum bodies
- Position switch ready with integral mounting slots



	NITRA Pneum	atic Grip	per - Par	allel (End M	ount Grip) -	Single Act	ting Norm	ally Open		
Part No.	Description	Style	Action	Size - Bore (mm)	Stroke (mm)	Grip	Body	Port(s)	Price	Weight (Ibs)
<u>KP06MSA-MB</u>				6	4			M3 x 0.5 \$153.00 \$166.00	\$153.00	0.1
<u>KP10MSA-MB</u>				10	4				0.2	
KP16MSA-MB			Cinala	16	6				\$172.00	0.3
<u>KP20MSA-MB</u>	NITRA pneumatic gripper	Parallel	Single acting, normally	20	10	End Mount	Anodized aluminum		\$240.00	0.5
KP25MSA-MB			open	25	14			M5 x 0.8	\$290.00 \$435.00	1.0
KP32MSA-MB				32	22					1.9
KP40MSA-MB				40	30				\$498.00	3.1

NITRA Pneumatic Gripper Specifications						
Fluid		Air (clean/dry)				
Pressure Range	6mm, 10mm	50 to 101 psig (3.45 to 6.96 bar)				
	16mm to 40mm	36 to 101 psig (2.48 to 6.96 bar)				
Proof Pressure		175 psig				
Temperature Range		-4°F to 160°F (0°C to 60°C)				
Lubrication		Not required				
Repeatability	6mm to 25mm	± 0.01 mm				
	32mm to 40mm	± 0.02 mm				
Max Frequency	6mm to 25mm	180 cycles/min				
	32mm to 40mm	60 cycles/min				
Port Size		M3 x 0.5 (6 to 10mm units) M5 x 0.8 (16 to 40mm units)				
Sensor Switch Compatibility		Nitra CPS9H-xx-x or CPS9C-xx-x				
Includes		Magnet				
Approvals		None				

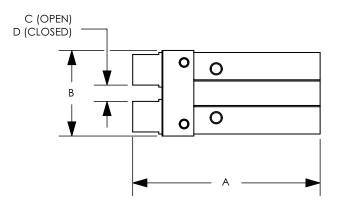


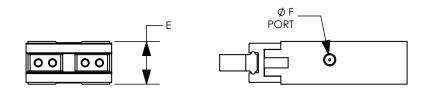
Click the above icon or scan the QR code to be taken to <u>www.automationdirect.</u> <u>com/selectors/pneumaticgripper</u> for our online Gripper Configuration Tool for further selection assistance.



Dimensions

mm [inches]





Pneumatic Gripper Dimensions									
Part #	A	В	С	D	Ε	ØF			
KP06MSA-MB	46.0 [1.81]	21.0 [0.83]	4.0 [0.16]	1.5 [0.06]	10.5 [0.41]	M3 x 0.5			
<u>KP10MSA-MB</u>	48.7 [1.92]	30.0 [1.18]	5.5 [0.22]	1.5 [0.06]	16.5 [0.65]	M3 x 0.5			
KP16MSA-MB	58.3 [2.30]	39.0 [1.54]	7.5 [0.30]	1.5 [0.06]	23.5 [0.93]	M5 x 0.8			
KP20MSA-MB	73.0 [2.87]	53.0 [2.09]	11.5 [0.45]	1.5 [0.06]	27.5 [1.08]	M5 x 0.8			
<u>KP25MSA-MB</u>	88.1 [3.47]	71.0 [2.80]	16.0 [0.63]	2.0 [0.08]	33.5 [1.32]	M5 x 0.8			
<u>KP32MSA-MB</u>	106.0 [4.17]	106.0 [4.17]	25.0 [0.98]	3.0 [0.12]	40.0 [1.57]	M5 x 0.8			
<u>KP40MSA-MB</u>	133.0 [5.24]	132.0 [5.20]	33.0 [1.30]	3.0 [0.12]	48.0 [1.89]	M5 x 0.8			



Pneumatic Gripper - Angular (Side Mount Grip)

Double Acting



KA06MD-M

NITRA Pneumatics grippers are an excellent choice for many automation applications. They are available in both parallel and angular travels in seven different body sizes. Grippers are either double acting, single acting normally closed or single acting normally open. Anodized aluminum bodies include integral mounting slots for position switches.

Features

- Six sizes available (6 to 32mm bore)
- Double acting or single acting N.O.
- Anodized aluminum bodies
- Position switch ready with integral mounting slots



NITRA Pneumatic Gripper - Angular - Double Acting										
Part No.	Description	Style	Action	Size - Bore (mm)	Position	Grip	Body	Port(s)	Price	Weight (Ibs)
<u>KA06MD-M</u>	NITRA pneumatic gripper	Angular	Double acting	6	30 degrees open, -10 degrees closed	Side mount grip	Anodized aluminum	M3 x 0.5	\$79.00	0.1
<u>KA10MD-M</u>				10					\$112.00	0.2
<u>KA16MD-M</u>				16				M5 x 0.8	\$115.00	0.3
<u>KA20MD-M</u>				20					\$138.00	0.5
<u>KA25MD-M</u>				25					\$153.00	1.0
<u>KA32MD-M</u>				32					\$172.00	1.9

NITRA Pneumatic Gripper Specifications					
Fluid		Air (clean/dry)			
Pressure Range		All double acting models: 22 to 101 psig (1.52 to 6.97 bar)			
Proof Pressure		175 psig			
Temperature Range		-4°F to 160°F (-20°C to 60°C)			
Lubrication		Cylinder: not required - Jaws: grease regularly			
Cushion Type		Bumper			
Integrated Flow	6mm	N/A			
Control	10mm to 32mm	Standard - flow control in closing direction			
Maximum Frequency		180 cycles/min			
Port Size		M3 x 0.5 (6mm to 10mm units) M5 x 0.8 (16mm to 32mm units)			
Sensor Switch Compatibility		Nitra CPS9H-xx-x or CPS9C-xx-x			
Includes		Magnet			
Approvals		None			



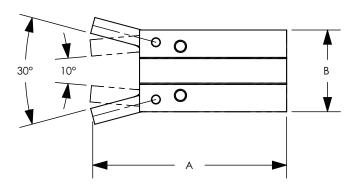
Click the above icon or scan the QR code to be taken to <u>www.automationdirect.</u> <u>com/selectors/pneumaticgripper</u> for our online Gripper Configuration Tool for turther selection assistance.

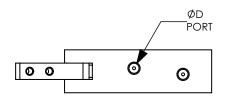


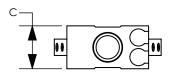
Pneumatic Gripper - Angular (Side Mount Grip)

Dimensions

mm [inches]







Pneumatic Gripper Dimensions								
Part #	A	В	С	ØD				
<u>KA06MD-M</u>	47.5 [1.87]	20.0 [0.79]	10.5 [0.41]	M3 x 0.5				
KA10MD-M	52.5 [2.07]	23.0 [0.91]	16.5 [0.65]	M3 x 0.5				
<u>KA16MD-M</u>	62.5 [2.46]	30.5 [1.20]	23.5 [0.93]	M5 x 0.8				
<u>KA20MD-M</u>	78.0 [3.07]	42.0 [1.65]	27.5 [1.08]	M5 x 0.8				
KA25MD-M	92.0 [3.62]	52.0 [2.05]	33.5 [1.32]	M5 x 0.8				
<u>KA32MD-M</u>	96.5 [3.80]	60.0 [2.36]	40.0 [1.57]	M5 x 0.8				



Pneumatic Gripper - Angular (Side Mount Grip)

Single Acting - Normally Open



KAO6MSA-M

NITRA Pneumatics grippers are an excellent choice for many automation applications. They are available in both parallel and angular travels in seven different body sizes. Grippers are either double acting, single acting normally closed or single acting normally open. Anodized aluminum bodies include integral mounting slots for position switches.

Features

- Six sizes available (6 to 32mm bore)
- Double acting or single acting N.O.
- Anodized aluminum bodies
- Position switch ready with integral mounting slots



	NITRA Pneumatic Gripper - Angular - Normally Open									
Part No.	Description	Style	Action	Size - Bore (mm)	Position	Grip	Body	Port(s)	Price	Weight (lbs)
<u>KA06MSA-M</u>			Single acting,	6	30 degrees open, -10 degrees closed	Side mount grip	Anodized aluminum	M3 x 0.5	\$79.00	0.1
<u>KA10MSA-M</u>		'RA pneumatic gripper Angular		10					\$112.00	0.2
<u>KA16MSA-M</u>	NITRA pneumatic			16					\$115.00	0.3
<u>KA20MSA-M</u>	gripper		normally open	20					\$138.00	0.5
<u>KA25MSA-M</u>				25					\$153.00	1.0
<u>KA32MSA-M</u>				32					\$172.00	1.9

NITRA Pneumatic Gripper Specifications				
Fluid		Air (clean/dry)		
Drocouro Dongo	6mm	45 to 101 psig (3.10 to 6.97 bar)		
Pressure Range	10mm to 32mm	36 to 101 psig (2.48 to 6.97 bar)		
Proof Pressure		175 psig		
Temperature Rang	<i>je</i>	-4°F to 160°F (-20°C to 60°C)		
Lubrication		Cylinder: not required - Jaws: grease regularly		
Cushion Type		Bumper		
Integrated Flow	6mm	N/A		
Control	10mm to 32mm	Standard - flow control in closing direction		
Maximum Freque	ncy	180 cycles/min		
Port Size		M3 x 0.5 (6mm to 10mm units) M5 x 0.8 (16mm to 32mm units)		
Sensor Switch Compatibility		Nitra CPS9H-xx-x or CPS9C-xx-x		
Includes		Magnet		
Approvals		None		



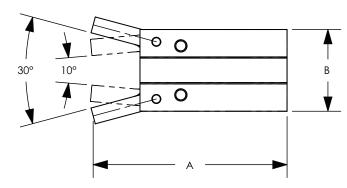
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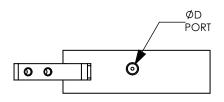


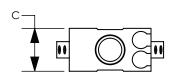
Pneumatic Gripper - Angular (Side Mount Grip)

Dimensions

mm [inches]







Pneumatic Gripper Dimensions						
Part #	A	В	С	ØD		
<u>KA06MSA-M</u>	47.5 [1.87]	20.0 [0.79]	10.5 [0.41]	M3 x 0.5		
<u>KA10MSA-M</u>	52.5 [2.07]	23.0 [0.91]	16.5 [0.65]	M3 x 0.5		
<u>KA16MSA-M</u>	62.5 [2.46]	30.5 [1.20]	23.5 [0.93]	M5 x 0.8		
KA20MSA-M	78.0 [3.07]	42.0 [1.65]	27.5 [1.08]	M5 x 0.8		
<u>KA25MSA-M</u>	92.0 [3.62]	52.0 [2.05]	33.5 [1.32]	M5 x 0.8		
<u>KA32MSA-M</u>	96.5 [3.80]	60.0 [2.36]	40.0 [1.57]	M5 x 0.8		

See our website <u>www.AutomationDirect.com</u> for complete Engineering drawings.



CPS Series Cylinder Position Switches

The NITRA CPS Series of cylinder position switches offers a robust, yet cost-effective, interface between pneumatic or hydraulic actuators and electrical control systems. Using state-of-the-art magnetic sensing technology, these switches are designed for use with cylinders that have a magnet incorporated in the cylinder piston. They can be used to provide cylinder position indication, cycle count, or to confirm operation.

NITRA cylinder position switches are now available in nine styles with accessories to fit many different styles of cylinders or actuators. The switches are designed for general purpose applications on most popular cylinder brands with sensor grooves, on round body cylinders using CPSB Series mounting bands or on tie rod cylinders using CPSA Series adapters. Harsh duty applications can use the CPSF Series switches with CPSS stainless steel mounting bands if needed. NITRA cylinder position switches are available in 3-wire DC, PNP normally open, PNP normally closed, and NPN normally open electronic solid state configurations. Switches include integral cable with either an M8 or M12 wiring connector or wire leads. Integral LED indication provides switch status for speedy switch positioning and troubleshooting. Pre-tested for use with NITRA pneumatic cylinders, these switches are also suitable for use with other brands of cylinders with magnetic pistons.

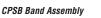
Features

- Electronic switch output, PNP (normally open or normally closed) or NPN (normally open)
- Solid state reliability, no moving parts for longer life
- AMR sensing technology with small hysteresis for precise sensing
- GMR sensing technology for basic industrial applications
- Compact and easy to mount on round body, tie rod, and extruded body cylinders
- LED switch status indication
- Integral cable with M8 or M12 wiring connector or 2-meter wire leads
- Electronic switch performance at reed switch prices









Technology Comparison

CPSA Adapter Assembly



E-series cylinder with switch

	Reed Switch vs. AutomationDirect CPS Series Electronic Switch					
Mechanical Reed Switch AutomationDirect CPS Series Electronic Switch De		Details				
Durability	low (1-2 million cycles typical)	high (virtually unlimited number of cycles)	Reed switchs can stick, break, bounce and are prone to wear			
Repeatability	low	high	Mechanical wear of reed switches can lead to switch point drift			
Response time	low	high	Reed switches have a slower response time than electronic switches, resulting in lower switch accuracy			
Sensitivity to magnetic fields	low	high	Electronic sensors, more sensitive than reed switches, operate reliably even with weak magnetic fields			
Temperature stability	high	high	Both switch technologies are extremely stable over the entire temperature range			
Longevity	low	high	Electronic sensors are insensitive to long term effects of magnetic fields. Reed switches can become permanently magnetized over time.			
Response sensitivity	medium	high	Electronic sensors have small hysteresis and are exceptional for short stroke cylinders			
Price	low	low	Reed switches are usually much less expensive than electronic switches. The AutomationDirect CPS Series offers all the advantages of an electronic cylinder position switch at reed switch prices.			

AMR vs. GMR Technology

Two solid state magnetic sensing technologies used for pneumatic cylinder position are GMR (Giant Magnetoresistive) and AMR (Anisotropic Magnetoresistive). Both sensing technologies consist of layers of ferromagnetic material that change in electrical resistance when exposed to an external magnetic field. AMR based switches have a higher sensitivity and narrower sensing field compared to less expensive GMR based switches. AMR switches are a better choice for cylinders with short strokes. For the latest prices, please check AutomationDirect.com



CPS Series Cylinder Position Switches

Position Switch Cross Reference Chart					
NITRA Switch Type	Cylinder Brand (may fit some of these cylinders)	Photo Example	Groove Illustration		
CPS CPSF	NITRA A-Series, D-Series, F-Series		Round Cylinde (CPSB or CPSS Series)		
CPS9C	DE-STA-CO Robohand SMC Compact Air		2.53 Min. +/- 0.1 R 2.13 +/- 0.05		
CPS9D	Fabco Numatics Rotomation				
CPS9F	NITRA G-Series Fabco Festo Numatics Rotomation				
СРЅ9Н	NITRA E-Series NITRA H-Series				
CPS9M	Norgren		5.1 +/-0.1 5.1 +/-0.1 R 3.25		
CPS9Q	NITRA G-Series Parker				
CPS9T	SMC				

For the latest prices, please check AutomationDirect.com



CPS Series Cylinder Position Switches

NITRA CPS Series cylinder position switches use AMR sensing technology for use with cylinders having a magnetic piston. The switches are deisigned to mount on cylinders with a 5mm square T-slot channel. Using CPSA adapters or CPSB mounting bands, they can be used with tie rod or round body style cylinders. 3-year warranty.



(**–** c



LOAD

DC+

LOAD

DC-

DC+

LOAD

DC-

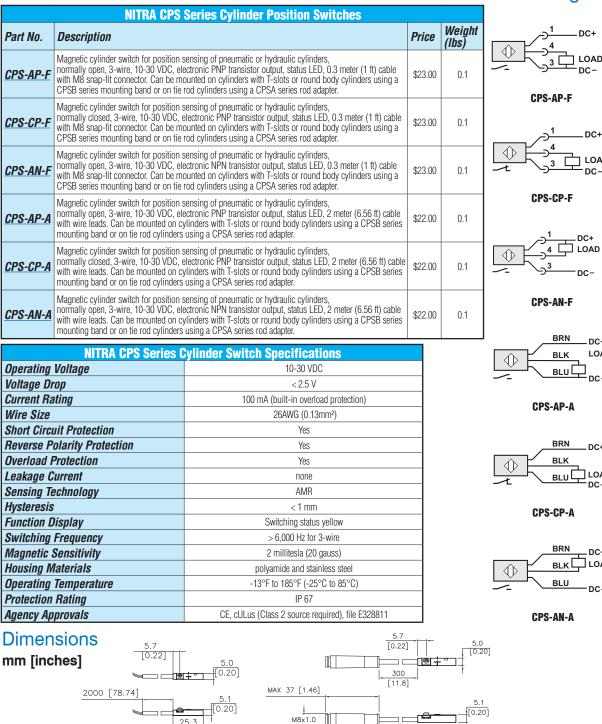
DC+

DC-

[1.00]

DC-

Wiring



CPS-xx-F

CPS-xx-A



CPSF Series Cylinder Position Switches

NITRA CPSF Series cylinder position switches are designed for food and beverage or washdown applications. The switches are designed to mount on cylinders with a 5mm square T-slot channel. Using CPSA adapters or CPSS all stainless steel mounting bands, they can be used with tie rod or round body style cylinders. 3-year warranty.



Weight



10-30 VDC

< 2.5 V

100 mA (built-in overload protection)

26AWG (0.13mm²)

Yes

Yes

Yes

none

AMR

< 1 mm

Switching status yellow

> 6,000 Hz for 3-wire

2 millitesla (20 gauss)

polyamide and stainless steel

-13°F to 185°F (-25°C to 85°C)

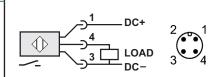
IP 69K

CE, cULus (Class 2 source required), file E328811

NITRA CPSF Series Cylinder Position Switches							
Part No.	Description	Price	Weigl (lbs)				
<u>CPSF-AP-H</u>	Magnetic cylinder switch for position sensing of pneumatic or hydraulic cylinders, IP69K, normally open, 3-wire, 10-30 VDC, electronic PNP transistor output, status LED, 0.3 meter (1 ft) cable with M12 con- nector. Can be mounted on cylinders with T-slots or round body cylinders using a CPSS series mounting band or on tie rod cylinders using a CPSA series rod adapter.	\$27.50	0.1				
<u>CPSF-AP-A</u>	Magnetic cylinder switch for position sensing of pneumatic or hydraulic cylinders, IP69K, normally open, 3-wire, 10-30 VDC, electronic PNP transistor output, status LED, 2 meter (6.56 ft) cable with wire leads. Can be mounted on cylinders with T-slots or round body cylinders using a CPSS series mounting band or on tie rod cylinders using a CPSA series rod adapter.	\$25.50	0.1				

NITRA CPSF Cylinder Switch Specifications

Wiring



CPSF-AP-H

	_	BRN	_DC+
	\checkmark	BLK	
	$\overline{\nabla}$	вго	
~_	~	210	DC-

CPSF-AP-A

Switching Frequency Magnetic Sensitivity Housing Materials **Operating Temperature** Protection Rating Agency Approvals

Dimensions

Operating Voltage

Short Circuit Protection

Overload Protection

Sensing Technology

Leakage Current

Function Display

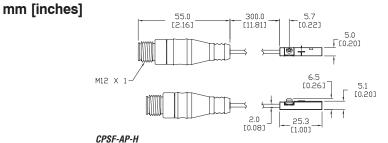
Hysteresis

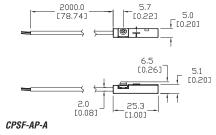
Reverse Polarity Protection

Voltage Drop

Wire Size

Current Rating







CPSA Series Cylinder Position Switches – Mounting Adapter

NITRA CPSA Series mounting adapters are made of extruded aluminum. They are used to mount CPS or CPSF series T-slot switches to tie rod style cylinders. They come in five sizes to fit tie rods from 1/8 inch [3mm] to 3/4 inch [20mm] diameter.

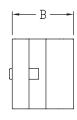
	NITRA Cylinder Switch Mounting Adapters					
Part No.	Description	Price	Weight (lbs)			
<u>CPSA-03</u>	Adapter bracket to secure a T-slot cylinder position switch to a 1/8 to 3/16 inch (3 to 5 mm) diameter tie rod	\$6.50	0.1			
<u>CPSA-04</u>	Adapter bracket to secure a T-slot cylinder position switch to a 3/16 to 1/4 inch (5 to 7mm) diameter tie rod	\$6.50	0.1			
<u>CPSA-07</u>	Adapter bracket to secure a T-slot cylinder position switch to a 3/16 to 7/16 inch (5 to 11 mm) diameter tie rod	\$6.50	0.1			
<u>CPSA-09</u>	Adapter bracket to secure a T-slot cylinder position switch to a 3/8 to 9/16 inch (9 to 15 mm) diameter tie rod	\$6.50	0.1			
<u>CPSA-12</u>	Adapter bracket to secure a T-slot cylinder position switch to a 9/16 to 3/4 inch (14 to 20 mm) diameter tie rod	\$7.75	0.1			





Dimensions mm [inches]

25.4 С



	[1.00]
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1	_ []

Cylinder Switch Mounting Adapter Selector*					
Nitra Cylinder Bore Size	<u>CPSA-04</u>	CPSA-07	CPSA-09		
1-1/2"	√	√			
2"		√			
2-1/2"		~			
3-1/4"		~	√		
4"		~	√		

CPSA-03 and CPSA-12 mounting adapters are for cylinder sizes that are not currently available.

CYLINDER POSITION SWITCHES				
	DIM A	DIM B	DIM C	DIM D
CPSA-03	15.5 [0.61]	22.0 [.086]	6.0 [0.24]	5.4 [0.21]
CPSA-04	18.5 [0.73]	24.5 [0.96]	7.5 [0.30]	5.5 [0.22]
CPSA-07	22.8 [0.90]	30.2 [1.19]	11.3 [0.44]	6.6 [0.26]
CPSA-09	25.9 [1.02]	34.2 [1.35]	15.3 [0.60]	6.6 [0.26]
CPSA-12	31.1 [1.22]	39.6 [1.56]	20.3 [0.80]	6.6 [0.26]

CPSA-XX

Assembly photo shows CPSA mounting adapter with T-slot cylinder position switch.

RA CPSB and CPSS Series Cylinder Position Switches - Mounting Bands

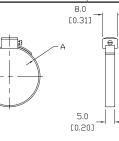
N	NITRA Cylinder Switch SS Mounting Bands with Plastic Caps						
Part No.	Description	Price	Weight (lbs)				
<u>CPSB-07</u>	Mounting band to secure a T-slot cylinder position switch to a 5/16 to 1/2 inch (8, 10, 12 mm) bore round body cylinder.	\$2.75	0.1				
<u>CPSB-14</u>	Mounting band to secure a T-slot cylinder position switch to a 9/16 to 7/8 inch (16 & 20 mm) bore round body cylinder.	\$3.00	0.1				
<u>CPSB-20</u>	Mounting band to secure a T-slot cylinder position switch to a 1-1/16 to 1-1/4 inch (25 & 32 mm) bore round body cylinder.	\$3.25	0.1				
<u>CPSB-24</u>	Mounting band to secure a T-slot cylinder position switch to a 1-1/2 inch (40 mm) bore round body cylinder.	\$3.50	0.1				
<u>CPSB-32</u>	Mounting band to secure a T-slot cylinder position switch to a 1-3/4 to 2 inch (50 mm) bore round body cylinder.	\$3.75	0.1				
<u>CPSB-40</u>	Mounting band to secure a T-slot cylinder position switch to a 2-1/2 inch (63 mm) bore round body cylinder	\$4.00	0.1				
<u>CPSB-52</u>	Mounting band to secure a T-slot cylinder position switch to a 3 inch (80 mm) bore round body cylinder	\$4.25	0.1				
<u>CPSB-64</u>	Mounting band to secure a T-slot cylinder position switch to a 4 inch (100 mm) bore round body cylinder	\$4.50	0.1				



	MITDA Culinder Switch All Clainless Steel M	unting De	
Part No.	NITRA Cylinder Switch All Stainless Steel Me Description	Price	Weight (Ibs)
<u>CPSS-07</u>	Stainless steel mounting band to secure a T-slot cylinder position switch to a 7/16 to 9/16 inch (10 to 16 mm) bore round body cylinder	\$6.00	0.1
<u>CPSS-14</u>	Stainless steel mounting band to secure a T-slot cylinder position switch to a 7/8 to 1-1/16 inch (20 to 25 mm) bore round body cylinder	\$6.25	0.1
<u>CPSS-20</u>	Stainless steel mounting band to secure a T-slot cylinder position switch to a 1-1/4 inch (32 mm) bore round body cylinder	\$6.50	0.1
<u>CPSS-24</u>	Stainless steel mounting band to secure a T-slot cylinder position switch to a 1-1/2 inch (40 mm) bore round body cylinder	\$6.75	0.1
<u>CPSS-32</u>	Stainless steel mounting band to secure a T-slot cylinder position switch to a 1-3/4 to 2 inch (50 mm) bore round body cylinder	\$7.25	0.1
<u>CPSS-40</u>	Stainless steel mounting band to secure a T-slot cylinder position switch to a 2-1/2 inch (63 mm) bore round body cylinder	\$7.50	0.1
<u>CPSS-52</u>	Stainless steel mounting band to secure a T-slot cylinder position switch to a 3 inch (80 mm) bore round body cylinder	\$7.75	0.1
<u>CPSS-64</u>	Stainless steel mounting band to secure a T-slot cylinder position switch to a 4 inch (100 mm) bore round body cylinder	\$8.00	0.1
	8.0		

Dimensions mm [inches]

1-800-633-0405



CYLINDER POSITION SWITCHES					
PART #	DIM A	PART #	DIM A		
CPSX-07	ø11.0-ø19.0 [ø0.43-ø0.75]	CPSX-32	Ø48.0-Ø59.0 [Ø1.89-Ø2.32]		
CPSX-14	ø18.0-ø29.0 [ø0.71-ø1.14]	CPSX-40	Ø58.0-Ø69.0 [Ø2.28-Ø2.72]		
CPSX-20	ø28.0-ø39.0 [ø1.10-ø1.54]	CPSX-52	Ø78.0-Ø89.0 [Ø3.07-Ø3.50]		
CPSX-24	ø38.0-ø49.0 [ø1.50-ø1.93]	CPSX-64	ø98.0-ø109.0 [ø3.86-ø4.29]		

CPSX-XX





CPS9C Series Cylinder Position Switches

CPS9C NITRA Series cylinder position switches are general switches for use with purpose cylinders having a magnetic piston. The switches are designed to mount on cylinders with 4mm round slots. Position is fixed by using the supplied screw that is embedded in the switch body.

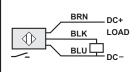


CE ROHS

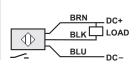


Wiring

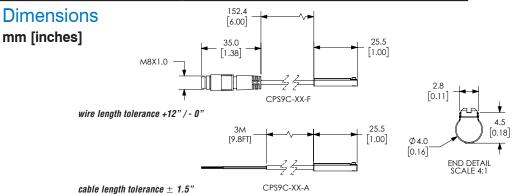
NITRA CPS9C Series Cylinder Position Switches				
Part No.	Description	Price	Weight (lbs)	
CPS9C-AP-A	Pneumatic cylinder switch, for position sensing, magnetic, round, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 4mm round slots.	\$16.50	0.2	
<u>CPS9C-AN-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, round, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 4mm round slots.	\$16.50	0.2	
<u>CPS9C-AP-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, round, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 4mm round slots.	\$16.50	0.2	
<u>CPS9C-AN-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, round, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 4mm round slots.	\$16.50	0.2	



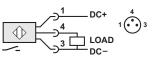
CPS9C-AP-A



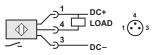
NITRA CPS9C Series Cylinder Switch Specifications			
Operating Voltage	5-28 VDC		
Voltage Drop	2.5 V @ 40 mA		
Current Rating	0.5 Amps Max.		
Wire Size	26AWG (0.14mm ²)		
Cable Diameter	2.7 mm		
Switching Power	14 watts Max.		
Short Circuit Protection	No		
Reverse Polarity Protection	Yes		
Overload Protection	No		
Leakage Current	< 0.01 mA		
Sensing Technology	GMR		
Off Delay Time	150-200 ms		
Function Display	PNP switching status yellow / NPN switching status red		
Switching Frequency	< 1000 Hz		
Magnetic Sensitivity	4.0 millitesla (40 gauss)		
Housing Materials	Cable = PVC (Polyvinyl Chloride) / Sensor = PBT (Polybutylene Terephthalate), TPU (Thermoplastic Polyurethane)		
Operating Temperature	-14°F to 158°F (-10°C to 70°C)		
Protection Rating	NEMA 6 / IP 67		
Agency Approvals	CE, RoHS, REACH		







CPS9C-AP-F



CPS9C-AN-F

mm [inches]



CPS9D Series Cylinder Position Switches

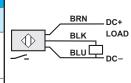
NITRA CPS9D Series cylinder position switches are general purpose switches for use with cylinders having a magnetic piston. The switches are designed to mount on cylinders with 1/4 inch 60 degree dovetail slots. The switches can be used with the CPS9D series dovetail adapters for mounting.



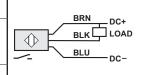


Wiring

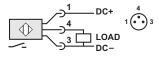
NITRA CPS9D Series Cylinder Position Switches				
Part No.	Description	Price	Weight (lbs)	
<u>CPS9D-AP-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, dovetail, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 1/4 inch 60 degree dovetail slots or other dovetail grooves using CPS9D-D adapters.	\$15.00	0.2	
<u>CPS9D-AN-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, dovetail, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 1/4 inch 60 degree dovetail slots or other dovetail grooves using CPS9D-D adapters.	\$15.00	0.2	
<u>CPS9D-AP-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, dovetail, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 1/4 inch 60 degree dovetail slots or other dovetail grooves using CPS9D-D adapters.	\$15.00	0.2	
<u>CPS9D-AN-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, dovetail, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 1/4 inch 60 degree dovetail slots or other dovetail grooves using CPS9D-D adapters.	\$15.00	0.2	



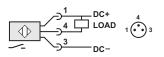
CPS9D-AP-A



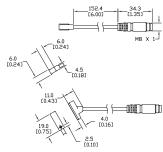
CPS9D-AN-A



CPS9D-AP-F



CPS9D-AN-F

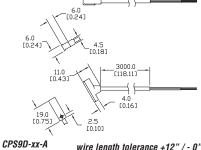


CPS9D-xx-F cable length tolerance \pm 1.5"

NITRA CPS9D Series	Cylinder Switch Specifications
Operating Voltage	5-28 VDC
Voltage Drop	1.0 V
Current Rating	0.2 Amps Max.
Wire Size	26AWG (0.13mm ²)
Switching Power	4.8 watts Max.
Switching Speed	4µs operate / 4µs release
Short Circuit Protection	No
Reverse Polarity Protection	Yes
Overload Protection	No
Leakage Current	< 0.01 mA
Sensing Technology	GMR
Off Delay Time	150-200 ms
Function Display	PNP switching status yellow / NPN switching status red
Switching Frequency	< 1000 Hz
Magnetic Sensitivity	2.5 millitesla (25 gauss)
Housing Materials	Zytel
Operating Temperature	-4°F to 176°F (-20°C to 80°C)
Protection Rating	NEMA 6 / IP 67
Agency Approvals	CE, RoHS, REACH

Dimensions

mm [inches]



wire length tolerance +12" / - 0"

For the latest prices, please check AutomationDirect.com



CPS9D Series Cylinder Position

Switch – Accessories

Accessories





CPS9D-D12M

CPS9D-D14M

CPS9D-D38

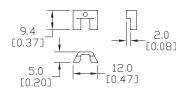


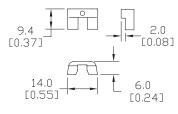
Photo example shows a CPS9D switch mounted in a dovetail groove adapter.

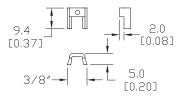
NITRA CPS9D Series Cylinder Position Switch Accessories				
Part No.	Description	Price	Weight (Ibs)	
<u>CPS9D-D12M</u>	Dovetail groove adapter, mounts a CPS9D cylinder position switch in a 12mm 60 degree dovetail slot	\$2.00	0.2	
<u>CPS9D-D14M</u>	Dovetail groove adapter, mounts a CPS9D cylinder position switch in a 14mm 60 degree dovetail slot	\$1.75	0.2	
<u>CPS9D-D38</u>	Dovetail groove adapter, mounts a CPS9D cylinder position switch in a 3/8 inch 60 degree dovetail slot	\$1.75	0.2	

Dimensions

mm [inches]







CPS9D-D12M

CPS9D-D14M

CPS9D-D38



CPS9F Series Cylinder Position Switches

NITRA CPS9F Series cylinder position switches are general purpose switches for use with cylinders having a magnetic piston. The switches are designed to mount on cylinders with 6.5 x 3.2 mm T-slots.



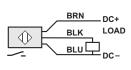


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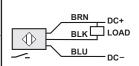




NITRA CPS9F Series Cylinder Position Switches				
Part No.	Description	Price	Weight (lbs)	
<u>CPS9F-AP-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 6.5 x 3.2 mm T-slots.	\$17.00	0.2	
<u>CPS9F-AN-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 6.5 x 3.2 mm T-slots.	\$17.00	0.2	
<u>CPS9F-AP-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 6.5 x 3.2 mm T-slots.	\$17.00	0.2	
<u>CPS9F-AN-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 6.5 x 3.2 mm T-slots.	\$17.00	0.2	

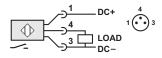


CPS9F-AP-A

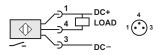


NITRA CPS9F Series	Cylinder Switch Specifications
Operating Voltage	5-28 VDC
Voltage Drop	1.0 V
Current Rating	0.2 Amps Max.
Wire Size	26AWG (0.13mm ²)
Switching Power	4.8 watts Max.
Switching Speed	4µs operate / 4µs release
Short Circuit Protection	No
Reverse Polarity Protection	Yes
Overload Protection	No
Leakage Current	< 0.01 mA
Sensing Technology	GMR
Off Delay Time	150-200 ms
Function Display	PNP switching status yellow / NPN switching status red
Switching Frequency	< 1000 Hz
Magnetic Sensitivity	2.5 millitesla (25 gauss)
Housing Materials	Zytel
Operating Temperature	-4°F to 176°F (-20°C to 80°C)
Protection Rating	NEMA 6 / IP 67
Agency Approvals	CE, RoHS, REACH

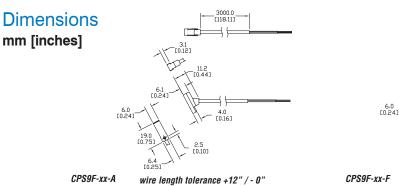


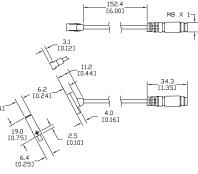


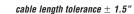
CPS9F-AP-F



CPS9F-AN-F











CPS9H Series Cylinder Position Switches

NITRA CPS9H Series cylinder position switches are general purpose switches for use with cylinders having a magnetic piston. The switches are designed to mount on cylinders with 4mm square T-slots.





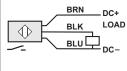
CE Rons

CPS9H-AP-A

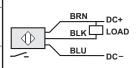
CPS9H-AP-F

Wiring

NITRA CPS9H Series Cylinder Position Switches				
Part No.	Description	Price	Weight (lbs)	
<u>CPS9H-AP-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, square, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 4mm square T-slots.	\$23.50	0.2	
<u>CPS9H-AN-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, square, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 4mm square T-slots.	\$23.50	0.2	
<u>CPS9H-AP-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, square, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 4mm square T-slots.	\$23.50	0.2	
<u>CPS9H-AN-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, square, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 4mm square T-slots.	\$23.50	0.2	

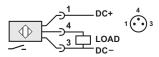


CPS9H-AP-A

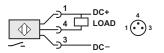


NITRA CPS9H Series	Cylinder Switch Specifications
Operating Voltage	5-28 VDC
Voltage Drop	0.5 V @ 200 mA
Current Rating	0.2 Amps Max.
Wire Size	26AWG (0.13mm ²)
Switching Power	4.8 watts Max.
Short Circuit Protection	No
Reverse Polarity Protection	Yes
Overload Protection	No
Leakage Current	< 0.01 mA
Sensing Technology	GMR
Off Delay Time	150-200 ms
Function Display	PNP switching status green / NPN switching status red
Switching Frequency	< 1000 Hz
Magnetic Sensitivity	4 millitesla (40 gauss)
Housing Materials	ABS
Operating Temperature	-14°F to 158°F (-10°C to 70°C)
Protection Rating	NEMA 6 / IP 67
Agency Approvals	CE, RoHS, REACH



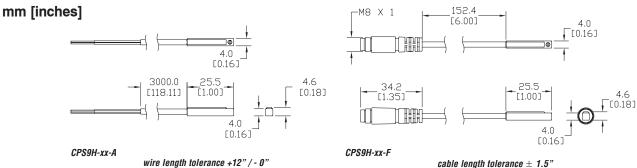


CPS9H-AP-F



CPS9H-AN-F

Dimensions





CPS9M Series Cylinder Position Switches

NITRA CPS9M Series cylinder position switches are general purpose switches for use with cylinders having a magnetic piston. The switches are designed to mount on cylinders with 1/4 inch round slots.

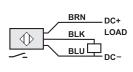




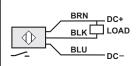


NITRA CPS9M Series Cylinder Position Switches				
Part No.	Description	Price	Weight (lbs)	
<u>CPS9M-AP-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, round, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 1/4 inch round slots.	\$18.00	0.2	
<u>CPS9M-AN-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, round, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 1/4 inch round slots.	\$18.00	0.2	
CPS9M-AP-F	Pneumatic cylinder switch, for position sensing, magnetic, round, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 1/4 inch round slots.	\$18.00	0.2	
<u>CPS9M-AN-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, round, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 1/4 inch round slots.	\$18.00	0.2	

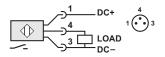




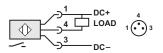
CPS9M-AP-A



CPS9M-AN-A



CPS9M-AP-F

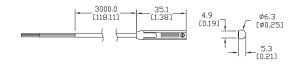


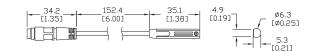
CPS9M-AN-F

NITRA CPS9M Series	Cylinder Switch Specifications
Operating Voltage	5-28 VDC
Voltage Drop	1.0 V @ 200 mA
Current Rating	0.2 Amps Max.
Wire Size	26AWG (0.13mm ²)
Switching Power	4.8 watts Max.
Short Circuit Protection	No
Reverse Polarity Protection	Yes
Overload Protection	No
Leakage Current	< 0.01 mA
Sensing Technology	GMR
Off Delay Time	150-200 ms
Function Display	PNP switching status yellow / NPN switching status red
Switching Frequency	< 1000 Hz
Magnetic Sensitivity	2.5 millitesla (25 gauss)
Housing Materials	ABS
Operating Temperature	-14°F to 158°F (-10°C to 70°C)
Protection Rating	NEMA 6 / IP 67
Agency Approvals	CE, RoHS, REACH



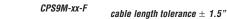
mm [inches]





CPS9M-xx-A

wire length tolerance +12" / - 0"



www.automationdirect.com



CPS9Q Series Cylinder Position Switches

NITRA CPS9Q Series cylinder position switches are general purpose switches for use with cylinders having a magnetic piston. The switches are designed to mount on cylinders with a 6.5 x 3.2 mm T-slot channel.

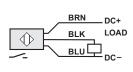




CE ROHS

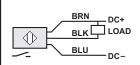
CPS9Q-AP-F

	NITRA CPS9Q Series Cylinder Position Switches		
Part No.	Description	Price	Weight (lbs)
<u>CPS9Q-AP-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Low profile housing that can be mounted on cylinders with 6.5 x 3.2 mm T-slots.	\$18.50	0.2
<u>CPS9Q-AN-A</u>	Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Low profile housing that can be mounted on cylinders with 6.5 x 3.2 mm T-slots.	\$18.50	0.2
<u>CPS9Q-AP-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Low profile housing that can be mounted on cylinders with 6.5 x 3.2 mm T-slots.	\$18.50	0.2
<u>CPS9Q-AN-F</u>	Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Low profile housing that can be mounted on cylinders with 6.5 x 3.2 mm T-slots.	\$18.50	0.2



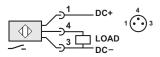
Wiring

CPS9Q-AP-A

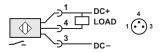


NITRA CPS9Q Series	Cylinder Switch Specifications
Operating Voltage	5-28 VDC
Voltage Drop	1.0 V
Current Rating	0.2 Amps Max.
Wire Size	26AWG (0.13mm ²)
Switching Power	4.8 watts Max.
Switching Speed	4µs operate / 4µs release
Short Circuit Protection	No
Reverse Polarity Protection	Yes
Overload Protection	No
Leakage Current	< 0.01 mA
Sensing Technology	GMR
Off Delay Time	150-200 ms
Function Display	PNP switching status yellow / NPN switching status red
Switching Frequency	< 1000 Hz
Magnetic Sensitivity	2.5 millitesla (25 gauss)
Housing Materials	Ultem
Operating Temperature	-4°F to 176°F (-20°C to 80°C)
Protection Rating	NEMA 6 / IP 67
Agency Approvals	CE, RoHS, REACH





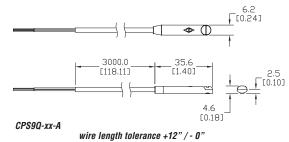
CPS9Q-AP-F

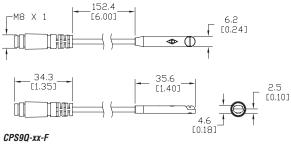


CPS9Q-AN-F

Dimensions

mm [inches]





cable length tolerance \pm 1.5"



CPS9T Series Cylinder Position Switches

NITRA CPS9T Series cylinder position switches are general purpose switches for use with cylinders having a magnetic piston. The switches are designed to mount on cylinders with 7.2 x 3.9 mm T-slots.

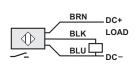




(E ROHS

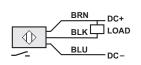
CPS9T-AP-F

NITRA CPS9T Series Cylinder Position Switches Weight Part No. Description Price (lbs) Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic PNP transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can CPS9T-AP-A \$33.50 0.2 be mounted on cylinders with 7.2 x 3.9 mm T-slots. Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic NPN transistor output, status LED, 9.8 ft. (3.0m) cable with wire leads. Can be mounted on cylinders with 7.2 x 3.9 mm T-slots. CPS9T-AN-A \$33.50 02 Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, 5-28 VDC, electronic PMP transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 7.2 x 3.9 mm T-slots. CPS9T-AP-F \$33.50 0.2 Pneumatic cylinder switch, for position sensing, magnetic, rectangular, normally open, 3-wire, CPS9T-AN-F 5-28 VDC, electronic NPN transistor output, status LED, 0.5 ft. (0.15m) cable with M8 snap-fit connector. Can be mounted on cylinders with 7.2 x 3.9 mm T-slots. \$33.50 0.2

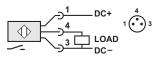


Wiring

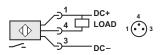
CPS9T-AP-A



CPS9T-AN-A



CPS9T-AP-F

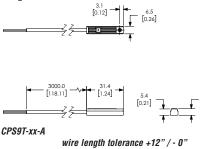


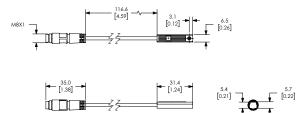
CPS9T-AN-F

NITRA CPS9T Series Cylinder Switch Specifications **Operating Voltage** 5-28 VDC Voltage Drop 0.5 V @ 200 mA **Current Rating** 0.2 Amps Max Wire Size 26AWG (0.13mm²) Switching Power 4.8 watts Max. Short Circuit Protection No Reverse Polarity Protection Yes **Overload Protection** No Leakage Current < 0.01 mA Sensing Technology GMR Off Delay Time 150-200 ms Function Display PNP switching status green / NPN switching status red Switching Frequency < 1000 Hz Magnetic Sensitivity 4 millitesla (40 gauss) Housing Materials ABS -14°F to 158°F (-10°C to 70°C) **Operating Temperature** Protection Rating NEMA 6 / IP 67 Agency Approvals CE, RoHS, REACH

Dimensions







CPS9T-xx-F

cable length tolerance \pm 1.5"





NITRA[™] polyurethane (PUR) tubing is made from the highest quality, 100% virgin raw materials available and has a hardness specification of Shore A 98. It is ether based to provide excellent hydrolysis, oil and cold resistance. NITRA polyurethane tubing is strong, flexible, and offers superior kink resistance compared to other tubing. With its extremely tight outside diameter tolerance, NITRA polyurethane tubing is ideal for use with NITRA push-to-connect fittings.

Features

- Inch and metric sizes available
- Seven colors black, blue, clear, red, yellow, clear blue, and dark green (UV stabilized)
- 100 foot and 500 foot package sizes, 100 and 250 foot package sizes for the PU16M series
- Shore A 98 hardness
- Strong, flexible and kink resistant
- Made in USA

Color Key Standard Tubing UV Stabilized Tubing

• UV stabilized tubing is excellent for outdoor use

	Polyurethane 1/8 in. Tubing Specifications									
Outside Diamete	er (in.)	0.125	Working Pressure (psi	Working Pressure (psi) @ 70°F		Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter	(in.)	0.062	Burst Pressure (psi)	Burst Pressure (psi)		Hardness	Shore A 98			
Wall Thickness	(in.)	0.031	Vacuum Rating	acuum Rating		Bend Radius (in.)	0.200			
	100 ft. Package Length 500 ft. Reel Length									
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)			
PU18BLK100	\$18.50	Black		PU18BLK500	\$89.00	Black				
PU18BLU100	\$18.50	Blue		PU18BLU500	\$89.00	Blue				
<u>PU18CLR100</u>	\$18.50	Clear		PU18CLR500	\$89.00	Clear				
PU18CBL100	\$18.50	Clear Blue	0.5				2.5			
PU18RED100	\$18.50	Red]							
PU18YEL100	\$18.50	Yellow]							
<u>UV18GRN100</u>	\$24.00	Dark Green								

	Polyurethane 5/32 in. (4 mm) Tubing Specifications									
Outside Diamete	r (in.)	0.156	Working Pressure (psi	Working Pressure (psi) @ 70°F		Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter	(in.)	0.093	Burst Pressure (psi)		600	Hardness	Shore A 98			
Wall Thickness (in.)	0.031	Vacuum Rating		To 28" Hg	Bend Radius (in.)	0.250			
100 ft. Package Length 500 ft. Reel Length										
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)			
PU532BLK100	\$14.00	Black		PU532BLK500	\$66.00	Black				
PU532BLU100	\$14.00	Blue		PU532BLU500	\$66.00	Blue				
PU532CLR100	\$14.00	Clear		PU532CLR500	\$66.00	Clear				
PU532CBL100	\$14.00	Clear Blue	1.0	PU532CBL500	\$66.00	Clear Blue	4.0			
PU532RED100	\$14.00	Red		PU532RED500	\$66.00	Red				
PU532YEL100	\$14.00	Yellow	-	PU532YEL500	\$66.00	Yellow				
<u>UV532GRN100</u>	\$16.50	Dark Green		UV532GRN500	\$80.00	Dark Green				



			Polyurethane 1/4 in.	. Tubing Specificat	ions		
Outside Diamete	r (in.)	0.250	Working Pressure (psi	Working Pressure (psi) @ 70°F		Temp. Range	-40°F to +160°F (-40°C to +71°C)
Inside Diameter	(in.)	0.156	Burst Pressure (psi)		540	Hardness	Shore A 98
Wall Thickness (in.)	0.047	Vacuum Rating		To 28" Hg	Bend Radius (in.)	0.476
100 ft. Package Length 500 ft. Reel Length							
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU14BLK100	\$24.50	Black		PU14BLK500	\$119.00	Black	
<u>PU14BLU100</u>	\$24.50	Blue		PU14BLU500	\$119.00	Blue	
<u>PU14CLR100</u>	\$24.50	Clear		PU14CLR500	\$119.00	Clear	
<u>PU14CBL100</u>	\$24.50	Clear Blue	2.0	PU14CBL500	\$119.00	Clear Blue	8.0
PU14RED100	\$24.50	Red		PU14RED500	\$119.00	Red	
<u>PU14YEL100</u>	\$24.50	Yellow		PU14YEL500	\$119.00	Yellow	
UV14GRN100	\$28.50	Dark Green		<u>UV14GRN500</u>	\$140.00	Dark Green	

	Polyurethane 3/8 in. Tubing Specifications									
Outside Diamete	r (in.)	0.375	Working Pressure (psi	Working Pressure (psi) @ 70°F		Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter	(in.)	0.250	Burst Pressure (psi)		450	Hardness	Shore A 98			
Wall Thickness (in.)	0.063	Vacuum Rating	Vacuum Rating		Bend Radius (in.)	1.00			
100 ft. Package Length 500 ft. Reel Length										
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)			
PU38BLK100	\$50.00	Black		PU38BLK500	\$245.00	Black				
<u>PU38BLU100</u>	\$50.00	Blue		PU38BLU500	\$245.00	Blue				
<u>PU38CLR100</u>	\$50.00	Clear		PU38CLR500	\$245.00	Clear				
PU38CBL100	\$50.00	Clear Blue	3.0	PU38CBL500	\$245.00	Clear Blue	16.0			
PU38RED100	\$50.00	Red		PU38RED500	\$245.00	Red				
PU38YEL100	\$50.00	Yellow	-	PU38YEL500	\$245.00	Yellow				
<u>UV38GRN100</u>	\$59.00	Dark Green		UV38GRN500	\$287.00	Dark Green				

	Polyurethane 1/2 in. Tubing Specifications									
Outside Diamete	er (in.)	0.500	Working Pressure (psi	Working Pressure (psi) @ 70°F		Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter	(in.)	0.328	Burst Pressure (psi)		450	Hardness	Shore A 98			
Wall Thickness (in.)	0.086	Vacuum Rating	Vacuum Rating		Bend Radius (in.)	1.102			
100 ft. Package Length 500 ft. Reel Length										
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)			
PU12BLK100	\$92.00	Black		PU12BLK500	\$448.00	Black				
PU12BLU100	\$92.00	Blue		PU12BLU500	\$448.00	Blue				
PU12CLR100	\$92.00	Clear								
PU12CBL100	\$92.00	Clear Blue	6.0	PU12CLR500	\$448.00	Clear	29.0			
PU12RED100	\$92.00	Red								
PU12YEL100	\$92.00	Yellow								
<u>UV12GRN100</u>	\$107.00	Dark Green								



	Polyurethane 6 mm Tubing Specifications									
Outside Diamete	r (mm)	6.0	Working Pressure (psi	Vorking Pressure (psi) @ 70°F		Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter	(mm)	4.0	Burst Pressure (psi)		540	Hardness	Shore A 98			
Wall Thickness (mm)	1.0	Vacuum Rating	acuum Rating		Bend Radius (mm)	12.0			
	100 ft.	Package Leng	th		500 ft.	Reel Length				
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)			
PU6MBLK100	\$24.50	Black		PU6MBLK500	\$118.00	Black				
PU6MBLU100	\$24.50	Blue		PU6MBLU500	\$118.00	Blue				
PU6MCLR100	\$24.50	Clear		PU6MCLR500	\$118.00	Clear				
PU6MCBL100	\$24.50	Clear Blue	2.0	PU6MCBL500	\$118.00	Clear Blue	7.0			
PU6MRED100	\$24.50	Red		PU6MRED500	\$118.00	Red				
PU6MYEL100	\$24.50	Yellow	-	PU6MYEL500	\$118.00	Yellow				
UV6MGRN100	\$28.00	Dark Green		UV6MGRN500	\$138.00	Dark Green				

	Polyurethane 8 mm (5/16 in.) Tubing Specifications									
Outside Diamete	r (mm)	8.0	Working Pressure (psi	Working Pressure (psi) @ 70°F		Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter	(mm)	5.0	Burst Pressure (psi)		525	Hardness	Shore A 98			
Wall Thickness (mm)	1.5	Vacuum Rating		To 28" Hg	Bend Radius (mm)	15.0			
	100 ft.	Package Leng	th		500 ft.	Reel Length				
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)			
PU8MBLK100	\$37.50	Black		PU8MBLK500	\$183.00	Black				
PU8MBLU100	\$37.50	Blue		PU8MBLU500	\$183.00	Blue				
PU8MCLR100	\$37.50	Clear		PU8MCLR500	\$183.00	Clear				
PU8MCBL100	\$37.50	Clear Blue	3.0				12.0			
PU8MRED100	\$37.50	Red								
PU8MYEL100	\$37.50	Yellow								
UV8MGRN100	\$44.00	Dark Green								

	Polyurethane 10 mm Tubing Specifications										
Outside Diamete	r (mm)	10.0	Working Pressure (psi	Vorking Pressure (psi) @ 70°F		Temp. Range	-40°F to +160°F (-40°C to +71°C)				
Inside Diameter	(mm)	6.5	Burst Pressure (psi)		450	Hardness	Shore A 98				
Wall Thickness (mm)	1.75	Vacuum Rating		To 28" Hg	Bend Radius (mm)	25.0				
	100 ft.	Package Leng	th		500 ft.	Reel Length					
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)				
PU10MBLK100	\$52.00	Black		PU10MBLK500	\$252.00	Black					
PU10MBLU100	\$52.00	Blue		PU10MBLU500	\$252.00	Blue					
PU10MCLR100	\$52.00	Clear		PU10MCLR500	\$252.00	Clear					
<u>PU10MCBL100</u>	\$52.00	Clear Blue	4.0	PUTUMULNOUU	φ202.00	Glear	18.0				
PU10MRED100	\$52.00	Red									
PU10MYEL100	\$52.00	Yellow									
UV10MGRN100	\$59.00	Dark Green									



			Polyurethane 12 mm	Tubing Specificati	ions		
Outside Diamete	er (mm)	12.0	Working Pressure (psi	Working Pressure (psi) @ 70°F		Temp. Range	-40°F to +160°F (-40°C to +71°C)
Inside Diameter	(mm)	8.0	Burst Pressure (psi)		450	Hardness	Shore A 98
Wall Thickness ('mm)	2.0	Vacuum Rating		To 28" Hg	Bend Radius (mm)	28.0
	100 ft.	Package Leng	th				
Part Number	Price	Color	Package Weight (lbs)				
PU12MBLK100	\$89.00	Black					
PU12MBLU100	\$89.00	Blue					
PU12MCLR100	\$89.00	Clear					
PU12MCBL100	\$89.00	Clear Blue	5.0				
PU12MRED100	\$89.00	Red					
PU12MYEL100	\$89.00	Yellow					
<u>UV12MGRN100</u>	\$104.00	Dark Green					

	Polyurethane 16 mm Tubing Specifications									
Outside Diamete	r (mm)	16.0	Working Pressure (psi) @ 70°F		150	Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter	(mm)	11.0	Burst Pressure (psi)	Burst Pressure (psi)		Hardness	Shore A 98			
Wall Thickness (mm)	2.5	Vacuum Rating	Vacuum Rating		Bend Radius (mm)	30.0			
	100 ft. Package Length									
Part Number	Price	Color	Package Weight (lbs)							
PU16MBLK100	\$152.00	Black								
PU16MBLU100	\$152.00	Blue	0.05							
PU16MCLR100	\$152.00	Clear	8.35							
PU16MCBL100	\$152.00	Clear Blue								

NITRA Pneumatic Tubing Accessories

	Pneumatic Tubing Cutter										
Part Number	Description	Pcs/Pkg	Package Weight (lbs)	Price							
<u>TC-12</u>	NITRA pneumatic tubing cutter for use with 1/8 to 1/2 inch and 4 to 12 mm outside diameter flexible plastic tubing.	1	0.1	\$4.75							
<u>TC-20</u>	NITRA pneumatic heavy duty tubing cutter for use with polyurethane, nylon and other flexible tubing up to 2 inch [50mm] outside diameter.	1	0.2	\$9.75							











Nylon Pneumatic Tubing

NITRA nylon 12 tubing is made from the highest quality, 100% virgin raw materials and has a hardness specification of Shore D 70. Nylon tubing is recognized as an industry standard for applications which require higher working pressures and better heat/chemical resistance than polyurethane. NITRA nylon 12 tubing is strong, lightweight, and has a very low moisture absorption rate so it will remain flexible with a longer life than other nylons. NITRA nylon 12 is ideal for use with NITRA push-to-connect fittings.

Features

- Inch and metric sizes available
- Five colors black, blue , natural, red and yellow
- 100 foot and 500 foot package sizes
- Shore D 70 hardness
- High working pressure and temperature/chemical resistance
- Made in USA

	Nylon 5/32 in. (4 mm) Tubing Specifications									
Outside Diamet	er (in.)	0.156	Working Pressure (pa	Working Pressure (psi) @ 70°F		Temp. Range	-60°F to +200°F (-51°C to +93°C)			
Inside Diameter	[.] (in.)	0.106	Burst Pressure (psi)		1050	Hardness	Shore D 70			
Wall Thickness	(in.)	0.025	Vacuum Rating	Vacuum Rating		Bend Radius (in.)	0.50			
100 ft. Package Length 500 ft. Reel Length										
Part Number	Price	Color	PKG WT (lbs)	Part Number	Price	Color	Package Weight (lbs)			
<u>N532BLK100</u>	\$13.50	Black		<u>N532BLK500</u>	\$63.00	Black				
N532BLU100	\$13.50	Blue		N532BLU500	\$63.00	Blue				
<u>N532NAT100</u>	\$13.50	Natural	1.0	<u>N532NAT500</u>	\$63.00	Natural	3.0			
<u>N532RED100</u>	\$13.50	Red		<u>N532RED500</u>	\$63.00	Red				
N532YEL100	\$13.50	Yellow		<u>N532YEL500</u>	\$63.00	Yellow				

			Nylon 1/4 in. Tul	bing Specification	S		
Outside Diamet	er (in.)	0.250	Working Pressure (ps	Working Pressure (psi) @ 70°F		Temp. Range	-60°F to +200°F (-51°C to +93°C)
Inside Diameter	[.] (in.)	0.180	Burst Pressure (psi)		870	Hardness	Shore D 70
Wall Thickness	(in.)	0.035	Vacuum Rating	Vacuum Rating		Bend Radius (in.)	1.25
100 ft. Package Length 500 ft. Reel Length							
Part Number	Price	Color	PKG WT (lbs)	Part Number	Price	Color	Package Weight (lbs)
<u>N14BLK100</u>	\$21.50	Black		<u>N14BLK500</u>	\$107.00	Black	
<u>N14BLU100</u>	\$21.50	Blue		<u>N14BLU500</u>	\$107.00	Blue	
<u>N14NAT100</u>	\$22.00	Natural	2.0	<u>N14NAT500</u>	\$107.00	Natural	7.0
<u>N14RED100</u>	\$21.50	Red		<u>N14RED500</u>	\$107.00	Red	
<u>N14YEL100</u>	\$21.50	Yellow		<u>N14YEL500</u>	\$107.00	Yellow	

	Nylon 3/8 in. Tubing Specifications									
Outside Diamete	er (in.)	0.375	Working Pressure (ps	Working Pressure (psi) @ 70°F		Temp. Range	-60°F to +200°F (-51°C to +93°C)			
Inside Diameter	· (in.)	0.275	Burst Pressure (psi)		750	Hardness	Shore D 70			
Wall Thickness	(in.)	0.050	Vacuum Rating	Vacuum Rating		Bend Radius (in.)	2.00			
	100 ft. Package Length 500 ft. Reel Length									
Part Number	Price	Color	PKG WT (lbs)	Part Number	Price	Color	Package Weight (lbs)			
N38BLK100	\$47.00	Black		N38BLK500	\$230.00	Black				
<u>N38BLU100</u>	\$47.00	Blue		N38BLU500	\$230.00	Blue				
<u>N38NAT100</u>	\$47.00	Natural	3.0	<u>N38NAT500</u>	\$230.00	Natural	12.0			
N38RED100	\$47.00	Red]	N38RED500	\$230.00	Red				
<u>N38YEL100</u>	\$47.00	Yellow			φ∠3U.UU	neu				



Nylon Pneumatic Tubing

	Nylon 1/2 in. Tubing Specifications									
Outside Diamete	er (in.)	0.500	Working Pressure (ps	Working Pressure (psi) @ 70°F		Temp. Range	-60°F to +200°F (-51°C to +93°C)			
Inside Diameter	r (in.)	0.375	Burst Pressure (psi)		720	Hardness	Shore D 70			
Wall Thickness	(in.)	0.062	Vacuum Rating	Vacuum Rating		Bend Radius (in.)	3.50			
100 ft. Package Length 500 ft. Reel Length										
Part Number	Price	Color	PKG WT (lbs)	Part Number	Price	Color	Package Weight (lbs)			
<u>N12BLK100</u>	\$80.00	Black		N12BLK500	\$388.00	Black				
<u>N12BLU100</u>	\$80.00	Blue		N12BLU500	\$388.00	Blue				
<u>N12NAT100</u>	\$80.00	Natural	4.0	<u>N12NAT500</u>	\$388.00	Natural	19.0			
<u>N12RED100</u>	\$80.00	Red		N12RED500	\$388.00	Red				
<u>N12YEL100</u>	\$80.00	Yellow			φοοδ.00	neu				

			Nylon 6 mm Tub	ing Specifications			
Outside Diamete	Outside Diameter (mm) 6.0 Working Pressure (psi) @		si) @ 70°F	340	Temp. Range	-60°F to +200°F (-51°C to +93°C)	
Inside Diameter	· (mm)	4.0	Burst Pressure (psi)		1020	Hardness	Shore D 70
Wall Thickness	(mm)	1.0	Vacuum Rating		To 28" Hg	Bend Radius (mm)	32.0
	100 ft. Package Length 500 ft. Reel Length						
Part Number	Price	Color	PKG WT (lbs)	Part Number	Price	Color	Package Weight (lbs))
N6MBLK100	\$21.50	Black		N6MBLK500	\$106.00	Black	
<u>N6MBLU100</u>	\$21.50	Blue		N6MBLU500	\$106.00	Blue	
<u>N6MNAT100</u>	\$21.50	Natural	1.0	<u>N6MNAT500</u>	\$106.00	Natural	6.0
<u>N6MRED100</u>	\$21.50	Red		N6MRED500	\$106.00	Red	
<u>N6MYEL100</u>	\$21.50	Yellow			φ100.00	neu	

	Nylon 8 mm Tubing Specifications									
Outside Diamet	er (mm)	8.0	Working Pressure (pa	Working Pressure (psi) @ 70°F		Temp. Range	-60°F to +200°F (-51°C to +93°C)			
Inside Diameter	r (mm)	6.0	Burst Pressure (psi)		750	Hardness	Shore D 70			
Wall Thickness	(mm)	1.0	Vacuum Rating		To 28" Hg	Bend Radius (mm)	38.0			
	100 ft. Package Length 500 ft. Reel Length									
Part Number	Price	Color	PKG WT (lbs)	Part Number	Price	Color	Package Weight (lbs)			
N8MBLK100	\$34.00	Black		N8MBLK500	\$169.00	Black				
N8MBLU100	\$34.00	Blue		N8MBLU500	\$169.00	Blue				
<u>N8MNAT100</u>	\$34.00	Natural	2.0	<u>N8MNAT500</u>	\$169.00	Natural	9.0			
<u>N8MRED100</u>	\$34.00	Red]	N8MRED500	¢100.00	Ded				
<u>N8MYEL100</u>	\$34.00	Yellow			\$169.00	Red				

	Nylon 10 mm Tubing Specifications									
Outside Diamete	Outside Diameter (mm)10.0Working Pressure (psi) @ 70°F		225	Temp. Range	-60°F to +200°F (-51°C to +93°C)					
Inside Diameter	(<i>mm</i>)	8.0	Burst Pressure (psi)		675	Hardness	Shore D 70			
Wall Thickness	(mm)	1.0	Vacuum Rating	Vacuum Rating		Bend Radius (mm)	51.0			
	100 ft.	Package Leng	jth							
Part Number	Price	Color	PKG WT (lbs)							
N10MBLK100	\$48.50	Black								
<u>N10MBLU100</u>	\$48.50	Blue								
<u>N10MNAT100</u>	\$48.50	Natural	2.0							
<u>N10MRED100</u>	\$48.50	Red								
<u>N10MYEL100</u>	\$48.50	Yellow								



Nylon Pneumatic Tubing

	Nylon 12 mm Tubing Specifications									
Outside Diamete	er (mm)	12.0	Working Pressure (psi) @ 70°F		200	Temp. Range	-60°F to +200°F (-51°C to +93°C)			
Inside Diameter	· (mm)	10.0	Burst Pressure (psi)		600	Hardness	Shore D 70			
Wall Thickness	(mm)	1.0	Vacuum Rating		To 28" Hg	Bend Radius (mm)	63.5			
	100 ft.	Package Leng	jth							
Part Number	Price	Color	PKG WT (lbs)							
<u>N12MBLK100</u>	\$78.00	Black								
<u>N12MBLU100</u>	\$78.00	Blue	4.0							
<u>N12MNAT100</u>	\$78.00	Natural								

NITRA Pneumatic Tubing Accessories

	Pneumatic Tubing Cutter			
Part Number	Description	Pcs/Pkg	Package Weight (lbs)	Price
<u>TC-12</u>	NITRA pneumatic tubing cutter for use with 1/8 to 1/2 inch and 4 to 12 mm outside diameter flexible plastic tubing.	1	0.1	\$4.75
<u>TC-20</u>	NITRA pneumatic heavy duty tubing cutter for use with polyurethane, nylon and other flexible tubing up to 2 inch [50mm] outside diameter.	1	0.2	\$9.75









PTFE Pneumatic Tubing



NITRA PTFE tubing is made from the highest quality, 100% virgin raw materials and has a hardness specification of Shore D 55. PTFE tubing is an excellent choice for many high heat applications. It has exceptional resistance to degradation of mechanical properties under severe conditions. NITRA PTFE tubing does not support combustion and has very good dielectric properties. **NITRA** PTFE is ideal for use with **NITRA** stainless steelpushto-connect fittings.

Features

- Inch and metric sizes available
- Natural color
- 100 foot package sizes
- Shore D 55 hardness
- High working pressure and temperature/chemical resistance
- Made in USA

PTFE 1/4 in. x 1/8 in. Tubing Specifications								
Outside Diameter (in.)	0.250	Working Pressure (ps	i) @ 70°F	372	Temp. Range	-454°F to +500°F (-270°C to +260°C)		
Inside Diameter (in.)	0.125	Burst Pressure (psi)		1488	Hardness	Shore D 55		
Wall Thickness (in.)	0.063	Vacuum Rating		To 28" Hg	Bend Radius (in.)	1.18		
		100 ft. Pa	ickage Length					
Part Number		Price Color			Package Weight (lbs)			
PT14-18NAT100		\$294.00	Natural	Natural				

	PTFE 1/4 in. x 5/32 in. Tubing Specifications								
Outside Diameter (in.)	0.250	Working Pressure (ps	Working Pressure (psi) @ 70°F 275 Temp. Range -454°F to +500°F (-270°C to +260°C						
Inside Diameter (in.)	0.156	Burst Pressure (psi)		1100	Hardness	Shore D 55			
Wall Thickness (in.)	0.047	Vacuum Rating		To 28" Hg	Bend Radius (in.)	1.97			
		100 ft. Pa	ackage Length						
Part Number Price Color Package Weight (lbs)						ight (Ibs)			
PT14-532NAT100		\$229.00 Natural							

PTFE 1/4 in. x 3/16 in. Tubing Specifications								
Outside Diameter (in.)	0.250	Working Pressure (ps	Working Pressure (psi) @ 70°F 174 Temp. Range -454°F to +500°I (-270°C to +260°I (-270°C to +260°I)					
Inside Diameter (in.)	0.188	Burst Pressure (psi)		696	Hardness	Shore D 55		
Wall Thickness (in.)	0.031	Vacuum Rating		To 28" Hg	Bend Radius (in.)	2.56		
		100 ft. Pa	ickage Length					
Part Number	umber Price Color Package Weight (lbs)							
PT14-316NAT100		\$174.00	Natural		1.75			



PTFE Pneumatic Tubing

	PTFE 3/8 in. x 1/4 in. Tubing Specifications								
Outside Diameter (in.)	0.375	Working Pressure (ps	Working Pressure (psi) @ 70°F 240 Temp. Range -454°F to +50 (-270°C to +20)						
Inside Diameter (in.)	0.250	Burst Pressure (psi)		960	Hardness	Shore D 55			
Wall Thickness (in.)	0.063	Vacuum Rating		To 28" Hg	Bend Radius (in.)	4.33			
		100 ft. Pa	ackage Length						
Part Number	ber Price Color Package Weight (lbs)								
<u>PT38NAT100</u>		\$496.00		5.84					

PTFE 4 mm x 2.5 mm Tubing Specifications								
Outside Diameter (mm)	4.0	Working Pressure (psi) @ 70°F 292 Temp. Range -454°F to +6 (-270°C to +2						
Inside Diameter (mm)	2.5	Burst Pressure (psi)		1168	Hardness	Shore D 55		
Wall Thickness (mm)	0.75	Vacuum Rating		To 28" Hg	Bend Radius (mm)	25.0		
		100 ft. Pa	ackage Length					
Part Number	Part Number Price Color Package Weight (lbs)							
<u>PT4MNAT100</u>		\$194.00	Natural		1.51			

PTFE 6 mm x 4 mm Tubing Specifications								
Outside Diameter (mm)	6.0	Working Pressure (psi) @ 70°F 275 Temp. Range -454°F to +50 (-270°C to +260)						
Inside Diameter (mm)	4.0	Burst Pressure (psi)		1100	Hardness	Shore D 55		
Wall Thickness (mm)	1.0	Vacuum Rating		To 28" Hg	Bend Radius (mm)	40.0		
		100 ft. Pa	ackage Length					
Part Number	Price Color Package Weight (lbs)							
PT6MNAT100		\$267.00			2.29			



PTFE Pneumatic Tubing

PTFE 8 mm x 6 mm Tubing Specifications								
Outside Diameter (mm)	8.0	Working Pressure (ps	Working Pressure (psi) @ 70°F 138 Temp. Range -454°F to +500°F (-270°C to +260°C					
Inside Diameter (mm)	6.0	Burst Pressure (psi)		552	Hardness	Shore D 70		
Wall Thickness (mm)	1.0	Vacuum Rating		To 28" Hg	Bend Radius (mm)	60.0		
		100 ft. Pa	ackage Length					
Part Number	Part Number Price Color Package Weight (lbs)							
PT8MNAT100		\$345.00	Natural		3.20			

PTFE 10 mm x 8 mm Tubing Specifications								
Outside Diameter (mm)	10.0	Working Pressure (ps	Working Pressure (psi) @ 70°F 112 Temp. Range -454°F to (-270°C to					
Inside Diameter (mm)	8.0	Burst Pressure (psi)		448	Hardness	Shore D 70		
Wall Thickness (mm)	1.0	Vacuum Rating		To 28" Hg	Bend Radius (mm)	100.0		
		100 ft. Pa	ckage Length					
Part Number	Price Color Package Weight (lbs)							
PT10MNAT100		\$478.00	Natural		4.13			

NITRA Pneumatic Tubing Accessories

	Pneumatic Tubing Cutter										
Part Number	Description	Pcs/Pkg	Package Weight (lbs)	Price							
<u>TC-12</u>	NITRA pneumatic tubing cutter for use with 1/8 to 1/2 inch and 4 to 12 mm outside diameter flexible plastic tubing.	1	0.1	\$4.75							
	NITRA pneumatic heavy duty tubing cutter for use with polyurethane, nylon and other flexible tubing up to 2 inch [50mm] outside diameter.	1	0.2	\$9.75							





TC-20



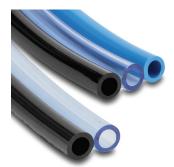
Tubing Working Pressure Ratings

	Nylon Tu	bing Working Pressure	e Ratings (psi)	
Size O.D.	70°F (21°C)	100°F (37.8°C)	125°F (51.7°C)	150°F (65.6°C)
1/8"	420	168	133	125
5/32" (4 mm)	350	200	169	160
1/4"	290	183	160	140
5/16" (8 mm)	250	183	156	135
<i>3/8"</i>	250	165	148	128
1/2"	240	145	133	125
6 mm	340	190	160	140
10 mm	225	150	130	115
12 mm	200	140	130	120
14 mm	175	100	85	70

Polyurethane	Tubing Working Press	ure Ratings (psi)
Size O.D.	75°F (23.9°C)	150°F (65.6°C)
1/8" (0.125)	240	100
5/32" (0.156)	200	85
3/16" (0.187)	150	90
1/4" (0.250)	180	70
5/16" (0.3125)	175	75
3/8" (0.375)	150	70
1/2" (0.500)	150	70
9/16" (0.5625)	140	60
5/8" (0.625)	150	70
3/4" (0.750)	140	70
4 mm	200	85
6 mm	180	65
8 mm	175	75
10 mm	150	70
12 mm	150	60
16 mm	150	70



Bonded Straight Polyurethane Tubing



NITRA[™] bonded polyurethane (PUR) tubing is made by continuously bonding standard NITRA polyurethane tubing. The result is a strong, organized, color-coded package that makes installation neater and easier. With its extremely tight outside diameter tolerance, NITRA polyurethane tubing is ideal for use with NITRA push-to-connect fittings.

Features

- Inch and metric sizes available
- Contrasting colors
- Secondary bonding process maintains tubing geometry
- 50 foot package size
- Shore A 98 hardness
- Strong, flexible and kink resistant
- Made in USA

	Polyurethane 5/32 in. (4 mm) Bonded Tubing Specifications								
<i>Outside Diameter</i> (in.)		0.156	<i>Working Pressure (psi)</i> @ 70°F	200	Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter (in.)		0.093	Burst Pressure (psi)	600	Hardness	Shore A 98			
Wall Thickness (in.)		0.031	Vacuum Rating	To 28" Hg Bend Radius (in.)		0.250			
Part Number	Price	Configuration	Color	PKG/Re	el Length (feet)	Package Weight (lbs)			
<u>2PU532-50</u>	\$18.00	Bonded double tube	Black, clear blue	E0 # Deckage		0.65			
<u>3PU532-50</u>	\$26.00	Bonded triple tube	Black, clear blue, blue	50 ft. Package 1.00					

	Polyurethane 1/4 in. Bonded Tubing Specifications								
<i>Outside Diameter</i> (in.)		0.250	<i>Working Pressure (psi)</i> @ 70°F	180	Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter (in.)		0.156	Burst Pressure (psi)	540	Hardness	Shore A 98			
Wall Thickness (in.)		0.047	Vacuum Rating	To 28" Hg	Bend Radius (in.)	0.476			
Part Number	Price	Configuration	Color	PKG/Re	el Length (feet)	Package Weight (lbs)			
<u>2PU14-50</u>	\$42.00	Bonded double tube	Black, clear blue			1.55			
<u>3PU14-50</u>	\$62.00	Bonded triple tube	Black, clear blue, blue	- 50 ft. Package 2.25					

	Polyurethane 3/8 in. Bonded Tubing Specifications									
Outside Diameter (in.)		0.375	<i>Working Pressure (psi)</i> @ 70°F	150	Temp. Range	-40°F to +160°F (-40°C to +71°C)				
Inside Diameter (in.)		0.250	Burst Pressure (psi)	450	Hardness	Shore A 98				
Wall Thickness (in.)		0.063	Vacuum Rating	To 28" Hg Bend Radius (in.)		1.00				
Part Number	Price	Configuration	Color	PKG/Reel Length (feet)		Package Weight (lbs)				
<u>2PU38-50</u>	\$82.00	Bonded double tube	Black, clear blue	50 ft. Package		3.25				

	Polyurethane 1/2 in. Bonded Tubing Specifications										
<i>Outside Diameter</i> (in.)		0.500	<i>Working Pressure (psi)</i> @ 70°F	150	Temp. Range	-40°F to +160°F (-40°C to +71°C)					
Inside Diameter (in.)		0.328	Burst Pressure (psi)	450	Hardness	Shore A 98					
Wall Thickness (in.)		0.086	Vacuum Rating	To 28" Hg Bend Radius (in.)		1.102					
Part Number	Price	Configuration	Color	PKG/Reel Length (feet)		Package Weight (lbs)					
<u>2PU12-50</u>	\$154.00	Bonded double tube	Black, clear blue	50 ft. Package 6		6.00					



Bonded Straight Polyurethane Tubing

Polyurethane 6 mm Bonded Tubing Specifications									
Outside Diameter (mm)		6.0	Working Pressure (psi) @ 70°F	180	Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter (mm)		4.0	Burst Pressure (psi)	540	Hardness	Shore A 98			
Wall Thickness (mm)		1.0	Vacuum Rating	To 28" Hg	Bend Radius (mm)	12.0			
Part Number	Price	Configuration	Color	PKG/Reel Length (feet)		Package Weight (lbs)			
<u>2PU06M-50</u>	\$44.50	Bonded double tube	Black, clear blue	50 ft. Package		1.25			

	Polyurethane 8 mm Bonded Tubing Specifications									
Outside Diameter (mm)		8.0	Working Pressure (psi) @ 70°F	175	Temp. Range	-40°F to +160°F (-40°C to +71°C)				
Inside Diameter (mm)		5.0	Burst Pressure (psi)	525	Hardness	Shore A 98				
Wall Thickness (mm)		1.5	Vacuum Rating	To 28" Hg Bend Radius (mm)		15.0				
Part Number	Price	Configuration	Color	PKG/Reel Length (feet)		Package Weight (lbs)				
<u>2PU08M-50</u>	\$84.00	Bonded double tube	Black, clear blue	50 ft. Package		2.50				

	Polyurethane 10 mm Bonded Tubing Specifications									
<i>Outside Diameter (mm)</i>		10.0	Working Pressure (psi) @ 70°F	150	Temp. Range	-40°F to +160°F (-40°C to +71°C)				
Inside Diameter (mm)	6.5		Burst Pressure (psi)	450	Hardness	Shore A 98				
Wall Thickness (mm)	1.75 Vacuum Rating		Vacuum Rating	To 28" Hg Bend Radius (mm,		25.0				
Part Number	Price	Configuration	Color	PKG/Reel Length (feet)		Package Weight (lbs)				
<u>2PU10M-50</u>	\$118.00	Bonded double tube	Black, clear blue	50 ft. Package		3.75				



Polyurethane Coiled Tubing - Single and Bonded Multi-Tube



NITRA[™] polyurethane (PUR) coiled tubing is made from our high quality standard polyurethane tubing. NITRA polyurethane tubing is strong, flexible, and offers superior kink resistance compared to other tubing. With its extremely tight outside diameter tolerance, NITRA polyurethane tubing is ideal for use with NITRA pushto-connect fittings. Coiled tubing is available in single, double and triple bonded configurations.

Features

- Inch and metric sizes available
- Contrasting colors on double and triple coils
- Three working lengths for each size
- Shore A 98 hardness
- Strong, flexible and kink resistant
- Made in USA

	Polyurethane 5/32 in. (4 mm) Coiled Tubing Specifications										
<i>Outside Diameter</i> (in.)	0.156		Working Pressure (psi) @ 70°F	200	Temp. Range	-40°F to +160°F (-40°C to +71°C)					
Inside Diameter (in.)		0.093		Burst Pressure (psi)	600	Hardness	Shore A 98				
Wall Thickness (in.)		0.031		Vacuum Rating	To 28" Hg	Bend Radius (in.)	0.250				
Part Number	Price	Configuration	Color	Number of Coils	Wor	king Length	Package Weight (lbs)				
<u>1PU532C10</u>	\$6.25		Clear Blue	10	2.2 ft		0.01				
<u>1PU532C20</u>	\$6.75	Single		20	3.9 ft		0.01				
<u>1PU532C40</u>	\$7.75			40	5.5 ft		0.03				
<u>2PU532C10</u>	\$7.75			10	2.0 ft		0.01				
<u>2PU532C20</u>	\$8.25	Double	Black, Clear Blue	20		3.5 ft	0.01				
<u>2PU532C40</u>	\$9.50		5140	40		6.5 ft	0.05				
<u>3PU532C10</u>	\$13.50			10		2.5 ft	0.05				
<u>3PU532C20</u>	\$15.50	Triple	Black, Clear Blue, Blue	20		4.4 ft	0.10				
<u>3PU532C40</u>	\$20.00		2100, 2100	40		8.3 ft	0.25				

		Polyur	ethane 1	/4 in. Coiled Tubing	Specificati	ons				
Outside Diameter (in.)	0.250			Working Pressure (psi) @ 70°F	180	Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter (in.)		0.156		Burst Pressure (psi)	540	Hardness	Shore A 98			
Wall Thickness (in.)		0.047		Vacuum Rating	To 28" Hg	Bend Radius (in.)	0.476			
Part Number	Price	Configuration	Color	Number of Coils	Wor	king Length	Package Weight (lbs)			
<u>1PU14C10</u>	\$8.00		Clear Blue	10	3.2 ft		0.03			
<u>1PU14C20</u>	\$9.75	Single		20		5.8 ft	0.08			
<u>1PU14C40</u>	\$11.50			40	8.4 ft		0.18			
<u>2PU14C10</u>	\$8.75			10	2.9 ft		0.05			
<u>2PU14C20</u>	\$10.50	Double	Black, Clear Blue	20		5.3 ft	0.15			
<u>2PU14C40</u>	\$16.50			40		10.0 ft	0.35			
<u>3PU14C10</u>	\$16.50			10		3.4 ft	0.20			
<u>3PU14C20</u>	\$20.00	Triple	Black, Clear Blue, Blue	20		6.3 ft	0.40			
<u>3PU14C40</u>	\$36.00		Dido, Dido	40		11.9 ft	0.80			



Polyurethane Coiled Tubing - Single and Bonded Multi-Tube

		Polyur	ethane 3/8	3 in. Coiled Tubing S	pecificati	ions	
<i>Outside Diameter (in.)</i>		0.375		Working Pressure (psi) @ 70°F	150	Temp. Range	-40°F to +160°F (-40°C to +71°C)
Inside Diameter (in.)		0.250		Burst Pressure (psi)	450	Hardness	Shore A 98
Wall Thickness (in.)		0.063		Vacuum Rating	To 28" Hg	Bend Radius (in.)	1.00
Part Number	Price	Configuration	Color	Number of Coils	Wo	rking Length	Package Weight (lbs)
<u>1PU38C10</u>	\$11.50			10		4.0 ft	0.15
<u>1PU38C20</u>	\$16.50	Single	Clear Blue	20		7.4 ft	0.30
<u>1PU38C40</u>	\$20.50			40		14.2 ft	0.60
<u>2PU38C10</u>	\$12.50			10		3.6 ft	0.30
<u>2PU38C20</u>	\$18.00	Double	Black, Clear Blue	20		6.7 ft	0.55
<u>2PU38C40</u>	\$32.00			40		12.9 ft	1.05
<u>3PU38C10</u>	\$23.00		T	10		4.4 ft	0.60
<u>3PU38C20</u>	\$34.50	Triple	Black, Clear Blue, Blue	20	8.3 ft		1.10
<u>3PU38C40</u>	\$66.00		Bidd, Bidd	40	16.0 ft		2.15
		Polvu	rethane 6	mm Coiled Tubing S	pecificati	ons	
<i>Outside Diameter (mm)</i>		6.0		Working Pressure (psi) @ 70°F	180	Temp. Range	-40°F to +160°F (-40°C to +71°C)
Inside Diameter (mm)	4.0		Burst Pressure (psi)	540	Hardness	Shore A 98
Wall Thickness (mm)		1.0		Vacuum Rating	To 28" Hg	Bend Radius (mm)	12.0
David Normalian	Duin a	0			144		Protono Wainht (lba)
Part Number	Price	Configuratio	n Color	Number of Coils	W	orking Length	Package Weight (lbs)
<u>1PU06MC10</u>	\$8.00			10		3.2 ft	0.05
<u>1PU06MC20</u>	\$9.50	Single	Clear Blue	20		5.8 ft	0.10
<u>1PU06MC40</u>	\$11.50			40		8.4 ft	0.18
<u>2PU06MC10</u>	\$8.75		Black, Clear	10		2.8 ft	0.10
<u>2PU06MC20</u>	\$10.00	Double	Blue	20		5.2 ft	0.20
<u>2PU06MC40</u>	\$16.00			40		9.9 ft	0.35
<u>3PU06MC10</u>	\$16.00	_	Black, Clear	10		3.1 ft	0.20
<u>3PU06MC20</u>	\$19.50	Triple	Blue, Blue	20		6.2 ft	0.35
<u>3PU06MC40</u>	\$34.50			40		11.8 ft	0.65
		Polyu	ethane 8	mm Coiled Tubing Sp	pecificati	ons	
<i>Outside Diameter (mm)</i>		8.0		Working Pressure (psi) @ 70°F	175	Temp. Range	-40°F to +160°F (-40°C to +71°C)
	5.0		D (D (1)	505		Chara A 00	
Inside Diameter (mm	5.0		Burst Pressure (psi)	525	Hardness	Shore A 98	

Part Number	Price	Configuration	Color	Number of Coils	Working Length	Package Weight (lbs)
<u>1PU08MC10</u>	\$9.50			10	3.3 ft	0.10
1PU08MC20	\$13.50	Single	Clear Blue	20	6.1 ft	0.18
<u>1PU08MC40</u>	\$17.50		-	40	8.8 ft	0.35
2PU08MC10	\$10.50		Black, Clear Blue	10	3.0 ft	0.20
<u>2PU08MC20</u>	\$13.50	Double		20	5.5 ft	0.35
2PU08MC40	\$22.50			40	10.5 ft	0.70

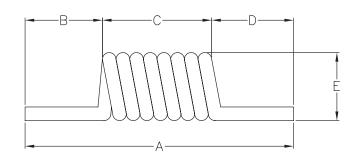


Polyurethane Coiled Tubing - Single and Bonded Multi-Tube

	Polyurethane 10 mm Coiled Tubing Specifications									
<i>Outside Diameter (mm)</i>		10.0		Working Pressure (psi) @ 70°F	150	Temp. Range	-40°F to +160°F (-40°C to +71°C)			
Inside Diameter (mm)		6.5		Burst Pressure (psi)	450	Hardness	Shore A 98			
Wall Thickness (mm)		1.75		Vacuum Rating	To 28" Hg	Bend Radius (mm)	28.0			
Part Number	Price	Configuration	Color	Number of Coils	Working Length		Package Weight (lbs)			
<u>1PU10MC10</u>	\$12.50			10	4.0 ft		0.18			
<u>1PU10MC20</u>	\$17.50	Single	Clear Blue	20	7.4 ft		0.33			
<u>1PU10MC40</u>	\$23.00			40		14.2 ft	0.60			
<u>2PU10MC10</u>	\$13.50			10		3.6 ft	0.35			
<u>2PU10MC20</u>	\$20.00	Double	Black, Clear Blue	20		6.7 ft	0.65			
<u>2PU10MC40</u>	\$37.00			40		13.0 ft	1.20			

Dimensions

inches [mm]

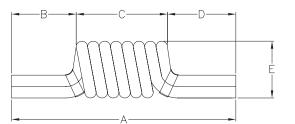


	1PU									
PART NUMBER	DIM A (OVERALL LENGTH)	DIM B (TAIL)	DIM C (COMPRESSED COIL)	DIM D (TAIL)	DIM E (COIL O.D.)					
1PU532C10	9.56[242.9]	4.0[101.6]	1.56[39.7]	4.0[101.6]	1.00[25.4]					
1PU532C20	11.13[282.7]	4.0[101.6]	3.13[79.5]	4.0[101.6]	1.00[25.4]					
1PU532C40	14.25[362.0]	4.0[101.6]	6.25[158.8]	4.0[101.6]	1.00[25.4]					
1PU14C10	10.50[267.0]	4.0[101.6]	2.50[63.5]	4.0[101.6]	1.50[38.1]					
1PU14C20	13.00[330.0]	4.0[101.6]	5.00[127.0]	4.0[101.6]	1.50[38.1]					
1PU14C40	18.00[457.2]	4.0[101.6]	10.00[254.0]	4.0[101.6]	1.50[38.1]					
1PU38C10	11.75[298.5]	4.0[101.6]	3.75[95.25]	4.0[101.6]	2.00[50.8]					
1PU38C20	15.50[393.7]	4.0[101.6]	7.50[190.5]	4.0[101.6]	2.00[50.8]					
1PU38C40	23.00[584.2]	4.0[101.6]	15.00[381.0]	4.0[101.6]	2.00[50.8]					
1PU6MC10	10.38[263.7]	4.0[101.6]	2.38[60.5]	4.0[101.6]	1.50[38.1]					
1PU6MC20	12.75[323.9]	4.0[101.6]	4.75[120.7]	4.0[101.6]	1.50[38.1]					
1PU6MC40	17.50[444.5]	4.0[101.6]	9.50[241.3]	4.0[101.6]	1.50[38.1]					
1PU8MC10	11.13[282.6]	4.0[101.6]	3.125[79.4]	4.0[101.6]	1.63[41.4]					
1PU8MC20	14.25[362.0]	4.0[101.6]	6.25[158.8]	4.0[101.6]	1.63[41.4]					
1PU8MC40	20.50[520.7]	4.0[101.6]	12.50[317.5]	4.0[101.6]	1.63[41.4]					
1PU10MC10	12.00[304.8]	4.0[101.6]	4.00[101.6]	4.0[101.6]	2.00[50.8]					
1PU10MC20	16.00[406.4]	4.0[101.6]	8.00[203.2]	4.0[101.6]	2.00[50.8]					
1PU10MC40	24.00[609.6]	4.0[101.6]	16.00[406.4]	4.0[101.6]	2.00[50.8]					

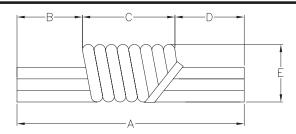


Dimensions inches [mm]

Polyurethane Coiled Tubing



	2PU										
PART NUMBER	DIM A (OVERALL LENGTH)	DIM B (TAIL)	DIM C (COMPRESSED COIL)	DIM D (TAIL)	DIM E (COIL O.D.)						
2PU532C10	11.13[282.7]	4.00[101.6]	3.13[795.0]	4.00[101.6]	.88[22.4]						
2PU532C20	14.25[362.0]	4.00[101.6]	6.25[158.8]	4.00[101.6]	.88[22.4]						
2PU532C40	20.63[524.0]	4.00[101.6]	12.63[320.8]	4.00[101.6]	.88[22.4]						
2PU14C10	13.00[330.2]	4.00[101.6]	5.00[127.0]	4.00[101.6]	1.50[38.1]						
2PU14C20	18.00[457.2]	4.00[101.6]	10.00[254.0]	4.00[101.6]	1.50[38.1]						
2PU14C40	28.00[711.2]	4.00[101.6]	20.00[508.0]	4.00[101.6]	1.50[38.1]						
2PU38C10	15.50[393.7]	4.00[101.6]	7.50[190.5]	4.00[101.6]	2.00[50.8]						
2PU38C20	23.00[584.2]	4.00[101.6]	15.00[381.0]	4.00[101.6]	2.00[50.8]						
2PU38C40	38.00[965.2]	4.00[101.6]	30.00[762.0]	4.00[101.6]	2.00[50.8]						
2PU6MC10	12.75[323.9]	4.00[101.6]	4.75[120.7]	4.00[101.6]	1.50[38.1]						
2PU6MC20	17.50[445.0]	4.00[101.6]	9.50[241.3]	4.00[101.6]	1.50[38.1]						
2PU6MC40	27.00[685.8]	4.00[101.6]	19.00[482.6]	4.00[101.6]	1.50[38.1]						
2PU8MC10	14.38[365.3]	4.00[101.6]	6.38[162.1]	4.00[101.6]	1.63[41.4]						
2PU8MC20	20.63[523.9]	4.00[101.6]	12.63[320.8]	4.00[101.6]	1.63[41.4]						
2PU08MC40	33.25[845.0]	4.00[101.6]	25.25[641.4]	4.00[101.6]	1.63[41.4]						
2PU10MC10	16.00[406.4]	4.00[101.6]	8.00[203.2]	4.00[101.6]	1.50[38.1]						
2PU10MC20	23.75[603.3]	4.00[101.6]	15.75[400.1]	4.00[101.6]	1.50[38.1]						
2PU10MC40	39.50[1003.3]	4.00[101.6]	31.50[800.1]	4.00[101.6]	1.50[38.1]						



		3F	PU		
PART NUMBER	DIM A (OVERALL LENGTH)	DIM B (TAIL)	DIM C (COMPRESSED COIL)	DIM D (TAIL)	DIM E (COIL O.D.)
3PU532C10	12.75[323.9]	4.00[101.6]	4.75[120.7]	4.00[101.6]	1.25[31.8]
3PU532C20	17.38[441.5]	4.00[101.6]	9.38[238.3]	4.00[101.6]	1.25[31.8]
3PU532C40	27.00[685.8]	4.00[101.6]	19.00[482.6]	4.00[101.6]	1.25[31.8]
3PU14C10	15.50[393.7]	4.00[101.6]	7.50[190.5]	4.00[101.6]	1.75[44.5]
3PU14C20	23.00[584.2]	4.00[101.6]	15.00[381.0]	4.00[101.6]	1.75[44.5]
3PU14C40	38.00[965.2]	4.00[101.6]	30.00[762.0]	4.00[101.6]	1.75[44.5]
3PU38C10	19.25[489.0]	4.00[101.6]	11.25[285.8]	4.00[101.6]	2.50[63.5]
3PU38C20	30.50[774.7]	4.00[101.6]	22.50[571.5]	4.00[101.6]	2.50[63.5]
3PU38C40	53.00[1346.2]	4.00[101.6]	45.00[1143.0]	4.00[101.6]	2.50[63.5]
3PU6MC10	11.00[297.4]	4.00[101.6]	7.00[177.8]	4.00[101.6]	1.75[44.5]
3PU6MC20	22.25[656.15]	4.00[101.6]	14.25[362.0]	4.00[101.6]	1.75[44.5]
3PU6MC40	36.38[924.1]	4.00[101.6]	28.38[720.9]	4.00[101.6]	1.75[44.5]
3PU8MC10	17.50[444.5]	4.00[101.6]	9.50[241.3]	4.00[101.6]	2.00[50.8]
3PU8MC20	27.00[685.8]	4.00[101.6]	19.00[482.6]	4.00[101.6]	2.00[50.8]
3PU8MC40	46.00[1168.4]	4.00[101.6]	38.00[965.2]	4.00[101.6]	2.00[50.8]
3PU10MC10	20.00[508.0]	4.00[101.6]	12.00[304.8]	4.00[101.6]	2.50[63.5]
3PU10MC20	31.63[803.4]	4.00[101.6]	23.63[600.2]	4.00[101.6]	2.50[63.5]
3PU10MC40	55.25[1403.4]	4.00[101.6]	47.25[1200.2]	4.00[101.6]	2.50[63.5]



Polyurethane Coiled Hose

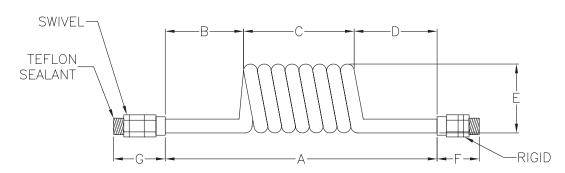
NITRA[™] polyurethane (PUR) hose is made from the same high quality materials as our tubing. Standard hoses have one rigid and one swivel fitting and are specified by inside diameter. QC hoses have one Male and one Female industrial interchange quick disconnect fitting.

Features

- 1/4" and 3/8" inside diameters
- 8, 12 and 16 foot working lengths
- Clear blue color
- Shore A 98 hardness
- Strong, flexible and kink resistant
- Made in USA

Polyurethane Coiled Hose Specifications									
Working Pressure (psi) @ 68°F			140		Temp. Range		-68°F to +140°F (-55°C to +60°C)		
Burst Pressure (ps	Burst Pressure (psi) @ 68°F		428		Hardness		Shore A 98		
Part Number	Price	Hose I.D. (in)	Hose O.D. (in)	Wall Thickness	Fittings	Number of Coils	Working Length	Package Weight (lbs)	
HP14C10CBL	\$18.00	1/4			10	8 ft	0.55		
HP14C15CBL	\$20.50		3/8	0.06	1/4 in MNPT	15	12 ft	0.60	
HP14C20CBL	\$23.50					20	16 ft	0.75	
HP14C10CBL-QC	\$41.00	1/4		0.06	1/4 in QD	10	8 ft	0.55	
HP14C15CBL-QC	\$43.00		3/8			15	12 ft	0.60	
HP14C20CBL-QC	\$47.00					20	16 ft	0.75	

Dimensions inches [mm]



Dimensions in inches [mm]

TABLE 1								
PART NUMBER	DIM A (OVERALL LENGTH)	DIM B (TAIL)	DIM C (COMPRESSED COIL)	DIM D (TAIL)	DIM E (COIL O.D.)	DIM F (CONN.)	DIM G (CONN.)	
HP14C10CBL	31.13[790.7]	20.00[508.0]	7.13[181.0]	4.0[101.6]	2.00[50.8]	1.50[38.1]	1.97[50.0]	
HP14C15CBL	35.63[905.0]	20.00[508.0]	11.63[295.4]	4.0[101.6]	2.00[50.8]	1.50[38.1]	1.97[50.0]	
HP14C20CBL	39.75[1009.7]	20.00[508.0]	15.75[400.1]	4.0[101.6]	2.00[50.8]	1.50[38.1]	1.97[50.0]	
HP38C10CBL	31.00[787.4]	20.00[508.0]	7.00[177.8]	4.0[101.6]	3.13[79.5]	1.80[45.7]	2.20[55.9]	
HP38C15CBL	36.00[914.4]	20.00[508.0]	12.00[304.8]	4.0[101.6]	3.13[79.5]	1.80[45.7]	2.20[55.9]	
HP38C20CBL	40.00[1016.0]	20.00[508.0]	16.00[406.4]	4.0[101.6]	3.13[79.5]	1.80[45.7]	2.20[55.9]	



Polyurethane Coiled Hose

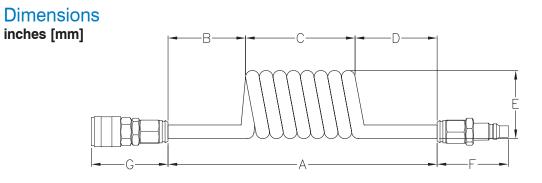


	TABLE 1								
PART NUMBER	DIM A (OVERALL LENGTH)	DIM B (TAIL)	DIM C (COMPRESSED COIL)	DIM D (TAIL)	DIM E (COIL O.D.)	DIM F (CONN.)	DIM G (CONN.)		
HP14C10CBL-QC	31.13[790.7]	20.00[508.0]	7.13[181.0]	4.0[101.6]	2.00[50.8]	1.95[49.5]	2.10[53.3]		
HP14C15CBL-QC	35.63[905.0]	20.00[508.0]	11.63[295.4]	4.0[101.6]	2.00[50.8]	1.95[49.5]	2.10[53.3]		
HP14C20CBL-QC	39.75[1009.7]	20.00[508.0]	15.75[400.1]	4.0[101.6]	2.00[50.8]	1.95[49.5]	2.10[53.3]		
HP38C10CBL-QC	31.00[787.4]	20.00[508.0]	7.00[177.8]	4.0[101.6]	3.13[79.5]	2.30[58.4]	2.36[59.9]		
HP38C15CBL-QC	36.00[914.4]	20.00[508.0]	12.00[304.8]	4.0[101.6]	3.13[79.5]	2.30[58.4]	2.36[59.9]		
HP38C20CBL-QC	40.00[1016.0]	20.00[508.0]	16.00[406.4]	4.0[101.6]	3.13[79.5]	2.30[58.4]	2.36[59.9]		



Reinforced Polyurethane Hose



NITRA[™] reinforced polyurethane (PUR) hose features a sturdy polyester braid between the polyurethane inner and outer layers. Contamination of air systems caused by rubber hose breakdown is significantly reduced by using NITRA PUR hose. CBL2 and CBL3 hoses have one rigid and one swivel fitting and are specified by inside diameter. CBL5 and CBL6 hoses have one Male and one Female industrial interchange quick disconnect fitting.

Features

- 1/4" and 3/8" inside diameters (25 and 50 foot package lengths available)
- Clear blue color
- Lighter weight compared to rubber hose
- Strong, flexible and kink resistant
- Made in USA

Reinforced Polyurethane Hose Specifications								
Working Pressure (psi) @ 68°F			210		Temp. Range		-40°F to +155°F (-40°C to +68°C)	
Burst Pressure (psi) @ 68°F		630		Hardness		Shore A 85	
	T.							
Part Number	Price	Hose I.D. (in)	Hose O.D. (in)	Wall Thickness (in)	Fittings	Min. Bend Radius	PKG Length	Package Weight (lbs)
HBP14-25CBL2	\$17.50	1/4	4/4 0/0	3/8 0.06 '	1/4 in	1.00"	25 ft	1.15
HBP14-50CBL2	\$28.50		3/8		MNPT		50 ft	2.00
<u>HBP38-25CBL2</u>	\$28.50	3/8			1/4 in		25 ft	2.50
HBP38-50CBL2	\$49.50		9/16	0.09	MNPT	1.63"	50 ft	4.25
HBP38-25CBL3	\$32.00				3/8 in		25 ft	2.50
HBP38-50CBL3	\$53.00				MNPT		50 ft	4.50

Dimensions

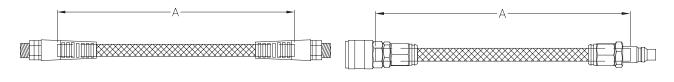


TABLE 1						
PART NUMBER	DIM A (OVERALL LENGTH)					
HBP14-25CBL2	25'					
HBP14-50CBL2	50'					
HBP38-25CBL2	25'					
HBP38-50CBL2	50'					
HBP38-25CBL3	25'					
HBP38-50CBL3	50'					

TABLE 1						
PART NUMBER	DIM A (OVERALL LENGTH)					
HBP14-25CBL5	25'					
HBP14-50CBL5	50'					
HBP38-25CBL6	25'					
HBP38-50CBL6	50'					



Reinforced Polyurethane Coiled Hose



NITRA[™] reinforced coiled hose has a sturdy polyester braid between the polyurethane inner and outer layers. Contamination of air systems caused by rubber hose breakown is significantly reduced by using NITRA PUR hose. Standard hoses have one rigid and one swivel fitting and are specified by inside diameter. QC hoses have one Male and one Female industrial interchange quick disconnect fitting.

Features

- 1/4" and 3/8" inside diameters and two fitting sizes available
- 8, 12, and 16 foot working lengths
- Clear blue color
- Shore A 85 hardness
- Strong, flexible and kink resistant
- Made in USA

	Reinforced Polyurethane Coiled Hose Specifications												
Working Pressure (osi) @ 6	8°F		310	Temp. Range		-40°F to - (-40°C to						
Burst Pressure (psi)	@ 68°F			930	Hardness		Inner layer: S Outer layer: S						
Part Number	Price	Hose I.D. (in)	Hose O.D. (in)	Wall Thickness (in)	FTG Size	Number of Coils	Working Length	Package Weight (lbs)					
HBP14C10CBL	\$32.00					10	8 ft	0.55					
HBP14C15CBL	\$42.00	1/4	3/8	0.06	1/4 in MNPT	15	12 ft	0.65					
HBP14C20CBL	\$51.00					20	16 ft	0.85					
HBP38C10CBL	\$54.00	3/8	9/16	0.09	3/8 in	10	8 ft	1.00					
HBP38C15CBL	\$66.00	3/0	9/10	0.09	MNPT	15	12 ft	1.30					
HBP14C10CBL-QC	\$54.00	1/4	2/0	0.00	1/4 in	10	8 ft	0.55					
HBP14C15CBL-QC	\$63.00	1/4	3/8	0.06	QD	15	12 ft	0.65					
HBP38C10CBL-QC	\$78.00	3/8	0/16	0.00	3/8 in	10	8 ft	1.00					
HBP38C15CBL-QC	\$93.00	3/8	9/16	0.09	QD	15	12 ft	1.30					

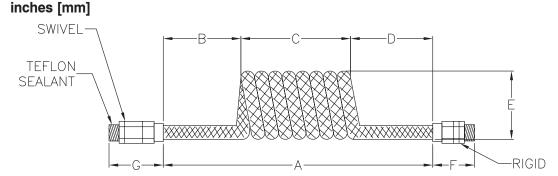


	TABLE 1												
PART NUMBER	DIM A (OVERALL LENGTH)	DIM B (TAIL)	DIM C (COMPRESSED COIL)	DIM D (TAIL)	DIM E (COIL O.D.)	DIM F (CONN.)	DIM G (CONN.)						
HBP14C10CBL	35.75[908.1]	20.00[508.0]	11.75[298.5]	4.0[101.6]	1.63[41.1]	1.50[38.1]	1.97[50.0]						
HBP14C15CBL	42.75[1085.9]	20.00[508.0]	18.75[476.3]	4.0[101.6]	1.63[41.1]	1.50[38.1]	1.97[50.0]						
HBP14C20CBL	50.50[1282.7]	20.00[508.0]	26.5[673.1]	4.0[101.6]	1.63[41.1]	1.50[38.1]	1.97[50.0]						
HBP38C10CBL	40.00[1016.0]	20.00[508.0]	16.00[406.4]	4.0[101.6]	2.38[60.5]	1.80[45.7]	2.20[55.9]						
HBP38C15CBL	47.25[1200.2]	20.00[508.0]	23.25[590.6]	4.0[101.6]	2.38[60.5]	1.80[45.7]	2.20[55.9]						
HBP38C20CBL	52.25[1327.2]	20.00[508.0]	28.25[717.6]	4.0[101.6]	2.38[60.5]	1.80[45.7]	2.20[55.9]						



Reinforced Polyurethane Coiled Hose



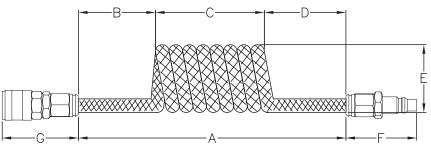


	TABLE 1												
PART NUMBER	DIM A (OVERALL LENGTH)	DIM B (TAIL)	DIM C (COMPRESSED COIL)	DIM D (TAIL)	DIM E (COIL O.D.)	DIM F (CONN.)	DIM G (CONN.)						
HBP14C10CBL-QC	35.75[908.1]	20.00[508.0]	11.75[298.5]	4.0[101.6]	1.63[41.1]	1.95[49.5]	2.10[53.3]						
HBP14C15CBL-QC	42.75[1085.9]	20.00[508.0]	18.75[476.3]	4.0[101.6]	1.63[41.1]	1.95[49.5]	2.10[53.3]						
HBP14C20CBL-QC	50.50[1282.7]	20.00[508.0]	26.5[673.1]	4.0[101.6]	1.63[41.1]	1.95[49.5]	2.10[53.3]						
HBP38C10CBL-QC	40.00[1016.0]	20.00[508.0]	16.00[406.4]	4.0[101.6]	2.38[60.5]	2.30[58.4]	2.36[59.9]						
HBP38C15CBL-QC	47.25[1200.2]	20.00[508.0]	23.25[590.6]	4.0[101.6]	2.38[60.5]	2.30[58.4]	2.36[59.9]						
HBP38C20CBL-QC	52.25[1327.2]	20.00[508.0]	28.25[717.6]	4.0[101.6]	2.38[60.5]	2.30[58.4]	2.36[59.9]						



Hybrid PVC Hose

NITRA[™] Hybrid PVC hose is a blend of PVC and rubber with a polyester braided reinforcement. The PVC gives light weight, color stability and hardness for higher working pressures while the rubber gives improved flexibility and operating temperature range. Our Hybrid PVC polyester reinforced hose is sold with or without male NPT nickel-plated brass rigid fittings (additional fittings may be purchased separately).

Features

- 1/4" and 3/8" inside diameters
- 25 and 50 foot hose lengths with fittings
- 100, 250 and 500 foot bulk hose lengths without fittings
- Works with air or water
- Black with Green Stripe color
- Shore A 62 hardness
- Strong, flexible and kink resistant



	Hybrid PVC Hose												
Working Pressure ((psi) @ 68	°F	31	00	Temp. Rang	e	-40°F to +180°F (-40°C to +82°C)						
Burst Pressure (psi	i) @ 68°F		9	00	Hardness			Shore A 62					
Part Number	Price	Hose I.D. (in)	Hose O.D. (in)	Wall Thickness (in)	Fittings	Min. Bend Radius	PKG Length	Package Weight (lbs)					
HPVC14-25BG2	\$19.50	1/4	7/16	0.09	1/4 in	1.00"	25 ft	1.5					
HPVC14-50BG2	\$24.00	1/4	//10	0.09	MNPT	1.00	50 ft	2.9					
HPVC38-25BG3	\$26.00	3/8	0/16	0.09	3/8 in	1.63"	25 ft	2.3					
HPVC38-50BG3	\$35.00	3/8	9/16	0.09	MNPT	1.03	50 ft	4.5					
HPVC14-100BG	\$32.50				NA		100 ft	5.8					
HPVC14-250BG	\$81.00	1/4	7/16	0.09	NA	1.00"	250 ft	14.6					
HPVC14-500BG	\$156.00	1			NA		500 ft	29.2					
HPVC38-100BG	\$45.00				NA		100 ft	9.0					
HPVC38-250BG	\$116.00	3/8	9/16	0.09	NA	1.63"	250 ft	22.6					
HPVC38-500BG	\$241.00				NA	1	500 ft	45.1					

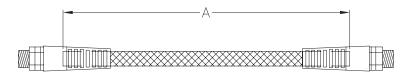


Table 1										
Part Number	DIM A (OVERALL LENGTH)									
HPVC14-25BG2	25'									
HPVC14-50BG2	50'									
HPVC38-25BG3	25'									
HPVC38-50BG3	50'									



Air or Water Threaded Fittings with Strain Relief



NITRA[™] air or water threaded fittings with strain relief are excellent for use on our Hybrid PVC polyester reinforced hose. They are comprised of a nickel-plated brass body and threads with an impact resistant acetal strain relief. Threaded sealant is preapplied.

Features

- Available in either 1/4" or 3/8" MNPT
- Nickel-plated brass
- Pre-applied thread sealant

	Air or Water Threaded Fittings with Strain Relief											
Part Number	rt Number Price Description											
<u>HSR14-14N</u>	\$5.50	NITRA air or water threaded fitting, male, hose rigid, nickel-plated brass body, nickel-plated brass threads, thread sealant, 1/4in inside diameter to 1/4in male NPT with strain relief.	0.2									
<u>HSR38-14N</u>	\$5.75	NITRA air or water threaded fitting, male, hose rigid, nickel-plated brass body, nickel-plated brass threads, thread sealant, 3/8in inside diameter to 1/4in male NPT with strain relief.	0.3									
<u>HSR38-38N</u>	\$8.00	NITRA air or water threaded fitting, male, hose rigid, nickel-plated brass body, nickel-plated brass threads, thread sealant, 3/8in inside diameter to 3/8in male NPT with strain relief.	0.3									

Threaded Fitting Application Illustration



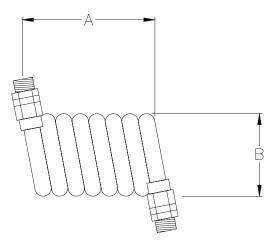
Nylon Coiled Hose

NITRA[™] nylon coiled hose is an excellent choice for industrial environments requiring higher working pressure and higher temperature/ chemical resistance. Manufactured from Nylon 12, these hoses include spring guards to resist kinking and have male nickle-plated brass NPT swivel fittings on each end.

Features

- Heavy duty nylon has low moisture absorption rate
- Coiled hose allows operator freedom of movement and uncluttered work area
- Lightweight and economical
- Replacement swivel fittings available
- Made in USA

				Nylon	Coiled	Hose Spe	cificatior	IS					
Burst Pressure			800p	si (57bar)	Temp. R	ange	-60°F to +200°F (-52°C to +93°C)						
				. ,	Hardness			S	nore D 70				
Part Number	Price	Hose I.D.	Hose O.D.	Wall Thickness	Fittings	Number of Coils	Working Length	Working Pressure (psi) @ 68°F	A (in.)	B (in.)	Package Weight (lbs)		
HN14C14-12YEL	\$17.50					15	10 ft		4.75		0.4		
HN14C14-25YEL	\$23.00	1/4	1/4	5/16	0.03		29	20 ft	250	9.5	3.625	0.5	
HN14C14-50YEL	\$32.50				(2) 1/4 in	58	40 ft		19		0.9		
HN38C14-12YEL	\$30.50				MNPT Swivel	15	10 ft	-	4.5		0.7		
HN38C14-25YEL	\$42.00					28	20 ft		9.0		1.5		
HN38C14-50YEL	\$63.00	3/8	0.47	0.05		59	42 ft	225	18.0		1.8		
HN38C38-12YEL	\$32.00	3/8	0.47	0.05	(2) 3/8 in	15	10 ft	225	4.5	6.0	0.8		
HN38C38-25YEL	\$44.50				MNPT	28	20 ft		9.0		1.2		
HN38C38-50YEL	\$66.00				Swivel	59	42 ft		18.0		2.0		
HN12C12-12YEL	\$48.00	1/0	E /0		(2) 1/2 in	8	10 ft	170	6.0	7 5	1.3		
<u>HN12C12-25YEL</u>	\$64.00	1/2	5/8	0.06	MNPT Swivel	15	20 ft	170	10.5	7.5	1.9		





Nylon Coiled Hose Kit Accessories



Nylon Coiled Hose Kit Accessories*											
Part Number	Price	Description	Package Weight (lbs)								
<u>HS14-14M-R</u>	\$5.50	NITRA pneumatic hose fitting, replacement, nickel-plated brass, 1/4 inch inside diameter, 1/4 inch male NPT swivel connections	0.1								
<u>HS38-14M-R</u>	\$7.75	NITRA pneumatic hose fitting, replacement, nickel-plated brass, 3/8 inch inside diameter, 1/4 inch male NPT swivel connections	0.2								

* For nylon hose only

(Fasteners shown not included)

NITRA Special Purpose Push-to-Connect Pneumatic Fittings

NITRA pneumatic inline fittings are special purpose products mounted inline with pneumatic circuits. With these small, highly efficient components it is possible to perform many pneumatic functions at any point in a circuit.

- Ultra-modular
- Components can be connected in parallel
- Push-to-Connect: No tools required!
- Made of lightweight technopolymer
- Stem adapters connect push-to-connect fittings to NPT ports



INLINE PRESSURE REGULATORS from \$20.25



INLINE PRESSURE GAUGES from \$17.75



INLINE PRESSURE INDICATORS from \$11.75



INLINE MANUAL SHUTOFF VALVES from \$11.25



INLINE QUICK EXHAUST VALVES from \$8.75

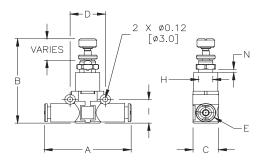


STEM ADAPTERS from \$3.25



Inline Pressure Regulators and Gauges

NITRA pneumatic push-to-connect miniature pressure regulators have a technopolymer body and nickel-plated brass internal parts. Downstream air pressure can be easily adjusted to a range of 15 to 120 psi with a built-in relief valve to exhaust over-pressure. These regulators can be installed in series or parallel with other special inline fittings.



Features

- Works with flexible pneumatic tubing
- Easily added to existing circuits
- Ideal for use in secondary branches of a pneumatic system
- Use with PGU series pressure gauges for precise control
- Two-year warranty



	NITRA® Inline Pressure Regulators													
	Inch Sizes - dimensions in inches (in.)													
Part No.	Part No. Price Tube Size Ø A B C D E H I N Inlet Pressure Range (psi) Flow Rate (scfm)*												Package Weight (lbs)	
<u>PRU14</u>													0.1	
<u> PRU516</u>														0.1

*Flow conditions: 90psi inlet pressure, 14.5 psi ΔP

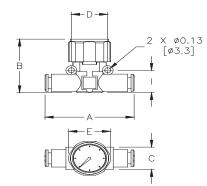
See our website www.AutomationDirect.com for complete Engineering drawings.

NITRA pneumatic push-to-connect in-line pressure gauges have a technopolymer body and metal gauge casing. They install easily anywhere in a pneumatic circuit and have a range of 0 to 170 psi.

Features

Works with flexible pneumatic tubing

Easily added to existing circuits



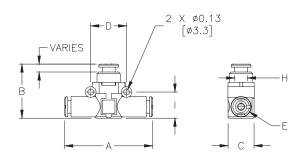


Pressure Gauge

	NITRA® Inline Pressure Gauges												
	Inch Sizes - dimensions in inches (in.)												
Part No.	Part No. Price Tube Size ø A B C D E I Max Pressure (psi)												
<u>PGU14</u>													
PGU516	\$22.50	5/16 in. [8mm] x 5/16 in. [8mm]	5/16	2.18	1.61	0.74	0.94	0.54	0.74	174	0.1		

NITRA Inline Pressure Indicators and Quick Exhaust Valves

NITRA pneumatic push-to-connect inline pressure indicators have a technopolymer body and nickel-plated brass internal parts, with a range of 29 to 145 psi. When pressure is off, the indicator is clear. When pressure is on, a colored indicator appears.



Features

- Works with flexible pneumatic tubing
- Easily added to existing circuits
- Green or orange indicator buttons
- Two-year warranty





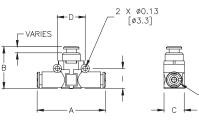
	NITRA® Inline Pressure Indicators												
	Inch Sizes - dimensions in inches (in.)												
Part No.	Part No. Price Tube Size Indicator ø A B C D H I Operating Pressure Package (psi) (lbs)												
PMU14A	\$14.50	1/4 in. x 1/4 in.	Orange	1/4	1.85	1.46	0.58	0.79	M15x1	0.57	29-145	0.1	
PMU14G	\$14.50	1/4 in. x 1/4 in.	Green	1/4	1.85	1.46	0.58	0.79	M15x1	0.57	29-145	0.1	
<u>PMU516A</u>	\$15.50	5/16 in. [8mm] x 5/16 in. [8mm]	Orange	5/16	2.18	1.61	0.74	0.94	M15x1	0.74	29-145	0.1	
<u>PMU516G</u>	\$15.50	5/16 in. [8mm] x 5/16 in. [8mm]	Green	5/16	2.18	1.61	0.74	0.94	M15x1	0.74	29-145	0.1	

See our website www.AutomationDirect.com for complete Engineering drawings.

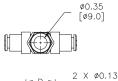
NITRA pneumatic push-to-connect in-line quick exhaust valves have a technopolymer body and nickel-plated brass valve insert, with a range of 7 to 150 psi. Normal flow is from inlet to outlet ports. Reversing flow from outlet is directed to exhaust port. These valve are ideal for use with pneumatic actuators that require a very fast stroke speed.

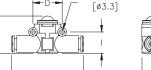
Features

- Works with flexible pneumatic tubing
- Easily added to existing circuits
- Ideal for use with fast stroke air cylinders
- Two-year warranty



Conveyed Exhaust









Conveyed Exhaust



Silenced Exhaust

Silenced Exhaust

	NITRA® Inline Quick Exhaust Valves													
	Inch Sizes - dimensions in inches (in.)													
Part No. Price Tube Size Exhaust A B C D E I Bange (nsi) Rate Flow Rate Weig													Package Weight (lbs)	
<u>QEU14</u>	\$10.50	1/4 in. x 1/4 in. x 1/4 in.	Conveyed	1.85	1.14	0.58	0.79	0.45	0.57	14.5-145	9.5	24.7	0.1	
<u>QEU516</u>	\$10.50	5/16 in. [8mm] x 5/16 in. [8mm] x 5/16 in. [8mm]	Conveyed	2.18	1.37	0.74	0.94	0.54	0.74	14.5-145	14	35.3	0.1	
<u>QEU14-S</u>	\$10.50	1/4 in. x 1/4 in.	Silenced	1.85	1.0	0.58	0.79	0.45	0.57	14.5-145	9.5	24.7	0.1	
<u>QEU516-S</u>	\$11.50	5/16 in. x 5/16 in.	Silenced	2.18	1.24	0.74	0.94	0.54	0.74	14.5-145	14	35.3	0.1	

*Flow conditions: 90psi inlet pressure, 14.5 psi $\triangle P$

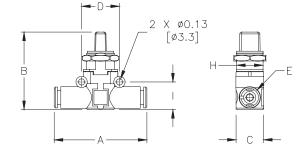
Inline Manual Shutoff Valves - 2-Way/ 3-Way Locking/Non-Locking



NITRA pneumatic push-to-connect in-line hand valves have a technopolymer body and nickel-plated brass valve insert, with a range of 0 to 150 psi. Both 2-way and 3-way valves are available with or without locking capability. 3-way valves relieve pressure downstream when in the closed position.

Features

- Works with flexible pneumatic tubing
- Easily added to existing circuits
- 2-way and 3-way valves available
- Lockable valves keep valve in closed position during maintenance (Note: Valve can only be locked in closed position)
- Two-year warranty



2-Way Valve



3-Way Valve

	NITRA [®] Inline Manual Shutoff Valves													
	Inch Sizes - dimensions in inches (in.)													
Part No.	nrt No. Price Tube Size Position A B C D E H I Max Flow Rate (psi) (scfm)*											Package Weight (lbs)		
<u>HVU14-2</u>	\$13.50	1/4 in.x 1/4 in.	2-way (non-locking)	1.05	1.61	0.50	0.79	0.45	MIEvi	0.55	145	9.9	0.1	
<u>HVU14-3</u>	\$13.50	1/4 in. x 1/4 in.	3-way (non-locking)	1.85	1.01	0.58	0.79	0.40	M15x1	0.55	140	9.9	0.1	
<u>HVU516-2</u>	\$15.00	5/16 in. [8mm] x 5/16 in. [8mm]	2-way (non-locking)	0.40	4.04	0.74	0.04	0.54	N45.4	0.50	4.45	10.0	0.1	
<u>HVU516-3</u>	\$15.00	5/16 in. [8mm] x 5/16 in. [8mm]	3-way (non-locking)	2.18	1.81	0.74	0.94	0.54	M15x1	0.59	145	16.6	0.1	
<u>HVU14-2L</u>	\$22.50	1/4 in. x 1/4 in.	2-way (locking)	1.05	1.61	0.50	0.70	0.45	Misut	0.55	145	0.0	0.1	
HVU14-3L	\$29.50	1/4 in. x 1/4 in.	3-way (locking)	1.85	1.61	0.58	0.79	0.45	M15x1	0.55	145	9.9	0.1	
HVU516-2L	\$24.00	5/16 in. [8mm] x 5/16 in. [8mm]	2-way (locking)	0.40	4.04	0.74	0.04	0.54	M45.4	0.50	4.45	10.0	0.2	
HVU516-3L	\$23.50	5/16 in. [8mm] x 5/16 in. [8mm]	3-way (locking)	2.18	1.81	0.74	0.94	0.54	M15x1	0.59	145	16.6	0.2	

*Flow conditions: 90psi inlet pressure, 14.5 psi ΔP

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Pneumatic Stem Adapters and Special Purpose Fitting Accessories

NITRA pneumatic stem adapters are used to easily connect push-to-connect fittings to a threaded port. They are made of nickel-plated brass. Five adapters per package.

Features

- Works with push-to-connect fittings
- Nickel-plated brass
- Two-year warranty



	NITRA® Stem Adapters													
	Inch Sizes - dimensions in inches (in.)													
Part No.	Price	Tube Size	ø	F	L	Package Weight (lbs)	Qty. per pack							
SA532-10N	\$3.50	5/32 in. [4mm] x 10/32 UNF	5/32	10/32 UNF	0.99	0.1	5							
SA532-18N	\$3.75	5/32 in. [4mm] x 1/8 NPT	5/32	1/8 NPT	1.09	0.1	5							
SA532-14N	\$6.00	5/32 in. [4mm] x 1/4 NPT	5/32	1/4 NPT	1.19	0.2	5							
<u>SA14-10N</u>	\$5.00	1/4 in. x 10/32 UNF	1/4	10/32 UNF	1.01	0.1	5							
<u>SA14-18N</u>	\$3.50	1/4 in. x 1/8 NPT	1/4	1/8 NPT	1.11	0.1	5							
<u>SA14-14N</u>	\$3.75	1/4 in. x 1/4 NPT	1/4	1/4 NPT	1.20	0.2	5							
<u>SA14-38N</u>	\$4.25	1/4 in. x 3/8 NPT	1/4	3/8 NPT	1.31	0.3	5							
SA516-18N	\$3.50	5/16 in. [8mm] x 1/8 NPT	5/16	1/8 NPT	1.15	0.1	5							
SA516-14N	\$3.75	5/16 in. [8mm] x 1/4 NPT	5/16	1/4 NPT	1.24	0.2	5							
SA516-38N	\$6.50	5/16 in. [8mm] x 3/8 NPT	5/16	3/8 NPT	1.35	0.3	5							

See our website www.AutomationDirect.com for complete Engineering drawings.

Special Purpose Fitting Accessories



	NITRA® Special Purpose Pneumatic Fitting Accessories											
Part No.	Price	Description	Weight (lbs)									
<u>FBKT</u>	\$2.50	NITRA pneumatic mounting bracket, fits all push-to-connect fittings, plated steel. Screws supplied with bracket are for mounting one fitting only.	0.1									
<u>TU14</u>	\$3.00	NITRA pneumatic U-tube, polyamide, 1/4 inch, works with push-to-connect fittings	0.1									
<u>TU516</u>	\$3.00	NITRA pneumatic U-tube, polyamide, 5/16 inch [8mm], works with push-to-connect fittings	0.1									





Pneumatic Fitting Instructions and Caution Information

Assembly Instructions





Prepare the NITRA tubing for cutting and make sure to have the proper tubing cutters like the NITRA TC-12 or TC-20.

(If cutting bonded tubing, carefully split the tubes with a knife and then pull apart as needed.)

Cut the **NITRA** tubing at a right angle with the axis using a standard tube cutter. After cutting the tubing, make sure to check the cut end for an even cut with no debris.



Insertion of the NITRA tubing into fittings

- Make sure the tube is inserted fully into the fitting.
- Pull the tube gently to make sure it does not release.
- If the tube end is damaged or deformed, leakage or unexptected tube release may occur. Make sure to check tubing end thoroughly.



Removing the NITRA tubing from fittings

- Make sure the pressure in the tube is zero before releasing the tube from the fittings.
- To release the tubing, press the release ring at the end of the fitting and pull the tube with one hand.
- Inspect the released tube end and make a clean cut if it is damaged or deformed.

Common Precautions for Tubing and Fitting Products

Warnings:

- Do not use fittings with media other than air.
- Avoid installing with tubing under tension or with excessive bends.
- Do not use the product where weld spatters occur as fire may occur.
- Product damage or air leakage may occur at places where there is excessive rotation or vibration of the fittings.
- Use caution in water as the product may be damaged by surge pressure.
- Do not use the product where it is directly exposed to fluids such as cutting oil, lubricating oil, and coolant oil.

Cautions:

- Assemble the tubing only after cleaning away impurities such as dust and excess debris.
- Fitting products are recommended for air systems only. Avoid using for other purposes.
- When using tubing other than NITRA brand with NITRA fittings, be sure the tubing OD conforms to the tolerances in Table 1 below.

Table 1 - Tolerance of the Outer Diameter of the Tube													
Tube Specifications	ø5/32 [ø4]	ø1/4 [ø6]	ø5/16 [ø8]	ø3/8 [ø10]	ø1/2	2 [ø12]							
<i>Permissible tolerance</i> + 0.005 [+/- 0.13]													
Pneumatic Tubing Cutter													
Part Number		Description		Pcs/Pkg	Wt (lb)	Price							
<u>TC-12</u>	NITRA pneumatic tubir mm outside diameter f		2 1	0.1	\$4.75								
<u>TC-20</u>	0.2	\$9.75											





TC-20

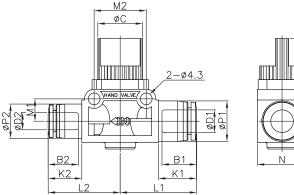


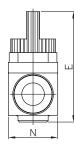
Union Hand Valve

NITRA Pneumatic Push-to-Connect union straight manual hand valve bodies are made of a strong thermoplastic (PBT) and have stainless steel tube gripping claws. In the closed (off) position, upstream air pressure is blocked while downstream air pressure is vented to atmosphere. NITRA Polyurethane and Nylon 12 tubing is easily connected by simply inserting the tubing end into the fitting. To release the tubing, press the circular release ring and the tubing can be easily pulled out. Each package contains two valves.

Features

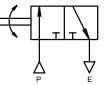
- Inch and metric sizes available
- Tough thermoplastic bodies and stainless steel tube gripping claws
- Release rings are color coded to differentiate between inch and metric sizes
- In the closed (off) position, upstream air pressure is blocked while downstream air pressure is vented to atmosphere.











Inch Fitting

Metric Fitting

	NITRA Union Hand Valve																		
	Inch Sizes - dimensions in inches (in.)																		
Part No.	Price	Size	øD1	øD2	øP1	øP2	øC	N	Ε	B1	B2	K1	K2	L1	L2	M1	M2	Package Weight (Ibs)	Oty. per pack
HVU14	\$18.00	1/4 in.	1/4	1/4	0.51	0.51	0.64	0.71	1.59	0.66	0.66	0.49	0.49	1.04	1.04	0.32	0.75	0.1	2
<u>HVU516</u>	\$19.00	5/16 in. (8 mm)	5/16	5/16	0.58	0.58	0.69	0.70	1.59	0.72	0.72	0.53	0.53	1.08	1.08	0.32	0.75	0.1	2
<u>HVU38</u>	\$20.50	3/8 in.	3/8	3/8	0.69	0.69	0.76	0.83	1.59	0.79	0.79	0.56	0.56	1.21	1.21	0.43	0.94	0.2	2
<u>HVU12</u>	\$22.50	1/2 in.	1/2	1/2	0.83	0.83	0.76	0.83	1.59	0.90	0.90	0.70	0.70	1.35	1.35	0.43	0.94	0.2	2
					М	etric Si	zes - d	imens	ions i	in mill	imete	rs (mi	n)						
HVU6M	\$16.50	6 mm	6	6	12.5	12.5	16.3	18.0	40.3	16.4	16.4	12.3	12.3	26.3	26.3	8.2	19.0	0.1	2
HVU8M	\$17.50	8 mm (5/16 in.)	8	8	14.8	14.8	18.0	18.7	40.3	18.7	18.7	13.9	13.9	27.9	27.9	8.2	19.0	0.1	2
HVU10M	\$18.50	10 mm	10	10	17.5	17.5	19.3	21.2	40.5	20.1	20.1	14.4	14.4	30.9	30.9	10.9	24.0	0.2	2
HVU12M	\$20.00	12 mm	12	12	20.5	20.5	19.3	21.2	40.5	22.8	22.8	17.6	17.6	34.1	34.1	10.9	24.0	0.2	2

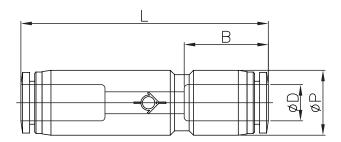


Union Check Valve

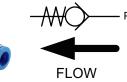
NITRA Pneumatic Push-to-Connect union straight check valve bodies are made of a strong thermoplastic (PBT) or aluminum and have stainless steel tube gripping claws. The check valve allows air flow in one direction and blocks air flow in the reverse direction. **NITRA** Polyurethane and Nylon 12 tubing is easily connected by simply inserting the tubing end into the fitting. To release the tubing, press the circular release ring and the tubing can be easily pulled out. Each package contains five valves.

Features

- Inch and metric sizes available
- Tough thermoplastic or aluminum bodies and stainless steel tube gripping claws
- Release rings are color coded to differentiate between inch and metric sizes
- Allows air flow in one direction and blocks air flow in the reverse direction.







Inch Fitting

Metric Fitting

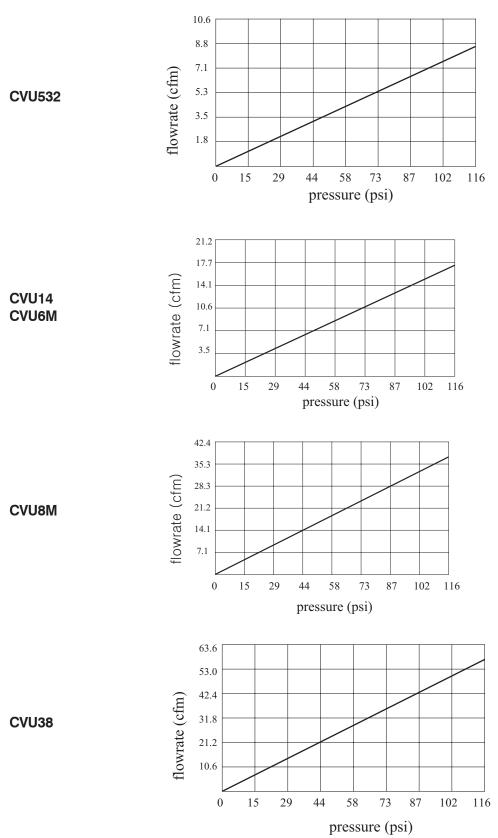
	NITRA Union Check Valve												
Inch Sizes - dimensions in inches (in.)													
Part No.	o. Price Size øD øP L B Package Weight (lbs)												
<u>CVU532</u>	\$36.00	5/32 in. (4 mm)	5/32	0.41	1.67	0.59	0.1	5					
CVU14	\$41.00	1/4 in.	1/4	0.51	1.91	0.66	0.1	5					
<u>CVU38</u> *	\$111.00	3/8 in.	3/8	0.91	2.55	0.79	0.5	5					
		Metric Sizes -	dimens	ions in n	nillimete	ers (mm)						
CVU6M	\$37.00	6 mm	6	12.5	47.5	16.4	0.1	5					
CVU8M	\$46.00	8 mm (5/16 in.)	8	14.8	56.4	18.7	0.2	5					

* Aluminum body



Pneumatic Union Check Valve

Flowrate Charts





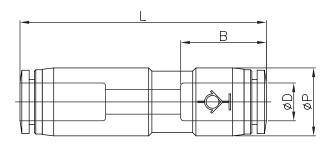
Pneumatic Union Stop Valve

Union Stop Valve

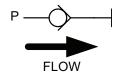
NITRA Pneumatic Push-to-Connect union straight stop valve bodies are made of a strong thermoplastic (PBT) and have stainless steel tube gripping claws. When the downstream tube is removed from the stop valve, upstream air pressure is blocked. **NITRA** Polyurethane and Nylon 12 tubing is easily connected by simply inserting the tubing end into the fitting. To release the tubing, press the circular release ring and the tubing can be easily pulled out. Each package contains five valves.

Features

- Inch and metric sizes available
- Tough thermoplastic bodies and stainless steel tube gripping claws
- Release rings are color coded to differentiate between inch and metric sizes
- When the downstream tube is removed from the stop valve, upstream air pressure is blocked.







Inch Fitting

Metric Fitting

	NITRA Union Stop Valve													
	Inch Sizes - dimensions in inches (in.)													
Part No.	Price	Size	øD	øP	L	В	Package Weight (lbs)	Qty. per pack						
<u>SVU532</u>	\$33.00	5/32 in. (4 mm)	5/32	0.41	1.66	0.59	0.1	5						
SVU14	\$40.00	1/4 in.	1/4	0.51	1.85	0.66	0.1	5						
<u>SVU38</u>	\$51.00	3/8 in.	3/8	0.69	2.29	0.79	0.2	5						
<u>SVU12</u>	\$53.00	1/2 in.	1/2	0.83	2.67	0.90	0.4	5						
		Metric Sizes - di	mensio	ns in mi	llimeters	s (mm)								
SVU6M	\$35.00	6 mm	6	12.5	46.0	16.4	0.1	5						
SVU8M	\$41.00	8 mm (5/16 in.)	8	14.8	53.7	18.7	0.1	5						
SVU10M	\$47.00	10 mm	10	17.5	58.2	20.1	0.2	5						
SVU12M	\$48.00	12 mm	12	20.5	67.1	22.8	0.3	5						



Pneumatic Check Valve Fittings

Union Check Valves

These high quality check valves work well in pneumatic circuits requiring free flow in one direction and no flow in the opposite direction. All valve bodies are nickel-plated brass.

> Dimensions inches [mm]

> > 0.82 [20.8]

Features

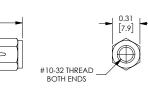
- Multiple porting options
- Durable brass construction
- Low cracking pressure (less than 1 psi)
- Compact in-line or port mounting styles
- Made in USA



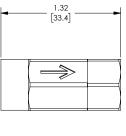
Part No. CVU10N

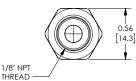
		NITRA TM Pneumatic Check Valve Fittings		
Part No.	Price	Description	Parts Per Pkg	Weight (lbs)
<u>CVU10N</u>	\$6.00	NITRA pneumatic threaded fitting, check valve, nickel-plated brass body, nickel-plated brass threads, (2) #10-32 female threaded connection(s).	1	0.2
<u>CVU18N</u>	\$7.25	NITRA pneumatic threaded fitting, check valve, nickel-plated brass body, nickel-plated brass threads, (2) 1/8in female NPT connection(s).	1	0.7
<u>CVF18N-M18N</u>	\$7.25	NITRA pneumatic threaded fitting, check valve, nickel-plated brass body, nickel-plated brass threads, (1) 1/8in female NPT to (1) 1/8in male NPT connection(s).	1	0.7
<u>CVM18N-F18N</u>	\$7.25	NITRA pneumatic threaded fitting, check valve, nickel-plated brass body, nickel-plated brass threads, (1) 1/8in male NPT to (1) 1/8in female NPT connection(s).	1	0.7

Part No. CVU18N



Part No. CVU10N





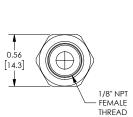
THREAD -BOTH ENDS

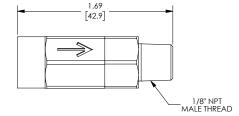
Part No. CVU18N



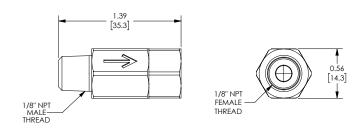
Part No. CVF18N-M18N

Part No. CVM18N-F18N





Part No. CVF18N-M18N



Part No. CVM18N-F18N





Pneumatic Shuttle Valve Fittings

Shuttle Valves

These shuttle valves automatically select the higher of two inlet pressures and direct that flow to the outlet.



Features

- Various porting options including push-to-connect fittings
- Space saving
- Long service life
- Low cracking pressure (less than 1 psi)
- Porting versatility eliminates excess fitting requirements
- Made in USA



	NITRA™ Pneumatic Union Check Valve Fittings												
Part No.	Price	Description	Parts Per Pkg	Weight (lbs)									
<u>SV10N</u>	\$9.50	NITRA pneumatic threaded fitting, shuttle valve, nickel-plated brass body, nickel-plated brass threads, (3) $\#10-32$ female threaded connection(s).	1	0.05									
<u>SV18N</u>	\$10.50	NITRA pneumatic threaded fitting, shuttle valve, anodized aluminum body, nickel-plated brass threads, (3) 1/8in female NPT connection(s).	1	0.10									
<u>SV14</u>	\$16.50	NITRA pneumatic threaded fitting, shuttle valve, anodized aluminum body, nickel-plated brass threads, (3) 1/4in push-to-connect tubing connection(s).	1	0.15									

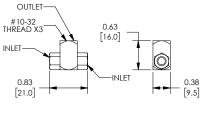
Part No. SV10N



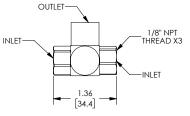
Dimensions inches [mm]

Part No. SV18N





Part No. SV10N



Part No. SV18N

1

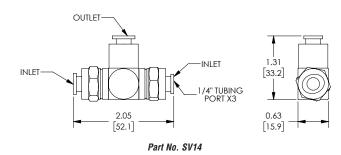
1.14

[29.0]

0.63

[15.9]

Part No. SV14





Price

Pilot Operated Check Valves

These valves are designed for use in applications requiring an actuator to be locked in position. They work as a normal check valve (free flow from inlet to outlet, no flow outlet to inlet) until pressure is applied to the pilot port allow free flow from outlet to inlet.

Part No.

Features

- Swivel input port
- Direct cylinder mount
- Plated for corrosion resistance
- Low cracking pressure

NITRA™ Pneumatic Pilot Operated Check Valve Fittings

Thread sealant standard on output ports



Part No. POC18N

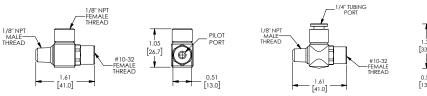


Part No. POC14-18N

Part No. POC14-14N

Description Pkg (lbs) NITRA pneumatic threaded fitting, pilot operated check valve, rotating, anodized aluminum body, zinc-plated brass threads, (1) 1/8in female NPT to (1) 1/8in male NPT to (1) #10-32 female threaded connection(s). POC18N \$35.50 0.05 1 NITRA pneumatic threaded fitting, pilot operated check valve, rotating, anodized aluminum body, zinc-plated brass threads, (1) 1/4in push-to-connect tubing to (1) 1/8in male NPT to (1) #10-32 female threaded POC14-18N \$36.50 0.05 1 connection(s). NITRA pneumatic threaded fitting, pilot operated check valve, rotating, anodized aluminum body, nickel-plated brass threads, (1) 1/4in push-POC14-14N \$26.50 0.15 1 to-connect tubing to (1) 1/4in male NPT to (1) #10-32 female threaded connection(s)

Dimensions inches [mm]



Part No. POC18N

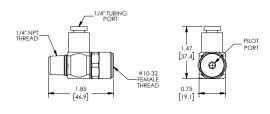


Parts Per

Weight

PILOT

Part No. POC14-18N



Part No. POC14-14N



Nickel-Plated Bleed Valves

These bleed valves offer an easy solution to releasing trapped or excess air pressure from a pneumatic system. Simply press the button to exhaust air pressure.



Features

- Release 100 in³ in 4 seconds
- Durable construction
- Available with standard pipe thread and 10-32 thread
- Made in USA

	NITRA™ Pneumatic Nickel-Plated Bleed Valve Fittings												
Part No.	Price	Description	Parts Per Pkg	Weight (lbs)									
<u>GBV10N</u>	\$10.00	NITRA pneumatic threaded fitting, bleed valve, nickel-plated brass body, nickel-plated brass threads, (1) #10-32 male threaded connection(s).	1	0.01									
<u>GBV18N</u>	\$9.50	NITRA pneumatic threaded fitting, bleed valve, nickel-plated brass body, nickel-plated brass threads, (1) 1/8in male NPT connection(s).	1	0.05									
<u>GBV14N</u>	\$10.00	NITRA pneumatic threaded fitting, bleed valve, nickel-plated brass body, nickel-plated brass threads, (1) 1/4in male NPT connection(s).	1	0.10									

Part No. GBV10N

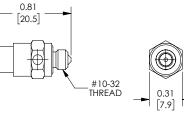


Dimensions inches [mm]

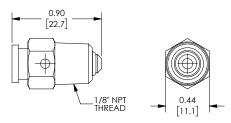
Part No. GBV18N



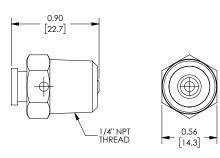
Part No. GBV14N



Part No. GBV10N



Part No. GBV18N



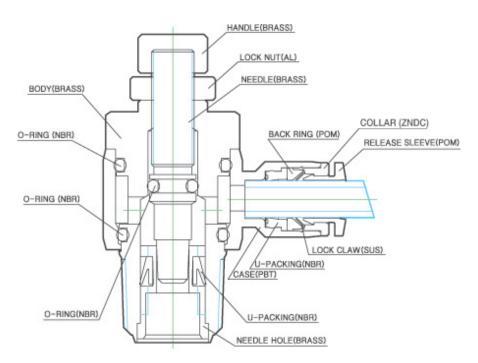
Part No. GBV14N

NITRA Pneumatic Push-to-Connect Flow Control (Speed Controller) Valves

NITRA Pneumatic Push-to-Connect Flow Control (Speed Controller) Valves provide accurate airflow regulation for precise speed control of pneumatic cylinders. **NITRA** flow control valve bodies are made of a strong thermoplastic (PBT) and have stainless steel tube gripping claws. Threaded components are made of nickel-plated brass and have pre-applied Teflon thread sealant (O-ring on #10-32, M5 and G threads). Flow control valve bodies can be rotated after installation to allow for variations in piping direction. **NITRA** Polyurethane and Nylon 12 tubing is easily connected by simply inserting the tubing end into the fitting. To release the tubing, press the circular release ring and the tubing can be easily pulled out.

Features

- Meter-in , meter-out and in-line configurations
- Inch and metric sizes available
- NPT, BSPT (R) and BSPP (G) threads available
- Tough thermoplastic bodies, stainless steel tube gripping claws, nickel-plated threads with pre-applied Teflon sealant (O-ring on #10-32, M5 and G threads)
- Bodies can be rotated after installation
- Release rings are color coded to differentiate between meter-in and meter-out
- For use with air only.
- Working pressure: -29.5" Hg to 150 psi.
- Working Temperature 32 to 140 $^\circ$ F (0 to 60 $^\circ$ C)

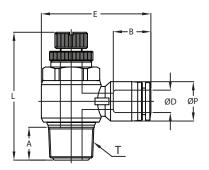


Flow Control Valve Cut-away Diagram



Pneumatic Push-to-Connect Flow Control (Speed Controller) Valves





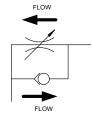
NITRA pneumatic push-to-connect **meter-in** flow control valve (speed controller) elbow with rotating thermoplastic (PBT) body, nickel-plated brass threads, stainless steel tube griping claws, and pre-applied Teflon thread sealant (#10-32, M5 and G threads have O-ring instead of thread sealant). For use with polyurethane or nylon tubing. Two fittings per package.



Inch/Metric Flow Control Valve



Flow Control Valve



	NITRA Elbow Flow Control Valve Meter-In												
			I	nch Siz	es - dimen	sions ii	n inches	s (in.)					
Part No.	Price	Size	øD	øP	Т	Min.	L Max.	E	A	В	H (Hex)	Package Weight (lbs)	Qty. per pack
<u>FVR18-10N</u>	\$13.50	1/8 in. x #10-32	1/8	0.30	UNF 10-32	1.06	1.15	0.85	0.14	0.44	5/16	0.1	2
<u>FVR532-10N</u>	\$10.00	5/32 in. (4 mm) x #10-32	5/32	0.41	UNF 10-32	1.06	1.15	1.04	0.14	0.59	5/16	0.1	2
<u>FVR532-18N</u>	\$13.50	5/32 in. (4 mm) x 1/8 NPT	5/32	0.41	NPT 1/8	1.37	1.57	1.21	0.32	0.59	7/16	0.1	2
<u>FVR14-10N</u>	\$13.00	1/4 in. x #10-32	1/4	0.51	UNF 10-32	1.06	1.15	1.13	0.14	0.66	5/16	0.1	2
<u>FVR14-18N</u>	\$15.50	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	1.37	1.57	1.26	0.32	0.66	7/16	0.1	2
<u>FVR14-14N</u>	\$16.50	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	1.60	1.85	1.41	0.43	0.66	19/32	0.2	2
<u>FVR516-18N</u>	\$17.50	5/16 in. (8 mm) x 1/8 NPT	5/16	0.57	NPT 1/8	1.37	1.56	1.31	0.32	0.72	7/16	0.1	2
<u>FVR516-14N</u>	\$17.50	5/16 in. (8 mm) x 1/4 NPT	5/16	0.57	NPT 1/4	1.59	1.85	1.47	0.43	0.72	19/32	0.2	2
FVR516-38N	\$20.00	5/16 in. (8 mm) x 3/8 NPT	5/16	0.57	NPT 3/8	1.88	2.16	1.59	0.52	0.72	3/4	0.3	2
FVR38-14N	\$19.00	3/8 in. x 1/4 NPT	3/8	0.69	NPT 1/4	1.60	1.85	1.57	0.43	0.79	19/32	0.2	2
FVR38-38N	\$20.00	3/8 in. x 3/8 NPT	3/8	0.69	NPT 3/8	1.89	2.16	1.65	0.52	0.79	3/4	0.4	2
FVR38-12N	\$29.00	3/8 in. x 1/2 NPT	3/8	0.69	NPT 1/2	2.12	2.41	1.86	0.65	0.79	15/16	0.4	2
FVR12-38N	\$29.00	1/2 in. x 3/8 NPT	1/2	0.82	NPT 3/8	1.89	2.16	1.78	0.52	0.90	3/4	0.4	2
<u>FVR12-12N</u>	\$30.00	1/2 in. x 1/2 NPT	1/2	0.82	NPT 1/2	2.12	2.41	1.99	0.65	0.90	15/16	0.4	2

BSPT = British Standard Pipe Taper BSPP = British Standard Pipe Parallel

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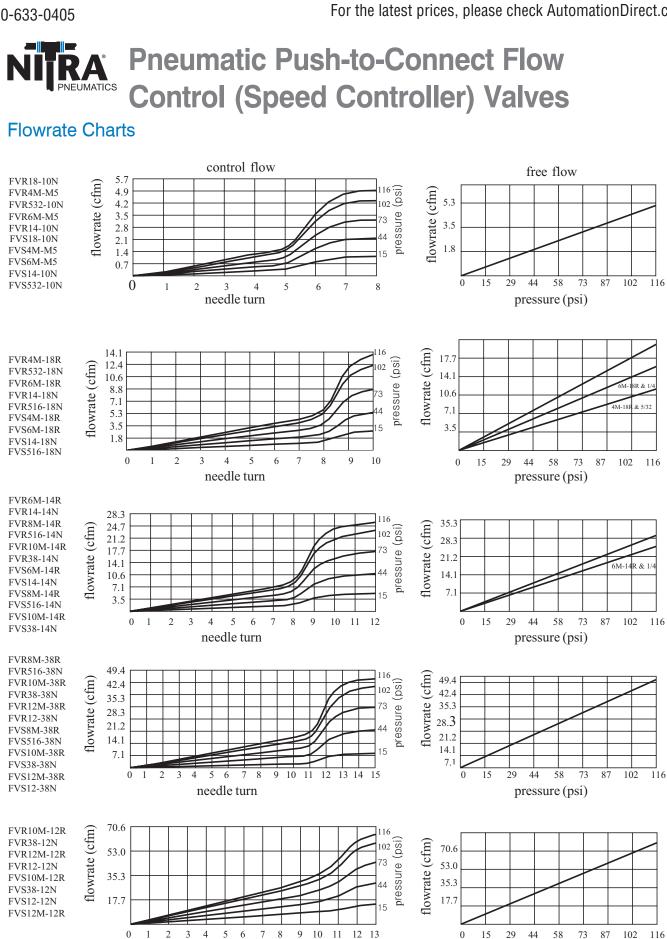


PNEUMATICS Pneumatic Push-to-Connect Flow Control (Speed Controller) Valves

	NITRA Elbow Flow Control Valve Meter-In												
		R-Three	ad (BSF	PT) Met	ric Sizes ·	dimen	sions i	n millin	neters ((mm)			
Part No.	Price	Size	øD	øP	т	Min.	L Max.	Ε	A	В	H (Hex)	Package Weight (lbs)	Qty. per pack
<u>FVR4M-M5</u>	\$11.00	4 mm (5/32 in.) x M5	4	10.5	M5*0.8p	27.1	29.1	25.4	3.6	14.9	8	0.1	2
<u>FVR4M-18R</u>	\$13.50	4 mm (5/32 in.) x R1/8	4	10.5	R 1/8	35.5	40.7	30.5	8.2	14.9	11	0.1	2
FVR6M-M5	\$13.50	6 mm x M5	6	12.5	M5*0.8p	27.1	29.1	27.8	3.6	16.4	8	0.1	2
<u>FVR6M-18R</u>	\$14.00	6 mm x R1/8	6	12.5	R 1/8	35.5	40.7	31.3	8.2	16.4	11	0.1	2
<u>FVR6M-14R</u>	\$16.00	6 mm x R1/4	6	12.5	R 1/4	40.3	46.6	35.3	11.0	16.4	15	0.2	2
<u>FVR8M-14R</u>	\$17.50	8 mm (5/16 in.) x R1/4	8	14.5	R 1/4	40.3	46.6	37.4	11.0	18.7	15	0.2	2
FVR8M-38R	\$20.50	8 mm (5/16 in.) x R3/8	8	14.5	R 3/8	46.9	54.9	40.4	12.2	18.7	19	0.1	2
<u>FVR10M-14R</u>	\$22.00	10 mm x R1/4	10	17.5	R 1/4	40.3	46.6	38.8	11.0	20.1	15	0.1	2
<u>FVR10M-38R</u>	\$22.50	10 mm x R3/8	10	17.5	R 3/8	46.9	54.9	42.1	12.2	20.1	19	0.2	2
<u>FVR10M-12R</u>	\$26.00	10 mm x R1/2	10	17.5	R 1/2	54.0	60.1	47.3	16.5	20.1	24	0.4	2
<u>FVR12M-38R</u>	\$26.50	12 mm x R3/8	12	20.5	R 3/8	46.9	54.9	45.2	12.2	22.8	19	0.4	2
<u>FVR12M-12R</u>	\$24.50	12 mm x R1/2	12	20.5	R 1/2	54.0	60.1	50.1	16.5	22.8	24	0.4	2
		G-Threa	ad (BSF	PP) Met	tric Sizes ·	dimen	isions i	n millin	neters ((mm)			
<u>FVR4M-18G</u>	\$13.50	4 mm (5/32 in.) x G1/8	4	10.5	G 1/8	34.6	39.8	30.3	6.0	15.3	8	0.2	2
FVR6M-18G	\$14.00	6 mm x G1/8	6	12.5	G 1/8	34.6	39.8	31.2	6.0	16.4	8	0.2	2
FVR6M-14G	\$16.00	6 mm x G1/4	6	12.5	G 1/4	39.8	46.1	35.2	8.0	16.4	12	0.3	2
<u>FVR6M-38G</u>	\$18.50	6 mm x G3/8	6	12.5	G 3/8	47.7	54.9	38.7	8.0	16.4	14	0.4	2
<u>FVR8M-14G</u>	\$17.50	8 mm (5/16 in.) x G1/4	8	14.5	G 1/4	39.8	46.1	36.9	8.0	18.3	12	0.2	2
<u>FVR8M-38G</u>	\$20.50	8 mm (5/16 in.) x G3/8	8	14.5	G 3/8	47.7	54.9	39.9	8.0	18.3	14	0.3	2
<u>FVR8M-12G</u>	\$28.50	8 mm (5/16 in.) x G1/2	8	14.5	G 1/2	54.5	61.7	45.8	9.0	18.3	17	0.4	2
<u>FVR10M-38G</u>	\$22.50	10 mm x G3/8	10	17.5	G 3/8	47.7	54.9	42.2	8.0	19.7	14	0.4	2

BSPT = British Standard Pipe Taper

BSPP = British Standard Pipe Parallel



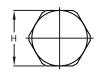
www.automationdirect.com

needle turn

pressure (psi)



Pneumatic Push-to-Connect Flow Control (Speed Controller) Valves



Α

B

ØD ØP

NITRA pneumatic push-to-connect meter-out flow control valve (speed controller) elbow with rotating thermoplastic (PBT) body, nickel-plated brass threads, stainless steel tube griping claws, and pre-applied Teflon thread sealant (#10-32, M5 and G threads have O-ring instead of thread sealant). For use with polyurethane or nylon tubing. Two fittings per package.



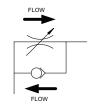
Inch Fittina



R-Thread (BSPT) Flow Control Valve



Flow Control Valve



ED. Mat

NITRA Elbow Flow Control Valve Meter-Out													
				Inch Si	zes - dime	ensions	in inche	s (in.)					
Part No.	Price	Size	øD	øP	Т	Min.	L Max.	Ε	A	В	H (Hex)	Package Weight (lbs)	Qty. per pack
<u>FVS18-10N</u>	\$13.50	1/8 in. x #10-32	1/8	0.30	UNF 10-32	1.06	1.15	0.85	0.14	0.44	5/16	0.1	2
FVS532-10N	\$10.00	5/32 in. (4 mm) x #10-32	5/32	0.41	UNF 10-32	1.06	1.15	1.04	0.14	0.59	5/16	0.1	2
<u>FVS532-18N</u>	\$13.50	5/32 in. (4 mm) x 1/8 NPT	5/32	0.41	NPT 1/8	1.37	1.57	1.21	0.32	0.59	7/16	0.1	2
<u>FVS14-10N</u>	\$13.00	1/4 in. x #10-32	1/4	0.51	UNF 10-32	1.06	1.15	1.13	0.14	0.66	5/16	0.1	2
<u>FVS14-18N</u>	\$15.50	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	1.37	1.57	1.26	0.32	0.66	7/16	0.2	2
<u>FVS14-14N</u>	\$16.50	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	1.60	1.85	1.41	0.43	0.66	19/32	0.2	2
<u>FVS516-18N</u>	\$17.50	5/16 in. (8 mm) x 1/8 NPT	5/16	0.57	NPT 1/8	1.37	1.56	1.31	0.32	0.72	7/16	0.1	2
<u>FVS516-14N</u>	\$17.50	5/16 in. (8 mm) x 1/4 NPT	5/16	0.57	NPT 1/4	1.59	1.85	1.47	0.43	0.72	19/32	0.2	2
<u>FVS516-38N</u>	\$20.00	5/16 in. (8 mm) x 3/8 NPT	5/16	0.57	NPT 3/8	1.88	2.16	1.59	0.52	0.72	3/4	0.3	2
<u>FVS38-14N</u>	\$19.00	3/8 in. x 1/4 NPT	3/8	0.69	NPT 1/4	1.60	1.85	1.57	0.43	0.79	19/32	0.2	2
<u>FVS38-38N</u>	\$20.00	3/8 in. x 3/8 NPT	3/8	0.69	NPT 3/8	1.89	2.16	1.65	0.52	0.79	3/4	0.4	2
<u>FVS38-12N</u>	\$29.00	3/8 in. x 1/2 NPT	3/8	0.69	NPT 1/2	2.12	2.41	1.86	0.65	0.79	15/16	0.4	2
<u>FVS12-38N</u>	\$29.00	1/2 in. x 3/8 NPT	1/2	0.82	NPT 3/8	1.89	2.16	1.78	0.52	0.90	3/4	0.4	2
FVS12-12N	\$30.00	1/2 in. x 1/2 NPT	1/2	0.82	NPT 1/2	2.12	2.41	1.99	0.65	0.90	15/16	0.4	2

BSPT = British Standard Pipe Taper BSPP = British Standard Pipe Parallel

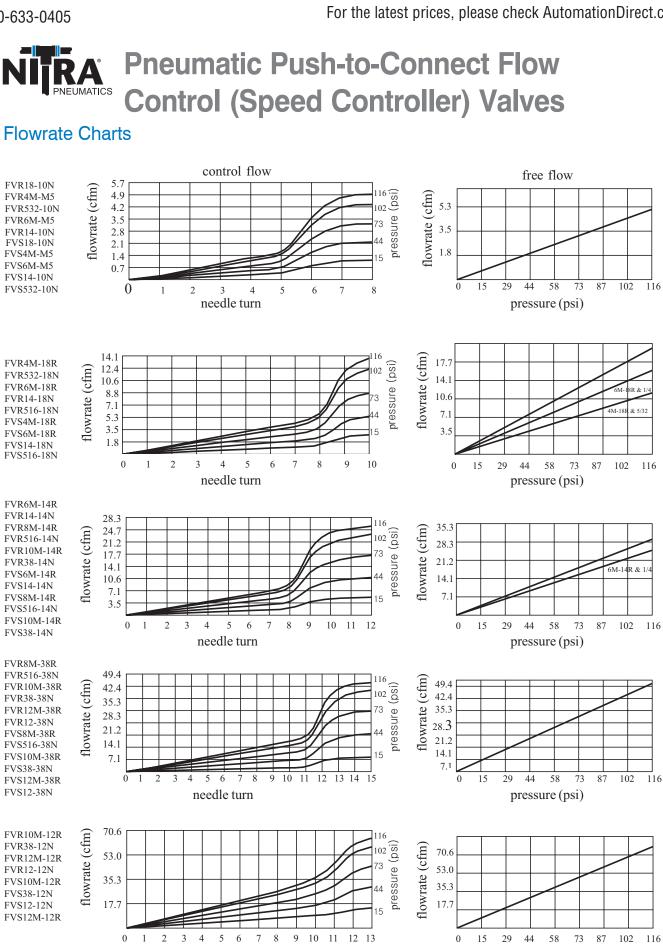


Pneumatic Push-to-Connect Flow Control (Speed Controller) Valves

			NITR	A Elbo	w Flow (Control	Valve	Meter-	Out					
		R-Threa	d (BS	PT) Me	tric Sizes	- dime	nsions i	n milliı	neters	(mm)				
Part No.	Price	Size	øD	øΡ	т		L	E	A	В	H (Hex)	Package Weight	Qty. per	
Part NU.	FIICE	5120	ØD	ØF	'	Min.	Max.	E	А	D	п (пех)	(lbs)	pack	
<u>FVS4M-M5</u>	\$11.00	4 mm (5/32 in.) x M5	4	10.5	M5*0.8p	27.1	29.1	25.4	3.6	14.9	8	0.2	2	
<u>FVS4M-18R</u>	\$13.50	4 mm (5/32 in.) x R1/8	4	10.5	R 1/8	35.5	40.7	30.5	8.2	14.9	11	0.2	2	
<u>FVS6M-M5</u>	\$13.50	6 mm x M5	6	12.5	M5*0.8p	27.1	29.1	27.8	3.6	16.4	8	0.2	2	
<u>FVS6M-18R</u>	\$14.00	6 mm x R1/8	6	12.5	R 1/8	35.5	40.7	31.3	8.2	16.4	11	0.2	2	
<u>FVS6M-14R</u>	\$16.00	6 mm x R1/4	6	12.5	R 1/4	40.3	46.6	35.3	11.0	16.4	15	0.2	2	
FVS8M-14R \$17.50 8 mm (5/16 in.) x R1/4 8 14.5 R 1/4 40.3 46.6 37.4 11.0 18.7 15 0.3														
FVS8M-38R	\$20.50	8 mm (5/16 in.) x R3/8	8	14.5	R 3/8	46.9	54.9	40.4	12.2	18.7	19	0.3	2	
FVS10M-14R	\$22.00	10 mm x R1/4	10	17.5	R 1/4	40.3	46.6	38.8	11.0	20.1	15	0.4	2	
FVS10M-38R	\$22.50	10 mm x R3/8	10	17.5	R 3/8	46.9	54.9	42.1	12.2	20.1	19	0.4	2	
FVS10M-12R	\$26.00	10 mm x R1/2	10	17.5	R 1/2	54.0	60.1	47.3	16.5	20.1	24	0.4	2	
FVS12M-38R	\$26.50	12 mm x R3/8	12	20.5	R 3/8	46.9	54.9	45.2	12.2	22.8	19	0.4	2	
FVS12M-12R	\$26.50	12 mm x R1/2	12	20.5	R 1/2	54.0	60.1	50.1	16.5	22.8	24	0.4	2	
		G-Threa	d (BS	PP) Me	etric Sizes	- dime	nsions i	n milliı	neters	(mm)				
FVS4M-18G	\$13.50	4 mm (5/32 in.) x G1/8	4	10.5	G 1/8	34.6	39.8	30.3	6.0	15.3	8	0.2	2	
FVS6M-18G	\$14.00	6 mm x G1/8	6	12.5	G 1/8	34.6	39.8	31.2	6.0	16.4	8	0.2	2	
<u>FVS6M-14G</u>	\$16.00	6 mm x G1/4	6	12.5	G 1/4	39.8	46.1	35.2	8.0	16.4	12	0.3	2	
<u>FVS6M-38G</u>	\$18.50	6 mm x G3/8	6	12.5	G 3/8	47.7	54.9	38.7	8.0	16.4	14	0.4	2	
FVS8M-14G	\$17.50	8 mm (5/16 in.) x G1/4	8	14.5	G 1/4	39.8	46.1	36.9	8.0	18.3	12	0.2	2	
FVS8M-38G	\$20.50	8 mm (5/16 in.) x G3/8	8	14.5	G 3/8	47.7	54.9	39.9	8.0	18.3	14	0.3	2	
FVS8M-12G	\$28.50	8 mm (5/16 in.) x G1/2	8	14.5	G 1/2	54.5	61.7	45.8	9.0	18.3	17	0.4	2	
<u>FVS10M-38G</u>	\$22.50	10 mm x G3/8	10	17.5	G 3/8	47.7	54.9	42.2	8.0	19.7	14	0.4	2	
FVS10M-12G	\$26.00	10 mm x G1/2	10	17.5	G 1/2	54.5	61.7	48.4	9.0	19.7	17	0.5	2	

BSPT = British Standard Pipe Taper

BSPP = British Standard Pipe Parallel



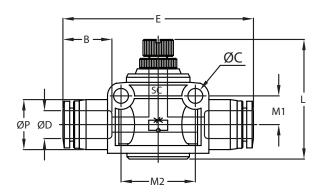
www.automationdirect.com

needle turn

pressure (psi)

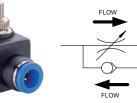


Pneumatic Push-to-Connect Flow [°] Control (Speed Controller) Valves



NITRA pneumatic push-to-connect in-line flow control valve (speed controller) with thermoplastic (PBT) body, nickel-plated brass control knob and stainless steel tube griping claws. For use with polyurethane or nylon tubing. Two fittings per package.





Inch Fitting

Metric Fitting

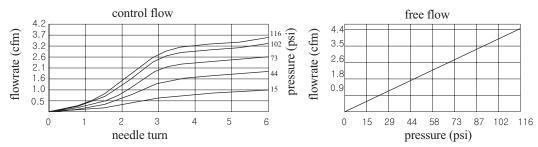
	NITRA In-Line													
	Inch Sizes - dimensions in inches (in.)													
Part No.	Price	Size	øD	øP	Min.	L Max.	Ε	øC	В	М1	M2	Package Weight (lbs)	Qty. per pack	
FVU532*	\$15.50	5/32 in. (4 mm) in. x 5/32 in. (4 mm)	5/32	0.41	1.04	1.14	1.76	0.13	0.59	0.22	0.61	0.1	2	
													2	
<i>FVU38</i>	\$26.50	3/8 in. x 3/8	3/8	0.69	1.60	1.91	2.42	0.17	0.79	0.41	1.11	0.3	2	
FVU12	\$37.00	1/2 in. x 1/2	1/2	0.81	1.79	2.10	2.78	0.17	0.90	0.48	1.26	0.5	2	
			Metric	Sizes ·	<i>dimens</i>	sions in	millime	ters (mn	n)					
FVU6M	\$18.00	6 mm x 6 mm	6	12.5	33.5	37.9	49.6	4.3	16.4	8.0	20.4	0.1	2	
FVU8M	\$23.00	8 mm (5/16 in.) x 8 mm (5/16 in.)	8	14.8	35.5	41.5	56.4	4.4	18.7	8.5	22.0	0.1	2	
FVU10M	\$27.00	10 mm x 10 mm	10	17.5	40.7	48.7	61.4	4.3	20.1	10.3	28.1	0.3	2	
<u>FVU12M</u>	\$36.00	12 mm x 12 mm	12	20.5	45.0	53.5	70.3	4.4	22.8	12.1	32.0	0.5	2	

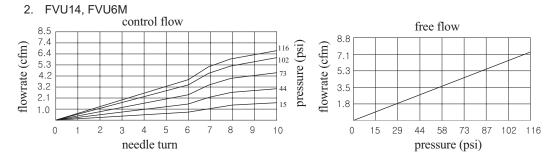
* FVU532 has blue release rings

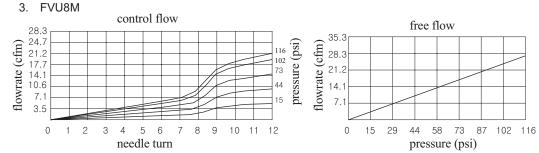


Flowrate Charts

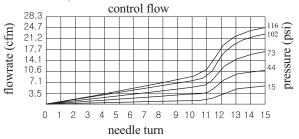
1. FVU532

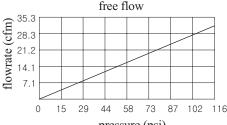




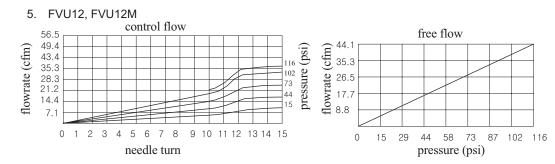


4. FVU38, FVU10M





pressure (psi)

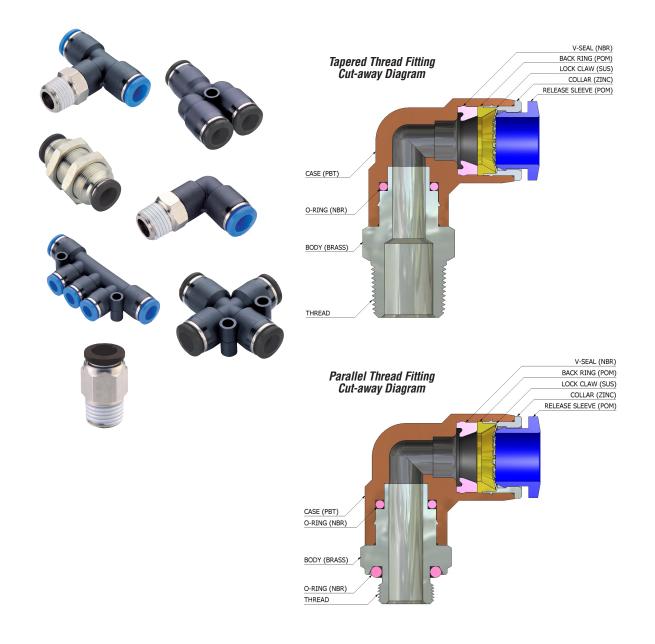




NITRA pneumatic push-to-connect fitting bodies are made of a strong thermoplastic (PBT) and have stainless steel tube gripping claws. Threaded components are made of nickelplated brass and have pre-applied Teflon thread sealant (O-ring on #10-32, M5 and G threads). The bodies of elbow and tee fittings with threaded connections can be rotated after installation to allow for variations in piping direction. NITRA Polyurethane and Nylon 12 tubing is easily connected by simply inserting the tubing end into the fitting. To release the tubing, press the circular release ring and the tubing can be easily pulled out.

Features

- Large selection of fitting configurations
- Inch and metric sizes available
- NPT, BSPT (R), and BSPP (G) threads available
- Tough thermoplastic bodies, stainless steel tube gripping claws, nickel-plated threads with pre-applied Teflon sealant (O-ring on #10-32, M5 and G threads)
- Threaded Elbow and Tee bodies can be rotated after installation
- Release rings are color coded to differentiate between inch and metric sizes
- For use with air only
- Working pressure: -29.5" Hg to 150 psi.
- Working temperature: 32 to 140° F (0 to 60° C)







Inch Fitting



Metric Fitting

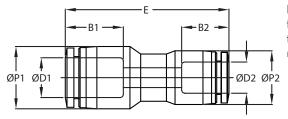
	→ EE	

NITRA pneumatic push-to-connect union straight fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.

				NITR	A Unio	n Straig	jht				
			Inch	Sizes -	dimensi	ions in i	nches (i	in.)			
Part No.	Price	Size	øD	øP	L	Ε	øC	В	Orifice	Package Weight (lbs)	Qty. per pack
<u>US18</u> *	\$8.75	1/8 in.	1/8	0.30	N/A	0.93	N/A	0.44	0.09	0.2	5
<u>US532</u> *	\$7.75	5/32 in (4 mm)	5/32	0.41	0.50	1.35	0.13	0.59	0.12	0.2	5
<u>US14</u>	\$8.00	1/4 in.	1/4	0.51	0.64	1.45	0.14	0.66	0.19	0.2	5
<u>US38</u>	\$10.50	3/8 in.	3/8	0.69	0.85	1.67	0.18	0.79	0.31	0.3	5
<u>US12</u>	\$13.00	1/2 in.	1/2	0.83	0.96	1.92	0.18	0.90	0.35	0.3	5
		I	Metric S	izes - di	mensior	ns in mi	llimeter	s (mm))		
US6M	\$8.00	6 mm	6	12.5	14.7	36.5	3.3	16.4	4.0	0.2	5
US8M	\$9.25	8 mm (5/16 in.)	8	14.5	17.6	40.1	4.3	18.7	6.5	0.2	5
<u>US10M</u>	\$10.50	10 mm	10	17.5	20.0	43.4	4.3	20.1	8.0	0.4	5
<u>US12M</u>	\$12.50	12 mm	12	20.5	23.3	48.3	4.3	22.8	10.0	0.4	5
<u>US16M</u>	\$27.00	16 mm	16	25.5	25.5	51.6	4.3	24.1	13.0	0.4	5

* US18 does not have mounting sleeve

** US532 has blue release rings



NITRA pneumatic push-to-connect union reducer fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.



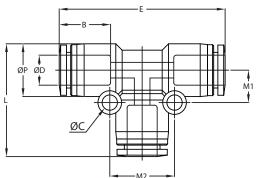
Inch Fitting



Metric Fitting

				NITRA	Unio	n Redu	icer					
			Inch Si	zes - d	imensi	ions in	inches	(in.)				
Part No.	Price	Size	øD1	øD2	øP1	øP2	Ε	B1	B2	Orifice	Package Weight (lbs)	Qty. per pack
UR532-18	\$10.50	5/32 in. (4 mm) x 1/8 in.	5/32	1/8	0.33	0.30	0.95	0.46	0.44	0.09	0.1	5
<u>UR14-18</u>	\$11.00	1/4 in. x 1/8 in.	1/4	1/8	0.44	0.30	1.06	0.53	0.44	0.09	0.1	5
UR14-532	\$9.25	1/4 in. x 5/32 in. (4 mm)	1/4	5/32	0.51	0.41	1.40	0.66	0.59	0.13	0.1	5
UR516-14	\$8.75	5/16 in. x 1/4 in.	5/16	1/4	0.57	0.51	1.50	0.72	0.66	0.20	0.2	5
<u>UR38-14</u>	\$11.50	3/8 in. x 1/4 in.	3/8	1/4	0.69	0.51	1.56	0.79	0.66	0.20	0.2	5
UR38-516	\$11.50	3/8 in. x 5/16 in.	3/8	5/16	0.69	0.57	1.61	0.79	0.72	0.26	0.3	5
UR12-38	\$16.50	1/2 in. x 3/8 in.	1/2	3/8	0.83	0.69	1.78	0.90	0.79	0.31	0.4	5
		Mei	tric Size	s - dim	nensior	ns in m	illimet	ers (m	m)			
UR6M-4M	\$11.00	6 mm x 4 mm (5/32 in.)	6.0	4.0	12.5	10.5	35.2	16.4	14.9	3.0	0.1	5
UR8M-6M	\$11.50	8 mm (5/16 in.) x 6 mm	8.0	6.0	14.5	12.5	38.1	18.7	16.4	4.0	0.2	5
UR10M-8M	\$11.50	10 mm x 8 mm (5/16 in.)	10.0	8.0	17.5	14.5	40.3	20.1	18.7	6.5	0.3	5
UR12M-10M	\$16.00	12 mm x 10 mm	12.0	10.0	20.5	17.5	43.8	22.8	20.1	8.0	0.3	5
UR16M-12M	\$20.50	16 mm x 12 mm	16.0	12.0	25.5	20.5	49.9	24.1	22.8	10.0	0.4	5





NITRA pneumatic push-to-connect union tee fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.

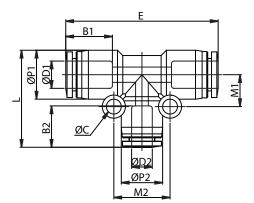


Inch Fitting

Metric Fitting

			1412											
						TRA Un								
	Inch Sizes - dimensions in inches (in.)													
Part No.	Price	Size	øD	øP	L	Ε	øC	В	M1	M2	Orifice	Package Weight (lbs)	Qty. per pack	
<u>UT18</u>	\$15.50	1/8 in.	1/8	0.30	0.53	0.53	0.13	0.44	0.21	0.42	0.09	0.1	5	
<u>UT532</u> *	\$10.50	5/32 in. (4 mm)	5/32	0.41	0.94	1.43	0.13	0.59	0.25	0.50	0.12	0.1	5	
<u>UT14</u>	\$11.00	1/4 in.	1/4	0.51	1.09	1.68	0.14	0.66	0.32	0.65	0.19	0.2	5	
<u>UT38</u>	\$12.50	3/8 in.	3/8	0.69	1.35	2.02	0.18	0.79	0.43	0.87	0.31	0.4	5	
<u>UT12</u>	\$17.00	1/2 in.	1/2	0.83	1.60	2.38	0.18	0.90	0.50	1.00	0.35	0.4	5	
				Metric S	Sizes - di	mension	s in mill	imeters	(mm)					
<u>UT6M</u>	\$10.50	6 mm	6	12.5	27.3	41.5	3.3	16.4	7.7	15.4	5.0	0.2	5	
<u>UT8M</u>	\$11.50	8 mm (5/16 in.)	8	14.5	31.0	45.6	4.3	18.7	8.9	17.8	6.5	0.2	5	
UT10M	\$13.00	10 mm	10	17.5	34.1	48.4	4.3	20.1	9.8	19.7	8.0	0.4	5	
<u>UT12M</u>	\$16.50	12 mm	12	20.5	40.1	57.3	4.3	22.8	13.2	26.3	10.0	0.4	5	
<u>UT16M</u>	\$25.00	16 mm	16	25.5	47.0	68.6	5.3	24.1	15.9	31.8	13.0	0.4	5	

* UT532 has blue release rings



NITRA pneumatic push-to-connect union tee reducer fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.



Inch Fitting

Metric Fitting

	NITRA Union Tee Reducer															
Inch Sizes - dimensions in inches (in.)																
Part No.	Price	Size	øD1	øD2	øP1	øP2	L	Ε	øC	B1	B2	М1	M2	Orifice	Package Weight (lbs)	Qty. per pack
UTR14-532	\$11.00	1/4 in. x 5/32 in. (4 mm)	1/4	5/32	0.51	0.41	1.04	1.60	0.17	0.66	0.59	0.32	0.57	0.13	0.2	5
UTR516-14	\$11.50	5/16 in. x 1/4 in.	5/16	1/4	0.57	0.51	0.89	0.89	0.18	0.72	0.66	0.38	0.69	0.20	0.2	5
UTR38-14	\$13.50	3/8 in. x 1/4 in.	3/8	1/4	0.69	0.51	1.26	1.90	0.18	0.79	0.66	0.43	0.69	0.20	0.3	5
UTR38-516	\$12.50	3/8 in. x 5/16 in.	3/8	5/16	0.69	0.57	0.98	0.97	0.17	0.79	0.72	0.43	0.74	0.26	0.4	5
UTR12-38	\$18.00	1/2 in. x 3/8 in.	1/2	3/8	0.83	0.69	1.44	2.30	0.18	0.90	0.79	0.50	0.87	0.31	0.4	5
			М	letric S	Sizes -	dimen	sions	in mil	limete	rs (mr	n)					
UTR6M-4M	\$11.00	6 mm x 4 mm (5/32 in.)	6	4	12.5	10.4	25.4	41.6	3.3	16.4	14.9	7.9	13.8	3.0	0.2	5
UTR8M-6M	\$12.50	8 mm (5/16 in.) x 6 mm	8	6	14.8	12.5	29.3	46.1	4.5	18.7	16.4	9.6	17.0	5.0	0.4	5
UTR10M-8M	\$14.00	10 mm x 8 mm (5/16 in.)	10	8	17.5	14.5	33.9	49.4	4.3	20.1	18.7	10.9	18.8	6.5	0.4	5
UTR12M-10M	\$18.00	12 mm x 10 mm	12	10	20.5	17.5	37.6	56.1	4.3	22.8	20.1	12.4	21.9	8.0	0.4	5
UTR16M-10M	\$24.50	16 mm x 10 mm	16	10	25.5	17.5	42.8	61.6	5.3	24.1	20.1	15.9	22.8	8.0	0.4	5
UTR16M-12M	\$25.00	16 mm x 12 mm	16	12	25.5	20.5	45.3	64.6	5.3	24.1	22.8	15.9	25.8	10.0	0.4	5





Inch Fitting

øD ØC

NITRA pneumatic push-to-connect union elbow fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.

• •	Part No.	Price	S
	UL18	\$8.75	1/8
	<u>UL532</u> *	\$6.75	5/32 in
	<u>UL14</u>	\$7.75	1/4
Metric Fitting	111 28	\$10.50	3/5

Metric Fitting

NITRA UNION EIDOW													
Inch Sizes - dimensions in inches (in.)													
Part No.	Price	Size	øD	øP	L	Ε	øC	B	Orifice	Package Weight (lbs)	Qty. per pack		
<u>UL18</u>	\$8.75	1/8 in.	1/8	0.30	0.70	0.70	0.13	0.44	0.10	0.1	5		
<u>UL532</u> *	\$6.75	5/32 in. (4 mm)	5/32	0.41	0.95	0.95	0.13	0.59	0.12	0.1	5		
<u>UL14</u>	\$7.75	1/4 in.	1/4	0.51	1.09	1.09	0.14	0.66	0.19	0.1	5		
<u>UL38</u>	\$10.50	3/8 in.	3/8	0.69	1.35	1.35	0.18	0.79	0.31	0.3	5		
<u>UL12</u>	\$11.50	1/2 in.	1/2	0.83	1.60	1.60	0.18	0.90	0.35	0.4	5		
		IV	letric Si	zes - diı	nension	s in mil	limeters	s (mm)					
UL6M	\$7.00	6 mm	6	12.5	27.3	27.3	4.3	16.4	5.0	0.2	5		
<u>UL8M</u>	\$9.00	8 mm (5/16 in.)	8	14.5	31.3	31.3	4.3	18.7	7.0	0.2	5		
<u>UL10M</u>	\$11.00	10 mm	10	17.5	33.9	33.9	4.3	20.1	8.0	0.4	5		
<u>UL12M</u>	\$11.00	12 mm	12	20.5	38.8	38.8	4.3	22.8	10.0	0.4	5		
UL16M	\$27.00	16 mm	16	25.5	47.0	47.0	5.3	24.1	13.0	0.4	5		

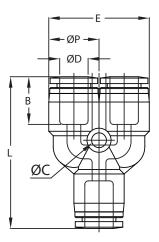
* UL532 has blue release rings



Inch Fitting



Metric Fitting

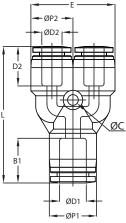


NITRA pneumatic push-to-connect union Y fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.

	NITRA Union Y													
Inch Sizes - dimensions in inches (in)														
Part No.	Price	Size	øD	øP	L	Ε	øC	B	Orifice	Package Weight (lbs)	Qty. per pack			
<u>UY18</u>	\$18.00	1/8 in.	1/8	0.30	1.06	0.60	0.13	0.44	0.09	0.1	5			
<u>UY532</u> *	\$11.50	5/32 in. (4 mm)	5/32	0.41	1.43	0.83	0.13	0.63	0.10	0.1	5			
UY14	\$13.50	1/4 in.	1/4	0.51	1.57	1.02	0.13	0.70	0.16	0.1	5			
<u>UY38</u>	\$16.00	3/8 in.	3/8	0.69	1.85	1.38	0.18	0.78	0.31	0.4	5			
UY12	\$20.00	1/2 in.	1/2	0.83	2.16	1.65	0.18	0.90	0.41	0.4	5			
		N	letric Si	izes - di	mensio	ns in mi	illimete	rs (mm)					
UY6M	\$11.00	6 mm	6	13.0	39.3	26.0	3.3	17.6	5.2	0.2	5			
UY8M	\$11.50	8 mm (5/16 in.)	8	14.6	44.1	29.2	4.3	19.0	6.8	0.2	5			
UY10M	\$15.50	10 mm	10	17.5	47.1	35.0	4.5	19.8	8.0	0.4	5			
<u>UY12M</u>	\$19.50	12 mm	12	21.0	54.1	42.0	4.5	22.7	10.3	0.4	5			

* UY532 has blue release rings





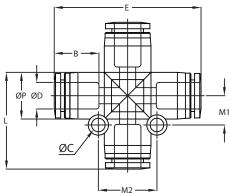
NITRA pneumatic push-to-connect union reducer Y fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.



Inch Fitting

Metric Fitting

	NITRA Union Reducer Y													
	Inch Sizes - dimensions in inches (in.)													
Part No.	Price	Size	øD1	øD2	øP1	øP2	L	Ε	øC	B1	D2	Orifice	Package Weight (lbs)	Qty. per pack
<u>URY532-18</u>	\$22.00	5/32 in. (4 mm) x 1/8 in.	5/32	1/8	0.34	0.30	1.08	0.60	0.13	0.46	0.44	0.09	0.1	5
<u>URY14-18</u>	\$23.50	1/4 in. x 1/8 in.	1/4	1/8	0.44	0.30	1.15	0.60	0.13	0.53	0.44	0.09	0.1	5
<u>URY14-532</u>	\$15.50	1/4 in. x 5/32 in. (4 mm)	1/4	5/32	0.51	0.41	1.50	0.83	0.13	0.70	0.63	0.13	0.1	5
<u>URY516-14</u>	\$15.50	5/16 in. (8 mm) x 1/4 in.	5/16	1/4	0.57	0.51	1.66	1.02	0.13	0.74	0.70	0.20	0.2	5
<u>URY38-14</u>	\$17.00	3/8 in. x 1/4 in.	3/8	1/4	0.69	0.51	1.70	1.02	0.13	0.78	0.70	0.20	0.2	5
URY38-516	\$17.50	3/8 in. x 5/16 in. (8 mm)	3/8	5/16	0.69	0.57	1.75	1.14	0.17	0.78	0.74	0.20	0.3	5
URY12-38	\$24.00	1/2 in. x 3/8 in.	1/2	3/8	0.83	0.69	2.00	1.38	0.18	0.90	0.78	0.28	0.3	5
			Me	tric Size	s - dime	ensions	in milli	meters	(mm)					
URY6M-4M	\$14.00	6 mm x 4 mm (5/32 in.)	6	4	13.0	10.5	37.8	21.0	3.3	17.6	16.1	3.4	0.1	5
URY8M-6M	\$16.50	8 mm (5/16 in.) x 6 mm	8	6	14.6	13.0	42.2	26.0	3.3	19.0	17.6	5.4	0.2	5
<u>URY10M-8M</u>	\$17.50	10 mm x 8 mm (5/16 in.)	10	8	17.5	14.6	44.8	29.2	4.3	19.7	19.0	7.0	0.3	5
URY12M-10M	\$23.00	12 mm x 10 mm	12	10	21.0	17.5	50.6	35.0	4.5	22.7	19.8	8.0	0.3	5



NITRA pneumatic push-to-connect union cross fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.





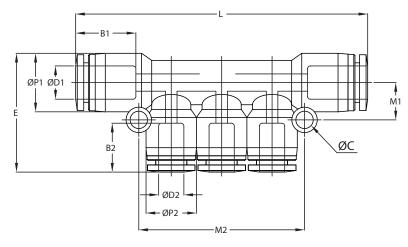
Inch Fitting

Metric Fitting

	NITRA Union Cross												
Inch Sizes - dimensions in inches (in.)													
Part No.	Price	Size	øD	øP	L	E	øC	B	М1	M2	Orifice	Package Weight (lbs)	Qty. per pack
<u>UX532</u> *	\$17.50	5/32 in. (4 mm)	5/32	0.41	0.91	1.41	0.31	0.59	0.25	0.50	0.10	0.3	5
UX14	\$19.00	1/4 in.	1/4	0.51	1.09	1.68	0.13	0.66	0.32	0.64	0.20	0.3	5
UX38	\$24.50	3/8 in.	3/8	0.69	1.30	1.90	0.17	0.79	0.40	0.80	0.28	0.6	5
UX12	\$27.00	1/2 in.	1/2	0.83	1.60	2.38	0.17	0.90	0.50	1.00	0.35	0.6	5
				Metric	Sizes - c	limensi	ons in n	nillimet	ers (mi	n)			
UX6M	\$18.50	6 mm	6	12.5	27.0	41.5	3.3	16.4	7.4	14.9	4.5	0.4	5
UX8M	\$22.00	8 mm (5/16 in.)	8	14.5	30.0	45.6	4.2	18.7	9.1	18.2	6.0	0.4	5
UX10M	\$25.00	10 mm	10	17.5	32.9	48.4	4.3	20.1	10.1	20.3	7.4	0.6	5
<u>UX12M</u>	\$26.50	12 mm	12	20.5	37.9	55.3	4.3	22.8	11.8	23.7	9.0	0.6	5

* UX532 has blue release rings





NITRA pneumatic push-to-connect union tri-branch fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.

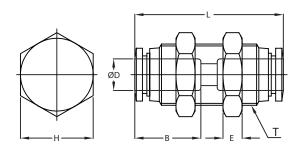




Inch Fitting

Metric Fitting

	NITRA Union Tri-Branch															
Inch Sizes - dimensions in inches (in.)																
Part No.	Price	Size	øD1	øD2	øP1	øP2	L	Ε	øC	B1	B2	М1	M2	Orifice	Package Weight (lbs)	Qty. per pack
<u>U3B14-532</u>	\$25.50	1/4 in. x 5/32 in. (4 mm)	1/4	5/32	0.51	0.41	2.43	1.06	0.18	0.66	0.59	0.34	1.42	0.13	0.4	5
<u>U3B516-14</u>	\$28.50	5/16 in. (8 mm) x 1/4 in.	5/16	1/4	0.57	0.51	2.83	1.18	0.18	0.72	0.66	0.38	1.71	0.19	0.5	5
U3B38-14	\$32.50	3/8 in. x 1/4 in.	3/8	1/4	0.69	0.51	2.91	1.26	0.18	0.79	0.66	0.43	1.71	0.20	0.6	5
<u>U3B38-516</u>	\$31.50	3/8 in. x 5/16 in. (8 mm)	3/8	5/16	0.69	0.57	3.29	1.36	0.17	0.79	0.72	0.37	1.85	0.27	0.6	5
	Metric Sizes - dimensions in millimeters (mm)															
<u>U3B6M-4M</u>	\$24.00	6 mm x 4 mm (5/32 in.)	6	4	12.5	10.5	63.2	25.9	3.3	16.4	14.9	7.5	34.0	3.0	0.4	5
<u>U3B8M-6M</u>	\$28.50	8 mm (5/16 in.) x 6 mm	8	6	14.5	12.5	72.4	29.4	4.3	18.7	16.4	9.2	41.1	4.0	0.6	5
<u>U3B10M-8M</u>	\$34.50	10 mm x 8 mm (5/16 in.)	10	8	17.5	14.5	83.6	34.8	4.3	20.1	18.7	9.5	47.0	6.5	0.7	5



NITRA pneumatic push-to-connect bulkhead union fitting with nickel-plated brass body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.



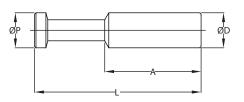
Inch Fitting

Metric Fitting

	NITRA Bulkhead Union												
Inch Sizes - dimensions in inches (in.)													
Part No.	Price	Size	øD	Т	L	Ε	В	H (Hex)	Orifice	Package Weight (lbs)	Qty. per pack		
<u>UB532</u> *	\$16.00	5/32 in. (4 mm)	5/32	M12*1.0p	1.40	0.16	0.58	0.55	0.12	0.2	5		
<u>UB14</u>	\$17.00	1/4 in.	1/4	M14*1.0p	1.54	0.16	0.67	0.67	0.20	0.3	5		
<u>UB38</u>	\$24.50	3/8 in.	3/8	M20*1.0p	1.69	0.20	0.77	0.94	0.31	0.6	5		
<u>UB12</u>	\$31.00	1/2 in.	1/2	M22*1.0p	1.95	0.20	0.89	1.02	0.43	0.9	5		
	Metric Sizes - dimensions in millimeters (mm)												
UB6M	\$17.00	6 mm	6	M14*1.0p	39.9	4	16.4	17	5.0	0.2	5		
UB8M	\$20.50	8 mm (5/16 in.)	8	M16*1.0p	42.2	5	18.4	19	7.0	0.4	5		
UB10M	\$25.00	10 mm	10	M20*1.0p	45.1	5	19.6	24	9.0	0.6	5		
<u>UB12M</u>	\$26.00	12 mm	12	M22*1.0p	50.3	5	21.9	26	11.0	0.8	5		

* UB532 has blue release rings





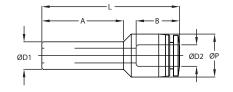
NITRA pneumatic plug fitting. For use with push-to-connect fittings. Five fittings per package.



Inch/Metric Fitting

	NITRA Plug											
Inch Sizes - dimensions in inches (in.)												
Part No.	Price	Size	øD	øP	L	A	Package Weight (lbs)	Qty. per pack				
PLUG532	\$3.00	5/32 in. (4 mm)	5/32	5/32	1.18	0.71	0.1	5				
PLUG14	\$3.25	1/4 in.	1/4	1/4	1.34	0.79	0.1	5				
PLUG38	\$4.00	3/8 in.	3/8	3/8	1.65	0.98	0.1	5				
PLUG12	\$4.75	1/2 in.	1/2	1/2	1.81	1.10	0.1	5				
		Metric Sizes	s - dime	nsions i	n millim	eters (n	nm)					
PLUG6M	\$3.00	6 mm	6	6	34.0	20.0	0.1	5				
PLUG8M	\$3.75	8 mm (5/16 in.)	8	8	38.0	22.0	0.1	5				
PLUG10M	\$4.25	10 mm	10	10	42.0	25.0	0.1	5				
PLUG12M	\$4.75	12 mm	12	12	46.0	28.0	0.1	5				
PLUG16M	\$9.50	16 mm	16	16	50.0	30.0	0.1	5				





NITRA pneumatic plug-in to push-to-connect reducer fitting with thermoplastic (PBT) body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.

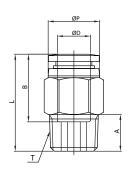
Inch Fitting

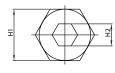


Metric Fitting

	NITRA Plug-In Reducer												
Inch Sizes - dimensions in inches (in.)													
Part No.	Price	Size	øD1	øD2	øP	L	A	B	Orifice	Package Weight (lbs)	Qty. per pack		
<u>PR532-18</u>	\$18.00	5/32 in. (4 mm) x 1/8 in.	5/32	1/8	0.30	1.20	0.71	0.44	0.09	0.1	5		
PR14-18	\$19.00	1/4 in. x 1/8 in.	1/4	1/8	0.30	1.26	0.85	0.44	0.09	0.1	5		
PR14-532	\$5.50	1/4 in. x 5/32 in. (4 mm)	1/4	5/32	0.41	1.59	0.89	0.59	0.13	0.1	5		
PR516-14	\$6.75	5/16 in. (8 mm) x 1/4 in.	5/16	1/4	0.51	1.89	1.13	0.66	0.16	0.1	5		
PR38-14	\$6.50	3/8 in. x 1/4 in.	3/8	1/4	0.51	1.89	1.23	0.66	0.22	0.1	5		
PR38-516	\$8.00	3/8 in. x 5/16 in. (8 mm)	3/8	5/16	0.58	1.76	0.96	0.72	0.26	0.1	5		
PR12-38	\$7.00	1/2 in. x 3/8 in.	1/2	3/8	0.69	2.04	1.20	0.79	0.31	0.1	5		
Metric Sizes - dimensions in millimeters (mm)													
PR6M-4M	\$5.25	6 mm x 4 mm (5/32 in.)	6	4	10.5	37.8	21.7	14.9	3.0	0.1	5		
PR8M-6M	\$5.50	8 mm (5/16 in.) x 6 mm	8	6	12.5	40.0	23.7	16.4	4.8	0.1	5		
PR10M-8M	\$6.75	10 mm x 8 mm (5/16 in.)	10	8	14.8	46.8	27.6	18.7	6.8	0.1	5		
PR12M-10M	\$7.00	12 mm x 10 mm	12	10	17.5	50.8	31.2	20.1	8.0	0.1	5		
PR16M-12M	\$13.00	16 mm x 12 mm	16	12	20.5	63.0	38.0	23.6	9.9	0.1	5		







NITRA pneumatic push-to-connect male straight fitting with nickel-plated brass body, stainless steel tube gripping claws and pre-applied Teflon thread sealant (#10-32, M5 and G threads have O-ring instead of thread sealant). For use with polyurethane or nylon tubing. Five fittings per package.



Inch Fitting and M3 Fittings



R-Thread (BSPT) Metric Fitting



G-Thread (BSPP) Metric Fitting

					NITRA M	ale Str	aight						
	1			Inch Si	zes - dime	nsions i	in inche	s (in.)					
Part No.	Price	Size	øD	øP	Т	L	A	В	H1 (Hex)	H2 (Hex)	Orifice	Package Weight (lbs)	Qty. per pack
<u>MS18-M3</u>	\$9.00	1/8 in. x M3	1/8	0.36	M3	0.73	0.12	0.44	8mm	N/A	0.06	0.1	5
<u>MS18-10N</u>	\$9.50	1/8 in. x #10-32	1/8	0.28	UNF 10-32	0.65	0.14	0.44	5/16	N/A	0.08	0.1	5
<u>MS18-18N</u>	\$10.50	1/8 in. x 1/8 NPT	1/8	0.28	NPT 1/8	0.67	0.33	0.44	7/16	N/A	0.10	0.1	5
<u>MS18-14N</u>	\$12.50	1/8 in. x 1/4 NPT	1/8	0.28	NPT 1/4	0.85	0.41	0.44	9/16	N/A	0.10	0.1	5
<u>MS532-M3</u>	\$9.00	5/32 in. (4 mm) x M3	5/32	0.41	M3	0.77	0.12	0.46	8mm	N/A	0.06	0.1	5
<u>MS532-10N</u>	\$5.50	5/32 in. (4 mm) x #10-32	5/32	0.41	UNF 10-32	0.88	0.16	0.58	7/16	3/32	0.10	0.1	5
<u>MS532-18N</u>	\$5.25	5/32 in. (4 mm) x 1/8 NPT	5/32	0.41	NPT 1/8	0.76	0.33	0.58	7/16	1/8	0.13	0.1	5
<u>MS532-14N</u>	\$5.25	5/32 in. (4 mm) x 1/4 NPT	5/32	0.41	NPT 1/4	0.86	0.41	0.58	9/16	1/8	0.13	0.2	5
<u>MS14-10N</u>	\$6.25	1/4 in. x #10-32	1/4	0.50	UNF 10-32	0.95	0.16	0.67	1/2	3/32	0.10	0.1	5
<u>MS14-18N</u>	\$5.25	1/4 in. x 1/8 NPT	1/4	0.50	NPT 1/8	0.94	0.33	0.67	1/2	3/16	0.19	0.2	5
<u>MS14-14N</u>	\$5.50	1/4 in. x 1/4 NPT	1/4	0.50	NPT 1/4	0.92	0.41	0.67	9/16	3/16	0.19	0.2	5
<u>MS14-38N</u>	\$8.00	1/4 in. x 3/8 NPT	1/4	0.50	NPT 3/8	0.96	0.45	0.67	11/16	3/16	0.19	0.2	5
MS516-18N	\$6.75	5/16 in. (8 mm) x 1/8 NPT	5/16	0.55	NPT 1/8	1.13	0.33	0.73	9/16	3/16	0.19	0.2	5
<u>MS516-14N</u>	\$6.75	5/16 in. (8 mm) x 1/4 NPT	5/16	0.55	NPT 1/4	1.04	0.41	0.73	9/16	1/4	0.25	0.2	5
<u>MS516-38N</u>	\$8.00	5/16 in. (8 mm) x 3/8 NPT	5/16	0.55	NPT 3/8	0.96	0.45	0.73	11/16	1/4	0.25	0.2	5
<u>MS38-18N</u>	\$8.50	3/8 in. x 1/8 NPT	3/8	0.66	NPT 1/8	1.18	0.33	0.77	11/16	3/16	0.19	0.2	5
<u>MS38-14N</u>	\$8.75	3/8 in. x 1/4 NPT	3/8	0.66	NPT 1/4	1.22	0.41	0.77	11/16	1/4	0.25	0.2	5
<u>MS38-38N</u>	\$9.00	3/8 in. x 3/8 NPT	3/8	0.66	NPT 3/8	1.09	0.45	0.77	11/16	5/16	0.31	0.2	5
<u>MS38-12N</u>	\$11.50	3/8 in. x 1/2 NPT	3/8	0.66	NPT 1/2	1.11	0.57	0.77	7/8	5/16	0.31	0.4	5
<u>MS12-14N</u>	\$11.00	1/2 in. x 1/4 NPT	1/2	0.82	NPT 1/4	1.39	0.41	0.89	7/8	1/4	0.25	0.4	5
<u>MS12-38N</u>	\$11.50	1/2 in. x 3/8 NPT	1/2	0.82	NPT 3/8	1.25	0.45	0.89	7/8	3/8	0.37	0.5	5
MS12-12N	\$13.00	1/2 in. x 1/2 NPT	1/2	0.82	NPT 1/2	1.23	0.57	0.89	7/8	3/8	0.37	0.5	5

BSPT = British Standard Pipe Taper

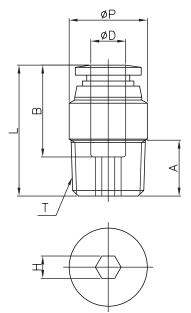
BSPP = British Standard Pipe Parallel



				NITRA	Male Stra	aight C	ontinu	ed					
		R-Threa	d (BSP	T) Metr	ic Sizes -	dimensi	ions in I	millim	eters (n	nm)			
Part No.	Price	Size	øD	øP	Т	L	A	B	H1 (Hex)	H2 (Hex)	Orifice	Package Weight (lbs)	Qty. per pack
<u>MS4M-M5</u>	\$6.50	4 mm (5/32 in.) x M5	4	10.0	M5*0.8p	20.8	4.0	14.7	10	-	2.5	0.1	5
<u>MS4M-18R</u>	\$5.25	4 mm (5/32 in.) x R1/8	4	10.0	R 1/8	21.9	8.0	14.7	10	3	3.5	0.2	5
<u>MS4M-14R</u>	\$5.25	4 mm (5/32 in.) x R1/4	4	10.0	R 1/4	20.9	10.0	14.7	14	3	3.5	0.2	5
<u>MS6M-M5</u>	\$6.50	6 mm x M5	6	12.0	M5*0.8p	23.1	4.0	16.4	12	-	2.5	0.3	5
MS6M-18R	\$5.00	6 mm x R1/8	6	12.0	R 1/8	22.4	8.0	16.4	12	4	5.0	0.4	5
MS6M-14R	\$5.50	6 mm x R1/4	6	12.0	R 1/4	21.9	10.0	16.4	14	5	5.0	0.4	5
MS6M-38R	\$7.75	6 mm x R3/8	6	12.0	R 3/8	22.9	11.0	16.4	17	5	5.0	0.5	5
MS8M-18R	\$6.75	8 mm (5/16 in.) x R1/8	8	14.0	R 1/8	28.4	8.0	18.4	14	5	6.0	0.5	5
MS8M-14R	\$7.00	8 mm (5/16 in.) x R1/4	8	14.0	R1/4	26.4	10.0	18.4	14	6	7.0	0.6	5
<u>MS8M-38R</u>	\$8.50	8 mm (5/16 in.) x R3/8	8	14.0	R 3/8	23.9	11.0	18.4	17	6	7.0	0.4	5
<u>MS8M-12R</u>	\$9.25	8 mm (5/16 in.) x R1/2	8	14.0	R 1/2	29.4	14.0	18.4	19	6	7.0	0.5	5
<u>MS10M-18R</u>	\$8.75	10 mm x R1/8	10	16.1	R 1/8	29.8	8.0	19.6	17	5	6.0	0.6	5
<u>MS10M-14R</u>	\$9.00	10 mm x R1/4	10	16.1	R 1/4	31.3	10.0	19.6	17	6	7.0	0.6	5
MS10M-38R	\$9.25	10 mm x R3/8	10	16.1	R 3/8	27.4	11.0	19.6	17	8	8.0	0.7	5
<u>MS10M-12R</u>	\$12.50	10 mm x R1/2	10	16.1	R 1/2	29.8	14.0	19.6	19	8	8.0	0.8	5
<u>MS12M-14R</u>	\$10.50	12mm x R1/4	12	19.0	R 1/4	33.7	10.0	21.9	19	6	8.0	0.8	5
<u>MS12M-38R</u>	\$11.00	12 mm x R3/8	12	19.0	R 3/8	30.7	11.0	21.9	19	8	10.0	0.8	5
<u>MS12M-12R</u>	\$12.50	12 mm x R1/2	12	19.0	R 1/2	30.2	14.0	21.9	19	8	10.0	1.0	5
<u>MS16M-38R</u>	\$34.00	16 mm x R3/8	16	24.0	R 3/8	37.5	11.0	24.0	24	10	10.0	1.0	5
<u>MS16M-12R</u>	\$35.00	16 mm x R1/2	16	24.0	R 1/2	40.5	14.0	24.0	24	10	10.0	1.0	5
		G-Threa	d (BSP	P) Metr	ic Sizes -	dimens	ions in l	millim	eters (n	nm)			
MS4M-18G	\$5.25	4 mm (5/32 in.) x G1/8	4	10.3	G 1/8	20.0	5.0	14.8	13	3	3.0	0.2	5
<u>MS4M-14G</u>	\$5.25	4 mm (5/32 in.) x G1/4	4	10.3	G 1/4	21.5	6.5	14.8	15	3	3.0	0.3	5
<u>MS6M-18G</u>	\$5.00	6 mm x G1/8	6	12.3	G 1/8	21.2	5.0	16.4	13	4	4.0	0.2	5
<u>MS6M-14G</u>	\$5.50	6 mm x G1/4	6	12.3	G 1/4	23.2	6.5	16.4	15	5	5.0	0.3	5
<u>MS6M-38G</u>	\$7.75	6 mm x G3/8	6	12.3	G 3/8	22.2	6.5	16.4	17	5	5.0	0.3	5
<u>MS8M-14G</u>	\$7.00	8 mm (5/16 in.) x G1/4	8	14.3	G 1/4	24.4	6.5	18.4	15	6	6.0	0.2	5
<u>MS8M-38G</u>	\$8.50	8 mm (5/16 in.) x G3/8	8	14.3	G 3/8	23.4	6.5	18.4	17	6	6.0	0.3	5
<u>MS8M-12G</u>	\$12.50	8 mm (5/16 in.) x G1/2	8	14.3	G 1/2	23.9	8.0	18.4	21	6	6.0	0.4	5
<u>MS10M-38G</u>	\$9.25	10 mm x G3/8	10	16.5	G 3/8	25.4	6.5	19.7	17	8	8.0	0.3	5
<u>MS10M-12G</u>	\$12.50	10 mm x G1/2	10	16.5	G 1/2	25.9	8.0	19.7	21	8	8.0	0.4	5

BSPT = British Standard Pipe Taper BSPP = British Standard Pipe Parallel





NITRA pneumatic push-to-connect round male straight fitting with nickel-plated brass body, internal hex, stainless steel tube gripping claws and pre-applied Teflon thread sealant (O-ring on #10-32 and M5 threads). For use with polyurethane or nylon tubing. Five fittings per package.



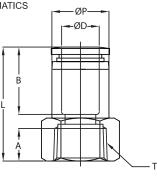


Inch Fitting

Metric Fitting

				NITRA	Round Male	e Straig	ht					
			Inc	h Sizes	- dimensions	in inche	es (in.)					
Part No.	Price	Size	øD	øP	Т	L	A	B	H (Hex)	Orifice	Package Weight (lbs)	Qty. per pack
MSR18-10N	\$12.50	1/8 in. x #10-32	1/8	0.28	UNF 10-32	0.65	0.14	0.44	3/32	0.09	0.1	5
<u>MSR18-18N</u>	\$9.25	1/8 in. x 1/8 NPT	1/8	0.43	NPT 1/8	0.64	0.33	0.44	3/32	0.09	0.1	5
MSR532-10N	\$7.00	5/32 in. (4 mm) x #10-32	5/32	0.43	UNF 10-32	0.84	0.16	0.58	3/32	0.09	0.1	5
MSR532-18N	\$5.50	5/32 in. (4 mm) x 1/8 NPT	5/32	0.43	NPT 1/8	0.82	0.33	0.58	1/8	0.13	0.1	5
MSR14-10N	\$7.75	1/4 in. x #10-32	1/4	0.51	UNF 10-32	0.95	0.16	0.67	3/32	0.09	0.1	5
MSR14-18N	\$6.25	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	0.93	0.33	0.67	3/16	0.19	0.1	5
MSR14-14N	\$6.50	1/4 in. x 1/4 NPT	1/4	0.55	NPT 1/4	0.94	0.41	0.67	3/16	0.19	0.1	5
MSR516-18N	\$8.50	5/16 in. (8 mm) x 1/8 NPT	5/16	0.55	NPT 1/8	1.13	0.33	0.73	3/16	0.19	0.1	5
MSR516-14N	\$8.50	5/16 in. (8 mm) x 1/4 NPT	5/16	0.55	NPT 1/4	1.04	0.41	0.73	1/4	0.25	0.1	5
			Metric (Sizes - c	limensions in	millim	eters (i	nm)				
MSR4M-M5	\$6.50	4 mm (5/32 in.) x M5	4	10.0	M5*0.8p	20.8	4.6	14.7	2	2.0	0.1	5
MSR4M-18R	\$5.25	4 mm (5/32 in.) x R1/8	4	10.0	R 1/8	20.7	8.0	14.7	3	3.0	0.1	5
MSR6M-M5	\$6.75	6 mm x M5	6	12.0	M5*0.8p	23.1	4.6	16.4	2	2.0	0.1	5
MSR6M-18R	\$5.00	6 mm x R1/8	6	12.0	R 1/8	22.7	8.0	16.4	4	4.0	0.1	5
MSR6M-14R	\$5.50	6 mm x R1/4	6	14.0	R 1/4	23.4	10.0	16.4	4	4.0	0.2	5





NITRA pneumatic push-to-connect female straight fitting with nickel-plated brass body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.



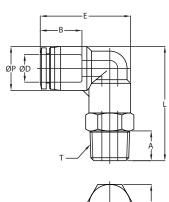


Inch Fitting

Metric Fitting

				NITE	RA Femal	e Strai	ght					
			Incl	n Sizes ·	- dimensi	ons in i	nches (i	in.)				
Part No.	Price	Size	øD	øP	Т	L	A	B	H (Hex)	Orifice	Package Weight (lbs)	Qty. per pack
FS18-10N	\$14.00	1/8 in. x #10-32	1/8	0.30	UNF 10-32	0.74	0.24	0.44	5/16	0.10	0.1	5
FS18-18N	\$14.00	1/8 in. x 1/8 NPT	1/8	0.30	NPT 1/8	0.89	0.33	0.44	7/16	0.10	0.1	5
<u>FS18-14N</u>	\$14.00	1/8 in. x 1/4 NPT	1/8	0.30	NPT 1/4	1.00	0.45	0.44	11/16	0.10	0.2	5
FS532-18N	\$10.00	5/32 in. (4 mm) x 1/8 NPT	5/32	0.39	NPT 1/8	1.06	0.37	0.58	9/16	0.14	0.1	5
<u>FS532-14N</u>	\$11.50	5/32 in. (4 mm) x 1/4 NPT	5/32	0.39	NPT 1/4	1.16	0.45	0.58	11/16	0.14	0.2	5
FS14-18N	\$11.50	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	1.13	0.37	0.67	9/16	0.20	0.2	5
<u>FS14-14N</u>	\$12.50	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	1.21	0.45	0.67	11/16	0.20	0.2	5
FS14-38N	\$14.00	1/4 in. x 3/8 NPT	1/4	0.51	NPT 3/8	1.29	0.49	0.67	7/8	0.20	0.4	5
<u>FS516-18N</u>	\$16.00	5/16 in. (8 mm) x 1/8 NPT	5/16	0.55	NPT 1/8	1.16	0.37	0.77	9/16	0.24	0.2	5
<u>FS516-14N</u>	\$19.50	5/16 in. (8 mm) x 1/4 NPT	5/16	0.55	NPT 1/4	1.26	0.45	0.77	11/16	0.24	0.3	5
<u>FS516-38N</u>	\$19.50	5/16 in. (8 mm) x 3/8 NPT	5/16	0.55	NPT 3/8	1.28	0.49	0.77	7/8	0.24	0.4	5
FS38-18N	\$17.00	3/8 in. x 1/8 NPT	3/8	0.66	NPT 1/8	1.30	0.37	0.77	11/16	0.31	0.3	5
<u>FS38-14N</u>	\$17.00	3/8 in. x 1/4 NPT	3/8	0.66	NPT 1/4	1.30	0.45	0.77	11/16	0.31	0.3	5
<u>FS38-38N</u>	\$17.50	3/8 in. x 3/8 NPT	3/8	0.66	NPT 3/8	1.34	0.49	0.77	7/8	0.31	0.5	5
FS38-12N	\$22.50	3/8 in. x 1/2 NPT	3/8	0.66	NPT 1/2	1.44	0.57	0.77	15/16	0.31	0.6	5
<u>FS12-14N</u>	\$23.00	1/2 in. x 1/4 NPT	1/2	0.82	NPT 1/4	1.47	0.45	0.89	7/8	0.39	0.5	5
FS12-38N	\$23.00	1/2 in. x 3/8 NPT	1/2	0.82	NPT 3/8	1.47	0.49	0.89	7/8	0.39	0.6	5
<u>FS12-12N</u>	\$28.00	1/2 in. x 1/2 NPT	1/2	0.82	NPT 1/2	1.55	0.57	0.89	15/16	0.39	0.7	5
			Metric S	Sizes - a	limension	s in mi	llimeter	s (mm))			
<u>FS4M-M5</u>	\$10.50	4 mm (5/32 in.) x M5	4	10.0	M5*0.8p	25.9	7.0	14.7	12	3.5	0.2	5
<u>FS4M-18R</u>	\$10.00	4 mm (5/32 in.) x R1/8	4	10.0	R 1/8	27.0	9.0	14.7	14	3.5	0.2	5
<u>FS4M-14R</u>	\$11.50	4 mm (5/32 in.) x R1/4	4	10.0	R 1/4	29.0	11.0	14.7	17	3.5	0.2	5
<u>FS6M-M5</u>	\$13.00	6 mm x M5	6	12.0	M5*0.8p	26.7	7.0	16.4	12	4.2	0.2	5
<u>FS6M-18R</u>	\$11.50	6 mm x R1/8	6	12.0	R 1/8	28.2	9.0	16.4	14	5.0	0.2	5
<u>FS6M-14R</u>	\$12.50	6 mm x R1/4	6	12.0	R 1/4	30.2	11.0	16.4	17	5.0	0.2	5
<u>FS6M-38R</u>	\$14.00	6 mm x R3/8	6	12.0	R 3/8	31.2	12.0	16.4	22	5.0	0.4	5
<u>FS8M-18R</u>	\$14.00	8 mm (5/16 in.) x R1/8	8	14.0	R 1/8	29.4	9.0	18.4	14	6.0	0.2	5
<u>FS8M-14R</u>	\$15.50	8 mm (5/16 in.) x R1/4	8	14.0	R 1/4	31.4	11.0	18.4	17	6.0	0.2	5
<u>FS8M-38R</u>	\$16.00	8 mm (5/16 in.) x R3/8	8	14.0	R 3/8	32.4	12.0	18.4	22	6.0	0.5	5
<u>FS8M-12R</u>	\$15.50	8 mm (5/16 in.) x R1/2	8	14.0	R 1/2	34.4	14.0	18.4	24	6.0	0.5	5
<u>FS10M-18R</u>	\$17.50	10 mm x R1/8	10	16.4	R 1/8	32.5	9.0	19.6	17	8.5	0.3	5
<u>FS10M-14R</u>	\$17.50	10 mm x R1/4	10	16.4	R 1/4	32.5	11.0	19.6	17	8.5	0.3	5
<u>FS10M-38R</u>	\$18.00	10 mm x R3/8	10	16.4	R 3/8	33.5	12.0	19.6	22	8.5	0.5	5
<u>FS10M-12R</u>	\$23.00	10 mm x R1/2	10	16.4	R 1/2	33.5	14.0	19.6	24	8.5	0.5	5
<u>FS12M-14R</u>	\$22.50	12 mm x R1/4	12	19.0	R 1/4	37.1	11.0	21.9	22	10.0	0.5	5
<u>FS12M-38R</u>	\$22.50	12 mm x R3/8	12	19.0	R 3/8	37.1	12.0	21.9	22	10.0	0.5	5
FS12M-12R	\$27.00	12 mm x R1/2	12	19.0	R 1/2	39.1	14.0	21.9	24	10.0	1.0	5





NITRA pneumatic push-to-connect male elbow fitting with rotating thermoplastic (PBT) body, nickel-plated brass threads, stainless steel tube gripping claws and pre-applied Teflon thread sealant (#10-32, M5 and G threads have O-ring instead of thread sealant). For use with polyurethane or nylon tubing. Five fittings per package.



Inch Fitting and M3 Fittings



R-Thread (BSPT) Metric Fitting



G-Thread (BSPP) Metric Fitting

					NITRA Ma	ale Elbo	DW						
			In	ch Siz	es - dimens	sions in	inches	(in.)					
Part No.	Price	Size	øD	øP	Т	L	Ε	A	В	H (Hex)	Orifice	Package Weight (lbs)	Qty. per pack
<u>ME18-M3</u>	\$13.00	1/8 in. x M3	1/8	0.36	M3	0.63	0.69	0.12	0.44	8mm	0.06	0.1	5
<u>ME18-10N</u>	\$14.00	1/8 in. x #10-32	1/8	0.31	UNF 10-32	0.75	0.68	0.14	0.44	5/16	0.09	0.1	5
<u>ME18-18N</u>	\$10.50	1/8 in. x 1/8 NPT	1/8	0.31	NPT 1/8	0.77	0.68	0.33	0.44	7/16	0.09	0.1	5
<u>ME18-14N</u>	\$11.50	1/8 in. x 1/4 NPT	1/8	0.31	NPT 1/4	0.87	0.68	0.41	0.44	9/16	0.09	0.1	5
<u>ME532-M3</u>	\$13.00	5/32 in. (4 mm) x M3	5/32	0.41	M3	0.66	0.73	0.12	0.46	8mm	0.06	0.1	5
ME532-10N	\$8.00	5/32 in. (4 mm) x #10-32	5/32	0.41	UNF 10-32	1.05	0.93	0.14	0.59	7/16	0.10	0.1	5
ME532-18N	\$8.00	5/32 in. (4 mm) x 1/8 NPT	5/32	0.41	NPT 1/8	1.19	0.93	0.33	0.59	7/16	0.12	0.1	5
ME532-14N	\$8.75	5/32 in. (4 mm) x 1/4 NPT	5/32	0.41	NPT 1/4	1.31	0.93	0.41	0.59	9/16	0.12	0.1	5
<u>ME14-10N</u>	\$8.50	1/4 in. x #10-32	1/4	0.51	UNF 10-32	1.28	1.04	0.14	0.66	1/2	0.10	0.1	5
ME14-18N	\$8.50	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	1.35	1.04	0.33	0.66	1/2	0.18	0.2	5
ME14-14N	\$8.75	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	1.46	1.04	0.41	0.66	9/16	0.18	0.2	5
ME14-38N	\$10.00	1/4 in. x 3/8 NPT	1/4	0.51	NPT 3/8	1.50	1.04	0.45	0.66	11/16	0.18	0.3	5
ME516-18N	\$9.50	5/16 in. (8 mm) x 1/8 NPT	5/16	0.58	NPT 1/8	1.45	1.20	0.33	0.72	9/16	0.24	0.2	5
ME516-14N	\$10.00	5/16 in. (8 mm) x 1/4 NPT	5/16	0.58	NPT 1/4	1.53	1.20	0.41	0.72	9/16	0.24	0.3	5
ME516-38N	\$11.50	5/16 in. (8 mm) x 3/8 NPT	5/16	0.58	NPT 3/8	1.57	1.20	0.45	0.72	11/16	0.24	0.4	5
ME38-18N	\$13.50	3/8 in. x 1/8 NPT	3/8	0.69	NPT 1/8	1.52	1.27	0.33	0.79	11/16	0.20	0.3	5
ME38-14N	\$13.50	3/8 in. x 1/4 NPT	3/8	0.69	NPT 1/4	1.60	1.27	0.41	0.79	11/16	0.28	0.3	5
ME38-38N	\$13.50	3/8 in. x 3/8 NPT	3/8	0.69	NPT 3/8	1.64	1.27	0.45	0.79	11/16	0.28	0.4	5
ME38-12N	\$17.50	3/8 in. x 1/2 NPT	3/8	0.69	NPT 1/2	1.76	1.27	0.57	0.79	7/8	0.28	0.4	5
ME12-14N	\$16.50	1/2 in. x 1/4 NPT	1/2	0.83	NPT 1/4	1.81	1.49	0.41	0.90	3/4	0.31	0.4	5
<u>ME12-38N</u>	\$17.50	1/2 in. x 3/8 NPT	1/2	0.83	NPT 3/8	1.85	1.49	0.45	0.90	3/4	0.35	0.4	5
ME12-12N	\$18.50	1/2 in. x 1/2 NPT	1/2	0.83	NPT 1/2	1.97	1.49	0.57	0.90	7/8	0.35	0.5	5

BSPT = British Standard Pipe Taper

BSPP = British Standard Pipe Parallel

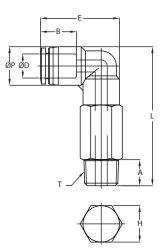


					NITRA Ma	ale Elb	W						
		R-Threa	d (BSP	T) Met	ric Sizes -	dimens	ions in i	millime	eters (n	nm)			
Part No.	Price	Size	øD	øP	Т	L	Ε	A	B	H (Hex)	Orifice	Package Weight (lbs)	Qty. per pack
ME4M-M5	\$9.00	4 mm (5/32 in.) x M5	4	10.5	M5*0.8p	25.7	23.6	4.0	14.9	10	2.5	0.1	5
ME4M-18R	\$8.00	4 mm (5/32 in.) x R1/8	4	10.5	R 1/8	29.7	23.6	8.0	14.9	10	3.0	0.1	5
<u>ME4M-14R</u>	\$8.75	4 mm (5/32 in.) x R1/4	4	10.5	R 1/4	31.7	23.6	10.0	14.9	14	3.0	0.2	5
<u>ME6M-M5</u>	\$9.25	6 mm x M5	6	12.5	M5*0.8p	28.7	26.3	4.0	16.4	12	2.5	0.2	5
<u>ME6M-18R</u>	\$8.25	6 mm x R1/8	6	12.5	R 1/8	32.7	26.3	8.0	16.4	12	4.5	0.3	5
<u>ME6M-14R</u>	\$8.50	6 mm x R1/4	6	12.5	R 1/4	35.7	26.3	10.0	16.4	14	4.5	0.3	5
<u>ME6M-38R</u>	\$9.75	6 mm x R3/8	6	12.5	R 3/8	36.7	26.3	11.0	16.4	17	4.5	0.3	5
<u>ME8M-18R</u>	\$11.00	8 mm (5/16 in.) x R1/8	8	14.8	R 1/8	35.4	30.3	8.0	18.7	14	6.0	0.4	5
<u>ME8M-14R</u>	\$11.00	8 mm (5/16 in.) x R1/4	8	14.8	R 1/4	38.4	30.3	10.0	18.7	14	6.0	0.4	5
<u>ME8M-38R</u>	\$11.50	8 mm (5/16 in.) x R3/8	8	14.8	R 3/8	39.4	30.3	11.0	18.7	17	6.0	0.4	5
<u>ME8M-12R</u>	\$13.50	8 mm (5/16 in.) x R1/2	8	14.8	R 1/2	42.4	30.3	14.0	18.7	21	6.5	0.4	5
<u>ME10M-18R</u>	\$14.00	10 mm x R1/8	10	17.5	R 1/8	37.2	33.0	8.0	20.1	17	6.0	0.5	5
<u>ME10M-14R</u>	\$14.00	10 mm x R1/4	10	17.5	R 1/4	40.2	33.0	10.0	20.1	17	7.0	0.5	5
<u>ME10M-38R</u>	\$15.50	10 mm x R3/8	10	17.5	R 3/8	41.2	33.0	11.0	20.1	17	7.0	0.6	5
<u>ME10M-12R</u>	\$17.50	10 mm x R1/2	10	17.5	R 1/2	44.2	33.0	14.0	20.1	21	7.0	0.7	5
<u>ME12M-14R</u>	\$16.50	12 mm x R1/4	12	20.5	R 1/4	44.6	38.1	10.0	22.8	19	7.0	0.7	5
<u>ME12M-38R</u>	\$17.00	12 mm x R3/8	12	20.5	R 3/8	45.6	38.1	11.0	22.8	19	10.0	0.7	5
<u>ME12M-12R</u>	\$18.50	12 mm x R1/2	12	20.5	R 1/2	48.6	38.1	14.0	22.8	21	10.0	0.8	5
<u>ME16M-38R</u>	\$37.00	16 mm x R3/8	16	25.5	R 3/8	55.5	44.8	11.0	24.1	24	10.0	0.8	5
<u>ME16M-12R</u>	\$40.00	16 mm x R1/2	16	25.5	R 1/2	58.5	44.8	14.0	24.1	24	13.0	0.8	5
		G-Threa	d (BSP	P) Met	tric Sizes -	dimens	ions in l	millime	eters (n	nm)			
<u>ME4M-18G</u>	\$8.00	4 mm (5/32 in.) x G1/8	4	10.5	G 1/8	26.7	18.5	5.0	14.8	14	3.0	0.2	5
<u>ME4M-14G</u>	\$8.75	4 mm (5/32 in.) x G1/4	4	10.5	G 1/4	28.7	18.5	6.5	14.8	17	3.0	0.3	5
<u>ME6M-18G</u>	\$8.25	6 mm x G1/8	6	12.5	G 1/8	29.7	20.3	5.0	16.4	14	4.0	0.3	5
<u>ME6M-14G</u>	\$8.50	6 mm x G1/4	6	12.5	G 1/4	31.7	20.3	6.5	16.4	17	4.0	0.3	5
<u>ME6M-38G</u>	\$9.75	6 mm x G3/8	6	12.5	G 3/8	31.2	20.3	6.5	16.4	20	4.0	0.4	5
<u>ME8M-14G</u>	\$11.00	8 mm (5/16 in.) x G1/4	8	14.8	G 1/4	34.4	22.9	6.5	18.3	17	6.0	0.4	5
<u>ME8M-38G</u>	\$11.50	8 mm (5/16 in.) x G3/8	8	14.8	G 3/8	33.9	22.9	6.5	18.3	20	6.0	0.4	5
<u>ME8M-12G</u>	\$13.50	8 mm (5/16 in.) x G1/2	8	14.8	G 1/2	35.4	22.9	8.0	18.3	24	6.0	0.5	5
<u>ME10M-38G</u>	\$15.50	10 mm x G3/8	10	17.5	G 3/8	35.7	24.6	6.5	20.2	20	6.0	0.4	5
<u>ME10M-12G</u>	\$17.50	10 mm x G1/2	10	17.5	G 1/2	37.2	24.6	8.0	20.2	24	6.0	0.5	5

BSPT = British Standard Pipe Taper

BSPP = British Standard Pipe Parallel





NITRA pneumatic push-to-connect long male elbow fitting with rotating thermoplastic (PBT) body, nickel-plated brass threads, stainless steel tube gripping claws and pre-applied Teflon thread sealant (O-ring on #10-32 and M5 threads). For use with polyurethane or nylon tubing. Five fittings per package.

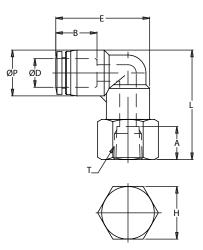


Inch Fitting

Metric Fitting

				NIT	RA Long	Male I	Elbow						
			In	ch Size	s - dimens	ions in	inches	s (in.)				1	
Part No.	Price	Size	øD	øP	T	L	Ε	A	В	H (Hex)	Orifice	Package Weight (lbs)	Qty. per pack
<u>MEL18-10N</u>	\$22.00	1/8 in. x #10-32	1/8	0.30	UNF 10-32	1.09	0.68	0.14	0.44	5/16	0.09	0.1	5
<u>MEL18-18N</u>	\$16.00	1/8 in. x 1/8 NPT	1/8	0.30	NPT 1/8	1.11	0.68	0.33	0.44	7/16	0.09	0.1	5
<u>MEL532-10N</u>	\$14.00	5/32 in. (4 mm) x #10-32	5/32	0.41	UNF 10-32	1.48	0.93	0.14	0.59	7/16	0.08	0.2	5
<u>MEL532-14N</u>	\$15.50	5/32 in.(4 mm) x 1/4 NPT	5/32	0.41	NPT 1/4	1.68	0.93	0.41	0.59	9/16	0.12	0.2	5
<u>MEL14-10N</u>	\$13.50	1/4 in. x #10-32	1/4	0.51	UNF 10-32	1.73	1.04	0.14	0.66	1/2	0.08	0.3	5
<u>MEL14-18N</u>	\$13.50	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	1.87	1.04	0.33	0.66	1/2	0.18	0.2	5
<u>MEL14-14N</u>	\$15.50	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	1.99	1.04	0.41	0.66	9/16	0.18	0.3	5
<u>MEL14-38N</u>	\$18.00	1/4 in. x 3/8 NPT	1/4	0.51	NPT 3/8	2.03	1.04	0.45	0.66	11/16	0.18	0.3	5
<u>MEL516-18N</u>	\$16.00	5/16 in. (8 mm) x 1/8 NPT	5/16	0.58	NPT 1/8	1.75	1.20	0.33	0.72	9/16	0.24	0.4	5
<u>MEL516-14N</u>	\$16.00	5/16 in. (8 mm) x 1/4 NPT	5/16	0.58	NPT 1/4	1.83	1.20	0.41	0.72	9/16	0.24	0.4	5
<u>MEL516-38N</u>	\$19.00	5/16 in. (8 mm) x 3/8 NPT	5/16	0.58	NPT 3/8	1.99	1.20	0.45	0.72	11/16	0.24	0.7	5
<u>MEL38-18N</u>	\$20.00	3/8 in. x 1/8 NPT	3/8	0.68	NPT 1/8	2.24	1.27	0.33	0.79	11/16	0.24	0.3	5
MEL38-14N	\$20.50	3/8 in. x 1/4 NPT	3/8	0.69	NPT 1/4	2.31	1.27	0.41	0.79	11/16	0.28	0.4	5
<u>MEL38-38N</u>	\$20.50	3/8 in. x 3/8 NPT	3/8	0.69	NPT 3/8	2.35	1.27	0.45	0.79	11/16	0.28	0.5	5
<u>MEL38-12N</u>	\$30.50	3/8 in. x 1/2 NPT	3/8	0.69	NPT 1/2	2.47	1.27	0.57	0.79	7/8	0.28	0.7	5
<u>MEL12-14N</u>	\$30.00	1/2 in. x 1/4 NPT	1/2	0.83	NPT 1/4	2.68	1.49	0.41	0.90	3/4	0.31	0.6	5
<u>MEL12-38N</u>	\$31.00	1/2 in. x 3/8 NPT	1/2	0.83	NPT 3/8	2.72	1.49	0.45	0.90	3/4	0.35	0.7	5
<u>MEL12-12N</u>	\$31.50	1/2 in. x 1/2 NPT	1/2	0.83	NPT 1/2	2.83	1.49	0.57	0.90	7/8	0.35	0.8	5
			Metric	: Sizes ·	dimensio	ns in n	nillime	ters (m	<i>m)</i>				
<u>MEL4M-M5</u>	\$16.00	4 mm (5/32 in.) x M5	4	10.5	M5*0.8p	38.2	23.6	4.1	14.9	10	2.0	0.2	5
<u>MEL4M-18R</u>	\$13.00	4 mm (5/32 in.) x R1/8	4	10.5	R 1/8	40.7	23.6	8.0	14.9	10	3.0	0.2	5
<u>MEL4M-14R</u>	\$15.50	4 mm (5/32 in.) x R1/4	4	10.5	R 1/4	42.7	23.6	10.0	14.9	14	3.0	0.2	5
<u>MEL6M-M5</u>	\$14.00	6 mm x M5	6	12.5	M5*0.8p	43.7	26.3	4.1	16.4	12	2.0	0.3	5
<u>MEL6M-18R</u>	\$13.00	6 mm x R1/8	6	12.5	R 1/8	46.2	26.3	8.0	16.4	12	4.0	0.3	5
<u>MEL6M-14R</u>	\$14.00	6 mm x R1/4	6	12.5	R 1/4	48.2	26.3	10.0	16.4	14	4.0	0.3	5
<u>MEL6M-38R</u>	\$18.00	6 mm x R3/8	6	12.5	R 3/8	49.2	26.3	11.0	16.4	17	4.5	0.4	5
<u>MEL8M-18R</u>	\$17.00	8 mm (5/16 in.) x R1/8	8	14.8	R 1/8	51.4	30.3	8.0	18.7	14	6.0	0.5	5
<u>MEL8M-14R</u>	\$18.00	8 mm (5/16 in.) x R1/4	8	14.8	R 1/4	53.4	30.3	10.0	18.7	14	6.0	0.7	5
<u>MEL8M-38R</u>	\$19.50	8 mm (5/16 in.) x R3/8	8	14.8	R 3/8	54.4	30.3	11.0	18.7	17	6.0	0.6	5
<u>MEL8M-12R</u>	\$22.50	8 mm (5/16 in.) x R1/2	8	14.8	R 1/2	57.4	30.3	14.0	18.7	22	6.0	0.7	5
<u>MEL10M-18R</u>	\$20.50	10 mm x R1/8	10	17.5	R 1/8	56.4	33.0	8.0	20.1	17	6.0	0.8	5
<u>MEL10M-14R</u>	\$22.00	10 mm x R1/4	10	17.5	R 1/4	58.4	33.0	10.0	20.1	17	7.0	0.8	5
<u>MEL10M-38R</u>	\$22.00	10 mm x R3/8	10	17.5	R 3/8	59.4	33.0	11.0	20.1	17	7.0	0.9	5
<u>MEL10M-12R</u>	\$30.50	10 mm x R1/2	10	17.5	R 1/2	62.4	33.0	14.0	20.1	22	7.0	1.0	5
<u>MEL12M-14R</u>	\$30.00	12 mm x R1/4	12	20.5	R 1/4	66.1	38.1	10.0	22.8	19	8.0	1.0	5
<u>MEL12M-38R</u>	\$30.50	12 mm x R3/8	12	20.5	R 3/8	67.1	38.1	11.0	22.8	19	10.0	1.0	5
MEL12M-12R	\$31.00	12 mm x R1/2	12	20.5	R 1/2	70.1	38.1	14.0	22.8	22	10.0	1.1	5





NITRA pneumatic push-to-connect female elbow fitting with rotating thermoplastic (PBT) body, nickel-plated brass threads, stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.

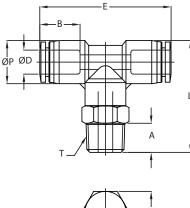


Inch Fitting

Metric Fitting

Pair No. Price Size BD Br P													
		,	Inch	Sizes	- dimen	sions i	n inch	es (in.)				
Part No.	Price	Size	øD	øP	Т	L	Ε	A	B		Orifice	Package Weight (lbs)	Qty. per pack
FE532-18N	\$15.50	5/32 in. (4 mm) x 1/8 NPT	5/32	0.41	NPT 1/8	1.09	0.93	0.35	0.59	9/16	0.10	0.2	5
FE532-14N	\$16.50	5/32 in. (4 mm) x 1/4 NPT	5/32	0.41	NPT 1/4	1.09	0.93	0.43	0.59	11/16	0.10	0.2	5
<u>FE14-18N</u>	\$16.00	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	1.24	1.04	0.35	0.66	9/16	0.16	0.2	5
<u>FE14-14N</u>	\$17.00	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	1.34	1.04	0.43	0.66	11/16	0.16	0.3	5
FE14-38N	\$19.00	1/4 in. x 3/8 NPT	1/4	0.51	NPT 3/8	1.36	1.04	0.47	0.66	7/8	0.16	0.3	5
FE516-18N	\$18.00	5/16 in. (8 mm) x 1/8 NPT	5/16	0.58	NPT 1/8	1.31	1.20	0.35	0.72	9/16	0.24	0.2	5
FE516-14N	\$19.00	5/16 in. (8 mm) x 1/4 NPT	5/16	0.58	NPT 1/4	1.39	1.20	0.43	0.72	11/16	0.24	0.3	5
<u>FE516-38N</u>	\$19.00	5/16 in. (8 mm) x 3/8 NPT	5/16	0.58	NPT 3/8	1.43	1.20	0.47	0.72	7/8	0.24	0.3	5
FE38-14N	\$17.50	3/8 in. x 1/4 NPT	3/8	0.69	NPT 1/4	1.46	1.27	0.43	0.79	11/16	0.28	0.3	5
<u>FE38-38N</u>	\$19.50	3/8 in. x 3/8 NPT	3/8	0.69	NPT 3/8	1.50	1.27	0.47	0.79	7/8	0.28	0.3	5
<u>FE38-12N</u>	\$20.50	3/8 in. x 1/2 NPT	3/8	0.69	NPT 1/2	1.58	1.27	0.57	0.79	15/16	0.28	0.4	5
FE12-38N	\$29.00	1/2 in. x 3/8 NPT	1/2	0.83	NPT 3/8	1.71	1.49	0.47	0.90	7/8	0.35	0.5	5
<u>FE12-12N</u>	\$30.50	1/2 in. x 1/2 NPT	1/2	0.83	NPt 1/2	1.79	1.49	0.57	0.90	15/16	0.35	0.6	5
		М	etric S	izes -	dimensia	ons in .	millim	eters ((mm)				
<u>FE4M-M5</u>	\$16.50	4 mm (5/32 in.) x M5	4	10.5	M5*0.8p	26.7	23.6	8.0	14.9	10	2.5	0.2	5
<u>FE4M-18R</u>	\$15.50	4 mm (5/32 in.) x R1/8	4	10.5	R 1/8	27.7	23.6	9.0	14.9	14	2.5	0.2	5
<u>FE6M-M5</u>	\$16.50	6 mm x M5	6	12.5	M5*0.8p	29.7	26.3	8.0	16.4	12	4.0	0.3	5
<u>FE6M-18R</u>	\$15.50	6 mm x R1/8	6	12.5	R 1/8	30.7	26.3	9.0	16.4	14	4.0	0.3	5
FE6M-14R	\$16.50	6 mm x R1/4	6	12.5	R 1/4	32.7	26.3	11.0	16.4	17	4.0	0.3	5
FE6M-38R	\$19.00	6 mm x R3/8	6	12.5	R 3/8	33.7	26.3	12.0	16.4	22	4.0	0.3	5
<u>FE8M-18R</u>	\$16.50	8 mm (5/16 in.) x R1/8	8	14.8	R 1/8	33.4	30.3	9.0	18.7	14	6.0	0.4	5
FE8M-14R	\$17.50	8 mm (5/16 in.) x R1/4	8	14.8	R 1/4	35.4	30.3	11.0	18.7	17	6.0	0.5	5
FE8M-12R	\$20.00	8 mm (5/16 in.) x R1/2	8	14.8	R 1/2	38.4	30.3	14.0	18.7	24	6.0	0.6	5
FE10M-18R	\$15.50	10 mm x R1/8	10	17.5	R 1/8	37.2	33.0	9.0	20.1	17	7.0	0.6	5
FE10M-14R	\$17.50	10 mm x R1/4	10	17.5	R 1/4	37.2	33.0	11.0	20.1	17	7.0	0.6	5
FE10M-38R	\$19.50	10 mm x R3/8	10	17.5	R 3/8	38.2	33.0	12.0	20.1	22	7.0	0.7	5
FE10M-12R	\$20.50	10 mm x R1/2	10	17.5	R 1/2	40.2	33.0	14.0	20.1	24	7.0	0.8	5
FE12M-14R	\$28.00	12 mm x R1/4	12	20.5	R 1/4	41.6	38.1	11.0	22.8	19	10.0	0.8	5
FE12M-38R	\$29.00	12 mm x R3/8	12	20.5	R 3/8	42.6	38.1	12.0	22.8	22	10.0	0.8	5
FE12M-12R	\$30.50	12 mm x R1/2	12	20.5	R 1/2	44.6	38.1	14.0	22.8	24	10.0	0.9	5





NITRA pneumatic push-to-connect male branch tee fitting with rotating thermoplastic (PBT) body, nickel-plated brass threads, stainless steel tube gripping claws and pre-applied Teflon thread sealant (O-ring on #10-32 and M5 threads). For use with polyurethane or nylon tubing. Five fittings per package.



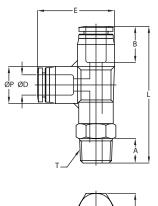


Inch Fitting

Metric Fitting

				NITI	RA Male	Branc	h Tee			•			
			Inc	h Sizes	- dimens	ions ir	n inches	s (in.)					
Part No.	Price	Size	øD	øP	Т	L	Ε	A	B	H (Hex)	Orifice	Package Weight (lbs)	Qty. per pack
MBT18-10N	\$19.00	1/8 in. x #10-32	1/8	0.30	UNF 10-32	0.75	1.44	0.14	0.44	5/16	0.10	0.1	5
<u>MBT18-18N</u>	\$17.00	1/8 in. x 1/8 NPT	1/8	0.30	NPT 1/8	0.77	1.44	0.33	0.44	7/16	0.10	0.1	5
<u>MBT532-18N</u>	\$13.00	5/32 in. (4 mm) x 1/8 NPT	5/32	0.41	NPT 1/8	1.19	1.47	0.33	0.59	7/16	0.12	0.2	5
<u>MBT532-14N</u>	\$13.00	5/32 in. (4 mm) x 1/4 NPT	5/32	0.41	NPT 1/4	1.31	1.47	0.41	0.59	9/16	0.12	0.2	5
<u>MBT14-18N</u>	\$13.50	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	1.35	1.61	0.33	0.67	1/2	0.18	0.2	5
<u>MBT14-14N</u>	\$13.50	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	1.46	1.61	0.41	0.67	9/16	0.18	0.3	5
<u>MBT14-38N</u>	\$18.00	1/4 in. x 3/8 NPT	1/4	0.51	NPT 3/8	1.50	1.61	0.45	0.67	11/16	0.18	0.3	5
<u>MBT516-18N</u>	\$16.00	5/16 in. (8 mm) x 1/8 NPT	5/16	0.59	NPT 1/8	1.46	1.79	0.33	0.72	9/16	0.24	0.3	5
<u>MBT516-14N</u>	\$16.00	5/16 in. (8 mm) x 1/4 NPT	5/16	0.59	NPT 1/4	1.54	1.79	0.41	0.72	9/16	0.24	0.3	5
MBT516-38N	\$17.00	5/16 in. (8 mm) x 3/8 NPT	5/16	0.59	NPT 3/8	1.58	1.79	0.45	0.72	11/16	0.24	0.3	5
<u>MBT38-18N</u>	\$16.50	3/8 in. x 1/8 NPT	3/8	0.69	NPT 1/8	1.52	1.87	0.33	0.79	11/16	0.20	0.3	5
<u>MBT38-14N</u>	\$16.50	3/8 in. x 1/4 NPT	3/8	0.69	NPT 1/4	1.60	1.87	0.41	0.79	11/16	0.28	0.4	5
<u>MBT38-38N</u>	\$17.00	3/8 in. x 3/8 NPT	3/8	0.69	NPT 3/8	1.64	1.87	0.45	0.79	11/16	0.28	0.4	5
<u>MBT38-12N</u>	\$23.50	3/8 in. x 1/2 NPT	3/8	0.69	NPT 1/2	1.76	1.87	0.57	0.79	7/8	0.28	0.5	5
<u>MBT12-14N</u>	\$23.50	1/2 in. x 1/4 NPT	1/2	0.83	NPT 1/4	1.81	2.22	0.41	0.90	3/4	0.31	0.4	5
<u>MBT12-38N</u>	\$23.50	1/2 in. x 3/8 NPT	1/2	0.83	NPT 3/8	1.85	2.22	0.45	0.90	3/4	0.35	0.5	5
<u>MBT12-12N</u>	\$24.50	1/2 in. x 1/2 NPT	1/2	0.83	NPT 1/2	1.97	2.22	0.57	0.90	7/8	0.35	0.6	5
		I	Metric (Sizes -	dimensio	ns in r	nillime	ters (n	<i>1m)</i>				_
<u>MBT4M-M5</u>	\$14.00	4 mm (5/32 in.) x M5	4	10.5	M5*0.8p	25.7	37.3	4.0	14.9	10	2.0	0.2	5
<u>MBT4M-18R</u>	\$13.00	4 mm (5/32 in.) x R1/8	4	10.5	R 1/8	29.7	37.3	8.0	14.9	10	3.0	0.2	5
<u>MBT4M-14R</u>	\$13.00	4 mm (5/32 in.) x R1/4	4	10.5	R 1/4	31.7	37.3	10.0	14.9	14	3.0	0.2	5
<u>MBT6M-M5</u>	\$14.00	6 mm x M5	6	12.5	M5*0.8p	28.7	40.7	4.0	16.4	12	2.0	0.3	5
<u>MBT6M-18R</u>	\$13.00	6 mm x R1/8	6	12.5	R 1/8	32.7	40.7	8.0	16.4	12	4.5	0.3	5
<u>MBT6M-14R</u>	\$13.50	6 mm x R1/4	6	12.5	R 1/4	35.7	40.7	10.0	16.4	14	4.5	0.3	5
<u>MBT6M-38R</u>	\$17.50	6 mm x R3/8	6	12.5	R 3/8	36.7	40.7	11.0	16.4	17	4.5	0.3	5
<u>MBT8M-18R</u>	\$17.00	8 mm (5/16 in.) x R1/8	8	14.8	R 1/8	35.4	45.1	8.0	18.7	14	6.0	0.4	5
<u>MBT8M-14R</u>	\$15.50	8 mm (5/16 in.) x R1/4	8	14.8	R 1/4	38.4	45.1	10.0	18.7	14	6.0	0.5	5
<u>MBT8M-38R</u>	\$17.50	8 mm (5/16 in.) x R3/8	8	14.8	R 3/8	39.4	45.1	11.0	18.7	17	6.0	0.6	5
<u>MBT8M-12R</u>	\$19.00	8 mm (5/16 in.) x R1/2	8	14.8	R 1/2	42.4	45.1	14.0	18.7	21	6.5	0.6	5
<u>MBT10M-18R</u>	\$19.50	10 mm x R1/8	10	17.5	R 1/8	37.2	47.4	8.0	20.1	17	6.0	0.6	5
<u>MBT10M-14R</u>	\$17.00	10 mm x R1/4	10	17.5	R 1/4	40.2	47.4	10.0	20.1	17	7.0	0.6	5
<u>MBT10M-38R</u>	\$17.50	10 mm x R3/8	10	17.5	R 3/8	41.2	47.4	11.0	20.1	17	7.0	0.7	5
<u>MBT10M-12R</u>	\$23.50	10 mm x R1/2	10	17.5	R 1/2	44.2	47.4	14.0	20.1	21	7.0	0.8	5
<u>MBT12M-14R</u>	\$23.00	12 mm x R1/4	12	20.5	R 1/4	44.6	55.3	10.0	22.8	19	7.0	0.8	5
<u>MBT12M-38R</u>	\$23.50	12 mm x R3/8	12	20.5	R 3/8	45.6	55.3	11.0	22.8	19	10.0	0.8	5
<u>MBT12M-12R</u>	\$22.00	12 mm x R1/2	12	20.5	R 1/2	48.6	55.3	14.0	22.8	21	10.0	0.9	5
<u>MBT16M-38R</u>	\$31.50	16 mm x R3/8	16	25.5	R 3/8	55.5	65.6	11.0	24.1	24	10.0	0.9	5
<u>MBT16M-12R</u>	\$32.50	16 mm x R1/2	16	25.5	R 1/2	58.5	65.6	14.0	24.1	24	13.0	0.9	5





NITRA pneumatic push-to-connect male run tee fitting with rotating thermoplastic (PBT) body, nickel-plated brass threads, stainless steel tube gripping claws and pre-applied Teflon thread sealant (O-ring on #10-32 and M5 threads). For use with polyurethane or nylon tubing. Five fittings per package.

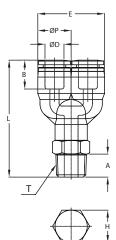


Inch Fitting

Metric Fitting

				Nľ	TRA Mal	e Run	Tee						
			Inch	Sizes	- dimens	ions in	inches	: (in.)					
Part No.	Price	Size	øD	øP	Т	L	Ε	A	В	H (Hex)	Orifice	Package Weight (lbs)	Qty. per pack
<u>MRT18-10N</u>	\$24.00	1/8 in. x #10-32	1/8	0.30	UNF 10-32	1.14	0.69	0.15	0.44	5/16	0.10	0.1	5
<u>MRT18-18N</u>	\$20.00	1/8 in. x 1/8 NPT	1/8	0.30	NPT 1/8	1.16	0.69	0.33	0.44	7/16	0.10	0.1	5
<u>MRT532-18N</u>	\$14.00	5/32 in. (4 mm) x 1/8 NPT	5/32	0.42	NPT 1/8	1.83	0.98	0.33	0.59	7/16	0.12	0.1	5
<u>MRT532-14N</u>	\$15.50	5/32 in. (4 mm) x 1/4 NPT	5./32	0.42	NPT 1/4	1.91	0.98	0.41	0.59	9/16	0.12	0.2	5
<u>MRT14-18N</u>	\$14.00	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	1.94	1.10	0.33	0.66	1/2	0.18	0.2	5
<u>MRT14-14N</u>	\$15.50	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	2.05	1.10	0.41	0.66	9/16	0.18	0.2	5
<u>MRT14-38N</u>	\$18.00	1/4 in. x 3/8 NPT	1/4	0.51	NPT 3/8	2.09	1.10	0.45	0.66	11/16	0.18	0.4	5
<u>MRT516-18N</u>	\$16.50	5/16 in. (8 mm) x 1/8 NPT	5/16	0.60	NPT 1/8	2.11	1.22	0.33	0.72	9/16	0.24	0.3	5
<u>MRT516-14N</u>	\$16.50	5/16 in. (8 mm) x 1/4 NPT	5/16	0.60	NPT 1/4	2.19	1.22	0.41	0.72	9/16	0.24	0.3	5
<u>MRT516-38N</u>	\$18.00	5/16 in. (8 mm) x 3/8 NPT	5/16	0.60	NPT 3/8	2.23	1.22	0.45	0.72	11/16	0.24	0.3	5
<u>MRT38-18N</u>	\$19.50	3/8 in. x 1/8 NPT	3/8	0.69	NPT 1/8	2.25	1.35	0.33	0.79	11/16	0.20	0.3	5
<u>MRT38-14N</u>	\$20.00	3/8 in. x 1/4 NPT	3/8	0.69	NPT 1/4	2.33	1.35	0.41	0.79	11/16	0.28	0.3	5
<u>MRT38-38N</u>	\$20.50	3/8 in. x 3/8 NPT	3/8	0.69	NPT 3/8	2.37	1.35	0.45	0.79	11/16	0.28	0.4	5
<u>MRT38-12N</u>	\$26.00	3/8 in. x 1/2 NPT	3/8	0.69	NPT 1/2	2.48	1.35	0.57	0.79	7/8	0.28	0.5	5
<u>MRT12-14N</u>	\$24.50	1/2 in. x 1/4 NPT	1/2	0.83	NPT 1/4	2.59	1.60	0.41	0.90	3/4	0.31	0.4	5
<u>MRT12-38N</u>	\$25.50	1/2 in. x 3/8 NPT	1/2	0.83	NPT 3/8	2.63	1.60	0.45	0.90	3/4	0.39	0.5	5
<u>MRT12-12N</u>	\$26.50	1/2 in. x 1/2 NPT	1/2	0.83	NPT 1/2	2.74	1.60	0.57	0.90	7/8	0.39	0.6	5
		N	letric S	izes -	dimensio	ns in n	nillimet	ers (m	m)				
<u>MRT4M-M5</u>	\$16.00	4 mm (5/32 in.) x M5	4	10.6	M5*0.8p	41.6	24.9	4.0	14.9	10	2.0	0.1	5
<u>MRT4M-18R</u>	\$14.00	4 mm (5/32 in.) x R1/8	4	10.6	R 1/8	45.1	24.9	8.0	14.9	10	3.0	0.1	5
MRT4M-14R	\$15.50	4 mm (5/32 in.) x R1/4	4	10.6	R 1/4	47.1	24.9	10.0	14.9	14	3.0	0.2	5
<u>MRT6M-M5</u>	\$16.00	6 mm x M5	6	13.0	M5*0.8p	44.9	27.9	4.0	16.4	12	2.0	0.2	5
<u>MRT6M-18R</u>	\$14.00	6 mm x R1/8	6	13.0	R 1/8	48.4	27.9	8.0	16.4	12	4.5	0.4	5
<u>MRT6M-14R</u>	\$14.00	6 mm x R1/4	6	13.0	R 1/4	51.4	27.9	10.0	16.4	14	4.5	0.3	5
<u>MRT8M-18R</u>	\$17.50	8 mm x R1/8	8	15.0	R 1/8	52.5	31.3	8.0	18.7	14	6.0	0.4	5
<u>MRT8M-14R</u>	\$18.00	8 mm (5/16 in.) x R1/4	8	15.0	R 1/4	55.5	31.3	10.0	18.7	14	6.0	0.5	5
MRT8M-12R	\$20.00	8 mm (5/16 in.) x R1/2	8	15.0	R 1/2	59.5	31.3	14.0	18.7	21	6.5	0.5	5
<u>MRT10M-18R</u>	\$23.00	10 mm x R1/8	10	18.0	R 1/8	55.7	34.7	8.0	20.1	17	6.0	0.6	5
MRT10M-14R	\$20.00	10 mm x R1/4	10	18.0	R 1/4	58.7	34.7	10.0	20.1	17	7.0	0.6	5
MRT10M-38R	\$20.50	10 mm x R3/8	10	18.0	R 3/8	59.7	34.7	11.0	20.1	17	7.0	0.7	5
MRT10M-12R	\$26.00	10 mm x R1/2	10	18.0	R 1/2	62.7	34.7	14.0	20.1	21	7.0	0.8	5
MRT12M-14R	\$25.00	12 mm x R1/4	12	20.8	R 1/4	65.0	40.5	10.0	22.8	19	7.0	0.8	5
MRT12M-38R	\$25.00	12 mm x R3/8	12	20.8	R 3/8	66.0	40.5	11.0	22.8	19	10.0	0.8	5
MRT12M-12R	\$26.00	12 mm x R1/2	12	20.8	R 1/2	69.0	40.5	14.0	22.8	21	10.0	0.9	5





NITRA pneumatic push-to-connect male Y fitting with rotating thermoplastic (PBT) body, nickel-plated brass threads, stainless steel tube gripping claws and pre-applied Teflon thread sealant. For use with polyurethane or nylon tubing. Five fittings per package.

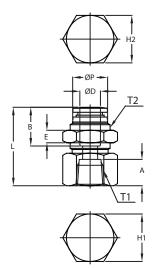






					NITRA	Male	Y								
	H No. Price Size oD oP T L E A B H (Hx) Orifice Package Weight (ibs) Off, pack Package Meight (ibs) (532-18) \$14.00 \$/32 in, (4 mm) x1/8 NPT 5/32 0.41 NPT 1/8 1.73 0.83 0.31 0.61 7/16 0.12 0.1 5 (532-18) \$14.00 5/32 in, (4 mm) x1/8 NPT 5/32 0.41 NPT 1/8 0.83 0.41 0.61 9/16 0.12 0.1 5 (14-18) \$16.00 1/4 in, x1/8 NPT 1/4 0.51 NPT 1/8 1.88 1.02 0.41 0.70 9/16 0.18 0.22 5 (14-14) \$16.00 1/4 in, x1/8 NPT 1/4 0.51 NPT 1/8 1.99 1.02 0.41 0.70 9/16 0.18 0.22 5 (14-38) \$18.00 5/16 in, (8 mm) x1/8 NPT 5/16 0.57 NPT 1/8 1.92 1.14 0.43 0.73 9/16 0.24 0.33 </th														
Part No.	Price	Size	øD	øP	T	L	Ε	A	В		Orifice		Qty. per pack		
<u>MY532-18N</u>	\$14.00	5/32 in. (4 mm) x 1/8 NPT	5/32	0.41	NPT 1/8	1.73	0.83	0.33	0.61	7/16	0.12	0.1	5		
<u>MY532-14N</u>	\$15.50	5/32 in. (4 mm) x 1/4 NPT	5/32	0.41	NPT 1/4	1.85	0.83	0.41	0.61	9/16	0.12	0.2	5		
<u>MY14-18N</u>	\$16.00	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	1.88	1.02	0.33	0.70	1/2	0.18	0.2	5		
<u>MY14-14N</u>	\$16.50	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	1.99	1.02	0.41	0.70	9/16	0.18	0.2	5		
<u>MY14-38N</u>	\$18.00	1/4 in. x 3/8 NPT	1/4	0.51	NPT 3/8	2.03	1.02	0.45	0.70	11/16	0.18	0.3	5		
<u>MY516-18N</u>	\$17.00	5/16 in. (8 mm) x 1/8 NPT	5/16	0.57	NPT 1/8	1.92	1.14	0.33	0.73	9/16	0.24	0.2	5		
<u>MY516-14N</u>	\$17.00	5/16 in. (8 mm) x 1/4 NPT	5/16	0.57	NPT 1/4	1.99	1.14	0.41	0.73	9/16	0.24	0.3	5		
<u>MY516-38N</u>	\$18.50	5/16 in. (8 mm) x 3/8 NPT	5/16	0.57	NPT 3/8	2.04	1.14	0.45	0.73	9/16	0.24	0.3	5		
MY38-18N	\$19.50	3/8 in. x 1/8 NPT	3/8	0.69	NPT 1/8	2.07	1.39	0.33	0.79	11/16	0.20	0.3	5		
MY38-14N	\$20.00	3/8 in. x 1/4 NPT	3/8	0.69	NPT 1/4	2.15	1.39	0.41	0.79	11/16	0.28	0.3	5		
MY38-38N	\$20.50	3/8 in. x 3/8 NPT	3/8	0.69	NPT 3/8	2.19	1.39	0.45	0.79	11/16	0.28	0.4	5		
MY38-12N	\$25.50	3/8 in. x 1/2 NPT	3/8	0.69	NPT 1/2	2.31	1.39	0.57	0.79	7/8	0.28	0.4	5		
MY12-14N	\$24.50	1/2 in. x 1/4 NPT	1/2	0.83	NPT 1/4	2.54	1.65	0.41	0.90	3/4	0.28	0.4	5		
MY12-38N	\$26.00	1/2 in. x 3/8 NPT	1/2	0.83	NPT 3/8	2.58	1.65	0.45	0.90	3/4	0.28	0.6	5		
MY12-12N	\$27.00	1/2 in. x 1/2 NPT	1/2	0.83	NPT 1/2	2.70	1.65	0.57	0.90	7/8	0.28	0.8	5		
			Metric	Sizes -	dimensi	ions in I	millimet	ters (m	m)	,		·			
MY4M-M5	\$16.00	4 mm (5/32 in.) x M5	4	10.5	M5*0.8p	39.5	21.0	4.0	15.6	10	2.5	0.1	5		
MY4M-18R	\$14.00	4 mm (5/32 in.) x R1/8	4	10.5	R 1/8	43.5	21.0	8.0	15.6	10	3.0	0.1	5		
MY4M-14R	\$15.50	4 mm (5/32 in.) x R1/4	4	10.5	R 1/4	45.5	21.0	10.0	15.6	14	3.0	0.2	5		
MY6M-M5	\$17.00	6 mm x M5	6	12.5	M5*0.8p	40.4	25.0	4.0	16.9	12	2.5	0.2	5		
MY6M-18R	\$16.00	6 mm x R1/8	6	12.5	R 1/8	44.4	25.0	8.0	16.9	12	4.5	0.3	5		
MY6M-14R	\$16.00	6 mm x R1/4	6	12.5	R 1/4	47.4	25.0	10.0	16.9	14	4.5	0.3	5		
MY6M-38R	\$17.50	6 mm x R3/8	6	12.5	R 3/8	48.4	25.0	11.0	16.9	17	4.5	0.3	5		
MY8M-18R	\$19.00	8 mm (5/16 in.) x R1/8	8	14.5	R 1/8	47.8	29.0	8.0	19.0	14	6.0	0.4	5		
MY8M-14R	\$18.00	8 mm (5/16 in.) x R1/4	8	14.5	R 1/4	50.8	29.0	10.0	19.0	14	6.0	0.4	5		
MY8M-38R	\$19.00	8 mm (5/16 in.) x R3/8	8	14.5	R 3/8	51.8	29.0	11.0	19.0	17	6.0	0.4	5		
MY8M-12R	\$20.00	8 mm (5/16 in.) x R1/2	8	14.5	R 1/2	54.8	29.0	14.0	19.0	21	6.5	0.6	5		
MY10M-18R	\$22.50	10 mm x R1/8	10	17.6	R 1/8	51.2	35.2	8.0	20.2	17	6.0	0.8	5		
MY10M-14R	\$20.50	10 mm x R1/4	10	17.6	R 1/4	54.2	35.2	10.0	20.2	17	7.0	0.8	5		
MY10M-38R	\$20.50	10 mm x R3/8	10	17.6	R 3/8	55.2	35.2	11.0	20.2	17	7.0	0.9	5		
MY10M-12R	\$25.50	10 mm x R1/2	10	17.6	R 1/2	58.2	35.2	14.0	20.2	21	7.0	1.0	5		
<u>MY12M-12R</u>	\$26.50	12 mm x R1/2	12	21.0	R 1/2	63.1	42.0	14.0	22.6	21	10.0	1.2	5		





NITRA pneumatic push-to-connect bulkhead female straight fitting with nickel-plated brass body and stainless steel tube gripping claws. For use with polyurethane or nylon tubing. Five fittings per package.





Inch Fitting

Metric Fitting

					NITRA	Bulkhea	d Fer	nale							
	State Indian Indididididididididididi Indidididididi														
Part No.	Price	Size	øD	øP	T1	T2	L	Ε	A	B			Orifice	Weight	
<u>FB532-18N</u>	\$18.00	5/32 in. (4 mm) x 1/8 NPT	5/32	0.39	NPT 1/8	M12*1.0p	1.06	0.16	0.37	0.58	9/16	14 mm	0.12	0.2	5
<u>FB14-18N</u>	\$19.00	1/4 in. x 1/8 NPT	1/4	0.51	NPT 1/8	M14*1.0p	1.22	0.16	0.37	0.67	11/16	17 mm	0.20	0.2	5
<u>FB14-14N</u>	\$19.00	1/4 in. x 1/4 NPT	1/4	0.51	NPT 1/4	M14*1.0p	1.22	0.16	0.45	0.67	11/16	17 mm	0.20	0.2	5
<u>FB516-14N</u>	\$22.50	5/16 in. (8 mm) x 1/4 NPT	5/16	0.55	NPT 1/4	M16*1.0p	1.24	0.19	0.45	0.72	3/4	19 mm	0.24	0.5	5
<u>FB516-38N</u>	\$23.50	5/16 in. (8 mm) x 3/8 NPT	5/16	0.55	NPT 3/8	M16*1.0p	1.27	0.19	0.47	0.72	7/8	22 mm	0.24	0.5	5
<u>FB38-14N</u>	\$30.50	3/8 in. x 1/4 NPT	3/8	0.65	NPT 1/4	M20*1.0p	1.40	0.20	0.45	0.77	15/16	24 mm	0.31	0.5	5
<u>FB38-38N</u>	\$31.00	3/8 in. x 3/8 NPT	3/8	0.65	NPT 3/8	M20*1.0p	1.40	0.20	0.49	0.77	15/16	24 mm	0.31	0.6	5
FB12-14N	\$32.50	1/2 in. x 1/4 NPT	1/2	0.81	NPT 1/4	M22*1.0p	1.57	0.20	045	0.89	15/16	26 mm	0.39	0.9	5
<u>FB12-38N</u>	\$34.00	1/2 in. x 3/8 NPT	1/2	0.81	NPT 3/8	M22*1.0p	1.57	0.20	0.49	0.89	15/16	26 mm	0.39	0.9	5
FB12-12N	\$38.50	1/2 in. x 1/2 NPT	1/2	0.81	NPT 1/2	M22*1.0p	1.57	0.20	0.57	0.89	15/16	26 mm	0.39	0.9	5
			M	letric S	Sizes - diı	nensions	in mi	llimete	ers (mi	n)					
FB4M-18R	\$18.00	4 mm (5/32 in.) x R1/8	4	10.0	R 1/8	M12*1.0p	27.0	4	9.0	14.7	14	14	3.0	0.2	5
<u>FB4M-14R</u>	\$19.00	4 mm (5/32 in.) x R1/4	4	10.0	R 1/4	M12*1.0p	29.0	4	11.0	14.7	17	14	3.0	0.3	5
<u>FB6M-18R</u>	\$18.50	6 mm x R1/8	6	12.0	R 1/8	M14*1.0p	30.2	4	9.0	16.4	17	17	5.0	0.3	5
<u>FB6M-14R</u>	\$18.50	6 mm x R1/4	6	12.0	R 1/4	M14*1.0p	30.2	4	11.0	16.4	17	17	5.0	0.6	5
<u>FB6M-38R</u>	\$30.50	6 mm x R3/8	6	12.0	R 3/8	M14*1.0p	31.2	4	12.0	16.4	22	17	5.0	0.6	5
<u>FB8M-18R</u>	\$24.50	8 mm (5/16 in.) x R1/8	8	14.0	R 1/8	M16*1.0p	31.4	5	9.0	18.4	19	19	6.0	1.0	5
FB8M-14R	\$25.00	8 mm (5/16 in.) x R1/4	8	14.0	R 1/4	M16*1.0p	31.4	5	11.0	18.4	19	19	6.0	1.2	5
<u>FB8M-38R</u>	\$25.50	8 mm (5/16 in.) x R3/8	8	14.0	R 3/8	M16*1.0p	32.4	5	12.0	18.4	22	19	6.0	1.2	5
FB8M-12R	\$26.50	8 mm (5/16 in.) x R1/2	8	14.0	R 1/2	M16*1.0p	34.4	5	14.0	18.4	24	19	6.0	1.3	5
<u>FB10M-18R</u>	\$30.50	10 mm x R1/8	10	16.1	R 1/8	M20*1.0p	33.5	5	9.0	19.6	24	24	8.0	1.3	5
FB10M-14R	\$31.00	10 mm x R1/4	10	16.1	R 1/4	M20*1.0p	33.5	5	11.0	19.6	24	24	8.0	1.3	5
FB10M-38R	\$31.50	10 mm x R3/8	10	16.1	R 3/8	M20*1.0p	33.5	5	12.0	19.6	24	24	8.0	1.4	5
FB10M-12R	\$32.00	10 mm x R1/2	10	16.1	R 1/2	M20*1.0p	35.5	5	14.0	19.6	24	24	8.0	1.5	5
FB12M-14R	\$33.00	12 mm x R1/4	12	19.0	R 1/4	M22*1.0p	38.3	5	11.0	21.9	24	26	10.0	1.5	5
FB12M-38R	\$33.00	12 mm x R3/8	12	19.0	R 3/8	M22*1.0p	38.3	5	12.0	21.9	24	26	10.0	1.6	5
FB12M-12R	\$38.50	12 mm x R1/2	12	19.0	R 1/2	M22*1.0p	40.3	5	14.0	21.9	24	26	10.0	1.7	5



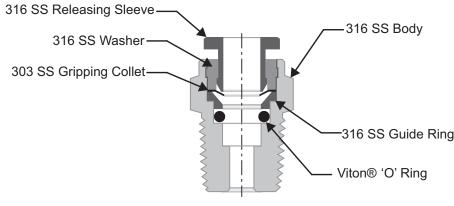
NITRA stainless steel pneumatic push-to-connect fittings are made with 316 stainless steel bodies and 303 stainless steel gripping collets with internal Viton o-ring. Threaded components are 316 stainless steel. The rugged construction of the fittings allows for use in high temperature applications. The bodies of elbow fittings with threaded connections can be rotated after installation to allow for variations in piping direction. NITRA flexible pneumatic tubing is easily connected by simply inserting the tubing end into the fitting. To release the tubing, press the circular releasing sleeve and the tubing can be easily pulled out. NITRA stainless steel fittings can be used with polyurethane, nylon and PTFE tubing among others.

Features

- Large selection of fitting configurations
- Inch and metric sizes available
- NPT and BSPT (R) threads available
- 316 stainless steel bodies and 303 stainless steel gripping collets, 316 stainless steel threads, internal Viton O-ring
- Threaded elbow bodies can be rotated after installation
- For use with air, water, oil, etc... (check chemical compatability for other media)
- Working pressure: -29.5" Hg to 290 psi
- Working temperature: 32 to 390 $^\circ$ F (0 to 200 $^\circ$ C)

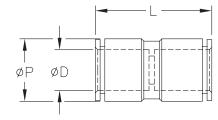






Fitting Cut-away Diagram



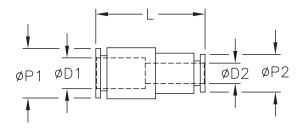




NITRA stainless steel union straight fitting

Performs well in harsh duty or washdown applications

		NIT	RA™ Stainle	ss Steel Union	Straight		
		li	nch Sizes - din	nensions in incl	hes (in.)		
Part No.	Price	Size	øD	øP	L	ltems Weight (lbs)	Qty. per pack
<u>US532-SS</u>	\$16.00	5/32 in. [4 mm]	5/32	0.41	1.28	0.2	1
US14-SS	\$17.00	1/4 in.	1/4	0.49	1.28	0.2	1
<u>US38-SS</u>	\$24.50	3/8 in.	3/8	0.69	1.62	0.3	1
<u>US12-SS</u>	\$30.50	1/2 in.	1/2	0.77	1.76	0.3	1
		Metri	c Sizes - dime	nsions in millin	neters (mm)		
US6M-SS	\$17.00	6 mm	6	12.5	32.6	0.2	1
US8M-SS	\$18.00	8 mm	8	14.5	35.6	0.3	1

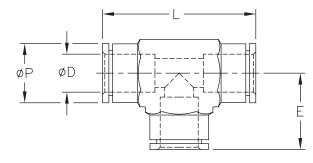




Performs well in harsh duty or washdown applications

		NITRA	™ Staiı	iless Ste	el Unio	n Reduc	er		
		Inch	Sizes -	dimensio	ns in incl	hes (in.)			
Part No.	Price	Size	øD1	øD2	øP1	L	øP2	ltems Weight (lbs)	Qty. per pack
<u>UR38-14-SS</u>	\$25.50	3/8 in. x 1/4 in.	3/8	1/4	0.69	1.46	0.49	0.3	1
<u>UR12-38-SS</u>	\$32.00	1/2 in. x 3/8 in.	1/2	3/8	0.77	1.69	0.69	0.3	1
		Metric S	lizes - di	mensions	s in millin	neters (n	nm)		
<u>UR6M-4M-SS</u>	\$16.50	6 mm x 4 mm	6	4	12.5	32.5	10.5	0.2	1
<u>UR8M-6M-SS</u>	\$19.50	8 mm x 6 mm	8	6	14.5	34.1	12.5	0.3	1

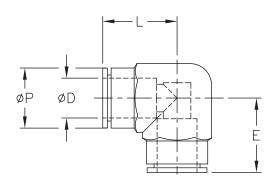






NITRA stainless steel union tee • Performs well in harsh duty or washdown applications

			NITRAT	⁴ Stainless St	eel Union Tee			
			Inch Size	es - dimensions	s in inches (in.)			
Part No.	Price	Size	øD	øP	Ε	L	Items Weight (lbs)	Qty. per pack
UT532-SS	\$24.50	5/32 in. [4 mm]	5/32	0.39	0.73	1.46	0.3	1
<u>UT14-SS</u>	\$30.00	1/4 in.	1/4	0.47	1.55	1.01	0.4	1
<u>UT38-SS</u>	\$41.00	3/8 in.	3/8	0.67	2.14	1.07	0.9	1
<u>UT12-SS</u>	\$58.00	1/2 in.	1/2	0.77	2.30	1.15	1.1	1
		Metric Siz	zes - dimensio	ons in millimete	ers (mm, excep	t where noted)		
UT6M-SS	\$26.50	6 mm	6	12.0	19.7	39.4	0.4	1
UT8M-SS	\$31.50	8 mm	8	14.0	22.5	45.0	0.5	1
UT10M-SS	\$41.00	10 mm	10	17.0	27.2	54.4	0.9	1

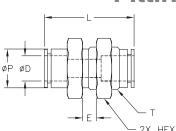




• Performs well in harsh duty or washdown applications

			NITRA™ S	tainless Ste	el Union Elb	ow		
			Inch Sizes	s - dimension	s in inches (i	n.)		
Part No.	Price	Size	øD	øP	L	Ε	Items Weight (Ibs)	Qty. per pack
UL532-SS	\$19.00	5/32 in. [4 mm]	5/32	0.39	0.73	0.73	0.3	1
UL14-SS	\$19.00	1/4 in.	1/4	0.47	0.78	0.78	0.3	1
UL38-SS	\$32.00	3/8 in.	3/8	0.67	1.07	1.07	0.7	1
<u>UL12-SS</u>	\$43.00	1/2 in.	1/2	0.77	1.15	1.15	0.9	1
			Metric Sizes -	dimensions	in millimeters	s (mm)		
UL6M-SS	\$20.50	6 mm	6	12.0	19.7	19.7	0.3	1
UL8M-SS	\$25.00	8 mm	8	14.0	22.5	22.5	0.4	1
UL10M-SS	\$32.00	10 mm	10	17.0	27.2	27.2	0.7	1





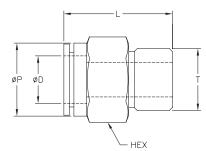


NITRA stainless steel bulkhead union

• Performs well in harsh duty or washdown applications

Note: If penetrating a NEMA enclosure, this union will only maintain a NEMA 1 rating.

			- 2X HEX							
					ess Steel Bul					
			Inch Size	es - dimensions	s in inches (in.,	except where	noted)			
Part No.	Price	Size	øD	øP	L	E (Max.)	HEX (mm)	Т	ltems Weight (lb)	Qty. per pack
UB532-SS	\$23.50	5/32 in. [4 mm]	5/32	0.35	1.28	0.37	14.0	M12x1.0	0.3	1
UB14-SS	\$23.50	1/4 in.	1/4	0.46	1.28	0.37	17.0	M14x1.0	0.5	1
UB38-SS	\$34.00	3/8 in.	3/8	0.63	1.62	0.55	24.0	M20x1.0	0.8	1
UB12-SS	\$51.00	1/2 in.	1/2	0.75	1.76	0.67	26.0	M22x1.0	1.1	1
			М	etric Sizes - diı	nensions in mi	llimeters (mm)				
UB6M-SS	\$23.50	6 mm	6	11.6	32.6	9.5	17.0	M14x1.0	0.5	1
<u>UB8M-SS</u>	\$26.00	8 mm	8	13.2	35.6	12.0	19.0	M16x1.0	0.7	1



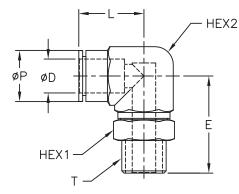


NITRA stainless steel male straight

Performs well in harsh duty or washdown applications

		NI	TRA TM	Stainless	Steel Ma	le Straight	1		
		Inch Sizes	- dime	nsions in in	ches (in., i	except whe	re noted)		
Part No.	Price	Size	øD	øP	L	Т	HEX (mm)	Items Weight (Ib)	Qty. per pack
<u>MS532-18N-SS</u>	\$9.75	5/32 in. [4 mm] x 1/8 NPT	5/32	0.35	0.83	1/8 NPT	10.0	0.1	1
<u>MS14-18N-SS</u>	\$11.50	1/4 in. x 1/8 NPT	1/4	0.46	0.81	1/8 NPT	12.0	0.2	1
<u>MS14-14N-SS</u>	\$11.50	1/4 in. x 1/4 NPT	1/4	0.46	0.97	1/4 NPT	14.0	0.2	1
<u>MS38-14N-SS</u>	\$17.50	3/8 in. x 1/4 NPT	3/8	0.63	1.27	1/4 NPT	17.0	0.3	1
<u>MS38-38N-SS</u>	\$17.50	3/8 in. x 3/8 NPT	3/8	0.63	1.28	3/8 NPT	19.0	0.4	1
<u>MS12-14N-SS</u>	\$19.50	1/2 in. x 1/4 NPT	1/2	0.75	1.37	1/4 NPT	19.0	0.5	1
<u>MS12-38N-SS</u>	\$22.00	1/2 in. x 3/8 NPT	1/2	0.75	1.37	3/8 NPT	19.0	0.5	1
<u>MS12-12N-SS</u>	\$23.00	1/2 in. x 1/2 NPT	1/2	0.75	1.52	1/2 NPT	22.0	0.6	1
		Met	ric Size	s - dimensi	ons in mill	imeters (m	<i>m)</i>		
<u>MS4M-18R-SS</u>	\$9.75	4 mm x R1/8	4	9.0	21.0	1/8 BSPT	10.0	0.2	1
<u>MS4M-14R-SS</u>	\$11.00	4 mm x R1/4	4	9.0	24.4	1/4 BSPT	14.0	0.3	1
<u>MS6M-18R-SS</u>	\$11.50	6 mm x R1/8	6	11.6	20.7	1/8 BSPT	12.0	0.2	1
<u>MS6M-14R-SS</u>	\$11.50	6 mm x R1/4	6	11.6	24.7	1/4 BSPT	14.0	0.3	1
MS8M-18R-SS	\$12.50	8 mm x R1/8	8	13.2	27.5	1/8 BSPT	14.0	0.2	1
<u>MS8M-14R-SS</u>	\$12.50	8 mm x R1/4	8	13.2	1.0	1/4 BSPT	14.0	0.2	1
<u>MS8M-38R-SS</u>	\$15.50	8 mm x R3/8	8	13.2	26.5	3/8 BSPT	19.0	0.4	1
MS10M-14R-SS	\$16.50	10 mm x R1/4	10	16.0	32.2	1/4 BSPT	17.0	0.3	1
<u>MS10M-38R-SS</u>	\$16.50	10 mm x R3/8	10	16.0	32.5	3/8 BSPT	19.0	0.4	1







NITRA stainless steel male elbow

Performs well in harsh duty or washdown applications

		NI	TRA™	¹ Stainl	ess Ste	el Male Elb	OW				
		Inch Sizes -	dimer	isions in	inches	(in., except	where n	oted)			
Part No.	Price	Size	øD	øP	L	Ε	HEX1 (mm)	HEX2 (mm)	Т	ltems Weight (lbs)	Qty. per pack
<u>ME532-18N-SS</u>	\$24.00	5/32 in. [4 mm] x 1/8 NPT	5/32	0.39	0.73	0.79	12.0	7.5	1/8 NPT	0.3	1
<u>ME14-18N-SS</u>	\$24.50	1/4 in. x 1/8 NPT	1/4	0.47	1.01	10.6	12.0	9.5	1/8 NPT	0.4	1
<u>ME14-14N-SS</u>	\$26.00	1/4 in. x 1/4 NPT	1/4	0.47	0.74	0.93	14.0	9.5	1/4 NPT	0.5	1
<u>ME38-14N-SS</u>	\$32.50	3/8 in. x 1/4 NPT	3/8	0.67	0.99	1.22	17.0	13.0	1/4 NPT	1.0	1
<u>ME38-38N-SS</u>	\$41.00	3/8 in. x 3/8 NPT	3/8	0.67	0.99	1.22	19.0	13.0	3/8 NPT	1.1	1
<u>ME12-14N-SS</u>	\$53.00	1/2 in. x 1/4 NPT	1/2	0.77	1.07	1.27	17.0	19.5	1/4 NPT	1.2	1
<u>ME12-38N-SS</u>	\$53.00	1/2 in. x 3/8 NPT	1/2	0.77	1.07	1.27	19.0	15.5	3/8 NPT	1.2	1
<u>ME12-12N-SS</u>	\$54.00	1/2 in. x 1/2 NPT	1/2	0.77	10.7	1.39	22.0	15.5	1/2 NPT	1.4	1
		Metri	c Sizes	s - dime	nsions il	n millimeters	s (mm)				
<u>ME4M-18R-SS</u>	\$24.00	4 mm x R1/8	4	10.0	18.6	20.1	12.0	7.5	1/8 BSPT	0.3	1
<u>ME4M-14R-SS</u>	\$25.50	4 mm x R1/4	4	10.0	18.6	20.1	12.0	7.5	1/4 BSPT	0.4	1
<u>ME6M-18R-SS</u>	\$24.50	6 mm x R1/8	6	12.0	18.7	21.0	12.0	9.5	1/8 BSPT	0.4	1
<u>ME6M-14R-SS</u>	\$26.00	6mm x R1/4	6	12.0	18.7	23.5	14.0	9.5	1/4 BSPT	0.5	1
<u>ME8M-18R-SS</u>	\$28.50	8 mm x R1/8	8	14.0	20.0	22.0	13.9	10.5	1/8 BSPT	0.5	1
<u>ME8M-14R-SS</u>	\$29.00	8 mm x R1/4	8	14.0	20.0	24.5	16.2	10.5	1/4 BSPT	0.6	1
<u>ME8M-38R-SS</u>	\$31.50	8 mm x R3/8	8	14.0	20.0	27.5	19.0	10.5	3/8 BSPT	0.7	1
<u>ME10M-14R-SS</u>	\$32.50	10 mm x R1/4	10	17.0	25.2	31.0	17.0	13.0	1/4 BSPT	0.8	1
<u>ME10M-38R-SS</u>	\$41.00	10 mm x R3/8	10	17.0	25.2	31.0	19.0	13.0	3/8 BSPT	0.9	1



Quick-Disconnect Fittings

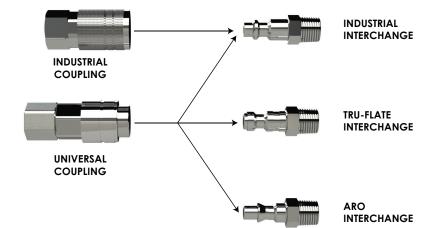


NITRA pneumatic quick-disconnect hose couplings allow easy changing of tools or hose connections. Couplers and plugs are sold separately. Industrial Interchange, ARO210 and Truflate plugs are available in steel and chrome-plated steel. Couplers are available in Industrial Interchange manual or automatic and universal automatic. Safety couplers bleed off air pressure downstream before disconnecting.

Features

- Plugs and couplers for 1/4 and 3/8 inch hose sizes
- Male and female NPT threaded
- Thread sealant supplied on all male fittings
- Maximum pressure of 250 psi, including safety coupler fittings

Part No.	Price	Description	Parts Per Pkg	Weight (lbs)
HC14-14F-A	\$6.50	Quick-disconnect coupler, industrial interchange, steel, 1/4 inch inside diameter with 1/4 inch female NPT threaded connection	1	0.2
<u>HC14-38F-A</u>	\$7.00	Quick-disconnect coupler, industrial interchange, steel, $1/4$ inch inside diameter with $3/8$ inch female NPT threaded connection	1	0.2
<u>HC14-14M-A</u>	\$6.50	Quick-disconnect coupler, industrial interchange, steel, $1/4$ inch inside diameter with $1/4$ inch male NPT threaded connection	1	0.2
<u>HC14-38M-A</u>	\$6.75	Quick-disconnect coupler, industrial interchange, steel, $1/4$ inch inside diameter with 3/8 inch male NPT threaded connection	1	0.2
<u>HC14-14F-B</u>	\$12.50	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 1/4 inch inside diameter with 1/4 inch female NPT threaded connection	1	0.2
<u>HC14-38F-B</u>	\$12.50	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 1/4 inch inside diameter with 3/8 inch female NPT threaded connection	1	0.2
<u>HC14-14M-B</u>	\$12.50	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 1/4 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.2
<u>НС14-38М-В</u>	\$12.50	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 1/4 inch inside diameter with 3/8 inch male NPT threaded connection	1	0.2
<u>HC14-14F-C</u>	\$16.50	Quick-disconnect automatic coupler, universal, chrome plated steel, 1/4 inch inside diameter with 1/4 inch female NPT threaded connection	1	0.2
<u>HC14-38F-C</u>	\$16.50	Quick-disconnect automatic coupler, universal, chrome plated steel, 1/4 inch inside diameter with 3/8 inch female NPT threaded connection	1	0.2
<u>HC14-14M-C</u>	\$16.50	Quick-disconnect automatic coupler, universal, chrome plated steel, 1/4 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.2
<u>HC14-38M-C</u>	\$16.50	Quick-disconnect automatic coupler, universal, chrome plated steel, 1/4 inch inside diameter with 3/8 inch male NPT threaded connection	1	0.2





HC14-38F-A



HC14-38F-B



НС14-14М-С

www.automationdirect.com



Quick-Disconnect Fittings



HCP14-14F-J



НСР14-14М-К



HCP14-14M-L



HCP14-14F-M

	N	TRA™ Quick-Disconnect 1/4 in. I.D. Plug Fittings		
Part No.	Price	Description	Parts Per Pkg	Weight (lbs)
<u>HCP14-14F-J</u>	\$1.25	Quick-disconnect plug, industrial interchange, steel, $1/4$ inch inside diameter with $1/4$ inch female NPT threaded connection	1	0.1
HCP14-38F-J	\$2.50	Quick-disconnect plug, industrial interchange, steel, 1/4 inch inside diameter with 3/8 inch female NPT threaded connection	1	0.1
<u> HCP14-14M-J</u>	\$1.25	Quick-disconnect plug, industrial interchange, steel, 1/4 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.1
<u>HCP14-38M-J</u>	\$2.25	Quick-disconnect plug, industrial interchange, steel, 1/4 inch inside diameter with 3/8 inch male NPT threaded connection	1	0.1
<u> HCP14-14F-K</u>	\$2.00	Quick-disconnect plug, ARO 210, steel, 1/4 inch inside diameter with 1/4 inch female NPT threaded connection	1	0.1
<u>HCP14-14M-K</u>	\$1.75	Quick-disconnect plug, ARO 210, steel, 1/4 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.1
<u>HCP14-14F-L</u>	\$1.75	Quick-disconnect plug, Truflate, steel, $1/4$ inch inside diameter with $1/4$ inch female NPT threaded connection	1	0.1
HCP14-14M-L	\$1.25	Quick-disconnect plug, Truflate, steel, 1/4 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.1
HCP14-38M-L	\$2.50	Quick-disconnect plug, Truflate, steel, 1/4 inch inside diameter with 3/8 inch male NPT threaded connection	1	0.1
HCP14-14F-M	\$2.50	Quick-disconnect plug, industrial interchange, chrome plated steel, 1/4 inch inside diameter with 1/4 inch female NPT threaded connection	1	0.1
<u>HCP14-38F-M</u>	\$3.50	Quick-disconnect plug, industrial interchange, chrome plated steel, 1/4 inch inside diameter with 3/8 inch female NPT threaded connection	1	0.1
<u>HCP14-14M-M</u>	\$2.50	Quick-disconnect plug, industrial interchange, chrome plated steel, 1/4 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.1
<u>HCP14-38M-M</u>	\$2.50	Quick-disconnect plug, industrial interchange, chrome plated steel, 1/4 inch inside diameter with 3/8 inch male NPT threaded connection	1	0.1

	NIT	RA™ Quick-Disconnect 3/8 in. I.D. Coupler Fitting	S	
Part No.	Price	Description	Parts Per Pkg	Weight (lbs)
HC38-14F-A	\$9.50	Quick-disconnect coupler, industrial interchange, steel, 3/8 inch inside diameter with 1/4 inch female NPT threaded connection	1	0.3
HC38-38F-A	\$9.50	Quick-disconnect coupler, industrial interchange, steel, 3/8 inch inside diameter with 3/8 inch female NPT threaded connection	1	0.3
HC38-12F-A	\$10.50	Quick-disconnect coupler, industrial interchange, steel, 3/8 inch inside diameter with 1/2 inch female NPT threaded connection	1	0.3
HC38-14M-A	\$8.75	Quick-disconnect coupler, industrial interchange, steel, 3/8 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.3
НС38-38М-А	\$10.00	Quick-disconnect coupler, industrial interchange, steel, 3/8 inch inside diameter with 3/8 inch male NPT threaded connection	1	0.3
НС38-12М-А	\$12.50	Quick-disconnect coupler, industrial interchange, steel, 3/8 inch inside diameter with 1/2 inch male NPT threaded connection	1	0.3
<u>HC38-14F-B</u>	\$13.50	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 1/4 inch female NPT threaded connection	1	0.2
<u>HC38-38F-B</u>	\$13.50	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 3/8 inch female NPT threaded connection	1	0.2
<u>HC38-12F-B</u>	\$16.00	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 1/2 inch female NPT threaded connection	1	0.2
<u>НС38-14М-В</u>	\$13.50	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.2
НС38-38М-В	\$13.50	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 3/8 inch male NPT threaded connection	1	0.2
<u>НС38-12М-В</u>	\$17.50	Quick-disconnect automatic coupler, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 1/2 inch male NPT threaded connection	1	0.2



HC38-14F-A



HC38-14M-A



НС38-14М-В

www.automationdirect.com



Quick-Disconnect Fittings

THE REAL PROPERTY OF

HCP38-14M-J



HCP38-14F-M

	NITR/	™ Quick-Disconnect 3/8 in. I.D. Plug Fittings Con	t'd	
Part No.	Price	Description	Parts Per Pkg	Weight (lbs)
<u>HCP38-14F-J</u>	\$2.25	Quick-disconnect plug, industrial interchange, steel, 3/8 inch inside diameter with 1/4 inch female NPT threaded connection	1	0.1
<u>HCP38-38F-J</u>	\$3.00	Quick-disconnect plug, industrial interchange, steel, 3/8 inch inside diameter with 3/8 inch female NPT threaded connection	1	0.1
<u>HCP38-14M-J</u>	\$3.25	Quick-disconnect plug, industrial interchange, steel, 3/8 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.1
<u>HCP38-38M-J</u>	\$3.50	Quick-disconnect plug, industrial interchange, steel, 3/8 inch inside diameter with 3/8 inch male NPT threaded connection	1	0.1
<u>HCP38-14F-M</u>	\$3.00	Quick-disconnect plug, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 1/4 inch female NPT threaded connection	1	0.1
<u>HCP38-38F-M</u>	\$3.50	Quick-disconnect plug, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 3/8 inch female NPT threaded connection	1	0.1
<u>HCP38-12F-M</u>	\$5.00	Quick-disconnect plug, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 1/2 inch female NPT threaded connection	1	0.2
<u>HCP38-14M-M</u>	\$3.00	Quick-disconnect plug, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 1/4 inch male NPT threaded connection	1	0.1
HCP38-38M-M	\$3.00	Quick-disconnect plug, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 3/8 inch male NPT threaded connection	1	0.1
<u>HCP38-12M-M</u>	\$4.25	Quick-disconnect plug, industrial interchange, chrome plated steel, 3/8 inch inside diameter with 1/2 inch male NPT threaded connection	1	0.1



Quick-Disconnect Swivel Fittings



Chrome-Plated Steel

Body & Protective Cover

Steel Ball

Bearings <u>~</u>

Full Flow I.D

Steel

Shaft

Two Independent Rotation Points

Features

NRR

M

Packing

- \cdot Two independent-rotation points allow a full 360 $^\circ$ circular rotation and 45 $^\circ$ angled rotation for better swivel action vs. traditional swivel fittings
- · Prevents kinking of and strain on the supply line
- Lightweight, streamlined design
- Chrome-plated steel construction for long service life
- Thread sealant supplied on all male fittings
- Maximum pressure of 145 psi



45° Swivel Design



NITRA™ 1/4 in. NPT Swivel Fittings Parts Per Weight Part No. Price Description Pkg (Ibs) Swivel fitting, chrome plated steel, 1/4 inch female NPT and 1/4 inch male NPT threaded connections HS14F-14M \$32.00 1 0.2

HS14F-14M



HSP38-14M-S

	NIT	RA™ Quick-Disconnect Plug to NPT Swivel Fitting	S	
Part No.	Price	Description	Parts Per Pkg	Weight (lbs)
HSP14-14M-S	\$33.00	Quick-disconnect swivel fitting, chrome plated steel, 1/4 inch industrial interchange plug and 1/4 inch male NPT threaded connection	1	0.2
HSP38-14M-S	\$33.00	Quick-disconnect swivel fitting, chrome plated steel, 3/8 inch industrial interchange plug and 1/4 inch male NPT threaded connection	1	0.2
HSP38-38M-S	\$37.00	Quick-disconnect swivel fitting, chrome plated steel, 3/8 inch industrial interchange plug and 3/8 inch male NPT threaded connection	1	0.2
<u>HSP14-14M-T</u>	\$37.00	Quick-disconnect swivel fitting, chrome plated steel, $1/4$ inch ARO 210 plug and $1/4$ inch male NPT threaded connection	1	0.1
HSP14-14M-U	\$37.00	Quick-disconnect swivel fitting, chrome plated steel, 1/4 inch Truflate plug and 1/4 inch male NPT threaded connection	1	0.1





NITRA brass fittings are machined from quality brass bar stock or forgings. They work well with air, water, oil, oxygen, nitrogen and argon. Available in most popular styles and sizes, the fittings all have NPT threaded connections.

Features

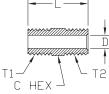
- 10 different styles
- ${\scriptstyle \bullet}$ Machined from yellow brass bar stock or forging
- ${\scriptstyle \bullet}$ Work with water, oil, air and other gases
- Maximum pressure of 800 psi

Note: Actual product dimensions and appearance may vary



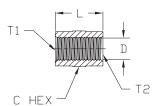


BFMC-14N



		NITRA™ M	ale Brass	Connecto	rs				
		Inch Sizes	- dimensio	ns in inche	S				
Part No.	Price	Description	Parts Per Pkg	Weight	T1	T2	C Hex	L	Flow Dia. D
BFMC-18N	\$4.75	Male connector, 1/8 inch NPT to 1/8 inch NPT	5	0.1	1/8	1/8	7/16	0.97	0.22
BFMC-14N-18N	\$6.75	Male connector, 1/4 inch NPT to 1/8 inch NPT	5	0.1	1/4	1/8	9/16	1.19	0.22
BFMC-14N	\$7.00	Male connector, 1/4 inch NPT to 1/4 inch NPT	5	0.1	1/4	1/4	9/16	1.38	0.31
BFMC-38N-18N	\$9.25	Male connector, 3/8 inch NPT to 1/8 inch NPT	5	0.3	3/8	1/8	11/16	1.22	0.22
BFMC-38N-14N	\$10.00	Male connector, 3/8 inch NPT to 1/4 inch NPT	5	0.3	3/8	1/4	11/16	1.41	0.31
BFMC-38N	\$11.50	Male connector, 3/8 inch NPT to 3/8 inch NPT	5	0.3	3/8	3/8	11/16	1.41	0.44
BFMC-12N-14N	\$6.25	Male connector, 1/2 inch NPT to 1/4 inch NPT	2	0.3	1/2	1/4	7/8	1.62	0.31
BFMC-12N-38N	\$6.25	Male connector,1/2 inch NPT to 3/8 inch NPT	2	0.2	1/2	3/8	7/8	1.62	0.44
BFMC-12N	\$7.00	Male connector, 1/2 inch NPT to 1/2 inch NPT	2	0.3	1/2	1/2	7/8	1.81	0.56





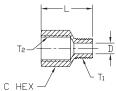
BFFC-12N-14N	
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		NITRA™ Fem	ale Brass	Connecto	irs				
		Inch Sizes -	dimension	s in inches					
Part No.	Price	Description	Parts Per Pkg	Weight	T1	T2	C Hex	L	Flow Dia. D
BFFC-18N	\$5.25	Female connector, 1/8 inch NPT to 1/8 inch NPT	5	0.1	1/8	1/8	9/16	0.75	0.34
BFFC-14N-18N	\$8.75	Female connector, 1/4 inch NPT to 1/8 inch NPT	5	0.1	1/4	1/8	3/4	0.97	0.34
BFFC-14N	\$11.00	Female connector, 1/4 inch NPT to 1/4 inch NPT	5	0.2	1/4	1/4	3/4	1.12	0.44
BFFC-38N-14N	\$13.50	Female connector, 3/8 inch NPT to 1/4 inch NPT	5	0.2	3/8	1/4	7/8	1.16	0.44
BFFC-38N	\$13.50	Female connector, 3/8 inch NPT to 3/8 inch NPT	5	0.3	3/8	3/8	7/8	1.12	0.52
BFFC-12N-14N	\$8.00	Female connector, 1/2 inch NPT to 1/4 inch NPT	2	0.4	1/2	1/4	1-1/16	1.28	0.44
BFFC-12N-38N	\$6.50	Female connector, 1/2 inch NPT to 3/8 inch NPT	2	0.2	1/2	3/8	15/16	1.32	0.52
BFFC-12N	\$9.25	Female connector, 1/2 inch NPT to 1/2 inch NPT	2	0.4	1/2	1/2	1-1/16	1.50	0.70



Note: Actual product dimensions and appearance may vary





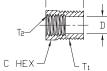
BFMFR-38N-14N

	NITRA™ Male to Female Brass Connectors											
Inch Sizes - dimensions in inches												
Part No.	Price	Description	Parts Per Pkg	Weight	T1	T2	C Hex	L	Flow Dia. D			
BFMFR-14N-18N	\$10.00	Male to female connector, 1/8 inch NPT male to 1/4 inch NPT female	5	0.1	1/4	1/8	3/4	1.06	0.22			
BFMFR-38N-18N	\$10.00	Male to female connector, 1/8 inch NPT male to 3/8 inch NPT female	5	0.1	3/8	1/8	7/8	1.1	0.22			
BFMFR-38N-14N	\$11.00	Male to female connector, 1/4 inch NPT male to 3/8 inch NPT female	5	0.1	3/8	1/4	7/8	1.25	0.314			
BFMFR-12N-38N	\$8.75	Male to female connector, 3/8 inch NPT male to 1/2 inch NPT female	5	0.4	1/2	3/8	1-1/16	1.47	0.44			



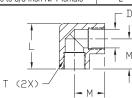


BFHB-12N-14N



	NITRA™ Brass Hex Bushing											
Inch Sizes - dimensions in inches												
Part No.	Price	Description	Parts Per Pkg	Weight	T1	T2	C Hex	L	Flow Dia. D			
BFHB-14N-18N	\$5.25	Hex bushing, 1/4 inch NPT male to 1/8 inch NPT female	5	0.3	1/4	1/8	9/16	0.75	0.34			
BFHB-38N-18N	\$8.00	Hex bushing, 3/8 inch NPT male to 1/8 inch NPT female	5	0.3	3/8	1/8	11/16	0.75	0.34			
BFHB-38N-14N	\$8.00	Hex bushing, 3/8 inch NPT male to 1/4 inch NPT female	5	0.3	3/8	1/4	3/4	0.75	0.44			
BFHB-12N-18N	\$5.50	Hex bushing, 1/2 inch NPT male to 1/8 inch NPT female	2	0.3	1/2	1/8	7/8	1.0	0.34			
BFHB-12N-14N	\$5.00	Hex bushing, 1/2 inch NPT male to 1/4 inch NPT female	2	0.3	1/2	1/4	7/8	1.0	0.44			
BFHB-12N-38N	\$5.00	Hex bushing, 1/2 inch NPT male to 3/8 inch NPT female	2	0.2	1/2	3/8	7/8	1.0	0.57			





BFFE-14N

		NITRAT	[™] Brass Fema	le Elbow							
	Inch Sizes - dimensions in inches										
Part No.	Price	Description	Parts Per Pkg	Weight	Τ	М	Flow Dia. D	L			
BFFE-18N	\$4.25	Female elbow, 1/8 inch NPT female	2	0.2	1/8	0.55	0.339	0.83			
BFFE-14N	\$6.25	Female elbow, 1/4 inch NPT female	2	0.2	1/4	0.78	0.441	1.06			
BFFE-38N	\$9.25	Female elbow, 3/8 inch NPT female	2	0.4	3/8	0.84	0.571	1.30			





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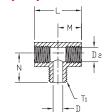
BFSE-38N

	NITRA™ Female to Male Brass Street Elbow											
	Inch Sizes - dimensions in inches											
Part No.	Price	Description	Parts Per Pkg	Weight	Т	М	N	Flow Dia. D	L			
BFSE-18N	\$2.50	Street elbow, 1/8 inch NPT female to 1/8 male	2	0.2	1/8	0.66	0.35	0.22	0.81			
BFSE-14N	\$4.75	Street elbow, 1/4 inch NPT female to 1/4 male	2	0.2	1/4	0.91	0.47	0.34	1.25			
BFSE-38N	\$7.00	Street elbow, 3/8 inch NPT female to 3/8 male	2	0.3	3/8	0.97	0.49	0.41	1.42			
BFSE-12N	\$15.50	Street elbow, 1/2 inch NPT female to 1/2 male	2	0.4	1/2	1.25	1.03	0.56	1.61			



Note: Actual product dimensions and appearance may vary



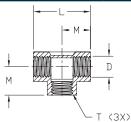


BFMT-14N

			NITRA ™ I	Brass Male	e Tee Fitt	ings						
Inch Sizes - dimensions in inches												
Part No.	Price	Description	Parts Per Pkg	Weight	T1	T2	L	М	N	Flow Dia. D		
BFMT-18N	\$5.25	Male tee, 1/8 inch NPT male	2	0.3	1/8	1/8	1.06	0.53	0.66	0.22		
BFMT-14N	\$8.00	Male tee, 1/4 inch NPT male	2	0.3	1/4	1/4	1.52	0.76	0.91	0.31		
BFMT-38N	\$11.00	Male tee, 3/8 inch NPT male	2	0.4	3/8	3/8	1.68	0.84	0.97	0.44		



BFFT-14N



	NITRA™ Brass Female Tee Fittings											
	Inch Sizes - dimensions in inches											
Part No.	Price	Description	Parts Per Pkg	Weight	T	L	М	Flow Dia. D				
BFFT-18N	\$5.50	Female tee, 1/8 inch NPT female	2	0.3	1/8	1.06	0.53	0.34				
BFFT-14N	\$9.75	Female tee, 1/4 inch NPT female	2	0.3	1/4	1.52	0.76	0.44				
BFFT-38N	\$11.50	Female tee, 3/8 inch NPT female	2	0.5	3/8	1.68	0.84	0.57				
<u>BFFT-12N</u>	\$21.50	Female tee, 1/2 inch NPT female	2	0.9	1/2	2.14	1.07	0.70				

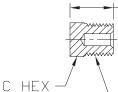




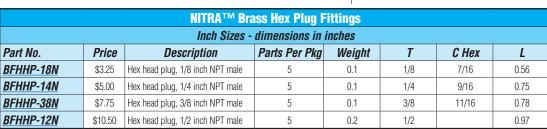
BFRHP-38N

C HEX NITRA[™] Brass Recessed Hex Plug Fittings Inch Sizes - dimensions in inches Part No. Price Description Parts Per Pkg Weight C Hex L Recessed hex plug, 1/4 inch NPT male **BFRHP-14N** \$3.50 0.1 1/4 0.46 5 BFRHP-38N Recessed hex plug, 3/8 inch NPT male 5 0.2 5/16 \$5.00 0.46 **BFRHP-12N** \$10.00 Recessed hex plug, 1/2 inch NPT male 5 0.2 3/8 0.61





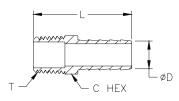
BFHHP-38N





Note: Actual product dimensions and appearance may vary



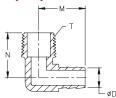


		NITRA™ Brass Straight Barb Fitting					
		Inch Sizes - dimensions in inches					
Part No.	Price	Description	Weight	Т	L	ØD	C Hex
BAHB-316-18N	\$10.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 3/16in hose to (1) 1/8in male NPT connection(s). Package of 5.	0.1	1/8	1.20 [305]	0.20 [5.1]	0.44 [11.1]
<u>BAHB-316-14N</u>	\$10.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 3/16in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.2	1/4	1.43 [36.2]	0.20 [5.1]	0.56 [14.3]
<u>BAHB-14-18N</u>	\$6.75	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 1/4in hose to (1) 1/8in male NPT connection(s). Package of 5.	0.1	1/8	1.49 [37.7]	0.24 [6.1]	0.44 [11.1]
<u>BAHB-14-14N</u>	\$8.75	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 1/4in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.2	1/4	1.69 [42.9]	0.24 [6.1]	0.56 [14.3]
<u>BAHB-14-38N</u>	\$11.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 1/4in hose to (1) 3/8in male NPT connection(s). Package of 5.	0.3	3/8	1.70 [43.3]	0.24 [6.1]	0.69 [17.5]
<u>BAHB-516-18N</u>	\$10.00	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 5/16in hose to (1) 1/8in male NPT connection(s). Package of 5.	0.1	1/8	1.40 [35.6]	0.29 [7.4]	0.44 [11.1]
<u>BAHB-516-14N</u>	\$8.25	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 5/16in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.2	1/4	1.70 [43.3]	0.29 [7.4]	0.56 [14.3]
<u>BAHB-516-38N</u>	\$18.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 5/16in hose to (1) 3/8in male NPT connection(s). Package of 5.	0.3	3/8	1.49 [37.8]	0.29 [7.4]	0.69 [17.5]
<u>BAHB-38-14N</u>	\$8.75	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 3/8in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.2	1/4	1.70 [43.3]	0.36 [9.2]	0.56 [14.3]
<u>BAHB-38-38N</u>	\$11.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 3/8in hose to (1) 3/8in male NPT connection(s). Package of 5.	0.3	3/8	1.70 [43.3]	0.36 [9.2]	0.69 [17.4]
<u>BAHB-38-12N</u>	\$20.00	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 3/8in hose to (1) 1/2in male NPT connection(s). Package of 5.	0.5	1/2	1.89 [48.0]	0.36 [9.2]	0.88 [22.2]
<u>BAHB-12-14N</u>	\$11.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 1/2in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.3	1/4	1.70 [43.3]	0.48 [12.3]	0.56 [14.3]
<u>BAHB-12-38N</u>	\$12.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 1/2in hose to (1) 3/8in male NPT connection(s). Package of 5.	0.3	3/8	1.76 [44.8]	0.48 [12.3]	0.69 [17.5]
<u>BAHB-12-12N</u>	\$18.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 1/2in hose to (1) 1/2in male NPT connection(s). Package of 5.	0.5	1/2	1.86 [47.2]	0.48 [12.3]	0.88 [22.2]
<u>BAHB-58-38N</u>	\$11.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 5/8in hose to (1) 3/8in male NPT connection(s). Package of 3.	0.2	3/8	1.84 [46.7]	0.60 [15.3]	0.88 [22.2]
<u>BAHB-58-12N</u>	\$13.00	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 5/8in hose to (1) 1/2in male NPT connection(s). Package of 3.	0.4	1/2	1.98 [50.4]	0.60 [15.3]	0.88 [22.2]
<u>BAHB-58-34N</u>	\$22.00	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 5/8in hose to (1) 3/4in male NPT connection(s). Package of 3.	0.5	3/4	1.89 [48.1]	0.60 [15.3]	1.06 [27.0]
<u>BAHB-34-12N</u>	\$14.00	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 3/4in hose to (1) 1/2in male NPT connection(s). Package of 3.	0.4	1/2	1.99 [50.5]	0.73 [18.5]	0.88 [22.2]
<u>BAHB-34-34N</u>	\$18.50	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 3/4in hose to (1) 3/4in male NPT connection(s). Package of 3.	0.3	3/4	2.03 [51.6]	0.73 [18.5]	1.06 [27.0]
<u>BAHB-34-1N</u>	\$36.00	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 3/4in hose to (1) 1in male NPT connection(s). Package of 3.	0.8	1	2.25 [57.2]	0.73 [18.5]	1.38 [34.9]
BAHB-1-34N	\$7.00	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 1in hose to (1) 3/4in male NPT connection(s). Package of 1.	0.2	3/4	2.17 [55.0]	0.99 [25.1]	1.06 [27.0]
BAHB-1-1N	\$13.00	NITRA threaded fitting, hose barb, brass body, brass threads, (1) 1in hose to (1) 1in male NPT connection(s). Package of 1.	0.3	1	2.36 [60.0]	0.99 [25.1]	1.38 [34.9]



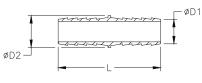
Note: Actual product dimensions and appearance may vary





		NITRA™ Brass Male Elbow Barb Fittin	n				
		Inch Sizes - dimensions in inches	9				
Part No.	Price	Description	Weight	Τ	М	N	ØD
<u>BAHBL-316-18N</u>	\$20.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 3/16in hose to (1) 1/8in male NPT connection(s). Package of 5.	0.1	1/8	0.95 [24.0]	0.71 [18.2]	0.20 [5.1]
BAHBL-316-14N	\$25.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 3/16in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.3	1/4	1.00 [25.4]	0.83 [21.1]	0.20 [5.1]
BAHBL-14-18N	\$20.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 1/4in hose to (1) 1/8in male NPT connection(s). Package of 5.	0.2	1/8	1.25 [31.8]	0.60 [15.3]	0.24 [6.1]
BAHBL-14-14N	\$25.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 1/4in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.3	1/4	1.33 [33.8]	0.84 [21.4]	0.24 [6.1]
BAHBL-14-38N	\$42.50	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 1/4in hose to (1) 3/8in male NPT connection(s). Package of 5.	0.4	3/8	1.22 [31.0]	0.94 [23.9]	0.24 [6.1]
<u>BAHBL-516-18N</u>	\$20.50	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 5/16in hose to (1) 1/8in male NPT connection(s). Package of 5.	0.2	1/8	1.01 [25.6]	0.82 [20.8]	0.29 [7.4]
BAHBL-516-14N	\$33.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 5/16in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.3	1/4	1.02 [25.8]	0.87 [22.1]	0.29 [7.4]
BAHBL-516-38N	\$46.50	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 5/16in hose to (1) 3/8in male NPT connection(s). Package of 5.	0.4	3/8	1.22 [31.1]	0.90 [22.9]	0.29 [7.4]
BAHBL-38-14N	\$20.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 3/8in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.4	1/4	1.32 [33.4]	0.83 [21.1]	0.36 [9.2]
BAHBL-38-38N	\$26.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 3/8in hose to (1) 3/8in male NPT connection(s). Package of 5.	0.6	3/8	1.42 [35.9]	0.95 [24.0]	0.36 [9.2]
BAHBL-12-14N	\$26.50	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 1/2in hose to (1) 1/4in male NPT connection(s). Package of 5.	0.4	1/4	1.29 [32.7]	0.98 [24.9]	0.48 [12.3]
BAHBL-12-38N	\$45.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 1/2in hose to (1) 3/8in male NPT connection(s). Package of 5.	0.5	3/8	1.36 [34.6]	1.01 [25.5]	0.48 [12.3]
BAHBL-12-12N	\$38.50	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 1/2in hose to (1) 1/2in male NPT connection(s). Package of 5.	0.6	1/2	1.14 [28.8]	1.10 [28.0]	0.48 [12.3]
BAHBL-58-38N	\$30.50	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 5/8in hose to (1) 3/8in male NPT connection(s). Package of 3.	0.4	3/8	1.45 [37.0]	1.16 [29.5]	0.60 [15.3]
BAHBL-58-12N	\$35.50	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 5/8in hose to (1) 1/2in male NPT connection(s). Package of 3.	0.5	1/2	1.45 [37.0]	1.14 [29.1]	0.60 [15.3]
BAHBL-34-12N	\$45.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 3/4in hose to (1) 1/2in male NPT connection(s). Package of 3.	0.6	1/2	1.35 [34.4]	1.25 [31.8]	0.73 [18.5]
BAHBL-34-34N	\$65.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 3/4in hose to (1) 3/4in male NPT connection(s). Package of 3.	0.7	3/4	1.54 [39.0]	1.31 [33.2]	0.73 [18.5]
BAHBL-1-34N	\$26.00	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 1in hose to (1) 3/4in male NPT connection(s). Package of 1.	0.4	3/4	1.70 [43.1]	1.42 [36.2]	0.99 [25.1]
BAHBL-1-1N	\$46.50	NITRA threaded fitting, hose barb elbow, brass body, brass threads, (1) 1in hose to (1) 1in male NPT connection(s). Package of 1.	0.4	1	1.78 [45.2]	1.63 [41.5]	0.99 [25.1





		NITRA™ Brass Hose Mender Fitting				
		Inch Sizes - dimensions in inches				
Part No.	Price	Description	Weight	L	ØD1	ØD2
BAHM-316	\$6.25	NITRA barbed fitting, hose mender, brass body, (2) 3/16in hose connection(s). Package of 5.	0.1	1.45 [36.7]	0.20 [5.1]	0.23 [5.8]
BAHM-14	\$8.25	NITRA barbed fitting, hose mender, brass body, (2) 1/4in hose connection(s). Package of 5.	0.1	2.00 [50.8]	0.24 [6.1]	0.50 [12.7]
BAHM-516	\$10.50	NITRA barbed fitting, hose mender, brass body, (2) 5/16in hose connection(s). Package of 5.	0.1	1.67 [42.4]	0.29 [7.4]	0.36 [9.1]
BAHM-38	\$11.50	NITRA barbed fitting, hose mender, brass body, (2) 3/8in hose connection(s). Package of 5.	0.2	2.00 [50.8]	0.36 [9.2]	0.50 [12.7]
BAHM-12	\$15.50	NITRA barbed fitting, hose mender, brass body, (2) 1/2in hose connection(s). Package of 5.	0.3	2.01 [51.1]	0.48 [12.3]	0.63 [15.9]
BAHM-58	\$11.00	NITRA barbed fitting, hose mender, brass body, (2) 5/8in hose connection(s). Package of 3.	0.3	2.29 [58.0]	0.60 [15.3]	0.75 [19.1]
BAHM-34	\$13.50	NITRA barbed fitting, hose mender, brass body, (2) 3/4in hose connection(s). Package of 3.	0.3	2.00 [50.8]	0.73 [18.5]	0.88 [22.2]
BAHM-1	\$16.50	NITRA barbed fitting, hose mender, brass body, (2) 1in hose connection(s). Package of 3.	0.6	2.49 [63.2]	0.99 [25.1]	1.19 [30.2]



Hose Clamps

	710
2)

HC-58

	NITRA Adjustable Hose Cla	nps		
Part No.	Description	Pcs/Pkg	Weight (lbs)	Price
<u>HC-316</u>	NITRA hose clamp, 2-ear, 0.318-0.433in diameter, plated steel. For use with HBV series 3/16in hose.	10	0.1	\$4.75
<u>HC-14</u>	NITRA hose clamp, 2-ear, 0.425-0.512in diameter, plated steel. For use with HBV series 1/4in hose.	10	0.1	\$4.75
<u>HC-516</u>	NITRA hose clamp, 2-ear, 0.492-0.591in diameter, plated steel. For use with HBV series 5/16in hose.	10	0.1	\$5.00
<u>HC-38</u>	NITRA hose clamp, 2-ear, 0.551-0.669in diameter, plated steel. For use with HBV series 3/8in hose.	10	0.1	\$5.25
<u>HC-12</u>	NITRA hose clamp, 2-ear, 0.638-0.787in diameter, plated steel. For use with HBV series 1/2in hose.	10	0.1	\$5.50
<u>HC-58</u>	NITRA hose clamp, 2-ear, 0.748-0.906in diameter, plated steel. For use with HBV series 5/8in hose.	10	0.2	\$6.75
<u>HC-34</u>	NITRA hose clamp, 2-ear, 0.945-1.102in diameter, plated steel. For use with HBV series 3/4in hose.	10	0.3	\$9.00
<u>HC-1</u>	NITRA hose clamp, 2-ear, 1.154-1.339in diameter, plated steel. For use with HBV series 1in hose.	10	0.3	\$13.00



HCSS-58

	NITRA Interlocking Hose Clamps									
Part No.	Description	Pcs/Pkg	Weight (lbs)	Price						
<u>HCSS-316</u>	NITRA hose clamp, interlocking ear, 0.346-0.413in diameter, 304 stainless steel. For use with HBV series 3/16in hose.	10	0.1	\$5.25						
<u>HCSS-14</u>	NITRA hose clamp, interlocking ear, 0.398-0.465in diameter, 304 stainless steel. For use with HBV series 1/4in hose.	10	0.1	\$5.25						
<u>HCSS-516</u>	NITRA hose clamp, interlocking ear, 0.472-0.571in diameter, 304 stainless steel. For use with HBV series 5/16in hose.	10	0.1	\$5.50						
<u>HCSS-38</u>	NITRA hose clamp, interlocking ear, 0.520-0.618in diameter, 304 stainless steel. For use with HBV series 3/8in hose.	10	0.1	\$5.50						
<u>HCSS-12</u>	NITRA hose clamp, interlocking ear, 0.654-0.780in diameter, 304 stainless steel. For use with HBV series 1/2in hose.	10	0.1	\$6.75						
<u>HCSS-58</u>	NITRA hose clamp, interlocking ear, 0.823-0.949in diameter, 304 stainless steel. For use with HBV series 5/8in hose.	10	0.1	\$7.00						
<u>HCSS-34</u>	NITRA hose clamp, interlocking ear, 0.941-1.067in diameter, 304 stainless steel. For use with HBV series 3/4in hose.	10	0.1	\$7.75						
<u>HCSS-1</u>	NITRA hose clamp, interlocking ear, 1.236-1.362in diameter, 304 stainless steel. For use with HBV series 1in hose.	10	0.1	\$8.00						





HCT-ES



HCT-SC



НСТ-АС

Nitra Hose Crimping Tools Package Weight (lbs) Part Number Price Pcs/Pkg Description HCT-ES NITRA hose clamp crimping tool, single action, straight jaw 0.8 \$37.00 1 NITRA hose clamp crimping tool, compound action, HCT-SC 0.9 \$59.00 1 straight jaw NITRA hose clamp crimping tool, compound action, side <u>HCT-AC</u> 1 0.9 \$69.00 jaw

NITRA hose crimping tools are designed to work with 2-ear and interlocking ear hose

• Straight jaw single action, straight jaw compound action and side jaw compound action styles

Hose Crimping Tools

clamps. They come in three styles.

availableMade in USA





1/8" NPT Aluminum Manifolds



MRA-4BA



MRA-4BA-180

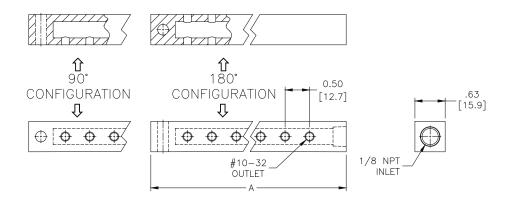
- NITRA aluminum manifolds
 - Black anodized finish
 - Maximum input pressure of 1000 psi
 - Made in the USA



	NITRA® 1/8" NPT Aluminum Man	ifolds			
Part No.	Description	A	Parts Per Pkg	Weight (lbs)	Price
MRA-4BA	NITRA pneumatic manifold, aluminum, rectangular, (1) 1/8 inch female NPT inlet port(s), 4 stations, (1) #10-32 female threaded outlet port(s) per station, standard hole spacing.		1	0.1	\$9.25
<u>MRA-4BA-180</u>	NITRA pneumatic manifold, aluminum, rectangular, (1) 1/8 inch female NPT inlet port(s), 4 stations, (2) #10-32 female threaded outlet port(s) per station, 180-degree orientation, standard hole spacing.		1	0.1	\$10.50
<u>MRA-6BA</u>	NITRA pneumatic manifold, aluminum, rectangular, (1) 1/8 inch female NPT inlet port(s), 6 stations, (1) #10-32 female threaded outlet port(s) per station, standard hole spacing.		1	0.1	\$10.50
<u>MRA-6BA-180</u>	NITRA pneumatic manifold, aluminum, rectangular, (1) 1/8 inch female NPT inlet port(s), 6 stations, (2) #10-32 female threaded outlet port(s) per station, 180-degree orientation, standard hole spacing.		1	0.1	\$14.50
MRA-8BA	NITRA pneumatic manifold, aluminum, rectangular, (1) 1/8 inch female NPT inlet port(s), 8 stations, (1) #10-32 female threaded outlet port(s) per station, standard hole spacing.		1	0.2	\$11.50
<u>MRA-8BA-180</u>	NITRA pneumatic manifold, aluminum, rectangular, (1) 1/8 inch female NPT inlet port(s), 8 stations, (2) #10-32 female threaded outlet port(s) per station, 180-degree orientation, standard hole spacing.	5.0 [127.0]	1	0.2	\$13.00
MRA-10BA	NITRA pneumatic manifold, aluminum, rectangular, (1) 1/8 inch female NPT inlet port(s), 10 stations, (1) #10-32 female threaded outlet port(s) per station, standard hole spacing.		1	0.2	\$14.00
<u>MRA-10BA-180</u>	NITRA pneumatic manifold, aluminum, rectangular, (1) 1/8 inch female NPT inlet port(s), 10 stations, (2) #10-32 female threaded outlet port(s) per station, 180-degree orientation, standard hole spacing.		1	0.2	\$17.00

Dimensions

inches [mm]





1/4" NPT Aluminum Manifolds



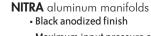
MRA-2CB



MRA-2CB-90



MRA-2CB-W



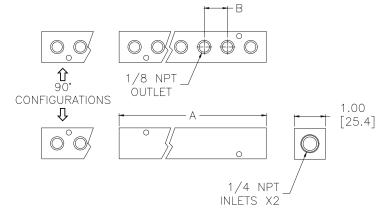
- Maximum input pressure of 1000 psi
- Made in the USA



Part No.	NITRA® 1/4" NPT Aluminum Manifole Description	A	В	Parts Per Pkg	Weight (lbs)	Price
MRA-2CB	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 2 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	1.75 [44.5]	0.75 [19.1]	1	0.2	\$10.50
<u>MRA-2CB-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 2 stations, (2) 1/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	1.75 [44.5]	0.75 [19.1]	1	0.1	\$17.00
<u>MRA-2CB-W</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 2 stations, (1) 1/8 inch female NPT outlet port(s) per station, wide hole spacing.	3.25 [82.6]	1.50 [38.1]	1	0.3	\$13.00
MRA-3CB	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 3 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	2.30 [03.3]	0.75 [19.1]	1	0.2	\$12.00
<u>MRA-3CB-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 3 stations, (2) 1/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	2.30 [03.3]	0.75 [19.1]	1	0.2	\$18.00
<u>MRA-3CB-W</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 3 stations, (1) 1/8 inch female NPT outlet port(s) per station, wide hole spacing.	4.75[120.7]	1.50 [38.1]	1	0.4	\$14.50
MRA-4CB	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 4 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	3.25 [82.6]	0.75 [19.1]	1	0.3	\$14.00
<u> MRA-4CB-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 4 stations, (2) 1/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	3.25 [82.6]	0.75 [19.1]	1	0.3	\$20.50
<u>MRA-4CB-W</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 4 stations, (1) 1/8 inch female NPT outlet port(s) per station, wide hole spacing.	6.25 [158.8]	1.50 [38.1]	1	0.5	\$15.50
MRA-5CB	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 5 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	4.00[101.0]	0.75 [19.1]	1	0.3	\$14.50
<u> MRA-5CB-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 5 stations, (2) 1/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	4.00 [101.6]	0.75 [19.1]	1	0.3	\$21.50
MRA-5CB-W	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 5 stations, (1) 1/8 inch female NPT outlet port(s) per station, wide hole spacing.	7.75 [196.9]	1.50 [38.1]	1	0.6	\$16.00
MRA-6CB	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 6 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	4.75 [120.7]	0.75 [19.1]	1	0.4	\$15.50
MRA-6CB-90	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 6 stations, (2) 1/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	4.75 [120.7]	0.75 [19.1]	1	0.4	\$22.50
MRA-6CB-W	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 6 stations, (1) 1/8 inch female NPT outlet port(s) per station, wide hole spacing.	9.25 [235.0]	1.50 [38.1]	1	0.7	\$16.50
MRA-7CB	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 7 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	5.50 [139.0]	0.75 [19.1]	1	0.5	\$16.00
MRA-8CB	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 8 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	6.25 [158.8]	0.75 [19.1]	1	0.5	\$16.50
MRA-8CB-90	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 8 stations, (2) 1/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	6.25 [158.8]	0.75 [19.1]	1	0.5	\$25.50
MRA-8CB-W	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/4 inch female NPT inlet port(s), 8 stations, (1) 1/8 inch female NPT outlet port(s) per station, wide hole spacing.	12.25 [311.2]	1.50 [38.1]	1	1.0	\$18.50
MRA-10CB	(1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	7.75 [196.9]	0.75 [19.1]	1	0.6	\$17.50

Dimensions

inches [mm]





3/8" NPT Aluminum Manifolds



MRA-2DC



MRA-2DC-90



MRA-2DC-W



Maximum input pressure of 1000 psi

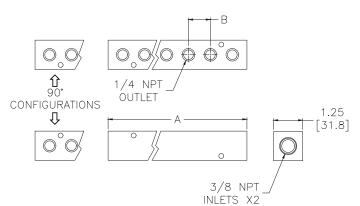
NITRA aluminum manifolds • Black anodized finish

• Made in the USA

	NITRA® 3/8" NPT Aluminum Manifolds					
Part No.	Description	A	В	Parts Per Pkg	Weight (lbs)	Price
<u>MRA-2DC</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 2 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	2.13 [54.1]	0.88 [22.4]	1	0.2	\$10.50
<u> MRA-2DC-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 2 stations, (2) 1/4 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	2.13 [54.1]	0.88 [22.4]	1	0.3	\$17.00
<u>MRA-2DC-W</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 2 stations, (1) 1/4 inch female NPT outlet port(s) per station, wide hole spacing.	3.25 [82.1]	1.50 [38.1]	1	0.4	\$13.00
<u>MRA-3DC</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 3 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	3.00 [76.2]	0.88 [22.4]	1	0.3	\$12.00
<u>MRA-3DC-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 3 stations, (2) 1/4 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	3.00 [76.2]	0.88 [22.4]	1	0.3	\$18.50
MRA-3DC-W	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 3 stations, (1) 1/4 inch female NPT outlet port(s) per station, wide hole spacing.	4.75 [120.7]	1.50 [38.1]	1	0.6	\$15.00
MRA-4DC	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 4 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	3.88 [98.6]	0.88 [22.4]	1	0.5	\$14.00
MRA-4DC-90	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 4 stations, (2) 1/4 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	3.88 [98.6]	0.88 [22.4]	1	0.4	\$20.50
MRA-4DC-W	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 4 stations, (1) 1/4 inch female NPT outlet port(s) per station, wide hole spacing.	6.25 [158.8]	1.50 [38.1]	1	0.8	\$16.00
MRA-5DC	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 5 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	4.75 [120.7]	0.88 [22.4]	1	0.6	\$15.00
MRA-5DC-90	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 5 stations, (2) 1/4 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	4.75 [120.7]	0.88 [22.4]	1	0.6	\$21.50
MRA-5DC-W	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 5 stations, (1) 1/4 inch female NPT outlet port(s) per station, wide hole spacing.	7.75 [196.9]	1.50 [38.1]	1	1.0	\$17.00
MRA-6DC	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 6 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	5.63 [143.0]	0.88 [22.4]	1	0.7	\$16.00
<u> MRA-6DC-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 6 stations, (2) 1/4 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	5.63 [143.0]	0.88 [22.4]	1	0.7	\$23.00
MRA-6DC-W	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 6 stations, (1) 1/4 inch female NPT outlet port(s) per station, wide hole spacing.	9.25 [235.0]	1.50 [38.1]	1	1.1	\$18.00
MRA-7DC	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 7 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	6.50 [165.1]	0.88 [22.4]	1	0.8	\$16.50
MRA-8DC	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 8 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	7.38 [187.5]	0.88 [22.4]	1	0.9	\$17.00
MRA-8DC-90	(1) / Intervention of the processing processing of the processi	7.38 [187.5]	0.88 [22.4]	1	0.9	\$26.50
MRA-8DC-W	NTRA pneumatic manifold, aluminum, rectangular, (2) 3/8 inch female NPT inlet port(s), 8 stations, (1) 1/4 inch female NPT outlet port(s) per station, wide hole spacing.	12.25 [311.2]	1.50 [38.1]	1	1.5	\$20.50
MRA-10DC	(1) // intervention in order portey per station, where or here optimized in the port of	9.13 [231.9]	0.88 [22.4]	1	1.1	\$18.00
MRA-10DC-90	NITERA AND A CONTRACT	9.13 [231.9]	0.88 [22.4]	1	0.9	\$29.00
MRA-10DC-W	(1) 1/4 inch female VPT outlet port(s) per station, so adgree orientation, statioard not spacing.	15.25 [387.4]	1.50 [38.1]	1	1.9	\$22.50

Dimensions

inches [mm]





1/2" NPT Aluminum Manifolds



MRA-2ED





MRA-2ED-W

NITRA aluminum manifolds

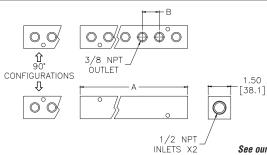
- Black anodized finish
- Maximum input pressure of 1000 psi
- Made in the USA



	NITRA® 1/2" NPT Aluminum Manifol	ds				
Part No.	Description	A	В	Parts Per Pkg	Weight (lbs)	Price
<u>MRA-2ED</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 2 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	2.75 [69.9]	1.00 [25.4]	1	0.4	\$19.00
<u>MRA-2ED-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 2 stations, (2) 3/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	2.75 [69.9]	1.00 [25.4]	1	0.4	\$25.50
<u>MRA-2ED-W</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 2 stations, (1) 3/8 inch female NPT outlet port(s) per station, wide hole spacing.	3.25 [82.6]	1.50 [38.1]	1	0.6	\$20.00
MRA-3ED	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 3 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	3.75 [95.3]	1.00 [25.4]	1	0.6	\$20.00
<u>MRA-3ED-90</u>	NITRA preumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 3 stations, (2) 3/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	3.75 [95.3]	1.00 [25.4]	1	0.6	\$25.50
<u>MRA-3ED-W</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 3 stations, (1) 3/8 inch female NPT outlet port(s) per station, wide hole spacing.	4.75 [120.7]	1.50 [38.1]	1	0.8	\$20.50
<u>MRA-4ED</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 4 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	4.75 [120.7]	1.00 [25.4]	1	0.8	\$21.00
<u>MRA-4ED-90</u>	NITRA preumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 4 stations, (2) 3/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	4.75 [120.7]	1.00 [25.4]	1	0.7	\$25.50
MRA-4ED-W	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 4 stations, (1) 3/8 inch female NPT outlet port(s) per station, wide hole spacing.	6.25 [158.8]	1.50 [38.1]	1	1.1	\$22.00
MRA-5ED	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 5 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	5.75 [146.1]	1.00 [25.4]	1	1.0	\$22.00
<u>MRA-5ED-90</u>	NITRA preumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 5 stations, (2) 3/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	5.75 [146.1]	1.00 [25.4]	1	0.9	\$26.50
<u>MRA-5ED-W</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 5 stations, (1) 3/8 inch female NPT outlet port(s) per station, wide hole spacing.	7.75 [196.9]	1.50 [38.1]	1	1.3	\$23.50
<u>MRA-6ED</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 6 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	6.75 [171.5]	1.00 [25.4]	1	1.1	\$23.50
<u>MRA-6ED-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 6 stations, (2) 3/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	6.75 [171.5]	1.00 [25.4]	1	1.1	\$26.50
<u>MRA-6ED-W</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 6 stations, (1) 3/8 inch female NPT outlet port(s) per station, wide hole spacing.	9.25 [235.0]	1.50 [38.1]	1	1.6	\$24.50
<u>MRA-7ED</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 7 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	7.75 [196.9]	1.00 [25.4]	1	1.3	\$26.50
MRA-8ED	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 8 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	8.75 [222.3]	1.00 [25.4]	1	1.5	\$30.00
<u>MRA-8ED-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 8 stations, (2) 3/8 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	8.75 [222.3]	1.00 [25.4]	1	1.4	\$41.00
<u>MRA-8ED-W</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 8 stations, (1) 3/8 inch female NPT outlet port(s) per station, wide hole spacing.	12.25 [311.2]	1.50 [38.1]	1	2.1	\$34.00
MRA-9ED	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 9 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	9.75 [247.7]	1.00 [25.4]	1	1.6	\$31.00
MRA-10ED	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s), 10 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	10.75 [273.1]	1.00 [25.4]	1	1.8	\$32.00
<u>MRA-10ED-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1/2 inch female NPT inlet port(s),	10.75 [273.1]	1.00 [25.4]	1	1.7	\$43.00

Dimensions

inches [mm]





3/4" NPT Aluminum Manifolds



MRA-2FD



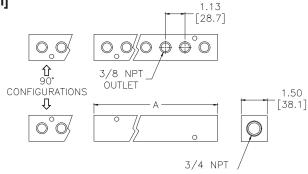
- Black anodized finish
- Maximum input pressure of 1000 psi
- Made in the USA



	NITRA® 3/4" NPT Aluminum Manifolds								
Part No.	Description	A	Parts Per Pkg	Weight (lbs)	Price				
<u>MRA-2FD</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/4 inch female NPT inlet port(s), 2 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.	4.63 [117.6]	1	0.8	\$24.50				
MRA-3FD	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/4 inch female NPT inlet port(s), 3 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.		1	0.9	\$25.50				
<u>MRA-4FD</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/4 inch female NPT inlet port(s), 4 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.		1	1.1	\$28.00				
MRA-5FD	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/4 inch female NPT inlet port(s), 5 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.		1	1.3	\$29.00				
MRA-6FD	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/4 inch female NPT inlet port(s), 6 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.		1	1.5	\$30.00				
MRA-8FD	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/4 inch female NPT inlet port(s), 8 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.		1	1.9	\$41.00				
<u>MRA-10FD</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 3/4 inch female NPT inlet port(s), 10 stations, (1) 3/8 inch female NPT outlet port(s) per station, standard hole spacing.		1	2.2	\$43.00				

Dimensions

inches [mm]





1" NPT Aluminum Manifolds



MRA-2GE



MRA-2GE-90

NITRA aluminum manifolds

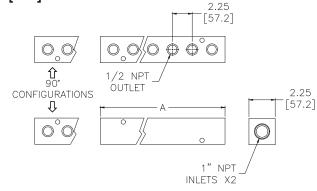
- Plain finish
- Maximum input pressure of 1000 psi
- Made in the USA



				-	
	NITRA® 1" NPT Aluminum Manife	olds			
Part No.	Description	A	Parts Per Pkg	Weight (lbs)	Price
MRA-2GE	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 2 stations, (1) 1/2 inch female NPT outlet port(s) per station, standard hole spacing.	5.25 [133.4]	1	2.0	\$41.00
<u>MRA-2GE-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 2 stations, (2) 1/2 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	5.25 [133.4]	1	1.9	\$46.50
MRA-3GE	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 3 stations, (1) 1/2 inch female NPT outlet port(s) per station, standard hole spacing.	7.50 [190.5]	1	2.8	\$47.50
<u>MRA-3GE-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 3 stations, (2) 1/2 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	7.50 [190.5]	1	2.7	\$53.00
MRA-4GE	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 4 stations, (1) 1/2 inch female NPT outlet port(s) per station, standard hole spacing.	9.75 [247.7]	1	3.7	\$53.00
<u>MRA-4GE-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 4 stations, (2) 1/2 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	9.75 [247.7]	1	3.6	\$59.00
MRA-5GE	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 5 stations, (1) 1/2 inch female NPT outlet port(s) per station, standard hole spacing.	12.00 [304.8]	1	4.6	\$57.00
<u>MRA-5GE-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 5 stations, (2) 1/2 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	12.00 [304.8]	1	4.4	\$62.00
<u>MRA-6GE</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 6 stations, (1) 1/2 inch female NPT outlet port(s) per station, standard hole spacing.	14.25 [362.0]	1	5.4	\$60.00
<u>MRA-6GE-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 6 stations, (2) 1/2 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	14.25 [362.0]	1	5.3	\$71.00
MRA-7GE	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 7 stations, (1) 1/2 inch female NPT outlet port(s) per station, standard hole spacing.	16.50 [419.1]	1	6.3	\$72.00
<u>MRA-7GE-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 7 stations, (2) 1/2 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	16.50 [419.0]	1	6.1	\$78.00
MRA-8GE	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 8 stations, (1) 1/2 inch female NPT outlet port(s) per station, standard hole spacing.	18.75 [476.3]	1	7.2	\$82.00
<u>MRA-8GE-90</u>	NITRA pneumatic manifold, aluminum, rectangular, (2) 1 inch female NPT inlet port(s), 8 stations, (2) 1/2 inch female NPT outlet port(s) per station, 90-degree orientation, standard hole spacing.	18.75 [476.3]	1	6.9	\$90.00

Dimensions

inches [mm]





1/4" NPT Stainless Steel Manifolds



MRS-2CB

NITRA stainless steel manifolds

- 303 Stainless Steel
- Maximum input pressure of 3500 psi
- Made in the USA



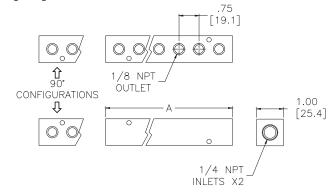




NITRA® 1/4" NPT Stainless Steel Manifolds								
Part No.	Description	A	Parts Per Pkg	Weight (lbs)	Price			
MRS-2CB	NITRA pneumatic manifold, stainless steel, rectangular, (2) 1/4 inch female NPT inlet port(s), 2 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	1.75 [44.5]	1	0.4	\$55.00			
<u>MRS-3CB</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 1/4 inch female NPT inlet port(s), 3 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	2.50 [63.0]	1	0.5	\$60.00			
<u>MRS-4CB</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 1/4 inch female NPT inlet port(s), 4 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	3.25 [82.6]	1	0.7	\$64.00			
<u>MRS-5CB</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 1/4 inch female NPT inlet port(s), 5 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	4.00 [101.6]	1	0.9	\$70.00			
MRS-6CB	NITRA pneumatic manifold, stainless steel, rectangular, (2) 1/4 inch female NPT inlet port(s), 6 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	4.75 [120.7]	1	1.1	\$73.00			
<u>MRS-7CB</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 1/4 inch female NPT inlet port(s), 7 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	5.50 [139.7]	1	1.2	\$77.00			
<u>MRS-8CB</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 1/4 inch female NPT inlet port(s), 8 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	6.25 [158.8]	1	1.4	\$83.00			
MRS-9CB	NITRA pneumatic manifold, stainless steel, rectangular, (2) 1/4 inch female NPT inlet port(s), 9 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	7.00 [177.8]	1	1.6	\$88.00			
MRS-10CB	NITRA pneumatic manifold, stainless steel, rectangular, (2) 1/4 inch female NPT inlet port(s), 10 stations, (1) 1/8 inch female NPT outlet port(s) per station, standard hole spacing.	7.75 [196.9]	1	1.7	\$95.00			

Dimensions

inches [mm]





3/8" NPT Stainless Steel Manifolds

MRS-2DC

NITRA stainless steel manifolds

- 303 Stainless Steel
- Maximum input pressure of 3500 psi
- Made in the USA



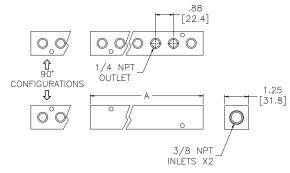




NITRA® 3/8" NPT Stainless Steel Manifolds								
Part No.	Description	A	Parts Per Pkg	Weight (lbs)	Price			
MRS-2DC	NITRA pneumatic manifold, stainless steel, rectangular, (2) 3/8 inch female NPT inlet port(s), 2 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	2.13 [54.1]	1	0.7	\$64.00			
<u>MRS-3DC</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 3/8 inch female NPT inlet port(s), 3 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	3.00 [76.2]	1	1.0	\$73.00			
<u>MRS-4DC</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 3/8 inch female NPT inlet port(s), 4 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	3.88 [98.6]	1	1.3	\$78.00			
<u>MRS-5DC</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 3/8 inch female NPT inlet port(s), 5 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	4.75 [120.7]	1	1.6	\$87.00			
<u>MRS-6DC</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 3/8 inch female NPT inlet port(s), 6 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	5.63 [143.0]	1	1.9	\$95.00			
<u>MRS-7DC</u>	NITRA pneumatic manifold, stainless steel, rectangular, (2) 3/8 inch female NPT inlet port(s), 7 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	6.50 [165.1]	1	2.2	\$102.00			
MRS-8DC	NITRA pneumatic manifold, stainless steel, rectangular, (2) 3/8 inch female NPT inlet port(s), 8 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	7.38 [187.5]	1	2.5	\$110.00			
MRS-9DC	NITRA pneumatic manifold, stainless steel, rectangular, (2) 3/8 inch female NPT inlet port(s), 9 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	8.25 [209.6]	1	2.8	\$119.00			
MRS-10DC	NITRA pneumatic manifold, stainless steel, rectangular, (2) 3/8 inch female NPT inlet port(s), 10 stations, (1) 1/4 inch female NPT outlet port(s) per station, standard hole spacing.	9.13 [231.9]	1	3.1	\$128.00			

Dimensions

inches [mm]



Nylon Manifolds



Part No. MRN-2CB



Part No. MRN-2DC

NITRA nylon manifolds

- 2 to 10 stations
- Variety of port sizesNylon 6
- Maximum input pressure 200psi
- Made in the USA



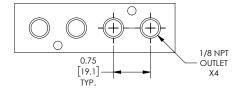
	NITRA® Nylon Manifolds				
Part No.	Description	A	Parts Per Pkg	Weight (lbs)	Price
MRN-2CB	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 2 stations, (2) 1/4in female NPT inlet(s), (2) 1/8in female NPT outlet(s), standard hole spacing.	1.75 [44.5]	1	0.07	\$30.00
<u>MRN-3CB</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 3 stations, (2) 1/4in female NPT inlet(s), (3) 1/8in female NPT outlet(s), standard hole spacing.	2.50 [63.5]	1	0.11	\$34.50
<u>MRN-4CB</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 4 stations, (2) 1/4in female NPT inlet(s), (4) 1/8in female NPT outlet(s), standard hole spacing.	3.25 [82.6]	1	0.13	\$37.50
<u>MRN-5CB</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 5 stations, (2) 1/4in female NPT inlet(s), (5) 1/8in female NPT outlet(s), standard hole spacing.	4.00 [101.6]	1	0.16	\$39.00
<u>MRN-6CB</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 6 stations, (2) 1/4in female NPT inlet(s), (6) 1/8in female NPT outlet(s), standard hole spacing.	4.75 [120.7]	1	0.19	\$41.00
<u>MRN-7CB</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 7 stations, (2) 1/4in female NPT inlet(s), (7) 1/8in female NPT outlet(s), standard hole spacing.	5.50 [139.7]	1	0.24	\$44.00
<u>MRN-8CB</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 8 stations, (2) 1/4in female NPT inlet(s), (8) 1/8in female NPT outlet(s), standard hole spacing.	6.25 [158.8]	1	0.25	\$47.00
<u>MRN-9CB</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 9 stations, (2) 1/4in female NPT inlet(s), (9) 1/8in female NPT outlet(s), standard hole spacing.	7.00 [177.8]	1	0.30	\$48.50
<u>MRN-10CB</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 10 stations, (2) 1/4in female NPT inlet(s), (10) 1/8in female NPT outlet(s), standard hole spacing.	7.75 [196.9]	1	0.32	\$50.00
<u>MRN-2DC</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 2 stations, (2) 3/8in female NPT inlet(s), (2) 1/4in female NPT outlet(s), standard hole spacing.	2.13 [54.0]	1	0.13	\$34.00
<u>MRN-3DC</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 3 stations, (2) 3/8in female NPT inlet(s), (3) 1/4in female NPT outlet(s), standard hole spacing.	3.00 [76.2]	1	0.18	\$37.00
<u>MRN-4DC</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 4 stations, (2) 3/8in female NPT inlet(s), (4) 1/4in female NPT outlet(s), standard hole spacing.	3.88 [98.4]	1	0.23	\$39.50
<u>MRN-5DC</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 5 stations, (2) 3/8in female NPT inlet(s), (5) 1/4in female NPT outlet(s), standard hole spacing.	4.75 [120.7]	1	0.30	\$43.50
MRN-6DC	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 6 stations, (2) 3/8in female NPT inlet(s), (6) 1/4in female NPT outlet(s), standard hole spacing.	5.63 [142.9]	1	0.34	\$47.50
<u>MRN-7DC</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 7 stations, (2) 3/8in female NPT inlet(s), (7) 1/4in female NPT outlet(s), standard hole spacing.	6.50 [165.1]	1	0.41	\$49.00
<u>MRN-8DC</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 8 stations, (2) 3/8in female NPT inlet(s), (9) 1/4in female NPT outlet(s), standard hole spacing.	7.38 [187.3]	1	0.45	\$50.00
<u>MRN-9DC</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 9 stations, (2) 3/8in female NPT inlet(s), (9) 1/4in female NPT outlet(s), standard hole spacing.	8.25 [209.6]	1	0.54	\$52.00
<u>MRN-10DC</u>	NITRA air or water pneumatic manifold, nylon 6, rectangular, 200 psi maximum operating pressure, 10 stations, (2) 3/8in female NPT inlet(s), (10) 1/4in female NPT outlet(s), standard hole spacing.	9.13 [231.8]	1	0.59	\$53.00

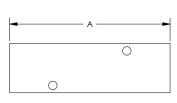


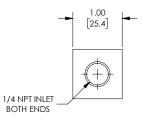
Nylon Manifolds

Dimensions

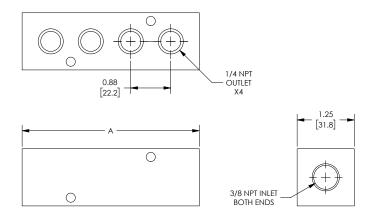
inches [mm]







Part No. MRN-xCB



Part No. MRN-xDC

See our website <u>www.AutomationDirect.com</u> for complete Engineering drawings.



Polypropylene Manifolds



Part No. MRP-2CB



Part No. MRP-2DC

NITRA polypropylene manifolds

- 2 to 10 stations
- Variety of port sizes
- Polypropylene (PP)Maximum input pressure 150psi
- Made in the USA





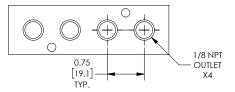
NITRA® Polypropylene Manifolds										
Part No.	Description	A	Parts Per Pkg	Weight (lbs)	Price					
<u>MRP-2CB</u>	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 2 stations, (2) 1/4in female NPT inlet(s), (2) 1/8in female NPT outlet(s), standard hole spacing.	1.75 [44.5]	1	0.07	\$27.50					
<u>MRP-3CB</u>	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 3 stations, (2) 1/4in female NPT inlet(s), (3) 1/8in female NPT outlet(s), standard hole spacing.	2.50 [63.5]	1	0.11	\$30.50					
MRP-4CB	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 4 stations, (2) 1/4in female NPT inlet(s), (4) 1/8in female NPT outlet(s), standard hole spacing.	3.25 [82.6]	1	0.13	\$34.50					
MRP-5CB	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 5 stations, (2) 1/4in female NPT inlet(s), (5) 1/8in female NPT outlet(s), standard hole spacing.	4.00 [101.6]	1	0.16	\$35.50					
MRP-6CB	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 6 stations, (2) 1/4in female NPT inlet(s), (6) 1/8in female NPT outlet(s), standard hole spacing.	4.75 [120.7]	1	0.19	\$37.00					
MRP-7CB	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 7 stations, (2) 1/4in female NPT inlet(s), (7) 1/8in female NPT outlet(s), standard hole spacing.	5.50 [139.7]	1	0.24	\$39.00					
MRP-8CB	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 8 stations, (2) 1/4in female NPT inlet(s), (8) 1/8in female NPT outlet(s), standard hole spacing.	6.25 [158.8]	1	0.25	\$42.50					
MRP-9CB	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 9 stations, (2) 1/4in female NPT inlet(s), (9) 1/8in female NPT outlet(s), standard hole spacing.	7.00 [177.8]	1	0.30	\$44.00					
MRP-10CB	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 10 stations, (2) 1/4in female NPT inlet(s), (10) 1/8in female NPT outlet(s), standard hole spacing.	7.75 [196.9]	1	0.32	\$46.00					
MRP-2DC	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 2 stations, (2) 3/8in female NPT inlet(s), (2) 1/4in female NPT outlet(s), standard hole spacing.	2.13 [54.0]	1	0.13	\$30.50					
MRP-3DC	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 3 stations, (2) 3/8in female NPT inlet(s), (3) 1/4in female NPT outlet(s), standard hole spacing.	3.00 [76.2]	1	0.18	\$34.00					
MRP-4DC	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 4 stations, (2) 3/8in female NPT inlet(s), (4) 1/4in female NPT outlet(s), standard hole spacing.	3.88 [98.4]	1	0.23	\$36.50					
<u>MRP-5DC</u>	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 5 stations, (2) 3/8in female NPT inlet(s), (5) 1/4in female NPT outlet(s), standard hole spacing.	4.75 [120.7]	1	0.30	\$38.00					
<u>MRP-6DC</u>	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 6 stations, (2) 3/8in female NPT inlet(s), (6) 1/4in female NPT outlet(s), standard hole spacing.	5.63 [142.9]	1	0.34	\$40.00					
<u>MRP-7DC</u>	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 7 stations, (2) 3/8in female NPT inlet(s), (7) 1/4in female NPT outlet(s), standard hole spacing.	6.50 [165.1]	1	0.41	\$43.00					
<u>MRP-8DC</u>	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 8 stations, (2) 3/8in female NPT inlet(s), (9) 1/4in female NPT outlet(s), standard hole spacing.	7.38 [187.3]	1	0.45	\$46.00					
<u>MRP-9DC</u>	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 9 stations, (2) 3/8in female NPT inlet(s), (9) 1/4in female NPT outlet(s), standard hole spacing.	8.25 [209.6]	1	0.54	\$47.50					
MRP-10DC	NITRA air or water pneumatic manifold, polypropylene (PP), rectangular, 150 psi maximum operating pressure, 10 stations, (2) 3/8in female NPT inlet(s), (10) 1/4in female NPT outlet(s), standard hole spacing.	9.13 [231.8]	1	0.59	\$49.00					

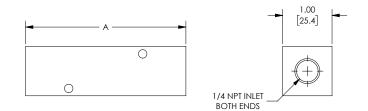


Polypropylene Manifolds

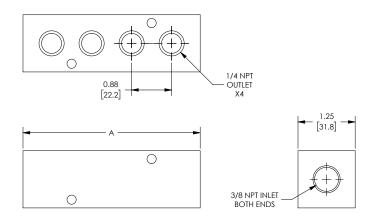
Dimensions

inches [mm]





Part No. MRP-xCB



Part No. MRP-xDC

See our website <u>www.AutomationDirect.com</u> for complete Engineering drawings.



Brass Pneumatic Air Jets



NITRA brass pneumatic air jets are useful for numerous applications including cooling, chip removal, moving small parts, etc.

Features

- 36 possible Air Jet combinations
- Several component options
- Variety of nozzels for multiple application use
- Made in USA



Part No. AJS-35

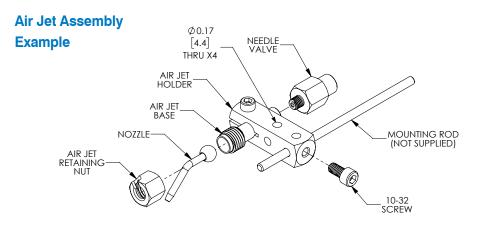
Nitra Brass Pneumatic Air Jet Set								
Part No.	art No. Description							
<u>AJS-35</u>	NITRA pneumatic 35 piece air jet set, brass. Includes (3) AJB-10, (3) AJB-15, (3) AJB-20, (2) AJN16- 1, (2) AJN16-2, (2) AJN16-1-45, (2) AJN16-1-90, (2) AJN16-1-CD, (2) AJN16-3, (9) AJ-NUT, (3) AJH, (2) AJNV-M10N, (1) durable plastic divider container	\$215.00	1.55					

	Nitra Brass Pneumatic Air Jet Set Individual Pieces								
Items	Part No.	Description	Price	Weight (lbs)					
	<u>AJB-10</u>	NITRA pneumatic air jet base, 1in length, brass, #10-32 female threaded.	\$6.00	0.05					
	<u>AJB-15</u>	NITRA pneumatic air jet base, 1.5in length, brass, #10-32 female threaded.	\$6.00	0.05					
	<u>AJB-20</u>	NITRA pneumatic air jet base, 2in length, brass, #10-32 female threaded.	\$6.00	0.05					
	<u>AJTB-18N</u>	NITRA pneumatic air jet base, 1in length, brass, 1/8in male NPT.	\$6.50	0.03					
	<u>AJPB-14</u>	NITRA pneumatic air jet base, 1.1in length, brass, 1/4in push-to-connect.	\$7.75	0.02					
	<u>AJN16-1</u>	NITRA pneumatic air jet nozzle, 1in length, straight, brass.	\$7.75	0.02					
2	<u>AJN16-2</u>	NITRA pneumatic air jet nozzle, 2in length, straight, brass.	\$7.75	0.02					



Brass Pneumatic Air Jets

	Nitra Brass Pneumatic Air Jet Set Individual Pieces Continued									
Items	Part No.	Description	Price	Weight (lbs)						
B	<u>AJN16-1-45</u>	NITRA pneumatic air jet nozzle, 1in length, 45 degree, brass.	\$7.75	0.02						
0	<u>AJN16-1-90</u>	NITRA pneumatic air jet nozzle, 1in length, 90 degree, brass.	\$7.75	0.02						
~	<u>AJN16-1-CD</u>	NITRA pneumatic air jet nozzle, 1in length, compound angle, brass.	\$7.75	0.02						
8	<u>AJN16-3</u>	NITRA pneumatic air jet nozzle, 3in length, straight, brass.	\$7.75	0.02						
	<u>AJ-NUT</u>	NITRA pneumatic air jet nut, brass.	\$2.50	0.15						
	<u>AJH-1</u>	NITRA pneumatic air jet holder, anodized aluminum.	\$8.75	0.05						
	<u>AJNV-M10N</u>	NITRA pneumatic air jet needle valve, brass, #10-32 female threaded.	\$7.25	0.05						





Pneumatic Manifolds

NITRA aluminum manifolds are available in two variations. Round manifolds have one 1/4" NPT input and either two or three 1/4" NPT outputs. Rectangular manifolds have 1/2" NPT inputs on either end and either three or five 1/4" NPT outputs.

Maximum input pressure of 500 psi





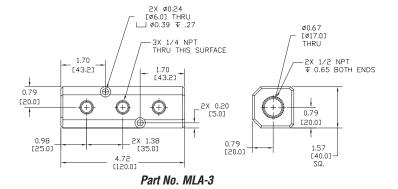
MYA-3

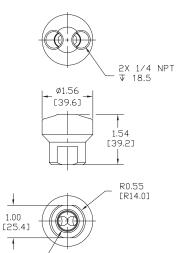


	NITRA™ Pneumatic Manifolds										
Part No.	Part No. Price Description F										
MYA-2	\$8.50	Pneumatic aluminum manifold, round, 1/4 inch female NPT inlet, two 1/4 inch female NPT outlets	1	0.2							
<u>MYA-3</u>	\$9.00	Pneumatic aluminum manifold, round, 1/4 inch female NPT inlet, three 1/4 inch female NPT outlets	1	0.2							
MLA-3	\$24.00	Pneumatic aluminum manifold, rectangular, 1/2 inch female NPT inlet, three 1/4 inch female NPT outlets	1	0.9							
<u>MLA-5</u>	\$35.50	Pneumatic aluminum manifold, rectangular, 1/2 inch female NPT inlet, five 1/4 inch female NPT outlets	1	1.4							

Dimensions

Inches [mm]

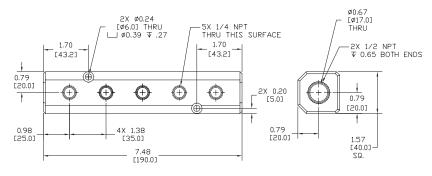




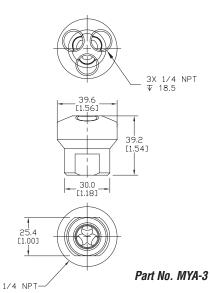
ł 1/4 NPT

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Part No. MYA-2









Pneumatic Fitting Accessories

NITRA Blowguns (or nozzles) are available in heavy duty palm type with safety tip, pistol grips (both aluminum and plastic).

Features

- Maximum input pressure of 120 psi
- Thread size on inlet 1/4 NPT female

	NITRA™ Pneumatic Blow Guns										
Part No.	Price	OHSA Directive No. 100-1	Parts Per Pkg	Weight							
<u>HBG-01</u>	\$9.25	Pneumatic blow gun, heavy duty palm type with safety tip, 1/4 inch FNPT connection	yes	1	0.4						
<u>HBG-02</u>	\$7.00	Pneumatic blow gun, plastic pistol grip with 5 inch nozzle, 1/4 inch FNPT connection	no	1	0.3						
HBG-04	\$11.50	Pneumatic blow gun, cast aluminum pistol grip with 6 inch nozzle, 1/4 inch FNPT connection	no	1	1.0						

0.S.H.A. Certification – Blow Gun HBG-01, conforms to the requirements of Compressed Air Standards as currently described in the U.S. Bureau of Labor Standards, standard 1910.242 (OSHA directive STD01-13-001), when pressurized at the inlet to a maximum of 100 PSIG.



NITRA commercial grade thread sealant tape is made with 100% virgin PTFE for strong chemical resistance. Thread sealant color is white and is USDA and FDA compliant.



	NITRA™ PTFE Thread Sealing Tape									
Part No.	Part No. Price Description									
<u>TS12-260</u>	\$4.00	NITRA pneumatic PTFE thread sealing tape for use with pipe thread connections. 1/2 inch wide by 260 inch long roll.	1	0.02						

1-800-633-0405

For the latest prices, please check AutomationDirect.com



Vacuum Suction Cups with Fittings -Elastodur



Part No. 10.01.01.13244 Model No. SPF-30-ED-65-G1/8-AG



Part No. 10.01.06.03489 Model No. SPB1-10-ED-65-M5-AG



Part No. 10.01.06.03457 Model No. SPB2-30-ED-65-G1/8-AG

Schmalz Elastodur suction cups are a durable choice for most cardboard and rigid packaging vacuum applications. AutomationDirect.com's offering includes flat and bellows cups with G-thread (BSPP) fittings. Sizes range from 10 to 60mm diameter. Replacement cups are available for all sizes.

Features:

- Elastodur cup material with aluminum fitting
- Flat, single bellows and double bellows styles
- Sizes 10mm to 60mm diameter
- Fitting sizes M5 to G 1/4

	Vacuum Suction Cups with Fittings - Elastodur											
Part No.	Schmalz Model No.	Price	Style	Fold(s)	Size	Fitting Connection	Drawing Link	Manufacturer Specs				
10.01.01.13240	SPF-20-ED-65-G1/8-AG	\$11.00			20mm		PDF	PDF				
10.01.01.13244	SPF-30-ED-65-G1/8-AG	\$12.50	Flat		30mm	G1/8 male BSPP	PDF	PDF				
<u>10.01.01.13246</u>	SPF-40-ED-65-G1/4-AG	\$18.00	- Flat	Flat	Flat	Flat	-	40mm	C1/4 male DCDD	PDF	PDF	
10.01.01.13248	SPF-50-ED-65-G1/4-AG	\$20.00			50mm	G1/4 male BSPP	PDF	PDF				
10.01.06.03489	SPB1-10-ED-65-M5-AG	\$12.00	-						10mm	M5 male	PDF	PDF
10.01.06.03492	SPB1-20-ED-65-G1/8-AG	\$13.00						20mm		PDF	PDF	
10.01.06.03496	SPB1-30-ED-65-G1/8-AG	\$15.50				4	30mm	G1/8 male BSPP	PDF	PDF		
10.01.06.03498	SPB1-40-ED-65-G1/4-AG	\$20.00		I	40mm		PDF	PDF				
10.01.06.03500	SPB1-50-ED-65-G1/4-AG	\$23.50	Delleure		50mm	G1/4 male BSPP	PDF	PDF				
10.01.06.03502	SPB1-60-ED-65-G1/4-AG	\$25.50	Bellows		60mm		PDF	PDF				
10.01.06.03453	SPB2-20-ED-65-G1/8-AG	\$16.00			20mm		PDF	PDF				
10.01.06.03457	SPB2-30-ED-65-G1/8-AG	\$19.50		2	30mm	G1/8 male BSPP	PDF	PDF				
10.01.06.03459	SPB2-40-ED-65-G1/4-AG	\$25.00		2	40mm		PDF	PDF				
10.01.06.03461	SPB2-50-ED-65-G1/4-AG	\$30.00			50mm	G1/4 male BSPP	PDF	PDF				



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Part No. 10.01.01.12370 Model No. SPF-20-ED-65-SC040



Part No. 10.01.01.02782 Model No. SPB1-10-ED-65-SC030



Part No. 10.01.01.03409 Model No. SPB2-20-ED-65-SC040

	Replacement Va	icuum S	Suction	Cups - El	astodur					
art No.	Schmalz Model No.	Price	Style	Fold(s)	Size	Manufacturer Specs				
).01.01.12370	SPF-20-ED-65-SC040	\$7.00			20mm	<u>PDF</u>				
).01.01.12372	SPF-30-ED-65-SC040	\$8.25	Flat		30mm	PDF				
).01.01.12373	SPF-40-ED-65-SC040	\$11.00	FIAL	Fidl	Fial	-	40mm	<u>PDF</u>		
).01.01.12374	SPF-50-ED-65-SC040	\$12.50			50mm	PDF				
).01.06.02782	SPB1-10-ED-65-SC030	\$7.00						10mm	PDF	
).01.06.02452	SPB1-20-ED-65-SC040	\$8.50			20mm	<u>PDF</u>				
).01.06.02454	SPB1-30-ED-65-SC040	\$11.00						1	30mm	PDF
).01.06.02455	SPB1-40-ED-65-SC050	\$13.00		1	40mm	<u>PDF</u>				
). <i>01.06.02456</i>	SPB1-50-ED-65-SC050	\$16.00	Bellows		50mm	<u>PDF</u>				
).01.06.02457	SPB1-60-ED-65-SC050	\$18.00	Dellows		60mm	PDF				
).01.06.03409	SPB2-20-ED-65-SC040	\$12.00			20mm	PDF				
).01.06.03411	SPB2-30-ED-65-SC040	\$15.50		2	30mm	PDF				
).01.06.03412	SPB2-40-ED-65-SC050	\$18.50		2	40mm	PDF				
).01.06.03413	SPB2-50-ED-65-SC050	\$23.00			50mm	PDF				

SCHMA

Vacuum Suction Cups with Fittings -Silicone



Part No. 10.01.06.00092 Model No. FSGA-43-SI-55-G1/4-AG



Part No. 10.01.06.03526

Model No. SPB4-40-SI-55-G1/4-AG

Schmalz silicone suction cups are an excellent choice for for applications requiring resistance to elevated temperatures and FDA requirements. AutomationDirect.com's offering includes bellows cups with G-thread (BSPP) fittings. Sizes range from 14 to 63mm diameter. Replacement cups are available for all sizes.

Features:

- Silicone cup material with aluminum fitting
- Single and quadruple bellows styles
- Sizes 14 to 63mm diameter
- Fitting sizes G 1/8 to G 1/4

	Vacuum Suction Cups with Fittings - Silicone																		
Part No.	Schmalz Model No.	Price	Style	Fold(s)	Size	Fitting Connection	Drawing Link	Manufacturer Specs											
10.01.06.00384	FSGA-14-SI-55-G1/8-AG	\$11.50			14mm	C1/0 mala DCDD	PDF	PDF											
<u>10.01.06.00393</u>	FSGA-20-SI-55-G1/8-AG	\$12.00	Bellows	- 1 - 1 - Bellows	_		20mm	G1/8 male BSPP	PDF	PDF									
<u>10.01.06.00091</u>	FSGA-33-SI-55-G1/4-AG	\$15.00							1	33mm		PDF	PDF						
<u>10.01.06.00092</u>	FSGA-43-SI-55-G1/4-AG	\$17.50				43mm		PDF	PDF										
<u>10.01.06.00093</u>	FSGA-53-SI-55-G1/4-AG	\$21.50			Bellows	Bellows	Bellows	- Bellows	Delleure	Delleure	Delleure	Dellerer	Dellassa	Delleure		53mm		PDF	PDF
10.01.06.00686	FSGA-63-SI-55-G1/4-AG	\$28.00								63mm	C1/4 male DCDD	PDF	PDF						
10.01.06.03515	SPB4-20-SI-55-G1/4-AG	\$20.00			20mm	G1/4 male BSPP	PDF	PDF											
<u>10.01.06.03521</u>	SPB4-30-SI-55-G1/4-AG	\$22.50	1		30mm		PDF	PDF											
10.01.06.03526	SPB4-40-SI-55-G1/4-AG	\$29.50		4	40mm		PDF	PDF											
10.01.06.03532	SPB4-50-SI-55-G1/4-AG	\$39.00	1		50mm		PDF	PDF											



Part No. 10.01.06.00127 Model No. FGA-43-SI-55-N018



Part No. 10.01.06.02590 Model No. SPB4-40-SI-55-SC090

	Replacement Va	acuum S	Suction	Cups - Si	licone		
Part No.	Schmalz Model No.	Price	Style	Fold(s)	Size	Manufacturer Specs	
<u> 10.01.06.00371</u>	FGA-14-SI-55-N016	\$8.25	- Bellows			14mm	PDF
10.01.06.00374	FGA-20-SI-55-N016	\$9.25			20mm	PDF	
<u>10.01.06.00126</u>	FGA-33-SI-55-N018	\$9.75		1	33mm	PDF	
10.01.06.00127	FGA-43-SI-55-N018	\$12.00			43mm	PDF	
<u>10.01.06.00128</u>	FGA-53-SI-55-N018	\$16.00			53mm	PDF	
10.01.06.00689	FGA-63-SI-55-N018	\$23.00		Dellows		63mm	PDF
10.01.06.02588	SPB4-20-SI-55-SC080	\$14.00				20mm	PDF
<u> 10.01.06.02589</u>	SPB4-30-SI-55-SC080	\$16.50		4	30mm	PDF	
<u>10.01.06.02590</u>	SPB4-40-SI-55-SC090	\$22.00	-	4	40mm	PDF	
<u>10.01.06.02613</u>	SPB4-50-SI-55-SC090	\$31.00			50mm	PDF	

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).

1-800-633-0405



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Vacuum Suction Cups with Fittings - Nitrile Rubber



Part No. 10.01.06.00390 Model No. FSGA-20-NBR-55-G1/8-AG



Part No. 10.01.06.00083 Model No. FSGA-53-NBR-55-G1/4-AG

Schmalz nitrile suction cups are an excellent choice for many general purpose vacuum applications. AutomationDirect.com's offering includes bellows cups with G-thread (BSPP) fittings. Sizes range from 14 to 78mm. Replacement cups are available for all sizes.

Features:

- Durable nitrile cup material for a large range of uses
- Single bellows style for uneven surfaces
- Sizes 14 to 78mm diameter
- Fitting sizes G1/8 to G1/4

	Vacuum Suction Cups with Fittings - Nitrile Rubber								
Part No.	Schmalz Model No.	Price	Style	Fold(s)	Size	Fitting Connection	Drawing Link	Manufacturer Specs	
10.01.06.00381	FSGA-14-NBR-55-G1/8-AG	\$8.25			14mm	G1/8 male BSPP	PDF	PDF	
10.01.06.00390	FSGA-20-NBR-55-G1/8-AG	\$9.75			20mm		PDF	PDF	
<u> 10.01.06.00081</u>	FSGA-33-NBR-55-G1/4-AG	\$12.50			33mm		PDF	PDF	
<u> 10.01.06.00082</u>	FSGA-43-NBR-55-G1/4-AG	\$15.00	Bellows	1	43mm		PDF	PDF	
<u> 10.01.06.00083</u>	FSGA-53-NBR-55-G1/4-AG	\$17.50			53mm	G1/4 male BSPP	<u>PDF</u>	PDF	
10.01.06.00685	FSGA 63 NBR-55 G1/4-AG	\$21.50	1		63mm		<u>PDF</u>	PDF	
10.01.06.00084	FSGA-78-NBR-55-G1/4-AG	\$26.00			78mm		PDF	PDF	



Part No. 10.01.06.00130 Model No. FGA-33-NBR-55-N018



Replacement Vacuum Suction Cups - Nitrile Rubber Manufacturer Part No. Schmalz Model No. Price Style Fold(s) Size **Specs** 10.01.06.00370 FGA-14-NBR-55-N016 \$5.25 PDF 14mm 10.01.06.00373 FGA-20-NBR-55-N016 \$6.75 20mm PDF 10.01.06.00130 FGA-33-NBR-55-N018 \$7.00 33mm PDF 10.01.06.00131 FGA-43-NBR-55-N018 \$9.50 Bellows 1 43mm PDF 10.01.06.00132 FGA-53-NBR-55-N018 \$12.00 53mm PDF 10.01.06.00688 FGA-63-NBR-55-N018 \$16.00 63mm PDF 10.01.06.00133 FGA-78-NBR-55-N019 PDF \$20.50 78mm

Part No. 10.01.06.00133 Model No. FGA-78-NBR-55-N019

1-800-633-0405



For the latest prices, please check AutomationDirect.com Vacuum Spring Plungers and Couplers



Part No. 10.01.02.00609 Model No. FSTE-M5-IG-20



Part No. 10.01.02.00568 Model No. FSTE-G1/4-AG-50 Schmalz vacuum spring plungers mount to suction cups and are an excellent option for pick and place operations where the product varies in height. Strokes range from 10 to 50mm.

Features:

- Barrel mounting jam nuts included
- \bullet Cup connections M5, G1/8 and G1/4
- Couplers in G1/8 and G1/4

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Part No. 10.01.02.00604 Model No. FSTE-G1/8-AG-50

	Vacuum Spring Plungers								
Part No.	Schmalz Model No.	Price	Cup Connection	Vacuum Connection	Stroke	Drawing Link	Manufacturer Specs		
10.01.02.00608	FSTE-M5-IG-10	\$57.00	- M5 female	ME famala	10mm [0.39 in]	PDF	PDF		
10.01.02.00609	FSTE-M5-IG-20	\$59.00		M5 female	20mm [0.79 in]	PDF	PDF		
10.01.02.00603	FSTE-G1/8-AG-25	\$68.00	C1/0 male DCDD		25mm [0.98 in]	PDF	PDF		
10.01.02.00604	FSTE-G1/8-AG-50	\$70.00	G1/8 male BSPP	C1/0 female DCDD	50mm [1.97 in]	<u>PDF</u>	PDF		
10.01.02.00567	FSTE-G1/4-AG-25	\$76.00		G1/8 female BSPP	25mm [0.98 in]	<u>PDF</u>	PDF		
10.01.02.00568	FSTE-G1/4-AG-50	\$79.00	G1/4 male BSPP		50mm [1.97 in]	PDF	PDF		

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).



Part No. 10.08.05.00125 Model No. MUF-S-G1/8-IG-18-SW14-MS-V

Vacuum Couplers Manufacturer Drawing Part No. Schmalz Model No. Price Fitting Connection Link **Specs** G1/8 female BSPP to G1/8 female BSPP 10.08.05.00125 MUF-S-G1/8-IG-18-SW14-MS-V \$3.25 PDF PDF G1/4 female BSPP to 10.08.05.00126 MUF-S-G1/4-IG-26-SW17-MS-V \$4.00 PDF PDF G1/4 female BSPP

For additional details see manfacturer's technical specifications, manuals and inserts (where applicable).



Part No. 10.08.05.00126 Model No. MUF-S-G1/4-IG-26-SW17-MS-V



Vacuum Ejectors

Multi-Stage Ejectors





Part No. 10.02.01.01606 Model No. SBPL-100-HF-NPT



Part No. 10.02.01.01598 Model No. SBPL-100-HF



Part No. 10.02.01.00566 Model No. SBP-15-S02-SDA

Schmalz multi-stage and basic ejectors are efficient with a very high suction rate. They are excellent for vacuum applications with both airtight and porous products. Either ejector is easily maintained.

Features:

- SBPL multi-stage ejectors can be used for central vacuum applications with suction rates of 500 l/min [17.7 cfm] to 860 l/min [30.4 cfm]
- SBP basic ejectors can mount very close to the cup with suction rates of 37.7 l/ min [1.3 cfm] to 71 l/min [2.5 cfm]

			Vacuum Ejec	ctors			
Part No.	Schmalz Model No.	Price	Suction Rate	Inlet(s)	Vacuum Port	Drawing Link	Manufacturer Specs
10.02.01.01605	SBPL-50-HF-NPT	\$378.00	500.0 l/min [17.7 cfm]		3/4 in female NPT	<u>PDF</u>	PDF
10.02.01.01606	SBPL-100-HF-NPT	\$649.00	860.0 l/min [30.4 cfm]	- 3/8 in female NPT	1 inch female NPT	<u>PDF</u>	PDF
10.02.01.01597	SBPL-50-HF	\$378.00	500.0 l/min [17.7 cfm]	C2/0 formale PCDD	G3/4 female BSPP	<u>PDF</u>	PDF
<u> 10.02.01.01598</u>	SBPL-100-HF	\$649.00	860.0 l/min [30.4 cfm]	- G3/8 female BSPP	G1 female BSPP	PDF	PDF
10.02.01.00565	SBP-10-S02-SDA	\$43.00	37.7 l/min [1.3 cfm]	form puch to connect		<u>PDF</u>	PDF
10.02.01.00566	SBP-15-S02-SDA	\$46.50	71.0 l/min [2.5 cfm]	6mm push-to-connect	8mm push-to-connect	<u>PDF</u>	PDF

For the latest prices, please check AutomationDirect.com

SCHMALZ



Part No. 10.02.02.04116 Model No. SCPS-15-G02-NC-M12-50-PNP

Schmalz SCPS is a fully integrated compact ejector which includes the vacuum valve, release valve, and vacuum sensor for part present confirmation. There is an integrated air saving function to reduce air consumption by up to 80%. This ejector is ideal for pick and place applications with very short cycle times.

Features:

- Suction rate 65.5 l/min [2.3 cfm] and 85% evacuation
- M12 electrical connection

Vacuum Ejector - Air Saving

- \bullet G1/8 air and vacuum connections
- LED bar display

Vacuum Ejector - Air Saving								
Part No.	Schmalz Model No.	Price	Suction Rate	Inlet(s)	Vacuum Port	Drawing Link	Manufacturer Specs	
<u>10.02.02.04116</u>	SCPS-15-G02-NC-M12-50-PNP	\$688.00	65.5 l/min [2.3 cfm]	G1/8 female BSPP	G1/8 female BSPP	<u>PDF</u>	<u>PDF</u>	

Ele	Electrical Connection								
M12	1	BN (Brown)	U _{S/A} (24VDC)						
	2	WH (White)	Suction						
(4 3)	3	BU (Blue)	Gnd _{S/A}						
	4	BK (Black)	H2						
	5	GY (Green/ Yellow)	Blow-off						

Operating Parameters								
		Min	Тур	Max	Unit			
Supply	U _{S/A}	19.2	24	26.4	V _{DC}			
Nominal Current (U _{S/A})			70mA					
SCPS-xx-N0 / SCPS-xx-NC	I _{S/A}	-	110/70	-	mA			
Output Current	I ₀	-	-	150	mA			
Operating Pressure	р	2	4	6	bar			
Air Consumption	101 l/min							
SCPS-10	Q	-	42	-	l/min			