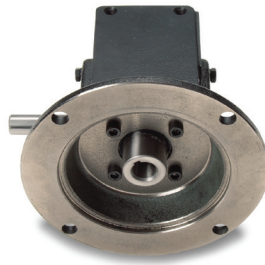


# IronHorse® Cast-Iron Worm Gearboxes

## Cast-Iron Model Overview



**IronHorse Cast-Iron  
Right-Hand Shaft  
Worm Gearbox**



**IronHorse Cast-Iron  
Left-Hand Shaft  
Worm Gearbox**



**IronHorse Cast-Iron  
Dual Shaft  
Worm Gearbox**



**IronHorse Cast-Iron  
Hollow Bore  
Worm Gearbox**

## Gearbox Overview

Gearboxes, also known as enclosed gear drives or speed reducers, are mechanical drive components that can control a load at a reduced fixed ratio of the motor speed. The output torque is also increased by the same ratio, while the horsepower remains the same (less efficiency losses.) For example, a 10:1 ratio gearbox outputs approximately the same motor output horsepower, motor speed divided by 10, and motor torque multiplied by 10.

Worm gearboxes contain a worm (gear type) on the input shaft, and a mating gear on the output shaft. Worm gearboxes also change the drive direction by 90°.

IronHorse worm gearboxes are manufactured in an ISO9001 certified plant by one of the leading gearbox manufacturers in the world today. Only the highest quality materials are tested, certified, and used in the manufacturing process. Strict adherence to and compliance with the toughest international and U.S. testing standards and manufacturing procedures assure you the highest quality products.

As seen above, our cast-iron gearboxes are offered with right-hand, left-hand and dual (both right and left) output shafts, and with hollow-bore outputs (all the way through from one side to the other). We also offer optional gearbox mounting bases for ease of installation.

## Features

- C flange input; dual shaft, right-hand shaft, left-hand shaft or hollow-bore output
- Cast iron one-piece housing
- 1045 carbon steel shaft
- AIBC3 (aluminum bronze casting) main gear; much harder than the typical phosphor bronze
- Shaft sleeves protect all shafts
- One-piece output shaft hub secures output shaft bearing
- Double bearing sets on both shaft ends
- Heavy duty bearings on the output shaft
- Interior channel guides oil to directly and constantly lube bearings
- All units filled with Mobil synthetic oil\*
- Double-lipped embedded oil seals to prevent leakage
- Special anti-rust primer inside and outside the gearbox
- Special black natural dry paint
- Universally interchangeable compact design ensures easy OEM replacement
- Multiple mounting orientation options (see user manual for allowed mounting orientations)
- Radiused mounting holes
- Optional mounting plates available
- One year warranty

## Applications

- Use with electric motors for reducing output speed, increasing torque, changing drive direction, or running two loads from one motor.
- Use for conveyors, packaging machines, rotary tables, etc.



**NOTE:** Units manufactured with first 4 serial numbers up to 2108 filled with Mobil SHC634 synthetic oil. Units manufactured with first 4 serial numbers from 2109 are filled with SHC632 synthetic oil.

# IronHorse® Cast-Iron Worm Gearboxes

## Specifications

IronHorse Cast-Iron Worm Gearbox Specifications																																			
Part Number *	Price	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP 1 @ 1800 RPM	NEMA Motor Frame	Output Type 2	Center Distance 3 (in)	Overhung Load 4 (lb)	Thrust Load 5 (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input *						Maximum Backlash (arc-minute)																
													Mechanical 6			Thermal 7																			
													Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	Input Power (hp)	Output Power (hp)	Output Torque (lb-in)																	
<a href="#">WG-175-005-D</a>	\$199.00	5:1	5.25:1	350	1.5	56C	D	1.75	650	550	93	23	2.83	2.62	499	2.28	2.11	402																	
<a href="#">WG-175-005-H</a>	\$245.00					56C	H					23																							
<a href="#">WG-175-005-R</a>	\$199.00					56C	L					22																							
<a href="#">WG-175-005-L</a>	\$198.00					56C	R					22																							
<a href="#">WG-175-010-D</a>	\$199.00	10:1	10.33:1	175	1	56C	D				88	23	1.57	1.38	515	1.36	1.19	445																	
<a href="#">WG-175-010-H</a>	\$245.00					56C	H												23																
<a href="#">WG-175-010-R</a>	\$199.00					56C	L												22																
<a href="#">WG-175-010-L</a>	\$198.00					56C	R												22																
<a href="#">WG-175-015-D</a>	\$199.00	15:1	14.5:1	117	0.75	56C	D												85	23	1.24	1.06	554	1.13	0.96	506									
<a href="#">WG-175-015-H</a>	\$245.00					56C	H																				23								
<a href="#">WG-175-015-R</a>	\$199.00					56C	L																				22								
<a href="#">WG-175-015-L</a>	\$198.00					56C	R																				22								
<a href="#">WG-175-020-D</a>	\$199.00	20:1	19.5:1	88	0.75	56C	D																				83	23	1.02	0.85	596	0.98	0.81	572	
<a href="#">WG-175-020-H</a>	\$245.00					56C	H																												23
<a href="#">WG-175-020-R</a>	\$199.00					56C	L																												22
<a href="#">WG-175-020-L</a>	\$198.00					56C	R																												22
<a href="#">WG-175-040-D</a>	\$199.00	40:1	40:1	44	0.33	56C	D	62	23	0.74	0.49	714	0.59	0.39	558																				
<a href="#">WG-175-040-H</a>	\$260.00					56C	H									23																			
<a href="#">WG-175-040-R</a>	\$199.00					56C	L									22																			
<a href="#">WG-175-040-L</a>	\$198.00					56C	R									22																			
<a href="#">WG-175-060-D</a>	\$199.00	60:1	60:1	29	0.25	56C	D									52	23	0.38	0.20	469	0.38	0.2	469												
<a href="#">WG-175-060-H</a>	\$260.00					56C	H																	23											
<a href="#">WG-175-060-R</a>	\$199.00					56C	L																	22											
<a href="#">WG-175-060-L</a>	\$198.00					56C	R																	22											

- Nominal Motor HP is the highest hp 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
  - Output Type: D = Dual Shaft; H = Hollow Bore; R = Right-Hand Shaft; L = Left-Hand Shaft
  - The Center Distance is the distance between the centerlines of the input and output shafts.
  - Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
  - Thrust Load ratings are for forces along the axis of the output shaft, usually encountered in vertical-drive applications from agitators, mixers, fans, blowers, etc.
  - Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.
  - Maximum Thermal Ratings are limits for gearbox continuous use without overheating.
- \* Maximum Input Speed is 2500 rpm.

# IronHorse® Cast-Iron Worm Gearboxes

## Specifications (continued)

IronHorse Cast-Iron Worm Gearbox Specifications																																
Part Number *	Price	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP 1 @ 1800 RPM	NEMA Motor Frame	Output Type 2	Center Distance 3 (in)	Overhung Load 4 (lb)	Thrust Load 5 (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input *						Maximum Backlash (arc-minute)													
													Mechanical 6			Thermal 7																
													Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	Input Power (hp)	Output Power (hp)	Output Torque (lb-in)														
<a href="#">WG-206-005-D</a>	\$252.00	5:1	5.75:1	350	2	56C	D	2.06	700	750	92	28	3.62	3.33	685	2.57	2.36	486														
<a href="#">WG-206-005-H</a>	\$314.00					56C	H					28																				
<a href="#">WG-206-005-R</a>	\$252.00					56C	L					27																				
<a href="#">WG-206-005-L</a>	\$250.00					56C	R					27																				
<a href="#">WG-206-010-D</a>	\$252.00	10:1	10.33:1	175	1.5	56C	D				90	2.77	2.50	935	2.10	1.89	708															
<a href="#">WG-206-010-H</a>	\$314.00					56C	H											28														
<a href="#">WG-206-010-R</a>	\$252.00					56C	L											27														
<a href="#">WG-206-010-L</a>	\$250.00					56C	R											27														
<a href="#">WG-206-015-D</a>	\$252.00	15:1	15.5:1	117	1	56C	D											85	2.09	1.78	1002	1.40	1.20	673								
<a href="#">WG-206-015-H</a>	\$314.00					56C	H																		28							
<a href="#">WG-206-015-R</a>	\$252.00					56C	L																		27							
<a href="#">WG-206-015-L</a>	\$250.00					56C	R																		27							
<a href="#">WG-206-020-D</a>	\$238.00	20:1	19.5:1	88	1	56C	D																		82	1.57	1.29	914	1.17	0.96	681	
<a href="#">WG-206-020-H</a>	\$314.00					56C	H																									28
<a href="#">WG-206-020-R</a>	\$252.00					56C	L																									27
<a href="#">WG-206-020-L</a>	\$252.00					56C	R																									27
<a href="#">WG-206-040-D</a>	\$240.00	40:1	40:1	44	0.5	56C	D	71	1.09	0.77	1120	0.71	0.50	726																		
<a href="#">WG-206-040-H</a>	\$314.00					56C	H								28																	
<a href="#">WG-206-040-R</a>	\$252.00					56C	L								27																	
<a href="#">WG-206-040-L</a>	\$252.00					56C	R								27																	
<a href="#">WG-206-060-D</a>	\$238.00	60:1	60:1	29	0.33	56C	D								58	0.60	0.35	750	0.48	0.28	606											
<a href="#">WG-206-060-H</a>	\$314.00					56C	H															28										
<a href="#">WG-206-060-R</a>	\$252.00					56C	L															27										
<a href="#">WG-206-060-L</a>	\$252.00					56C	R															27										

- Nominal Motor HP is the highest hp 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
  - Output Type: D = Dual Shaft; H = Hollow Bore; R = Right-Hand Shaft; L = Left-Hand Shaft
  - The Center Distance is the distance between the centerlines of the input and output shafts.
  - Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
  - Thrust Load ratings are for forces along the axis of the output shaft, usually encountered in vertical-drive applications from agitators, mixers, fans, blowers, etc.
  - Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.
  - Maximum Thermal Ratings are limits for gearbox continuous use without overheating.
- \* Maximum Input Speed is 2500 rpm.

# IronHorse® Cast-Iron Worm Gearboxes

## Specifications (continued)

IronHorse Cast-Iron Worm Gearbox Specifications																		
Part Number *	Price	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP 1 @ 1800 RPM	NEMA Motor Frame	Output Type 2	Center Distance 3 (in)	Overhung Load 4 (lb)	Thrust Load 5 (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input *					Maximum Backlash (arc-minute)
													Mechanical 6			Thermal 7		
													Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	Input Power (hp)	Output Power (hp)	
<a href="#">WG-237-005-D</a>	\$286.00	5:1	5.25:1	350	3	56C	D	2.37	900	900	93	38	4.57	4.24	798	3.56	3.31	630
<a href="#">WG-237-005-H</a>	\$359.00					56C	H					36						
<a href="#">WG-237-005-R</a>	\$303.00					56C	L					37						
<a href="#">WG-237-005-L</a>	\$303.00					56C	R					37						
<a href="#">WG-237-010-D</a>	\$286.00	10:1	10.33:1	175	1.5	56C	D	2.37	900	900	89	38	3.47	3.09	1158	2.24	1.99	746
<a href="#">WG-237-010-H</a>	\$359.00					56C	H					36						
<a href="#">WG-237-010-R</a>	\$303.00					56C	L					37						
<a href="#">WG-237-010-L</a>	\$300.00					56C	R					37						
<a href="#">WG-237-015-D</a>	\$286.00	15:1	15.5:1	117	1	56C	D	2.37	900	900	84	38	2.64	2.22	1249	1.55	1.30	732
<a href="#">WG-237-015-H</a>	\$359.00					56C	H					36						
<a href="#">WG-237-015-R</a>	\$303.00					56C	L					37						
<a href="#">WG-237-015-L</a>	\$300.00					56C	R					37						
<a href="#">WG-237-020-D</a>	\$286.00	20:1	20:1	88	1	56C	D	2.37	900	900	82	38	2.06	1.69	1195	1.36	1.12	791
<a href="#">WG-237-020-H</a>	\$359.00					56C	H					36						
<a href="#">WG-237-020-R</a>	\$303.00					56C	L					37						
<a href="#">WG-237-020-L</a>	\$300.00					56C	R					37						
<a href="#">WG-237-040-D</a>	\$286.00	40:1	40:1	44	0.5	56C	D	2.37	900	900	71	38	1.45	1.02	1483	0.83	0.58	845
<a href="#">WG-237-040-H</a>	\$359.00					56C	H					36						
<a href="#">WG-237-040-R</a>	\$303.00					56C	L					37						
<a href="#">WG-237-040-L</a>	\$300.00					56C	R					37						
<a href="#">WG-237-060-D</a>	\$286.00	60:1	60:1	29	0.5	56C	D	2.37	900	900	61	38	0.86	0.53	1149	0.63	0.39	844
<a href="#">WG-237-060-H</a>	\$359.00					56C	H					36						
<a href="#">WG-237-060-R</a>	\$303.00					56C	L					37						
<a href="#">WG-237-060-L</a>	\$300.00					56C	R					37						
<a href="#">WG-262-005-D</a>	\$306.00	5:1	5.25:1	350	3	182TC	D	2.62	1000	1000	93	57	5.24	4.86	924	4.32	4.00	761
<a href="#">WG-262-005-H</a>	\$442.00					182TC	H					58						
<a href="#">WG-262-005-R</a>	\$327.00					182TC	L					56						
<a href="#">WG-262-005-L</a>	\$322.00					182TC	R					56						
<a href="#">WG-262-010-D</a>	\$306.00	10:1	10.67:1	175	2	182TC	D	2.62	1000	1000	90	57	4.17	3.74	1445	3.06	2.75	1061
<a href="#">WG-262-010-H</a>	\$442.00					182TC	H					57						
<a href="#">WG-262-010-R</a>	\$327.00					182TC	L					56						
<a href="#">WG-262-010-L</a>	\$322.00					182TC	R					56						

1) Nominal Motor HP is the highest hp 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.  
 2) Output Type: D = Dual Shaft; H = Hollow Bore; R = Right-Hand Shaft; L = Left-Hand Shaft  
 3) The Center Distance is the distance between the centerlines of the input and output shafts.  
 4) Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.  
 5) Thrust Load ratings are for forces along the axis of the output shaft, usually encountered in vertical-drive applications from agitators, mixers, fans, blowers, etc.  
 6) Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.  
 7) Maximum Thermal Ratings are limits for gearbox continuous use without overheating.  
 \* Maximum Input Speed is 2500 rpm.

# IronHorse® Cast-Iron Worm Gearboxes

## Specifications (continued)

IronHorse Cast-Iron Worm Gearbox Specifications																			
Part Number *	Price	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP 1 @ 1800 RPM	NEMA Motor Frame	Output Type 2	Center Distance 3 (in)	Overhung Load 4 (lb)	Thrust Load 5 (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input *						Maximum Backlash (arc-minute)
													Mechanical 6			Thermal 7			
													Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	
<a href="#">WG-262-015-D</a>	\$306.00	15:1	15.5:1	117	2	56C	D	2.62	1000	1000	87	50	3.22	2.81	1577	2.47	2.16	1212	
<a href="#">WG-262-015-H</a>	\$442.00					56C	H												50
<a href="#">WG-262-015-R</a>	\$327.00					56C	L												49
<a href="#">WG-262-015-L</a>	\$322.00					56C	R												49
<a href="#">WG-262-020-D</a>	\$306.00	20:1	19.5:1	88	1.5	56C	D	2.62	1000	1000	83	50	2.67	2.21	1563	1.84	1.53	1078	
<a href="#">WG-262-020-H</a>	\$442.00					56C	H												50
<a href="#">WG-262-020-R</a>	\$327.00					56C	L												49
<a href="#">WG-262-020-L</a>	\$322.00					56C	R												49
<a href="#">WG-262-040-D</a>	\$306.00	40:1	40:1	44	0.75	56C	D	2.62	1000	1000	72	50	1.85	1.32	1919	1.11	0.80	1153	
<a href="#">WG-262-040-H</a>	\$442.00					56C	H												50
<a href="#">WG-262-040-R</a>	\$327.00					56C	L												49
<a href="#">WG-262-040-L</a>	\$322.00					56C	R												49
<a href="#">WG-262-060-D</a>	\$306.00	60:1	60:1	29	0.75	56C	D	2.62	1000	1000	66	50	1.16	0.77	1670	0.94	0.62	1346	
<a href="#">WG-262-060-H</a>	\$442.00					56C	H												51
<a href="#">WG-262-060-R</a>	\$327.00					56C	L												49
<a href="#">WG-262-060-L</a>	\$322.00					56C	R												49

- Nominal Motor HP is the highest hp 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
  - Output Type: D = Dual Shaft; H = Hollow Bore; R = Right-Hand Shaft; L = Left-Hand Shaft
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# IronHorse® Cast-Iron Worm Gearboxes

## Specifications (continued)

IronHorse Cast-Iron Worm Gearbox Specifications																			
Part Number *	Price	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP 1 @ 1800 RPM	NEMA Motor Frame	Output Type 2	Center Distance 3 (in)	Overhung Load 4 (lb)	Thrust Load 5 (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input *						Maximum Backlash (arc-minute)
													Mechanical 6			Thermal 7			
													Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	
<a href="#">WG-325-010-DC</a>	\$483.00	10:1	10.33:1	169	5	182/4TC	D	3.25	1200	1100	90	91	7.19	6.46	2419	4.63	4.16	1558	
<a href="#">WG-325-010-HC</a>	\$633.00					182/4TC	H												90
<a href="#">WG-325-010-LC</a>	\$483.00					182/4TC	L												90
<a href="#">WG-325-010-RC</a>	\$483.00					182/4TC	R												90
<a href="#">WG-325-015-DC</a>	\$483.00	15:1	15.5:1	113	5	182/4TC	D	3.25	1200	1100	85	91	5.45	4.65	2611	3.19	2.72	1527	
<a href="#">WG-325-015-HC</a>	\$633.00					182/4TC	H												90
<a href="#">WG-325-015-LC</a>	\$483.00					182/4TC	L												90
<a href="#">WG-325-015-RC</a>	\$483.00					182/4TC	R												90
<a href="#">WG-325-020-DC</a>	\$483.00	20:1	19.5:1	90	3	182TC	D	3.25	1200	1100	86	91	4.74	4.07	2875	3.31	2.85	2011	
<a href="#">WG-325-020-HC</a>	\$633.00					182TC	H												90
<a href="#">WG-325-020-LC</a>	\$483.00					182TC	L												90
<a href="#">WG-325-020-RC</a>	\$483.00					182TC	R												90
<a href="#">WG-325-030-DA</a>	\$483.00	30:1	30:1	58	2	56C	D	3.25	1200	1100	77	88	3.66	2.80	3045	2.00	1.53	1661	
<a href="#">WG-325-030-DB</a>	\$483.00			90		145TC	D												88
<a href="#">WG-325-030-HA</a>	\$633.00			56C		H	87												
<a href="#">WG-325-030-HB</a>	\$633.00			145TC		H	87												
<a href="#">WG-325-030-LA</a>	\$483.00			56C		L	87												
<a href="#">WG-325-030-LB</a>	\$483.00			145TC		L	87												
<a href="#">WG-325-030-LC</a>	\$483.00			3		182TC	L												87
<a href="#">WG-325-030-RA</a>	\$483.00			2		56C	R												87
<a href="#">WG-325-030-RB</a>	\$483.00			145TC		R	87												
<a href="#">WG-325-030-RC</a>	\$483.00			3		182TC	R												87

- Nominal Motor HP is the highest hp 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
  - Output Type: D = Dual Shaft; H = Hollow Bore; R = Right-Hand Shaft; L = Left-Hand Shaft
  - The Center Distance is the distance between the centerlines of the input and output shafts.
  - Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
  - Thrust Load ratings are for forces along the axis of the output shaft, usually encountered in vertical-drive applications from agitators, mixers, fans, blowers, etc.
  - Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.
  - Maximum Thermal Ratings are limits for gearbox continuous use without overheating.
- \* Maximum Input Speed is 2500 rpm.

# IronHorse® Cast-Iron Worm Gearboxes

## Specifications (continued)

IronHorse Cast-Iron Worm Gearbox Specifications																			
Part Number *	Price	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP 1 @ 1800 RPM	NEMA Motor Frame	Output Type 2	Center Distance 3 (in)	Overhung Load 4 (lb)	Thrust Load 5 (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input *						Maximum Backlash (arc-minute)
													Mechanical 6			Thermal 7			
													Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	
<a href="#">WG-325-040-DA</a>	\$483.00	40:1	40:1	44	2	56C	D	3.25	1200	1100	76	88	3.35	2.55	3692	1.96	1.49	2156	
<a href="#">WG-325-040-DB</a>	\$483.00					145TC	D												88
<a href="#">WG-325-040-HA</a>	\$633.00					56C	H												87
<a href="#">WG-325-040-HB</a>	\$633.00					145TC	H												87
<a href="#">WG-325-040-LA</a>	\$483.00					56C	L												87
<a href="#">WG-325-040-LB</a>	\$483.00					145TC	L												87
<a href="#">WG-325-040-RA</a>	\$483.00					56C	R												87
<a href="#">WG-325-040-RB</a>	\$483.00					145TC	R												87
<a href="#">WG-325-060-DA</a>	\$483.00	60:1	60:1	29	2	56C	D	3.25	1200	1100	71	88	2.03	1.44	3127	1.61	1.14	2476	
<a href="#">WG-325-060-DB</a>	\$483.00					145TC	D												88
<a href="#">WG-325-060-HA</a>	\$633.00					56C	H												87
<a href="#">WG-325-060-HB</a>	\$633.00					145TC	H												87
<a href="#">WG-325-060-LA</a>	\$483.00					56C	L												87
<a href="#">WG-325-060-LB</a>	\$483.00					145TC	L												87
<a href="#">WG-325-060-RA</a>	\$483.00					56C	R												87
<a href="#">WG-325-060-RB</a>	\$483.00					145TC	R												87

- 1) Nominal Motor HP is the highest hp 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
  - 2) Output Type: D = Dual Shaft; H = Hollow Bore; R = Right-Hand Shaft; L = Left-Hand Shaft
  - 3) The Center Distance is the distance between the centerlines of the input and output shafts.
  - 4) Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
  - 5) Thrust Load ratings are for forces along the axis of the output shaft, usually encountered in vertical-drive applications from agitators, mixers, fans, blowers, etc.
  - 6) Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.
  - 7) Maximum Thermal Ratings are limits for gearbox continuous use without overheating.
- \* Maximum Input Speed is 2500 rpm.

## Gearbox Selection Factors

Overhung Load K Factors for Various Drive Types	
Chain & Sprocket	1.00
Gear	1.25
V-belt	1.50
Flat Belt	2.50
Variable Pitch Belt	3.50

Divide gearbox OHL ratings by the applicable OHL K factors.

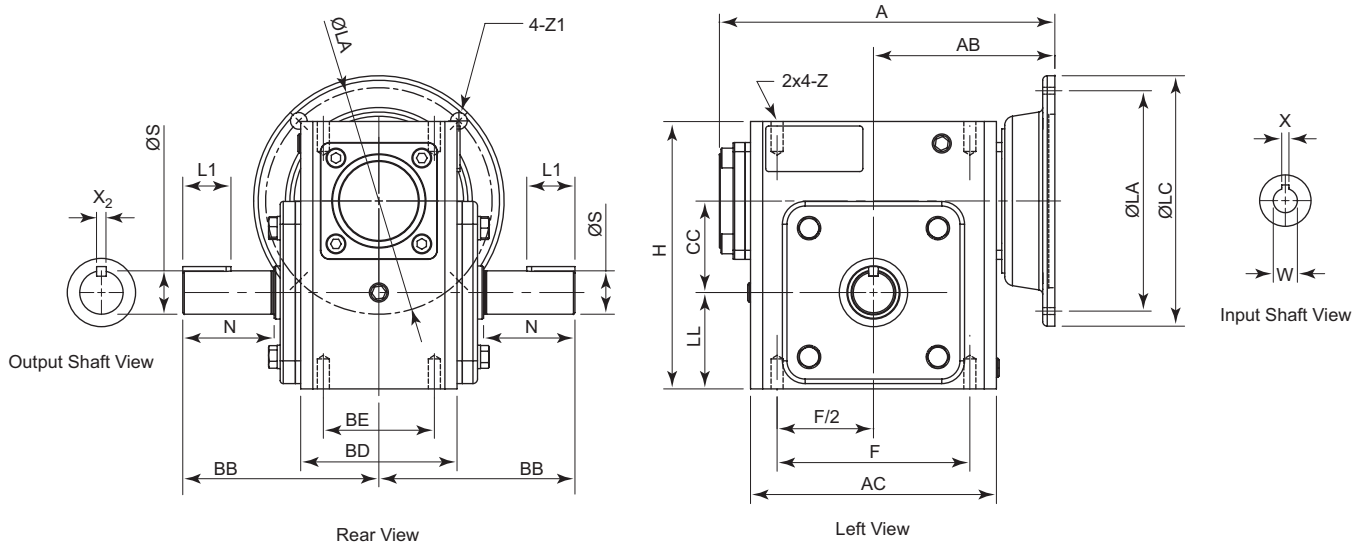
Service Factors for Selecting Gearboxes (when used with electric motors)				
Service Continuity (per day)	Load Characteristics			
	Uniform	Moderate Shock*	Heavy Shock*	Extreme Shock*
Occasional 1/2 hour	1.00	1.00	1.00	1.25
Less than 3 hours	1.00	1.00	1.25	1.50
3-10 hours	1.00	1.25	1.50	1.75
More than 10 hours	1.25	1.50	1.75	2.00

\* Shock results from sudden increases in the torque demand of the load, such as: sudden stopping, restarting, and/or reversing; significantly heavy loads dropped onto a moving conveyor; impact loads such as punch press operations.

Depending upon the load characteristics, divide the gearbox HP, Overhung Load, and Maximum Mechanical Capacity ratings by the applicable service factor.

# IronHorse® Cast-Iron Worm Gearboxes

## Gearbox Dimensions – Cast-Iron Solid-Shaft Output Gearboxes



**Dimensions (inches) – IronHorse Cast-Iron Worm Gearboxes – Solid-Shaft Outputs**

Part Number	Frame	A	AB	AC	BB	BD	BE	CC	F	H	LL	Z (UNC)	Flange			Input Shaft		Output Shaft			
													LA	LC	Z1	W	X	L1	N	S	X <sub>2</sub>
WG-175-xxx-D/L/R	56C	7.29	4.035	5.06	4.311	3.56	2.75	1.75	4.188	5.75	2.062	5/16-18	5.875	6.496	0.433	5/8	3/16	1	1.781	7/8	3/16
WG-206-xxx-D/L/R		7.95	4.37	5.75	4.69	3.82	2.88	2.062	5	6.38	2.281							1.25	2.09	1	
WG-237-xxx-D/L/R		8.71	4.705	6.38	5.087	4.06	2.88	2.375	5	6.94	2.5							1.25	2.37		
WG-262-005-D/L/R	182TC	10.57	6.24	7.17	5.63	4.69	3.375	2.625	6.375	8	2.938	3/8-16	7.25	9	0.551	1-1/8	1/4	2	2.626	1-1/8	1/4
WG-262-010-D/L/R																					
WG-262-015-D/L/R	56C	9.41	5.059	7.17	5.63	4.69	3.375	2.625	6.375	8	2.938	3/8-16	7.25	9	0.551	1-1/8	1/4	2	2.626	1-1/8	1/4
WG-262-020-D/L/R																					
WG-262-040-D/L/R																					
WG-262-060-D/L/R	182/4TC	12.60	7.24	9.02	7.06	5.75	4.00	3.25	7.50	9.38	3.50	7/16-14	7.25	9.00	0.55	1-1/8	1/4	2.44	3.25	1-3/8	5/16
WG-325-010-xC																					
WG-325-015-xC	182TC	11.42	6.06	9.02	7.06	5.75	4.00	3.25	7.50	9.38	3.50	7/16-14	7.25	9.00	0.55	1-1/8	1/4	2.44	3.25	1-3/8	5/16
WG-325-020-xC																					
WG-325-030-xA	56C	11.42	6.06	9.02	7.06	5.75	4.00	3.25	7.50	9.38	3.50	7/16-14	7.25	9.00	0.55	1-1/8	1/4	2.44	3.25	1-3/8	5/16
WG-325-030-xB																					
WG-325-030-xC	182TC	11.42	6.06	9.02	7.06	5.75	4.00	3.25	7.50	9.38	3.50	7/16-14	7.25	9.00	0.55	1-1/8	1/4	2.44	3.25	1-3/8	5/16
WG-325-040-xA																					
WG-325-040-xB	145TC	11.42	6.06	9.02	7.06	5.75	4.00	3.25	7.50	9.38	3.50	7/16-14	7.25	9.00	0.55	1-1/8	1/4	2.44	3.25	1-3/8	5/16
WG-325-060-xA																					
WG-325-060-xB	145TC	11.42	6.06	9.02	7.06	5.75	4.00	3.25	7.50	9.38	3.50	7/16-14	7.25	9.00	0.55	1-1/8	1/4	2.44	3.25	1-3/8	5/16
WG-325-060-xB																					

Dual-shaft output gearboxes have BB, L1, N, S, X<sub>2</sub> dimensions on both sides.

Left-hand shaft gearboxes have output shafts only on the left side, as viewed looking into the input shaft (dimensions BB, L1, N, S, X<sub>2</sub>).

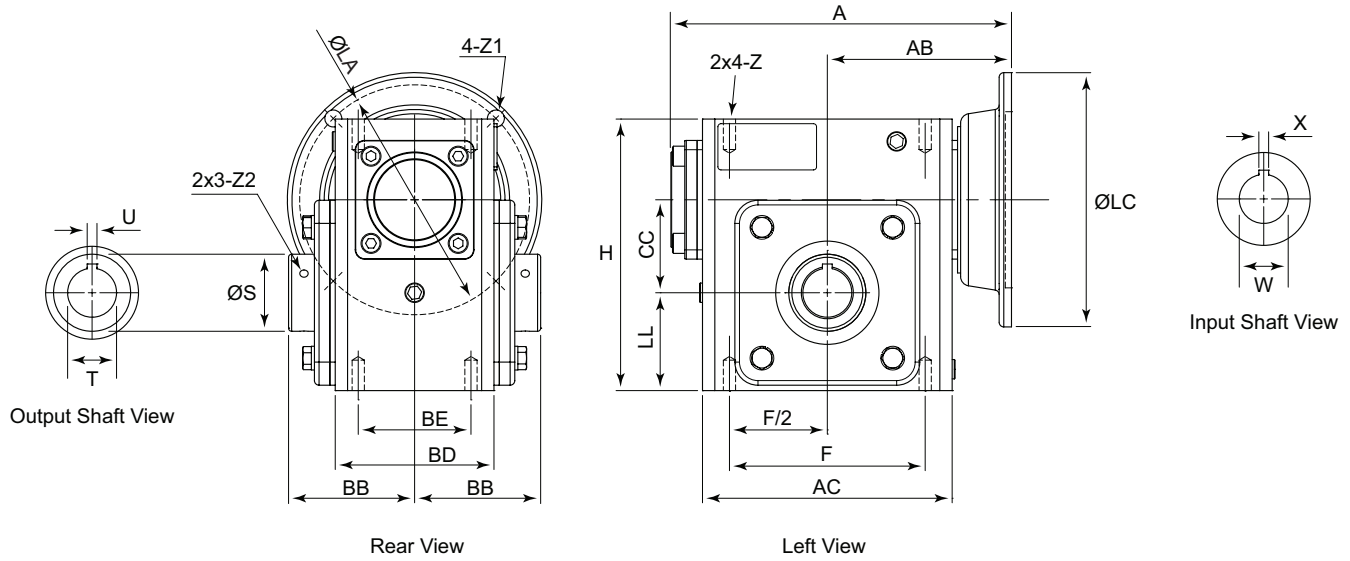
Right-hand shaft gearboxes have output shafts only on the right side, as viewed looking into the input shaft (dimensions BB, L1, N, S, X<sub>2</sub>).

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.



# IronHorse® Cast-Iron Worm Gearboxes

## Gearbox Dimensions – Cast-Iron Hollow-Bore Output Gearboxes



Dimensions (inches) – IronHorse Cast-Iron Worm Gearboxes – Hollow-Bore Outputs																					
Part Number	Frame	A	AB	AC	BB	BD	BE	CC	F	H	LL	Z (UNC)	Flange			Input Shaft		Output Bore			
													LA	LC	Z1	W	X	S	T	U	Z2 (UNF)
WG-175-xxx-H	56C	7.28	4.035	5.059	3.091	3.563	2.750	1.75	4.188	5.75	2.062	3/8-16	5.875	6.496	0.433	5/8	3/16	1.575	1.0	1/4	#10-32
WG-206-xxx-H		7.95	4.370	5.748	3.219	3.819	2.880	2.062	5.000	6.375	2.281							1.772	1.125		
WG-237-xxx-H		8.68	4.705	6.378	3.220	4.055	2.880	2.375	5.000	6.937	2.500							1.969	1.250		
WG-262-005-H	182TC	10.59	6.240	7.165	3.500	4.685	3.375	2.625	6.375	8.000	2.938	3/8-16	7.25	9.000	0.551	1-1/8	1/4	2.362	1.437	3/8	1/4-28
WG-262-010-H																					
WG-262-015-H	56C	9.41	5.059	7.165	3.500	4.685	3.375	2.625	6.375	8.000	2.938	3/8-16	5.875	6.496	0.433	5/8	3/16	2.362	1.437	3/8	1/4-28
WG-262-020-H																					
WG-262-040-H																					
WG-262-060-H																					
WG-325-010-HC	182/4TC	12.60	7.24	7.165	3.500	4.685	3.375	2.625	6.375	8.000	2.938	3/8-16	7.25	9.00	0.55	1.125	1/4	2.362	1.437	3/8	1/4-28
WG-325-015-HC																					
WG-325-020-HC	182TC	11.42	6.06	9.02	4.38	5.75	4.00	3.25	7.50	9.38	3.50	7/16-14	5.875	6.50	0.41	0.625	3/16	2.76	1.938	1/2	5/16-24
WG-325-030-HA	56C																				
WG-325-030-HB	145TC	0.625																			
WG-325-040-HA	56C	0.875																			
WG-325-040-HB	145TC	0.875																			
WG-325-060-HA	56C	0.625																			
WG-325-060-HB	145TC	0.875																			

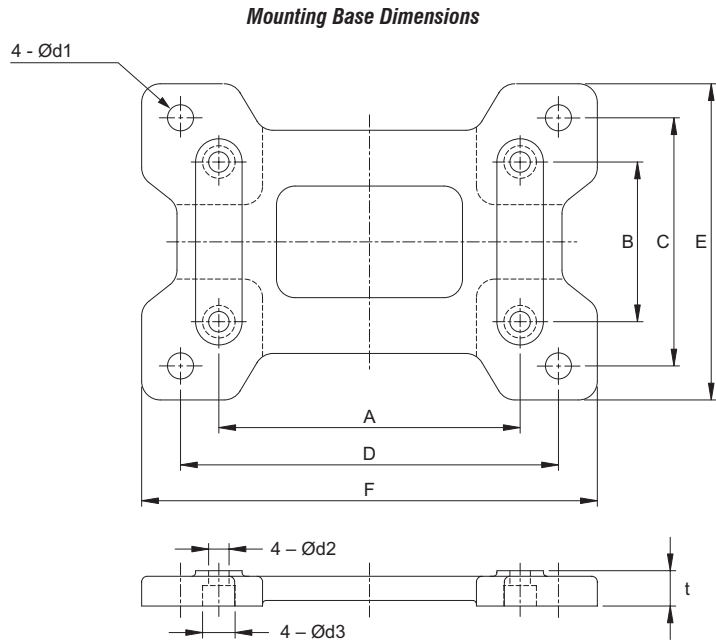
See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

# IronHorse® Cast-Iron Worm Gearboxes

## Accessories – Mounting Base



IronHorse Worm Gearbox Mounting Base



IronHorse Cast-Iron Worm Gearbox Mounting Bases													
Part Number	Price	Fits Gearbox Numbers	Approx Weight (lb)	Dimensions (in)									
				A	B	C	D	E	F	t	d1	d2	d3
<b>WG-175-BASE</b>	\$19.00	WG-175-xxx-x	4.0	4.19	2.76	4.50	5.75	5.69	7.00	0.69	0.43	0.35	0.55
<b>WG-206-BASE</b>	\$23.00	WG-206-xxx-x	4.8	5.00	2.88	4.69	6.38	5.91	7.76	0.72	0.47	0.43	0.69
<b>WG-237-BASE</b>	\$26.00	WG-237-xxx-x	6.2	5.00	2.88	4.88	7.06	6.22	8.50	0.75	0.47	0.43	0.69
<b>WG-262-BASE</b>	\$31.00	WG-262-xxx-x	7.5	6.38	3.38	5.25	8.00	6.69	9.65	0.75	0.55	0.43	0.69
<b>WG-325-BASE</b>	\$44.00	WG-325-xxx-xx	12	7.50	4.00	6.13	9.50	7.66	11.19	0.88	0.50	0.47	0.71

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

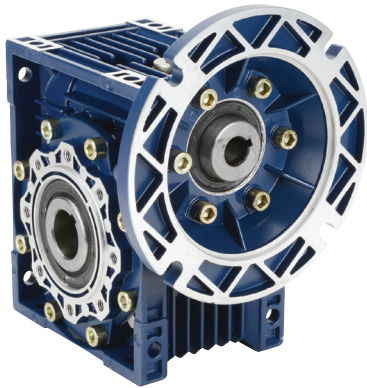
## Cast-Iron Worm Gearbox Cross Reference

IronHorse Cast-Iron Worm Gearbox Cross Reference *										
AutomationDirect IronHorse™	WG-175-xxx-		WG-206-xxx-		WG-237-xxx-		WG-262-xxx-		WG-325-xxx-	
	D/L/R	H	D/L/R	H	D/L/R	H	D/L/R	H	D/L/R	H
<b>Alling Lander</b>	17UF	17YF	20UF	20YF	23UF	23YF	26UF	26YF	32UF	32YF
<b>Baldor</b>	F918	HF918	F921	HF921	F924	HF924	F926	HF926	F932	HF932
<b>Boston</b>	F718	HF718	F721	HF721	F724	HF724	F726	HF726	F732	HF732
<b>Browning-Raider</b>	Q175	QH175	Q206	QH206	Q237	QH237	Q262	QH262	Q325	QH325
<b>Dodge-Tigear</b>	Q175	-	Q200	-	-	-	Q262	-	-	-
<b>Falk-Omnibox</b>	1175WBM	1175WBQM	1206WBM	1206WBQM	1238WBM	1238WBQM	1262WBM	1262WBQM	1325WBM	1325WBQM
<b>Grove (new)</b>	BMQ218	HMQ218	BMQ220	HMQ220	BMQ224	HMQ224	BMQ226	HMQ226	BMQ232	HMQ232
<b>Grove (old)</b>	BMQ1175	HMQ1175	BMQ1206	HMQ1206	BWQ1238	HMQ1238	BMQ1262	HMQ1262	BMQ1325	HMQ1325
<b>Leeson</b>	BMQ618	HMQ618	BMQ621	HMQ621	BMQ624	HMQ624	BMQ626	HMQ626	BMQ632	HMQ632
<b>Morse Raider</b>	718F	718SF	721F	721SF	724F	724SF	726F	726SF	732F	732SF
<b>Ohio Gear</b>	BMQ2175	SM2175MQ	BMQ2206	SM2206MQ	BMQ2238	SM2238MQ	BMQ2262	SM2262MQ	BMQ2325	SM2325MQ

\* IronHorse Series Gear Drives are designed to be functionally interchangeable with these and many other manufacturer's drives. This chart is intended to be a guide only. Customers should compare the appropriate manufacturer's specifications for exact details regarding ratings and dimensions.

# IronHorse® Aluminum Worm Gearboxes

## Aluminum Model Overview



**IronHorse Aluminum Hollow Bore  
Worm Gearbox**



**IronHorse Aluminum Worm Gearbox  
Accessories**

## Gearbox Overview

Gearboxes, also known as enclosed gear drives or speed reducers, are mechanical drive components that can control a load at a reduced fixed ratio of the motor speed. The output torque is also increased by the same ratio, while the horsepower remains the same (less efficiency losses.) For example, a 10:1 ratio gearbox outputs approximately the same motor output horsepower, motor speed divided by 10, and motor torque multiplied by 10.

Worm gearboxes contain a worm (gear type) on the input shaft, and a mating gear on the output shaft. Worm gearboxes also change the drive direction by 90°.

IronHorse worm gearboxes are manufactured in an ISO9001 certified plant by one of the leading gearbox manufacturers in the world today. Only the highest quality materials are tested, certified, and used in the manufacturing process.

Strict adherence to and compliance with the toughest international and U.S. testing standards and manufacturing procedures assure you the highest quality products.

Aluminum gearboxes feature hollow-bore outputs (hollow all the way through from one side to the other). These gearboxes also utilize C-face mounting interfaces for trouble-free connections to C-face motors. We also offer optional single and double output shafts, output flanges, torque arms, and output covers.

## Features

- 10:1 to 100:1 ratios
- Box sizes 30 to 75 mm
- Aluminum alloy housing for lightweight design
- Hardened worm shaft for increased durability
- Two bearings on input and output shafts
- NEMA motor input flanges
- All units filled with Mobil synthetic oil\*
- No vent plug or breather needed; maintenance-free reducer
- Double lip oil seals prevent leakage
- Multiple mounting holes for all angle mounts
- Epoxy paint applied to inside and outside of reducer to protect against corrosion
- Hollow output bores with available plug-in output shafts
- Multiple mounting orientation options (see user manual for allowed mounting orientations)
- Single and Double Output Shaft material: S45C
- Single and Double Output Shaft Hardness: HBS220~260

## Applications

- Use with electric motors for reducing output speed, increasing torque, changing drive direction, or running two loads from one motor.
- Use for conveyors, packaging machines, rotary tables, etc.



**NOTE:** Units manufactured with first 4 serial numbers up to 2108 filled with Mobil SHC634 synthetic oil. Units manufactured with first 4 serial numbers from 2109 are filled with SHC632 synthetic oil.

# IronHorse<sup>®</sup> Aluminum Worm Gearboxes

## Specifications

IronHorse Aluminum Worm Gearbox Specifications – 30, 40, 50, & 63 mm Frames																			
Part Number	Price	Nominal / Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP <sup>1</sup> @1800 rpm	NEMA Motor Frame	Output Type <sup>2</sup>	Center Distance <sup>3</sup> (mm)	Overhung Load <sup>4</sup> (lb)	Output Shaft Thrust Load (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input			Maximum Input Speed (rpm)	Maximum Backlash (arc-minute)			
												Mechanical <sup>5</sup>							
												Input Power (hp)	Output Power (hp)	Output Torque (lb-in)					
<a href="#">WGA-30M-010-H1</a>	\$118.00	10:1	175	0.5	56C	H	30	142	31	80	3	0.54	0.43	150	2,000	28.8			
<a href="#">WGA-30M-020-H1</a>	\$118.00	20:1	88	0.25								179	40	72		0.30	0.22	150	28.2
<a href="#">WGA-30M-030-H1</a>	\$118.00	30:1	58	0.25								205	45	62		0.25	0.16	177	28.8
<a href="#">WGA-30M-040-H1</a>	\$118.00	40:1	44	0.2								225	50	55		0.19	0.10	150	28.2
<a href="#">WGA-30M-060-H1</a>	\$118.00	60:1	29	0.12								259	54	46		0.12	0.06	142	25.8
<a href="#">WGA-40M-010-H1</a>	\$148.00	10:1	175	1	56C	H	40	279	60	83	5	1.15	0.95	354	2,000	24.0			
<a href="#">WGA-40M-020-H1</a>	\$148.00	20:1	88	0.5								350	76	78			0.61	0.48	345
<a href="#">WGA-40M-030-H1</a>	\$148.00	30:1	58	0.5								403	87	68			0.53	0.36	389
<a href="#">WGA-40M-040-H1</a>	\$148.00	40:1	44	0.33								441	96	65		0.39	0.25	363	21.6
<a href="#">WGA-40M-060-H1</a>	\$148.00	60:1	29	0.25								507	110	56		0.25	0.14	319	
<a href="#">WGA-40M-080-H1</a>	\$148.00	80:1	22	0.12	556	121	50	0.19	0.10	283	21.6								
<a href="#">WGA-40M-100-H1</a>	\$148.00	100:1	17.5	0.12	595	130	47	0.15	0.07	257									
<a href="#">WGA-50M-010-H1</a>	\$203.00	10:1	175	2	56C	H	50	406	83	84	8	2.06	1.73	628	2,000	19.2			
<a href="#">WGA-50M-020-H1</a>	\$203.00	20:1	88	1								510	104	78		1.13	0.88	646	17.4
<a href="#">WGA-50M-030-H1</a>	\$203.00	30:1	58	0.75								586	120	70		0.95	0.67	734	19.2
<a href="#">WGA-50M-040-H1</a>	\$203.00	40:1	44	0.75								643	132	65		0.70	0.46	664	17.4
<a href="#">WGA-50M-060-H1</a>	\$203.00	60:1	29	0.33								739	151	57		0.46	0.26	602	16.2
<a href="#">WGA-50M-080-H1</a>	\$203.00	80:1	22	0.33	810	166	50	0.38	0.19	566									
<a href="#">WGA-50M-100-H1</a>	\$203.00	100:1	17.5	0.25	866	179	46	0.28	0.13	487									
<a href="#">WGA-63M-010-H1</a>	\$261.00	10:1	175	3	56C	H	63	510	108	86	13	3.67	3.16	1141	2,000	17.4			
<a href="#">WGA-63M-010-H2</a>	\$261.00	10:1	175	3	145TC							3.67	3.16	1141					
<a href="#">WGA-63M-020-H1</a>	\$261.00	20:1	88	2	56C			641	137	80		2.04	1.63	1186		16.2			
<a href="#">WGA-63M-020-H2</a>	\$261.00	20:1	88	2	145TC			641	137	80		2.04	1.63	1186					
<a href="#">WGA-63M-030-H1</a>	\$261.00	30:1	58	1.5	56C			736	156	73		1.76	1.28	1416		17.4			
<a href="#">WGA-63M-040-H1</a>	\$261.00	40:1	44	1				807	172	70		1.26	0.88	1274		16.2			
<a href="#">WGA-63M-060-H1</a>	\$261.00	60:1	29	0.75				928	197	59		0.86	0.51	1141		13.8			
<a href="#">WGA-63M-080-H1</a>	\$261.00	80:1	22	0.5				1017	217	53		0.67	0.36	1071					
<a href="#">WGA-63M-100-H1</a>	\$261.00	100:1	18	0.5				1088	234	48		0.57	0.27	1035					

- 1) Nominal Motor HP is the highest HP 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
- 2) Output Type: H = Hollow Bore.
- 3) The Center Distance is the distance between the centerlines of the input and output shafts/bores; serves as the gearbox frame size.
- 4) Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
- 5) Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.

# IronHorse<sup>®</sup> Aluminum Worm Gearboxes

## Specifications (continued)

IronHorse Aluminum Worm Gearbox Specifications – 75 mm Frames																
Part Number	Price	Nominal / Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP <sup>1</sup> @ 1800 rpm	NEMA Motor Frame	Output Type <sup>2</sup>	Center Distance <sup>3</sup> (mm)	Overhung Load <sup>4</sup> (lb)	Output Shaft Thrust Load (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input			Maximum Input Speed (rpm)	Maximum Backlash (arc-minute)
												Mechanical <sup>5</sup>				
												Input Power (hp)	Output Power (hp)	Output Torque (lb-in)		
<a href="#">WGA-75M-010-H1</a>	\$380.00	10:1	175	5	56C	H	75	604	128	86	19	5.44	4.68	1717	2,000	16.2
<a href="#">WGA-75M-010-H2</a>	\$380.00	10:1	175	5	145TC			604	128	86		5.44	4.68	1717		
<a href="#">WGA-75M-010-H3</a>	\$380.00	10:1	175	5	182/4TC			604	128	86		5.44	4.68	1717		
<a href="#">WGA-75M-020-H1</a>	\$380.00	20:1	88	3	56C			759	161	79		3.14	2.48	1849	14.4	
<a href="#">WGA-75M-020-H2</a>	\$380.00	20:1	88	3	145TC			759	161	79		3.14	2.48	1849		
<a href="#">WGA-75M-030-H1</a>	\$380.00	30:1	58	2	56C			873	185	72		2.48	1.79	2026	16.2	
<a href="#">WGA-75M-040-H1</a>	\$380.00	40:1	44	1.5				957	203	68		1.88	1.28	1947	14.4	
<a href="#">WGA-75M-060-H1</a>	\$380.00	60:1	29	1				1099	232	62		1.26	0.78	1770	12.6	
<a href="#">WGA-75M-080-H1</a>	\$380.00	80:1	22	0.75				1205	256	58		0.97	0.56	1672		
<a href="#">WGA-75M-100-H1</a>	\$380.00	100:1	18	0.75				1289	276	52		0.80	0.42	1593		

- Nominal Motor HP is the highest HP 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
- Output Type: H = Hollow Bore.
- The Center Distance is the distance between the centerlines of the input and output shafts/bore; serves as the gearbox frame size.
- Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
- Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.

## Gearbox Selection Factors

Overhung Load K Factors for Various Drive Types	
Chain & Sprocket	1.00
Gear	1.25
V-belt	1.50
Flat Belt	2.50
Variable Pitch Belt	3.50

Divide gearbox OHL ratings by the applicable OHL K factors.

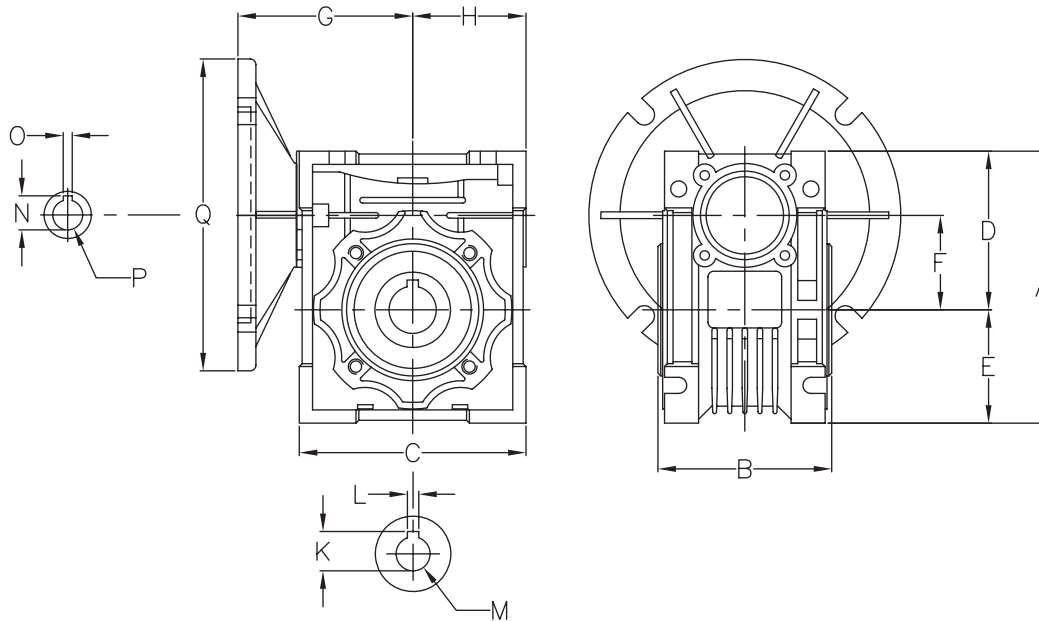
Service Factors for Selecting Gearboxes (when used with electric motors)				
Service Continuity (per day)	Load Characteristics			
	Uniform	Moderate Shock*	Heavy Shock*	Extreme Shock*
Occasional 1/2 hour	1.00	1.00	1.00	1.25
Less than 3 hours	1.00	1.00	1.25	1.50
3-10 hours	1.00	1.25	1.50	1.75
More than 10 hours	1.25	1.50	1.75	2.00

\* Shock results from sudden increases in the torque demand of the load, such as: sudden stopping, restarting, and/or reversing; significantly heavy loads dropped onto a moving conveyor; impact loads such as punch press operations.

Depending upon the load characteristics, divide the gearbox HP, Overhung Load, and Maximum Mechanical Capacity ratings by the applicable service factor.

# IronHorse<sup>®</sup> Aluminum Worm Gearboxes

## Specifications (continued)



Dimensions (inches) – IronHorse Aluminum Worm Gearboxes																
Part Number	NEMA Motor Face	A	B	C	D	E	F	G	H	Output Bore			Input Shaft			ØQ
										K	L	ØM	N	O	ØP	
WGA-30M-xxx-H1	56C	3.82	2.48	3.15	2.24	1.57	1.18	3.19	1.57	0.720	0.187	0.625	0.73	0.19	0.625	6.50
WGA-40M-xxx-H1		4.78	3.07	3.94	2.81	1.97	1.57	3.18	1.97	0.840	0.187	0.750	0.71	0.19	0.625	6.50
WGA-50M-xxx-H1		5.67	3.62	4.72	3.31	2.36	1.97	3.58	2.36	1.110	0.250	1.000	0.71	0.19	0.625	6.50
WGA-63M-xxx-H1		6.87	4.42	5.69	4.00	2.87	2.48	4.06	2.84	1.250	0.250	1.125	0.71	0.19	0.625	6.50
WGA-63M-xxx-H2	145TC	6.87	4.42	5.69	4.00	2.87	2.48	4.06	2.84	1.250	0.250	1.125	0.97	0.19	0.875	6.50
WGA-75M-xxx-H1	56C	8.07	4.72	6.77	4.69	3.39	2.95	4.68	3.39	1.375	0.250	1.250	0.71	0.19	0.625	6.50
WGA-75M-xxx-H2	145TC	8.07	4.72	6.77	4.69	3.39	2.95	4.68	3.39	1.375	0.250	1.250	1.24	0.25	1.125	6.50
WGA-75M-xxx-H3	182/4TC	8.07	4.72	6.77	4.69	3.39	2.95	4.68	3.39	1.375	0.250	1.250	1.24	0.25	1.125	8.97

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

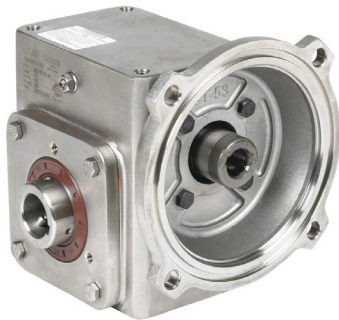
# IronHorse<sup>®</sup> Aluminum Worm Gearboxes

## Accessories

IronHorse Aluminum Worm Gearbox Accessories			
Part Number	Price	Description	Typical Photo
<a href="#"><u>WGA-30M-ACC1</u></a>	\$11.00	Output flange, for aluminum WGA-30M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-40M-ACC1</u></a>	\$12.00	Output flange, for aluminum WGA-40M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-50M-ACC1</u></a>	\$13.00	Output flange, for aluminum WGA-50M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-63M-ACC1</u></a>	\$17.00	Output flange, for aluminum WGA-63M series gearboxes. Includes (8) mounting screws.	
<a href="#"><u>WGA-75M-ACC1</u></a>	\$26.00	Output flange, for aluminum WGA-75M series gearboxes. Includes (8) mounting screws.	
<a href="#"><u>WGA-30M-ACC2</u></a>	\$14.00	Torque arm, for aluminum WGA-30M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-40M-ACC2</u></a>	\$16.00	Torque arm, for aluminum WGA-40M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-50M-ACC2</u></a>	\$17.00	Torque arm, for aluminum WGA-50M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-63M-ACC2</u></a>	\$27.00	Torque arm, for aluminum WGA-63M series gearboxes. Includes (8) mounting screws.	
<a href="#"><u>WGA-75M-ACC2</u></a>	\$46.00	Torque arm, for aluminum WGA-75M series gearboxes. Includes (8) mounting screws.	
<a href="#"><u>WGA-30M-ACC3</u></a>	\$14.00	Single output shaft, Ø0.625 in, for aluminum WGA-30M series gearboxes. Includes (3) keys, (1) spacer, and (1) retaining ring.	
<a href="#"><u>WGA-40M-ACC3</u></a>	\$16.00	Single output shaft, Ø0.75 in, for aluminum WGA-40M series gearboxes. Includes (3) keys, (1) spacer, and (1) retaining ring.	
<a href="#"><u>WGA-50M-ACC3</u></a>	\$19.00	Single output shaft, Ø1.0 in, for aluminum WGA-50M series gearboxes. Includes (3) keys, (1) spacer, and (1) retaining ring.	
<a href="#"><u>WGA-63M-ACC3</u></a>	\$25.00	Single output shaft, Ø1.125 in, for aluminum WGA-63M series gearboxes. Includes (3) keys, (1) spacer, and (1) retaining ring.	
<a href="#"><u>WGA-75M-ACC3</u></a>	\$33.00	Single output shaft, Ø1.25 in, for aluminum WGA-75M series gearboxes. Includes (3) keys, (1) spacer, and (1) retaining ring.	
<a href="#"><u>WGA-30M-ACC4</u></a>	\$19.00	Double output shaft, Ø0.625 in, for aluminum WGA-30M series gearboxes. Includes (4) keys, (2) spacers, and (2) retaining rings.	
<a href="#"><u>WGA-40M-ACC4</u></a>	\$22.00	Double output shaft, Ø0.75 in, for aluminum WGA-40M series gearboxes. Includes (4) keys, (2) spacers, and (2) retaining rings.	
<a href="#"><u>WGA-50M-ACC4</u></a>	\$25.00	Double output shaft, Ø1.0 in, for aluminum WGA-50M series gearboxes. Includes (4) keys, (2) spacers, and (2) retaining rings.	
<a href="#"><u>WGA-63M-ACC4</u></a>	\$34.00	Double output shaft, Ø1.125 in, for aluminum WGA-63M series gearboxes. Includes (4) keys, (2) spacers, and (2) retaining rings.	
<a href="#"><u>WGA-75M-ACC4</u></a>	\$42.00	Double output shaft, Ø1.25 in, for aluminum WGA-75M series gearboxes. Includes (4) keys, (2) spacers, and (2) retaining rings.	
<a href="#"><u>WGA-30M-ACC5</u></a>	\$6.00	Output cover, for aluminum WGA-30M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-40M-ACC5</u></a>	\$6.00	Output cover, for aluminum WGA-40M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-50M-ACC5</u></a>	\$11.00	Output cover, for aluminum WGA-50M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-63M-ACC5</u></a>	\$11.00	Output cover, for aluminum WGA-63M series gearboxes. Includes (4) mounting screws.	
<a href="#"><u>WGA-75M-ACC5</u></a>	\$11.00	Output cover, for aluminum WGA-75M series gearboxes. Includes (4) mounting screws.	



# IronHorse® Stainless Steel Worm Gearboxes



**IronHorse 304 Stainless Steel  
Hollow Bore  
Worm Gearbox**



## Features

- Available ratios – 5:1 to 60:1
- Available housing sizes – 1 3/4" to 2 5/8" (center distance)
- BEAG (formerly BISSC) certified (Bakery Equipment Assessment Group)
- IP69K rated
- Housing, covers, & flange – 304 stainless steel
- External surfaces – polished smooth
- Nameplate – laser etched
- Breather vent – sealed internal bladder functions as a breather vent
- Input flange – includes O-ring to prevent moisture intrusion
- Input quill – 15CrMo4 with carburizing heat treatment
- Worm wheel – CuSn12Ni2 bronze alloy with high efficiency tooth profile
- Output seals – double lipped, VITON
- Top mounting holes – removable plastic plugs installed
- Side mounting holes – removable silicone plugs installed
- Lubrication – prefilled\* with Mobil CIBUS 460 H1 food grade lubricant
- Performance – equivalent to other major brands
- Includes – 1 O-Ring and 2 stainless steel keys
- Warranty – 1 year



\*NOTE: Prefilled for mounting position 'A'. Other mounting positions may require addition or subtraction of oil. Please refer to the User Manual for proper oil volume for each mounting position.

## Gearbox Overview

Gearboxes, also known as enclosed gear drives or speed reducers, are mechanical drive components that can control a load at a reduced fixed ratio of the motor speed. The output torque is also increased by the same ratio, while the horsepower remains the same (less efficiency losses.) For example, a 10:1 ratio gearbox outputs approximately the same motor output horsepower, motor speed divided by 10, and motor torque multiplied by 10.

Worm gearboxes contain a worm (gear type) on the input shaft, and a mating gear on the output shaft. Worm gearboxes also change the drive direction by 90°.

IronHorse worm gearboxes are manufactured in an ISO9001 certified plant by one of the leading gearbox manufacturers in the world today. Only the highest quality materials are tested, certified, and used in the manufacturing process. Strict adherence to and compliance with the toughest international and U.S. testing standards and manufacturing procedures assure you the highest quality products.

The IronHorse® Stainless Steel (WGSS) series of heavy duty, right angle worm gear reducers offer exceptional value for applications where food-grade or corrosion resistant equipment is required. These BEAG (formerly BISSC) Certified reducers offer IP69K Protection for close-range high pressure, high temperature spray downs. We also offer optional gearbox accessories.

## Applications

- Use with electric motors for reducing output speed, increasing torque, changing drive direction, or running two loads from one motor.
- Use for conveyors, packaging machines, rotary tables, etc.



**Dual Output Shaft Accessories  
WGSS-175-DS**



**Single Output Shaft Accessories  
WGSS-175-S**



**Output Cover Accessories  
WGSS-175-OC**



**Output Flange Accessories  
WGSS-175-OF**

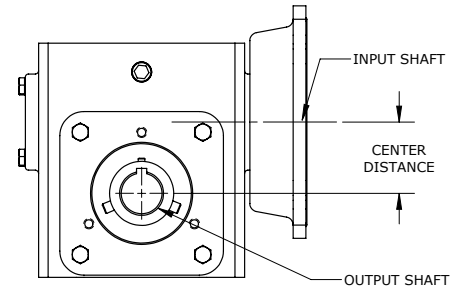


**Output Bore Accessories  
WGSS-175-158-OB**





# IronHorse® Stainless Steel Worm Gearboxes



IronHorse Stainless Steel Worm Gearbox Specifications																			
Part Number	Price	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP <sup>1</sup> @ 1800 RPM	NEMA Motor Frame	Center Distance (in)	Overhung Load <sup>2</sup> (lb)	Thrust Load <sup>3</sup> (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input						Maximum Backlash (arc-minute)	Drawing Links
												Mechanical <sup>4</sup>			Thermal <sup>5</sup>				
												Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	Input Power (hp)	Output Power (hp)	Output Torque (lb-in)		
<a href="#">WGSS-175-005-HA</a>	\$956.00	5:1	5.25:1	350	2.36	56C	1 3/4	650	550	93.2	16	2.36	2.2	416	1.99	1.85	350	20	<a href="#">PDF</a>
<a href="#">WGSS-175-010-HA</a>	\$893.00	10:1	10:1	175	1.52							1.38	495	1.43	1.3	467	<a href="#">PDF</a>		
<a href="#">WGSS-175-015-HA</a>	\$893.00	15:1	15:1	116	1.09							0.94	506	0.96	0.83	448	<a href="#">PDF</a>		
<a href="#">WGSS-175-020-HA</a>	\$893.00	20:1	20.5:1	87	0.85							0.71	527	0.85	0.71	514	<a href="#">PDF</a>		
<a href="#">WGSS-175-030-HA</a>	\$893.00	30:1	30:1	58	0.65							0.49	532	0.56	0.43	460	<a href="#">PDF</a>		
<a href="#">WGSS-175-040-HA</a>	\$893.00	40:1	40:1	44	0.57							0.42	599	0.5	0.37	527	<a href="#">PDF</a>		
<a href="#">WGSS-175-050-HA</a>	\$893.00	50:1	50:1	35	0.44							0.32	568	0.44	0.32	568	<a href="#">PDF</a>		
<a href="#">WGSS-175-060-HA</a>	\$893.00	60:1	60:1	29	0.31							0.21	457	0.31	0.21	457	<a href="#">PDF</a>		
<a href="#">WGSS-206-005-HA</a>	\$978.00	5:1	5.25:1	350	3.62	56C	2 1/16	700	750	93.5	22	3.62	3.38	640	3.04	2.84	538	17	<a href="#">PDF</a>
<a href="#">WGSS-206-010-HA</a>	\$978.00	10:1	10:1	175	2.47							2.22	799	1.94	1.74	627	<a href="#">PDF</a>		
<a href="#">WGSS-206-015-HA</a>	\$978.00	15:1	15:1	116	1.8							1.57	850	1.57	1.37	741	<a href="#">PDF</a>		
<a href="#">WGSS-206-020-HA</a>	\$978.00	20:1	20.5:1	87	1.48							1.23	907	1.16	0.97	713	<a href="#">PDF</a>		
<a href="#">WGSS-206-030-HA</a>	\$978.00	30:1	30:1	58	0.95							0.74	802	0.9	0.71	762	<a href="#">PDF</a>		
<a href="#">WGSS-206-040-HA</a>	\$978.00	40:1	40:1	44	0.76							0.54	774	0.67	0.48	687	<a href="#">PDF</a>		
<a href="#">WGSS-206-050-HA</a>	\$978.00	50:1	50:1	35	0.6							0.43	771	0.6	0.43	771	<a href="#">PDF</a>		
<a href="#">WGSS-206-060-HA</a>	\$978.00	60:1	60:1	29	0.52							0.36	777	0.52	0.36	777	<a href="#">PDF</a>		
<a href="#">WGSS-237-005-HA</a>	\$1,275.00	5:1	5.25:1	350	4.32	56C	2 3/8	900	900	93.9	28	4.32	4.06	767	3.91	3.67	693	17	<a href="#">PDF</a>
<a href="#">WGSS-237-010-HA</a>	\$1,190.00	10:1	10:1	175	3.23							2.93	1055	2.56	2.32	837	<a href="#">PDF</a>		
<a href="#">WGSS-237-015-HA</a>	\$1,190.00	15:1	15:1	116	2.36							2.05	1108	1.82	1.58	854	<a href="#">PDF</a>		
<a href="#">WGSS-237-020-HA</a>	\$1,190.00	20:1	20.5:1	87	2.01							1.68	1243	1.47	1.23	910	<a href="#">PDF</a>		
<a href="#">WGSS-237-030-HA</a>	\$1,190.00	30:1	30:1	58	1.33							1.02	1105	1.03	0.79	857	<a href="#">PDF</a>		
<a href="#">WGSS-237-040-HA</a>	\$1,190.00	40:1	40:1	44	1.07							0.8	1156	0.95	0.71	1029	<a href="#">PDF</a>		
<a href="#">WGSS-237-050-HA</a>	\$1,190.00	50:1	50:1	35	0.87							0.62	1111	0.82	0.58	1045	<a href="#">PDF</a>		
<a href="#">WGSS-237-060-HA</a>	\$1,190.00	60:1	60:1	29	0.71							0.47	1008	0.69	0.46	986	<a href="#">PDF</a>		

- Nominal Motor HP is the highest hp 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
- Overhung Load (OHL) ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
- Thrust Load ratings are for forces along the axis of the output shaft, usually encountered in vertical-drive applications from agitators, mixers, fans, blowers, etc.
- Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.
- Maximum Thermal Ratings are limits for gearbox continuous use without overheating.



# IronHorse® Stainless Steel Worm Gearboxes

IronHorse Stainless Steel Worm Gearbox Specifications																					
Part Number	Price	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	Nominal Motor HP 1 @ 1800 RPM	NEMA Motor Frame	Center Distance (in)	Overhung Load 2 (lb)	Thrust Load 3 (lb)	Efficiency (%)	Approx Weight (lb)	Maximum Ratings @ 1750 RPM Input						Maximum Backlash (arc-minute)	Drawing Links		
												Mechanical 4			Thermal 5						
												Input Power (hp)	Output Power (hp)	Output Torque (lb-in)	Input Power (hp)	Output Power (hp)	Output Torque (lb-in)				
<a href="#">WGSS-262-005-HB</a>	\$1,658.00	5:1	5.25:1	350	5.24	145TC	2 5/8	1000	1000	94.2	39	5.24	4.94	933	5.17	4.87	920	17	<a href="#">PDF</a>		
<a href="#">WGSS-262-010-HB</a>	\$1,551.00	10:1	10:1	175	3.96							91.2	3.96	3.61	1301	3.41	3.11		1119	<a href="#">PDF</a>	
<a href="#">WGSS-262-015-HB</a>	\$1,551.00	15:1	15:1	116	2.96							88.5	2.96	2.62	1415	2.61	2.31		1246	<a href="#">PDF</a>	
<a href="#">WGSS-262-020-HA</a>	\$1,551.00	20:1	20.5:1	87	2.36							56C	84.5	2.36	1.99	1472	1.93		1.63	1206	<a href="#">PDF</a>
<a href="#">WGSS-262-020-HB</a>	\$1,551.00											145TC									<a href="#">PDF</a>
<a href="#">WGSS-262-030-HA</a>	\$1,551.00	30:1	30:1	58	1.68							56C	79.7	1.68	1.34	1446	1.48		1.18	1271	<a href="#">PDF</a>
<a href="#">WGSS-262-030-HB</a>	\$1,551.00											145TC									<a href="#">PDF</a>
<a href="#">WGSS-262-040-HA</a>	\$1,551.00	40:1	40:1	44	1.33							56C	75.9	1.33	1.01	1454	1.24		0.94	1360	<a href="#">PDF</a>
<a href="#">WGSS-262-050-HA</a>	\$1,551.00	50:1	50:1	35	1.08	73.2	1.08	0.79	1423	1.08	0.79							1423			<a href="#">PDF</a>
<a href="#">WGSS-262-060-HA</a>	\$1,551.00	60:1	60:1	29	0.89	56C	66.5	0.89	0.59	1279	0.89	0.59	1279	<a href="#">PDF</a>							

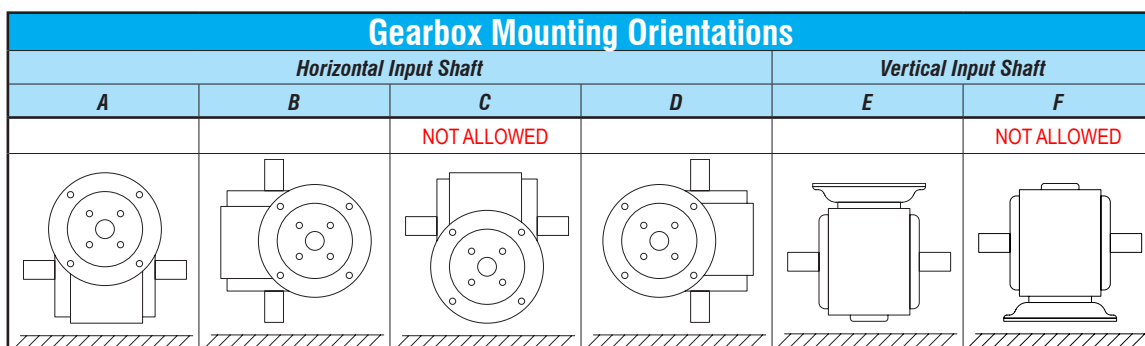
- Nominal Motor HP is the highest hp 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
- Overhung Load (OHL) ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
- Thrust Load ratings are for forces along the axis of the output shaft, usually encountered in vertical-drive applications from agitators, mixers, fans, blowers, etc.
- Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.
- Maximum Thermal Ratings are limits for gearbox continuous use without overheating.

## Gearbox Selection Factors

Overhung Load K Factors for Various Drive Types		Service Factors for Selecting Gearboxes (when used with electric motors)				
		Service Continuity (per day)	Load Characteristics			
			Uniform	Moderate Shock*	Heavy Shock*	Extreme Shock*
Chain & Sprocket	1.00	Occasional 1/2 hour	1.00	1.00	1.00	1.25
Gear	1.25	Less than 3 hours	1.00	1.00	1.25	1.50
V-belt	1.50	3-10 hours	1.00	1.25	1.50	1.75
Flat Belt	2.50	More than 10 hours	1.25	1.50	1.75	2.00
Variable Pitch Belt	3.50					

Divide gearbox OHL ratings by the applicable OHL K factors.

\* Shock results from sudden increases in the torque demand of the load, such as: sudden stopping, restarting, and/or reversing; significantly heavy loads dropped onto a moving conveyor; impact loads such as punch press operations. Depending upon the load characteristics, divide the gearbox HP, Overhung Load, and Maximum Mechanical Capacity ratings by the applicable service factor.

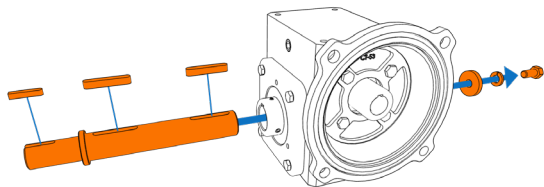




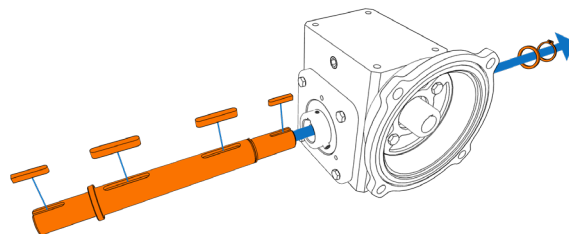
# IronHorse<sup>®</sup> Stainless Steel Worm Gearbox Accessories

IronHorse Stainless Steel Worm Gearbox Output Shaft Kits						
Part Number	Price	Fits	Output Shaft Type	Output Shaft Diameter	Typical Photo	Drawing Links
<a href="#">WGSS-175-S</a>	\$72.00	WGSS-175 series gearboxes	Single	0.875"		<a href="#">PDF</a>
<a href="#">WGSS-206-S</a>	\$77.00	WGSS-206 series gearboxes		1"		<a href="#">PDF</a>
<a href="#">WGSS-237-S</a>	\$94.00	WGSS-237 series gearboxes		1.125"		<a href="#">PDF</a>
<a href="#">WGSS-262-S</a>	\$106.00	WGSS-262 series gearboxes		1.25"		<a href="#">PDF</a>
<a href="#">WGSS-262-S-1125</a>	\$106.00	WGSS-262 series gearboxes		1.125"		<a href="#">PDF</a>
<a href="#">WGSS-175-DS</a>	\$98.00	WGSS-175 series gearboxes	Double	0.875"		<a href="#">PDF</a>
<a href="#">WGSS-206-DS</a>	\$106.00	WGSS-206 series gearboxes		1"		<a href="#">PDF</a>
<a href="#">WGSS-237-DS</a>	\$132.00	WGSS-237 series gearboxes		1.125"		<a href="#">PDF</a>
<a href="#">WGSS-262-DS</a>	\$145.00	WGSS-262 series gearboxes		1.25"		<a href="#">PDF</a>
<a href="#">WGSS-262-DS-1125</a>	\$145.00	WGSS-262 series gearboxes		1.125"		<a href="#">PDF</a>

Shafts are Stainless Steel. Kit includes Stainless Steel Keys and components.



Single Shaft



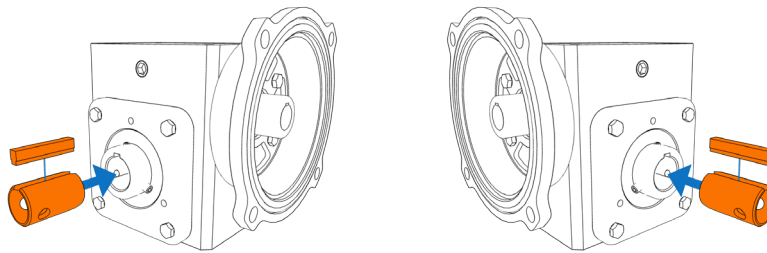
Dual Shaft



# IronHorse<sup>®</sup> Stainless Steel Worm Gearbox Accessories

IronHorse Stainless Steel Worm Gearbox Output Bushing Kits					
Part Number	Price	Fits	Bushing Internal Diameter	Typical Photo	Drawing Links
<a href="#">WGSS-175-11116-OB</a>	\$72.00	WGSS-175 series gearboxes	11/16"		<a href="#">PDF</a>
<a href="#">WGSS-175-134-OB</a>	\$72.00	WGSS-175 series gearboxes	3/4"		<a href="#">PDF</a>
<a href="#">WGSS-175-158-OB</a>	\$72.00	WGSS-175 series gearboxes	5/8"		<a href="#">PDF</a>
<a href="#">WGSS-175-178-OB</a>	\$72.00	WGSS-175 series gearboxes	7/8"		<a href="#">PDF</a>
<a href="#">WGSS-206-237-114-OB</a>	\$85.00	WGSS-206 and WGSS-237 series gearboxes	1-1/4"		<a href="#">PDF</a>
<a href="#">WGSS-206-237-118-OB</a>	\$85.00	WGSS-206 and WGSS-237 series gearboxes	1-1/8"		<a href="#">PDF</a>
<a href="#">WGSS-206-237-1316-OB</a>	\$85.00	WGSS-206 and WGSS-237 series gearboxes	1-3/16"		<a href="#">PDF</a>
<a href="#">WGSS-206-237-1-OB</a>	\$85.00	WGSS-206 and WGSS-237 series gearboxes	1"		<a href="#">PDF</a>
<a href="#">WGSS-262-112-OB</a>	\$111.00	WGSS-262 series gearboxes	1-1/2"		<a href="#">PDF</a>
<a href="#">WGSS-262-114-OB</a>	\$111.00	WGSS-262 series gearboxes	1-1/4"		<a href="#">PDF</a>
<a href="#">WGSS-262-118-OB</a>	\$111.00	WGSS-262 series gearboxes	1-1/8"		<a href="#">PDF</a>
<a href="#">WGSS-262-1316-OB</a>	\$111.00	WGSS-262 series gearboxes	1-3/16"		<a href="#">PDF</a>
<a href="#">WGSS-262-1716-OB</a>	\$111.00	WGSS-262 series gearboxes	1-7/16"		<a href="#">PDF</a>
<a href="#">WGSS-262-1-OB</a>	\$111.00	WGSS-262 series gearboxes	1"		<a href="#">PDF</a>

Bushings are Stainless Steel. Kit includes Stainless Steel Keys and components.

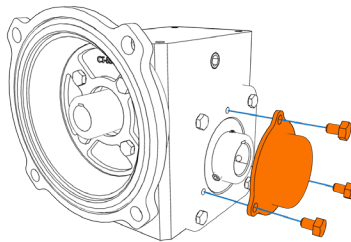




# IronHorse<sup>®</sup> Stainless Steel Worm Gearbox Accessories

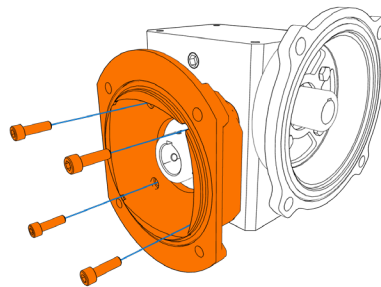
IronHorse Stainless Steel Worm Gearbox Output Covers				
Part Number	Price	Fits	Typical Photo	Drawing Links
<a href="#"><u>WGSS-175-OC</u></a>	\$5.50	WGSS-175 series gearboxes		<a href="#"><u>PDF</u></a>
<a href="#"><u>WGSS-206-OC</u></a>	\$5.50	WGSS-206 series gearboxes		<a href="#"><u>PDF</u></a>
<a href="#"><u>WGSS-237-OC</u></a>	\$5.50	WGSS-237 series gearboxes		<a href="#"><u>PDF</u></a>
<a href="#"><u>WGSS-262-OC</u></a>	\$5.50	WGSS-262 series gearboxes		<a href="#"><u>PDF</u></a>

Output Covers are Plastic. Kit includes Stainless Steel fasteners



IronHorse Stainless Steel Worm Gearbox Output Flanges				
Part Number	Price	Fits	Typical Photo	Drawing Links
<a href="#"><u>WGSS-175-OF</u></a>	\$174.00	WGSS-175 series gearboxes		<a href="#"><u>PDF</u></a>
<a href="#"><u>WGSS-206-OF</u></a>	\$247.00	WGSS-206 series gearboxes		<a href="#"><u>PDF</u></a>
<a href="#"><u>WGSS-237-OF</u></a>	\$281.00	WGSS-237 series gearboxes		<a href="#"><u>PDF</u></a>
<a href="#"><u>WGSS-262-OF</u></a>	\$315.00	WGSS-262 series gearboxes		<a href="#"><u>PDF</u></a>

Flanges are Stainless Steel. Kit includes Stainless Steel fasteners and 1 O-ring



\*NOTE: For detailed assembly instructions, see product manual

# IronHorse® Worm Gearboxes

## Gearbox Selection

### Gearbox Selection Steps

- 1) Determine the torque and speed required for the load.
- 2) Determine the overall speed ratio of motor speed to load speed.
- 3) Determine the gearbox ratio as well as any reduction outside the gearbox (pulleys, gears, etc.).
- 4) Determine the applicable service factor and overhung load K factor.
- 5) Determine the gearbox real output torque required, and select a gearbox with a higher Maximum Thermal output Torque rating (for WG cast-iron gearboxes; not applicable for WGA aluminum gearboxes).
- 6) Determine the gearbox design output torque required (torque with service factor applied), and select a gearbox with a higher Maximum Mechanical Output Torque rating. (Gearbox must also meet requirement #5.)
- 7) Determine the required sizes of pulleys, gears, etc., and determine the overhung load force. Select a gearbox with a higher Overhung Load rating. (Gearbox must also meet requirements #5 & #6.)
- 8) Confirm that the selected gearbox meets the applicable system requirements.
- 9) Select a compatible motor.

### Gearbox Selection Example (Refer to the specifications tables for gearbox specifications, service factors, and K factors.)

A conveyor will run 10 hours/day with moderate shock loading. The conveyor will be driven by a V-belt and needs to be driven at approximately 20 rpm. The motor to be used will have a nominal speed of 1800 rpm (1725 rpm actual speed). The conveyor will require 2700 in-lb of torque.

- 1) Required **torque** = 2700 in-lb; required **speed** = 20 rpm.
- 2) Determine the **overall speed ratio** of motor speed to load speed:  
Overall speed ratio = motor speed / load speed = 1725 / 20 = 86.25 [about 86:1]
- 3) Determine **pulley ratios** at available **gearbox ratios**:  
Gearbox ratio = (overall speed ratio) / (pulley ratio)  
Pulley ratio = (overall speed ratio) / (gearbox ratio)  
 For 5:1 gearbox: pulley ratio = 86.25 / 5 = 17.25 [17.25" pulley ratio is prohibitively large]  
 For 10:1 gearbox: pulley ratio = 86.25 / 10 = 8.63  
 For 15:1 gearbox: pulley ratio = 86.25 / 15 = 5.75  
 For 20:1 gearbox: pulley ratio = 86.25 / 20 = 4.31  
 For 30:1 gearbox: pulley ratio = 86.25 / 30 = 2.88  
 For 40:1 gearbox: pulley ratio = 86.25 / 40 = 2.16  
 For 60:1 gearbox: pulley ratio = 86.25 / 60 = 1.44  
Pulley ratio = (conveyor pulley diameter) / (gearbox pulley diameter)
- 4) Determine **service factor (SF)** and **overhung load factor (K)** from applicable tables:  
 SF = 1.25 due to moderate shock loading and 3-10 hours/day operation  
 K = 1.5 due to V-belt
- 5) Use specifications table to select gearbox with **Maximum Thermal\* Torque rating > required real torque**:  
 Gearbox required real torque = (final torque) / (pulley ratio)  
 For 10:1 gearbox: (2700 in-lb) / 8.63 = 312.86 in-lb; use WG-175-x or larger  
 For 15:1 gearbox: (2700 in-lb) / 5.75 = 469.57 in-lb; use WG-175-x or larger  
 For 20:1 gearbox: (2700 in-lb) / 4.31 = 626.45 in-lb; use WG-206-x or larger  
 For 30:1 gearbox: (2700 in-lb) / 2.88 = 937.50 in-lb; use WG-325-x or WGA-63M\*  
 For 40:1 gearbox: (2700 in-lb) / 2.16 = 1250.0 in-lb; use WG-325-x  
 For 60:1 gearbox: (2700 in-lb) / 1.44 = 1875.0 in-lb; use WG-325-x  
 \* Aluminum gearboxes do not have thermal ratings; use mechanical ratings.
- 6) Use specifications table to select gearbox with **Maximum Mechanical Torque rating > required design torque**:  
 Gearbox required design torque = (real gearbox torque)(service factor)  
 For 10:1 gearbox: (312.86 in-lb)(1.25) = 391.08 in-lb; use WG-175-x or larger  
 For 15:1 gearbox: (469.57 in-lb)(1.25) = 586.96 in-lb; use WG-206-x or larger  
 For 20:1 gearbox: (626.45 in-lb)(1.25) = 782.56 in-lb; use WG-206-x or larger  
 For 30:1 gearbox: (937.50 in-lb)(1.25) = 1171.88 in-lb; use WG-325-x or WGA-63M or larger  
 For 40:1 gearbox: (1250.0 in-lb)(1.25) = 1562.50 in-lb; use WG-325-x  
 For 60:1 gearbox: (1875.0 in-lb)(1.25) = 2343.75 in-lb; use WG-325-x

(continued on next page)

## IronHorse® Worm Gearboxes

### Gearbox Selection Example (continued)

(Refer to the specifications tables for gearbox specifications, service factors, and K factors.)

[Load requirements: Conveyor to run 10 hours/day; moderate shock loading; driven by V-belt @ approx 20 rpm; requires 2700 in-lb of torque. Motor speed 1725 rpm (1800 rpm nominal).

7) Use the gearbox overhung load ratings from the specifications table to determine the minimum allowable pulley diameters.

Select gearbox with **Overhung Load rating > overhung load force:**

Gearbox required OHL rating = (gearbox real torque)(K)(SF)/(gearbox pulley diameter / 2)

Minimum gearbox pulley diameter = (T)(K)(SF)(2)/(OHL rating)

Conveyor pulley diameter = (gearbox pulley diameter)(pulley ratio)

For 10:1, WG-175-010-x gearbox:

Minimum gearbox pulley diameter = (312.86 in-lb)(1.5)(1.25)(2)/(650 lb) = 1.8" [use 2"]

Conveyor pulley diameter = (2")(8.63) = ~~17.26"~~ [17.26" pulley size is prohibitively large]

Determine pulley sizes and OHL for next larger gearbox ratio.

For 15:1, WG-206-015-x gearbox:

Minimum gearbox pulley diameter = (469.57 in-lb)(1.5)(1.25)(2)/(700 lb) = 2.5" [use 2.5"]

Conveyor pulley diameter = (2.5")(5.75) = 14.38" [use 14.4"]

Select **WG-206-015-x gearbox, 2.5" gearbox pulley, and 14.4" conveyor pulley.**

For 20:1, WG-206-020-x gearbox:

N/A – larger ratio of same frame size GB is same price, yet provides lower efficiency and power characteristics

For 30:1, WGA-63M-030-H1 gearbox:

Minimum gearbox pulley diameter = (937.50 in-lb)(1.5)(1.25)(2)/(736 lb) = 4.78" [use 5"]

Conveyor pulley diameter = (5")(2.88) = 14.40" [use 14.4"]

N/A – WGA-63M & WG-325 gearboxes costs more than WG-206

For 40:1, N/A – WG-325-xxx gearboxes cost more than WG-206 at any ratio

For 60:1, N/A – WG-325-xxx gearboxes cost more than WG-206 at any ratio

8) **Check results** against original speed and torque requirements:

a) Conveyor speed = (motor speed) / (gearbox ratio)(pulley ratio) = (1725 rpm) / (15)(14.4"/2.5") = 20 rpm

b) Maximum real torque available at conveyor = (gearbox thermal torque)(pulley ratio) = (673 in-lb)(14.4"/2.5") = 3876 in-lb

c) Maximum design torque available at conveyor = (gearbox mechanical torque)(pulley ratio) / (service factor)  
= (1002 in-lb)(14.4"/2.5") / 1.25 = 4617 in-lb

The speed is correct as required, and both maximum torque values are greater than the 2700 in-lb required by the load.

9) **Select a motor** and check torque transmitted to the load:

From the gearbox spec tables, WG-206-015-x efficiency = 85%.

maximum thermal input power = 1.40 hp

maximum mechanical input power @ 1.0 SF = 2.09 hp

maximum mechanical input power @ 1.25 SF = (rated max mechanical input power) / (SF) = 2.09 hp / 1.25 = 1.67 hp

maximum allowable motor power = 1.40 hp; select nominal 1hp motor

Select **1hp motor**, and check for adequate torque at the load:

Torque = Power / Speed **[conversion factor: (1hp) = (63,025 in-lb-rpm)]**

Torque load = (63,025 in-lb-rpm / hp)(gearbox input hp)(gearbox efficiency) / (motor rpm / (gearbox ratio)(pulley ratio))

= (63,025)(1)(0.85) / (1725 / (15/1)(14.4/2.5)) = ~~2683 in-lb~~ [insufficient torque at load]

This torque value is less than the 2700 in-lb required by the load.

So, select and check the next larger nominal motor size, which is 1-1/2 hp.

Since the 206 frame size 15 ratio gearboxes do not meet the 1-1/2 hp thermal rating, choose the WG-237-015-x gearbox.

Select **1-1/2 hp motor** and **WG-237-015-x gearbox**, and check for adequate torque:

WG-237-015-x gearbox efficiency = 84%

maximum thermal input power = 1.55 hp

maximum mechanical input power @ 1.25 SF = 2.64 hp / 1.25 = 2.11 hp

maximum allowable motor power = 1.55 hp; select nominal 1-1/2 hp motor

gearbox ratio is still 15:1, and OHL rating is increased to 900 lb, so the previous pulley calculations [step 7] remain sufficient

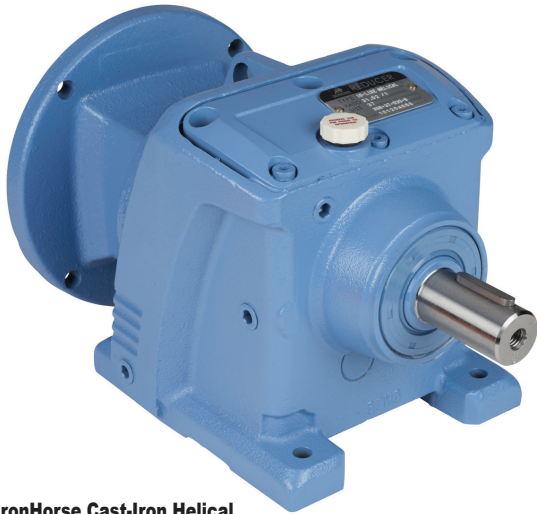
[smaller pulleys can be calculated and selected for this gearbox, if desired]

Tload = (63,025 in-lb-rpm/hp) (1.5hp) (84%) / (1725 rpm / (15/1)(14.4/2.5)) = 3977 in-lb > 2700 in-lb; sufficient torque at load

Final gearbox and motor selection: 1-1/2 hp motor WG-237-015-x gearbox

# IronHorse<sup>®</sup> Cast-Iron Helical Gearboxes

## Helical Gearbox Overview



**IronHorse Cast-Iron Helical Gearbox**

### Gearbox Overview

Gearboxes, also known as enclosed gear drives or speed reducers, are mechanical drive components that can control a load at a reduced fixed ratio of the motor speed. The output torque is also increased by the same ratio, while the horsepower remains the same (less efficiency losses). For example, a 10:1 ratio gearbox outputs approximately the same motor output horsepower, but motor speed is divided by 10 and motor torque is multiplied by 10.

Helical gearboxes use helical gears to provide quiet startup and smooth operation.

IronHorse helical gearboxes are manufactured in an ISO9001- certified plant by one of the leading and most internationally acclaimed gearbox manufacturers in the world today. Only the highest quality materials are tested, certified, and used in the manufacturing process. Strict adherence to and compliance with the toughest international and U.S. testing standards and manufacturing procedures assures you the highest quality products.

We offer straight-through helical gearboxes with cast-iron frames. The output shaft is parallel to the input. Our gearboxes utilize C-face mounting interfaces for C-face motors.

### Features

- C-face and TC-face input; inline, parallel output
- FC-20 cast iron one-piece housing
- 1045 carbon steel shaft
- Heat-treated and ground high strength steel gears, AGMA Class 10
- Shaft sleeves protect all shafts
- Heavy duty bearings on the output shaft
- Interior channel guides oil to directly and constantly lube bearings
- Double-lipped embedded oil seals to prevent leakage
- Universally interchangeable compact design ensures easy OEM replacement
- Mountable in most directions
- Two-year warranty

### Applications

- Use with electric motors for reducing output speed, increasing torque.
- Use for conveyors, packaging machines, rotary tables, etc.



# IronHorse® Cast-Iron Helical Gearboxes

## Specifications

IronHorse Cast-Iron Helical Gearbox Specifications (continued from previous page)																			
Part Number	Price	Box Size	Nominal Ratio	Actual Ratio	Output RPM @ 1750 rpm Input	Nominal HP @ 1.0 Service Factor <sup>1</sup>	NEMA Motor Frame	Output Shaft Diameter (in)	Input Power (hp)	Output Torque (lb-in)	OHL (lbs) <sup>2</sup>	Stages	Efficiency (%)	Approx Weight (lb)					
<a href="#">HGR-37-005-A</a>	\$488.00	37	5:1	4.88	359	1.0	56C	1	1.00	160	465	2	96	32					
<a href="#">HGR-37-005-B</a>	\$488.00					2.0	145TC		2.00	330	440								
<a href="#">HGR-37-010-A</a>	\$488.00		10:1	10.02	175	1.0	56C		1.00	340	575	2			96				
<a href="#">HGR-37-010-B</a>	\$488.00					2.0	145TC		2.00	670	530								
<a href="#">HGR-37-015-A</a>	\$488.00		15:1	15.75	111	1.0	56C		1.00	530	650	3				96			
<a href="#">HGR-37-015-B</a>	\$488.00					14.08	124		2.0	145TC	2.00						950	580	
<a href="#">HGR-37-020-A</a>	\$488.00		20:1	19.95	88	1.0	56C		1.00	670	690	2	94						
<a href="#">HGR-37-020-B</a>	\$488.00					2.0	145TC		2.00	1350	630								
<a href="#">HGR-37-030-A</a>	\$488.00		30:1	31.02	56	1.5	56C		1.00	1010	760	3			94				
<a href="#">HGR-37-030-B</a>	\$488.00					2.0	145TC		2.00	2020	700								
<a href="#">HGR-37-040-A</a>	\$488.00		40:1	40.08	44	1.0	56C		1.00	1310	800	3				94			
<a href="#">HGR-37-060-A</a>	\$488.00		60:1	60.84	29	1.0			0.82	1770	705								
<a href="#">HGR-47-005-B</a>	\$561.00	47	5:1	4.85	361	2.0	145TC	1-1/4	2.00	330	670	2	96	45					
<a href="#">HGR-47-005-C</a>	\$561.00					5.0	182/4TC		3.00	490	645								
<a href="#">HGR-47-010-C</a>	\$561.00		10:1	11.27	155	3.0			1140	820	2	96							
<a href="#">HGR-47-015-C</a>	\$561.00		15:1	15.18	115	3.0	1520		880										
<a href="#">HGR-47-020-B</a>	\$561.00		20:1	18.37	95	2.0	145TC		2.00	1240	975				3	94			
<a href="#">HGR-47-020-C</a>	\$561.00					19.18	91		3.0	182TC	3.00						1860	910	
<a href="#">HGR-47-030-B</a>	\$561.00		30:1	31.83	55	2.0	145TC		2.00	2080	1070		3		94				
<a href="#">HGR-47-030-C</a>	\$561.00					3.0	182/4TC		3.00	3120	1005								
<a href="#">HGR-47-040-A</a>	\$561.00		40:1	41.51	42	1.0	56C		1.00	1360	1215	3	94						
<a href="#">HGR-47-060-A</a>	\$561.00		60:1	63.37	28	1.0			2070	1215									
<a href="#">HGR-67-005-B</a>	\$798.00		67	5:1	5.23	335	2.0		145TC	1-3/8	2.00	350				770	2	96	63
<a href="#">HGR-67-005-C</a>	\$798.00						5.0		182/4TC		5.00	880				710			
<a href="#">HGR-67-010-C</a>	\$798.00	10:1		9.90	177	5.0	182TC	5.00	1670		845	2		96					
<a href="#">HGR-67-015-B</a>	\$798.00	15:1		15.41	114	2.0		145TC	2.00		1040				1060				
<a href="#">HGR-67-015-C</a>	\$798.00					3.0	182TC	3.00	1560		1020	3	94						
<a href="#">HGR-67-020-C</a>	\$798.00	20:1		21.33	82	5.0	145TC	2.00	2160		1100								
<a href="#">HGR-67-030-B</a>	\$798.00	30:1		28.77	61	2.0		145TC	2.00		1880	1220							
<a href="#">HGR-67-040-B</a>	\$798.00					40:1	41.22		42		2.0	2690			1320				
<a href="#">HGR-67-060-A</a>	\$798.00	60:1		63.07	28	1.0	56C	1.00	2060		1630	3		94					
<a href="#">HGR-77-005-C</a>	\$935.00	77		5:1	4.78	366	5.0	182/4TC	1-5/8		5.00	800		800	2	96	82		
<a href="#">HGR-77-005-D</a>	\$935.00						7.5	213/5TC			7.50	1210	765						
<a href="#">HGR-77-010-D</a>	\$935.00			10:1	10.91	160	7.5	182/4TC			7.50	2760	935	2	96				
<a href="#">HGR-77-020-C</a>	\$935.00		20:1	23.31	75	5.0	2350			1300									
<a href="#">HGR-77-030-C</a>	\$935.00		30:1	31.97	55	5.0	182/4TC	3.00		3130	1370	3	94						
<a href="#">HGR-77-040-C</a>	\$935.00					40:1		39.31		45	3.0			3850		1420			
<a href="#">HGR-77-060-B</a>	\$935.00		60:1	57.73	30	2.0	145TC	2.00		3770	1710	3		94					

- 1) Nominal Motor HP is the highest HP 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
- 2) OHL = Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
- 3) Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.

# IronHorse® Cast-Iron Helical Gearboxes

## Specifications

### IronHorse Cast-Iron Helical Gearbox Specifications (continued from previous page)

Part Number	Price	Box Size	Nominal Ratio	Actual Ratio	Output RPM @ 1750 rpm Input	Nominal HP @ 1.0 Service Factor <sup>1</sup>	NEMA Motor Frame	Output Shaft Diameter (in)	Input Power (hp)	Output Torque (lb-in)	OHL (lbs) <sup>2</sup>	Stages	Efficiency (%)	Approx Weight (lb)	
<a href="#">HGR-87-005-D</a>	\$1,484.00	87	5:1	4.73	370	10.0	213/5TC	2-1/8	10.00	1590	1790	2	96	163	
<a href="#">HGR-87-005-E</a>	\$1,484.00					20.0	254/6TC		15.00	2390	1730			169	
<a href="#">HGR-87-010-D</a>	\$1,484.00		10:1	10.66	164	10.0	213/5TC		10.00	3590	2260	3	94	156	
<a href="#">HGR-87-015-D</a>	\$1,484.00		15:1	15.29	114	10.0			7.50	3860	2570				
<a href="#">HGR-87-020-C</a>	\$1,484.00		20:1	20.06	87	5.0	182/4TC		5.00	3280	2840	5.00	6240	3420	156
<a href="#">HGR-87-020-D</a>	\$1,484.00					10.0	213/5TC		7.50	4910	2710				163
<a href="#">HGR-87-030-C</a>	\$1,484.00		30:1	31.73	55	5.0	182/4TC		5.00	5180	3200	2.00	4070	3790	150
<a href="#">HGR-87-040-C</a>	\$1,484.00		40:1	38.20	46	5.0				6240	3420				
<a href="#">HGR-87-060-B</a>	\$1,484.00		60:1	61.54	28	2.0	145TC		3.00	6030	3790	3.00	6030	3790	156
<a href="#">HGR-87-060-C</a>	\$1,484.00					5.0	182TC		3.00	6030	3790				

- 1) Nominal Motor HP is the highest HP 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
- 2) OHL = Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
- 3) Maximum Mechanical Ratings are limits based on strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads, and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.

## Accessories

### IronHorse Cast-Iron Helical Gearbox Accessories

Part Number	Price	Description	For Use With:
<a href="#">HBR-3777V</a>	\$4.75	Breather plug; replacement; for use with HBR & HGR gearboxes sizes 37 thru 77	HB(G)R-37-xx through HB(G)R-77-xx
<a href="#">HBR-8797V</a>	\$7.25	Breather plug; replacement; for use with HBR & HGR gearboxes size 87	HB(G)R-87-xx

## Gearbox Selection Factors

### Overhung Load K Factors for Various Drive Types

Chain & Sprocket	1.00
Gear	1.25
V-belt	1.50
Flat Belt	2.50
Variable Pitch Belt	3.50

Divide gearbox OHL ratings by the applicable OHL K factors.

### Service Factors for Selecting Gearboxes (when used with electric motors)

Service Continuity (per day)	Load Characteristics			
	Uniform	Moderate Shock*	Heavy Shock*	Extreme Shock*
Occasional 1/2 hour	1.00	1.00	1.00	1.25
Less than 3 hours	1.00	1.00	1.25	1.50
3-10 hours	1.00	1.25	1.50	1.75
More than 10 hours	1.25	1.50	1.75	2.00

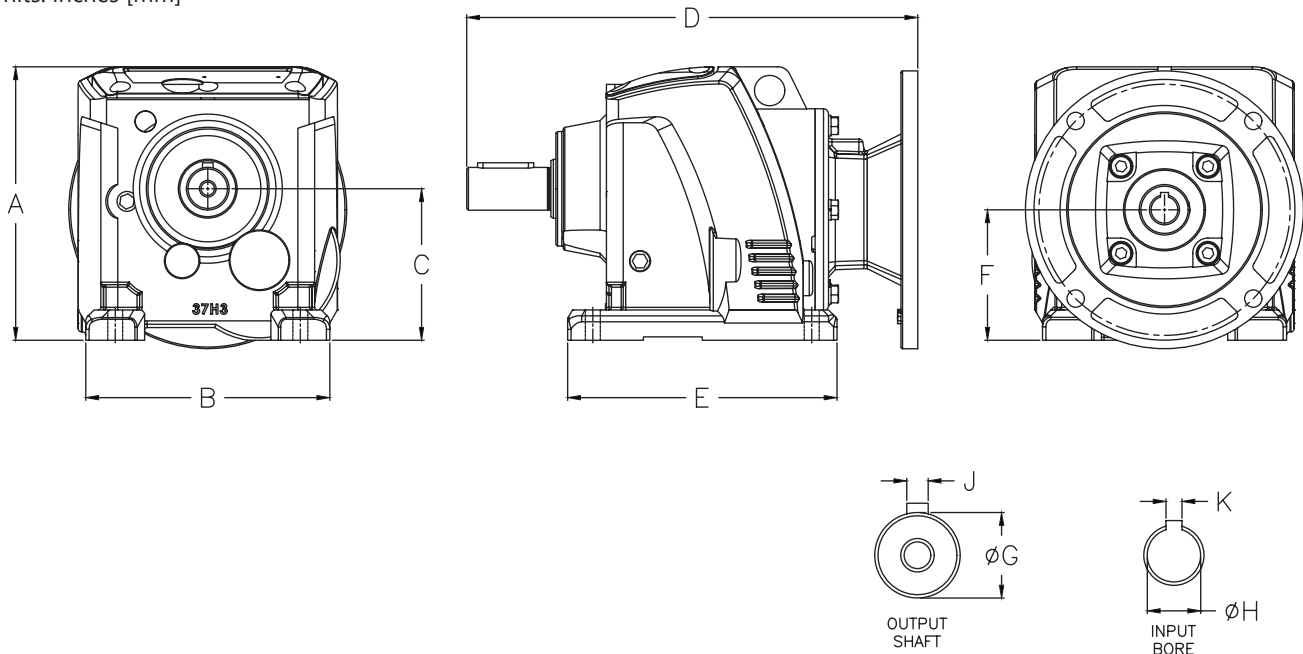
\* Shock results from sudden increases in the torque demand of the load, such as: sudden stopping, restarting, and/or reversing; significantly heavy loads dropped onto a moving conveyor; impact loads such as punch press operations.

Depending upon the load characteristics, divide the gearbox HP, Overhung Load, and Maximum Mechanical Capacity ratings by the applicable service factor.

# IronHorse® Cast-Iron Helical Gearboxes

## Dimensions

Units: inches [mm]

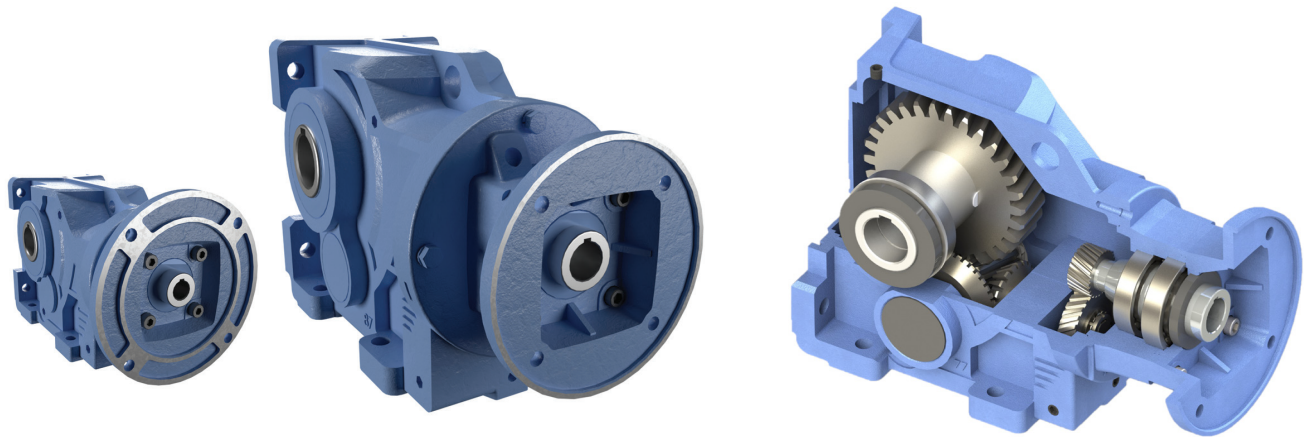


Dimensions – inches [mm] – IronHorse Cast-Iron Helical Gearboxes											
Part Number	Frame	A	B	C	D	E	F	G	H	J	K
HGR-37-xxx-A	56C	6.40 [162.5]	5.71 [145.0]	3.54 [90.0]	10.55 [268.0]	6.30 [160.0]	3.05 [77.5]	1.00 [25.4]	0.63 [15.9]	0.25 [6.4]	0.19 [4.8]
HGR-47-xxx-A		8.25 [209.5]	6.69 [170.0]	4.53 [115.0]	11.63 [295.4]	7.68 [195.0]	3.98 [101.0]	1.25 [31.8]			
HGR-67-xxx-A		8.89 [226.0]	8.27 [210.0]	5.12 [130.0]	13.13 [333.5]	9.25 [235.0]	4.45 [113.0]	1.38 [34.9]			
HGR-37-xxx-B	145TC	6.40 [162.5]	5.71 [145.0]	3.54 [90.0]	10.94 [278.0]	6.30 [160.0]	3.05 [77.5]	1.00 [25.4]	0.88 [22.2]	0.25 [6.4]	0.19 [4.8]
HGR-47-xxx-B		8.25 [209.5]	6.69 [170.0]	4.53 [115.0]	12.03 [305.5]	7.68 [195.0]	3.98 [101.0]	1.25 [31.8]			
HGR-67-xxx-B		8.89 [226.0]	8.27 [210.0]	5.12 [130.0]	13.52 [343.5]	9.25 [235.0]	4.45 [113.0]	1.38 [34.9]			
HGR-77-xxx-B		10.04 [255.0]	9.06 [230.0]	5.51 [140.0]	14.23 [361.5]	9.65 [245.0]	6.38 [162.0]	1.63 [41.4]			
HGR-87-xxx-B		12.99 [330.0]	11.42 [290.0]	7.09 [180.0]	17.20 [437.0]	12.20 [310.0]	8.05 [204.5]	2.13 [54.1]		0.50 [12.7]	
HGR-47-xxx-C	182/4TC*	8.25 [209.5]	6.69 [170.0]	4.53 [115.0]	12.76 [324.0]	7.68 [195.0]	3.98 [101.0]	1.25 [31.8]	1.13 [28.7]	0.25 [6.4]	0.25 [6.4]
HGR-67-xxx-C		8.89 [226.0]	8.27 [210.0]	5.12 [130.0]	14.25 [362.0]	9.25 [235.0]	4.45 [113.0]	1.38 [34.9]			
HGR-77-xxx-C		10.04 [255.0]	9.06 [230.0]	5.51 [140.0]	14.96 [380.0]	9.65 [245.0]	6.38 [162.0]	1.63 [41.4]			
HGR-87-xxx-C		12.99 [330.0]	11.42 [290.0]	7.09 [180.0]	17.32 [440.0]	12.20 [310.0]	8.05 [204.5]	2.13 [54.1]			
HGR-77-xxx-D	213/5TC	10.04 [255.0]	9.06 [230.0]	5.51 [140.0]	17.22 [437.5]	9.65 [245.0]	6.38 [162.0]	1.63 [41.4]	1.38 [35.0]	0.38 [9.7]	0.31 [7.9]
HGR-87-xxx-D		12.99 [330.0]	11.42 [290.0]	7.09 [180.0]	19.59 [497.5]	12.20 [310.0]	8.05 [204.5]	2.13 [54.1]			
HGR-87-xxx-E	254/6TC	12.99 [330.0]	11.42 [290.0]	7.09 [180.0]	20.57 [522.5]	12.20 [310.0]	8.05 [204.5]	2.13 [54.1]	1.63 [41.4]	0.50 [12.7]	0.38 [9.7]

\*Note: 184TC motor frame sizes where applicable. See gearbox specifications for more information. See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

# IronHorse<sup>®</sup> Cast-Iron Helical Bevel Gearboxes

## Helical Bevel Gearbox Overview



IronHorse Cast-Iron Helical Bevel Gearboxes

### Gearbox Overview

Gearboxes, also known as enclosed gear drives or speed reducers, are mechanical drive components that can control a load at a reduced fixed ratio of the motor speed. The output torque is also increased by the same ratio, while the horsepower remains the same (less efficiency loss). For example, a 10:1 ratio gearbox outputs approximately the same motor output horsepower, but motor speed is divided by 10 and motor torque is multiplied by 10.

Helical bevel gearboxes use helical gears to provide quiet startup and smooth operation.

IronHorse helical bevel gearboxes are manufactured in an ISO9001-certified plant by one of the leading and most internationally acclaimed gearbox manufacturers in the world today. Only the highest quality materials are tested, certified, and used in the manufacturing process. Strict adherence to and compliance with the toughest international and U.S. testing standards and manufacturing procedures guarantees you the highest quality products.

We offer helical bevel gearboxes with cast-iron frames. The hollow-bore output accepts double or single shafts which are perpendicular to the input. Our gearboxes utilize C-face mounting interfaces for C-face motors.

### Features

- C-face and TC-face input; bevel, perpendicular output
- Universally interchangeable compact design ensures easy OEM replacement
- Flexible installation: 6 mounting positions
- FCD45 cast-iron one-piece housing
- 20CrMO alloy steel pinion and gears
- AGMA 11 & 12 rated, SCM415 pinion gears
- Gears supported by generously-sized precision ball and tapered bearings
- Double-lipped embedded oil seals to prevent leakage
- Two-year warranty

### Applications

- Use with electric motors for reducing output speed, increasing torque.
- Use for conveyors, packaging machines, rotary tables, etc.

# IronHorse<sup>®</sup> Cast-Iron Helical Bevel Gearboxes

## Specifications

IronHorse Cast-Iron Helical Bevel Gearbox Specifications													
Part Number	PriceCode	Box Size	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	NEMA Motor Frame**	Max Input Power (hp) <sub>1)3)</sub>	Max Output Torque (lb-in) <sub>3)</sub>	Max OHL (lbs) <sub>2)3)</sub>	Efficiency (%)	Backlash (Arc Minutes)	Approx Weight (lb)	Drawing Links
<a href="#">HBR-37-010-A</a>	\$1,272.00	37	10	11.09	158	56C	4.33	1,565	520	91	45	32	<a href="#">PDF</a>
<a href="#">HBR-37-010-B</a>	\$1,272.00		10	11.09	158	143/5TC	4.33	1,565	510			37	<a href="#">PDF</a>
<a href="#">HBR-37-025-A</a>	\$1,272.00		25	23.10	76	56C	2.20	1,659	635			32	<a href="#">PDF</a>
<a href="#">HBR-37-025-B</a>	\$1,272.00		25	23.10	76	143/5TC	2.20	1,659	610			37	<a href="#">PDF</a>
<a href="#">HBR-37-040-A</a>	\$1,272.00		40	37.97	46	56C	1.43	1,770	735			32	<a href="#">PDF</a>
<a href="#">HBR-37-040-B</a>	\$1,272.00		40	37.97	46	143TC	1.43	1,770	705			37	<a href="#">PDF</a>
<a href="#">HBR-37-060-A</a>	\$1,272.00		60	59.67	29	56C	0.91	1,770	815			32	<a href="#">PDF</a>
<a href="#">HBR-47-010-A</a>	\$1,393.00	47	10	9.95	176	56C	6.46	2,097	620	91	36	46	<a href="#">PDF</a>
<a href="#">HBR-47-010-B</a>	\$1,393.00		10	9.95	176	143/5TC	6.46	2,097	580			51	<a href="#">PDF</a>
<a href="#">HBR-47-010-C</a>	\$1,393.00		10	9.95	176	182/4TC	6.46	2,097	550			57	<a href="#">PDF</a>
<a href="#">HBR-47-020-B</a>	\$1,393.00		20	20.65	85	143/5TC	3.97	2,675	690			51	<a href="#">PDF</a>
<a href="#">HBR-47-020-C</a>	\$1,393.00		20	20.65	85	182TC	3.97	2,675	610			57	<a href="#">PDF</a>
<a href="#">HBR-47-040-A</a>	\$1,393.00		40	41.36	42	56C	2.50	3,372	945			46	<a href="#">PDF</a>
<a href="#">HBR-47-040-B</a>	\$1,393.00		40	41.36	42	143/5TC	2.50	3,372	905			51	<a href="#">PDF</a>
<a href="#">HBR-47-060-A</a>	\$1,393.00		60	58.99	30	56C	1.84	3,540	1030			46	<a href="#">PDF</a>
<a href="#">HBR-47-060-B</a>	\$1,393.00		60	58.99	30	143TC	1.84	3,540	980			51	<a href="#">PDF</a>
<a href="#">HBR-47-085-A</a>	\$1,393.00		85	86.89	20	56C	1.42	3,540	1110			46	<a href="#">PDF</a>
<a href="#">HBR-67-010-B *</a>	\$1,741.00	67	10	9.66	181	143/5TC	12.06	3,800	1500	91	33	73	<a href="#">PDF</a>
<a href="#">HBR-67-010-C *</a>	\$1,741.00		10	9.66	181	182/4TC	12.06	3,800	1410			80	<a href="#">PDF</a>
<a href="#">HBR-67-020-B *</a>	\$1,741.00		20	22.18	79	143/5TC	6.26	4,530	1760			73	<a href="#">PDF</a>
<a href="#">HBR-67-020-C *</a>	\$1,741.00		20	22.18	79	182/4TC	6.26	4,530	1570			80	<a href="#">PDF</a>
<a href="#">HBR-67-040-A *</a>	\$1,741.00		40	37.98	46	56C	4.62	5,730	2140			69	<a href="#">PDF</a>
<a href="#">HBR-67-040-B *</a>	\$1,741.00		40	37.98	46	143/5TC	4.62	5,730	2140			73	<a href="#">PDF</a>
<a href="#">HBR-67-040-C *</a>	\$1,741.00		40	37.98	46	182TC	4.62	5,730	1510			80	<a href="#">PDF</a>
<a href="#">HBR-67-065-A *</a>	\$1,741.00		65	64.97	27	56C	2.95	6,260	2140			69	<a href="#">PDF</a>
<a href="#">HBR-67-065-B *</a>	\$1,741.00		65	64.97	27	143/5TC	2.95	6,260	2140			73	<a href="#">PDF</a>
<a href="#">HBR-67-085-A *</a>	\$1,741.00		85	84.10	21	56C	2.46	6,760	2140			69	<a href="#">PDF</a>
<a href="#">HBR-67-085-B *</a>	\$1,741.00		85	84.10	21	143/5TC	2.46	6,760	2140			73	<a href="#">PDF</a>
<a href="#">HBR-67-120-A *</a>	\$1,741.00		120	118.14	15	56C	1.88	7,260	2140			69	<a href="#">PDF</a>
<a href="#">HBR-67-120-B *</a>	\$1,741.00		120	118.14	15	143TC	1.88	7,260	2140			73	<a href="#">PDF</a>

\* Due to size and/or weight restrictions, gearboxes HBR-67-xxx-x through HBR-87-xxx-x must ship via Freight.

\*\* Although physical mounting to other motors is possible, please use only the motors as specified in this table.

- 1) Max Input Power is the highest HP 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
- 2) OHL= Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
- 3) Maximum Mechanical Ratings are limits based on the strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.

# IronHorse® Cast-Iron Helical Bevel Gearboxes

## Specifications (continued)

IronHorse Cast-Iron Helical Bevel Gearbox Specifications													
Part Number	Price Code	Box Size	Nominal Ratio	Actual Ratio	Output RPM @ 1750 RPM Input	NEMA Motor Frame**	Max Input Power (hp) <sup>1) 3)</sup>	Max Output Torque (lb-in) <sup>3)</sup>	Max OHL (lbs) <sup>2) 3)</sup>	Efficiency (%)	Backlash (Arc Minutes)	Approx Weight (lb)	Drawing Links
<a href="#">HBR-77-010-C</a> *	\$2,646.00	77	10	9.96	176	182/4TC	24.02	7,800	1860	91	29	132	<a href="#">PDF</a>
<a href="#">HBR-77-010-D</a> *	\$2,646.00		10	9.96	176	213/5TC	24.02	7,800	1690			148	<a href="#">PDF</a>
<a href="#">HBR-77-020-C</a> *	\$2,646.00		20	20.24	86	182/4TC	14.78	9,765	2080			132	<a href="#">PDF</a>
<a href="#">HBR-77-020-D</a> *	\$2,646.00		20	20.24	86	213/5TC	14.78	9,765	1740			148	<a href="#">PDF</a>
<a href="#">HBR-77-040-C</a> *	\$2,646.00		40	39.76	44	182/4TC	9.21	11,955	2050			132	<a href="#">PDF</a>
<a href="#">HBR-77-040-D</a> *	\$2,646.00		40	39.76	44	213TC	9.21	11,955	1390			148	<a href="#">PDF</a>
<a href="#">HBR-77-060-C</a> *	\$2,646.00		60	57.05	31	182/4TC	7.16	13,325	1860			132	<a href="#">PDF</a>
<a href="#">HBR-77-080-B</a> *	\$2,646.00		80	78.07	22	143/5TC	5.38	13,710	3080			128	<a href="#">PDF</a>
<a href="#">HBR-77-080-C</a> *	\$2,646.00		80	78.07	22	182TC	5.38	13,710	2570			132	<a href="#">PDF</a>
<a href="#">HBR-77-120-B</a> *	\$2,646.00		120	122.94	14	143TC	3.42	12,480	3090			128	<a href="#">PDF</a>
<a href="#">HBR-87-020-D</a> *	\$4,121.00		87	20	20.90	84	213/5TC	25.88	17,650			2780	91
<a href="#">HBR-87-020-E</a> *	\$4,121.00	20		20.90	84	254/6TC	25.88	17,650	1940	257	<a href="#">PDF</a>		
<a href="#">HBR-87-040-C</a> *	\$4,121.00	40		43.31	40	182/4TC	14.76	20,870	3450	208	<a href="#">PDF</a>		
<a href="#">HBR-87-040-D</a> *	\$4,121.00	40		43.31	40	213/5TC	14.76	20,870	2930	230	<a href="#">PDF</a>		
<a href="#">HBR-87-060-C</a> *	\$4,121.00	60		61.42	28	182/4TC	11.11	22,270	3510	208	<a href="#">PDF</a>		
<a href="#">HBR-87-060-D</a> *	\$4,121.00	60		61.42	28	213/5TC	11.11	22,270	2780	230	<a href="#">PDF</a>		
<a href="#">HBR-87-080-C</a> *	\$4,121.00	80		82.86	21	182/4TC	8.72	23,570	4260	208	<a href="#">PDF</a>		
<a href="#">HBR-87-120-C</a> *	\$4,121.00	120		117.56	15	182TC	6.23	23,900	4370	208	<a href="#">PDF</a>		

\* Due to size and/or weight restrictions, gearboxes HBR-67-xxx-x through HBR-87-xxx-x must ship via Freight.

\*\* Although physical mounting to other motors is possible, please use only the motors as specified in this table.

- 1) Max Input Power is the highest HP 1800 rpm motor to be used with the gearbox under conditions of 1.0 service factor. Gearbox input power capacity decreases as motor speed decreases and as service factor increases.
- 2) OHL= Overhung Load ratings are for forces perpendicular to the output shaft and located at the shaft midpoint, such as from a gear, pulley, or sprocket with a belt or chain. Divide OHL ratings by the applicable OHL K factors shown separately in the Selection Factors tables. OHL ratings should also be divided by applicable service factors.
- 3) Maximum Mechanical Ratings are limits based on the strength and durability of gearbox components; applicable when operating time is short and stopped time is greater than or equal to operating time. These ratings are applicable for 1.0 service factor loads and may require modification depending upon characteristics of the applicable driven loads. Refer to the "Service Factors" table for more information.

## Gearbox Selection Factors

Overhung Load K Factors for Various Drive Types	
Chain & Sprocket	1.00
Gear	1.25
V-belt	1.50
Flat Belt	2.50
Variable Pitch Belt	3.50

Divide gearbox OHL ratings by the applicable OHL K factors.

## Service Factors for Selecting Gearboxes (when used with electric motors)

Service Continuity (per day)	Load Characteristics			
	Uniform	Moderate Shock*	Heavy Shock*	Extreme Shock*
Occasional 1/2 hour	1.00	1.00	1.00	1.25
Less than 3 hours	1.00	1.00	1.25	1.50
3-10 hours	1.00	1.25	1.50	1.75
More than 10 hours	1.25	1.50	1.75	2.00

\* Shock results from sudden increases in the torque demand of the load, such as: sudden stopping, restarting, and/or reversing; significantly heavy loads dropped onto a moving conveyor; impact loads such as punch press operations.

Depending upon the load characteristics, divide the gearbox HP, Overhung Load, and Maximum Mechanical Capacity ratings by the applicable service factor.



**NOTE:** For more detailed information regarding service factors and gearbox selection, please refer to our HBR Gearbox User Manual which is available for free download from our website at [www.AutomationDirect.com](http://www.AutomationDirect.com).

# IronHorse® Cast-Iron Helical Bevel Gearboxes

## Helical Bevel Gearbox Accessories



IronHorse Cast-Iron Helical Bevel Gearbox Accessories			
Part Number	Price	Description	Drawing Links
<a href="#">HBR-37-DS</a>	\$53.00	IronHorse gearbox double output shaft, 1in. For use with HBR-37 series gearboxes. (4) keys, (1) spacer and (1) retaining ring included.	<a href="#">PDF</a>
<a href="#">HBR-37-S</a>	\$27.50	IronHorse gearbox single output shaft, 1in. For use with HBR-37 series gearboxes. (3) keys, (1) end plate, (1) lock washer and (1) bolt included.	<a href="#">PDF</a>
<a href="#">HBR-47-DS</a>	\$78.00	IronHorse gearbox double output shaft, 1.25in. For use with HBR-47 series gearboxes. (4) keys, (1) spacer and (1) retaining ring included.	<a href="#">PDF</a>
<a href="#">HBR-47-S</a>	\$39.00	IronHorse gearbox single output shaft, 1.25in. For use with HBR-47 series gearboxes. (3) keys, (1) end plate, (1) lock washer and (1) bolt included.	<a href="#">PDF</a>
<a href="#">HBR-67-DS</a>	\$168.00	IronHorse gearbox double output shaft, 1.5in. For use with HBR-67 series gearboxes. (4) keys, (1) spacer and (1) retaining ring included.	<a href="#">PDF</a>
<a href="#">HBR-67-S</a>	\$83.00	IronHorse gearbox single output shaft, 1.5in. For use with HBR-67 series gearboxes. (3) keys, (1) end plate, (1) lock washer and (1) bolt included.	<a href="#">PDF</a>
<a href="#">HBR-77-DS</a>	\$217.00	IronHorse gearbox double output shaft, 2in. For use with HBR-77 series gearboxes. (4) keys, (1) spacer and (1) retaining ring included.	<a href="#">PDF</a>
<a href="#">HBR-77-S</a>	\$109.00	IronHorse gearbox single output shaft, 2in. For use with HBR-77 series gearboxes. (3) keys, (1) end plate, (1) lock washer and (1) bolt included.	<a href="#">PDF</a>
<a href="#">HBR-87-DS</a>	\$333.00	IronHorse gearbox double output shaft, 2.375in. For use with HBR-87 series gearboxes. (4) keys, (1) spacer and (1) retaining ring included.	<a href="#">PDF</a>
<a href="#">HBR-87-S</a>	\$165.00	IronHorse gearbox single output shaft, 2.375in. For use with HBR-87 series gearboxes. (3) keys, (1) end plate, (1) lock washer and (1) bolt included.	<a href="#">PDF</a>
<a href="#">HBR-3777V</a>	\$4.75	IronHorse breather plug, replacement. For use with size 37 through 77 HGR- and HBR-series gearboxes.	N/A
<a href="#">HBR-8797V</a>	\$7.25	IronHorse breather plug, replacement. For use with size 87 and larger HGR- and HBR-series gearboxes.	N/A



# Drive Couplings

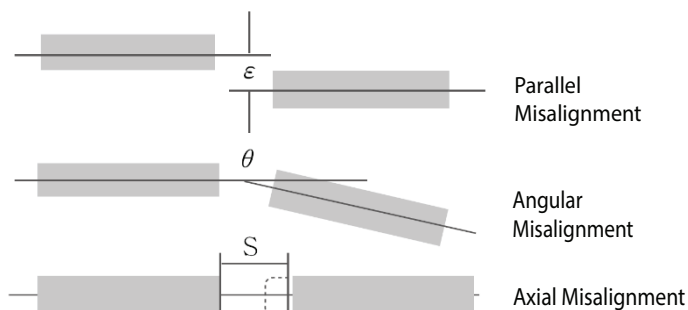
## Overview

Rotating shaft-driven mechanical components are commonly used in all forms of machinery that perform the various processes and functions of modern industry. Perfect alignment of shafts and rotating components is desired, but it is nearly impossible to build a real-world machine in which adjacent shaft ends align perfectly. Adjacent shafts can be misaligned in 3 orientations, angular, parallel and axial, see figure below. Misalignment will place stresses on shafts and related parts of the assembly such as bearings, which can result in early failure of both.

Drive couplings can be used to compensate for shaft misalignment, whether the misalignment is an intentional or an unintentional part of the design. When designing or modifying a system, there are essential factors to consider for choosing the correct couplings for the application.



Some degree of Parallel, Angular, or Axial misalignment between shafts is almost unavoidable. Compensation for Shaft Misalignment is the most important feature of Couplings.



(Refer to the specification tables herein for the particular specifications of each type of drive coupling.)

- **RPM:** For higher rpm applications, choose Jaw/Sleeve, High Gain, or Radial Beam-Style Servo couplings. For lower rpm, consider Oldham couplings.
- **Torque:** Consider the torque requirements of the application, and the torque specifications of the different drive coupling types. Peak torque generally occurs at start-up, operating torque at steady-state operation, and reversing or braking torque during rapid acceleration or deceleration or direction changes.
- **Backlash:** Backlash is a measurement of the positional accuracy of the coupling, which is important for reversing and/or motion control applications. Zero backlash is ultimately desirable, but more expensive than necessary for low-precision applications.
- **Precision:** for high-precision applications, choose High Gain or Radial Beam- Style Servo. For applications requiring less precision, consider Jaw/Sleeve couplings.

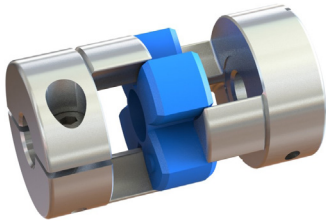
Coupling Type Comparisons				
Coupling Type	SJC Series Jaw / Spider	SOH Series Oldham Hub/Disc	SRB Series Radial Beam	SHR Series High Gain
Representative Photo				
Mounting Method	Clamp	Clamp	Clamp	Clamp
Backlash Free	Good	Yes	Yes	Yes
Electrical Isolation	Good	Good	No	No
Vibration Absorption	Good	Good	No	Excellent
Jaw/Hub/Body Material	High Strength Aluminum Alloy with Anodized Finish	High Strength Aluminum Alloy with Anodized Finish	Aluminum 7075-T6 with Anodized Finish	High Strength Aluminum Alloy with Anodized Finish
Spider/Disc/Core Material	TPU (Thermoplastic Polyurethane) or Hytrel ®	POM (Polyacetal)	Aluminum 7075-T6	HNBR (Hydrogenated acrylonitrile butadiene rubber)
Permissible Operating Temperature	-20°C to 120°C	-20°C to 80°C	-30°C to 100°C	-20°C to 80°C





# Drive Couplings

## SJC Series Jaw/Spider Clamp- Style Coupling



### Features

- Clamp Style Hub
- Most Commonly specified coupling type
- Wide bore selection
- Wide Torque Range
- High axial misalignment range
- Cost effective
- Fail-safe operation
- Electrical Isolation
- Spider available in three different degrees of durometers, stiffness, and torque ratings
- Jaw material: High Strength Aluminum Alloy
- Spider materials: Hytrel® or TPU (thermoplastic polyurethane)

### Applications

- General Applications
- High Speed Applications
- Applications with high axial misalignment
- Applications in which inertia is NOT a factor

To create a coupling to meet your specific needs:

- Select 2 Jaws with desired Bores, of the same SJC Size
- Select 1 Spider with the desired performance specification, of the same SJC Size
- Verify Actual Torque ratings based Temperature Correction Factor (TF)

SJC Series Coupling Jaws							
Part Number	Price	Size	Bore, B1 or B2	Max RPM	Clamp - Screw		Drawing Links
					Type	Fastening Torque (N-m)	
<a href="#">SJC-14C-3</a>	\$10.50	14	3mm	22,000	SHCS M2-0.4 × 6mm	0.5	<a href="#">PDF</a>
<a href="#">SJC-14C-4</a>			4mm				<a href="#">PDF</a>
<a href="#">SJC-14C-5</a>			5mm				<a href="#">PDF</a>
<a href="#">SJC-14C-6</a>			6mm				<a href="#">PDF</a>
<a href="#">SJC-14C-4.76</a>			3/16in				<a href="#">PDF</a>
<a href="#">SJC-14C-6.35</a>			1/4in				<a href="#">PDF</a>
<a href="#">SJC-20C-4</a>	\$11.50	20	4mm	15,000	SHCS M2.6-0.45 × 8mm	1.0	<a href="#">PDF</a>
<a href="#">SJC-20C-5</a>			5mm				<a href="#">PDF</a>
<a href="#">SJC-20C-6</a>			6mm				<a href="#">PDF</a>
<a href="#">SJC-20C-8</a>			8mm				<a href="#">PDF</a>
<a href="#">SJC-20C-10</a>			10mm				<a href="#">PDF</a>
<a href="#">SJC-20C-6.35</a>			1/4in				<a href="#">PDF</a>
<a href="#">SJC-20C-7.93</a>			5/16in				<a href="#">PDF</a>
<a href="#">SJC-20C-9.525</a>			3/8in				<a href="#">PDF</a>



# Drive Couplings

## SJC Series Jaw/Spider Clamp- Style Coupling

SJC Series Coupling Jaws												
Part Number	Price	Size	Bore, B1 or B2	Max RPM	Clamp - Screw		Drawing Links					
					Type	Fastening Torque (N-m)						
<a href="#">SJC-25C-5</a>	\$12.50	25	5mm	13,000	SHCS M3-0.5 × 10mm	1.7	<a href="#">PDF</a>					
<a href="#">SJC-25C-6</a>			6mm				<a href="#">PDF</a>					
<a href="#">SJC-25C-6.35</a>			1/4in				<a href="#">PDF</a>					
<a href="#">SJC-25C-8</a>			8mm				<a href="#">PDF</a>					
<a href="#">SJC-25C-10</a>			10mm				<a href="#">PDF</a>					
<a href="#">SJC-25C-14</a>			14mm				<a href="#">PDF</a>					
<a href="#">SJCA-30C-5</a>	\$13.50	30	5mm	10,000	SHCS M4-0.7 × 12mm	3.5	<a href="#">PDF</a>					
<a href="#">SJCA-30C-6</a>			6mm				<a href="#">PDF</a>					
<a href="#">SJCA-30C-6.35</a>			1/4in				<a href="#">PDF</a>					
<a href="#">SJCA-30C-8</a>			8mm				<a href="#">PDF</a>					
<a href="#">SJCA-30C-10</a>			10mm				<a href="#">PDF</a>					
<a href="#">SJCA-30C-12</a>			12mm				<a href="#">PDF</a>					
<a href="#">SJCA-30C-14</a>			14mm				<a href="#">PDF</a>					
<a href="#">SJCA-30C-7.93</a>			5/16in				<a href="#">PDF</a>					
<a href="#">SJCA-30C-9.525</a>			3/8in				<a href="#">PDF</a>					
<a href="#">SJCA-30C-12.7</a>			1/2in				<a href="#">PDF</a>					
<a href="#">SJCA-30C-15.875</a>			5/8in				<a href="#">PDF</a>					
<a href="#">SJCB-40C-8</a>			\$18.50				40	8mm	8,500	SHCS M5-0.8 × 16mm	8.0	<a href="#">PDF</a>
<a href="#">SJCB-40C-10</a>								10mm				<a href="#">PDF</a>
<a href="#">SJCB-40C-12</a>								12mm				<a href="#">PDF</a>
<a href="#">SJCB-40C-14</a>	14mm	<a href="#">PDF</a>										
<a href="#">SJCB-40C-16</a>	16mm	<a href="#">PDF</a>										
<a href="#">SJCB-40C-19</a>	19mm	<a href="#">PDF</a>										
<a href="#">SJCB-40C-22</a>	22mm	<a href="#">PDF</a>										
<a href="#">SJCB-40C-9.525</a>	3/8in	<a href="#">PDF</a>										
<a href="#">SJCB-40C-12.7</a>	1/2in	<a href="#">PDF</a>										
<a href="#">SJCB-40C-15.875</a>	5/8in	<a href="#">PDF</a>										
<a href="#">SJC-55C-16</a>	\$29.00	55		16mm	6,500	SHCS M6-1.0 × 20mm		13.0				<a href="#">PDF</a>
<a href="#">SJC-55C-19</a>				19mm								<a href="#">PDF</a>
<a href="#">SJC-55C-22</a>				22mm								<a href="#">PDF</a>
<a href="#">SJC-55C-24</a>				24mm								<a href="#">PDF</a>
<a href="#">SJC-55C-25</a>			25mm	<a href="#">PDF</a>								
<a href="#">SJC-55C-30</a>			30mm	<a href="#">PDF</a>								
<a href="#">SJC-55C-15.875</a>			5/8in	<a href="#">PDF</a>								
<a href="#">SJC-55C-19.05</a>			3/4in	<a href="#">PDF</a>								
<a href="#">SJC-55C-22.225</a>			7/8in	<a href="#">PDF</a>								
<a href="#">SJC-55C-25.4</a>			1in	<a href="#">PDF</a>								



# Drive Couplings

## SJC Series Jaw/Spider Clamp- Style Coupling

SJC Series Coupling Jaws							
Part Number	Price	Size	Bore, B1 or B2	Max RPM	Clamp - Screw		Drawing Links
					Type	Fastening Torque (N·m)	
<a href="#">SJC-65C-19</a>	\$43.50	65	19mm	5,500	SHCS M8-1.25 ×30mm	30.0	<a href="#">PDF</a>
<a href="#">SJC-65C-20</a>			20mm				<a href="#">PDF</a>
<a href="#">SJC-65C-25</a>			25mm				<a href="#">PDF</a>
<a href="#">SJC-65C-30</a>			30mm				<a href="#">PDF</a>
<a href="#">SJC-65C-32</a>			32mm				<a href="#">PDF</a>
<a href="#">SJC-65C-35</a>			35mm				<a href="#">PDF</a>
<a href="#">SJC-65C-19.05</a>			3/4in				<a href="#">PDF</a>
<a href="#">SJC-65C-22.225</a>			7/8in				<a href="#">PDF</a>
<a href="#">SJC-65C-25.4</a>			1in				<a href="#">PDF</a>
<a href="#">SJC-80C-32</a>	\$71.00	80	32mm	4,500	SHCS M10-1.5 × 30mm	50.0	<a href="#">PDF</a>
<a href="#">SJC-80C-35</a>			35mm				<a href="#">PDF</a>
<a href="#">SJC-80C-40</a>			40mm				<a href="#">PDF</a>
<a href="#">SJC-80C-42</a>			42mm				<a href="#">PDF</a>
<a href="#">SJC-80C-28.575</a>			1-1/8in				<a href="#">PDF</a>
<a href="#">SJC-80C-31.75</a>			1-1/4in				<a href="#">PDF</a>
<a href="#">SJC-100C-30</a>	\$104.00	100	30mm	3,500	SHCS M12-1.75 × 40mm	90.0	<a href="#">PDF</a>
<a href="#">SJC-100C-32</a>			32mm				<a href="#">PDF</a>
<a href="#">SJC-100C-35</a>			35mm				<a href="#">PDF</a>
<a href="#">SJC-100C-40</a>			40mm				<a href="#">PDF</a>
<a href="#">SJC-100C-45</a>			45mm				<a href="#">PDF</a>
<a href="#">SJC-100C-50</a>			50mm				<a href="#">PDF</a>
<a href="#">SJC-100C-55</a>			55mm				<a href="#">PDF</a>
<a href="#">SJC-100C-60</a>			60mm				<a href="#">PDF</a>

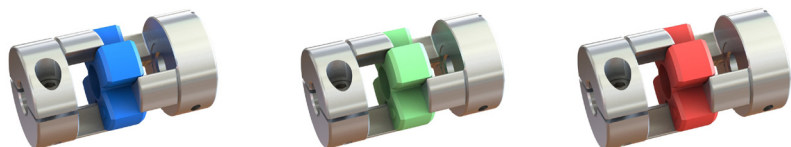


# Drive Couplings

## SJC Series Jaw/Spider Clamp- Style Coupling

Select the performance characteristics by selecting a SJC Spider.

Simply changing the Spider material type will provide different performance ratings, even after in-use testing, without needing to change the Jaws.



### Spider Material

Sleeve	Material	Color	Rated Temperature Range
<b>SJC-xx-BL-SLEEVE</b>	TPU	Blue	-20°C to 70°C
<b>SJC-xx-GR-SLEEVE</b>	Hytrel®	Green	-20°C to 120°C
<b>SJC-xx-RD-SLEEVE</b>	Hytrel®	Red	

TPU = Thermoplastic Polyurethane

Hytrel® = DuPont Product

### SJC Series Coupling Spiders

Part Number	Price	Size	Material	Durometer	Torque (Nm)		Torsional Stiffness (N·m/rad)	Max Misalignment		
					*Rated	*Max.		Parallel (mm)	Axial (mm)	Angular
<a href="#"><u>SJC-14-BL-SLEEVE</u></a>	\$5.25	14	TPU	98A	2 N·m	4.0	22	0.050	-0.2 ~ +0.6	
<a href="#"><u>SJC-14-GR-SLEEVE</u></a>			Hytrel	98A	2 N·m	4.0	25			
<a href="#"><u>SJC-14-RD-SLEEVE</u></a>			Hytrel	63D	2.5 N·m	5.0	34			
<a href="#"><u>SJC-20-BL-SLEEVE</u></a>	\$6.25	20	TPU	98A	4 N·m	8.0	50	0.070	-0.3 ~ +0.8	
<a href="#"><u>SJC-20-GR-SLEEVE</u></a>			Hytrel	98A	4 N·m	8.0	60			
<a href="#"><u>SJC-20-RD-SLEEVE</u></a>			Hytrel	63D	6 N·m	12.0	74			
<a href="#"><u>SJC-25-BL-SLEEVE</u></a>	\$6.25	25	TPU	98A	9 N·m	18.0	220	0.070	-0.4 ~ +1.0	
<a href="#"><u>SJC-25-GR-SLEEVE</u></a>			Hytrel	98A	9 N·m	18.0	260			
<a href="#"><u>SJC-25-RD-SLEEVE</u></a>			Hytrel	63D	12 N·m	24.0	300			
<a href="#"><u>SJC-30-BL-SLEEVE</u></a>	\$6.25	30	TPU	98A	12 N·m	24.0	170	0.080	-0.4 ~ +1.0	
<a href="#"><u>SJC-30-GR-SLEEVE</u></a>			Hytrel	98A	12 N·m	24.0	200			
<a href="#"><u>SJC-30-RD-SLEEVE</u></a>			Hytrel	63D	16 N·m	32.0	220			
<a href="#"><u>SJC-40-BL-SLEEVE</u></a>	\$8.25	40	TPU	98A	17 N·m	34.0	1,500	0.060	-0.5 ~ +1.2	1.0°
<a href="#"><u>SJC-40-GR-SLEEVE</u></a>			Hytrel	98A	17 N·m	34.0	1,600			
<a href="#"><u>SJC-40-RD-SLEEVE</u></a>			Hytrel	63D	21 N·m	42.0	1,750			
<a href="#"><u>SJC-55-BL-SLEEVE</u></a>	\$9.25	55	TPU	98A	60 N·m	120.0	3,000	0.090	-0.5 ~ +1.4	
<a href="#"><u>SJC-55-GR-SLEEVE</u></a>			Hytrel	98A	60 N·m	120.0	4,500			
<a href="#"><u>SJC-55-RD-SLEEVE</u></a>			Hytrel	63D	75 N·m	150.0	6,000			
<a href="#"><u>SJC-65-BL-SLEEVE</u></a>	\$12.50	65	TPU	98A	150 N·m	300.0	6,500	0.100	-0.6 ~ +1.5	
<a href="#"><u>SJC-65-GR-SLEEVE</u></a>			Hytrel	98A	150 N·m	300.0	8,500			
<a href="#"><u>SJC-65-RD-SLEEVE</u></a>			Hytrel	63D	180 N·m	360.0	10,000			
<a href="#"><u>SJC-80-BL-SLEEVE</u></a>	\$18.50	80	TPU	98A	300 N·m	600.0	8,000	0.100	-0.6 ~ +1.5	
<a href="#"><u>SJC-80-GR-SLEEVE</u></a>			Hytrel	98A	300 N·m	600.0	12,000			
<a href="#"><u>SJC-80-RD-SLEEVE</u></a>			Hytrel	63D	380 N·m	760.0	14,000			
<a href="#"><u>SJC-100-BL-SLEEVE</u></a>	\$18.50	100	TPU	98A	500 N·m	1000.0	24,000	0.150	-0.6 ~ +2.0	
<a href="#"><u>SJC-100-GR-SLEEVE</u></a>			Hytrel	98A	500 N·m	1000.0	30,000			
<a href="#"><u>SJC-100-RD-SLEEVE</u></a>			Hytrel	63D	600 N·m	1200.0	40,000			

\*Rated & Max Torques values are based on complete SJC assembly with maximum Bore sizes and Temperature Correction Factor (TF) =1



# Drive Couplings

## SJC Series Jaw/Spider Clamp- Style Coupling

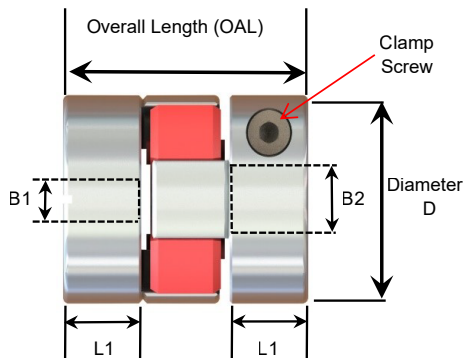
### Temperature Correction Factor (TF)

The Rated and Max Torque values are affected by Temperature due to the polymers used in the Spider. Use the Temperature Correction Factor (TF) to determine the Actual Rated and Max Torques in expected operating conditions.

**Actual Spider Rated Torque= Spider Rated Torque x TF**

**Actual Spider Max Torque= Spider Maximum Torque x TF**

Temperature Correction Factor	
Operating Temperature	TF
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 120°C	0.55



** SJC Series Dimensions and Mass					
Series Size	Diameter D, (mm)	Overall Length OAL, (mm)	***Shaft Mount, L1 (mm)	*Mass (g)	*Moment of Inertia (kg-m <sup>2</sup> )
14	14	22	7	6	1.60E-07
20	20	30	10	19	1.10E-06
25	25	31.3	10	25	2.40E-06
30	30	35.3	11.3	50	6.20E-06
40	40	66	25	160	3.90E-05
55	55	78.3	30.3	330	1.60E-04
65	65	90.3	35.3	560	3.80E-04
80	80	114.2	45.2	1,050	1.00E-03
100	104	140.2	56.2	2,550	4.60E-03

\* Mass & Moment of inertia based on complete assembly with max bore B1 & B2.

\*\* B1 & B2 are the Bore sizes for the selected SJC Jaw.

\*\*\*L1 is the mounting distance from the shaft END.



# Drive Couplings

## SOH Series Oldham Clamp-Style Coupling



### Features

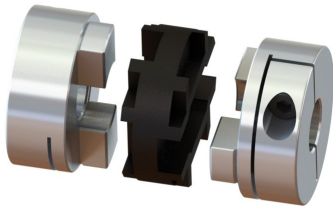
- Clamp Style Hub
- High Parallel misalignment range
- Zero Backlash
- Wide bore selection
- Wide Torque Range
- Electrical Isolation
- Hub material: High Strength Aluminum Alloy
- Disc material: POM (Polyacetal)
- Wide operating temperature range (-20°C to 80°C)

### Applications

- General Applications
- Applications with high axial misalignment

To create a coupling to meet your specific needs:

- Select 2 Hubs with desired Bores, of the same SOH Size
- Select 1 Disc, of the same SOH Size
- Verify Actual Torque ratings based on Temperature Correction Factor (TF)
- Coupling assemblies are designed for a press fit to achieve zero backlash. An auger press is recommended for assembly.



SOH Series Coupling Hubs							
Part Number*	Price	Size	Bore, B1 or B2	Max RPM	Clamp Screw		Drawing Links
					Type	Fastening Torque(N·m)	
<a href="#">SOH-16C-4</a>	\$10.50	16	4mm	13,000	SHCS M2.6-0.45 x 8mm	1.0	<a href="#">PDF</a>
<a href="#">SOH-16C-4.76</a>			3/16in				<a href="#">PDF</a>
<a href="#">SOH-16C-5</a>			5mm				<a href="#">PDF</a>
<a href="#">SOH-16C-6</a>			6mm				<a href="#">PDF</a>
<a href="#">SOH-20C-5</a>	\$11.50	20	5mm	11,000	SHCS M2.6-0.45 x 10mm	1.0	<a href="#">PDF</a>
<a href="#">SOH-20C-6</a>			6mm				<a href="#">PDF</a>
<a href="#">SOH-20C-6.35</a>			1/4in				<a href="#">PDF</a>
<a href="#">SOH-20C-7.93</a>			5/16in				<a href="#">PDF</a>
<a href="#">SOH-20C-8</a>			8mm				<a href="#">PDF</a>
<a href="#">SOH-20C-9.525</a>			3/8in				<a href="#">PDF</a>
<a href="#">SOH-20C-10</a>	10mm	<a href="#">PDF</a>					



# Drive Couplings

## SOH Series Oldham Clamp-Style Coupling

SOH Series Coupling Hubs							
Part Number*	Price	Size	Bore, B1 or B2	Max RPM	Clamp Screw		Drawing Links
					Type	Fastening Torque(N·m)	
<a href="#">SOH-25C-6</a>	\$12.50	25	6mm	10,000	SHCS M3-0.5 x 10mm	1.7	<a href="#">PDF</a>
<a href="#">SOH-25C-6.35</a>			1/4in				<a href="#">PDF</a>
<a href="#">SOH-25C-8</a>			8mm				<a href="#">PDF</a>
<a href="#">SOH-25C-9.525</a>			3/8in				<a href="#">PDF</a>
<a href="#">SOH-25C-10</a>			10mm				<a href="#">PDF</a>
<a href="#">SOH-25C-12</a>			12mm				<a href="#">PDF</a>
<a href="#">SOH-32C-8</a>	\$15.50	32	8mm	9,000	SHCS M4-0.7 x 12mm	3.5	<a href="#">PDF</a>
<a href="#">SOH-32C-9.525</a>			3/8in				<a href="#">PDF</a>
<a href="#">SOH-32C-10</a>			10mm				<a href="#">PDF</a>
<a href="#">SOH-32C-12</a>			12mm				<a href="#">PDF</a>
<a href="#">SOH-32C-14</a>			14mm				<a href="#">PDF</a>
<a href="#">SOH-32C-12.7</a>			1/2in				<a href="#">PDF</a>
<a href="#">SOH-43C-12</a>	\$25.00	43	12mm	8,000	SHCS M5-0.8 x 16mm	8.0	<a href="#">PDF</a>
<a href="#">SOH-43C-12.7</a>			1/2in				<a href="#">PDF</a>
<a href="#">SOH-43C-14</a>			14mm				<a href="#">PDF</a>
<a href="#">SOH-43C-15.875</a>			5/8in				<a href="#">PDF</a>
<a href="#">SOH-43C-16</a>			16mm				<a href="#">PDF</a>
<a href="#">SOH-43C-19</a>			19mm				<a href="#">PDF</a>
<a href="#">SOH-57C-15.875</a>	\$41.50	57	5/8in	6,000	SHCS M6-1.0 x 20mm	13.0	<a href="#">PDF</a>
<a href="#">SOH-57C-16</a>			16mm				<a href="#">PDF</a>
<a href="#">SOH-57C-19</a>			19mm				<a href="#">PDF</a>
<a href="#">SOH-57C-19.05</a>			3/4in				<a href="#">PDF</a>
<a href="#">SOH-57C-22</a>			22mm				<a href="#">PDF</a>
<a href="#">SOH-57C-22.225</a>			7/8in				<a href="#">PDF</a>
<a href="#">SOH-57C-24</a>	24mm	<a href="#">PDF</a>					
<a href="#">SOHM-70C-19.05</a>	\$52.00	70	3/4in	4,500	SHCS M8-1.25 x 30mm	30.0	<a href="#">PDF</a>
<a href="#">SOHM-70C-20</a>			20mm				<a href="#">PDF</a>
<a href="#">SOHM-70C-22.225</a>			7/8in				<a href="#">PDF</a>
<a href="#">SOHM-70C-25</a>			25mm				<a href="#">PDF</a>
<a href="#">SOHM-70C-25.4</a>			1in				<a href="#">PDF</a>
<a href="#">SOHM-70C-28.575</a>			1-1/8in				<a href="#">PDF</a>
<a href="#">SOHM-70C-30</a>			30mm				<a href="#">PDF</a>
<a href="#">SOHM-70C-31.75</a>			1-1/4in				<a href="#">PDF</a>
<a href="#">SOHM-70C-35</a>			35mm				<a href="#">PDF</a>



# Drive Couplings

## SOH Series Oldham Clamp-Style Coupling



SOH Series Coupling DISC										
Part Number*	Price	Size	Material	Torque (Nm)		Torsional Stiffness (N-m/rad)	Max Misalignment			Drawing Links
				*Rated	*Max		Parallel (mm)	Axial (mm)	Angular	
<a href="#">SOH-16-DISC</a>	\$3.00	16	Polyacetal (black)	1	2	65	1	0.10	1.5 degrees	<a href="#">PDF</a>
<a href="#">SOH-20-DISC</a>	\$3.75	20		1.5	3	120	1.5			
<a href="#">SOH-25-DISC</a>		25		2.5	5	200	2			
<a href="#">SOH-32-DISC</a>		32		7	14	620	2.5			
<a href="#">SOH-43-DISC</a>	\$7.25	43		12.5	25	1,200	3	0.15		
<a href="#">SOH-57-DISC</a>		57		34	68	2,600	3.5			0.20
<a href="#">SOH-70-DISC</a>		70		60	120	5,000				

\*Rated & Max Torques values are based on complete SOH assembly with maximum Bore sizes and Temperature Correction Factor (TF) =1

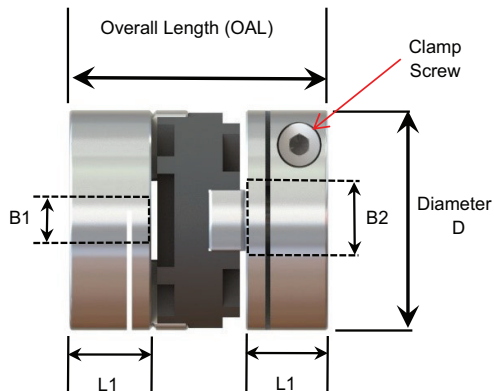
### Temperature Correction Factor (TF)

The Rated and Max Torque values are affected by Temperature due to the polymer used in the Disc. Use the Temperature Correction Factor (TF) to determine the Actual Rated and Max Torques in expected operating conditions.

Temperature Correction Factor	
Operating Temperature	TF
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 120°C	0.55

**Actual Disc Rated Torque= Disc Rated Torque x TF**

**Actual Disc Max Torque= Disc Maximum Torque x TF**



**SOH Series Dimensions and Mass					
Series Size	Diameter, D (mm)	Overall Length, OAL (mm)	***Shaft Mount, L1 (mm)	*Mass (g)	*Moment of Inertia (kg-m <sup>2</sup> )
16	16	23.9	7.7	8.5	3.10E-07
20	20	25.7	8	14.2	8.20E-07
25	25.5	32	10.2	29.3	2.70E-06
32	32	44.7	14.4	59.6	9.20E-06
43	43	52	16.5	127	3.40E-05
57	57	76.2	26.9	329	1.60E-04
70	73	75.5	25	547	4.50E-04

\* Mass & Moment of inertia based on complete assembly with max bore B1 & B2.

\*\* B1 & B2 are the Bore sizes for the selected SOH Jaw.

\*\*\*L1 is the mounting distance from the shaft END.





# Drive Couplings

## SRB Series Radial Beam Clamp-Style Coupling



### Features

- Zero backlash
- Clamp Style Hub
- Wide bore selection
- Wide Torque Range
- Cost effective
- Material of Construction: 7075-T6 aluminum alloy
- Wide operating temperature range (-30°C to 100°C)
- No Temperature Correction Factor required

### Applications

- Servo, stepping, and encoder Applications
- High Speed Applications

To create a coupling to meet your specific needs:

- Select Radial Beam Coupling with desired Bore sizes, B1 and B2

SRB Series Radial Beam Coupling														
Part Number	Price	Size	Bore, B1 x B2	Max RPM	Torque (N·m)		Torsional Stiffness (N·m/rad)	Max Misalignment			Drawing Links			
					*Rated	*Max		Parallel (mm)	Axial (mm)	Angular				
<a href="#">SRB-16C-4-4</a>	\$25.00	16	4 x 4mm	27,000	0.4 N·m	0.8	75	0.150	± 0.3	2.5°	<a href="#">PDF</a>			
<a href="#">SRB-16C-4-5</a>			4 x 5mm								<a href="#">PDF</a>			
<a href="#">SRB-16C-4-6</a>			4 x 6mm								<a href="#">PDF</a>			
<a href="#">SRB-16C-5-5</a>			5 x 5mm								<a href="#">PDF</a>			
<a href="#">SRB-16C-5-6</a>			5 x 6mm								<a href="#">PDF</a>			
<a href="#">SRB-16C-6-6</a>			6 x 6mm								<a href="#">PDF</a>			
<a href="#">SRB-19C-5-5</a>		19	20,000	5 x 5mm	0.6 N·m	1.2	150				0.150	± 0.3	2.5°	<a href="#">PDF</a>
<a href="#">SRB-19C-5-6</a>				5 x 6mm										<a href="#">PDF</a>
<a href="#">SRB-19C-5-6.35</a>				5 x 6.35mm (1/4in)										<a href="#">PDF</a>
<a href="#">SRB-19C-5-8</a>				5 x 8mm										<a href="#">PDF</a>
<a href="#">SRB-19C-6-6</a>				6 x 6mm										<a href="#">PDF</a>
<a href="#">SRB-19C-6-6.35</a>				6 x 6.35mm (1/4in)										<a href="#">PDF</a>
<a href="#">SRB-19C-6-8</a>				6 x 8mm										<a href="#">PDF</a>
<a href="#">SRB-19C-6.35-6.35</a>				6.35 (1/4in) x 6.35mm (1/4in)										<a href="#">PDF</a>
<a href="#">SRB-19C-6.35-8</a>		6.35 (1/4in) x 8mm	<a href="#">PDF</a>											
<a href="#">SRB-19C-8-8</a>		8 x 8mm	<a href="#">PDF</a>											
<a href="#">SRB-22C-5-5</a>	\$27.00	22	5 x 5mm	18,000	1 N·m	2.0	200	± 0.4		<a href="#">PDF</a>				
<a href="#">SRB-22C-5-6</a>			5 x 6mm							<a href="#">PDF</a>				
<a href="#">SRB-22C-5-6.35</a>			5 x 6.35mm (1/4in)							<a href="#">PDF</a>				
<a href="#">SRB-22C-5-8</a>			5 x 8mm							<a href="#">PDF</a>				
<a href="#">SRB-22C-5-9.525</a>			5 x 9.525mm (3/8in)							<a href="#">PDF</a>				
<a href="#">SRB-22C-5-10</a>			5 x 10mm							<a href="#">PDF</a>				
<a href="#">SRB-22C-6-6</a>			6 x 6mm							<a href="#">PDF</a>				
<a href="#">SRB-22C-6-6.35</a>			6 x 6.35mm (1/4in)							<a href="#">PDF</a>				
<a href="#">SRB-22C-6-8</a>	6 x 8mm	<a href="#">PDF</a>												

\*Rated & Max Torque based on maximum Bore sizes B1 & B2.



# Drive Couplings

## SRB Series Radial Beam Clamp-Style Coupling

SRB Series Radial Beam Coupling											
Part Number	Price	Size	Bore, B1 x B2	Max RPM	Torque (N·m)		Torsional Stiffness (N·m/rad)	Max Misalignment			Drawing Links
					*Rated	*Max		Parallel (mm)	Axial (mm)	Angular	
<a href="#">SRB-22C-6-9.525</a>	\$27.00	22	6 x 9.525mm (3/8in)	18,000	1 N·m	2.0	200	0.150			<a href="#">PDF</a>
<a href="#">SRB-22C-6-10</a>			6 x 10mm								<a href="#">PDF</a>
<a href="#">SRB-22C-6.35-6.35</a>			6.35 (1/4in) x 6.35mm (1/4in)								<a href="#">PDF</a>
<a href="#">SRB-22C-6.35-8</a>			6.35 (1/4in) x 8mm								<a href="#">PDF</a>
<a href="#">SRB-22C-6.35-9.525</a>			6.35 (1/4in) x 9.525mm (3/8in)								<a href="#">PDF</a>
<a href="#">SRB-22C-6.35-10</a>			6.35 (1/4in) x 10mm								<a href="#">PDF</a>
<a href="#">SRB-22C-8-8</a>			8 x 8mm								<a href="#">PDF</a>
<a href="#">SRB-22C-8-9.525</a>			8 x 9.525mm (3/8in)								<a href="#">PDF</a>
<a href="#">SRB-22C-8-10</a>			8 x 10mm								<a href="#">PDF</a>
<a href="#">SRB-22C-9.525-9.525</a>			9.525 (3/8in) x 9.525mm (3/8in)								<a href="#">PDF</a>
<a href="#">SRB-22C-9.525-10</a>			9.525 (3/8in) x 10mm								<a href="#">PDF</a>
<a href="#">SRB-22C-10-10</a>			10 x 10mm								<a href="#">PDF</a>
<a href="#">SRB-26C-6-6</a>			\$32.00								26
<a href="#">SRB-26C-6-6.35</a>	6 x 6.35mm (1/4in)	<a href="#">PDF</a>									
<a href="#">SRB-26C-6-8</a>	6 x 8mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-6-9.525</a>	6 x 9.525mm (3/8in)	<a href="#">PDF</a>									
<a href="#">SRB-26C-6-10</a>	6 x 10mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-6-12</a>	6 x 12mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-6.35-6.35</a>	6.35 (1/4in) x 6.35mm (1/4in)	<a href="#">PDF</a>									
<a href="#">SRB-26C-6.35-8</a>	6.35 (1/4in) x 8mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-6.35-9.525</a>	6.35 (1/4in) x 9.525mm (3/8in)	<a href="#">PDF</a>									
<a href="#">SRB-26C-6.35-10</a>	6.35 (1/4in) x 10mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-6.35-12</a>	6.35 (1/4in) x 12mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-8-8</a>	8 x 8mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-8-9.525</a>	8 x 9.525mm (3/8in)	<a href="#">PDF</a>									
<a href="#">SRB-26C-8-10</a>	8 x 10mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-8-12</a>	8 x 12mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-9.525-9.525</a>	9.525 (3/8in) x 9.525mm (3/8in)	<a href="#">PDF</a>									
<a href="#">SRB-26C-9.525-10</a>	9.525 (3/8in) x 10mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-9.525-12</a>	9.525 (3/8in) x 12mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-10-10</a>	10 x 10mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-10-12</a>	10 x 12mm	<a href="#">PDF</a>									
<a href="#">SRB-26C-12-12</a>	12 x 12mm	<a href="#">PDF</a>									

\*Rated & Max Torque based on maximum Bore sizes B1 & B2.



# Drive Couplings

## SRB Series Radial Beam Clamp-Style Coupling

SRB Series Radial Beam Coupling											
Part Number	Price	Size	Bore, B1 x B2	Max RPM	Torque (N·m)		Torsional Stiffness (N·m/rad)	Max Misalignment			Drawing Links
					*Rated	*Max		Parallel (mm)	Axial (mm)	Angular	
<a href="#">SRBA-32C-8-8</a>	\$38.50	32	8 x 8mm	14,000	3.8 N·m	7.6	450	0.200	± 0.4	2.5°	<a href="#">PDF</a>
<a href="#">SRBA-32C-8-9.525</a>			8 x 9.525mm (3/8in)								<a href="#">PDF</a>
<a href="#">SRBA-32C-8-10</a>			8 x 10mm								<a href="#">PDF</a>
<a href="#">SRBA-32C-8-12</a>			8 x 12mm								<a href="#">PDF</a>
<a href="#">SRBA-32C-8-14</a>			8 x 14mm								<a href="#">PDF</a>
<a href="#">SRBA-32C-9.525-9.525</a>			9.525 (3/8in) x 9.525mm (3/8in)								<a href="#">PDF</a>
<a href="#">SRBA-32C-9.525-10</a>			9.525 (3/8in) x 10mm								<a href="#">PDF</a>
<a href="#">SRBA-32C-9.525-12</a>			9.525 (3/8in) x 12mm								<a href="#">PDF</a>
<a href="#">SRBA-32C-9.525-14</a>			9.525 (3/8in) x 14mm								<a href="#">PDF</a>
<a href="#">SRBA-32C-10-10</a>			10 x 10mm								<a href="#">PDF</a>
<a href="#">SRBA-32C-10-12</a>			10 x 12mm								<a href="#">PDF</a>
<a href="#">SRBA-32C-10-14</a>			10 x 14mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-10-10</a>			\$68.00								39
<a href="#">SRBA-39C-10-12</a>	10 x 12mm	<a href="#">PDF</a>									
<a href="#">SRBA-39C-10-14</a>	10 x 14mm	<a href="#">PDF</a>									
<a href="#">SRBA-39C-10-16</a>	10 x 16mm	<a href="#">PDF</a>									
<a href="#">SRBA-39C-10-18</a>	10 x 18mm	<a href="#">PDF</a>									
<a href="#">SRBA-39C-10-19</a>	10 x 19mm	<a href="#">PDF</a>									

\*\*Rated & Max Torque based on maximum Bore sizes B1 & B2.



# Drive Couplings

## SRB Series Radial Beam Clamp-Style Coupling

SRB Series Radial Beam Coupling											
Part Number	Price	Size	Bore, B1 x B2	Max RPM	Torque (N·m)		Torsional Stiffness (N·m/rad)	Max Misalignment			Drawing Links
					*Rated	*Max		Parallel (mm)	Axial (mm)	Angular	
<a href="#">SRBA-39C-12-12</a>	\$68.00	39	12 x 12mm	10,000	7 N·m	14.0	640	0.250	± 0.4	2.5°	<a href="#">PDF</a>
<a href="#">SRBA-39C-12-14</a>			12 x 14mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-12-16</a>			12 x 16mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-12-18</a>			12 x 18mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-12-19</a>			12 x 19mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-14-14</a>			14 x 14mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-14-16</a>			14 x 16mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-14-18</a>			14 x 18mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-14-19</a>			14 x 19mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-16-16</a>			16 x 16mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-16-18</a>			16 x 18mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-16-19</a>			16 x 19mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-18-18</a>			18 x 18mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-18-19</a>			18 x 19mm								<a href="#">PDF</a>
<a href="#">SRBA-39C-19-19</a>			19 x 19mm								<a href="#">PDF</a>
<a href="#">SRBA-49C-12-12</a>			\$113.00								49
<a href="#">SRBA-49C-12-14</a>	12 x 14mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-12-16</a>	12 x 16mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-12-18</a>	12 x 18mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-12-19</a>	12 x 19mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-12-20</a>	12 x 20mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-14-14</a>	14 x 14mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-14-16</a>	14 x 16mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-14-18</a>	14 x 18mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-14-19</a>	14 x 19mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-14-20</a>	14 x 20mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-16-16</a>	16 x 16mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-16-18</a>	16 x 18mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-16-19</a>	16 x 19mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-16-20</a>	16 x 20mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-18-18</a>	18 x 18mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-18-19</a>	18 x 19mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-18-20</a>	18 x 20mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-19-19</a>	19 x 19mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-19-20</a>	19 x 20mm	<a href="#">PDF</a>									
<a href="#">SRBA-49C-20-20</a>	20 x 20mm	<a href="#">PDF</a>									

\*Rated & Max Torque based on maximum Bore sizes B1 & B2.



# Drive Couplings

## SRB Series Radial Beam Clamp-Style Coupling

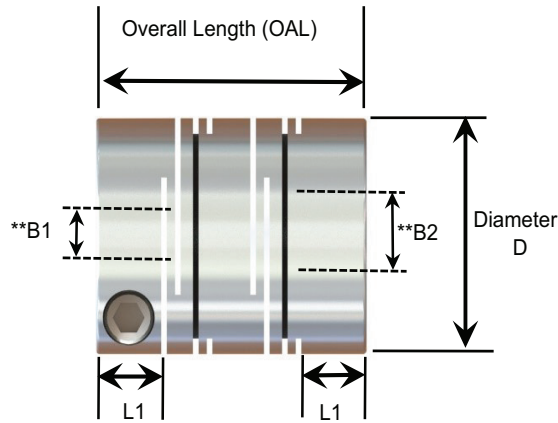
SRB Series Radial Beam Coupling											
Part Number	Price	Size	Bore, B1 x B2	Max RPM	Torque (N-m)		Torsional Stiffness (N-m/rad)	Max Misalignment			Drawing Links
					*Rated	*Max		Parallel (mm)	Axial (mm)	Angular	
<a href="#">SRBA-60C-16-16</a>	\$135.00	60	16 x 16mm	7,000	30 N-m	60.0	2500	0.250	±0.5	2.5°	<a href="#">PDF</a>
<a href="#">SRBA-60C-16-18</a>			16 x 18mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-16-19</a>			16 x 19mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-16-20</a>			16 x 20mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-16-22</a>			16 x 22mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-16-24</a>			16 x 24mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-18-18</a>			18 x 18mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-18-19</a>			18 x 19mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-18-20</a>			18 x 20mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-18-22</a>			18 x 22mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-18-24</a>			18 x 24mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-19-19</a>			19 x 19mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-19-20</a>			19 x 20mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-19-22</a>			19 x 22mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-19-24</a>			19 x 24mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-20-20</a>			20 x 20mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-20-22</a>			20 x 22mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-20-24</a>			20 x 24mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-22-22</a>			22 x 22mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-22-24</a>			22 x 24mm								<a href="#">PDF</a>
<a href="#">SRBA-60C-24-24</a>			24 x 24mm								<a href="#">PDF</a>

\*Rated & Max Torque based on maximum Bore sizes B1 & B2.



# Drive Couplings

## SRB Series Radial Beam Clamp-Style Coupling



**SRB Series Dimensions and Mass**

Size	Diameter, D (mm)	Overall Length OAL, (mm)	***L1 (mm)	*Mass (g)	*Moment of Inertia (kg-m <sup>2</sup> )	Clamp Screw	
						Type	Fastening Torque (N-m)
16	16	21.5	6.1	8.2	3.10E-07	SHCS M2.6-0.45 x 8mm	1.0
19	19.1	23	6.2	12	6.40E-07		
22	22.2	26.5	7.2	17.9	1.40E-06	SHCS M3-0.5 x 10mm	1.7
26	26.2	31.5	7.5	29.9	3.20E-06		
32	31.8	39	9.4	54.9	8.60E-06	SHCS M4-0.7 x 12mm	3.5
39	39	43	10.7	87.8	2.10E-05	SHCS M5-0.8 x 16mm	8.0
49	49	63.5	15.1	236	8.40E-05	SHCS M6-1.0 x 20mm	13.0
60	60	76.2	19	407	2.20E-04	SHCS M8-1.25 x 25mm	30.0

\* Mass & Moment of inertia based on complete assembly with max bore B1 & B2.

\*\*B1 & B2 are the Bore sizes for the selected SRB Coupling.

\*\*\*L1 is the mounting distance from the shaft END.



# Drive Couplings

## SHR Series High Gain Clamp-Style Coupling

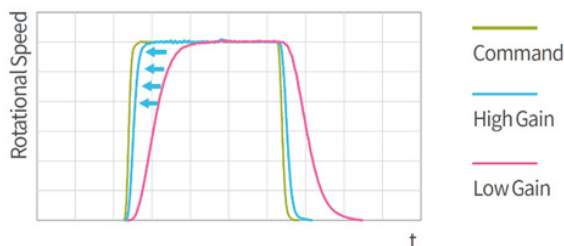


### Features

- Clamp Style Hub
- Increased Control Gain (High Gain)
- Vibration Absorption
- Backlash Free
- Wide bore selection
- Wide Torque Range
- High durability
- Electrical Isolation
- Hub material: High Strength Aluminum Alloy
- Core material: HNBR (Hydrogenated acrylonitrile butadiene rubber)
- Wide operating temperature range (-20°C to 80°C)

### Applications

- Servo and Stepper
- High speed positioning applications
- High precision applications
- Ideal for use with SureServo2 motors with high frequency response



To create a coupling to meet your specific needs:

- Select High Gain Coupling with desired Bore sizes, B1 and B2
- Verify Actual Torque ratings based on Temperature Correction Factor (TF).

SHR Series High Gain Coupling											
Part Number	Price	Size	Bore, B1 x B2	Max Rpm	Torque (N·m)		Torsional Stiffness (N·m/rad)	Max Misalignment			Drawing Links
					*Rated	*Max		Parallel (mm)	Axial (mm)	Angular	
<a href="#">SHR-18C-4-8</a>	\$44.50	18	4 x 8mm	33,000	1.9 N·m	3.8	84	0.150	± 0.2	1.5°	<a href="#">PDF</a>
<a href="#">SHR-18C-5-8</a>			5 x 8mm								<a href="#">PDF</a>
<a href="#">SHR-18C-6-8</a>			6 x 8mm								<a href="#">PDF</a>
<a href="#">SHR-18C-6.35-8</a>			6.35 (1/4in) x 8mm								<a href="#">PDF</a>
<a href="#">SHR-18C-8-8</a>			8 x 8mm								<a href="#">PDF</a>
<a href="#">SHR-24C-8-8</a>	\$47.00	24	8 x 8mm	25,000	3.5 N·m	7.0	132	0.150	± 0.2	1.5°	<a href="#">PDF</a>
<a href="#">SHR-24C-8-10</a>			8 x 10mm								<a href="#">PDF</a>
<a href="#">SHR-24C-8-12</a>			8 x 12mm								<a href="#">PDF</a>
<a href="#">SHR-29C-8-8</a>	\$51.00	29	8 x 8mm	21,000	5.7 N·m	11.4	209	0.200	± 0.3	1.5°	<a href="#">PDF</a>
<a href="#">SHR-29C-8-10</a>			8 x 10mm								<a href="#">PDF</a>
<a href="#">SHR-29C-8-12</a>			8 x 12mm								<a href="#">PDF</a>
<a href="#">SHR-29C-8-14</a>			8 x 14mm								<a href="#">PDF</a>
<a href="#">SHR-29C-10-14</a>			10 x 14mm								<a href="#">PDF</a>
<a href="#">SHR-29C-12-14</a>			12 x 14mm								<a href="#">PDF</a>
<a href="#">SHR-29C-14-14</a>	14 x 14mm	<a href="#">PDF</a>									

\*Rated & Max Torques values are based on maximum Bore sizes B1 & B2 and Temperature Correction Factor (TF) =1



# Drive Couplings

## SHR High Gain Clamp-Style Coupling

SHR Series High Gain Coupling											
Part Number	Price	Size	Bore, B1 x B2	Max Rpm	Torque (N·m)		Torsional Stiffness (N·m/rad)	Max Misalignment			Drawing Links
					*Rated	*Max		Parallel (mm)	Axial (mm)	Angular	
<a href="#">SHR-38C-14-14</a>	\$60.00	38	14 x 14mm	16,000	12 N·m	24.0	479	0.200			<a href="#">PDF</a>
<a href="#">SHR-38C-14-16</a>			14 x 16mm								<a href="#">PDF</a>
<a href="#">SHR-38C-14-18</a>			14 x 18mm								<a href="#">PDF</a>
<a href="#">SHR-38C-14-19</a>			14 x 19mm								<a href="#">PDF</a>
<a href="#">SHR-38C-14-20</a>			14 x 20mm								<a href="#">PDF</a>
<a href="#">SHR-38C-19-19</a>			19 x 19mm								<a href="#">PDF</a>
<a href="#">SHR-38C-19-20</a>			19 x 20mm								<a href="#">PDF</a>
<a href="#">SHR-43C-14-14</a>	\$68.00	43	14 x 14mm	14,000	16 N·m	32.0	610	0.200			<a href="#">PDF</a>
<a href="#">SHR-43C-14-16</a>			14 x 16mm								<a href="#">PDF</a>
<a href="#">SHR-43C-14-18</a>			14 x 18mm								<a href="#">PDF</a>
<a href="#">SHR-43C-14-19</a>			14 x 19mm								<a href="#">PDF</a>
<a href="#">SHR-43C-14-20</a>			14 x 20mm								<a href="#">PDF</a>
<a href="#">SHR-43C-14-22</a>			14 x 22mm								<a href="#">PDF</a>
<a href="#">SHR-43C-19-19</a>			19 x 19mm								<a href="#">PDF</a>
<a href="#">SHR-43C-19-20</a>			19 x 20mm								<a href="#">PDF</a>
<a href="#">SHR-43C-19-22</a>			19 x 22mm								<a href="#">PDF</a>
<a href="#">SHR-43C-22-22</a>	22 x 22mm	<a href="#">PDF</a>									
<a href="#">SHR-55C-14-14</a>	\$88.00	55	14 x 14mm	11,000	31.5 N·m	63.0	1430	0.200	± 0.3	1.5°	<a href="#">PDF</a>
<a href="#">SHR-55C-14-16</a>			14 x 16mm								<a href="#">PDF</a>
<a href="#">SHR-55C-14-18</a>			14 x 18mm								<a href="#">PDF</a>
<a href="#">SHR-55C-14-19</a>			14 x 19mm								<a href="#">PDF</a>
<a href="#">SHR-55C-14-20</a>			14 x 20mm								<a href="#">PDF</a>
<a href="#">SHR-55C-14-22</a>			14 x 22mm								<a href="#">PDF</a>
<a href="#">SHR-55C-14-24</a>			14 x 24mm								<a href="#">PDF</a>
<a href="#">SHR-55C-14-25</a>			14 x 25mm								<a href="#">PDF</a>
<a href="#">SHR-55C-19-19</a>			19 x 19mm								<a href="#">PDF</a>
<a href="#">SHR-55C-19-20</a>			19 x 20mm								<a href="#">PDF</a>
<a href="#">SHR-55C-19-22</a>			19 x 22mm								<a href="#">PDF</a>
<a href="#">SHR-55C-19-24</a>			19 x 24mm								<a href="#">PDF</a>
<a href="#">SHR-55C-19-25</a>			19 x 25mm								<a href="#">PDF</a>
<a href="#">SHR-55C-22-22</a>			22 x 22mm								<a href="#">PDF</a>
<a href="#">SHR-55C-22-24</a>			22 x 24mm								<a href="#">PDF</a>
<a href="#">SHR-55C-22-25</a>			22 x 25mm								<a href="#">PDF</a>
<a href="#">SHR-55C-24-24</a>			24 x 24mm								<a href="#">PDF</a>
<a href="#">SHR-55C-24-25</a>	24 x 25mm	<a href="#">PDF</a>									
<a href="#">SHR-55C-25-25</a>	25 x 25mm	<a href="#">PDF</a>									

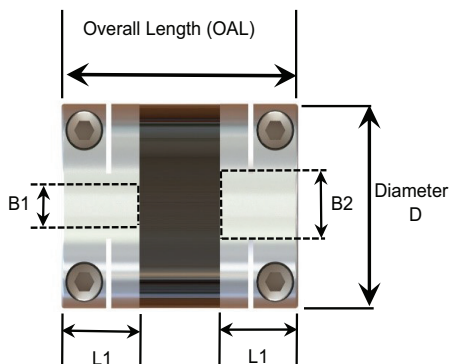
\*Rated & Max Torques values are based on maximum Bore sizes B1 & B2 and Temperature Correction Factor (TF) =1





# Drive Couplings

## SHR Series High Gain Clamp-Style Coupling



**SHR Series Dimensions and Mass							
Size	Diameter, D (mm)	Overall Length, OAL (mm)	***Shaft Mount, L1 (mm)	*Mass (g)	*Moment of Inertia (kg-m <sup>2</sup> )	Clamp Screw	
						Type	Fastening Torque (N-m)
18	17.8	25.5	8	11	4.90E-07	SHCS M2-0.4 x 6mm	0.6
24	23.8	31.2	9.6	22	1.90E-06	SHCS M2.6-0.45 x 8mm	1.1
29	28.8	35	11	34	4.40E-06	SHCS M3-0.5 x 10mm	1.8
38	37.8	47	15.5	78	1.80E-05	SHCS M4-0.7 x 14mm	3.7
43	42.8	48	15.5	115	3.20E-05	SHCS M4-0.7 x 14mm	3.7
55	54.8	59	19.5	250	1.10E-04	SHCS M5-0.8 x 20mm	8.5

\* Mass & Moment of inertia based on complete assembly with max bore B1 & B2.  
 \*\*B1 & B2 are the Bore sizes for the selected SHR Coupling.  
 \*\*\*L1 is the mounting distance from the shaft END.

## Temperature Correction Factor (TF)

The Rated and Max Torque values are affected by Temperature due to the polymer of the Core. Use the Temperature Correction Factor (TF) to determine the Actual Rated and Max Torques in expected operating conditions.

**Actual Rated Torque= Rated Torque x TF**

**Actual Max Torque= Maximum Torque x TF**

Temperature Correction Factor	
Operating Temperature	TF
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 120°C	0.55



# Drive Couplings

## Drive Couplings Overview

Rotating shaft-driven mechanical components are commonly used in all forms of machinery that perform the various processes and functions of modern industry. Perfect alignment of shafts and rotating components is desired, but it is nearly impossible to build a real-world machine in which adjacent shaft ends align perfectly.

Adjacent shafts can be misaligned in 3 orientations, angular, parallel and axial, see figure below. Misalignment will place stresses on shafts and related parts of the assembly such as bearings, which can result in early failure of both.

Drive couplings can be used to compensate for shaft misalignment, whether the misalignment is an intentional or an unintentional part of the design. When designing or modifying a system, there are essential factors to consider for choosing the correct couplings for the application.

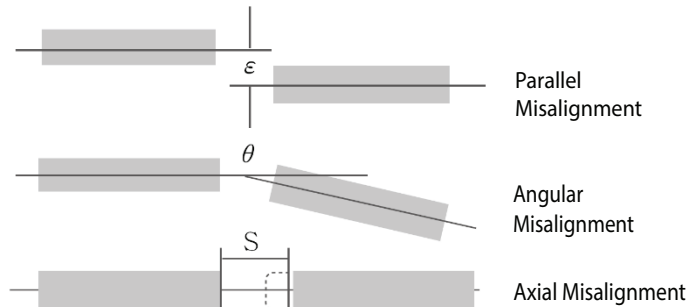
### Design/Selection Factors:

(Refer to the specification tables herein for the particular specifications of each type of drive coupling.)

- **RPM:** For higher rpm applications, choose Jaw/Spider or Beam-Style Servo couplings. For lower rpm, consider Double-Loop or Oldham couplings.
- **Torque:** Consider the torque requirements of the application, and the torque specifications of the different drive coupling types. peak torque generally occurs at start-up, operating torque at steady-state operation, and reversing or braking torque during rapid acceleration or deceleration or direction changes.
- **Backlash:** Backlash is a measurement of the positional accuracy of the coupling, which is important for reversing and/or motion control applications. Zero backlash is ultimately desirable, but more expensive than necessary for low-precision applications.

For high-precision applications, choose Beam-Style Servo or Oldham couplings. For applications requiring less precision, consider Jaw/Spider or Double-Loop couplings.

- **Misalignment:** Some degree of angular, axial, or radial misalignment/displacement between shafts is almost unavoidable. Drive couplings can compensate for this misalignment.

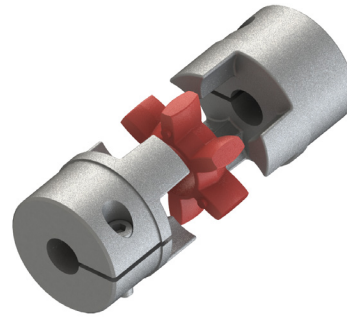
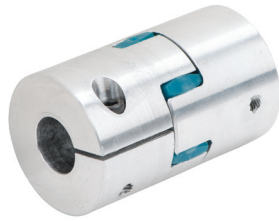


Coupling Type Comparisons				
Coupling Type	Jaw / Spider	Double Loop	Oldham	Beam-Style Servo
Representative Photo				
Purpose	most common	light duty	general purpose	high performance & torque
Hub Material	aluminum	stainless steel	aluminum	416 stainless steel
Center Material	polyurethane	Hytre <sup>TM</sup>	Delrin <sup>TM</sup>	420 stainless steel
Mounting Method	clamp	set screw	clamp	set screw
Electrical Isolation	yes	yes	yes	no
Backlash	varies	varies	zero	zero
Misalignment Capacity	++ (axial)	+++	++	+
Breakable "Mechanical Fuse"	no (fail safe)	no	yes	no
Relative Price	\$\$	\$\$	\$	\$\$\$



# Drive Couplings

## Jaw/Spider Clamp-Style Couplings



### Features

- Most commonly specified coupling type
- Aluminum hubs available with different bore diameters in same coupling
- Polyurethane center “spiders” available in different durometers for different degrees of shock and vibration reduction
- Fail-safe operation
- Electrical isolation
- Wide torque range
- High axial misalignment range
- Cost effective
- Wide operating temperature range: -40 to 100 °C (-40 to 212 °F)

### Applications

- General applications
- High-speed applications
- Applications with high axial misalignment
- Applications in which inertia is NOT a factor

Jaw / Spider Aluminum Clamp-Style Drive Coupling Hubs*															
Part Number*	Price	Size (mm)	Bore	Max RPM	Torque	Torsional Stiffness	Max Misalignment			Weight (lb)					
							Parallel (in [mm])	Axial (in [mm])	Angular						
<a href="#">DC-JAC14-03</a>	\$14.00	14	3/16in	27,280	The torque and torsional stiffness of the assembly varies depending upon which center “spider” is used. Refer to the “Jaw / Spider Drive Coupling Spiders” table (page tPTR-52) for torque and torsional stiffness specifications.	0.002 [0.05]	0.030 [0.76]	1.0°	0.039						
<a href="#">DC-JAC14-05M</a>	\$14.00		5mm												
<a href="#">DC-JAC14-06M</a>	\$14.00		6mm												
<a href="#">DC-JAC14-04</a>	\$14.00		1/4in												
<a href="#">DC-JAC20-04</a>	\$17.00	20	1/4in	19,040					0.008 [0.2]	0.050 [1.27]	1.2°	0.058			
<a href="#">DC-JAC20-05</a>	\$17.75		5/16in												
<a href="#">DC-JAC30-05</a>	\$26.00	30	5/16in	12,720								0.009 [0.23]	0.060 [1.52]	0.9°	0.070
<a href="#">DC-JAC30-08M</a>	\$25.50		8mm												
<a href="#">DC-JAC30-06</a>	\$26.00		3/8in												
<a href="#">DC-JAC30-10M</a>	\$26.00		10mm												
<a href="#">DC-JAC30-12M</a>	\$26.00		12mm												
<a href="#">DC-JAC30-08</a>	\$26.00	1/2in													
<a href="#">DC-JAC40-08M</a>	\$30.00	40	8mm	11,200		0.009 [0.23]	0.060 [1.52]	0.9°							0.145
<a href="#">DC-JAC40-06</a>	\$30.25		3/8in												
<a href="#">DC-JAC40-10M</a>	\$30.25		10mm												
<a href="#">DC-JAC40-12M</a>	\$30.25		12mm												
<a href="#">DC-JAC40-08</a>	\$30.50		1/2in												
<a href="#">DC-JAC40-14M</a>	\$30.25		14mm												
<a href="#">DC-JAC40-10</a>	\$30.25		5/8in												
<a href="#">DC-JAC40-16M</a>	\$30.00		16mm												
<a href="#">DC-JAC40-12</a>	\$30.50	3/4in													
<a href="#">DC-JAC55-10</a>	\$35.00	55	5/8in	8,480	0.009 [0.23]				0.060 [1.52]	0.9°	0.383				
<a href="#">DC-JAC55-19M</a>	\$30.50		19mm												
<a href="#">DC-JAC55-12</a>	\$35.50		3/4in												
<a href="#">DC-JAC55-22M</a>	\$35.00		22mm												
<a href="#">DC-JAC55-14</a>	\$35.50		7/8in												
<a href="#">DC-JAC65-20</a>	\$57.00	65	1-1/4in	6,800		0.009 [0.23]	0.060 [1.52]	0.9°			0.683				
<a href="#">DC-JAC65-32M</a>	\$57.00		32mm												

\* A complete jaw/spider coupling assembly consists of two hubs and one spider, each of the same “size” and each purchased separately. The two hubs can be of different “bore” diameters, if needed for the application.



# Drive Couplings

## Jaw/Spider Clamp-Style Coupling Spiders



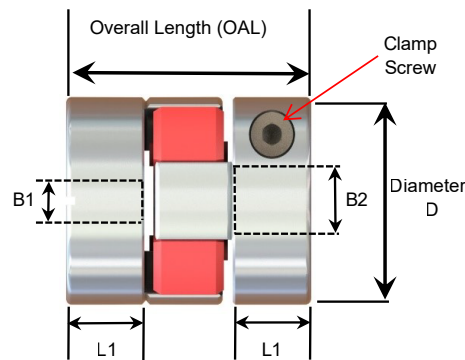
Jaw / Spider Drive Coupling Spiders*								
Part Number*	Price	Size	Durometer	Color	Torque (lb-in [N-m])			Torsional Stiffness (lb-in/rad [Nm/rad])
					Rated	Max	Reversing**	
<a href="#">DC-JS14-80A</a>	\$8.00	14	80A	blue	6 [0.7]	12 [1.4]	2 [0.2]	71 [8]
<a href="#">DC-JS14-92A</a>	\$8.00		92A	white	11 [1.2]	21 [2.4]		124 [14]
<a href="#">DC-JS14-98A</a>	\$8.00		98A	red	18 [2.0]	35 [4.0]		195 [22]
<a href="#">DC-JS20-80A</a>	\$11.25	20	80A	blue	16 [1.8]	32 [3.6]	4 [0.5]	142 [16]
<a href="#">DC-JS20-92A</a>	\$12.00		92A	white	27 [3.1]	53 [6.0]		257 [29]
<a href="#">DC-JS20-98A</a>	\$11.50		98A	red	44 [5.0]	89 [10.1]		487 [55]
<a href="#">DC-JS30-80A</a>	\$13.00	30	80A	blue	35 [4.0]	71 [8.0]	9 [1.0]	407 [46]
<a href="#">DC-JS30-92A</a>	\$13.25		92A	white	66 [7.5]	133 [15.0]		646 [73]
<a href="#">DC-JS30-98A</a>	\$13.25		98A	red	111 [12.5]	221 [25.0]		1151 [130]
<a href="#">DC-JS40-80A</a>	\$14.50	40	80A	blue	43 [4.9]	86 [9.7]	11 [1.2]	3363 [380]
<a href="#">DC-JS40-92A</a>	\$14.50		92A	white	88 [9.9]	177 [20.0]		5045 [570]
<a href="#">DC-JS40-98A</a>	\$14.50		98A	red	150 [16.9]	300 [33.9]		10621 [1200]
<a href="#">DC-JS55-80A</a>	\$16.00	55	80A	blue	151 [17.1]	301 [34.0]	39 [4.4]	12391 [1400]
<a href="#">DC-JS55-92A</a>	\$16.00		92A	white	310 [35.0]	620 [70.1]		14161 [1600]
<a href="#">DC-JS55-98A</a>	\$16.00		98A	red	530 [59.9]	1060 [119.8]		23012 [2600]
<a href="#">DC-JS65-80A</a>	\$20.50	65	80A	blue	407 [46.0]	814 [92.0]	106 [12.0]	24782 [2800]
<a href="#">DC-JS65-92A</a>	\$20.50		92A	white	840 [94.9]	1680 [189.8]		26552 [3000]
<a href="#">DC-JS65-98A</a>	\$20.50		98A	red	1415 [159.9]	2830 [319.7]		43369 [4900]

\* A complete jaw/spider coupling assembly consists of two hubs and one spider, each of the same "size" and each purchased separately. The two hubs can be of different "bore" diameters, if needed for the application.

\*\* Reversing Torque is the rapid reversal of rotation and has a lower value to account for stopping inertia and driving in the opposite rotation. For slow direction reversals, Nominal Torque applies.

### Dimensions (in [mm])

Jaw / Spider Drive Coupling Hub Bore Dimensions		
Hubs	Sizes	ØB
DC-JACxx-03	14	3/16 in
DC-JACxx-05M	14	5mm
DC-JACxx-06M	14	6mm
DC-JACxx-04	14, 20	1/4 in
DC-JACxx-05	20, 30	5/16 in
DC-JACxx-08M	30, 40	8mm
DC-JACxx-06	30, 40	3/8 in
DC-JACxx-10M	30, 40	10mm
DC-JACxx-12M	30, 40	12mm
DC-JACxx-08	30, 40	1/2 in
DC-JACxx-14M	40	14mm
DC-JACxx-10	40, 55	5/8 in
DC-JACxx-16M	40	16mm
DC-JACxx-12	40, 55	3/4 in
DC-JACxx-19M	55	19mm
DC-JACxx-22M	55	22mm
DC-JACxx-14	55	7/8 in
DC-JACxx-20	65	1-1/4 in
DC-JACxx-32M	65	32mm



### Jaw / Spider Aluminum Clamp-Style Drive Coupling Assembly Dimensions\*

Size	Components	Clamp Screw	L1	OAL	D
			in [mm]		
14	(2) DC-JAC14-xxx + (1) DC-JS14-xxx	#4-40	0.28 [7.1]	0.86 [21.8]	0.55 [14.0]
20	(2) DC-JAC20-xxx + (1) DC-JS20-xxx	#5-40	0.39 [9.9]	1.20 [30.5]	0.78 [19.8]
30	(2) DC-JAC30-xxx + (1) DC-JS30-xxx	#6-32	0.43 [10.9]	1.35 [34.3]	1.18 [30.0]
40	(2) DC-JAC40-xxx + (1) DC-JS40-xxx	#10-24	0.98 [24.9]	2.55 [64.8]	1.57 [39.9]
55	(2) DC-JAC55-xxx + (1) DC-JS55-xxx	1/4-20	1.16 [29.5]	2.97 [75.4]	2.17 [55.1]
65	(2) DC-JAC65-xxx + (1) DC-JS65-xxx	5/16-18	1.40 [35.6]	3.53 [89.7]	2.55 [64.8]

\* Assembly dimensions are for any (2) hubs + (1) spider of the same "size" as assembled. B1 & B2 are the Bore sizes for the selected DC-JACxx Jaw/Hub.

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.



# Drive Couplings

## Double Loop Couplings

### Features

- High torsional rigidity
- One-piece design
- Hubs made of series 300 stainless steel
- Double loop made of DuPont Hytrel™
- Corrosion protection
- Outstanding resistance to acids, alkalis, solvents, oils, grease, ozone
- Wide operating temperature range: -40 to 100 °C (-40 to 212 °F)
- Electrical isolation
- Damping of shock and vibration
- Speeds up to 3,000rpm

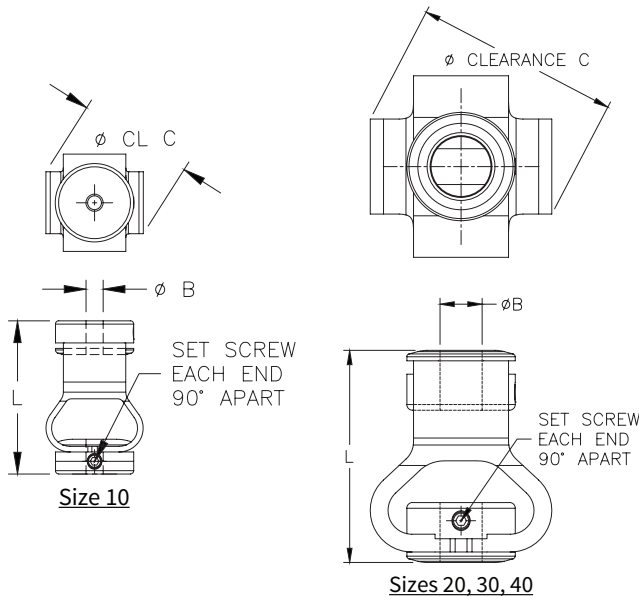
### Applications

- Light-duty applications
- Medium-speed applications
- Applications in which inertia is NOT a factor



Double Loop Stainless Steel Drive Couplings									
Part Number	Price	Size	Bore	Max rpm	Max Torque @ Max Displacement ([lb-in] N-m)	Max Misalignment			Weight (lb)
						Radial ([in] mm)	Axial ([in] mm)	Angular (°)	
<a href="#">DC-DLSS10-02</a>	\$44.00	10	1/8 in	3,000	[4.4] 0.5	[0.10] 2.6	[0.18] 4.5	10	0.06
<a href="#">DC-DLSS10-03</a>	\$44.00		3/16 in						
<a href="#">DC-DLSS10-06M</a>	\$44.00		6mm						
<a href="#">DC-DLSS10-04</a>	\$44.00		1/4 in						
<a href="#">DC-DLSS10-05</a>	\$43.00		5/16 in						
<a href="#">DC-DLSS10-08M</a>	\$42.00		8mm						
<a href="#">DC-DLSS20-04</a>	\$49.00	20	1/4 in	3,000	[15.9] 1.8	[0.30] 7.5	15	0.20	
<a href="#">DC-DLSS20-05</a>	\$49.00		5/16 in						
<a href="#">DC-DLSS20-08M</a>	\$49.00		8mm						
<a href="#">DC-DLSS20-06</a>	\$49.00		3/8 in						
<a href="#">DC-DLSS20-12M</a>	\$49.00		12mm						
<a href="#">DC-DLSS20-08</a>	\$49.00		1/2 in						
<a href="#">DC-DLSS30-12M</a>	\$55.00	30	12mm	3,000	[44.3] 5.0	[0.13] 3.2	15	0.27	
<a href="#">DC-DLSS30-08</a>	\$55.00		1/2 in						
<a href="#">DC-DLSS30-14M</a>	\$55.00		14mm						
<a href="#">DC-DLSS30-10</a>	\$55.00		5/8 in						
<a href="#">DC-DLSS40-08</a>	\$60.50	40	1/2 in	3,000	[88.5] 10.0	[0.43] 11.0	15	0.30	
<a href="#">DC-DLSS40-14M</a>	\$60.50		14mm						
<a href="#">DC-DLSS40-10</a>	\$60.50		5/8 in						
<a href="#">DC-DLSS40-16M</a>	\$60.50		16mm						

### Dimensions (in [mm])

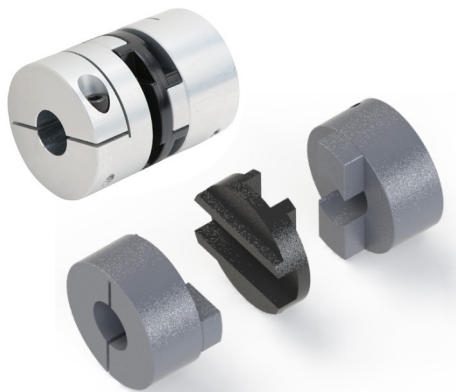


Double Loop Stainless Steel Drive Coupling Dimensions					
Part Number	Size	Set Screw	ØB	ØC	L
				(in [mm])	
<a href="#">DC-DLSS10-02</a>	10	M3	1/8 in	1.06 [26.9]	
<a href="#">DC-DLSS10-03</a>			3/16 in		
<a href="#">DC-DLSS10-06M</a>			6mm		
<a href="#">DC-DLSS10-04</a>			1/4 in		
<a href="#">DC-DLSS10-05</a>			5/16 in		
<a href="#">DC-DLSS10-08M</a>			8mm		
<a href="#">DC-DLSS20-04</a>	20	M4	1/4 in	1.89 [48.0]	
<a href="#">DC-DLSS20-05</a>			5/16 in		
<a href="#">DC-DLSS20-08M</a>			8mm		
<a href="#">DC-DLSS20-06</a>			3/8 in		
<a href="#">DC-DLSS20-12M</a>			12mm		
<a href="#">DC-DLSS20-08</a>			1/2 in		
<a href="#">DC-DLSS30-12M</a>	30	M5	12mm	2.13 [54.1]	2.17 [55.1]
<a href="#">DC-DLSS30-08</a>			1/2 in		
<a href="#">DC-DLSS30-14M</a>			14mm		
<a href="#">DC-DLSS30-10</a>			5/8 in		
<a href="#">DC-DLSS40-08</a>	40	M6	1/2 in	2.20 [55.9]	2.20 [55.9]
<a href="#">DC-DLSS40-14M</a>			14mm		
<a href="#">DC-DLSS40-10</a>			5/8 in		
<a href="#">DC-DLSS40-16M</a>			16mm		

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.

# Suremotion Drive Couplings

## Oldham Drive Couplings



### Features

- Large radial misalignment capability
- Hubs made of aluminum 2011 T8
- Center discs made of Delrin™
- Mechanical 'fuse' prevents damage to other components in over-torque conditions
- Zero backlash
- Corrosion-resistant
- Non-magnetic
- Operating temperature range: -20 to 60 °C (-4 to 140 °F)
- Electrical isolation
- Absorbs shock and isolates vibration
- Dampens resonance
- Speeds up to 3,000rpm
- Low inertia

### Applications

- General-purpose applications
- Medium-speed applications

Oldham Aluminum Clamp-Style Drive Coupling Hubs\*

Part Number*	Price	Size	Bore	Max rpm	Torque (lb-in [N·m])		Max Offset			Moment of Inertia (lb-in·s <sup>2</sup> ×10 <sup>-5</sup> )	Weight (lb)
					Peak	Static Break	Radial (in [mm])	Axial (in [mm])	Angular (°)		
<a href="#">DC-DAC19-05M</a>	\$19.50	19	5mm	3,000	15 [1.7]	71 [8.0]	0.016 [0.41]	0.004 [0.1]	1.5	0.518	0.032
<a href="#">DC-DAC19-04</a>	\$19.50		1/4 in								0.032
<a href="#">DC-DAC19-08M</a>	\$19.50		8mm								0.033
<a href="#">DC-DAC25-04</a>	\$26.50	25	1/4 in		35 [4.0]	115 [13.0]	0.016 [0.41]	0.004 [0.1]	2.23	0.055	
<a href="#">DC-DAC25-08M</a>	\$26.50		8mm							0.054	
<a href="#">DC-DAC25-06</a>	\$26.50		3/8 in							0.050	
<a href="#">DC-DAC25-10M</a>	\$26.50		10mm							0.050	
<a href="#">DC-DAC25-12M</a>	\$26.50		12mm							0.051	
<a href="#">DC-DAC33-06</a>	\$38.00	33	3/8 in		80 [9.0]	465 [52.5]	0.016 [0.41]	0.006 [0.15]	10.0	0.097	
<a href="#">DC-DAC33-10M</a>	\$28.00		10mm							0.095	
<a href="#">DC-DAC33-12M</a>	\$38.00		12mm							0.095	
<a href="#">DC-DAC33-08</a>	\$38.00		1/2 in							0.093	
<a href="#">DC-DAC33-14M</a>	\$37.50		14mm							0.091	
<a href="#">DC-DAC33-10</a>	\$30.00		5/8 in							0.088	
<a href="#">DC-DAC33-16M</a>	\$18.50		16mm							0.087	
<a href="#">DC-DAC41-08</a>	\$41.50	41	1/2 in	150 [16.9]	500 [56.5]	0.020 [0.51]	0.008 [0.2]	28.1	0.186		
<a href="#">DC-DAC41-14M</a>	\$42.00		14mm						0.181		
<a href="#">DC-DAC41-10</a>	\$41.75		5/8 in						0.177		
<a href="#">DC-DAC41-16M</a>	\$42.00		16mm						0.172		
<a href="#">DC-DAC41-19M</a>	\$42.00		19mm						0.168		
<a href="#">DC-DAC41-12</a>	\$42.00	3/4 in	0.163								
<a href="#">DC-DAC50-08</a>	\$86.00	50	1/2 in	265 [29.9]	840 [94.9]	0.020 [0.51]	0.008 [0.2]	66.7	0.260		
<a href="#">DC-DAC50-14M</a>	\$86.00		14mm						0.255		
<a href="#">DC-DAC50-10</a>	\$86.00		5/8 in						0.249		
<a href="#">DC-DAC50-16M</a>	\$86.00		16mm						0.244		
<a href="#">DC-DAC50-19M</a>	\$86.00		19mm						0.238		
<a href="#">DC-DAC50-12</a>	\$86.00		3/4 in						0.233		
<a href="#">DC-DAC50-16</a>	\$86.00	1 in	0.227								
<a href="#">DC-DAC57-10</a>	\$94.00	57	5/8 in	390 [44.1]	1325 [149.7]	0.020 [0.51]	0.008 [0.2]	109.7	0.457		
<a href="#">DC-DAC57-16M</a>	\$94.00		16mm						0.439		
<a href="#">DC-DAC57-19M</a>	\$94.00		19mm						0.422		
<a href="#">DC-DAC57-12</a>	\$94.00		3/4 in						0.404		
<a href="#">DC-DAC57-16</a>	\$94.00	1 in	0.386								

\* A complete Oldham coupling assembly consists of two hubs and one torque disc, each of the same "size" and each purchased separately. The two hubs can be of different "bore" diameters, if needed for the application.

# Suremotion Drive Couplings

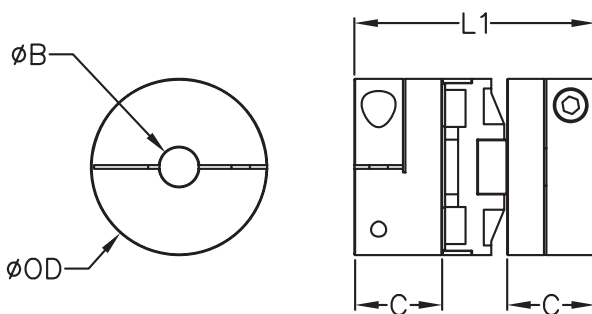
## Oldham Drive Couplings



Oldham Aluminum Clamp-Style Drive Coupling Torque Discs*			
Part Number *	Price	Size	Color
<a href="#">DC-DDS19</a>	\$2.25	19	black
<a href="#">DC-DDS25</a>	\$4.75	25	
<a href="#">DC-DDS33</a>	\$8.00	33	
<a href="#">DC-DDS41</a>	\$10.00	41	
<a href="#">DC-DDS50</a>	\$23.00	50	
<a href="#">DC-DDS57</a>	\$32.00	57	

\* A complete Oldham coupling assembly consists of two hubs and one torque disc, each of the same "size" and each purchased separately. The two hubs can be of different "bore" diameters, if needed for the application.

## Dimensions (in [mm])



Oldham Aluminum Drive Coupling Hub Bore Dimensions		
Hubs	Sizes	ØB
<a href="#">DC-DACxx-05M</a>	19	5mm
<a href="#">DC-DACxx-04</a>	19, 25	1/4 in
<a href="#">DC-DACxx-08M</a>	19, 25	8mm
<a href="#">DC-DACxx-06</a>	25, 33	3/8 in
<a href="#">DC-DACxx-10M</a>	25, 33	10mm
<a href="#">DC-DACxx-12M</a>	25, 33	12mm
<a href="#">DC-DACxx-08</a>	33, 41, 50	1/2 in
<a href="#">DC-DACxx-14M</a>	33, 41, 50	14mm
<a href="#">DC-DACxx-10</a>	33, 41, 50, 57	5/8 in
<a href="#">DC-DACxx-16M</a>	33, 41, 50, 57	16mm
<a href="#">DC-DACxx-12</a>	41, 50, 57	3/4 in
<a href="#">DC-DACxx-19M</a>	41, 50, 57	19mm
<a href="#">DC-DACxx-16</a>	50, 57	1in

Oldham Aluminum Clamp-Style Drive Coupling Assembly Dimensions*					
Size	Components	Cap Screw	C	L1**	ØOD
			(in [mm])		
<b>19</b>	(2) DC-DAC19-xxx + (1) DC-DDS19	#4-40	0.37 [9.4]	1.02 [25.9]	0.75 [19.1]
<b>25</b>	(2) DC-DAC25-xxx + (1) DC-DDS25	M3	0.46 [11.7]	1.28 [32.5]	1.00 [25.4]
<b>33**</b>	(2) DC-DAC33-xxx + (1) DC-DDS33	M4	0.59 [15.0]	1.89 [48.0]	1.31 [33.3]
<b>41</b>	(2) DC-DAC41-xxx + (1) DC-DDS41	M4	0.70 [17.8]	2.00 [50.8]	1.63 [41.4]
<b>50</b>	(2) DC-DAC50-xxx + (1) DC-DDS50	M5	0.81 [20.6]	2.35 [59.7]	1.97 [50.0]
<b>57</b>	(2) DC-DAC57-xxx + (1) DC-DDS57	M6	1.12 [28.4]	3.07 [78.0]	2.25 [57.2]

\* Assembly dimensions are for any (2) hubs + (1) torque disc of the same "size" as assembled. Among components of the same "size," the only dimension that varies is the hub bore diameter (ØB), which is shown separately.

\*\* When DC-DAC33-08 is used with another DC-DAC33-xx bore size, L1 = 45. When 2 DC-DAC33-08 are used together, L1 = 42

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.

# Suremotion Drive Couplings

## Beam-Style Servo Stainless Steel Set-Screw Couplings



### Features

- Flexibility of bellows coupling plus torsional stiffness and strength of disc coupling
- Hubs made of 416 stainless steel
- Flex beams made of 420 stainless steel
- Zero backlash
- Corrosion-resistant
- Bore reducers available to fit a wide variety of bore combinations
- Very wide operating temperature range:
  - for 24/7 applications: -73 to 191 °C (-100 to 375 °F)
  - for intermittent applications (<8hr): -73 to 232 °C (-100 to 450 °F)

- Speeds up to 10,000rpm
- Torque up to 300 lb-in

### Applications

- High performance applications
- High-speed applications
- High-torque applications

Beam-Style Servo Stainless Steel* Set-Screw Drive Coupling Hubs											
Part Number	Price	Size	Bore**	Max rpm	Torsional Stiffness (lb-in/°)	Max Torque (lb-in [N-m])	Max Misalignment			Moment of Inertia (lb-in-s <sup>2</sup> x10 <sup>-5</sup> )	Weight (oz)
							Radial (in [mm])	Axial (in [mm])	Angular (°)		
<a href="#">DC-SBS19-0404</a>	\$99.00	19	1/4 in	10,000	11	12 [1.4]	0.010 [0.25]	0.020 [0.51]	7	0.86	0.84
<a href="#">DC-SBS25-0808</a>	\$122.00	25	1/2 in	7,500	27	24 [2.7]	0.015 [0.38]	0.025 [0.64]		3.75	1.60
<a href="#">DC-SBS32-1010</a>	\$134.00	32	5/8 in		51	48 [5.4]		0.030 [0.76]		11.1	2.45
<a href="#">DC-SBS38-1212</a>	\$154.00	38	3/4 in	5,000	89	75 [8.5]	0.020 [0.51]	0.040 [1.02]		28.2	4.94
<a href="#">DC-SBS44-1414</a>	\$264.00	44	7/8 in		135	135 [15.3]		0.050 [1.27]		59.2	7.59
<a href="#">DC-SBS51-1616</a>	\$308.00	51	1 in	3,750	205	180 [20.3]	0.025 [0.64]	0.060 [1.52]		115	11.26
<a href="#">DC-SBS63-2020</a>	\$354.00	63	1-1/4 in		395	300 [33.9]		0.060 [1.52]		349	18.67

\* Hubs are 416 stainless; flex beams are 420 stainless.

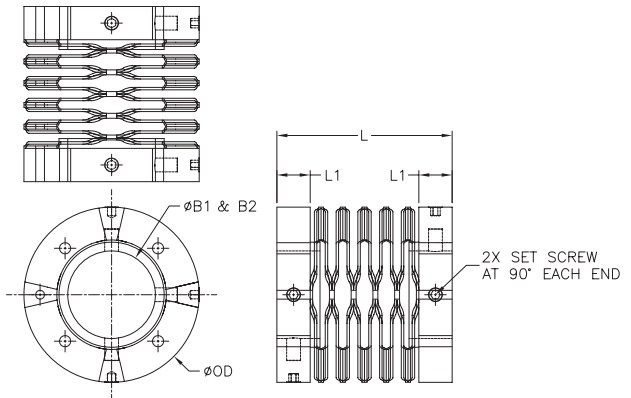
\*\* Bore Reducers can be purchased separately from AutomationDirect and installed in DC-SBSxx-xxxx hubs if different bore sizes are needed. (See page tPTR-57 for Bore Reducers.)

### Dimensions (in [mm])

Beam-Style Servo Stainless Steel Drive Coupling Dimensions						
Size	Set Screw	L	L1	ØB1*	ØB2*	ØOD
(in [mm])						
19	M3x0.5	0.75 [19.1]	0.240 [6.10]	0.250 [6.35]	0.75 [19.1]	
25		1.00 [25.4]	0.345 [8.76]	0.500 [12.70]	1.00 [25.4]	
32	M5x0.8	1.25 [31.6]	0.386 [9.80]	0.625 [15.88]	1.25 [31.6]	
38		1.50 [38.1]	0.505 [12.83]	0.750 [19.05]	1.50 [38.1]	
44		1.75 [44.5]	0.550 [13.97]	0.875 [22.23]	1.75 [44.5]	
51		2.00 [50.8]	0.555 [14.10]	1.000 [25.40]	2.00 [50.8]	
63		M6x1.0	2.50 [63.5]	0.615 [15.62]	1.250 [31.75]	2.50 [63.5]

\* Use bore reducers for additional bore sizes and bore combinations.

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.





# SureMotion Drive Couplings

## Accessories – Bore Reducers



### Features

- For use in all SureMotion drive coupling hubs to reduce bore size
- Split-collar design with 2 set screw flats will not mark shaft
- 25% greater holding power than standard split collar
- Hardened stainless steel

### Bore Reducers – Stainless Steel Clamping Type

Part Number	Price	Outside Diameter		Inside Diameter		Length
		Nominal	Actual	Nominal	Actual	
<a href="#">DC-BRS04-02</a>	\$16.50	1/4 in	0.250 in	1/8 in	0.125 in	0.221 in
<a href="#">DC-BRS04-04M</a>	\$16.50			4mm	4mm	
<a href="#">DC-BRS04-03</a>	\$16.50			3/16 in	0.1875 in	
<a href="#">DC-BRS04-05M</a>	\$16.50			5mm	5mm	
<a href="#">DC-BRS08-06M</a>	\$21.75	1/2 in	0.500 in	6mm	6mm	0.449 in
<a href="#">DC-BRS08-04</a>	\$21.75			1/4 in	0.25 in	
<a href="#">DC-BRS08-05</a>	\$22.00			5/16 in	0.3125 in	
<a href="#">DC-BRS08-08M</a>	\$21.75			8mm	8mm	
<a href="#">DC-BRS08-06</a>	\$22.00			3/8 in	0.375 in	
<a href="#">DC-BRS08-10M</a>	\$22.00			10mm	10mm	
<a href="#">DC-BRS10-10M</a>	\$25.00	5/8 in	0.625 in	10mm	10mm	0.460 in
<a href="#">DC-BRS10-07</a>	\$25.00			7/16 in	0.4375 in	
<a href="#">DC-BRS10-12M</a>	\$25.00			12mm	12mm	
<a href="#">DC-BRS10-08</a>	\$25.00			1/2 in	0.5 in	
<a href="#">DC-BRS10-14M</a>	\$25.00			14mm	14mm	
<a href="#">DC-BRS10-09</a>	\$25.00			9/16 in	0.5625 in	
<a href="#">DC-BRS12-06</a>	\$30.00	3/4 in	0.750 in	3/8 in	0.375 in	0.646 in
<a href="#">DC-BRS12-12M</a>	\$30.00			12mm	12mm	
<a href="#">DC-BRS12-08</a>	\$30.00			1/2 in	0.5 in	
<a href="#">DC-BRS12-10</a>	\$30.00			5/8 in	0.625 in	
<a href="#">DC-BRS12-16M</a>	\$30.00			16mm	16mm	
<a href="#">DC-BRS12-11</a>	\$30.00			11/16 in	0.6875 in	
<a href="#">DC-BRS14-14M</a>	\$32.00	7/8 in	0.875 in	14mm	14mm	0.755 in
<a href="#">DC-BRS14-10</a>	\$32.00			5/8 in	0.625 in	
<a href="#">DC-BRS14-16M</a>	\$32.00			16mm	16mm	
<a href="#">DC-BRS14-11</a>	\$32.00			11/16 in	0.6875 in	
<a href="#">DC-BRS14-18M</a>	\$32.00			18mm	18mm	
<a href="#">DC-BRS14-12</a>	\$32.00			3/4 in	0.75 in	
<a href="#">DC-BRS16-10</a>	\$32.00	1 in	1.000 in	5/8 in	0.625 in	0.773 in
<a href="#">DC-BRS16-18M</a>	\$33.00			18mm	18mm	
<a href="#">DC-BRS16-12</a>	\$33.00			3/4 in	0.75 in	
<a href="#">DC-BRS16-20M</a>	\$33.00			20mm	20mm	
<a href="#">DC-BRS16-13</a>	\$33.00			13/16 in	0.8125 in	
<a href="#">DC-BRS16-14</a>	\$33.00			7/8 in	0.875 in	
<a href="#">DC-BRS20-22M</a>	\$34.00	1-1/4 in	1.250 in	22mm	22mm	0.793 in
<a href="#">DC-BRS20-24M</a>	\$34.00			24mm	24mm	
<a href="#">DC-BRS20-25M</a>	\$34.00			25mm	25mm	
<a href="#">DC-BRS20-16</a>	\$34.00			1 in	1.0 in	
<a href="#">DC-BRS20-17</a>	\$34.00			1-1/16 in	1.0625 in	
<a href="#">DC-BRS20-18</a>	\$34.00			1-1/8 in	1.125 in	



# Synchronous Drive Components

## Timing (Toothed) Belts

SureMotion timing belts are an excellent choice for many industrial applications. Several pitches and widths are available to cover a wide range of power transmission requirements.

- Neoprene with fiberglass reinforcement
- Polyurethane with polyester reinforcement (MXL pitch only)
- MXL (Mini Xtra Light) pitch = 0.080"
- XL (Xtra Light) pitch = 0.200"
- L (Light) pitch = 0.375"
- Range from 30 - 160 teeth
- 0.25, 0.375, 0.50 and 1.0-inch widths
- Timing belts start at \$3.50 (60XL025NG)

## Timing Pulleys

Both aluminum and steel pulleys (sprockets) are available with a smooth bore and setscrew. Steel pulleys also available to fit Taper-Lock or QD style drive bushings. Bushings sold separately.

- Aluminum, steel, cast iron, or ductile iron
- MXL pitch = 0.080" with 1/4" width
- XL pitch = 0.200" with 1/4 or 3/8 inch width
- L pitch = .375" with 1/2 or 1 inch width
- Plain bores and TL or QD type bore
- Timing pulleys start at \$12.50 (APB10XL025BF-250)

## Tapered Drive Bushings

Bushings allow the connection of pulleys to different sized shafts.

- TL (Taper-Lock) and QD (quick detach) types are available
- Steel
- Standard bore sizes from 0.50 to 1.375 inch
- Taper-Lock® bushings start at \$25.00 (TL-1108-0500)
- QD® style bushings start at \$20.50 (QD-JA-0500)

*"Taper-Lock" is a registered trademark of Reliance Electric  
"QD" is a registered trademark of Emerson Electric*

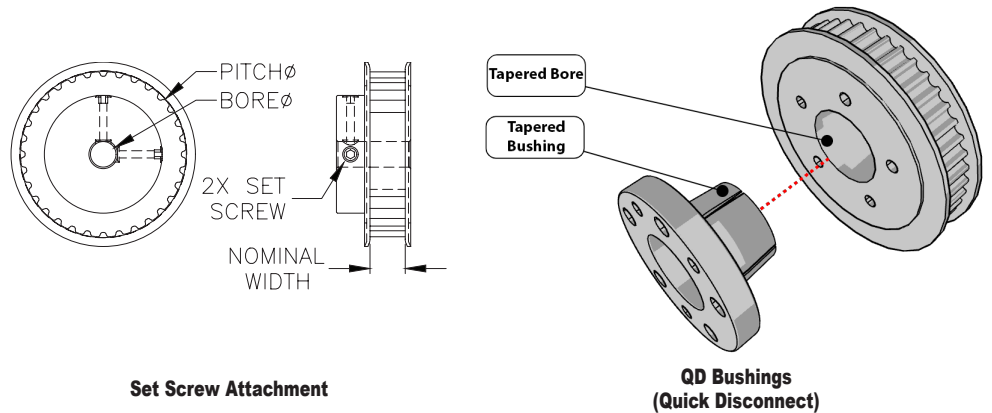




# Synchronous Drive Components

## Product Overview

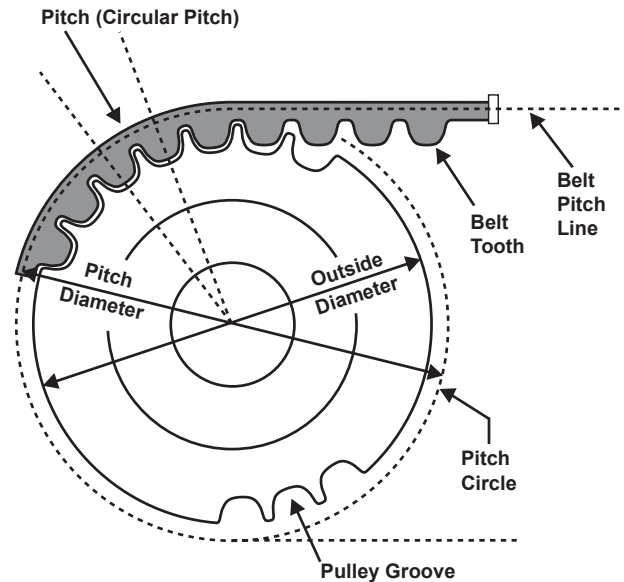
Timing pulleys are offered in several pitches, MXL, XL, L, and 5M and use two attachment styles, set screw and quick disconnect (QD) bushings, shown on the right.



Timing pulleys and belts allow you to change speed and torque while connecting mechanically rotating components.

- Select pulley sizes in order to accomplish the speed or torque change that you need.
- Synchronous drive belts and pulleys utilize teeth to prevent slippage and unwanted speed variations.

*Note: For pulley speeds in excess of 6,000 RPM, pulleys should be dynamically balanced.*



## Drive Component Selection

1. Determine required torque (ft-lbs) and rpm of driven shaft.
2. Determine Design Horsepower (DHP):

$$DHP = \frac{T \cdot N \cdot sf}{5,252}$$

Where: T = torque (ft·lb)  
 N = rpm  
 sf = service factor per table

Service Factors			
Machine Type	<8hr per day	8-16 hr per day	Continuous
Smooth Running	1.0	1.2	1.4
Light Shock Loads	1.3	1.5	1.7
Heavy Shock Loads	1.7	1.9	2.1

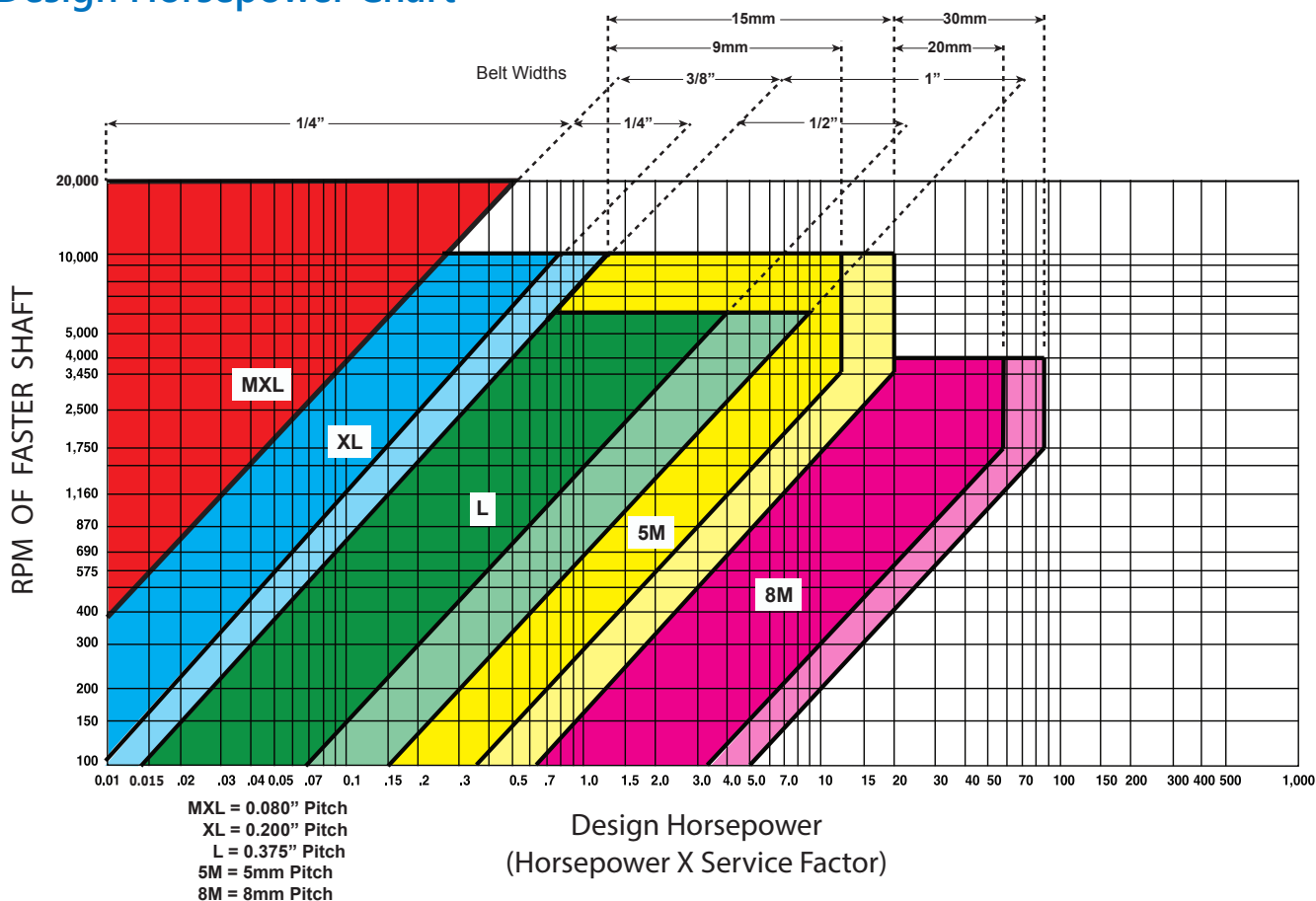
3. Determine Pitch (MXL, XL, L, or 5M) and belt width required by reading Design Horsepower Chart.
4. Select driver and driven pulleys to match desired speed or torque change.
5. Determine belt length per belt length calculation.

*Note: AutomationDirect provides an online configuration tool to assist with pulley and belt sizing. See: [www.automationdirect.com/selectors/beltandpulley](http://www.automationdirect.com/selectors/beltandpulley)*

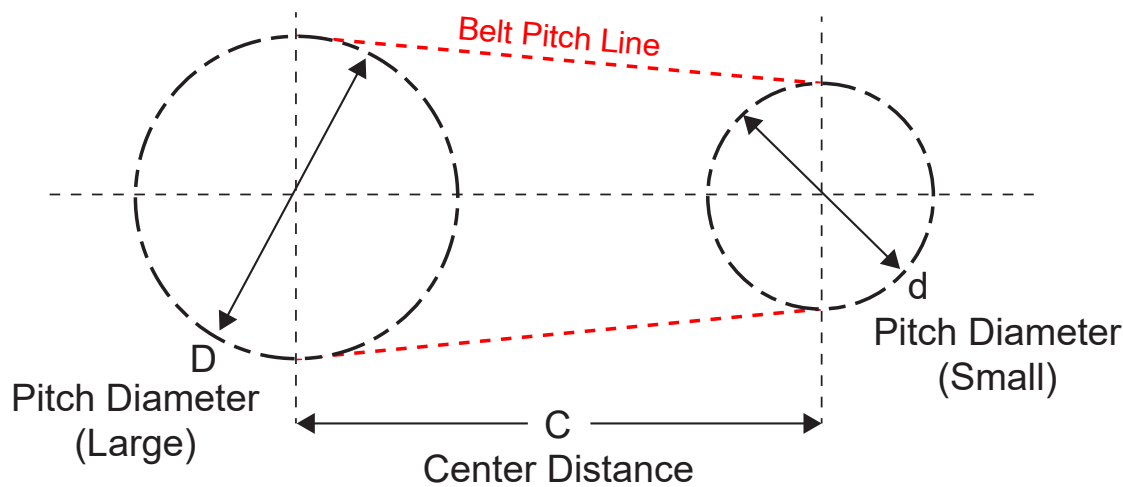


# Synchronous Drive Components

## Design Horsepower Chart



## Drive Component Selection Continued



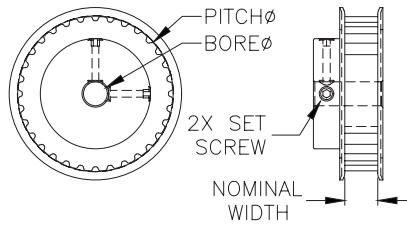
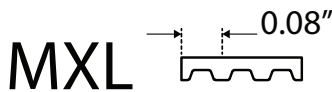
$$\text{Belt Length, } L = 2C + \frac{\pi(D + d)}{2} + \frac{(D - d)^2}{4C}$$



# Timing Pulleys

## MXL Timing Pulley Features

- Pitch: 0.08in
- Tooth Profile: Trapezoidal
- Attachment: Smooth bore with set screws
- Pulley Material: Aluminum with hard anodize finish



**A14-MXL025-B0125**

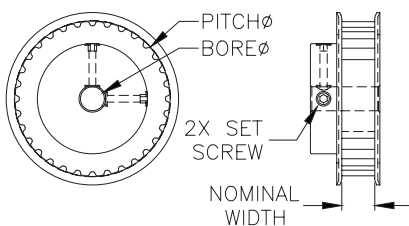
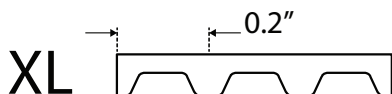
MXL Timing Pulley								
Part Number	Price	# Teeth	Bore Diameter	Nominal Width	Flange (Y/N)	Pitch Diameter	Material	Drawing Link
<a href="#">A14-MXL025-B0125</a>	\$20.00	14	1/8in	1/4in	Yes	0.357in [9.07mm]	Aluminum with anodize finish	<a href="#">PDF</a>
<a href="#">A15-MXL025-B0188</a>	\$20.00	15	3/16in			0.382in [9.7mm]		<a href="#">PDF</a>
<a href="#">A16-MXL025-B0188</a>	\$20.00	16				0.407in [10.34mm]		<a href="#">PDF</a>
<a href="#">A18-MXL025-B0250</a>	\$20.25	18				1/4in		0.458in [11.63mm]
<a href="#">A20-MXL025-B0250</a>	\$20.50	20	0.509in [12.93mm]					<a href="#">PDF</a>
<a href="#">A21-MXL025-B0188</a>	\$19.00	21	3/16in			0.535in [13.59mm]		<a href="#">PDF</a>
<a href="#">A21-MXL025-B0250</a>	\$21.00		1/4in			<a href="#">PDF</a>		
<a href="#">A22-MXL025-B0188</a>	\$19.00	22	3/16in			0.56in [14.22mm]		<a href="#">PDF</a>
<a href="#">A30-MXL025-B0250</a>	\$20.50	30	1/4in			0.764in [19.41mm]		<a href="#">PDF</a>
<a href="#">A32-MXL025-B0250</a>	\$21.00	32				0.815in [20.7mm]		<a href="#">PDF</a>
<a href="#">A36-MXL025-B0250</a>	\$21.50	36				0.917in [23.29mm]		<a href="#">PDF</a>
<a href="#">A40-MXL025-B0250</a>	\$23.00	40				1.019in [25.88mm]		<a href="#">PDF</a>
<a href="#">A60-MXL025-B0250</a>	\$27.00	60				1.528in [38.81mm]		<a href="#">PDF</a>
<a href="#">A60NF-MXL025-B0250</a>	\$24.00					No		<a href="#">PDF</a>
<a href="#">A72NF-MXL025-B0250</a>	\$27.25			72	1.833in [46.56mm]		<a href="#">PDF</a>	



# Timing Pulleys

## XL Timing Pulley Features

- Pitch: 1/5in
- Tooth Profile: Trapezoidal
- Attachment: Smooth bore with set screws
- Pulley Material: Aluminum with hard anodize finish



**A10-XL025-B0250**

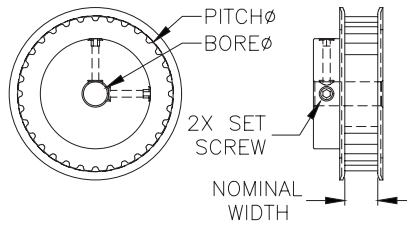
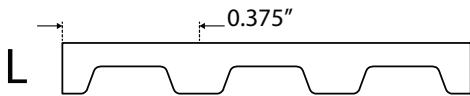
XL Timing Pulley								
Part Number	Price	# Teeth	Bore Diameter	Nominal Width	Flange (Y/N)	Pitch Diameter	Material	Drawing Link
<a href="#">A10-XL025-B0250</a>	\$17.25	10	1/4in	1/4in	Yes	0.637in [16.18mm]	Aluminum with anodize finish	<a href="#">PDF</a>
<a href="#">A15-XL025-B0250</a>	\$19.00	15				0.955in [24.26mm]		<a href="#">PDF</a>
<a href="#">A16-XL025-B0250</a>	\$19.50	16				1.019in [25.88mm]		<a href="#">PDF</a>
<a href="#">A18-XL025-B0250</a>	\$20.00	18				1.146in [29.11mm]		<a href="#">PDF</a>
<a href="#">A20-XL025-B0250</a>	\$21.00	20				1.273in [32.33mm]		<a href="#">PDF</a>
<a href="#">A30-XL025-B0250</a>	\$26.00	30				1.91in [48.51mm]		<a href="#">PDF</a>
<a href="#">A10NH-XL037-0250</a>	\$17.50	10	1/4in	3/8in	Yes	0.637in [16.18mm]	Aluminum with anodize finish	<a href="#">PDF</a>
<a href="#">A10-XL037-B0250</a>	\$18.00					<a href="#">PDF</a>		
<a href="#">A12NH-XL037-0250</a>	\$18.00	12				0.764in [19.41mm]		<a href="#">PDF</a>
<a href="#">A12-XL037-B0250</a>	\$18.50					<a href="#">PDF</a>		
<a href="#">A14NH-XL037-0250</a>	\$18.50	14				0.891in [22.63mm]		<a href="#">PDF</a>
<a href="#">A14-XL037-B0250</a>	\$19.00					<a href="#">PDF</a>		
<a href="#">A15NH-XL037-0250</a>	\$19.25	15				0.955in [24.26mm]		<a href="#">PDF</a>
<a href="#">A16NH-XL037-0250</a>	\$20.00					<a href="#">PDF</a>		
<a href="#">A16-XL037-B0250</a>	\$20.00	16				1.019in [25.88mm]		<a href="#">PDF</a>
<a href="#">A18NH-XL037-0250</a>	\$20.00					<a href="#">PDF</a>		
<a href="#">A18-XL037-B0250</a>	\$20.25	18				1.146in [29.11mm]		<a href="#">PDF</a>
<a href="#">A19-XL037-B0250</a>	\$21.00					<a href="#">PDF</a>		
<a href="#">A20NH-XL037-0250</a>	\$21.00	20				1.273in [32.33mm]		<a href="#">PDF</a>
<a href="#">A20-XL037-B0250</a>	\$22.00					<a href="#">PDF</a>		
<a href="#">A21-XL037-B0250</a>	\$22.00	21				1.337in [33.96mm]		<a href="#">PDF</a>
<a href="#">A22NH-XL037-0250</a>	\$23.50					<a href="#">PDF</a>		
<a href="#">A22-XL037-B0250</a>	\$24.25	22				1.401in [35.59mm]		<a href="#">PDF</a>
<a href="#">A24NH-XL037-0250</a>	\$24.00					<a href="#">PDF</a>		
<a href="#">A24-XL037-B0250</a>	\$24.50	24	1.528in [38.81mm]	<a href="#">PDF</a>				
<a href="#">A26-XL037-B0250</a>	\$26.00		<a href="#">PDF</a>					
<a href="#">A28-XL037-B0250</a>	\$28.50	28	1.655in [42.04mm]	<a href="#">PDF</a>				
<a href="#">A30NH-XL037-0250</a>	\$27.25		<a href="#">PDF</a>					
<a href="#">A30-XL037-B0250</a>	\$29.00	30	1.783in [45.29mm]	<a href="#">PDF</a>				
<a href="#">A32NF-XL037-B0312</a>	\$23.50		<a href="#">PDF</a>					
<a href="#">A32NH-XL037-0250</a>	\$28.25	32	1/4in	No	2.037in [51.74mm]	<a href="#">PDF</a>		
<a href="#">A32-XL037-B0312</a>	\$30.50					<a href="#">PDF</a>		
<a href="#">A36NF-XL037-B0312</a>	\$26.00	36	5/16in	No	2.292in [58.22mm]	<a href="#">PDF</a>		
<a href="#">A40NF-XL037-B0312</a>	\$31.00					<a href="#">PDF</a>		
<a href="#">A42NF-XL037-B0312</a>	\$31.50					<a href="#">PDF</a>		
<a href="#">A44NF-XL037-B0312</a>	\$34.00					<a href="#">PDF</a>		
<a href="#">A48NF-XL037-B0312</a>	\$37.00					<a href="#">PDF</a>		
<a href="#">A60NF-XL037-B0375</a>	\$50.00					<a href="#">PDF</a>		
<a href="#">A72NF-XL037-B0375</a>	\$66.00	72	3/8in	No	3.82in [97.03mm]	<a href="#">PDF</a>		
						<a href="#">PDF</a>		



# Timing Pulleys

## L Timing Pulley Features

- Pitch: 3/8in
- Tooth Profile: Trapezoidal
- Attachment: Smooth bore with set screws
- Pulley Material: Aluminum with hard anodize finish



**A10-L050-B-0375**

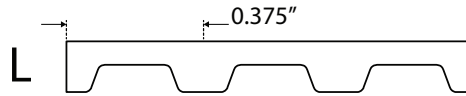
L Timing Pulley								
Part Number	Price	# Teeth	Bore Diameter	Nominal Width	Flange (Y/N)	Pitch Diameter	Material	Drawing Link
<a href="#"><u>A10-L050-B-0375</u></a>	\$27.00	10	3/8in	1/2in	Yes	1.194in [30.33mm]	Aluminum with anodize finish	<a href="#"><u>PDF</u></a>
<a href="#"><u>A12-L050-B-0375</u></a>	\$29.50	12				1.432in [36.37mm]		<a href="#"><u>PDF</u></a>
<a href="#"><u>A13-L050-B-0375</u></a>	\$30.00	13				1.552in [39.42mm]		<a href="#"><u>PDF</u></a>



# Timing Pulleys

## L Timing Pulley Features

- Pitch: 3/8in
- Tooth Profile: Trapezoidal
- Attachment: Quick Disconnect (QD) style bushing
- Pulley Material: Aluminum with hard anodize finish



**A14-L050-SPBO-0375**

L Timing Pulley								
Part Number	Price	# Teeth	Bore Diameter	Nominal Width	Flange (Y/N)	Pitch Diameter	Material	Drawing Link
<a href="#">A14-L050-SPBO-0375</a>	\$48.50	14	3/8in	1/2in	Yes	1.671in [42.44mm]	Aluminum with anodize finish	<a href="#">PDF</a>
<a href="#">A14-L050-SPBO-0500</a>	\$48.50		1/2in					<a href="#">PDF</a>
<a href="#">A15-L050-SPBO-0375</a>	\$50.00	15	3/8in			1.79in [45.47mm]		<a href="#">PDF</a>
<a href="#">A15-L050-SPBO-0500</a>	\$50.00		1/2in					<a href="#">PDF</a>
<a href="#">A16-L050-SPBO-0500</a>	\$52.00	16	5/8in			1.91in [48.51mm]		<a href="#">PDF</a>
<a href="#">A16-L050-SPBO-0625</a>	\$52.00		1/2in					<a href="#">PDF</a>
<a href="#">A17-L050-SPBO-0500</a>	\$53.00	17	1/2in			2.029in [51.54mm]		<a href="#">PDF</a>
<a href="#">A17-L050-SPBO-0625</a>	\$53.00		5/8in					<a href="#">PDF</a>
<a href="#">A18-L050-SPBO-0500</a>	\$54.00	18	1/2in			2.149in [54.58mm]		<a href="#">PDF</a>
<a href="#">A18-L050-SPBO-0625</a>	\$54.00		5/8in					<a href="#">PDF</a>
<a href="#">A20-L050-SPBO-0500</a>	\$60.00	20	1/2in			2.387in [60.63mm]		<a href="#">PDF</a>
<a href="#">A20-L050-SPBO-0625</a>	\$60.00		5/8in					<a href="#">PDF</a>
<a href="#">A20-L050-SPBO-0750</a>	\$60.00		3/4in			<a href="#">PDF</a>		
<a href="#">A21-L050-SPBO-0500</a>	\$60.00	21	1/2in			2.507in [63.68mm]		<a href="#">PDF</a>
<a href="#">A21-L050-SPBO-0625</a>	\$60.00		5/8in					<a href="#">PDF</a>
<a href="#">A21-L050-SPBO-0750</a>	\$60.00		3/4in					<a href="#">PDF</a>
<a href="#">A22-L050-SPBO-0500</a>	\$64.00	22	1/2in			2.626in [66.7mm]		<a href="#">PDF</a>
<a href="#">A22-L050-SPBO-0625</a>	\$64.00		5/8in					<a href="#">PDF</a>
<a href="#">A22-L050-SPBO-0750</a>	\$64.00		3/4in					<a href="#">PDF</a>
<a href="#">A22-L050-SPBO-0875</a>	\$64.00		7/8in					<a href="#">PDF</a>
<a href="#">A22-L050-SPBO-1000</a>	\$64.00		1in					<a href="#">PDF</a>
<a href="#">A24-L050-SPBO-0500</a>	\$71.00	24	1/2in			2.865in [72.77mm]		<a href="#">PDF</a>
<a href="#">A24-L050-SPBO-0625</a>	\$71.00		5/8in					<a href="#">PDF</a>
<a href="#">A24-L050-SPBO-0750</a>	\$71.00		3/4in					<a href="#">PDF</a>
<a href="#">A24-L050-SPBO-0875</a>	\$71.00		7/8in	<a href="#">PDF</a>				
<a href="#">A24-L050-SPBO-1000</a>	\$71.00		1in	<a href="#">PDF</a>				
<a href="#">A26-L050-SPBO-0500</a>	\$74.00	26	1/2in	3.104in [78.84mm]	<a href="#">PDF</a>			
<a href="#">A26-L050-SPBO-0625</a>	\$74.00		5/8in		<a href="#">PDF</a>			
<a href="#">A26-L050-SPBO-0750</a>	\$74.00		3/4in		<a href="#">PDF</a>			
<a href="#">A26-L050-SPBO-0875</a>	\$74.00		7/8in		<a href="#">PDF</a>			
<a href="#">A26-L050-SPBO-1000</a>	\$74.00		1in		<a href="#">PDF</a>			
<a href="#">A30-L050-SPBO-0500</a>	\$91.00	30	1/2in	3.581in [90.96mm]	<a href="#">PDF</a>			
<a href="#">A30-L050-SPBO-0625</a>	\$91.00		5/8in		<a href="#">PDF</a>			
<a href="#">A30-L050-SPBO-0750</a>	\$91.00		3/4in		<a href="#">PDF</a>			
<a href="#">A30-L050-SPBO-0875</a>	\$91.00		7/8in		<a href="#">PDF</a>			
<a href="#">A30-L050-SPBO-1000</a>	\$91.00		1in		<a href="#">PDF</a>			
<a href="#">A30-L050-SPBO-1125</a>	\$91.00		1-1/8in	<a href="#">PDF</a>				
<a href="#">A32-L050-SPBO-0500</a>	\$93.00	32	1/2in	3.82in [97.03mm]	<a href="#">PDF</a>			
<a href="#">A32-L050-SPBO-0625</a>	\$93.00		5/8in		<a href="#">PDF</a>			
<a href="#">A32-L050-SPBO-0750</a>	\$93.00		3/4in		<a href="#">PDF</a>			
<a href="#">A32-L050-SPBO-0875</a>	\$93.00		7/8in		<a href="#">PDF</a>			
<a href="#">A32-L050-SPBO-1000</a>	\$93.00		1in		<a href="#">PDF</a>			
<a href="#">A32-L050-SPBO-1125</a>	\$93.00		1-1/8in	<a href="#">PDF</a>				

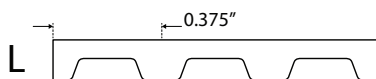




# Timing Pulleys

## L Timing Pulley Features

- Pitch: 3/8in
- Tooth Profile: Trapezoidal
- Attachment: Quick Disconnect (QD) style bushing
- Pulley Material: Aluminum with hard anodize finish



**A14-L100-SPBO-0375**

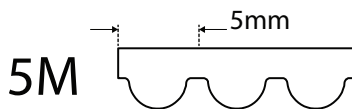
L Timing Pulley								
Part Number	Price	# Teeth	Bore Diameter	Nominal Width	Flange (Y/N)	Pitch Diameter	Material	Drawing Link
<a href="#">A14-L100-SPBO-0375</a>	\$52.50	14	3/8in	1in	Yes	1.671in [42.44mm]	Aluminum with anodize finish	<a href="#">PDF</a>
<a href="#">A16-L100-SPBO-0500</a>	\$58.00	16	1/2in			<a href="#">PDF</a>		
<a href="#">A16-L100-SPBO-0625</a>	\$58.00		5/8in			<a href="#">PDF</a>		
<a href="#">A18-L100-SPBO-0500</a>	\$61.00	18	1/2in			<a href="#">PDF</a>		
<a href="#">A18-L100-SPBO-0625</a>	\$61.00		5/8in			<a href="#">PDF</a>		
<a href="#">A20-L100-SPBO-0500</a>	\$69.50	20	1/2in			<a href="#">PDF</a>		
<a href="#">A20-L100-SPBO-0625</a>	\$69.50		5/8in			<a href="#">PDF</a>		
<a href="#">A20-L100-SPBO-0750</a>	\$69.50		3/4in			<a href="#">PDF</a>		
<a href="#">A22-L100-SPBO-0625</a>	\$75.00	22	5/8in			<a href="#">PDF</a>		
<a href="#">A22-L100-SPBO-0750</a>	\$75.00		3/4in			<a href="#">PDF</a>		
<a href="#">A22-L100-SPBO-0875</a>	\$75.00		7/8in			<a href="#">PDF</a>		
<a href="#">A22-L100-SPBO-1000</a>	\$75.00		1in			<a href="#">PDF</a>		
<a href="#">A24-L100-SPBO-0625</a>	\$79.50	24	5/8in			<a href="#">PDF</a>		
<a href="#">A24-L100-SPBO-0750</a>	\$79.50		3/4in			<a href="#">PDF</a>		
<a href="#">A24-L100-SPBO-0875</a>	\$79.50		7/8in			<a href="#">PDF</a>		
<a href="#">A24-L100-SPBO-1000</a>	\$79.50		1in			<a href="#">PDF</a>		
<a href="#">A26-L100-SPBO-0625</a>	\$84.50	26	5/8in			<a href="#">PDF</a>		
<a href="#">A26-L100-SPBO-0750</a>	\$84.50		3/4in			<a href="#">PDF</a>		
<a href="#">A26-L100-SPBO-0875</a>	\$84.50		7/8in			<a href="#">PDF</a>		
<a href="#">A26-L100-SPBO-1000</a>	\$84.50		1in			<a href="#">PDF</a>		
<a href="#">A28-L100-SPBO-0625</a>	\$94.00	28	5/8in			<a href="#">PDF</a>		
<a href="#">A28-L100-SPBO-0750</a>	\$94.00		3/4in			<a href="#">PDF</a>		
<a href="#">A28-L100-SPBO-0875</a>	\$94.00		7/8in			<a href="#">PDF</a>		
<a href="#">A28-L100-SPBO-1000</a>	\$94.00		1in			<a href="#">PDF</a>		
<a href="#">A28-L100-SPBO-1125</a>	\$94.00	30	1-1/8in			<a href="#">PDF</a>		
<a href="#">A28-L100-SPBO-1250</a>	\$94.00		1-1/4in			<a href="#">PDF</a>		
<a href="#">A30-L100-SPBO-0625</a>	\$106.00		5/8in			<a href="#">PDF</a>		
<a href="#">A30-L100-SPBO-0750</a>	\$106.00		3/4in			<a href="#">PDF</a>		
<a href="#">A30-L100-SPBO-0875</a>	\$106.00	30	7/8in			<a href="#">PDF</a>		
<a href="#">A30-L100-SPBO-1000</a>	\$106.00		1in			<a href="#">PDF</a>		
<a href="#">A30-L100-SPBO-1125</a>	\$106.00		1-1/8in			<a href="#">PDF</a>		
<a href="#">A30-L100-SPBO-1250</a>	\$106.00		1-1/4in			<a href="#">PDF</a>		
<a href="#">A32-L100-SPBO-0625</a>	\$109.00	32	5/8in			<a href="#">PDF</a>		
<a href="#">A32-L100-SPBO-0750</a>	\$109.00		3/4in			<a href="#">PDF</a>		
<a href="#">A32-L100-SPBO-0875</a>	\$109.00		7/8in			<a href="#">PDF</a>		
<a href="#">A32-L100-SPBO-1000</a>	\$109.00		1in			<a href="#">PDF</a>		
<a href="#">A32-L100-SPBO-1125</a>	\$109.00		1-1/8in			<a href="#">PDF</a>		
<a href="#">A32-L100-SPBO-1250</a>	\$109.00	1-1/4in	<a href="#">PDF</a>					
<a href="#">A36-L100-SPBO-0625</a>	\$127.00	36	5/8in			<a href="#">PDF</a>		
<a href="#">A36-L100-SPBO-0750</a>	\$127.00		3/4in			<a href="#">PDF</a>		
<a href="#">A36-L100-SPBO-0875</a>	\$127.00		7/8in	<a href="#">PDF</a>				
<a href="#">A36-L100-SPBO-1000</a>	\$127.00		1in	<a href="#">PDF</a>				
<a href="#">A36-L100-SPBO-1125</a>	\$127.00		1-1/8in	<a href="#">PDF</a>				
<a href="#">A36-L100-SPBO-1250</a>	\$127.00		1-1/4in	<a href="#">PDF</a>				
<a href="#">A40-L100-SPBO-0625</a>	\$159.00	40	5/8in	<a href="#">PDF</a>				
<a href="#">A40-L100-SPBO-0750</a>	\$159.00		3/4in	<a href="#">PDF</a>				
<a href="#">A40-L100-SPBO-0875</a>	\$159.00		7/8in	<a href="#">PDF</a>				
<a href="#">A40-L100-SPBO-1000</a>	\$159.00		1in	<a href="#">PDF</a>				
<a href="#">A40-L100-SPBO-1125</a>	\$159.00		1-1/8in	<a href="#">PDF</a>				
<a href="#">A40-L100-SPBO-1250</a>	\$159.00		1-1/4in	<a href="#">PDF</a>				



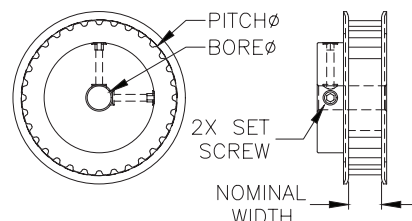
# Timing Pulleys

## 5M Timing Pulley Features

- Pitch: 5mm
- Tooth Profile: Curvilinear
- Attachment: Smooth bore with set screws
- Pulley Material: Aluminum with hard anodize finish



**A20-5M15-SS-0625**



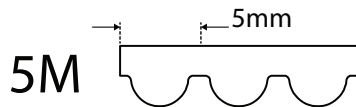
5M Timing Pulley												
Part Number	Price	# Teeth	Bore Diameter	Nominal Width	Flange (Y/N)	Pitch Diameter	Material	Drawing Link				
<a href="#">A20-5M10-SS-0625</a>	\$46.50	20	5/8in	9mm	Yes	1.253in [31.83mm]	Aluminum with anodize finish	<a href="#">PDF</a>				
<a href="#">A22-5M10-SS-0625</a>	\$39.00	22	3/4in			1.379in [35.03mm]		<a href="#">PDF</a>				
<a href="#">A22-5M10-SS-0750</a>	\$39.00					1.504in [38.2mm]		<a href="#">PDF</a>				
<a href="#">A24-5M10-SS-0625</a>	\$39.00	24	5/8in			1.504in [38.2mm]		<a href="#">PDF</a>				
<a href="#">A24-5M10-SS-0750</a>	\$39.00		3/4in			<a href="#">PDF</a>						
<a href="#">A24-5M10-SS-0875</a>	\$39.00		7/8in			<a href="#">PDF</a>						
<a href="#">A25-5M10-SS-0625</a>	\$39.50	25	5/8in			1.566in [39.78mm]		<a href="#">PDF</a>				
<a href="#">A25-5M10-SS-0750</a>	\$40.00		3/4in			<a href="#">PDF</a>						
<a href="#">A25-5M10-SS-0875</a>	\$40.00		7/8in			<a href="#">PDF</a>						
<a href="#">A28-5M10-SS-0625</a>	\$41.50	28	5/8in			1.754in [44.55mm]		<a href="#">PDF</a>				
<a href="#">A28-5M10-SS-0750</a>	\$41.50		3/4in			<a href="#">PDF</a>						
<a href="#">A28-5M10-SS-0875</a>	\$41.50		7/8in			<a href="#">PDF</a>						
<a href="#">A30-5M10-SS-0625</a>	\$45.00	30	5/8in			1.88in [47.75mm]		<a href="#">PDF</a>				
<a href="#">A30-5M10-SS-0750</a>	\$45.00		3/4in			<a href="#">PDF</a>						
<a href="#">A30-5M10-SS-0875</a>	\$45.00		7/8in			<a href="#">PDF</a>						
<a href="#">A32-5M10-SS-0750</a>	\$47.00	32	3/4in			2.005in [50.93mm]		<a href="#">PDF</a>				
<a href="#">A32-5M10-SS-0875</a>	\$47.00		7/8in			<a href="#">PDF</a>						
<a href="#">A36-5M10-SS-0750</a>	\$51.00	36	3/4in			2.256in [57.3mm]		<a href="#">PDF</a>				
<a href="#">A36-5M10-SS-0875</a>	\$51.00		7/8in			<a href="#">PDF</a>						
<a href="#">A40-5M10-SS-0750</a>	\$57.00	40	3/4in			2.506in [63.65mm]		<a href="#">PDF</a>				
<a href="#">A40-5M10-SS-0875</a>	\$57.00		7/8in			<a href="#">PDF</a>						
<a href="#">A42-5M10-SS-0750</a>	\$61.00	42	3/4in			2.632in [66.85mm]		<a href="#">PDF</a>				
<a href="#">A42-5M10-SS-0875</a>	\$61.00		7/8in			<a href="#">PDF</a>						
<a href="#">A20-5M15-SS-0625</a>	\$48.00	20	5/8in			15mm		Yes	1.253in [31.83mm]	Aluminum with anodize finish	<a href="#">PDF</a>	
<a href="#">A22-5M15-SS-0625</a>	\$52.00	22							1.379in [35.03mm]		<a href="#">PDF</a>	
<a href="#">A24-5M15-SS-0625</a>	\$52.00	24							7/8in		1.504in [38.2mm]	<a href="#">PDF</a>
<a href="#">A24-5M15-SS-0875</a>	\$52.00										1.566in [39.78mm]	<a href="#">PDF</a>
<a href="#">A25-5M15-SS-0625</a>	\$52.50	25							5/8in		1.566in [39.78mm]	<a href="#">PDF</a>
<a href="#">A25-5M15-SS-0875</a>	\$52.50			7/8in	<a href="#">PDF</a>							
<a href="#">A28-5M15-SS-0625</a>	\$56.00	28		5/8in	1.754in [44.55mm]		<a href="#">PDF</a>					
<a href="#">A28-5M15-SS-0875</a>	\$56.00			7/8in	<a href="#">PDF</a>							
<a href="#">A30-5M15-SS-0625</a>	\$61.00	30		5/8in	1.88in [47.75mm]		<a href="#">PDF</a>					
<a href="#">A30-5M15-SS-0875</a>	\$61.00			7/8in	<a href="#">PDF</a>							
<a href="#">A30-5M15-SS-1125</a>	\$61.00			1-1/8in	<a href="#">PDF</a>							
<a href="#">A32-5M15-SS-0875</a>	\$65.00	32		7/8in	2.005in [50.93mm]		<a href="#">PDF</a>					
<a href="#">A32-5M15-SS-1125</a>	\$65.00			1-1/8in	<a href="#">PDF</a>							
<a href="#">A36-5M15-SS-0875</a>	\$71.00	36		7/8in	2.256in [57.3mm]		<a href="#">PDF</a>					
<a href="#">A36-5M15-SS-1125</a>	\$71.00			1-1/8in	<a href="#">PDF</a>							
<a href="#">A40-5M15-SS-0875</a>	\$80.00	40		7/8in	2.506in [63.65mm]		<a href="#">PDF</a>					
<a href="#">A40-5M15-SS-1125</a>	\$80.00			1-1/8in	<a href="#">PDF</a>							
<a href="#">A42-5M15-SS-0875</a>	\$84.50	42		7/8in	2.632in [66.85mm]		<a href="#">PDF</a>					
<a href="#">A42-5M15-SS-1125</a>	\$84.50			<a href="#">PDF</a>								
<a href="#">A44-5M15-SS-1125</a>	\$89.00	44		1-1/8in	2.757in [70.03mm]		<a href="#">PDF</a>					
<a href="#">A48-5M15-SS-1125</a>	\$94.00				3.008in [76.4mm]		<a href="#">PDF</a>					



# Timing Pulleys

## 5M Timing Pulley Features

- Pitch: 5mm
- Tooth Profile: Curvilinear
- Attachment: Quick Disconnect (QD) style bushing
- Pulley Material: Aluminum with hard anodize finish



**A32-5M10-SPBO-0625**

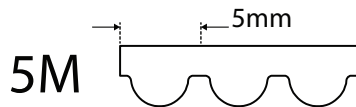
5M Timing Pulley																			
Part Number	Price	# Teeth	Bore Diameter	Nominal Width	Flange (Y/N)	Pitch Diameter	Material	Drawing Link											
<a href="#">A32-5M10-SPBO-0625</a>	\$76.50	32	5/8in	9mm	Yes	2.005in [50.93mm]	Aluminum with anodize finish	<a href="#">PDF</a>											
<a href="#">A36-5M10-SPBO-0625</a>	\$62.00	36				2.256in [57.3mm]		<a href="#">PDF</a>											
<a href="#">A40-5M10-SPBO-0625</a>	\$66.00	40				2.506in [63.65mm]		<a href="#">PDF</a>											
<a href="#">A42-5M10-SPBO-0625</a>	\$70.50	42				2.632in [66.85mm]		<a href="#">PDF</a>											
<a href="#">A44-5M10-SPBO-0625</a>	\$73.00	44	3/4in			Yes		2.757in [70.03mm]	Aluminum with anodize finish	<a href="#">PDF</a>									
<a href="#">A44-5M10-SPBO-0750</a>	\$73.00									<a href="#">PDF</a>									
<a href="#">A44-5M10-SPBO-0875</a>	\$73.00									<a href="#">PDF</a>									
<a href="#">A48-5M10-SPBO-0625</a>	\$77.00	48	5/8in					Yes		3.008in [76.4mm]	Aluminum with anodize finish	<a href="#">PDF</a>							
<a href="#">A48-5M10-SPBO-0750</a>	\$77.00											<a href="#">PDF</a>							
<a href="#">A48-5M10-SPBO-0875</a>	\$77.00											<a href="#">PDF</a>							
<a href="#">A60-5M10-SPBO-0625</a>	\$94.00	60	5/8in							Yes		3.76in [95.5mm]	Aluminum with anodize finish	<a href="#">PDF</a>					
<a href="#">A60-5M10-SPBO-0750</a>	\$94.00													<a href="#">PDF</a>					
<a href="#">A60-5M10-SPBO-0875</a>	\$94.00													<a href="#">PDF</a>					
<a href="#">A72-5M10-SPBO-0625</a>	\$112.00	72	5/8in									Yes		4.511in [114.58mm]	Aluminum with anodize finish	<a href="#">PDF</a>			
<a href="#">A72-5M10-SPBO-0750</a>	\$111.00															<a href="#">PDF</a>			
<a href="#">A72-5M10-SPBO-0875</a>	\$112.00															<a href="#">PDF</a>			
<a href="#">A84-5M10-SPBO-0625</a>	\$147.00	84	5/8in											Yes		5.263in [133.68mm]	Aluminum with anodize finish	<a href="#">PDF</a>	
<a href="#">A84-5M10-SPBO-0750</a>	\$146.00																	<a href="#">PDF</a>	
<a href="#">A84-5M10-SPBO-0875</a>	\$147.00																	<a href="#">PDF</a>	
<a href="#">A96-5M10-SPBO-0625</a>	\$187.00	96	5/8in													Yes		6.015in [152.78mm]	Aluminum with anodize finish
<a href="#">A96-5M10-SPBO-0750</a>	\$186.00			<a href="#">PDF</a>															
<a href="#">A96-5M10-SPBO-0875</a>	\$187.00			<a href="#">PDF</a>															
<a href="#">A120-5M10-SPBO-0625</a>	\$251.00	120	5/8in	Yes	7.519in [190.98mm]		Aluminum with anodize finish											<a href="#">PDF</a>	
<a href="#">A120-5M10-SPBO-0750</a>	\$250.00																	<a href="#">PDF</a>	
<a href="#">A120-5M10-SPBO-0875</a>	\$251.00					<a href="#">PDF</a>													



# Timing Pulleys

## 5M Timing Pulley Features

- Pitch: 5mm
- Tooth Profile: Curvilinear
- Attachment: Quick Disconnect (QD) style bushing
- Pulley Material: Aluminum with hard anodize finish



**A32-5M15-SPBO-0625**

5M Timing Pulley									
Part Number	Price	# Teeth	Bore Diameter	Nominal Width	Flange (Y/N)	Pitch Diameter	Material	Drawing Link	
<a href="#">A32-5M15-SPBO-0625</a>	\$87.00	32	5/8in	15mm	Yes	2.005in [50.93mm]	Aluminum with anodize finish	<a href="#">PDF</a>	
<a href="#">A36-5M15-SPBO-0625</a>	\$90.00	36				2.256in [57.3mm]		<a href="#">PDF</a>	
<a href="#">A40-5M15-SPBO-0625</a>	\$99.00	40				2.506in [63.65mm]		<a href="#">PDF</a>	
<a href="#">A42-5M15-SPBO-0625</a>	\$102.00	42				2.632in [66.85mm]		<a href="#">PDF</a>	
<a href="#">A44-5M15-SPBO-0625</a>	\$108.00	44				7/8in		2.757in [70.03mm]	<a href="#">PDF</a>
<a href="#">A44-5M15-SPBO-0875</a>	\$108.00								<a href="#">PDF</a>
<a href="#">A48-5M15-SPBO-0625</a>	\$115.00	48				5/8in		3.008in [76.4mm]	<a href="#">PDF</a>
<a href="#">A48-5M15-SPBO-0875</a>	\$115.00					7/8in			<a href="#">PDF</a>
<a href="#">A60-5M15-SPBO-0625</a>	\$141.00	60				5/8in		3.76in [95.5mm]	<a href="#">PDF</a>
<a href="#">A60-5M15-SPBO-0875</a>	\$141.00					7/8in			<a href="#">PDF</a>
<a href="#">A60-5M15-SPBO-1125</a>	\$141.00					1-1/8in			<a href="#">PDF</a>
<a href="#">A72-5M15-SPBO-0625</a>	\$170.00	72				5/8in		4.511in [114.58mm]	<a href="#">PDF</a>
<a href="#">A72-5M15-SPBO-0875</a>	\$170.00		7/8in	<a href="#">PDF</a>					
<a href="#">A72-5M15-SPBO-1125</a>	\$170.00		1-1/8in	<a href="#">PDF</a>					
<a href="#">A84-5M15-SPBO-0625</a>	\$217.00	84	5/8in	5.263in [133.68mm]	<a href="#">PDF</a>				
<a href="#">A84-5M15-SPBO-0875</a>	\$217.00		7/8in		<a href="#">PDF</a>				
<a href="#">A84-5M15-SPBO-1125</a>	\$217.00		1-1/8in		<a href="#">PDF</a>				
<a href="#">A96-5M15-SPBO-0625</a>	\$276.00	96	5/8in	6.015in [152.78mm]	<a href="#">PDF</a>				
<a href="#">A96-5M15-SPBO-0875</a>	\$276.00		7/8in		<a href="#">PDF</a>				
<a href="#">A96-5M15-SPBO-1125</a>	\$276.00		1-1/8in		<a href="#">PDF</a>				
<a href="#">A120-5M15-SPBO-0625</a>	\$372.00	120	5/8in	7.519in [190.98mm]	<a href="#">PDF</a>				
<a href="#">A120-5M15-SPBO-0875</a>	\$372.00		7/8in		<a href="#">PDF</a>				
<a href="#">A120-5M15-SPBO-1125</a>	\$372.00		1-1/8in		<a href="#">PDF</a>				



# Synchronous Drive Components

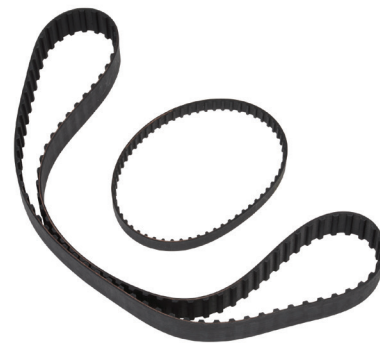
## Product Overview



**Timing Pulleys**



**Bushings**

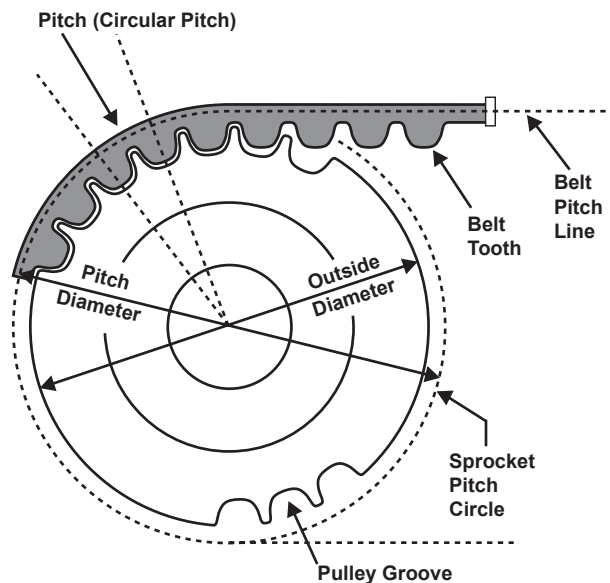


**Timing Belts**

Timing pulleys, bushings, and belts allow you to change speed and torque while connecting mechanically rotating components.

- Select pulley sizes in order to accomplish the speed or torque change that you need.
- Bushings allow you to connect the same pulleys to different sized shafts, or vice versa.
- Synchronous drive belts and pulleys utilize teeth to prevent slippage and unwanted speed variations.

*Note: For pulley speeds in excess of 6,000 RPM, pulleys should be dynamically balanced.*



## Drive Component Selection

1. Determine required torque (ft·lbs) and rpm of driven shaft.
2. Determine design horsepower:

$$DHP = \frac{T \cdot N \cdot sf}{5,252}$$

Where: T = torque (ft·lb)  
 N = rpm  
 sf = service factor per table

Service Factors			
Machine Type	<8hr per day	8-16 hr per day	Continuous
Smooth Running	1.0	1.2	1.4
Light Shock Loads	1.3	1.5	1.7
Heavy Shock Loads	1.7	1.9	2.1

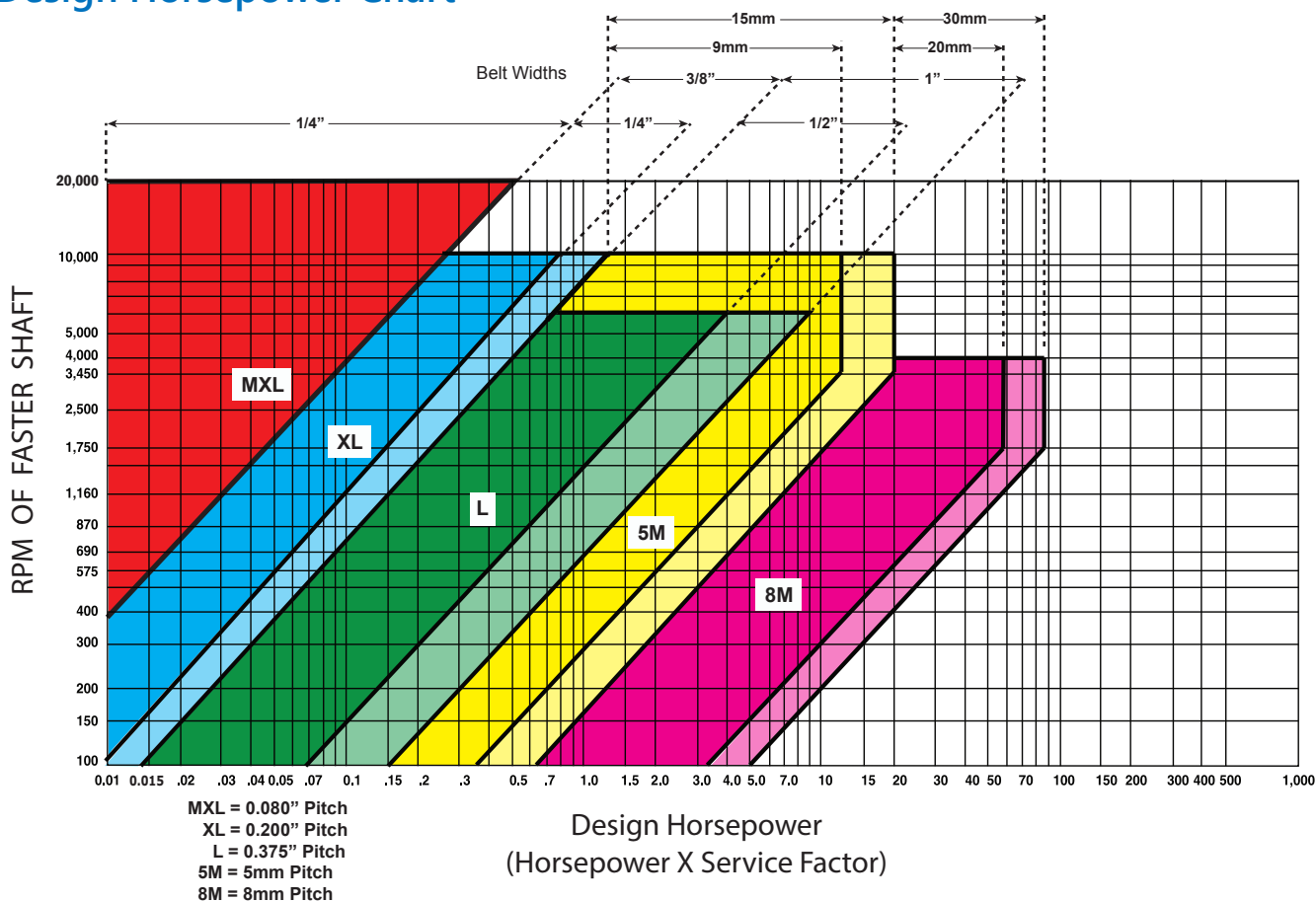
3. Determine Pitch (MXL XL or L) and belt width required by reading Design Horsepower Chart.
4. Select driver and driven pulleys to match desired speed or torque change.
5. Determine belt length per belt length calculation.

*Note: AutomationDirect provides an online configuration tool to assist with pulley and belt sizing.  
 See: [www.automationdirect.com/selectors/beltandpulley](http://www.automationdirect.com/selectors/beltandpulley)*

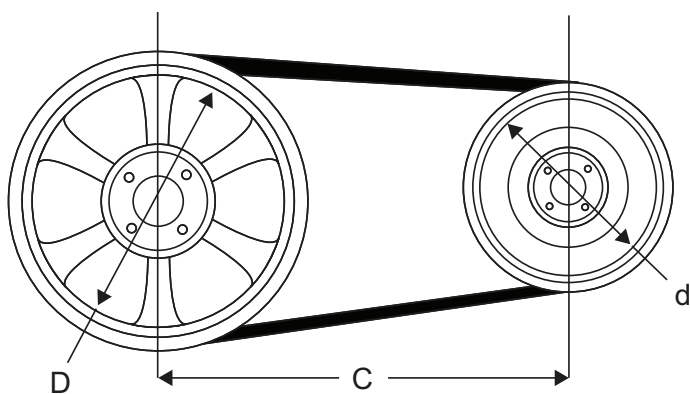


# Synchronous Drive Components

## Design Horsepower Chart



## Drive Component Selection Continued



### Belt Length Calculations

$$L = 2C + 1.57 (D + d) + \frac{(D-d)^2}{4C}$$

Where:

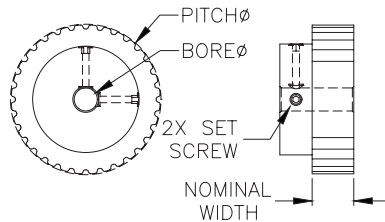
- L = Length of belt at pitch line (in inches)
- C = Center distance (in inches)
- D = Pitch diameter (in inches) of large sprocket
- d = Pitch diameter (in inches) of small sprocket



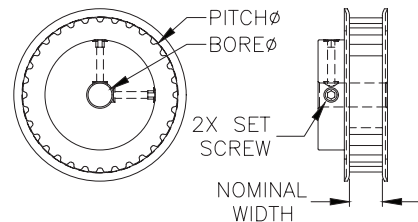
# Synchronous Drive Components

## MXL Synchronous Timing Belt Pulleys

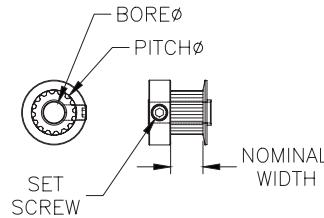
Also referred to as sprockets, SureMotion MXL timing pulleys have a 0.080 inch pitch and 1/4 inch width. Aluminum pulleys are available with a smooth bore and setscrews.



**MXL Pulley with Hub, No Flange**



**MXL Pulley with Hub and Flange**



**MXL Pulley with Oversize Hub and Flange**

Timing Belt Pulleys – Pitch Designation MXL; Plain Bore (With Hub)																			
Part Number	Price	Weight (lb)	# Grooves (Teeth)	Nominal Width (in)	Flange (Y/N)	Pitch (in)	Pitch Diameter (in)	Bore Diameter	Material*	Part Number	Price	Weight (lb)	# Grooves (Teeth)	Nominal Width (in)	Flange (Y/N)	Pitch (in)	Pitch Diameter (in)	Bore Diameter	Material*
<a href="#">APB10MXL025CF-125</a>	\$15.00	0.1	10	0.25	Y	0.08	0.255	0.125	Al	<a href="#">APB28MXL025BF-250</a>	\$17.50	0.1	28	0.25	Y	0.08	0.713	0.25	Al
<a href="#">APB11MXL025CF-125</a>	\$14.50	0.1	11	0.25	Y	0.08	0.280	0.125	Al	<a href="#">APB30MXL025BF-250</a>	\$19.00	0.1	30	0.25	Y	0.08	0.764	0.25	Al
<a href="#">APB12MXL025CF-125</a>	\$15.00	0.1	12	0.25	Y	0.08	0.306	0.125	Al	<a href="#">APB32MXL025BF-250</a>	\$19.00	0.1	32	0.25	Y	0.08	0.815	0.25	Al
<a href="#">APB14MXL025CF-125</a>	\$16.00	0.1	14	0.25	Y	0.08	0.357	0.125	Al	<a href="#">APB36MXL025BF-250</a>	\$19.00	0.1	36	0.25	Y	0.08	0.917	0.25	Al
<a href="#">APB15MXL025CF-188</a>	\$16.00	0.1	15	0.25	Y	0.08	0.382	0.1875	Al	<a href="#">APB40MXL025BF-250</a>	\$21.50	0.1	40	0.25	Y	0.08	1.019	0.25	Al
<a href="#">APB16MXL025CF-188</a>	\$17.00	0.1	16	0.25	Y	0.08	0.407	0.1875	Al	<a href="#">APB42MXL025BF-250</a>	\$23.00	0.1	42	0.25	Y	0.08	1.070	0.25	Al
<a href="#">APB18MXL025BF-188</a>	\$17.00	0.1	18	0.25	Y	0.08	0.458	0.1875	Al	<a href="#">APB44MXL025BF-250</a>	\$23.00	0.1	44	0.25	Y	0.08	1.120	0.25	Al
<a href="#">APB18MXL025CF-250</a>	\$17.00	0.1	18	0.25	Y	0.08	0.458	0.25	Al	<a href="#">APB48MXL025BF-250</a>	\$27.00	0.1	48	0.25	Y	0.08	1.222	0.25	Al
<a href="#">APB20MXL025BF-188</a>	\$17.00	0.1	20	0.25	Y	0.08	0.509	0.1875	Al	<a href="#">APB60MXL025BF-250</a>	\$30.00	0.1	60	0.25	Y	0.08	1.528	0.25	Al
<a href="#">APB20MXL025CF-250</a>	\$17.50	0.1	20	0.25	Y	0.08	0.509	0.25	Al	<a href="#">APB60MXL025B-250</a>	\$30.00	0.1	60	0.25	N	0.08	1.528	0.25	Al
<a href="#">APB21MXL025BF-188</a>	\$17.00	0.1	21	0.25	Y	0.08	0.535	0.1875	Al	<a href="#">APB72MXL025B-250</a>	\$32.00	0.1	72	0.25	N	0.08	1.833	0.25	Al
<a href="#">APB21MXL025CF-250</a>	\$17.50	0.1	21	0.25	Y	0.08	0.535	0.25	Al	<a href="#">APB80MXL025B-312</a>	\$38.50	0.1	80	0.25	N	0.08	2.037	0.3125	Al
<a href="#">APB22MXL025BF-188</a>	\$17.00	0.1	22	0.25	Y	0.08	0.560	0.1875	Al	<a href="#">APB90MXL025B-312</a>	\$43.50	0.1	90	0.25	N	0.08	2.292	0.3125	Al
<a href="#">APB22MXL025CF-250</a>	\$17.50	0.1	22	0.25	Y	0.08	0.560	0.25	Al	<a href="#">APB100MXL025B-312</a>	\$49.50	0.1	100	0.25	N	0.08	2.546	0.3125	Al
<a href="#">APB24MXL025BF-250</a>	\$17.50	0.1	24	0.25	Y	0.08	0.611	0.25	Al	<a href="#">APB120MXL025B-375</a>	\$57.00	0.1	120	0.25	N	0.08	3.056	0.375	Al
<a href="#">APB25MXL025BF-250</a>	\$17.50	0.1	25	0.25	Y	0.08	0.637	0.25	Al										

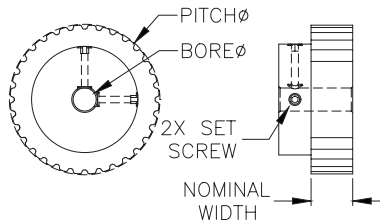
\* Al = Aluminum with clear anodized finish; S = Steel



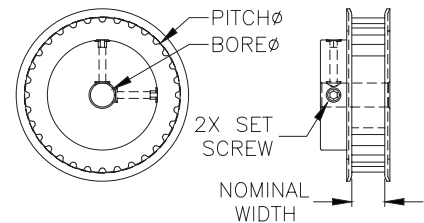
# Synchronous Drive Components

## XL Synchronous Timing Belt Pulleys

Also referred to as sprockets, SureMotion XL timing pulleys have a 1/5 inch pitch and 1/4 or 3/8 inch width. Both aluminum and steel pulleys are available with a smooth bore and setscrews.



**XL Pulley with Hub, No Flange**



**XL Pulley with Hub and Flange**

### Timing Belt Pulleys – Pitch Designation XL; Plain Bore (With Hub)

Part Number	Price	Weight (lb)	# Grooves (Teeth)	Nominal Width (in)	Flange (Y/N)	Pitch (in)	Pitch Diameter (in)	Bore Diameter	Max Bore Diameter	Material*
<a href="#">APB10XL025BF-250</a>	\$12.50	0.1	10	0.25	Y	0.20	0.637	0.25	0.25	Al
<a href="#">APB11XL025BF-250</a>	\$14.50	0.1	11	0.25	Y	0.20	0.700	0.25	0.25	Al
<a href="#">APB12XL025BF-250</a>	\$13.00	0.1	12	0.25	Y	0.20	0.764	0.25	0.3125	Al
<a href="#">APB13XL025BF-250</a>	\$13.50	0.1	13	0.25	Y	0.20	0.828	0.25	0.3125	Al
<a href="#">APB14XL025BF-250</a>	\$15.00	0.1	14	0.25	Y	0.20	0.891	0.25	0.375	Al
<a href="#">APB15XL025BF-250</a>	\$17.50	0.1	15	0.25	Y	0.20	0.955	0.25	0.4375	Al
<a href="#">APB16XL025BF-250</a>	\$17.50	0.1	16	0.25	Y	0.20	1.019	0.25	0.5	Al
<a href="#">APB18XL025BF-250</a>	\$17.00	0.1	18	0.25	Y	0.20	1.146	0.25	0.5625	Al
<a href="#">APB20XL025BF-250</a>	\$17.50	0.1	20	0.25	Y	0.20	1.273	0.25	0.6875	Al
<a href="#">APB21XL025BF-250</a>	\$20.50	0.1	21	0.25	Y	0.20	1.337	0.25	0.6875	Al
<a href="#">APB22XL025BF-250</a>	\$21.50	0.1	22	0.25	Y	0.20	1.401	0.25	0.75	Al
<a href="#">APB24XL025BF-250</a>	\$23.00	0.1	24	0.25	Y	0.20	1.528	0.25	0.8125	Al
<a href="#">APB26XL025BF-250</a>	\$25.00	0.1	26	0.25	Y	0.20	1.655	0.25	0.8125	Al
<a href="#">APB28XL025BF-250</a>	\$27.50	0.1	28	0.25	Y	0.20	1.783	0.25	0.9375	Al
<a href="#">APB30XL025BF-250</a>	\$30.50	0.2	30	0.25	Y	0.20	1.910	0.25	1.0625	Al
<a href="#">APB10XL037BF-250</a>	\$13.00	0.1	10	0.375	Y	0.20	0.637	0.25	0.25	Al
<a href="#">APB11XL037BF-250</a>	\$13.00	0.1	11	0.375	Y	0.20	0.700	0.25	0.25	Al
<a href="#">APB12XL037BF-250</a>	\$13.50	0.1	12	0.375	Y	0.20	0.764	0.25	0.3125	Al
<a href="#">APB13XL037BF-250</a>	\$14.50	0.1	13	0.375	Y	0.20	0.828	0.25	0.3125	Al
<a href="#">APB14XL037BF-250</a>	\$15.00	0.1	14	0.375	Y	0.20	0.891	0.25	0.375	Al
<a href="#">APB15XL037BF-250</a>	\$15.50	0.1	15	0.375	Y	0.20	0.955	0.25	0.4375	Al
<a href="#">APB16XL037BF-250</a>	\$17.00	0.1	16	0.375	Y	0.20	1.019	0.25	0.5	Al
<a href="#">APB17XL037BF-250</a>	\$17.50	0.1	17	0.375	Y	0.20	1.082	0.25	0.5	Al
<a href="#">APB18XL037BF-250</a>	\$17.50	0.1	18	0.375	Y	0.20	1.146	0.25	0.5625	Al
<a href="#">APB19XL037BF-250</a>	\$17.50	0.1	19	0.375	Y	0.20	1.210	0.25	0.5625	Al
<a href="#">APB20XL037BF-250</a>	\$17.50	0.1	20	0.375	Y	0.20	1.273	0.25	0.6875	Al
<a href="#">APB21XL037BF-250</a>	\$21.50	0.1	21	0.375	Y	0.20	1.337	0.25	0.6875	Al
<a href="#">APB22XL037BF-250</a>	\$23.00	0.1	22	0.375	Y	0.20	1.401	0.25	0.75	Al
<a href="#">APB23XL037BF-250</a>	\$24.00	0.1	23	0.375	Y	0.20	1.464	0.25	0.75	Al
<a href="#">APB24XL037BF-250</a>	\$25.00	0.1	24	0.375	Y	0.20	1.528	0.25	0.8125	Al
<a href="#">APB25XL037BF-250</a>	\$27.00	0.1	25	0.375	Y	0.20	1.592	0.25	0.8125	Al
<a href="#">APB26XL037BF-250</a>	\$27.00	0.1	26	0.375	Y	0.20	1.655	0.25	0.8125	Al
<a href="#">APB28XL037BF-250</a>	\$27.50	0.2	28	0.375	Y	0.20	1.783	0.25	0.9375	Al
<a href="#">APB30XL037BF-250</a>	\$30.50	0.2	30	0.375	Y	0.20	1.910	0.25	1.0625	Al
<a href="#">APB32XL037BF-312</a>	\$30.50	0.2	32	0.375	Y	0.20	2.037	0.312	1.1875	Al
<a href="#">APB32XL037B-312</a>	\$32.50	0.2	32	0.375	N	0.20	2.037	0.312	1.1875	Al
<a href="#">APB36XL037B-312</a>	\$38.50	0.3	36	0.375	N	0.20	2.292	0.312	1.1875	Al
<a href="#">APB40XL037B-312</a>	\$40.50	0.4	40	0.375	N	0.20	2.546	0.312	1.1875	Al
<a href="#">APB42XL037B-312</a>	\$41.00	0.4	42	0.375	N	0.20	2.674	0.312	1.1875	Al
<a href="#">APB44XL037B-312</a>	\$45.50	0.4	44	0.375	N	0.20	2.801	0.312	1.1875	Al
<a href="#">APB48XL037B-312</a>	\$48.00	0.5	48	0.375	N	0.20	3.056	0.312	1.1875	Al
<a href="#">APB60XL037B-375</a>	\$54.00	0.6	60	0.375	N	0.20	3.820	0.375	1.1875	Al
<a href="#">APB72XL037B-375</a>	\$59.00	0.9	72	0.375	N	0.20	4.584	0.375	1.1875	Al
<a href="#">SPB28XL037BF-250</a>	\$32.50	0.5	28	0.375	Y	0.20	1.783	0.25	0.9375	S
<a href="#">SPB30XL037BF-312</a>	\$30.50	0.6	30	0.375	Y	0.20	1.910	0.312	1.0625	S

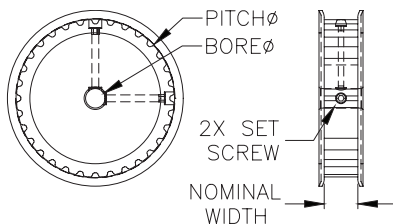
\* Al = Aluminum with clear anodized finish; S = Steel





# Synchronous Drive Components

## XL Synchronous Timing Belt Pulleys Continued



**XL Pulley Hubless,  
With Flange**

Timing Belt Pulleys – Pitch Designation XL; Hubless																					
Part Number	Price	Weight (lb)	# Grooves (Teeth)	Nominal Width (in)	Flange (Y/N)	Pitch (in)	Pitch Diameter (in)	Bore Diameter	Max Bore Diameter	Material*	Part Number	Price	Weight (lb)	# Grooves (Teeth)	Nominal Width (in)	Flange (Y/N)	Pitch (in)	Pitch Diameter (in)	Bore Diameter	Max Bore Diameter	Material*
<a href="#">APB10XL037AF-250</a>	\$14.50	0.1	10	0.375	Y	0.20	0.637	0.25	0.25	Al	<a href="#">APB20XL037AF-250</a>	\$20.50	0.1	20	0.375	Y	0.20	1.273	0.25	0.6875	Al
<a href="#">APB11XL037AF-250</a>	\$14.50	0.1	11	0.375	Y	0.20	0.700	0.25	0.25	Al	<a href="#">APB21XL037AF-250</a>	\$21.50	0.1	21	0.375	Y	0.20	1.337	0.25	0.6875	Al
<a href="#">APB12XL037AF-250</a>	\$14.50	0.1	12	0.375	Y	0.20	0.764	0.25	0.3125	Al	<a href="#">APB22XL037AF-250</a>	\$23.00	0.1	22	0.375	Y	0.20	1.401	0.25	0.75	Al
<a href="#">APB14XL037AF-250</a>	\$17.50	0.1	14	0.375	Y	0.20	0.891	0.25	0.375	Al	<a href="#">APB24XL037AF-250</a>	\$24.00	0.1	24	0.375	Y	0.20	1.528	0.25	0.8125	Al
<a href="#">APB15XL037AF-250</a>	\$17.50	0.1	15	0.375	Y	0.20	0.955	0.25	0.4375	Al	<a href="#">APB28XL037AF-250</a>	\$27.50	0.1	28	0.375	Y	0.20	1.783	0.25	0.9375	Al
<a href="#">APB16XL037AF-250</a>	\$17.50	0.1	16	0.375	Y	0.20	1.019	0.25	0.5	Al	<a href="#">APB30XL037AF-250</a>	\$30.50	0.2	30	0.375	Y	0.20	1.910	0.25	1.0625	Al
<a href="#">APB18XL037AF-250</a>	\$19.00	0.1	18	0.375	Y	0.20	1.146	0.25	0.5625	Al	<a href="#">APB32XL037AF-250</a>	\$34.00	0.2	32	0.375	Y	0.20	2.037	0.25	1.1875	Al

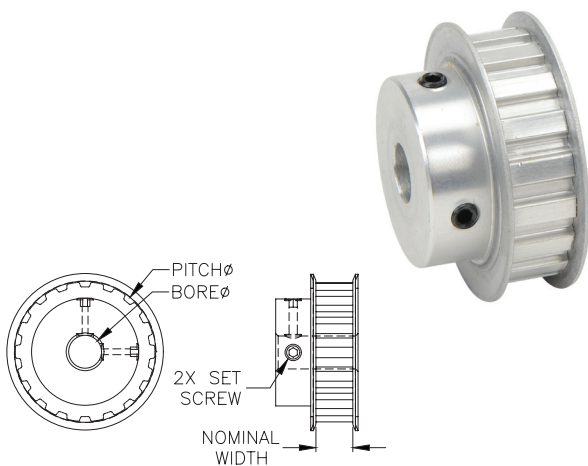
\* Al = Aluminum with clear anodized finish; S = Steel



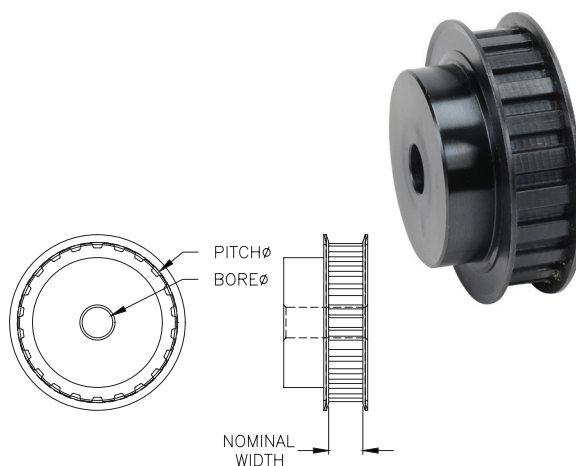
# Synchronous Drive Components

## L Synchronous Timing Belt Pulleys

Also referred to as sprockets, SureMotion L timing pulleys have a 3/8 inch pitch and 1/2 or 1 inch width. Aluminum pulleys are available with a smooth bore and setscrews. Steel plain bore pulleys require machining by the end user for desired shaft mounting (i.e. bore, keyway, setscrews). Steel pulleys also available to fit Taper-Lock or QD style drive bushings. Bushings sold separately.



**L Pulley with Hub, Flange, and Setscrews**



**L Pulley with Hub, Flange, No Setscrews**

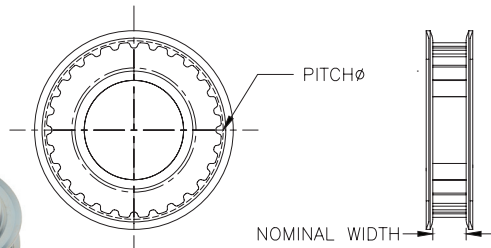
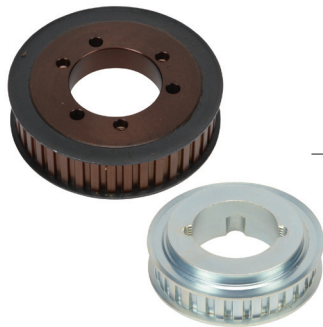
Timing Belt Pulleys – Pitch Designation L; Plain Bore (With Hub)																					
Part Number	Price	Weight (lb)	# Grooves (Teeth)	Nominal Width (in)	Flange (Y/N)	Pitch (in)	Pitch Diameter (in)	Bore Diameter	Max Bore Diameter	Material*	Part Number	Price	Weight (lb)	# Grooves (Teeth)	Nominal Width (in)	Flange (Y/N)	Pitch (in)	Pitch Diameter (in)	Bore Diameter	Max Bore Diameter	Material*
<a href="#">APB10L050BF-375</a>	\$25.00	0.1	10	0.50	Y	0.375	1.194	0.375	0.5625	Al	<a href="#">SPB30L050BF-500</a>	\$77.00	2.4	30	0.50	Y	0.375	3.581	0.50	1.625	S
<a href="#">APB12L050BF-375</a>	\$27.50	0.2	12	0.50	Y	0.375	1.432	0.375	0.8125	Al	<a href="#">SPB32L050BF-500</a>	\$78.00	2.8	32	0.50	Y	0.375	3.820	0.50	1.875	S
<a href="#">APB13L050BF-375</a>	\$30.00	0.2	13	0.50	Y	0.375	1.552	0.375	0.8125	Al	<a href="#">SPB36L050BF-500</a>	\$84.00	4.0	36	0.50	Y	0.375	4.297	0.50	1.875	S
<a href="#">APB14L050BF-375</a>	\$31.00	0.2	14	0.50	Y	0.375	1.671	0.375	0.875	Al	<a href="#">SPB40L050BF-500</a>	\$96.00	4.7	40	0.50	Y	0.375	4.775	0.50	1.875	S
<a href="#">APB15L050BF-375</a>	\$37.00	0.3	15	0.50	Y	0.375	1.790	0.375	0.9375	Al	<a href="#">SPB14L100BF-375</a>	\$34.00	0.8	14	1.0	Y	0.375	1.671	0.375	0.875	S
<a href="#">APB16L050BF-500</a>	\$38.50	0.3	16	0.50	Y	0.375	1.910	0.50	1.125	Al	<a href="#">SPB16L100BF-500</a>	\$39.50	1.1	16	1.0	Y	0.375	1.910	0.50	1.125	S
<a href="#">APB17L050BF-500</a>	\$39.50	0.3	17	0.50	Y	0.375	2.029	0.50	1.125	Al	<a href="#">SPB18L100BF-500</a>	\$50.00	1.4	18	1.0	Y	0.375	2.149	0.50	1.1875	S
<a href="#">APB18L050BF-500</a>	\$40.50	0.4	18	0.50	Y	0.375	2.149	0.50	1.1875	Al	<a href="#">SPB20L100BF-500</a>	\$57.00	1.7	20	1.0	Y	0.375	2.387	0.50	1.1875	S
<a href="#">APB19L050BF-500</a>	\$50.00	0.4	19	0.50	Y	0.375	2.268	0.50	1.1875	Al	<a href="#">SPB22L100BF-625</a>	\$64.00	2.1	22	1.0	Y	0.375	2.626	0.625	1.5	S
<a href="#">APB20L050BF-500</a>	\$54.00	0.5	20	0.50	Y	0.375	2.387	0.50	1.25	Al	<a href="#">SPB24L100BF-625</a>	\$68.00	2.4	24	1.0	Y	0.375	2.865	0.625	1.625	S
<a href="#">APB21L050BF-500</a>	\$59.00	0.5	21	0.50	Y	0.375	2.507	0.50	1.3125	Al	<a href="#">SPB26L100BF-625</a>	\$77.00	2.8	26	1.0	Y	0.375	3.104	0.625	1.625	S
<a href="#">APB22L050BF-500</a>	\$64.00	0.6	22	0.50	Y	0.375	2.626	0.50	1.5	Al	<a href="#">SPB28L100BF-625</a>	\$78.00	3.3	28	1.0	Y	0.375	3.342	0.625	1.875	S
<a href="#">APB24L050BF-500</a>	\$79.00	0.7	24	0.50	Y	0.375	2.865	0.50	1.625	Al	<a href="#">SPB30L100BF-625</a>	\$91.00	3.8	30	1.0	Y	0.375	3.581	0.625	1.875	S
<a href="#">SPB22L050BF-500</a>	\$54.00	1.5	22	0.50	Y	0.375	2.626	0.50	1.5	S	<a href="#">SPB32L100BF-625</a>	\$107.00	4.5	32	1.0	Y	0.375	3.820	0.625	1.875	S
<a href="#">SPB24L050BF-500</a>	\$57.00	1.7	24	0.50	Y	0.375	2.865	0.50	1.625	S	<a href="#">SPB36L100BF-625</a>	\$123.00	5.7	36	1.0	Y	0.375	4.297	0.625	1.875	S
<a href="#">SPB26L050BF-500</a>	\$59.00	1.9	26	0.50	Y	0.375	3.104	0.50	1.625	S	<a href="#">SPB40L100BF-625</a>	\$139.00	6.8	40	1.0	Y	0.375	4.775	0.625	1.875	S
<a href="#">SPB28L050BF-500</a>	\$68.00	2.1	28	0.50	Y	0.375	3.342	0.50	1.625	S											

\* Al = Aluminum with clear anodized finish; S = Steel



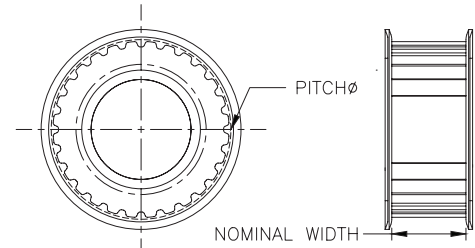
# Synchronous Drive Components

## L Synchronous Timing Belt Pulleys



QD bushing required per table below

**SQD Pulley**



TL bushing required per table below

**STL Pulley**

Timing Belt Pulleys – Pitch Designation L; Plain Bore (Without Hub)																			
Part Number	Price	Weight (lb)	# Grooves (Teeth)	Nominal Width (in)	Flange (Y/N)	Pitch (in)	Pitch Diameter (in)	*QD Type Bushing Required	Material**	Part Number	Price	Weight (lb)	# Grooves (Teeth)	Nominal Width (in)	Flange (Y/N)	Pitch (in)	Pitch Diameter (in)	*Taper-Lock Bushing Required	Material**
<a href="#">SQD20L050AF-JA</a>	\$54.00	0.6	20	0.50	Y	0.375	2.387	JA	S	<a href="#">STL20L050AF-1108</a>	\$65.00	0.6	20	0.50	Y	0.375	2.387	1108	S
<a href="#">SQD20L100AF-JA</a>	\$62.00	1.0	20	1.0	Y	0.375	2.387	JA	S	<a href="#">STL20L100AF-1108</a>	\$78.00	0.8	20	1.0	Y	0.375	2.387	1108	S
<a href="#">SQD22L050AF-JA</a>	\$56.00	0.8	22	0.50	Y	0.375	2.626	JA	S	<a href="#">STL22L050AF-1108</a>	\$77.00	0.8	22	0.50	Y	0.375	2.626	1108	S
<a href="#">SQD22L100AF-JA</a>	\$65.00	1.0	22	1.0	Y	0.375	2.626	JA	S	<a href="#">STL22L100AF-1108</a>	\$82.00	1.2	22	1.0	Y	0.375	2.626	1108	S
<a href="#">SQD24L050AF-SH</a>	\$56.00	0.6	24	0.50	Y	0.375	2.865	SH	S	<a href="#">STL24L050AF-1210</a>	\$81.00	0.8	24	0.50	Y	0.375	2.865	1210	S
<a href="#">SQD24L100AF-SH</a>	\$68.00	1.0	24	1.0	Y	0.375	2.865	SH	S	<a href="#">STL24L100AF-1210</a>	\$85.00	1.1	24	1.0	Y	0.375	2.865	1210	S
<a href="#">SQD26L050AF-SH</a>	\$57.00	0.9	26	0.50	Y	0.375	3.104	SH	S	<a href="#">STL26L050AF-1210</a>	\$84.00	1.1	26	0.50	Y	0.375	3.104	1210	S
<a href="#">SQD26L100AF-SH</a>	\$68.00	1.4	26	1.0	Y	0.375	3.104	SH	S	<a href="#">STL26L100AF-1210</a>	\$98.00	1.4	26	1.0	Y	0.375	3.104	1210	S
<a href="#">SQD28L050AF-SH</a>	\$60.00	1.1	28	0.50	Y	0.375	3.342	SH	DI	<a href="#">STL28L050AF-1210</a>	\$87.00	1.5	28	0.50	Y	0.375	3.342	1210	DI
<a href="#">SQD28L100AF-SH</a>	\$73.00	1.8	28	1.0	Y	0.375	3.342	SH	DI	<a href="#">STL28L100AF-1610</a>	\$109.00	1.4	28	1.0	Y	0.375	3.342	1610	DI
<a href="#">SQD30L050AF-SDS</a>	\$65.00	1.1	30	0.50	Y	0.375	3.581	SDS	DI	<a href="#">STL30L050AF-1610</a>	\$91.00	1.3	30	0.50	Y	0.375	3.581	1610	DI
<a href="#">SQD30L100AF-SDS</a>	\$78.00	1.9	30	1.0	Y	0.375	3.581	SDS	DI	<a href="#">STL30L100AF-1610</a>	\$115.00	1.9	30	1.0	Y	0.375	3.581	1610	DI
<a href="#">SQD32L050AF-SDS</a>	\$65.00	1.4	32	0.50	Y	0.375	3.820	SDS	DI	<a href="#">STL32L050AF-1610</a>	\$96.00	1.7	32	0.50	Y	0.375	3.820	1610	DI
<a href="#">SQD32L100AF-SDS</a>	\$84.00	2.3	32	1.0	Y	0.375	3.820	SDS	DI	<a href="#">STL32L100AF-1610</a>	\$145.00	2.4	32	1.0	Y	0.375	3.820	1610	DI
<a href="#">SQD36L050AF-SDS</a>	\$112.00	2.0	36	0.50	Y	0.375	4.297	SDS	DI	<a href="#">STL36L050AF-1610</a>	\$125.00	2.3	36	0.50	Y	0.375	4.297	1610	DI
<a href="#">SQD36L100AF-SDS</a>	\$129.00	2.6	36	1.0	Y	0.375	4.297	SDS	DI	<a href="#">STL36L100AF-1610</a>	\$156.00	3.4	36	1.0	Y	0.375	4.297	1610	DI
<a href="#">SQD40L050AF-SDS</a>	\$142.00	2.7	40	0.50	Y	0.375	4.775	SDS	DI	<a href="#">STL40L050AF-2012</a>	\$148.00	3.2	40	0.50	Y	0.375	4.775	2012	DI
<a href="#">SQD40L100AF-SDS</a>	\$148.00	3.5	40	1.0	Y	0.375	4.775	SDS	DI	<a href="#">STL40L100AF-2012</a>	\$156.00	3.8	40	1.0	Y	0.375	4.775	2012	DI
<a href="#">SQD44L050AF-SDS</a>	\$129.00	3.4	44	0.50	Y	0.375	5.252	SDS	DI	<a href="#">STL48L050AF-2012</a>	\$180.00	5.5	48	0.50	Y	0.375	5.730	2012	DI
<a href="#">SQD44L100AF-SDS</a>	\$149.00	4.3	44	1.0	Y	0.375	5.252	SDS	DI	<a href="#">STL48L100AF-2012</a>	\$192.00	6.4	48	1.0	Y	0.375	5.730	2012	DI
<a href="#">SQD48L050AF-SDS</a>	\$148.00	4.2	48	0.50	Y	0.375	5.730	SDS	DI	<a href="#">STL60L050AF-2012</a>	\$260.00	6.4	60	0.50	N	0.375	7.162	2012	CI
<a href="#">SQD48L100AF-SDS</a>	\$156.00	5.1	48	1.0	Y	0.375	5.730	SDS	DI	<a href="#">STL60L100AF-2012</a>	\$294.00	11	60	1.0	N	0.375	7.162	2012	CI
<a href="#">SQD60L050AF-SD ***</a>	\$153.00	5.5	60	0.50	Y	0.375	7.162	SD	CI	<a href="#">STL72L050AF-2012</a>	\$268.00	8.9	72	0.50	N	0.375	8.594	2012	CI
<a href="#">SQD60L100AF-SD ***</a>	\$159.00	6.6	60	1.0	Y	0.375	7.162	SD	CI	<a href="#">STL72L100AF-2012</a>	\$306.00	12.0	72	1.0	N	0.375	8.594	2012	CI
<a href="#">SQD72L050AF-SD ***</a>	\$156.00	8.5	72	0.50	Y	0.375	8.594	SD	CI	<a href="#">STL84L050AF-2517</a>	\$292.00	16.1	84	0.50	N	0.375	10.027	2517	CI
<a href="#">SQD72L100AF-SD ***</a>	\$173.00	7.3	72	1.0	Y	0.375	8.594	SD	CI	<a href="#">STL84L100AF-2517</a>	\$331.00	12.2	84	1.0	N	0.375	10.027	2517	CI
<a href="#">SQD84L050AF-SD ***</a>	\$169.00	11.9	84	0.50	Y	0.375	10.027	SD	CI										
<a href="#">SQD84L100AF-SD ***</a>	\$170.00	9.4	84	1.0	Y	0.375	10.027	SD	CI										

\* "QD" is a registered trademark of Emerson Electric, "Taper-Lock" (TL) is a registered trademark of Reliance Electric.

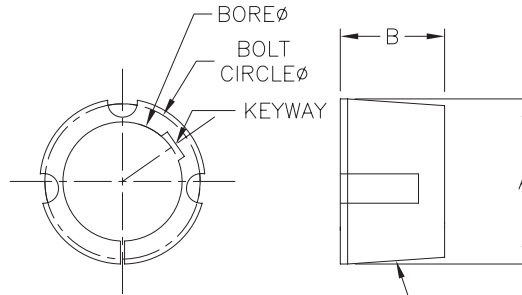
\*\* S = Steel; DI = Ductile Iron; CI = Cast Iron

\*\*\* SQDxxxxxAF-SD pulleys do not have flanges.



# Synchronous Drive Components

## Taper-Lock®\* Style Bushings



TAPER 0.75 INCHES PER 12 INCHES ON DIAMETER

Taper-Lock® Bushings													
Part Number	Price	Weight (lb)	Series	Torque Capacity (lb-in)	Bore Size (in)		Keyway (in)	Nominal Dimensions (in)			Mounting Screws		Material*
					Nominal	Max. with Shallow Keyseat		A	B	D (Bolt Circle)	#	Size	
<a href="#">TL-1108-0500</a>	\$25.00	0.4	1108	1300	0.500	1.25	1/8	1.511	0.875	1.453	2	1/4 x 1/2	S
<a href="#">TL-1108-0625</a>	\$22.00	0.3	1108	1300	0.625		3/16	1.511	0.875	1.453	2	1/4 x 1/2	S
<a href="#">TL-1108-0750</a>	\$22.00	0.3	1108	1300	0.750		3/16	1.511	0.875	1.453	2	1/4 x 1/2	S
<a href="#">TL-1108-0875</a>	\$22.00	0.3	1108	1300	0.875		3/16	1.511	0.875	1.453	2	1/4 x 1/2	S
<a href="#">TL-1108-1000</a>	\$22.00	0.2	1108	1300	1.00		1/4	1.511	0.875	1.453	2	1/4 x 1/2	S
<a href="#">TL-1210-0625</a>	\$25.50	0.6	1210	3600	0.625		3/16	1.875	1.0	1.750	2	3/8 x 5/8	S
<a href="#">TL-1210-0750</a>	\$25.50	0.5	1210	3600	0.750		3/16	1.875	1.0	1.750	2	3/8 x 5/8	S
<a href="#">TL-1210-0875</a>	\$25.50	0.6	1210	3600	0.875		3/16	1.875	1.0	1.750	2	3/8 x 5/8	S
<a href="#">TL-1210-1000</a>	\$25.50	0.4	1210	3600	1.000		1/4	1.875	1.0	1.750	2	3/8 x 5/8	S
<a href="#">TL-1210-1125</a>	\$25.50	0.4	1210	3600	1.125		1/4	1.875	1.0	1.750	2	3/8 x 5/8	S
<a href="#">TL-1610-0625</a>	\$27.50	0.9	1610	4300	0.625		3/16	2.250	1.0	2.125	2	3/8 x 5/8	S
<a href="#">TL-1610-0750</a>	\$27.50	0.9	1610	4300	0.750		3/16	2.250	1.0	2.125	2	3/8 x 5/8	S
<a href="#">TL-1610-0875</a>	\$27.50	0.9	1610	4300	0.875		3/16	2.250	1.0	2.125	2	3/8 x 5/8	S
<a href="#">TL-1610-1000</a>	\$27.50	0.8	1610	4300	1.000		1/4	2.250	1.0	2.125	2	3/8 x 5/8	S
<a href="#">TL-1610-1125</a>	\$27.50	0.8	1610	4300	1.125		1/4	2.250	1.0	2.125	2	3/8 x 5/8	S
<a href="#">TL-1610-1250</a>	\$27.50	0.7	1610	4300	1.250	1/4	2.250	1.0	2.125	2	3/8 x 5/8	S	
<a href="#">TL-1610-1375</a>	\$27.50	0.6	1610	4300	1.375	5/16	2.250	1.0	2.125	2	3/8 x 5/8	S	
<a href="#">TL-2012-0750</a>	\$38.50	1.8	2012	7150	0.750	2	3/16	2.750	1.250	2.625	2	7/16 x 7/8	S
<a href="#">TL-2012-0875</a>	\$38.50	1.7	2012	7150	0.875		3/16	2.750	1.250	2.625	2	7/16 x 7/8	S
<a href="#">TL-2012-1000</a>	\$38.50	1.6	2012	7150	1.000		1/4	2.750	1.250	2.625	2	7/16 x 7/8	S
<a href="#">TL-2012-1125</a>	\$38.50	1.5	2012	7150	1.125		1/4	2.750	1.250	2.625	2	7/16 x 7/8	S
<a href="#">TL-2012-1250</a>	\$38.50	1.5	2012	7150	1.250		1/4	2.750	1.250	2.625	2	7/16 x 7/8	S
<a href="#">TL-2012-1375</a>	\$38.50	1.4	2012	7150	1.375		5/16	2.750	1.250	2.625	2	7/16 x 7/8	S
<a href="#">TL-2517-0875</a>	\$62.00	3.8	2517	11600	0.875	2.5	3/16	3.375	1.750	3.250	2	1/2 x 1	S
<a href="#">TL-2517-1000</a>	\$62.00	3.7	2517	11600	1.000		1/4	3.375	1.750	3.250	2	1/2 x 1	S
<a href="#">TL-2517-1125</a>	\$62.00	3.5	2517	11600	1.125		1/4	3.375	1.750	3.250	2	1/2 x 1	S
<a href="#">TL-2517-1250</a>	\$62.00	3.4	2517	11600	1.250		1/4	3.375	1.750	3.250	2	1/2 x 1	S
<a href="#">TL-2517-1375</a>	\$62.00	3.3	2517	11600	1.375		5/16	3.375	1.750	3.250	2	1/2 x 1	S

\*"Taper-Lock" is a registered trademark of Reliance Electric.

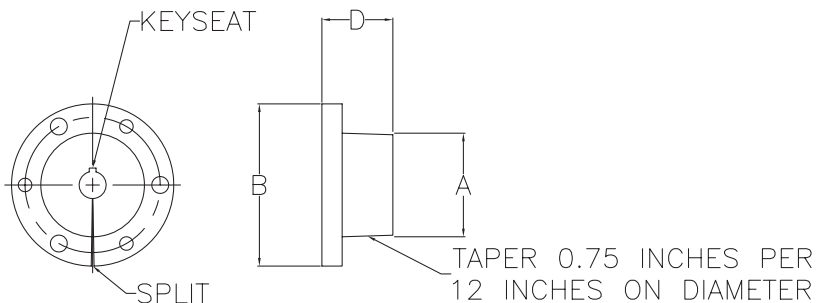
\* S = Steel

Note: Stock bore sizes shown. Bushings may be re-bored up to the maximum size listed. Maximum bores may require a shallow keyway and rectangular key



# Synchronous Drive Components

## QD®\* Style Bushings



QD® Bushings														
Part Number	Price	Weight (lb)	Series	Torque Capacity (lb-in)	Bore Size (in)		Keyway (in)	Dimensions (in)			Bolt Circle (in)	Cap Screws		Material*
					Nominal	Max. with Shallow Keyseat		A	B	D		#	Size	
<a href="#">QD-JA-0500</a>	\$20.50	0.5	JA	1750	0.500	1-1/4	1/8	1.375	2.0	1.0	1.6563	3	#10 x 1	S
<a href="#">QD-JA-0625</a>	\$19.00	0.5		1750	0.625	1-1/4	3/16	1.375	2.0	1.0	1.6563	3	#10 x 1	S
<a href="#">QD-JA-0750</a>	\$19.00	0.4		1750	0.750	1-1/4	3/16	1.375	2.0	1.0	1.6563	3	#10 x 1	S
<a href="#">QD-JA-0875</a>	\$19.00	0.4		1750	0.875	1-1/4	3/16	1.375	2.0	1.0	1.6563	3	#10 x 1	S
<a href="#">QD-SH-0500</a>	\$27.50	1.3	SH	3500	0.500	1-5/8	1/8	1.871	2.6875	1.25	2.25	3	1/4 x 1-3/8	S
<a href="#">QD-SH-0625</a>	\$27.50	1.2		3500	0.625	1-5/8	3/16	1.871	2.6875	1.25	2.25	3	1/4 x 1-3/8	S
<a href="#">QD-SH-0750</a>	\$27.50	1.2		3500	0.750	1-5/8	3/16	1.871	2.6875	1.25	2.25	3	1/4 x 1-3/8	S
<a href="#">QD-SH-0875</a>	\$27.50	1.2		3500	0.875	1-5/8	3/16	1.871	2.6875	1.25	2.25	3	1/4 x 1-3/8	S
<a href="#">QD-SH-1000</a>	\$27.50	1.1		3500	1.000	1-5/8	1/4	1.871	2.6875	1.25	2.25	3	1/4 x 1-3/8	S
<a href="#">QD-SDS-0625</a>	\$34.00	1.8	SDS	5000	0.625	1-15/16	3/16	2.1875	3.1875	1.3125	2.6875	3	1/4 x 1-3/8	S
<a href="#">QD-SDS-0750</a>	\$34.00	1.8		5000	0.750	1-15/16	3/16	2.1875	3.1875	1.3125	2.6875	3	1/4 x 1-3/8	S
<a href="#">QD-SDS-0875</a>	\$34.00	1.8		5000	0.875	1-15/16	3/16	2.1875	3.1875	1.3125	2.6875	3	1/4 x 1-3/8	S
<a href="#">QD-SDS-1000</a>	\$34.00	1.6		5000	1.000	1-15/16	1/4	2.1875	3.1875	1.3125	2.6875	3	1/4 x 1-3/8	S
<a href="#">QD-SDS-1125</a>	\$34.00	1.5		5000	1.125	1-15/16	1/4	2.1875	3.1875	1.3125	2.6875	3	1/4 x 1-3/8	S
<a href="#">QD-SD-0750</a>	\$39.50	2.2	SD	5000	0.750	1-15/16	3/16	2.1875	3.1875	1.8125	2.6875	3	1/4 x 1-7/8	S
<a href="#">QD-SD-0875</a>	\$39.50	2.1		5000	0.875	1-15/16	3/16	2.1875	3.1875	1.8125	2.6875	3	1/4 x 1-7/8	S
<a href="#">QD-SD-1000</a>	\$39.50	2.0		5000	1.000	1-15/16	1/4	2.1875	3.1875	1.8125	2.6875	3	1/4 x 1-7/8	S
<a href="#">QD-SD-1125</a>	\$39.50	1.9		5000	1.125	1-15/16	1/4	2.1875	3.1875	1.8125	2.6875	3	1/4 x 1-7/8	S
<a href="#">QD-SD-1250</a>	\$39.50	1.8		5000	1.250	1-15/16	1/4	2.1875	3.1875	1.8125	2.6875	3	1/4 x 1-7/8	S

\*QD® is a registered trademark of Emerson Electric.

\* S = Steel

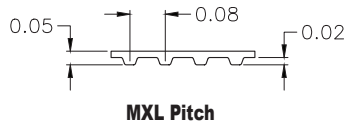
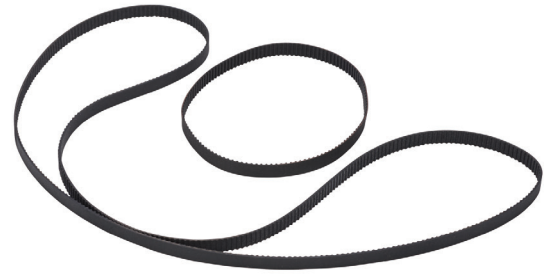
Note: Stock bore sizes shown. Bushings may be re-bored up the maximum size listed. Maximum bores may require a shallow keyway and rectangular key.



# Synchronous Drive Belts (MXL)

## Synchronous Drive Timing Belts Neoprene with Fiberglass Reinforcement

SureMotion timing belts are an excellent choice for many industrial applications. Belts are neoprene with fiberglass reinforcement. Neoprene belts have excellent resilience and are flame resistant.



**xxMXL025NG Tensile Rating: 103 lbf [458 N]**

Neoprene with Fiberglass Reinforcement Timing Belts															
Part Number	Price Per 3pc Pkg	Weight (lb)	# Teeth	Pitch Designation	Pitch (in)	Circumference (in)	Width (in)	External ID	listprice	Weight (lb)	# Teeth	Pitch Designation	Pitch (in)	Circumference (in)	Width (in)
<a href="#">36MXL025NG</a>	\$12.50	0.1	36	MXL	0.08	2.88	0.25	<a href="#">85MXL025NG</a>	\$13.00	0.1	85	MXL	0.08	6.80	0.25
<a href="#">40MXL025NG</a>	\$12.50	0.1	40	MXL	0.08	3.20	0.25	<a href="#">87MXL025NG</a>	\$13.00	0.1	87	MXL	0.08	6.96	0.25
<a href="#">42MXL025NG</a>	\$12.50	0.1	42	MXL	0.08	3.36	0.25	<a href="#">88MXL025NG</a>	\$13.50	0.1	88	MXL	0.08	7.04	0.25
<a href="#">44MXL025NG</a>	\$12.50	0.1	44	MXL	0.08	3.52	0.25	<a href="#">90MXL025NG</a>	\$13.50	0.1	90	MXL	0.08	7.20	0.25
<a href="#">45MXL025NG</a>	\$12.50	0.1	45	MXL	0.08	3.60	0.25	<a href="#">91MXL025NG</a>	\$13.50	0.1	91	MXL	0.08	7.28	0.25
<a href="#">47MXL025NG</a>	\$12.50	0.1	47	MXL	0.08	3.76	0.25	<a href="#">95MXL025NG</a>	\$13.50	0.1	95	MXL	0.08	7.60	0.25
<a href="#">48MXL025NG</a>	\$12.50	0.1	48	MXL	0.08	3.84	0.25	<a href="#">98MXL025NG</a>	\$13.50	0.1	98	MXL	0.08	7.84	0.25
<a href="#">50MXL025NG</a>	\$12.50	0.1	50	MXL	0.08	4.00	0.25	<a href="#">100MXL025NG</a>	\$13.50	0.1	100	MXL	0.08	8.00	0.25
<a href="#">52MXL025NG</a>	\$12.50	0.1	52	MXL	0.08	4.16	0.25	<a href="#">101MXL025NG</a>	\$13.50	0.1	101	MXL	0.08	8.08	0.25
<a href="#">53MXL025NG</a>	\$12.50	0.1	53	MXL	0.08	4.24	0.25	<a href="#">104MXL025NG</a>	\$13.50	0.1	104	MXL	0.08	8.32	0.25
<a href="#">54MXL025NG</a>	\$12.50	0.1	54	MXL	0.08	4.32	0.25	<a href="#">106MXL025NG</a>	\$13.50	0.1	106	MXL	0.08	8.48	0.25
<a href="#">55MXL025NG</a>	\$12.50	0.1	55	MXL	0.08	4.40	0.25	<a href="#">112MXL025NG</a>	\$13.50	0.1	112	MXL	0.08	8.96	0.25
<a href="#">56MXL025NG</a>	\$12.50	0.1	56	MXL	0.08	4.48	0.25	<a href="#">115MXL025NG</a>	\$14.50	0.1	115	MXL	0.08	9.20	0.25
<a href="#">57MXL025NG</a>	\$12.50	0.1	57	MXL	0.08	4.56	0.25	<a href="#">120MXL025NG</a>	\$14.50	0.1	120	MXL	0.08	9.60	0.25
<a href="#">58MXL025NG</a>	\$12.50	0.1	58	MXL	0.08	4.64	0.25	<a href="#">122MXL025NG</a>	\$14.50	0.1	122	MXL	0.08	9.76	0.25
<a href="#">59MXL025NG</a>	\$12.50	0.1	59	MXL	0.08	4.72	0.25	<a href="#">124MXL025NG</a>	\$14.50	0.1	124	MXL	0.08	9.92	0.25
<a href="#">60MXL025NG</a>	\$12.50	0.1	60	MXL	0.08	4.80	0.25	<a href="#">130MXL025NG</a>	\$14.50	0.1	130	MXL	0.08	10.40	0.25
<a href="#">61MXL025NG</a>	\$12.50	0.1	61	MXL	0.08	4.88	0.25	<a href="#">132MXL025NG</a>	\$14.50	0.1	132	MXL	0.08	10.56	0.25
<a href="#">62MXL025NG</a>	\$12.50	0.1	62	MXL	0.08	4.96	0.25	<a href="#">134MXL025NG</a>	\$14.50	0.1	134	MXL	0.08	10.72	0.25
<a href="#">63MXL025NG</a>	\$13.00	0.1	63	MXL	0.08	5.04	0.25	<a href="#">136MXL025NG</a>	\$17.00	0.1	136	MXL	0.08	10.88	0.25
<a href="#">64MXL025NG</a>	\$13.00	0.1	64	MXL	0.08	5.12	0.25	<a href="#">140MXL025NG</a>	\$15.00	0.1	140	MXL	0.08	11.20	0.25
<a href="#">65MXL025NG</a>	\$13.00	0.1	65	MXL	0.08	5.20	0.25	<a href="#">146MXL025NG</a>	\$15.00	0.1	146	MXL	0.08	11.68	0.25
<a href="#">67MXL025NG</a>	\$13.00	0.1	67	MXL	0.08	5.36	0.25	<a href="#">150MXL025NG</a>	\$15.00	0.1	150	MXL	0.08	12.00	0.25
<a href="#">68MXL025NG</a>	\$13.00	0.1	68	MXL	0.08	5.44	0.25	<a href="#">156MXL025NG</a>	\$19.00	0.1	156	MXL	0.08	12.48	0.25
<a href="#">69MXL025NG</a>	\$13.00	0.1	69	MXL	0.08	5.52	0.25	<a href="#">160MXL025NG</a>	\$15.00	0.1	160	MXL	0.08	12.80	0.25
<a href="#">70MXL025NG</a>	\$13.00	0.1	70	MXL	0.08	5.60	0.25	<a href="#">166MXL025NG</a>	\$15.00	0.1	166	MXL	0.08	13.28	0.25
<a href="#">72MXL025NG</a>	\$13.00	0.1	72	MXL	0.08	5.76	0.25	<a href="#">170MXL025NG</a>	\$15.00	0.1	170	MXL	0.08	13.60	0.25
<a href="#">74MXL025NG</a>	\$13.00	0.1	74	MXL	0.08	5.92	0.25	<a href="#">177MXL025NG</a>	\$19.00	0.1	177	MXL	0.08	14.16	0.25
<a href="#">75MXL025NG</a>	\$13.00	0.1	75	MXL	0.08	6.00	0.25	<a href="#">180MXL025NG</a>	\$17.00	0.1	180	MXL	0.08	14.40	0.25
<a href="#">76MXL025NG</a>	\$13.00	0.1	76	MXL	0.08	6.08	0.25	<a href="#">184MXL025NG</a>	\$17.00	0.1	184	MXL	0.08	14.72	0.25
<a href="#">80MXL025NG</a>	\$13.00	0.1	80	MXL	0.08	6.40	0.25	<a href="#">192MXL025NG</a>	\$17.00	0.1	192	MXL	0.08	15.36	0.25
<a href="#">81MXL025NG</a>	\$13.00	0.1	81	MXL	0.08	6.48	0.25	<a href="#">195MXL025NG</a>	\$17.00	0.1	195	MXL	0.08	15.60	0.25
<a href="#">82MXL025NG</a>	\$13.00	0.1	82	MXL	0.08	6.56	0.25	<a href="#">200MXL025NG</a>	\$17.00	0.1	200	MXL	0.08	16.00	0.25
<a href="#">84MXL025NG</a>	\$13.00	0.1	84	MXL	0.08	6.72	0.25								



# Synchronous Drive Belts (MXL)

## Synchronous Drive Timing Belts Neoprene with Fiberglass Reinforcement

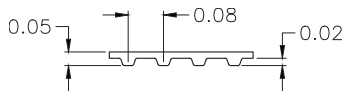
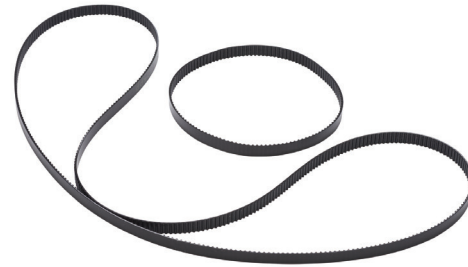
Neoprene with Fiberglass Reinforcement Timing Belts															
Part Number	Price Per 3pc Pkg	Weight (lb)	# Teeth	Pitch Designation	Pitch (in)	Circumference (in)	Width (in)	Part Number	Price Per 3pc Pkg	Weight (lb)	# Teeth	Pitch Designation	Pitch (in)	Circumference (in)	Width (in)
<a href="#"><u>208MXL025NG</u></a>	\$17.00	0.1	208	MXL	0.08	16.64	0.25	<a href="#"><u>310MXL025NG</u></a>	\$21.50	0.1	310	MXL	0.08	24.80	0.25
<a href="#"><u>212MXL025NG</u></a>	\$17.00	0.1	212	MXL	0.08	16.96	0.25	<a href="#"><u>320MXL025NG</u></a>	\$21.50	0.1	320	MXL	0.08	25.60	0.25
<a href="#"><u>220MXL025NG</u></a>	\$17.50	0.1	220	MXL	0.08	17.60	0.25	<a href="#"><u>330MXL025NG</u></a>	\$21.50	0.1	330	MXL	0.08	26.40	0.25
<a href="#"><u>224MXL025NG</u></a>	\$17.50	0.1	224	MXL	0.08	17.92	0.25	<a href="#"><u>343MXL025NG</u></a>	\$22.00	0.1	343	MXL	0.08	27.44	0.25
<a href="#"><u>230MXL025NG</u></a>	\$17.50	0.1	230	MXL	0.08	18.40	0.25	<a href="#"><u>355MXL025NG</u></a>	\$22.00	0.1	355	MXL	0.08	28.40	0.25
<a href="#"><u>236MXL025NG</u></a>	\$22.00	0.1	236	MXL	0.08	18.88	0.25	<a href="#"><u>372MXL025NG</u></a>	\$23.50	0.1	372	MXL	0.08	29.76	0.25
<a href="#"><u>240MXL025NG</u></a>	\$19.00	0.1	240	MXL	0.08	19.20	0.25	<a href="#"><u>390MXL025NG</u></a>	\$24.00	0.1	390	MXL	0.08	31.20	0.25
<a href="#"><u>250MXL025NG</u></a>	\$19.00	0.1	250	MXL	0.08	20.00	0.25	<a href="#"><u>400MXL025NG</u></a>	\$24.00	0.1	400	MXL	0.08	32.00	0.25
<a href="#"><u>260MXL025NG</u></a>	\$19.00	0.1	260	MXL	0.08	20.80	0.25	<a href="#"><u>440MXL025NG</u></a>	\$25.00	0.1	440	MXL	0.08	35.20	0.25
<a href="#"><u>280MXL025NG</u></a>	\$20.50	0.1	280	MXL	0.08	22.40	0.25	<a href="#"><u>480MXL025NG</u></a>	\$25.50	0.1	480	MXL	0.08	38.40	0.25
<a href="#"><u>300MXL025NG</u></a>	\$21.50	0.1	300	MXL	0.08	24.00	0.25	<a href="#"><u>500MXL025NG</u></a>	\$27.00	0.1	500	MXL	0.08	40.00	0.25



# Synchronous Drive Belts (MXL)

## Synchronous Drive Timing Belts Urethane with Polyester Reinforcement

SureMotion timing belts are an excellent choice for many industrial applications. Belts are urethane with polyester reinforcement. Urethane belts have excellent wear resistance as well as oil and ozone resistance.



MXL Pitch

xxMXL025PP Tensile Rating: 80 lbf [356 N]

Urethane with Polyester Reinforcement Timing Belts															
Part Number	Price Per 3pc Pkg	Weight (lb)	# Teeth	Pitch Designation	Pitch (in)	Circumference (in)	Width (in)	Part Number	Price Per 3pc Pkg	Weight (lb)	# Teeth	Pitch Designation	Pitch (in)	Circumference (in)	Width (in)
<a href="#">36MXL025PP</a>	\$23.50	0.1	36	MXL	0.08	2.88	0.25	<a href="#">106MXL025PP</a>	\$23.50	0.1	106	MXL	0.08	8.48	0.25
<a href="#">40MXL025PP</a>	\$23.50	0.1	40	MXL	0.08	3.20	0.25	<a href="#">112MXL025PP</a>	\$24.00	0.1	112	MXL	0.08	8.96	0.25
<a href="#">45MXL025PP</a>	\$22.00	0.1	45	MXL	0.08	3.60	0.25	<a href="#">115MXL025PP</a>	\$21.50	0.1	115	MXL	0.08	9.20	0.25
<a href="#">48MXL025PP</a>	\$17.50	0.1	48	MXL	0.08	3.84	0.25	<a href="#">120MXL025PP</a>	\$21.50	0.1	120	MXL	0.08	9.60	0.25
<a href="#">50MXL025PP</a>	\$17.50	0.1	50	MXL	0.08	4.00	0.25	<a href="#">122MXL025PP</a>	\$21.50	0.1	122	MXL	0.08	9.76	0.25
<a href="#">52MXL025PP</a>	\$22.00	0.1	52	MXL	0.08	4.16	0.25	<a href="#">130MXL025PP</a>	\$21.50	0.1	130	MXL	0.08	10.40	0.25
<a href="#">54MXL025PP</a>	\$17.50	0.1	54	MXL	0.08	4.32	0.25	<a href="#">132MXL025PP</a>	\$22.00	0.1	132	MXL	0.08	10.56	0.25
<a href="#">55MXL025PP</a>	\$17.50	0.1	55	MXL	0.08	4.40	0.25	<a href="#">140MXL025PP</a>	\$22.00	0.1	140	MXL	0.08	11.20	0.25
<a href="#">56MXL025PP</a>	\$22.00	0.1	56	MXL	0.08	4.48	0.25	<a href="#">150MXL025PP</a>	\$22.00	0.1	150	MXL	0.08	12.00	0.25
<a href="#">58MXL025PP</a>	\$22.00	0.1	58	MXL	0.08	4.64	0.25	<a href="#">156MXL025PP</a>	\$27.50	0.1	156	MXL	0.08	12.48	0.25
<a href="#">59MXL025PP</a>	\$22.00	0.1	59	MXL	0.08	4.72	0.25	<a href="#">160MXL025PP</a>	\$23.50	0.1	160	MXL	0.08	12.80	0.25
<a href="#">60MXL025PP</a>	\$17.50	0.1	60	MXL	0.08	4.80	0.25	<a href="#">170MXL025PP</a>	\$23.50	0.1	170	MXL	0.08	13.60	0.25
<a href="#">61MXL025PP</a>	\$22.00	0.1	61	MXL	0.08	4.88	0.25	<a href="#">180MXL025PP</a>	\$24.00	0.1	180	MXL	0.08	14.40	0.25
<a href="#">62MXL025PP</a>	\$22.00	0.1	62	MXL	0.08	4.96	0.25	<a href="#">184MXL025PP</a>	\$17.50	0.1	184	MXL	0.08	14.72	0.25
<a href="#">64MXL025PP</a>	\$17.50	0.1	64	MXL	0.08	5.12	0.25	<a href="#">195MXL025PP</a>	\$25.00	0.1	195	MXL	0.08	15.60	0.25
<a href="#">65MXL025PP</a>	\$17.50	0.1	65	MXL	0.08	5.20	0.25	<a href="#">200MXL025PP</a>	\$25.00	0.1	200	MXL	0.08	16.00	0.25
<a href="#">68MXL025PP</a>	\$22.00	0.1	68	MXL	0.08	5.44	0.25	<a href="#">212MXL025PP</a>	\$17.50	0.1	212	MXL	0.08	16.96	0.25
<a href="#">70MXL025PP</a>	\$17.50	0.1	70	MXL	0.08	5.60	0.25	<a href="#">220MXL025PP</a>	\$45.00	0.1	220	MXL	0.08	17.60	0.25
<a href="#">75MXL025PP</a>	\$17.50	0.1	75	MXL	0.08	6.00	0.25	<a href="#">230MXL025PP</a>	\$25.00	0.1	230	MXL	0.08	18.40	0.25
<a href="#">76MXL025PP</a>	\$17.50	0.1	76	MXL	0.08	6.08	0.25	<a href="#">236MXL025PP</a>	\$35.00	0.2	236	MXL	0.08	18.88	0.25
<a href="#">80MXL025PP</a>	\$17.50	0.1	80	MXL	0.08	6.40	0.25	<a href="#">240MXL025PP</a>	\$35.00	0.1	240	MXL	0.08	19.20	0.25
<a href="#">81MXL025PP</a>	\$25.50	0.1	81	MXL	0.08	6.48	0.25	<a href="#">250MXL025PP</a>	\$17.50	0.2	250	MXL	0.08	20.00	0.25
<a href="#">82MXL025PP</a>	\$17.50	0.1	82	MXL	0.08	6.56	0.25	<a href="#">260MXL025PP</a>	\$49.50	0.1	260	MXL	0.08	20.80	0.25
<a href="#">84MXL025PP</a>	\$23.50	0.1	84	MXL	0.08	6.72	0.25	<a href="#">280MXL025PP</a>	\$35.00	0.2	280	MXL	0.08	22.40	0.25
<a href="#">85MXL025PP</a>	\$19.00	0.1	85	MXL	0.08	6.80	0.25	<a href="#">300MXL025PP</a>	\$37.00	0.1	300	MXL	0.08	24.00	0.25
<a href="#">87MXL025PP</a>	\$19.00	0.1	87	MXL	0.08	6.96	0.25	<a href="#">310MXL025PP</a>	\$49.50	0.2	310	MXL	0.08	24.80	0.25
<a href="#">88MXL025PP</a>	\$19.00	0.1	88	MXL	0.08	7.04	0.25	<a href="#">320MXL025PP</a>	\$49.50	0.1	320	MXL	0.08	25.60	0.25
<a href="#">90MXL025PP</a>	\$19.00	0.1	90	MXL	0.08	7.20	0.25	<a href="#">330MXL025PP</a>	\$49.50	0.2	330	MXL	0.08	26.40	0.25
<a href="#">91MXL025PP</a>	\$19.00	0.1	91	MXL	0.08	7.28	0.25	<a href="#">390MXL025PP</a>	\$27.00	0.1	390	MXL	0.08	31.20	0.25
<a href="#">95MXL025PP</a>	\$19.00	0.1	95	MXL	0.08	7.60	0.25	<a href="#">400MXL025PP</a>	\$42.00	0.2	400	MXL	0.08	32.00	0.25
<a href="#">100MXL025PP</a>	\$19.00	0.1	100	MXL	0.08	8.00	0.25								

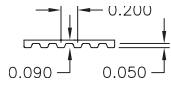




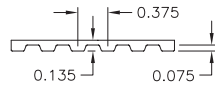
# Synchronous Drive Belts (XL and L)

## Synchronous Drive Timing Belts Neoprene with Fiberglass Reinforcement

SureMotion timing belts are an excellent choice for many industrial applications. Several pitches and widths are available to cover a wide range of power transmission requirements. Belts are neoprene with fiberglass reinforcement. Neoprene belts have excellent resiliences and are flame resistant.



XL Pitch



L Pitch

**xxXL025NG Tensile Rating: 226 lbf [1005 N]**  
**xxXL037NG Tensile Rating: 338 lbf [1503 N]**  
**xxxL050NG Tensile Rating: 500 lbf [2224 N]**  
**xxxL100NG Tensile Rating: 1000 lbf [4448 N]**



Neoprene with Fiberglass Reinforcement Timing Belts															
Part Number	Price	Weight (lb)	# Teeth	Pitch Designation	Pitch (in)	Circumference (in)	Width (in)	External ID	Price	Weight (lb)	# Teeth	Pitch Designation	Pitch (in)	Circumference (in)	Width (in)
<a href="#">60XL025NG</a>	\$3.50	0.1	30	XL	0.200	6	0.25	<a href="#">150L050NG</a>	\$10.00	0.1	40	L	0.375	15	0.50
<a href="#">60XL037NG</a>	\$5.00	0.1	30	XL	0.200	6	0.375	<a href="#">150L100NG</a>	\$19.00	0.1	40	L	0.375	15	1.0
<a href="#">70XL037NG</a>	\$5.00	0.1	35	XL	0.200	7	0.375	<a href="#">187L050NG</a>	\$11.00	0.1	50	L	0.375	18.75	0.50
<a href="#">80XL025NG</a>	\$4.00	0.1	40	XL	0.200	8	0.25	<a href="#">187L100NG</a>	\$21.50	0.1	50	L	0.375	18.75	1.0
<a href="#">80XL037NG</a>	\$5.00	0.1	40	XL	0.200	8	0.375	<a href="#">210L050NG</a>	\$11.50	0.1	56	L	0.375	21	0.50
<a href="#">90XL025NG</a>	\$4.00	0.1	45	XL	0.200	9	0.25	<a href="#">210L100NG</a>	\$23.50	0.1	56	L	0.375	21	1.0
<a href="#">90XL037NG</a>	\$5.75	0.1	45	XL	0.200	9	0.375	<a href="#">225L050NG</a>	\$12.00	0.1	60	L	0.375	22.5	0.50
<a href="#">100XL025NG</a>	\$4.00	0.1	50	XL	0.200	10	0.25	<a href="#">225L100NG</a>	\$23.50	0.1	60	L	0.375	22.5	1.0
<a href="#">100XL037NG</a>	\$5.00	0.1	50	XL	0.200	10	0.375	<a href="#">240L050NG</a>	\$12.50	0.1	64	L	0.375	24	0.50
<a href="#">110XL025NG</a>	\$4.00	0.1	55	XL	0.200	11	0.25	<a href="#">240L100NG</a>	\$25.00	0.1	64	L	0.375	24	1.0
<a href="#">110XL037NG</a>	\$5.00	0.1	55	XL	0.200	11	0.375	<a href="#">244L100NG</a>	\$25.00	0.1	65	L	0.375	24.375	1.0
<a href="#">120XL037NG</a>	\$6.75	0.1	60	XL	0.200	12	0.375	<a href="#">255L050NG</a>	\$13.00	0.1	68	L	0.375	25.5	0.50
<a href="#">130XL025NG</a>	\$4.25	0.1	65	XL	0.200	13	0.25	<a href="#">255L100NG</a>	\$25.00	0.1	68	L	0.375	25.5	1.0
<a href="#">130XL037NG</a>	\$6.75	0.1	65	XL	0.200	13	0.375	<a href="#">270L050NG</a>	\$13.00	0.1	72	L	0.375	27	0.50
<a href="#">140XL025NG</a>	\$4.25	0.1	70	XL	0.200	14	0.25	<a href="#">270L100NG</a>	\$27.00	0.1	72	L	0.375	27	1.0
<a href="#">140XL037NG</a>	\$6.75	0.1	70	XL	0.200	14	0.375	<a href="#">285L050NG</a>	\$13.50	0.1	76	L	0.375	28.5	0.50
<a href="#">150XL025NG</a>	\$4.25	0.1	75	XL	0.200	15	0.25	<a href="#">300L050NG</a>	\$14.50	0.1	80	L	0.375	30	0.50
<a href="#">150XL037NG</a>	\$6.75	0.1	75	XL	0.200	15	0.375	<a href="#">300L100NG</a>	\$27.50	0.1	80	L	0.375	30	1.0
<a href="#">160XL025NG</a>	\$4.25	0.1	80	XL	0.200	16	0.25	<a href="#">322L050NG</a>	\$14.50	0.1	86	L	0.375	32.25	0.50
<a href="#">160XL037NG</a>	\$7.25	0.1	80	XL	0.200	16	0.375	<a href="#">322L100NG</a>	\$30.00	0.2	86	L	0.375	32.25	1.0
<a href="#">170XL025NG</a>	\$4.50	0.1	85	XL	0.200	17	0.25	<a href="#">345L050NG</a>	\$15.00	0.1	92	L	0.375	34.5	0.50
<a href="#">170XL037NG</a>	\$7.25	0.1	85	XL	0.200	17	0.375	<a href="#">345L100NG</a>	\$31.00	0.2	92	L	0.375	34.5	1.0
<a href="#">180XL037NG</a>	\$7.25	0.1	90	XL	0.200	18	0.375	<a href="#">367L050NG</a>	\$16.00	0.1	98	L	0.375	36.75	0.50
<a href="#">190XL025NG</a>	\$4.50	0.1	95	XL	0.200	19	0.25	<a href="#">367L100NG</a>	\$33.50	0.2	98	L	0.375	36.75	1.0
<a href="#">190XL037NG</a>	\$7.50	0.1	95	XL	0.200	19	0.375	<a href="#">390L050NG</a>	\$17.00	0.1	104	L	0.375	39	0.50
<a href="#">200XL025NG</a>	\$4.50	0.1	100	XL	0.200	20	0.25	<a href="#">390L100NG</a>	\$35.00	0.2	104	L	0.375	39	1.0
<a href="#">200XL037NG</a>	\$7.50	0.1	100	XL	0.200	20	0.375	<a href="#">420L050NG</a>	\$17.50	0.1	112	L	0.375	42	0.50
<a href="#">210XL037NG</a>	\$7.50	0.1	105	XL	0.200	21	0.375	<a href="#">420L100NG</a>	\$37.50	0.2	112	L	0.375	42	1.0
<a href="#">220XL037NG</a>	\$8.00	0.1	110	XL	0.200	22	0.375	<a href="#">450L050NG</a>	\$19.00	0.1	120	L	0.375	45	0.50
<a href="#">230XL025NG</a>	\$5.00	0.1	115	XL	0.200	23	0.25	<a href="#">450L100NG</a>	\$38.50	0.2	120	L	0.375	45	1.0
<a href="#">230XL037NG</a>	\$7.75	0.1	115	XL	0.200	23	0.375	<a href="#">480L050NG</a>	\$20.50	0.1	128	L	0.375	48	0.50
<a href="#">240XL037NG</a>	\$7.75	0.1	120	XL	0.200	24	0.375	<a href="#">480L100NG</a>	\$39.50	0.2	128	L	0.375	48	1.0
<a href="#">250XL025NG</a>	\$5.00	0.1	125	XL	0.200	25	0.25	<a href="#">510L050NG</a>	\$21.50	0.1	136	L	0.375	51	0.50
<a href="#">250XL037NG</a>	\$8.50	0.1	125	XL	0.200	25	0.375	<a href="#">510L100NG</a>	\$41.00	0.2	136	L	0.375	51	1.0
<a href="#">260XL025NG</a>	\$5.00	0.1	130	XL	0.200	26	0.25	<a href="#">540L050NG</a>	\$22.00	0.1	144	L	0.375	54	0.50
<a href="#">260XL037NG</a>	\$8.50	0.1	130	XL	0.200	26	0.375	<a href="#">540L100NG</a>	\$42.50	0.3	144	L	0.375	54	1.0
<a href="#">124L050NG</a>	\$8.50	0.1	33	L	0.375	12.375	0.50	<a href="#">600L050NG</a>	\$24.00	0.2	160	L	0.375	60	0.50
<a href="#">124L100NG</a>	\$17.00	0.1	33	L	0.375	13.375	1.0	<a href="#">600L100NG</a>	\$47.00	0.3	160	L	0.375	60	1.0



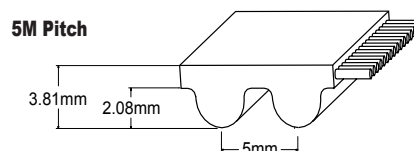
# High Torque Drive Belts (5M)

## High-Torque Drive Belts (5M Pitch)

### Neoprene with Fiberglass Reinforcement

SureMotion High-Torque Drive belts are an excellent choice for drives requiring premium efficiency or synchronous operation and higher power capacity than trapezoidal timing belts. Use them on conveyors, industrial equipment, machine tools, hand power tools, and agricultural equipment where high power density is needed.

- Curvilinear tooth profile (compatible with HTD®)
- Compound: Chloroprene Belt Body, heat and ozone resistant; high tooth shear resistance
- Cord: Fiberglass Tensile Cord; high dimensional stability and maximum flexibility
- Tooth Cover: Nylon Tooth Cover; durability and wear resistance; increased power capacity
- Conforms to ARPM standard IP-27
- Temperature Range: -13°F/+185° (-25°C/+85°C)



**xxx-5M-09-NG Tensile Rating: 645 lbf [2869 N]**  
**xxx-5M-15-NG Tensile Rating: 1076 lbf [4786 N]**

High Torque Drive Belts (5M)							
Part Number	Price	Weight (lb)	# Teeth	Pitch Designation	Pitch (mm)	Circumference (mm)	
<a href="#"><u>180-5M-09-NG</u></a>	\$9.50	0.03	36	5M	5	180	
<a href="#"><u>200-5M-09-NG</u></a>	\$10.00	0.03	40			200	
<a href="#"><u>225-5M-09-NG</u></a>	\$10.00	0.04	45			225	
<a href="#"><u>240-5M-09-NG</u></a>	\$10.50	0.04	48			240	
<a href="#"><u>275-5M-09-NG</u></a>	\$11.00	0.05	55			275	
<a href="#"><u>300-5M-09-NG</u></a>	\$11.50	0.05	60			300	
<a href="#"><u>325-5M-09-NG</u></a>	\$11.50	0.05	65			325	
<a href="#"><u>350-5M-09-NG</u></a>	\$12.00	0.05	70			350	
<a href="#"><u>375-5M-09-NG</u></a>	\$12.00	0.05	75			375	
<a href="#"><u>400-5M-09-NG</u></a>	\$12.50	0.05	80			400	
<a href="#"><u>425-5M-09-NG</u></a>	\$13.00	0.05	85			425	
<a href="#"><u>450-5M-09-NG</u></a>	\$13.00	0.05	90			450	
<a href="#"><u>465-5M-09-NG</u></a>	\$16.00	0.05	93			465	
<a href="#"><u>180-5M-15-NG</u></a>	\$13.50	0.05	36			15	180
<a href="#"><u>200-5M-15-NG</u></a>	\$14.50	0.05	40				200
<a href="#"><u>225-5M-15-NG</u></a>	\$14.50	0.05	45				225
<a href="#"><u>240-5M-15-NG</u></a>	\$15.00	0.05	48				240
<a href="#"><u>275-5M-15-NG</u></a>	\$17.00	0.05	55				275
<a href="#"><u>300-5M-15-NG</u></a>	\$17.00	0.05	60	300			
<a href="#"><u>325-5M-15-NG</u></a>	\$17.50	0.05	65	325			
<a href="#"><u>350-5M-15-NG</u></a>	\$18.50	0.05	70	350			
<a href="#"><u>375-5M-15-NG</u></a>	\$19.00	0.05	75	375			
<a href="#"><u>400-5M-15-NG</u></a>	\$19.00	0.05	80	400			
<a href="#"><u>425-5M-15-NG</u></a>	\$20.50	0.05	85	425			
<a href="#"><u>450-5M-15-NG</u></a>	\$21.50	0.05	90	450			
<a href="#"><u>465-5M-15-NG</u></a>	\$25.00	0.05	93	465			



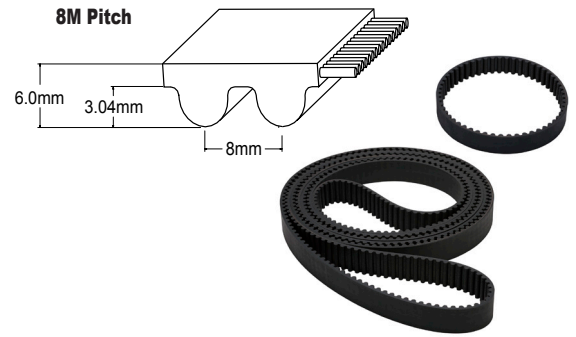
# High Torque Drive Belts (8M)

## High Torque Drive Belts (8M Pitch)

### Neoprene with Fiberglass Reinforcement

SureMotion High-Torque Drive belts are an excellent choice for drives requiring premium efficiency or synchronous operation and higher power capacity than trapezoidal timing belts. Use them on conveyors, industrial equipment, machine tools, hand power tools, and agricultural equipment where high power density is needed.

- Curvilinear tooth profile (compatible with HTD®)
- Compound: Chloroprene Belt Body, heat and ozone resistant; high tooth shear resistance
- Cord: Fiberglass Tensile Cord; high dimensional stability and maximum flexibility
- Tooth Cover: Nylon Tooth Cover; durability and wear resistance; increased power capacity
- Conforms to ARPM standard IP-27
- Temperature Range: -13°F/+185° (-25°C/+85°C)



**xxx-8M-20-NG Tensile Rating: 2023 lbf [8998 N]**  
**xxx-8M-30-NG Tensile Rating: 3035 lbf [13500 N]**

High Torque Drive Belts (8M)															
Part Number	Price	Weight (lb)	# Teeth	Pitch Designation	Pitch (mm)	Circumference (mm)	Width (mm)	Part Number	Price	Weight (lb)	# Teeth	Pitch Designation	Pitch (mm)	Circumference (mm)	Width (mm)
<a href="#">440-8M-20-NG</a>	\$33.50	0.15	55	8M	8	440	20	<a href="#">440-8M-30-NG</a>	\$47.00	0.2	55	8M	8	440	30
<a href="#">480-8M-20-NG</a>	\$33.50	0.15	60			<a href="#">480-8M-30-NG</a>		\$47.00	0.2	60					
<a href="#">520-8M-20-NG</a>	\$39.00	0.15	65			<a href="#">520-8M-30-NG</a>		\$54.00	0.2	65					
<a href="#">560-8M-20-NG</a>	\$37.50	0.15	70			<a href="#">560-8M-30-NG</a>		\$50.00	0.25	70					
<a href="#">600-8M-20-NG</a>	\$39.00	0.15	75			<a href="#">600-8M-30-NG</a>		\$54.00	0.25	75					
<a href="#">640-8M-20-NG</a>	\$39.00	0.15	80			<a href="#">640-8M-30-NG</a>		\$57.00	0.25	80					
<a href="#">720-8M-20-NG</a>	\$42.00	0.2	90			<a href="#">720-8M-30-NG</a>		\$60.00	0.3	90					
<a href="#">800-8M-20-NG</a>	\$45.50	0.25	100			<a href="#">800-8M-30-NG</a>		\$65.00	0.35	100					
<a href="#">840-8M-20-NG</a>	\$47.00	0.25	105			<a href="#">840-8M-30-NG</a>		\$66.00	0.35	105					
<a href="#">880-8M-20-NG</a>	\$49.00	0.25	110			<a href="#">880-8M-30-NG</a>		\$70.00	0.35	110					
<a href="#">920-8M-20-NG</a>	\$49.00	0.25	115			<a href="#">920-8M-30-NG</a>		\$70.00	0.4	115					
<a href="#">960-8M-20-NG</a>	\$50.00	0.3	120			<a href="#">960-8M-30-NG</a>		\$73.00	0.45	120					
<a href="#">1040-8M-20-NG</a>	\$54.00	0.3	130			<a href="#">1040-8M-30-NG</a>		\$79.00	0.45	130					
<a href="#">1064-8M-20-NG</a>	\$54.00	0.3	133			<a href="#">1064-8M-30-NG</a>		\$79.00	0.4	133					
<a href="#">1120-8M-20-NG</a>	\$58.00	0.3	140			<a href="#">1120-8M-30-NG</a>		\$82.00	0.45	140					
<a href="#">1160-8M-20-NG</a>	\$58.00	0.35	145			<a href="#">1160-8M-30-NG</a>		\$84.00	0.5	145					
<a href="#">1200-8M-20-NG</a>	\$60.00	0.35	150			<a href="#">1200-8M-30-NG</a>		\$87.00	0.5	150					
<a href="#">1224-8M-20-NG</a>	\$62.00	0.35	153			<a href="#">1224-8M-30-NG</a>		\$87.00	0.55	153					
<a href="#">1280-8M-20-NG</a>	\$63.00	0.35	160			<a href="#">1280-8M-30-NG</a>		\$91.00	0.5	160					
<a href="#">1440-8M-20-NG</a>	\$68.00	0.35	180			<a href="#">1440-8M-30-NG</a>		\$99.00	0.6	180					
<a href="#">1512-8M-20-NG</a>	\$70.00	0.45	189			<a href="#">1512-8M-30-NG</a>		\$101.00	0.65	189					
<a href="#">1584-8M-20-NG</a>	\$75.00	0.4	198			<a href="#">1584-8M-30-NG</a>		\$108.00	0.6	198					
<a href="#">1600-8M-20-NG</a>	\$75.00	0.45	200			<a href="#">1600-8M-30-NG</a>		\$108.00	0.65	200					
<a href="#">1760-8M-20-NG</a>	\$81.00	0.45	220			<a href="#">1760-8M-30-NG</a>		\$118.00	0.7	220					
<a href="#">1800-8M-20-NG</a>	\$82.00	0.45	225			<a href="#">1800-8M-30-NG</a>		\$119.00	0.7	225					
<a href="#">2000-8M-20-NG</a>	\$90.00	0.55	250			<a href="#">2000-8M-30-NG</a>		\$131.00	0.75	250					
<a href="#">2200-8M-20-NG</a>	\$98.00	0.65	275			<a href="#">2200-8M-30-NG</a>		\$142.00	1	275					
<a href="#">2400-8M-20-NG</a>	\$105.00	0.7	300			<a href="#">2400-8M-30-NG</a>		\$155.00	0.95	300					
<a href="#">2600-8M-20-NG</a>	\$114.00	0.75	325			<a href="#">2600-8M-30-NG</a>		\$165.00	1.15	325					
<a href="#">2800-8M-20-NG</a>	\$122.00	0.85	350			<a href="#">2800-8M-30-NG</a>		\$176.00	1.25	350					
<a href="#">3280-8M-20-NG</a>	\$139.00	0.8	410	<a href="#">3280-8M-30-NG</a>	\$198.00	1.4	410								
<a href="#">3600-8M-20-NG</a>	\$155.00	1.15	450	<a href="#">3600-8M-30-NG</a>	\$219.00	1.6	450								
<a href="#">4400-8M-20-NG</a>	\$183.00	1.3	550	<a href="#">4400-8M-30-NG</a>	\$261.00	2	550								