

VALVES SERIES 70, SOLENOID/PNEUMATIC

VALVES

VALVES SERIES 70, SOLENOID/PNEUMATIC

TECHNICAL DATA	1/8" NPT	1/4" NPT	3/8" NPT	1/2" NPT
Operating pressure:				
• monostable	psi	36.3 to 145		
• bistable	psi	14.5 to 145		
• asserved	psi	Vacuum to 145		
Minimum pilot pressure	psi	36.3		
Operating temperature range	°F	14 to +140		
Nominal diameter	in	0.20	0.30	0.52
Conductance C	scfm/psi	0.30	0.65	1.23
Critical ratio b	psi/psi	0.32	0.27	0.32
Flow rate at 87 psi ΔP 7.5 psi	scfm	14	26.5	55.2
Flow rate at 87 psi ΔP 14.5 psi	scfm	19.5	39	75
		Cv 0.55	Cv 1.1	Cv 2.1
		Cv 4.6		
TRA / TRR monostable at 87 psi	ms	15/35	19/45	21/72
TRA / TRR bistable at 87 psi	ms	20/20	21/21	18/18
Coil voltage values		12; 24 VDC - 24; 110; 220V AC 50/60Hz		
Power		2 W (DC) 3.5 VA (AC)		
Voltage tolerance	%	-10 to +15		
Insulation class		F 155		
Maximum coil nut torque	lbf ft	0.74		
Hand operation		Bistable		*



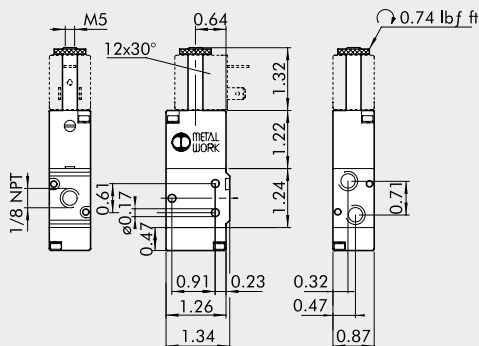
KEY TO CODES

SOV	2	3	SO	S	NC	U
FAMILY	DIMENSIONS	FUNCTION	OPERATORS 14	RESETTING (12)	FURTHER DETAILS	THREAD
SOV solenoid/pneumatic	2 1/8" 3 1/4" C 3/8" 4 1/2"	3 3/2 5 5/2 6 5/3	SO solenoid SE solenoid assisted	S mechanical springs B bistable D differential P pneumatic A pneumatic/mechanical spring*	NC normally closed NO normally open CC closed centres OC open centres PC pressure centres OO 5/2	U NPT

*on demand

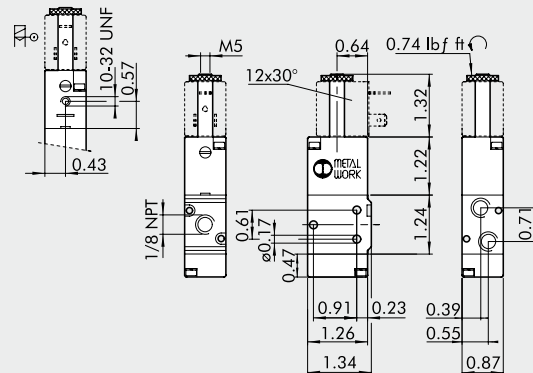
VALVES SERIES 70, SOLENOID/PNEUMATIC, PILOT-ASSISTED SOLENOID/PNEUMATIC, 1/8" NPT

MONOSTABLE 3/2 NO, 1/8" NPT



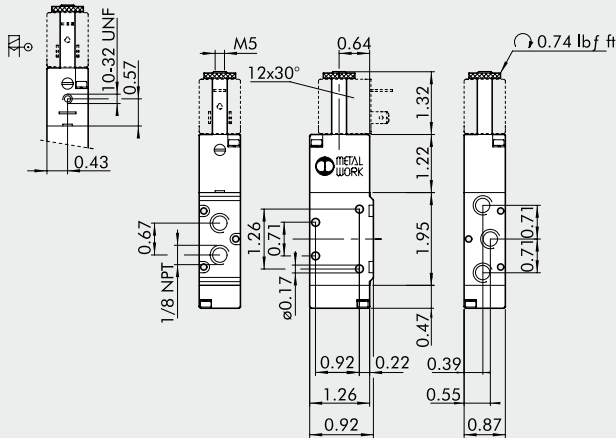
Symbol	Code	Abbrev.	Weight [lb]
	7010020400U	SOV 23 SOS NO U	0.221

MONOSTABLE 3/2 NC, 1/8" NPT



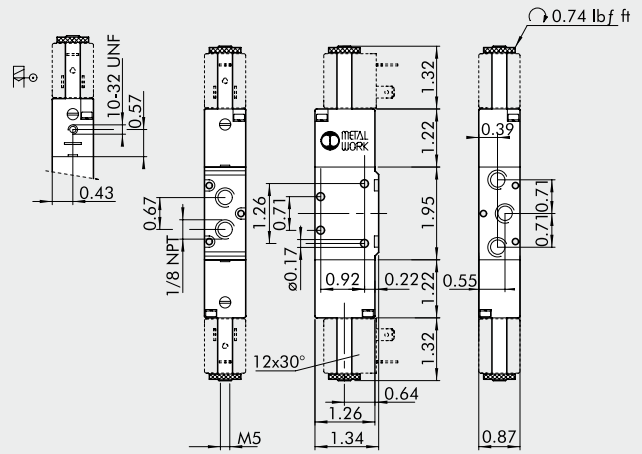
Symbol	Code	Abbrev.	Weight [lb]
	7010020200U	SOV 23 SOS NC U	0.221
	7010020500U	SOV 23 SES NC U	0.221

MONOSTABLE 5/2, 1/8" NPT



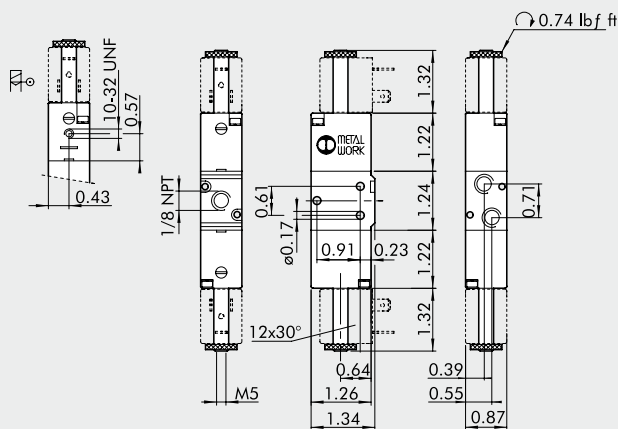
Symbol	Code	Abbrev.	Weight [lb]
	7010021100U	SOV 25 SOS OO U	0.282
	7010021500U	SOV 25 SES OO U	0.285

BISTABLE 5/2, 1/8" NPT



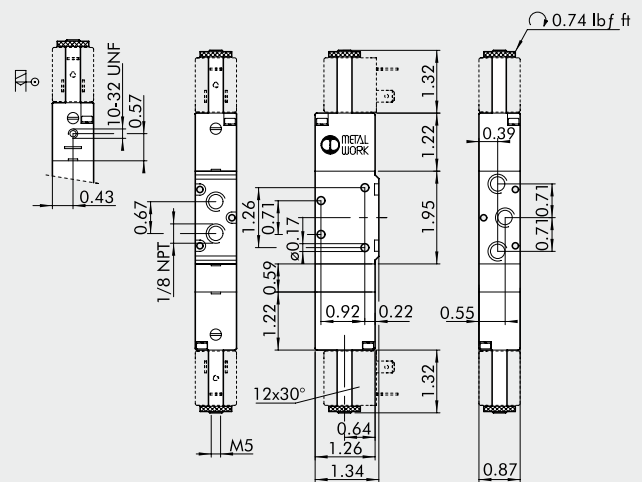
Symbol	Code	Abbrev.	Weight [lb]
	7010021200U	SOV 25 SOB OO U	0.353
	7010021300U	SOV 25 SOD OO U	0.366
	7010021600U	SOV 25 SEB OO U	0.353

BISTABLE 3/2, 1/8" NPT



Symbol	Code	Abbrev.	Weight [lb]
	7010020100U	SOV 23 SOB OO U	0.298
	7010020300U	SOV 23 SEB OO U	0.300

MONOSTABLE 5/3, 1/8" NPT



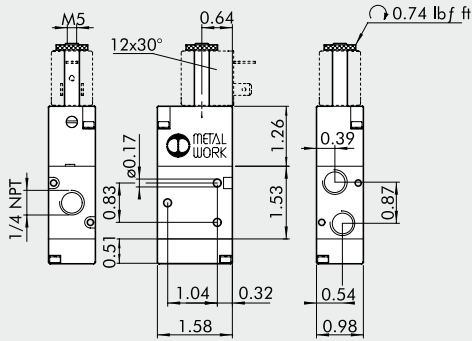
Symbol	Code	Abbrev.	Weight [lb]
	7010022100U	SOV 26 SOS CC U	0.419
	7010022200U	SOV 26 SOS OC U	0.419
	7010022300U	SOV 26 SOS PC U	0.419
	7010022400U	SOV 26 SES CC U	0.415
	7010022500U	SOV 26 SES OC U	0.415
	7010022600U	SOV 26 SES PC U	0.415

VALVES SERIES 70, SOLENOID/PNEUMATIC, PILOT-ASSISTED SOLENOID/ PNEUMATIC, 1/4" NPT

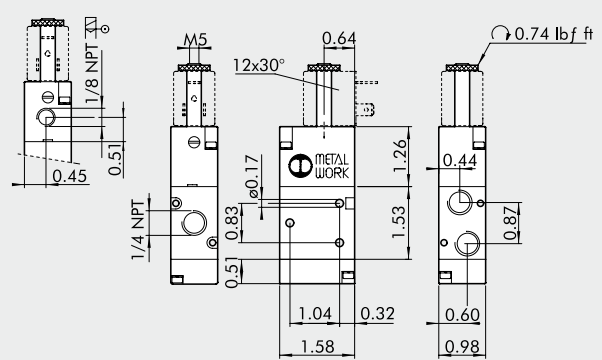
VALVES

VALVES SERIES 70, SOLENOID/PNEUMATIC

MONOSTABLE 3/2 NO, 1/4" NPT



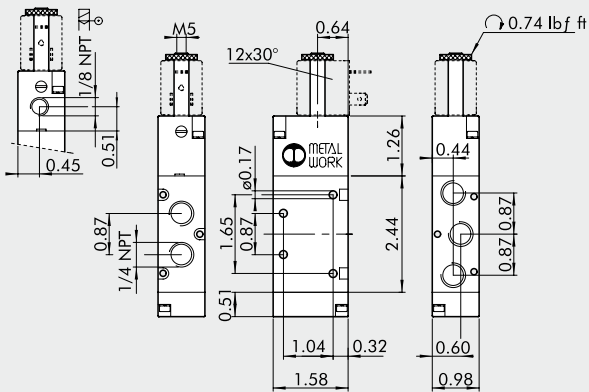
MONOSTABLE 3/2 NC, 1/4" NPT



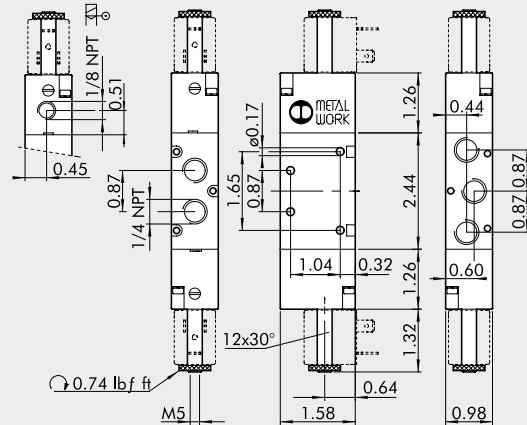
Symbol	Code	Abbrev.	Weight [lb]
	7020020400U	SOV 33 SOS NO U	0.335

Symbol	Code	Abbrev.	Weight [lb]
	7020020200U	SOV 33 SOS NC U	0.335
	7020020500U	SOV 33 SES NC U	0.335

MONOSTABLE 5/2 1/4" NPT



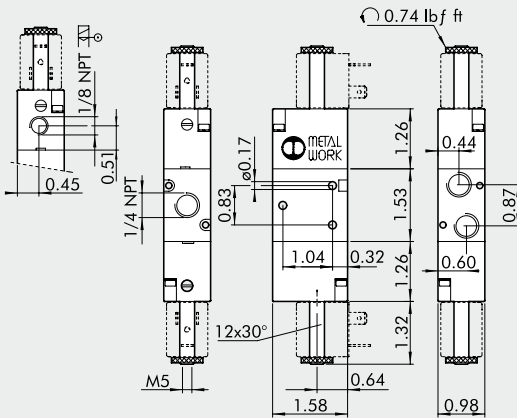
BISTABLE 5/2 1/4" NPT



Symbol	Code	Abbrev.	Weight [lb]
	7020021100U	SOV 35 SOS OO U	0.441
	7020021500U	SOV 35 SES OO U	0.441

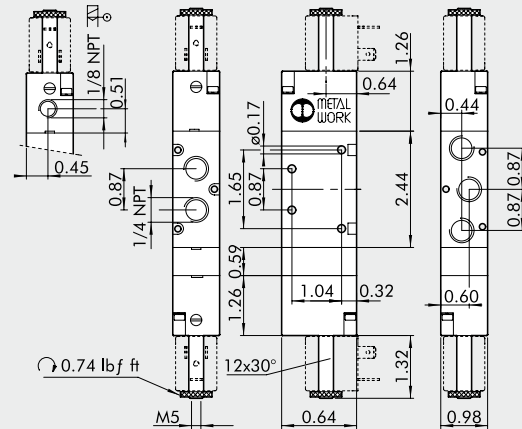
Symbol	Code	Abbrev.	Weight [lb]
	7020021200U	SOV 35 SOB OO U	0.520
	7020021300U	SOV 35 SOD OO U	0.517
	7020021600U	SOV 35 SEB OO U	0.534

BISTABLE 3/2, 1/4" NPT



Symbol	Code	Abbrev.	Weight [lb]
	7020020100U	SOV 33 SOB OO U	0.419
	7020020300U	SOV 33 SEB OO U	0.419

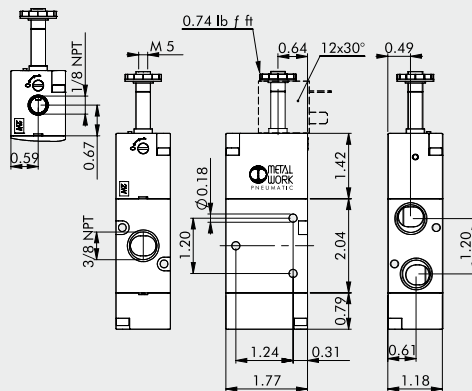
MONOSTABLE 5/3, 1/4" NPT



Symbol	Code	Abbrev.	Weight [lb]
	7020022100U	SOV 36 SOS CC U	0.604
	7020022200U	SOV 36 SOS OC U	0.604
	7020022300U	SOV 36 SOS PC U	0.604
	7020022400U	SOV 36 SES CC U	0.611
	7020022500U	SOV 36 SES OC U	0.611
	7020022600U	SOV 36 SES PC U	0.611

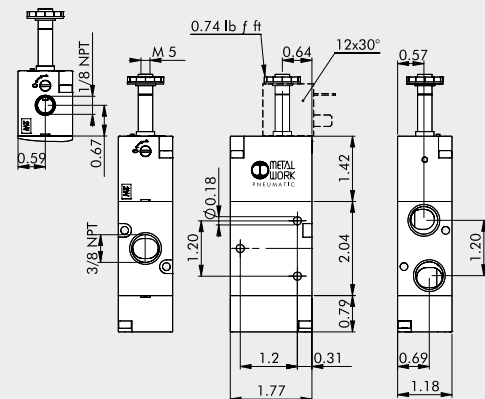
VALVES SERIES 70, SOLENOID/PNEUMATIC-PILOT, ASSISTED SOLENOID/PNEUMATIC, 3/8" NPT

MONOSTABLE 3/2 NO, 3/8" NPT



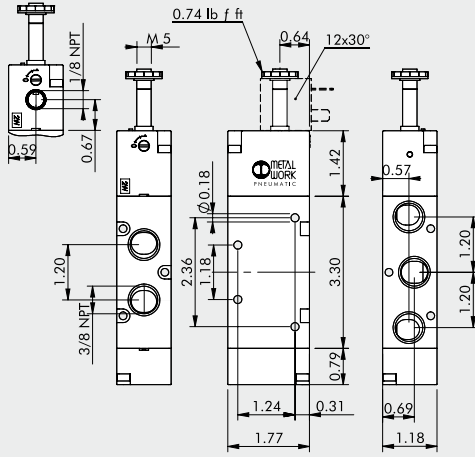
Symbol	Code	Abbrev.	Weight [lb]
	7040020400U	SOV C3 SOS NO U	0.564

MONOSTABLE 3/2 NC, 3/8" NPT



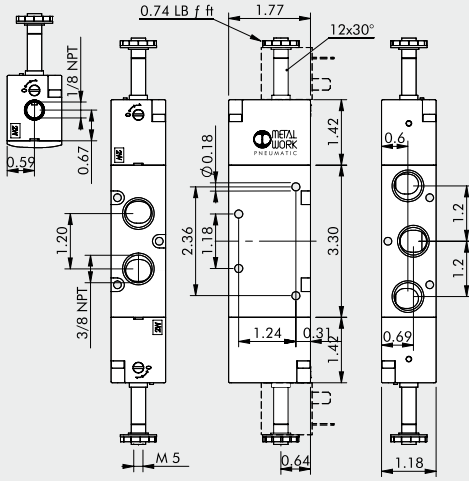
Symbol	Code	Abbrev.	Weight [lb]
	7040020200U	SOV C3 SOS NC U	0.564
	7040020500U	SOV C3 SES NC U	0.562

MONOSTABLE 5/2, 3/8" NPT



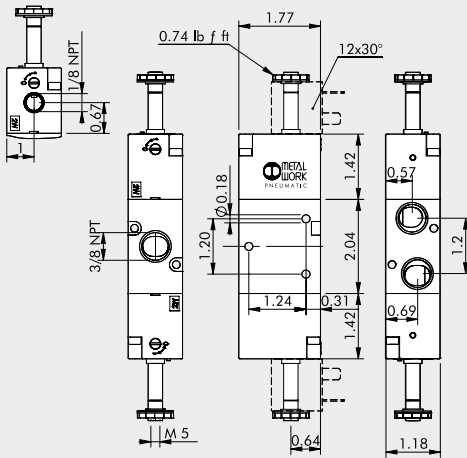
Symbol	Code	Abbrev.	Weight [lb]
	7040021100U	SOV C5 SOS OO U	0.796
	7040021500U	SOV C5 SES OO U	0.796

BISTABLE 5/2, 3/8" NPT



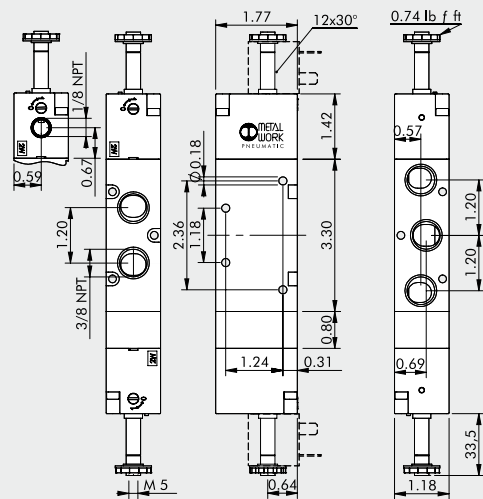
Symbol	Code	Abbrev.	Weight [lb]
	7040021200U	SOV C5 SOB OO U	0.882
	7040021300U	SOV C5 SOD OO U	0.937
	7040021600U	SOV C5 SEB OO U	0.882

BISTABLE 3/2, 3/8" NPT



Symbol	Code	Abbrev.	Weight [lb]
	7040020100U	SOV C3 SOB OO U	0.676
	7040020300U	SOV C3 SEB OO U	0.676

MONOSTABLE 5/3, 3/8" NPT

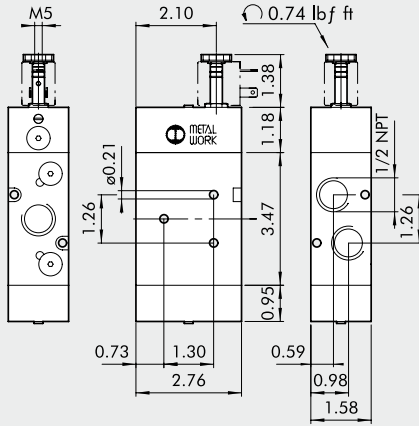


Symbol	Code	Abbrev.	Weight [lb]
	7040022100U	SOV C6 SOS CC U	1.049
	7040022200U	SOV C6 SOS OC U	1.045
	7040022300U	SOV C6 SOS PC U	1.045
	7040022400U	SOV C6 SES CC U	1.049
	7040022500U	SOV C6 SES OC U	1.045
	7040022600U	SOV C6 SES PC U	1.045

VALVES SERIES 70, SOLENOID/PNEUMATIC, PILOT-ASSISTED SOLENOID/PNEUMATIC, 1/2" NPT

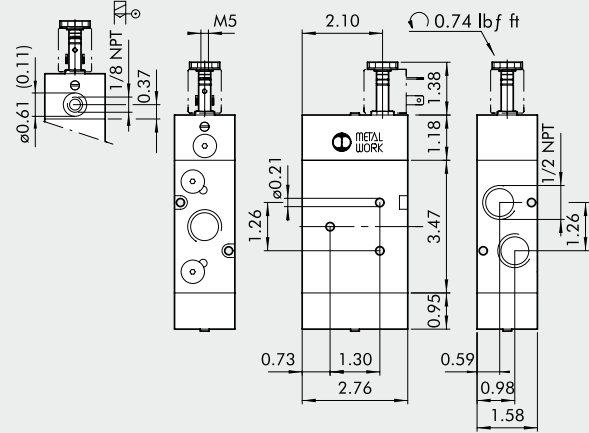


MONOSTABLE 3/2 NO, 1/2" NPT



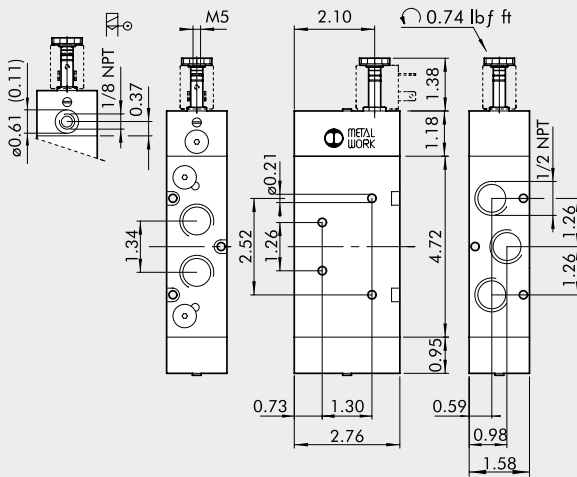
Symbol	Code	Abbrev.	Weight [lb]
	7030020400U	SOV 43 SOS NO U	2.051

MONOSTABLE 3/2 NC, 1/2" NPT



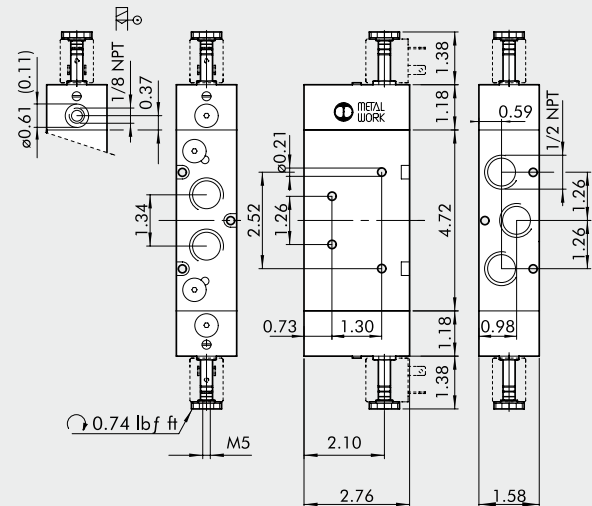
Symbol	Code	Abbrev.	Weight [lb]
	7030020200U	SOV 43 SOS NC U	2.051
	7030020500U	SOV 43 SES NC U	2.035

MONOSTABLE 5/2, 1/2" NPT



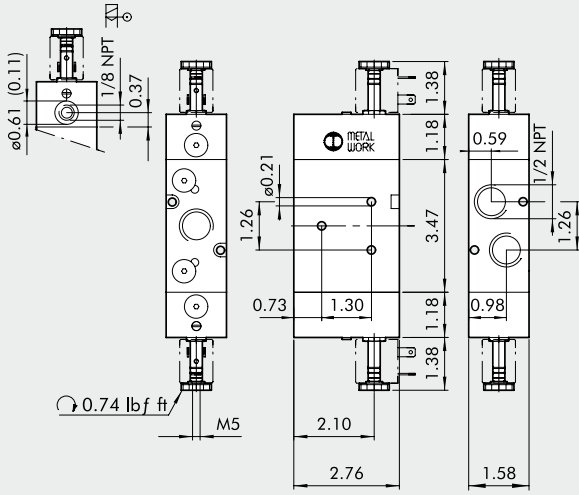
Symbol	Code	Abbrev.	Weight [lb]
	7030021100U	SOV 45 SOS OO U	2.470
	7030021500U	SOV 45 SES OO U	2.454

BISTABLE 5/2, 1/2" NPT

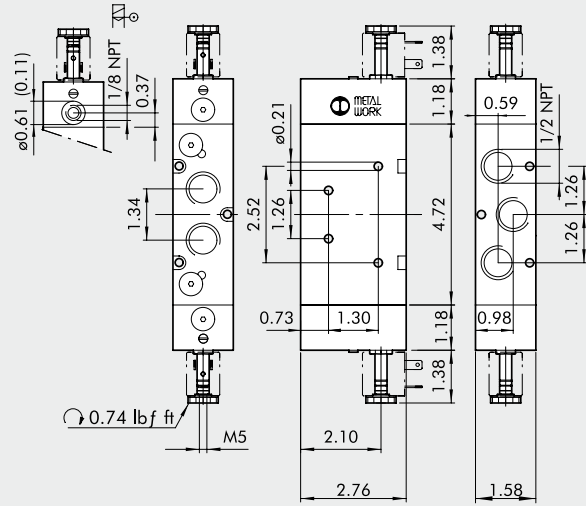


Symbol	Code	Abbrev.	Weight [lb]
	7030021200U	SOV 45 SOB OO U	2.514
	7030021300U	SOV 45 SOD OO U	2.540
	7030021600U	SOV 45 SEB OO U	2.485

BISTABLE 3/2, 1/2" NPT



MONOSTABLE 5/3, 1/2" NPT



Symbol	Code	Abbrev.	Weight [lb]
	7030020100U	SOV 43 SOB OO U	2.106
	7030020300U	SOV 43 SEB OO U	2.077

Symbol	Code	Abbrev.	Weight [lb]
	7030022100U	SOV 46 SOS CC U	2.789
	7030022200U	SOV 46 SOS OC U	2.789
	7030022300U	SOV 46 SOS PC U	2.789
	7030022400U	SOV 46 SES CC U	2.761
	7030022500U	SOV 46 SES OC U	2.761
	7030022600U	SOV 46 SES PC U	2.761

ACCESSORIES FOR SERIES 70 SOLENOID/PNEUMATIC VALVES

Refer to page 1-40 for coils and connectors

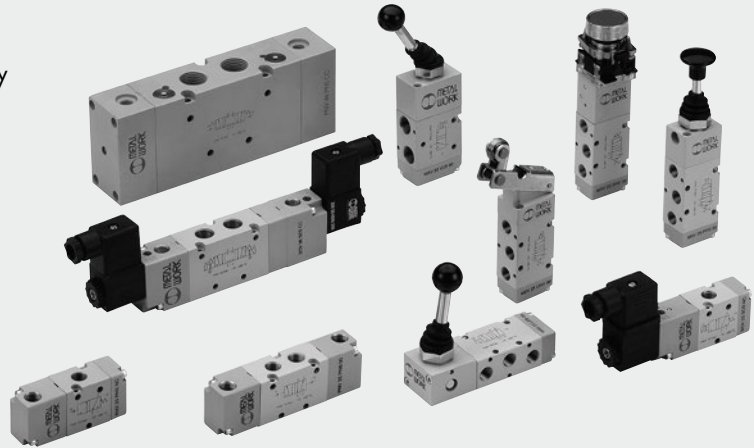


NOTES

VALVES SERIES 70

This is Metal Work's full range. Available in three sizes: 1/8", 1/4", 3/8", 1/2". Three versions: 3/2; 5/2; 5/3, four different types of actuation (mechanical, manual, pneumatic and electric).

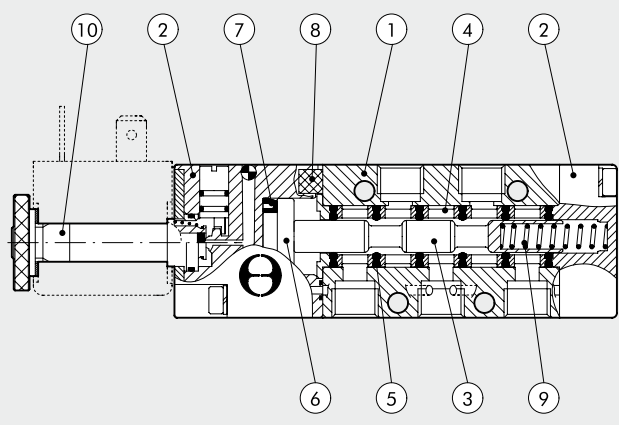
Series 70 valves can be used for a wide range of applications as they can be mounted in line, on the wall, on the cylinder using a special bracket, or in series on a multiple or manifold base.



TECHNICAL DATA	1/8" NPT	1/4" NPT	3/8" NPT	1/2" NPT	
Thread on the valve ports	1/8" NPT	1/4" NPT	3/8" NPT	1/2" NPT	
Operating pressure:					
• monostable			36.3 to 145		
• bistable			14.5 to 145		
• asserved			vacuum to 145		
Minimum pilot pressure			36.3		
Operating temperature range			14 to +140		
Nominal diameter	in	0.20	0.30	0.52	0.59
Conductance C	scfm/psi	0.30	0.65	1.23	2.37
Critical ratio b	psi/psi	0.32	0.27	0.32	0.43
Flow rate at 87 psi ΔP 7.25 psi	scfm	14	26.5	55.2	113
Flow rate at 87 psi ΔP 14.5 psi	scfm	19.5 Cv 0.55	39 Cv 1.1	75 Cv 2.1	163 Cv 4.6
Installation	In any position (vertical assembly is not recommended for bistable valves subjected to vibration)				
Fluid	Filtered air without lubrication; lubrication, if used, must be continuous				
Recommended lubricant	ISO and UNI FD 22				
Maximum coil nut torque	lbf ft	0.74			
Compatibility with oils	Please refer to page 5-4 of the technical documentation				

COMPONENTS

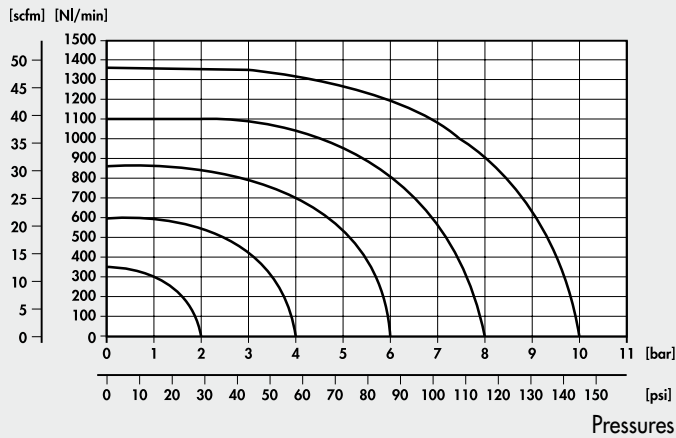
- ① VALVE BODY: Aluminium
- ② CONTROL/END CAP: plastic
- ③ SPOOL: chemically nickel-plated aluminium
- ④ DISTANCE PLATES: plastic
- ⑤ GASKETS: NBR
- ⑥ PISTONS: Hostaform®
- ⑦ PISTON GASKET: NBR
- ⑧ FILTER: sintered bronze
- ⑨ SPRINGS: special steel
- ⑩ OPERATOR: Brass pipe - Stainless steel core



FLOW CHARTS

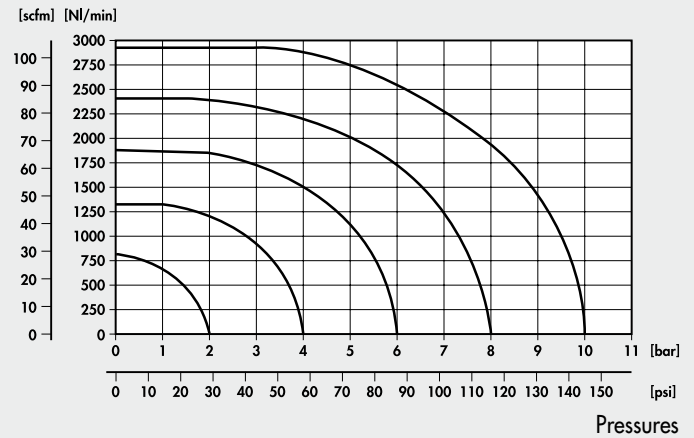
VALVES SERIES 70, 1/8"

Flow rates



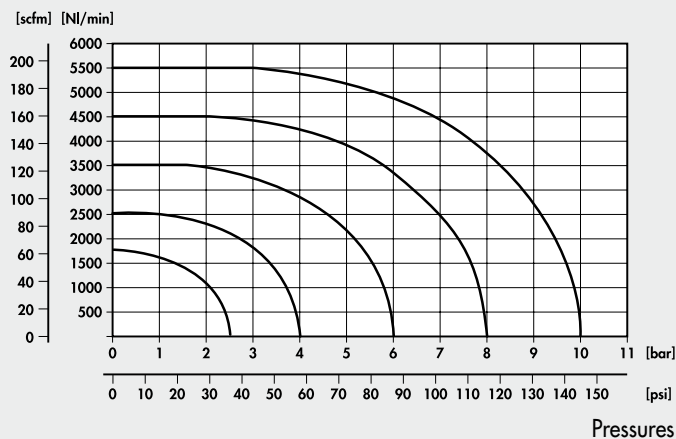
VALVES SERIES 70, 1/4"

Flow rates



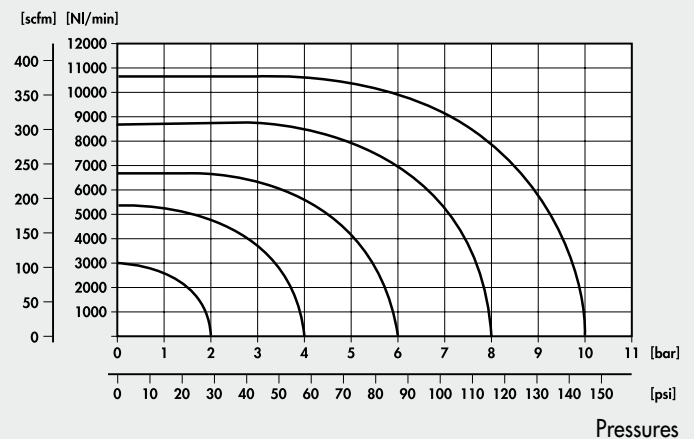
VALVES SERIES 70, 3/8"

Flow rates



VALVES SERIES 70, 1/2"

Flow rates



NOTES

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