

VALVES SERIES 70

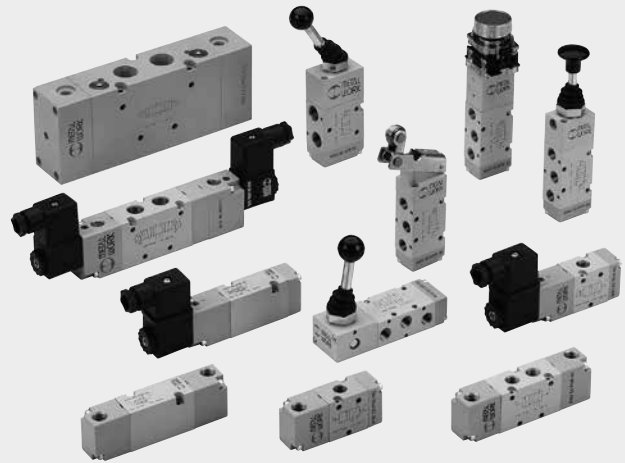
The Series 70 forms part of Metal Work's full range of traditional valves.

They are available in sizes 1/8", 1/4", 3/8" and 1/2", versions 3/2, 5/2, 5/3 and double 3/2, with mechanical, manual, pneumatic and electric drives.

They can be installed in line, onto a wall, on the cylinder (using a special bracket) or in series (on a multiple or modular base) to suit all possible applications.

A range of valves (Series 70 LT) designed using components for specific low-temperature applications is now available for the most commonly used types and sizes.

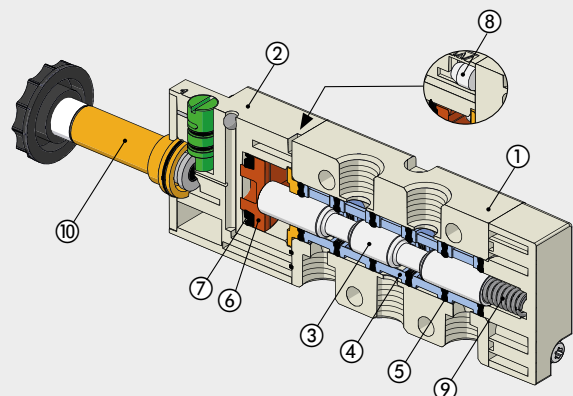
These highly reliable valves comply with the main applicable standards, including ATEX, ISO 13489 and SIL, as stated in the documents and certificates available online.



TECHNICAL DATA		1/8"	1/4"	3/8"	1/2"
Thread on the valve ports		1/8"	1/4"	3/8"	1/2"
Operating pressure series 70 versions	bar			2.5 to 10	
monostable and bistable differential				1 to 10	
bistable				vacuum to 10	
asserved					
Operating pressure series 70 LT (low temperature) versions	bar				
hand operated	perfectly	vacuum to 10			-
pneumatic and solenoid/pneumatic	t = -40°C to -10°C	5 to 10			-
	t = -10°C to +60°C	3 to 10			-
Minimum pilot pressure	bar			2.5	
Operating temperature range	°C				
series 70 versions				-10 to +60	
series 70 LT (low temperature) versions				-40 to +60	
Nominal diameter	mm	5	7.5	13.3	15
Conductance C	Nl/min · bar	121.43	264.26	505.52	971.43
Critical ratio b	bar/bar	0.32	0.27	0.32	0.43
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	400	750	1560	3200
Flow rate at 6 bar ΔP 1 bar	Nl/min	550	1100	2150	4600
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		For series 70 LT (low-temperature) versions, it is recommended to use of perfettamente dried air. ISO and UNI FD 22			
Maximum coil nut torque	Nm	For series 70 LT (low-temperature) it is not expected to be used with lubricated air.			
Compatibility with oils		1 See chapter Z1			

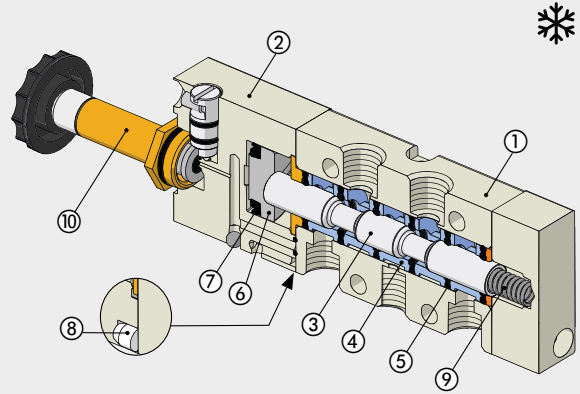
COMPONENTS SERIES 70

- ① ALVE 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: plastic
- ⑨ SPRINGS: special steel
- ⑩ OPERATOR: Brass pipe - Stainless steel core



COMPONENTS SERIES 70 LT (LOW TEMPERATURE)

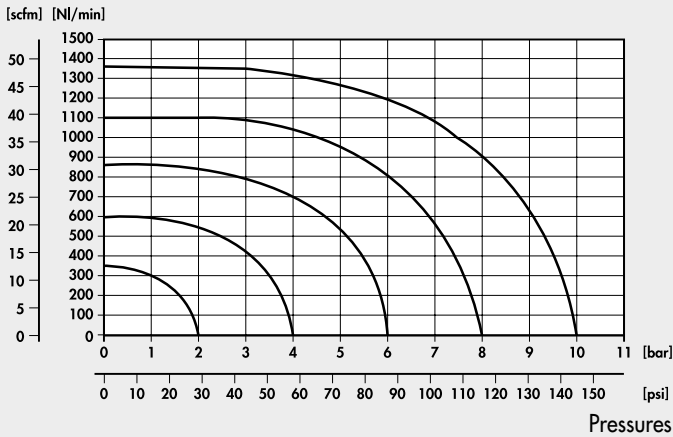
- ① ALVE BODY: aluminium
- ② CONTROL/END CAP: aluminium
- ③ SPOOL: chemically nickel-plated aluminium
- ④ DISTANCE PLATES: plastic
- ⑤ GASKETS: HNBR
- ⑥ PISTONS: aluminium
- ⑦ PISTON GASKET: HNBR
- ⑧ FILTER: plastic
- ⑨ SPRINGS: special steel
- ⑩ OPERATOR: brass pipe - Stainless steel core (version specific for low-temperature applications)



FLOW CHARTS

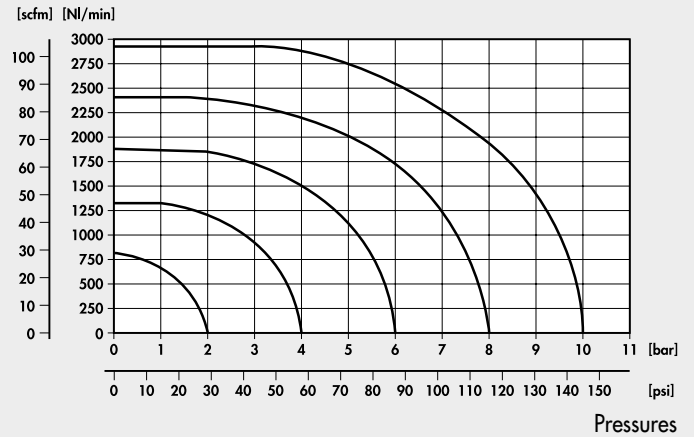
VALVES SERIES 70 1/8"

Flow rates



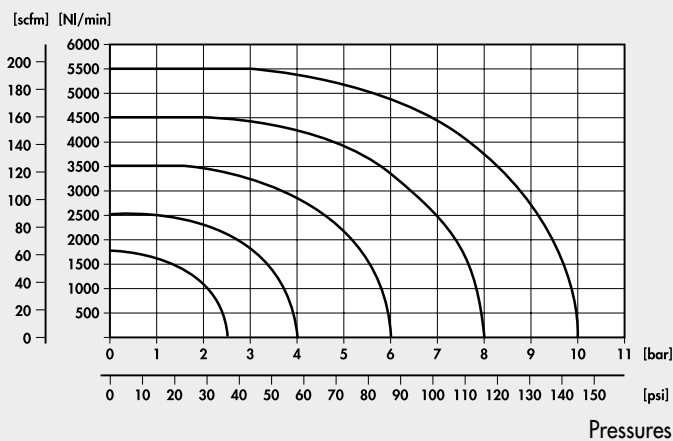
VALVES SERIES 70 1/4"

Flow rates



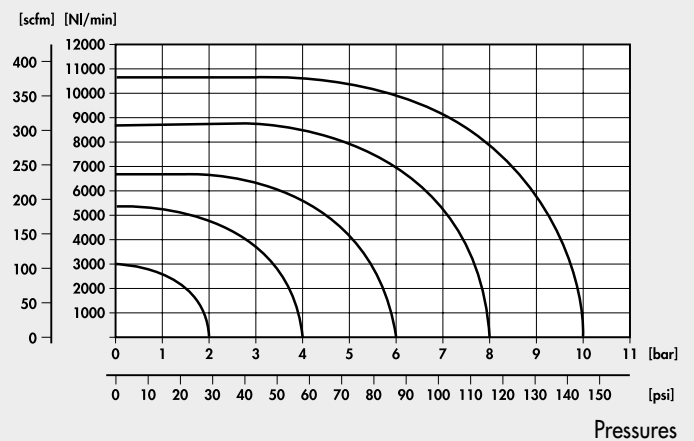
VALVES SERIES 70 3/8"

Flow rates



VALVES SERIES 70 1/2"

Flow rates



VALVES SERIES 70

VALVES SERIES 70, SOLENOID/PNEUMATIC

TECHNICAL DATA		1/8"	1/4"	3/8"	1/2"
Operating pressure:					
• monostable and bistable differential	bar	2.5 to 10			
• bistable	bar	1 to 10			
• asserved	bar	Vacuum to 10			
Minimum pilot pressure	bar	2.5			
Operating temperature range	°C	-10 to +60			
Nominal diameter	mm	5	7.5	13.3	15
Conductance C	Nl/min · bar	121.43	264.26	505.52	971.43
Critical ratio b	bar/bar	0.32	0.27	0.32	0.43
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	400	750	1560	3200
Flow rate at 6 bar ΔP 1 bar	Nl/min	550	1100	2150	4600
TRA / TRR monostable at 6 bar	ms	15/35	19/45	21/72	36/100
TRA / TRR bistable at 6 bar	ms	20/20	21/21	18/18	25/25
Coil voltage values		12; 24 VDC - 24; 110; 220V AC 50/60Hz			
Power		2 W (DC) 3.5VA (AC)			
Voltage tolerance	%	-10 to +15			
Insulation class		F 155			
Maximum coil nut torque	Nm	1			
Hand operation		Bistable			



VALVES

VALVES SERIES 70, PNEUMATIC

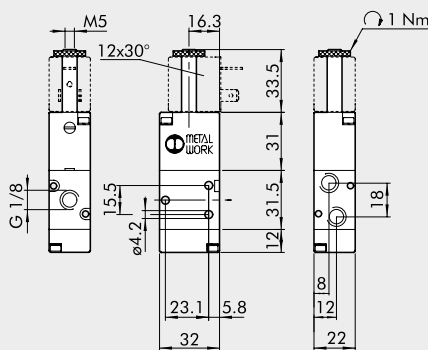
SYNOPTIC, SIZES AND VERSIONS

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

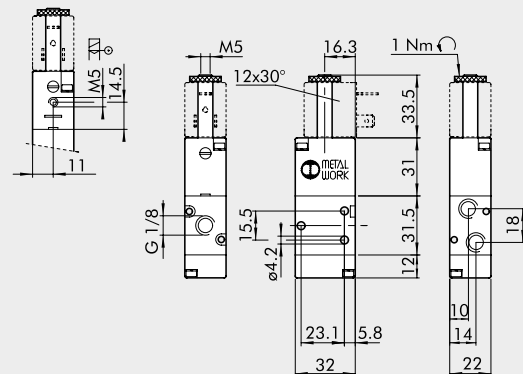
- Only available for size 1/8" and 1/4"
- ◆ On demand
- ▲ Only available for function 2-3/2

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

MONOSTABLE 3/2 NO, 1/8"



MONOSTABLE 3/2 NC, 1/8"

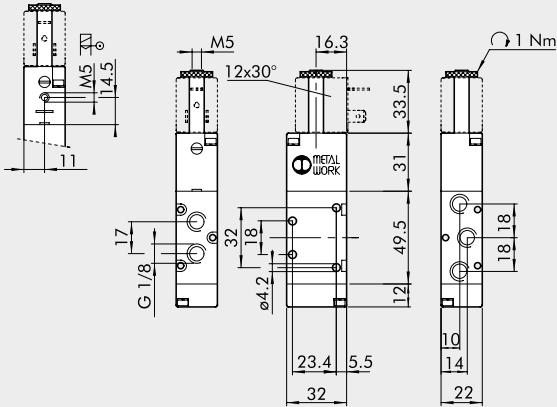


Symbol	Code	Abbrev.	Weight [g]
	7010020400	SOV 23 SOS NO	100

Symbol	Code	Abbrev.	Weight [g]
	7010020200	SOV 23 SOS NC	100

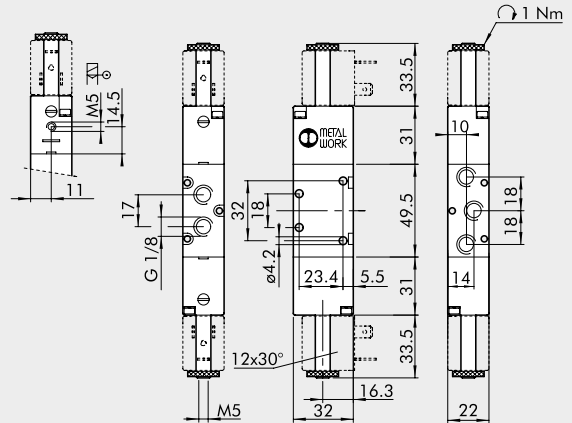
	7010020500	SOV 23 SES NC	100
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MONOSTABLE 5/2, 1/8"



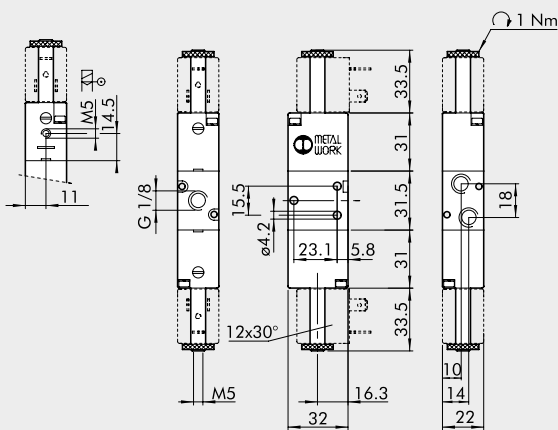
Symbol	Code	Abbrev.	Weight [g]
	7010021100	SOV 25 SOS OO	128
	7010021500	SOV 25 SES OO	129

BISTABLE 5/2, 1/8"



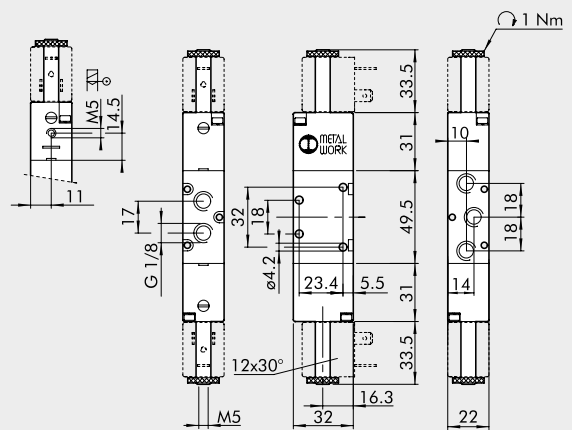
Symbol	Code	Abbrev.	Weight [g]
	7010021200	SOV 25 SOB OO	160
	7010021300	SOV 25 SOD OO	166
	7010021600	SOV 25 SEB OO	160

BISTABLE 3/2, 1/8"



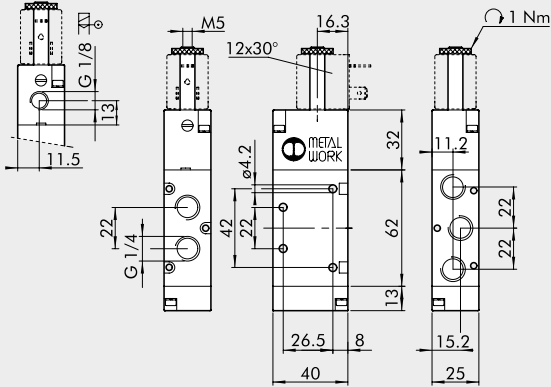
Symbol	Code	Abbrev.	Weight [g]
	7010020100	SOV 23 SOB OO	135
	7010020300	SOV 23 SEB OO	136

DOUBLE 3/2, 1/8"



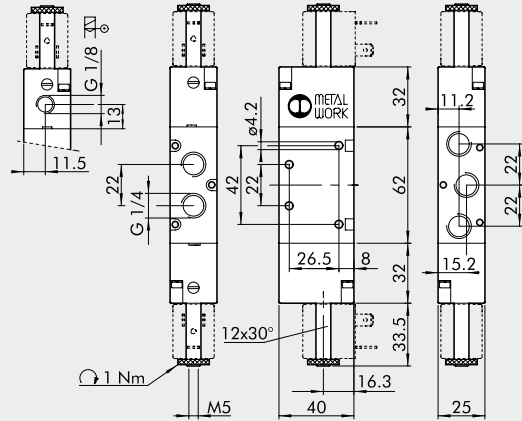
Symbol	Code	Abbrev.	Weight [g]
	7010023100	SOV 28 SOS NC	186
	7010023200	SOV 28 SOS NO	186
	7010023300	SOV 28 SOS NC-NO	186
	7010023400	SOV 28 SES NC	186
	7010023500	SOV 28 SES NO	186
	7010023600	SOV 28 SES NC-NO	186

MONOSTABLE 5/2, 1/4"



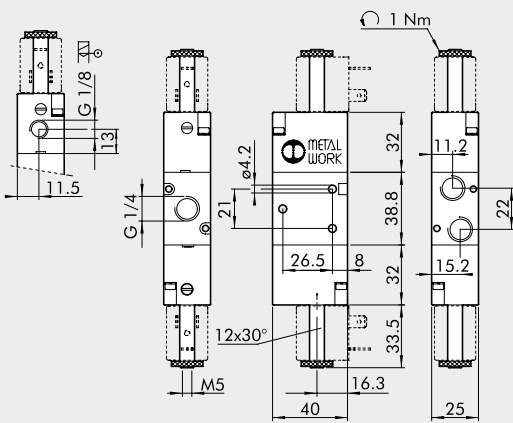
Symbol	Code	Abbrev.	Weight [g]
	7020021100	SOV 35 SOS OO	200
	7020021500	SOV 35 SES OO	200

BISTABLE 5/2, 1/4"



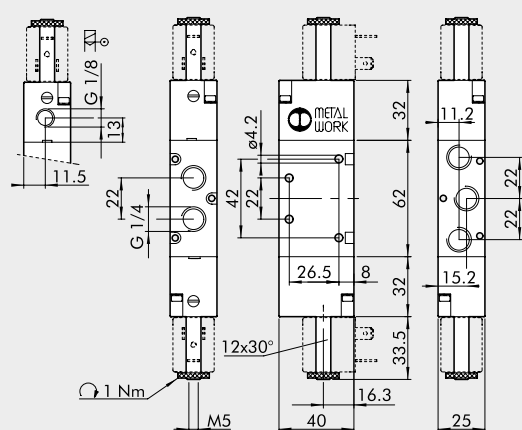
Symbol	Code	Abbrev.	Weight [g]
	7020021200	SOV 35 SOB OO	236
	7020021300	SOV 35 SOD OO	252
	7020021600	SOV 35 SEB OO	242

BISTABLE 3/2, 1/4"



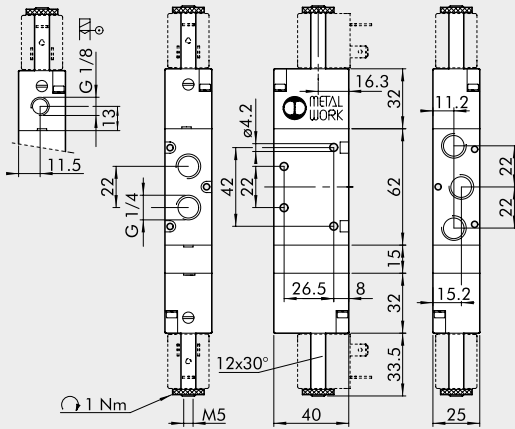
Symbol	Code	Abbrev.	Weight [g]
	7020020100	SOV 33 SOB OO	190
	7020020300	SOV 33 SEB OO	190

DOUBLE 3/2, 1/4"



Symbol	Code	Abbrev.	Weight [g]
	7020023100	SOV 38 SOS NC	286
	7020023200	SOV 38 SOS NO	286
	7020023300	SOV 38 SOS NC-NO	286
	7020023400	SOV 38 SES NC	286
	7020023500	SOV 38 SES NO	286
	7020023600	SOV 38 SES NC-NO	286

MONOSTABLE 5/3, 1/4"

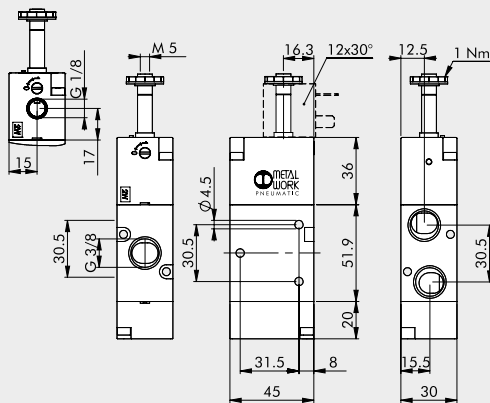


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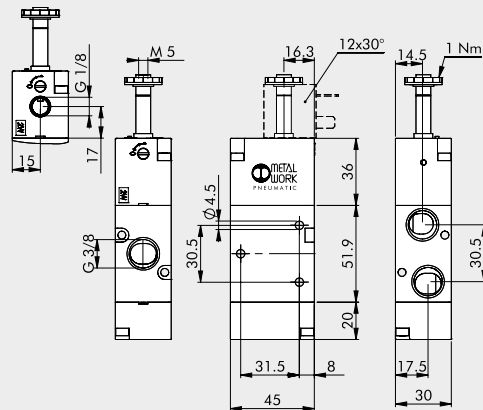
Symbol	Code	Abbrev.	Weight [g]
	7020022100	SOV 36 SOS CC	274
	7020022200	SOV 36 SOS OC	274
	7020022300	SOV 36 SOS PC	274
	7020022400	SOV 36 SES CC	277
	7020022500	SOV 36 SES OC	277
	7020022600	SOV 36 SES PC	277

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

MONOSTABLE 3/2 NO, 3/8"



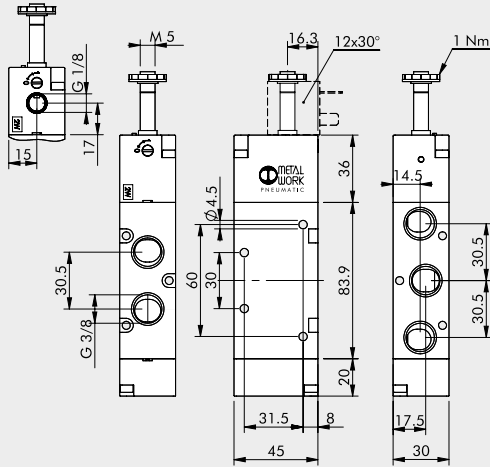
MONOSTABLE 3/2 NC, 3/8"



Symbol	Code	Abbrev.	Weight [g]
	7040020400	SOV C3 SOS NO	256
	7040020600	SOV C3 SES NO	255

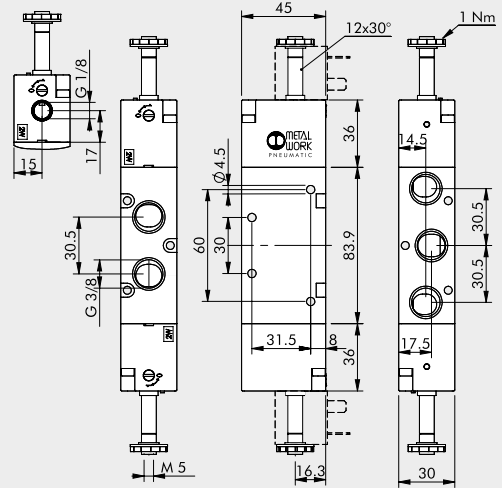
Symbol	Code	Abbrev.	Weight [g]
	7040020200	SOV C3 SOS NC	256
	7040020500	SOV C3 SES NC	255

MONOSTABLE 5/2, 3/8"



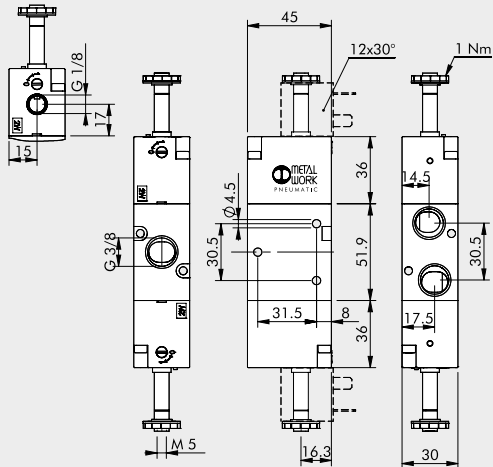
Symbol	Code	Abbrev.	Weight [g]
	7040021100	SOV C5 SOS OO	361
	7040021500	SOV C5 SES OO	361

BISTABLE 5/2, 3/8"



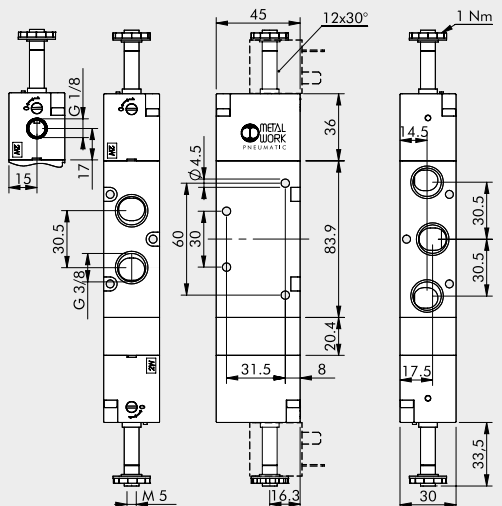
Symbol	Code	Abbrev.	Weight [g]
	7040021200	SOV C5 SOB OO	400
	7040021300	SOV C5 SOD OO	425
	7040021600	SOV C5 SEB OO	400

BISTABLE 3/2, 3/8"



Symbol	Code	Abbrev.	Weight [g]
	7040020100	SOV C3 SOB OO	307
	7040020300	SOV C3 SEB OO	307

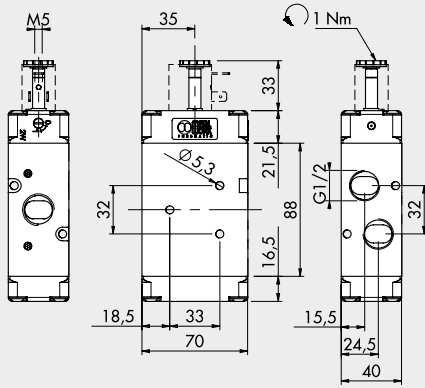
MONOSTABLE 5/3, 3/8"



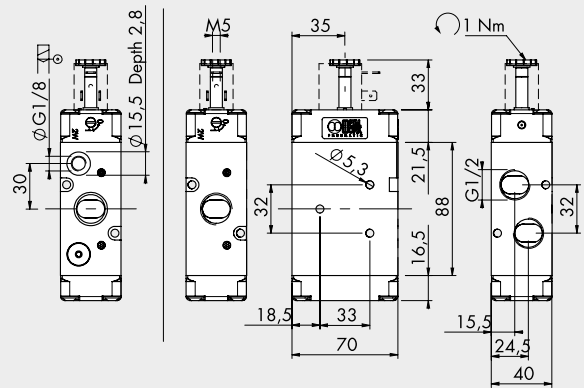
Symbol	Code	Abbrev.	Weight [g]
	7040022100	SOV C6 SOS CC	476
	7040022200	SOV C6 SOS OC	474
	7040022300	SOV C6 SOS PC	474
	7040022400	SOV C6 SES CC	476
	7040022500	SOV C6 SES OC	474
	7040022600	SOV C6 SES PC	474

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

MONOSTABLE 3/2 NO, 1/2"



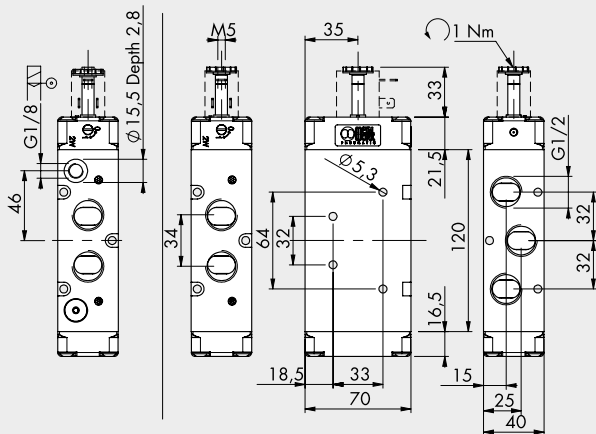
MONOSTABLE 3/2 NC, 1/2"



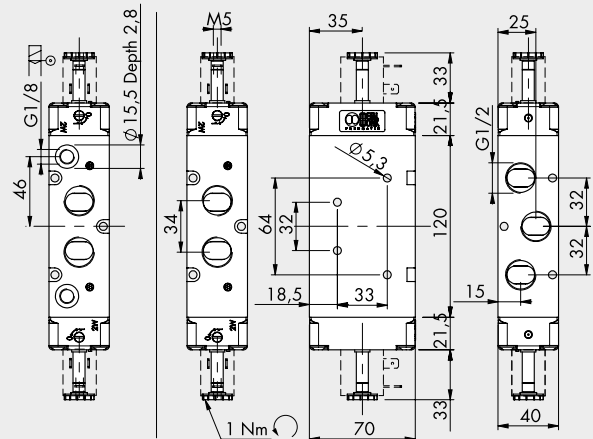
Symbol	Code	Abbrev.	Weight [g]
	7030020400	SOV 43 SOS NO	660

Symbol	Code	Abbrev.	Weight [g]
	7030020200	SOV 43 SOS NC	660
	7030020500	SOV 43 SES NC	654

MONOSTABLE 5/2, 1/2"



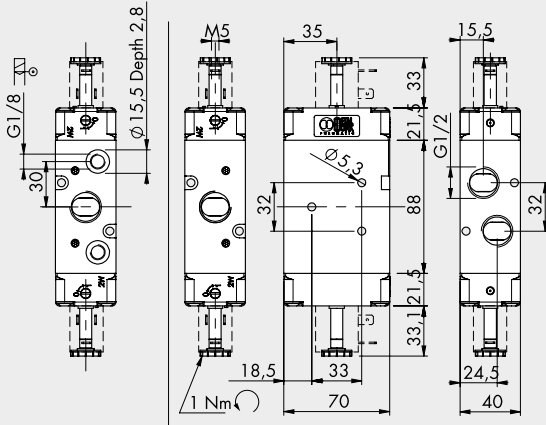
BISTABLE 5/2, 1/2"



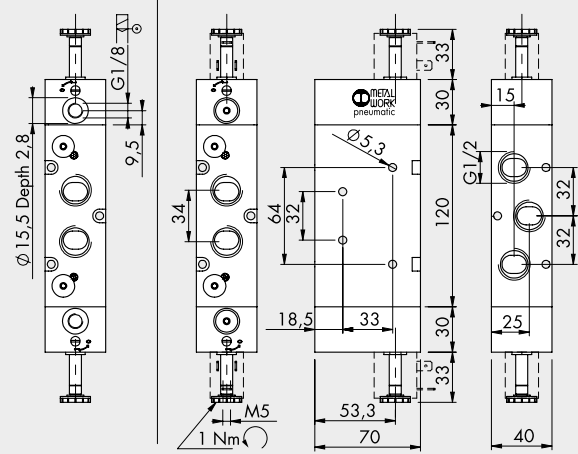
Symbol	Code	Abbrev.	Weight [g]
	7030021100	SOV 45 SOS OO	828
	7030021500	SOV 45 SES OO	830

Symbol	Code	Abbrev.	Weight [g]
	7030021200	SOV 45 SOB OO	860
	7030021300	SOV 45 SOD OO	868
	7030021600	SOV 45 SEB OO	854

BISTABLE 3/2, 1/2"



MONOSTABLE 5/3, 1/2"



Symbol	Code	Abbrev.	Weight [g]
	7030020100	SOV 43 SOB OO	686
	7030020300	SOV 43 SEB OO	678

Symbol	Code	Abbrev.	Weight [g]
	7030022100	SOV 46 SOS CC	1265
	7030022200	SOV 46 SOS OC	1265
	7030022300	SOV 46 SOS PC	1265
	7030022400	SOV 46 SES CC	1252
	7030022500	SOV 46 SES OC	1252
	7030022600	SOV 46 SES PC	1252

ACCESSORIES FOR SERIES 70 SOLENOID/PNEUMATIC VALVES

Refer to page B1.60 for coils and connectors



NOTES