

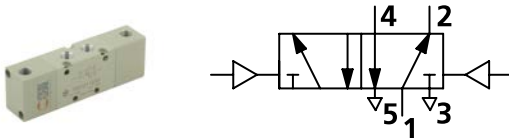
5/2-way valve

pneumatic, series 70 low temperature

PLUS ||

Art. No. 149927

Type No. 70L1011200



Exemplary illustration

The series 70 low temperature valves in pneumatic version complement our range of traditional way valves of series 70. They represent a selection of the most commonly used pneumatic way valves, which are manufactured with components for special low temperature applications. These valves have a wide range of applications as bushing valves, direct mounting on the cylinder with special adapters or as series valves with multi-base plates and individual interlinking plates (supply strips).

Technical data

Function	5/2
Operation	bistable
Connection	G 1/8 IT
DN	5
Flow rate measurement 1	flow rate at 6 bar and Δp 0.5 bar
Flow rate 1	400 NI/min
Flow rate measurement 2	flow rate at 6 bar and Δp 1 bar
Flow rate 2	550 NI/min
Medium	filtered, dry and unlubricated compressed air
Required purity class in accordance w. ISO 8573-1	4.2.3
Min. operating pressure at -40 to -10 °C	5 bar
Min. operating pressure at -10 to 60 °C	3 bar
Operating pressure	max. 10 bar
Pilot pressure at -40 to -10 °C	5 -10 bar
Operating pressure at -10 to 60 °C	3 -10 bar
Temperature range	-40 to 60 °C
Valve body	aluminium
Piston	nickel-plated aluminium
Sealant	NBR
Spring	special steel
Control air port	G 1/8 IT

Commercial data

Customs tariff number	84818079
Country of origin	IT
eCl@ss 5.1.4	27291501
eCl@ss 9.0	27291390
UNSPSC_Code_v190501	40141603
UNSPSC_CodeDesc_v190501	Pneumatic valves

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.

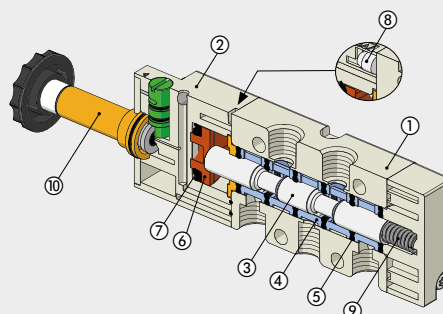
These highly reliable valves comply with the main applicable standards, including Atex, ISO 13489 and SIL, as stated in the documents and certificates available online.



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		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 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: 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)



VALVES

VALVES SERIES 70

FLOW CHARTS

VALVES SERIES 70 1/8"

Flow rates



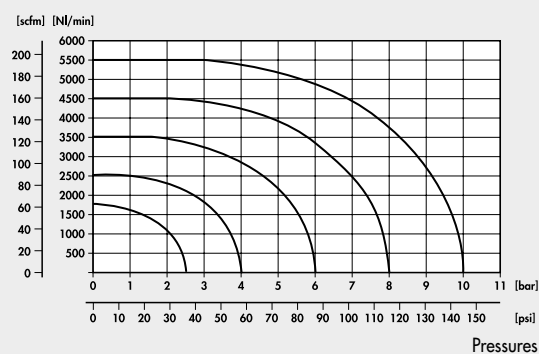
VALVES SERIES 70 1/4"

Flow rates



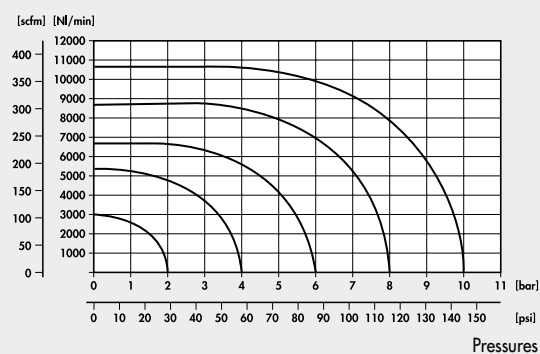
VALVES SERIES 70 3/8"

Flow rates



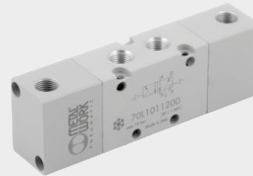
VALVES SERIES 70 1/2"

Flow rates



VALVES SERIES 70 LT (LOW TEMPERATURE)

TECHNICAL DATA		1/8"	1/4"	3/8"
Operating pressure standard	bar	Vacuum to 10		
hand operated		5 to 10		
pneumatic and solenoid/pneumatic	t = -40°C to -10°C	3 to 10		
	t = -10°C to +60°C	-40 to +60		
Operating temperature range	°C			
Nominal diameter	mm	5	7.5	13.3
Conductance C	Nl/min · bar	121.43	264.26	505.52
Critical ratio b	bar/bar	0.32	0.27	0.32
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	400	750	1560
Flow rate at 6 bar ΔP 1 bar	Nl/min	550	1100	2150
PNEUMATIC				
Minimum pilot pressure	bar	5		
t = -40°C to -10°C		3		
t = -10°C to +60°C				
TRA / TRR monostable at 6 bar (at 20°C)	ms	6/15	7/15	5/28
TRA / TRR bistable at 6 bar (at 20°C)	ms	7/7	7/7	13/13
SOLENOID/PNEUMATIC				
TRA / TRR monostable at 6 bar (at 20°C)	ms	15/35	19/45	21/72
TRA / TRR bistable at 6 bar (at 20°C)	ms	20/20	21/21	18/18
Coil voltage values		12; 24 VDC		
		24; 110; 220V AC 50/60Hz		
Power	t = -40°C to -10°C	5 W (DC) - 5 VA (AC)		
	t = -10°C to +60°C	2 W (DC) - 3.5 VA (AC)		
Voltage tolerance	%	-10 to +15		
Insulation class		F 155		
Maximum coil nut torque	Nm	1		
Hand operator		Bistable		
Notes: after a long stop and with very low temperatures the movement of the first drives may be slower. It recommends the use of perfectly dry air.				


VALVES

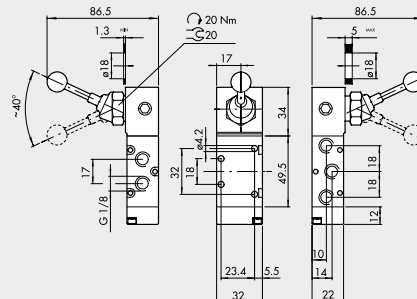
VALVES SERIES 70 LT (LOW TEMPERATURE)

SYNOPTIC, SIZES AND VERSIONS

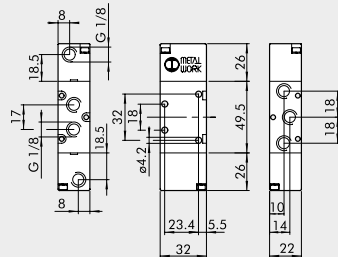
P N V	2	3	P N	S	OO	LT
FAMILY	DIMENSIONS	FUNCTION	OPERATORS 14	RESETTING (12)	FURTHER DETAILS	
MAV manual valves	2 1/8"	3 3/2	LE leva 90°	S mechanical springs	OO no indication	LT low temperature
PNV pneumatic valves	3 1/4"	5 5/2	PN pneumatic	B bistable	NC normally closed	
SOV solenoid/ pneumatic	C 3/8"	6 5/3	SO solenoid	O stable for 5/3	NO normally open	
					CC closed centres	
					OC open centres	
					PC pressure centres	


VALVES SERIES 70 LT, HAND OPERATED (LOW TEMPERATURE)
90° LEVER 3/2 1/8"

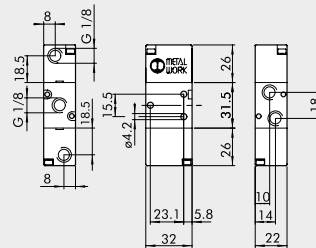

Symbol	Code	Abbrev.	Weight [g]
	* 70L1000100	MAV 23 LES NC LT	184
	* 70L1000200	MAV 23 LEB OO LT	187


90° LEVER 5/2 1/8"


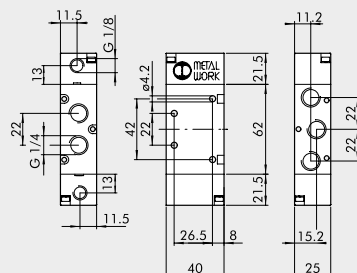
Symbol	Code	Abbrev.	Weight [g]
	* 70L1000300	MAV 25 LES OO LT	210
	* 70L1000400	MAV 25 LEB OO LT	213


**VALVES SERIES 70 LT, PNEUMATIC
(LOW TEMPERATURE)**
BISTABLE 5/2 1/8"


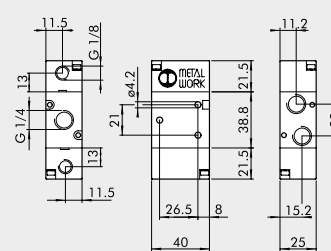
Symbol	Code	Abbrev.	Weight [g]
	* 70L1011200	PNV 25 PNB OO LT	176


BISTABLE 3/2 1/8"


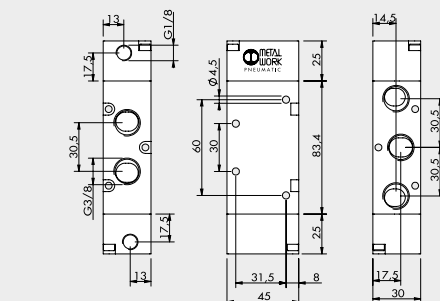
Symbol	Code	Abbrev.	Weight [g]
	* 70L1010100	PNV 23 PNB OO LT	150


BISTABLE 5/2 1/4"


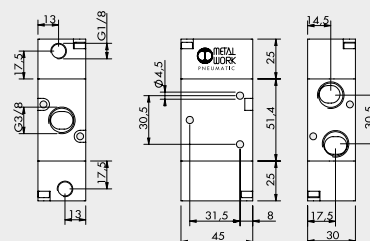
Symbol	Code	Abbrev.	Weight [g]
	* 70L2011200	PNV 35 PNB OO LT	233


BISTABLE 3/2 1/4"


Symbol	Code	Abbrev.	Weight [g]
	* 70L2010100	PNV 33 PNB OO LT	194

BISTABLE 5/2 3/8"


Symbol	Code	Abbrev.	Weight [g]
	* 70L4011200	PNV C5 PNB OO LT	405

BISTABLE 3/2 3/8"


Symbol	Code	Abbrev.	Weight [g]
	* 70L4010100	PNV C3 PNB OO LT	305

VALVES

VALVES SERIES 70 LT (LOW TEMPERATURE)

Accessories

	Art. No.	Type No.
Supply strip for the way valves, mounting bracket set, height 120 mm, for valves connection G 1/8, exhaust/supply connection G 1/4	106604	518.120-18
Supply strip for the way valves, mounting bracket set, height 60 mm, for valves connection G 1/8, exhaust/supply connection G 1/4	106605	518.60-18
Supply strip for the way valves, mounting bracket set, height 30 mm, for valves connection G 1/8, exhaust/supply connection G 1/4	106606	518.30-18
Supply strip for the way valves, supply strip with 2 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106610	518.02-18
Supply strip for the way valves, supply strip with 3 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106611	518.03-18
Supply strip for the way valves, supply strip with 4 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106612	518.04-18
Supply strip for the way valves, supply strip with 5 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106613	518.05-18
Supply strip for the way valves, supply strip with 6 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106614	518.06-18
Supply strip for the way valves, supply strip with 7 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106615	518.07-18
Multi-base plate for the way valves, with 2 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106622	520.02-18
Multi-base plate for the way valves, with 3 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106623	520.03-18
Multi-base plate for the way valves, with 4 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106624	520.04-18
Multi-base plate for the way valves, with 5 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106625	520.05-18
Multi-base plate for the way valves, with 6 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106626	520.06-18
Multi-base plate for the way valves, with 7 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106627	520.07-18
Multi-base plate for the way valves, with 8 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106628	520.08-18
Multi-base plate for the way valves, with 9 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106629	520.09-18
Multi-base plate for the way valves, with 10 valve positions, for valves connection G 1/8, exhaust/supply connection G 1/4	106630	520.10-18
Modular base, for valves connection G 1/8, manifold base system for valves series 70/basic	146733	0226004150
Terminal outlet w/o seals, for valves G 1/8, exhaust/supply G 1/4, manifold base system for valves series 70/basic	146734	0226004201
Terminal inlet with seals, for valves G 1/8, exhaust/supply G 1/4, manifold base system for valves series 70/basic	146735	0226004200
Terminal intermediate/upper supply, for valves G 1/8, exhaust/supply G 1/4, manifold base system for valves series 70/basic	146736	0226004300