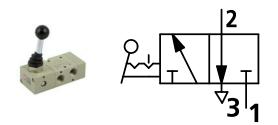


# 3/2-way valve

manually operated, series 70 low temperature

## PLUS

Art. No. 149907 Type No. 70L2000200



Exemplary illustration

The series 70 low temperature valves in manually operated version with hand lever complement our range of traditional way valves of series 70. They represent a selection of the most commonly used manually operated way valves, which are manufactured with components for special low temperature applications. These valves are also suitable for use with vacuum.

## **Technical data**

Function	3/2
Operation	bistable
Connection	G 1/4 IT
DN	7.5
Flow rate measurement 1	flow rate at 6 bar and $\Delta p$ 0.5 bar
Flow rate 1	750 Nl/min
Flow rate measurement 2	flow rate at 6 bar and $\Delta p$ 1 bar
Flow rate 2	1100 NI/min
Medium	filtered, dry and unlubricated compressed air
Required purity class in accordance w. ISO 8573-1	4.2.3
Operating pressure	-0.99 - 10 bar
Temperature range	-40 to 60 °C
Valve body	aluminium
Piston	nickel-plated aluminium
Sealant	NBR
Spring	special steel



## **Commercial data**

Customs tariff number	84818079				
Country of origin	IT				
eCl@ss 5.1.4	27291801				
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.

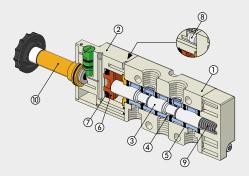


TECHNICAL DATA			1/8″	1/4″	3/8″	1/2″	
Thread on the valve ports			1/8″	1/4″	3/8″	1/2″	
Operating pressure series 70 versions		bar					
monostable and bistable differential				2.5 1	o 10		
bistable		1 to 10					
asserved				vacuur	n to 10		
Operating pressure series 70 LT (low temp	verature) versions	bar					
hand operated				n to 10		-	
pneumatic and solenoid/pneumatic	t = -40°C to -10°C			510		-	
	t = -10°C to +60°C		3 to	5 10			
Minimum pilot pressure		bar		2	.5		
Operating temperature range		°C					
series 70 versions				-10 t			
series 70 LT (low temperature) versions					o +60		
Nominal diameter		mm	5	7.5	13.3	15	
Conductance C	,	nin · 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		NI/min	400	750	1560	3200	
Flow rate at 6 bar ΔP 1 bar		Nl/min	550	1100	2150	4600	
Installation				rtical assembly is not recomm			
Fluid				air without lubrication; lubr			
			For series 70 LT (low-l	emperature) versions, it is		pertetamente dried air.	
Recommended lubricant				ISO and l			
14 A A		Nm	For series 70 L	(low-temperature) it is no	t expected to be used wit	h lubricated air.	
Maximum coil nut torque							
Compatibility with oils				See cho	ipter ZI		

#### **COMPONENTS SERIES 70**

- VALVE BODY: Aluminium
- CONTROL/END CAP: plastic

- 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



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**B1** 

VALVES SERIES 70



**B1** 

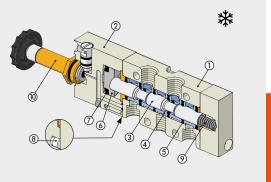
VALVES

**VALVES SERIES 70** 



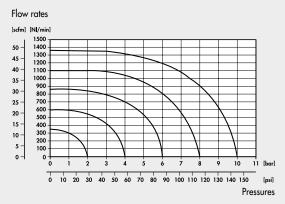
### COMPONENTS SERIES 70 LT (LOW TEMPERATURE)

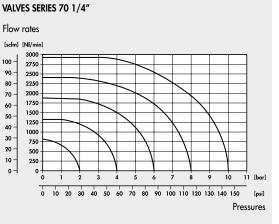
- 1) ALVE BODY: aluminium
- ALVE BODT: aluminium
   CONTROL/END CAP: aluminium
   SPOOL: chemically nickel-plated aluminium
   DISTANCE PLATES: plastic
- 5 GASKETS: HNBR
- 6 PISTONS: aluminium ⑦ PISTON GASKET: HNBR
- 8 FILTER: plastic
- ③ SPRINGS: special steel
- OPERATOR: brass pipe Stainless steel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



#### FLOW CHARTS

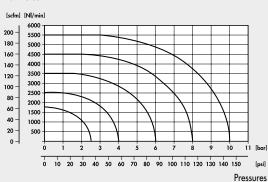
### VALVES SERIES 70 1/8"



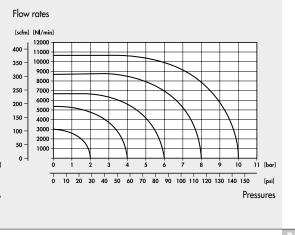


#### VALVES SERIES 70 3/8"





#### VALVES SERIES 70 1/2"



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**B1** 

VALVES

VALVES SERIES 70 LT (LOW TEMPERATURE)

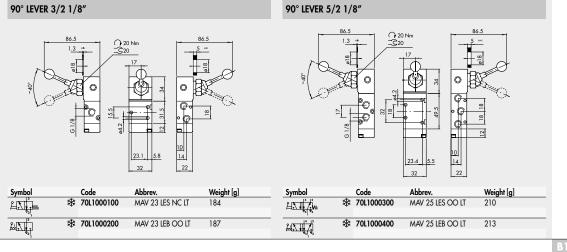


## VALVES SERIES 70 LT (LOW TEMPERATURE)

TECHNICAL DATA		1/8″	1/4″	3/8″	
Operating pressure standard	bar				
hand operated		Vacuum to 10		0	
pneumatic and solenoid/pneumatic $t = -40^{\circ}C$ to $-10^{\circ}C$		5 to 10			
	t = -10°C to +60°C		3 to 10		
Operating temperature range	°C		-40 to +60		
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	and the second second
Flow rate at 6 bar ∆P 0.5 bar	Nl/min	400	750	1560	1000
Flow rate at 6 bar ∆P 1 bar	Nl/min	550	1100	2150	
PNEUMATIC					0 0
Minimum pilot pressure	bar				
t = -40°C to -10°C			5		
t = -10°C to +60°C			3		
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	E
TRA / TRR bistable at 6 bar (at 20°C)	ms	20/20	21/21	18/18	1
Coil voltage values			12; 24 VDC		
0		24; 110	; 220V AC 5	60/60Hz	
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	A (AC)	
Voltage tolerance	%		-10 to +15		
Insulation class			F 155		10 To Charles
Maximum coil nut torque	Nm		1		A ES: 10 70.1021
Hand operator			Bistable		
Notes: after a long stop and with very lo	w temperatures the mo	vement of th	e first		6
drives may be slower. It recommends the					
-					
SYNOPTIC, SIZES AND VERSIC	NS				
office file, office version					

PNV	2	3	PN	S	00	LT
FAMILY	DIMENSIONS	FUNCTION	OPERATORS 14	RESETTING (12)	FURTHER DET/	AILS
MAV manual valves PNV pneumatic valves SOV solenoid/ pneumatic	2 1/8" 3 1/4" C 3/8"	3 3/2 5 5/2 6 5/3	LE leva 90° PN pneumatic SO solenoid	<ul><li>S mechanical springs</li><li>B bistable</li><li>O stable for 5/3</li></ul>	OO     no indication       NC     normally closed       NO     normally open       CC     closed centres       OC     open centres	LT low temperature

## VALVES SERIES 70 LT, HAND OPERATED (LOW TEMPERATURE)





PC

pressure centres



90° LEVER 5/3, 1/8" 90° LEVER 3/2, 1/4" 86.5 86.5 90 ○ 20 Nm 1.3 1<u>.3</u> ø18 ø18 ø18 818 BE C R, 0 12 0 0 Ø 0 Q, Õ 18 22 ¢ C G 1/4 G 18 12 VALVES 27 10 14 23.4 22 40 \_25 32 VALVES SERIES 70 LT (LOW TEMPERATURE) Abbrev Weight [g] Symbol Code Abbrev Weight [g] 272 Code ✤ 70L2000100 MAV 33 LES NC LT ₩ 70L1001000 MAV 26 LES CC LT 242 HAL ₩ 70L1000900 MAV 26 LES OC LT 242 ₩ 70L2000200 MAV 33 LEB OO LT 272 ANG ANHIZ ₩ 70L1001100 MAV 26 LES PC LT 242 ₩ 70L1000500 MAV 26 LEO CC LT 194 Land II 17 ₩ 70L1000600 MAV 26 LEO OC LT 194 hand the state of ₩ 70L1000700 MAV 26 LEO PC LT 194 90° LEVER 5/2, 1/4" 90° LEVER 5/3, 1/4" () 20 Nm \_\_\_\_\_\_\_20 () 20 Nm \_€20 1<u>.3</u> 1<u>.3</u> @18 8|8 <sup>8]8</sup> 21 s]8 Æ 倒 0 0 0 12 0 Ð 53 € 22 Ø 2 F 2 22 ď 13 27.5 26.5 40 25 40 25 Weight [g] 354 Weight [g] Symbol Code Abbrev Symbo Code Abbrev. ₩ 70L2000300 MAV 35 LES OO LT ₩ 70L2001000 MAV 36 LES CC LT 326 HIL ₩ 70L2000400 MAV 35 LEB OO LT 326 ₩ 70L2000900 MAV 36 LES OC LT 354 MIL ₩ 70L2001100 MAV 36 LES PC LT 354 A 1 ₩ 70L2000500 MAV 36 LEO CC LT 288 Å. ÎΖ ₩ 70L2000600 MAV 36 LEO OC LT 288 MAV 36 LEO PC LT ✤ 70L2000700 288 

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