

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.

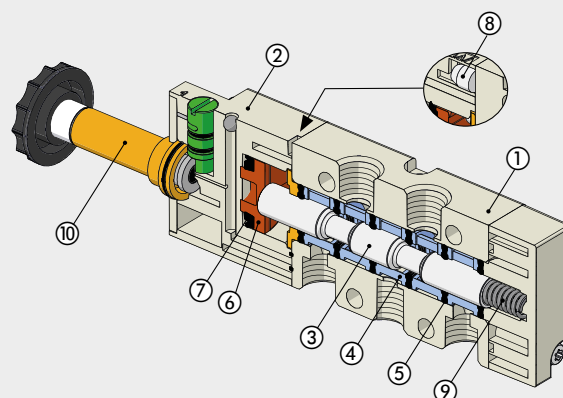


TECHNICAL DATA

		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			

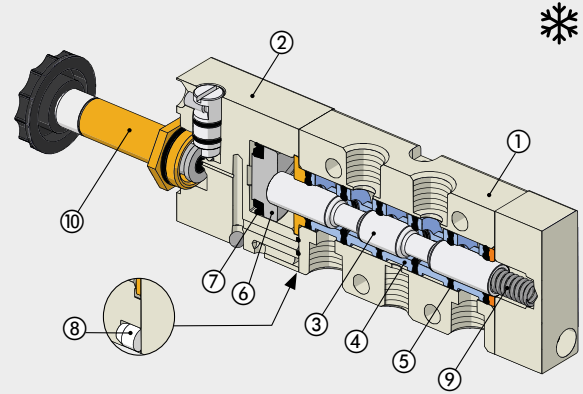
COMPONENTS SERIES 70

- 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)

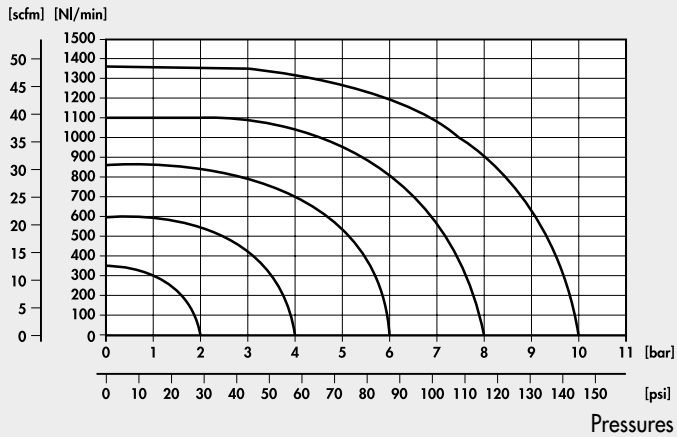
- ① ALVE BODY: aluminium
- ② CONTROL/END CAP: aluminium
- ③ SPOOL: chemically nickel-plated aluminium
- ④ DISTANCE PLATES: plastic
- ⑤ GASKETS: HNBR
- ⑥ PISTONS: aluminium
- ⑦ PISTON GASKET: HNBR
- ⑧ FILTER: plastic
- ⑨ SPRINGS: special steel
- ⑩ OPERATOR: brass pipe - Stainless steel core
(version specific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



FLOW CHARTS

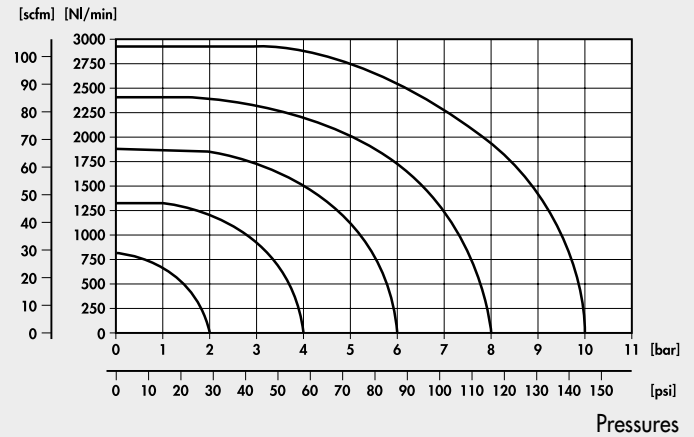
VALVES SERIES 70 1/8"

Flow rates



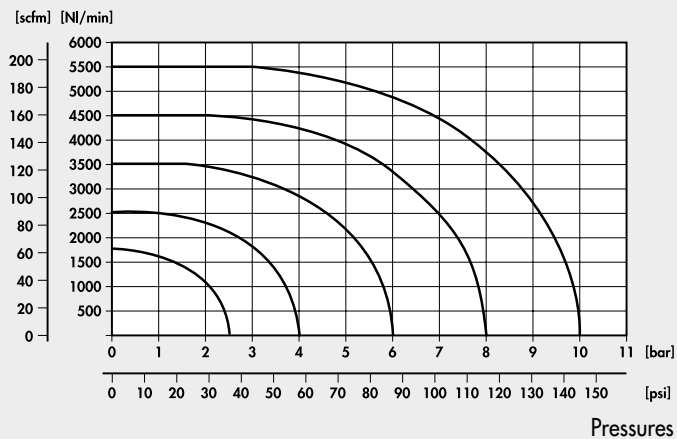
VALVES SERIES 70 1/4"

Flow rates



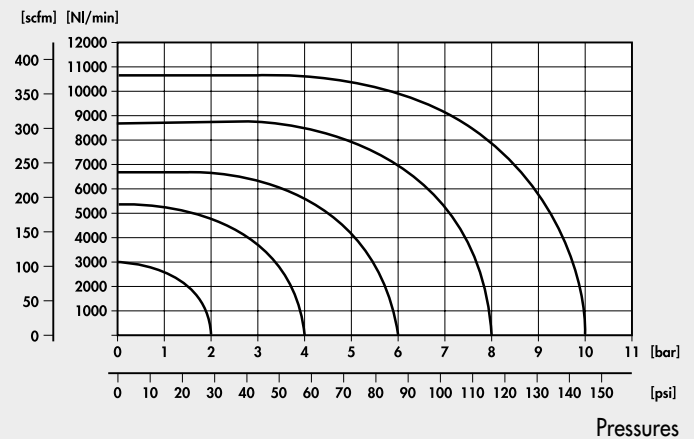
VALVES SERIES 70 3/8"

Flow rates



VALVES SERIES 70 1/2"

Flow rates



VALVES SERIES 70, PNEUMATIC

TECHNICAL DATA		1/8"	1/4"	3/8"	1/2"
Operating pressure	bar	Vacuum to 10			
Minimum pilot pressure					
• monostable and bistable differential	bar	2.5			
• bistable	bar	1			
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	6/15	7/15	5/28	16/80
TRA / TRR bistable at 6 bar	ms	7/7	7/7	13/13	25/25



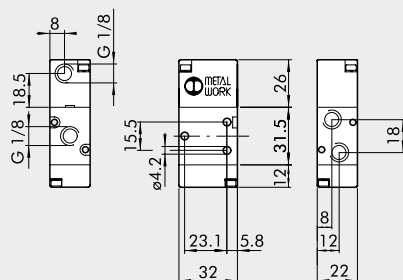
SYNOPTIC, SIZES AND VERSIONS

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

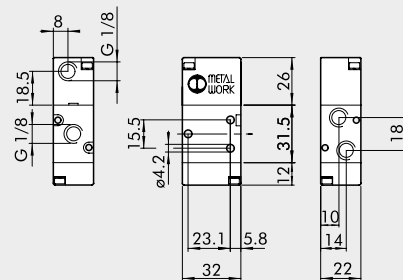
- Only available for size 1/8" and 1/4"
- ◆ On demand
- ▲ Only available for function 2-3/2

VALVES SERIES 70, PNEUMATIC, 1/8"

MONOSTABLE 3/2 NO, 1/8"



MONOSTABLE 3/2 NC, 1/8"

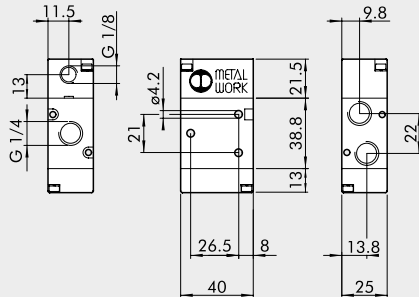


Symbol	Code	Abbrev.	Weight [g]
	7010010400	PNV 23 PNS NO	82

Symbol	Code	Abbrev.	Weight [g]
	7010010200	PNV 23 PNS NC	82

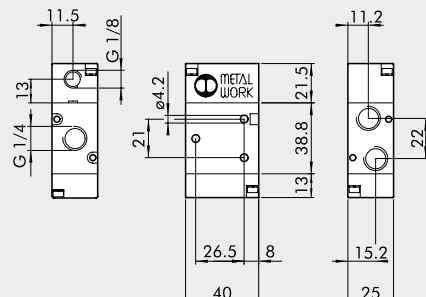
VALVES SERIES 70, PNEUMATIC, 1/4"

MONOSTABLE 3/2 NO, 1/4"



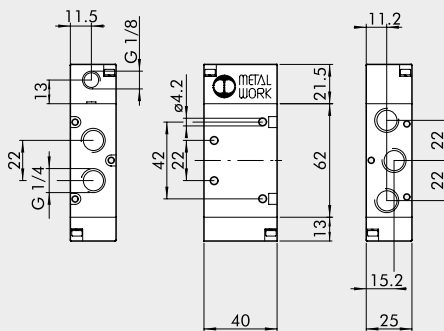
Symbol	Code	Abbrev.	Weight [g]
	7020010400	PNV 33 PNS NO	124

MONOSTABLE 3/2 NC, 1/4"



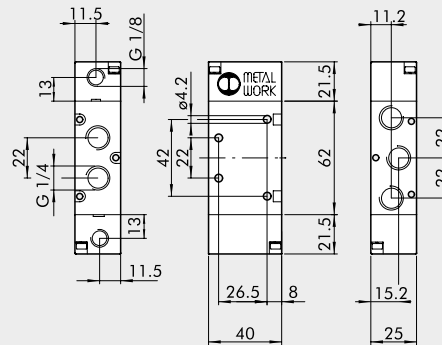
Symbol	Code	Abbrev.	Weight [g]
	7020010200	PNV 33 PNS NC	122

MONOSTABLE 5/2, 1/4"



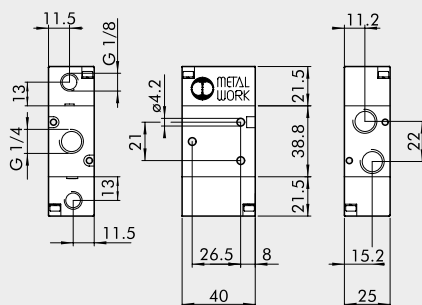
Symbol	Code	Abbrev.	Weight [g]
	7020011100	PNV 35 PNS OO	174

BISTABLE 5/2, 1/4"



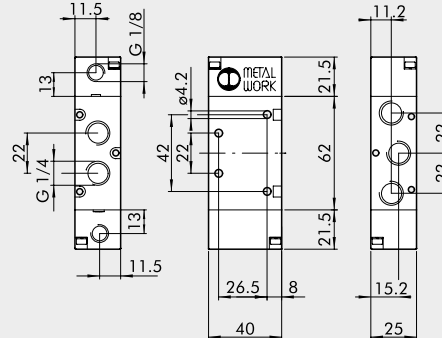
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	7020011200	PNV 35 PNB OO	174
	7020011300	PNV 35 PND OO	198

BISTABLE 3/2, 1/4"



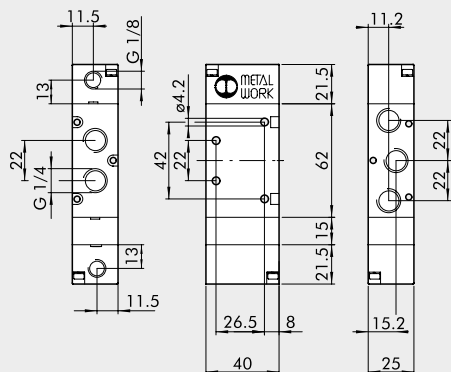
Symbol	Code	Abbrev.	Weight [g]
	7020010100	PNV 33 PNB OO	134

DOUBLE 3/2, 1/4"



Symbol	Code	Abbrev.	Weight [g]
	7020013100	PNV 38 PNS NC	223
	7020013200	PNV 38 PNS NO	223
	7020013300	PNV 38 PNS NC-NO	223

MONOSTABLE 5/3, 1/4"

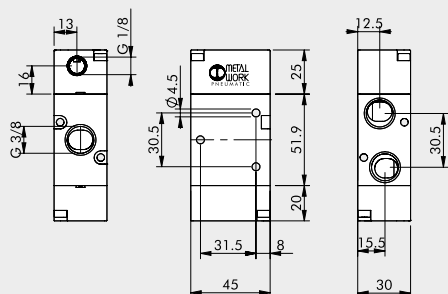


Symbol	Code	Abbrev.	Weight [g]
	7020012100	PNV 36 PNS CC	124
	7020012200	PNV 36 PNS OC	124
	7020012300	PNV 36 PNS PC	124

NOTES

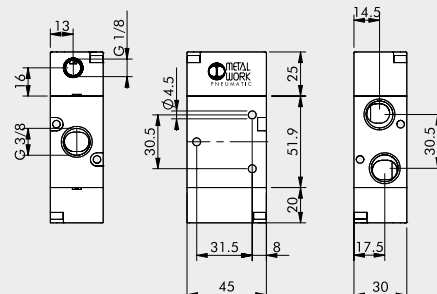
VALVES SERIES 70, PNEUMATIC, 3/8"

MONOSTABLE 3/2 NO, 3/8"



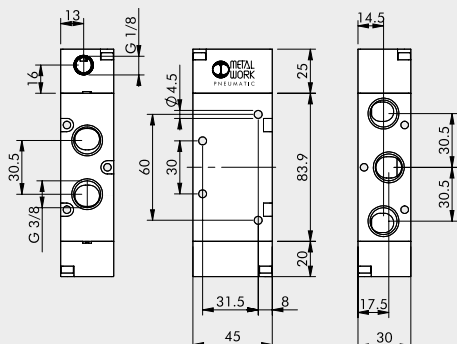
Symbol	Code	Abbrev.	Weight [g]
	7040010400	PNV C3 PNS NO	223

MONOSTABLE 3/2 NC, 3/8"



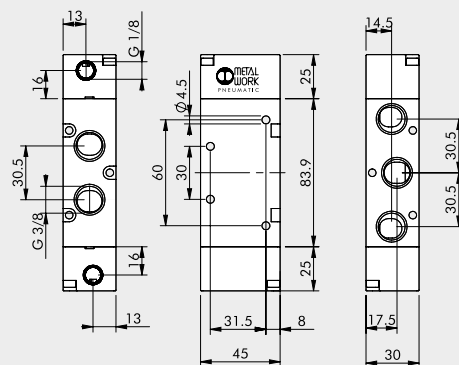
Symbol	Code	Abbrev.	Weight [g]
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MONOSTABLE 5/2, 3/8"



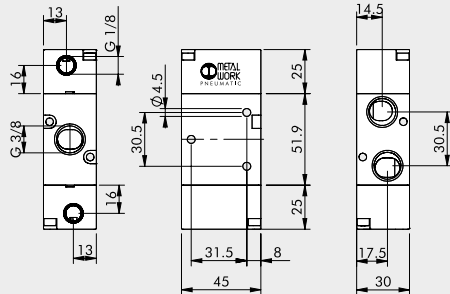
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	7040011100	PNV C5 PNS OO	329

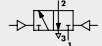
BISTABLE 5/2, 3/8"



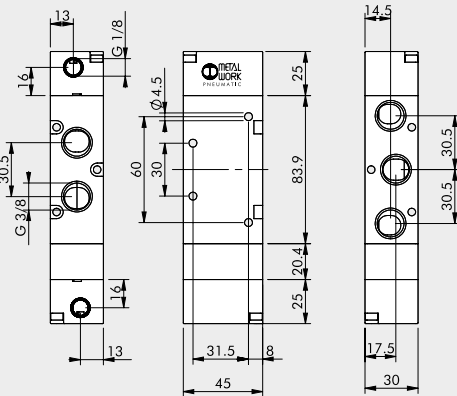
Symbol	Code	Abbrev.	Weight [g]
	7040011200	PNV C5 PNB OO	324
	7040011300	PNV C5 PND OO	360

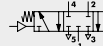
BISTABLE 3/2, 3/8"

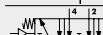


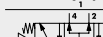
Symbol	Code	Abbrev.	Weight [g]
	7040010100	PNV C3 PNB OO	230

MONOSTABLE 5/3, 3/8"



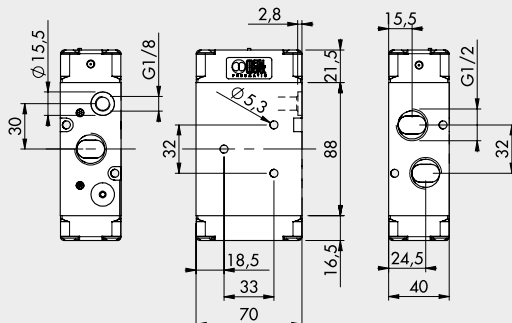
Symbol	Code	Abbrev.	Weight [g]
	7040012100	PNV C6 PNS CC	411

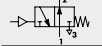
	7040012200	PNV C6 PNS OC	409
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	7040012300	PNV C6 PNS PC	409
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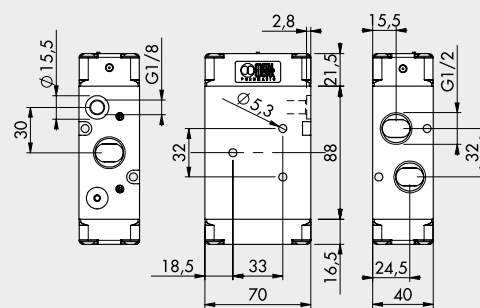
VALVES SERIES 70, PNEUMATIC, 1/2"

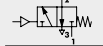
MONOSTABLE 3/2 NO, 1/2"



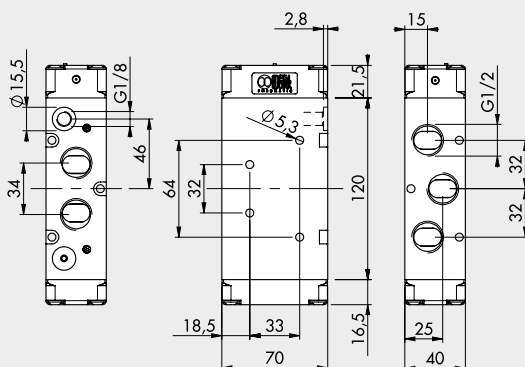
Symbol	Code	Abbrev.	Weight [g]
	7030010400	PNV 43 PNS NO	640

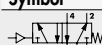
MONOSTABLE 3/2 NC, 1/2"



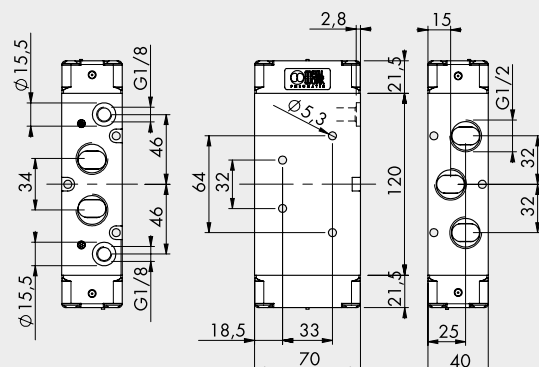
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	7030010200	PNV 43 PNS NC	640

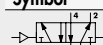
MONOSTABLE 5/2, 1/2"

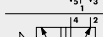


Symbol	Code	Abbrev.	Weight [g]
	7030011100	PNV 45 PNS OO	812

BISTABLE 5/2, 1/2"



Symbol	Code	Abbrev.	Weight [g]
	7030011200	PNV 45 PNB OO	816

	7030011300	PNV 45 PND OO	828
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