

- 3/2 NC/NO direct control microvalves
- Possible assembly on single and multiple bases
- Monostable manual actuation as standard
- Assembly in any position
- Operation with filtered lubricated or unlubricated air
- Maximum ambient temperature: 50°C
- Low power absorption



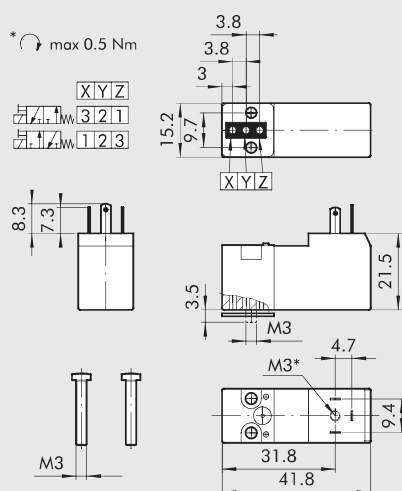
TECHNICAL DATA

Voltage tolerance	%	-10 to +15
Alternating current frequency (AC)	Hz	50/60
Max operating frequency	Hz	30
Solenoid rating		100% ED
Response time	ms	~ 10
Type of protection		IP 65 EN 60529
Power connection		9.4 mm micro centre distance
Insulation class		155
Ambient temperature	°C	-10 to + 50
Fluid temperature	°C	-10 to + 50
Fluid		Filtered lubricated or unlubricated air
Operating life		100 million cycles
Materials		Body: PPS
		Spring: 302 stainless steel
		FKM/FPM gaskets
Weight	g	30
Manual control		Monostable
Assembly position		In any position

SYNOPTIC, SIZES AND VERSIONS

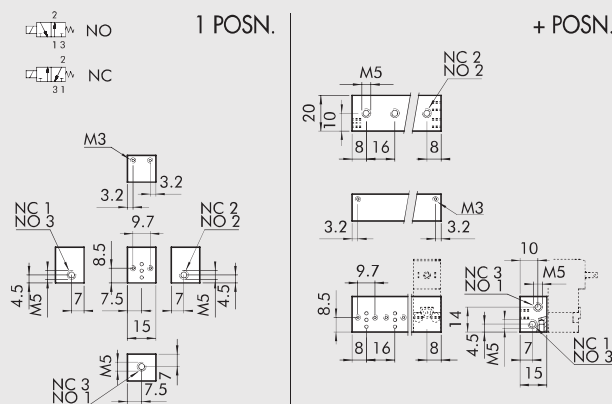
P I V FAMILY	1 AIR HOLE	3 NUMBER OF WAYS	M DIMENSIONS	0 THREAD	1 VERSION	N C FURTHER DETAILS
	1 1 mm	3 3 ways	M 15 x 15	0 on base	1 24 VDC	NC normally closed
	3 1.1 mm				3 24 VAC	NO normally open
	6 1.5 mm				5 110 VAC	
					7 220 VAC	

PIV.M STD DIMENSIONS



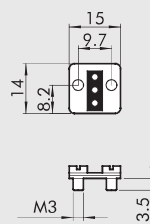
Symbol	Code	Description	Voltage [Volt]	Flow rate [Watt]	Air Ø [mm]	kv Factor	Operating press. [bar]
	W4015001000	PIV33M01 NC	24VDC	2.5W	1.1	0.42	0 to 10
	W4015001010	PIV33M03 NC	24VAC	2W - 3VA	1.1	0.42	0 to 10
	W4015001020	PIV33M05 NC	110VAC	2W - 3VA	1.1	0.42	0 to 10
	W4015001030	PIV33M07 NC	220VAC	2W - 3VA	1.1	0.42	0 to 10
	W4015001100	PIV63M01 NC	24VDC	2.5W	1.5	0.55	0 to 6
	W4015001110	PIV63M03 NC	24VAC	2W - 3VA	1.5	0.55	0 to 6
	W4015001120	PIV63M05 NC	110VAC	2W - 3VA	1.5	0.55	0 to 6
	W4015001130	PIV63M07 NC	220VAC	2W - 3VA	1.5	0.55	0 to 6
	W4015002000	PIV13M01 NO	24VDC	2.5W	1	0.33	0 to 6
	W4015002010	PIV13M03 NO	24VAC	2W - 3VA	1	0.33	0 to 6
	W4015002020	PIV13M05 NO	110VAC	2W - 3VA	1	0.33	0 to 6
	W4015002030	PIV13M07 NO	220VAC	2W - 3VA	1	0.33	0 to 6

MULTIPLE BASE FOR PIV.M



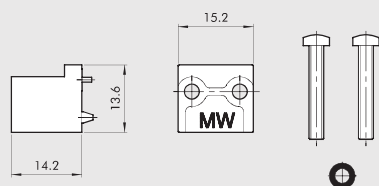
Code	Description	Abbrev.	Weight [g]
W0400101001	Single base 1 position	B5001	6
W0400101002	Multiple base 2 positions	B5002	24
W0400101003	Multiple base 3 positions	B5003	34
W0400101004	Multiple base 4 positions	B5004	46
W0400101005	Multiple base 5 positions	B5005	58
W0400101006	Multiple base 6 positions	B5006	70
W0400101007	Multiple base 7 positions	B5007	82
W0400101008	Multiple base 8 positions	B5008	98
W0400101009	Multiple base 9 positions	B5009	106
W0400101010	Multiple base 10 positions	B5010	114

END PLUG - UNUSED POSITION



Code	Description	Weight [g]
W0400102000	End plug	6

END PLUG - PORT 1



Code	Description	Weight [g]
W0400102002	End plug – port 1	4

MICRO ELECTRIC CONNECTOR 15 mm

Code	Colour	Type
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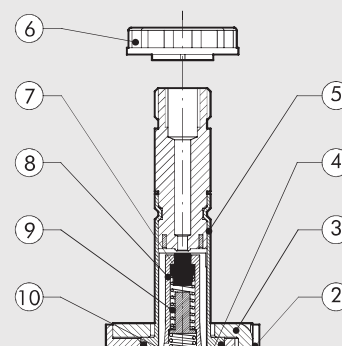
- PIV.I - PIV.T and PIV.B solenoid valves
- Assembly on base
- Bistable manual actuation
- Normally closed/normally open solenoid valves 2/2 – 3/2
- Installation in any position
- Particularly suitable for high operating frequencies and low response times



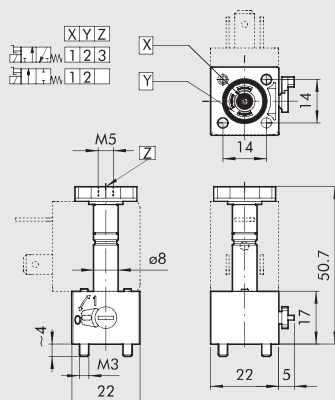
TECHNICAL DATA	PIV.I ON BASE	PIV.T ON BASE	PIV.B ON BASE
Absorption	5W - 5VA	3.8W - 6.5VA	10W - 13VA
Voltage available	12-24 VDC / 24-110-220 VAC	24VDC / 24-110-220 VAC	24VDC / 24-110-220 VAC
	50/60 Hz	50/60 Hz	50/60 Hz
Voltage tolerance	% -10 to +15	% -10 to +15	% -10 to +15
Max operating frequency	Hz 30	Hz 30	Hz 15
Solenoid rating	% 100	% 100	% 100
Response time	ms 8 to 15	ms 8 to 15	ms 10 to 15
Type of protection	IP 65	IP 65	IP 65
Type of coil	Coil side 22 Ø 8	Coil side 22 Ø 9	Coil side 30
	DIN 43650	DIN 43650	DIN 43650
Insulation class	155	155	155
Ambient temperature	°C -15 to 50	°C -15 to 50	°C -15 to 50
Fluid temperature	°C -15 to 50	°C -15 to 50	°C -15 to 50
Fluid	Filtered lubricated or unlubricated air	Filtered lubricated or unlubricated air	Filtered lubricated or unlubricated air
Working life	25 million cycles	25 million cycles	-
Weight	g 80 to 120 (according to the version)	g 85	g 250
Maximum coil nut torque	Nm 1	Nm 1	Nm 1

COMPONENTS

- ① Manual control: technopolymer
- ② Body: technopolymer
- ③ Sleeve locking plate
- ④ Spring: stainless steel
- ⑤ Sleeve: brass OT 58
- ⑥ Ring nut for coil fixing
- ⑦ Gasket: NBR
- ⑧ Mobile core
- ⑨ Spring: stainless steel
- ⑩ Spring: stainless steel
- ⑪ Gasket: NBR

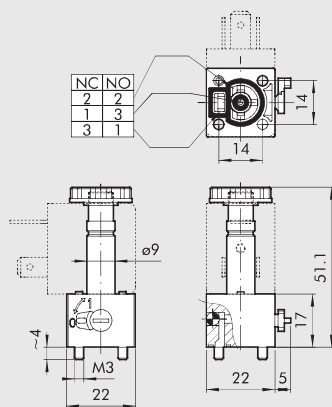


PIV.I VALVES, OPERATOR Ø 8, ON BASE



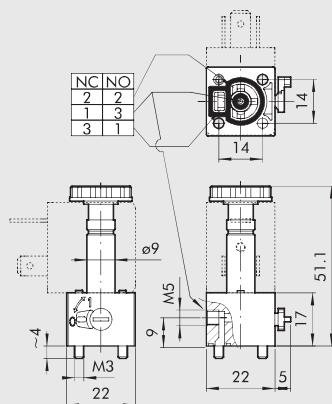
Symbol	Code	Description	Air hole Ø [mm]	kv Factor	Max oper. pressure [bar]	
					DC	AC
	W4018000200	PIV42IOS NC	1.2	0.65	10	10
	W4018000300	PIV72IOS NC	1.5	1	8	8
	W4018001200	PIV43IOS NC	1.2	0.65	10	10
	W4018001300	PIV73IOS NC	1.5	1	8	8

PIV.T VALVES, OPERATOR Ø 9, ON BASE



Symbol	Code	Description	Air hole Ø [mm]	kv Factor	Pressure range [bar]	
					DC	AC
	W4025002101	PIV73TOB NO	1.6	0.75	0.5 to 7	0.5 to 7
	W4025002301	PIV83TOB NO	1.8	0.85	0.5 to 6.5	0.5 to 6.5
	W4025002100	PIV73TOB NC	1.6	0.8	0.5 to 10	0.5 to 10
	W4025002300	PIV83TOB NC	1.8	1	0.5 to 8	0.5 to 8

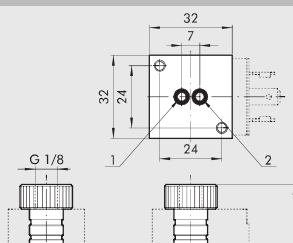
PIV.T VALVES, OPERATOR Ø 9, ON BASE WITH CONVEYED EXHAUST



Symbol	Code	Description	Air hole Ø [mm]	kv Factor	Pressure range [bar]	
					DC	AC
	W4025002001	PIV73T00 NO	1.6	0.75	0.5 to 7	0.5 to 7
	W4025002501	PIV83T00 NO	1.8	0.85	0 to 6	0.5 to 6.5
	W4025002000	PIV73T00 NC	1.6	0.8	0.5 to 10	0.5 to 10
	W4025002500	PIV83T00 NC	1.8	1	0.5 to 8	0.5 to 8

PIV.B VALVES, OPERATOR Ø 13, ON BASE

NORMALLY CLOSED

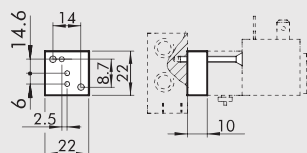


Symbol	Code	Description	Air hole Ø [mm]	kv Factor	Max oper. pressure [bar]	
					DC	AC
	W4026003000	PIVY3B0S NC	2.4	2.2	8	10

VALVES

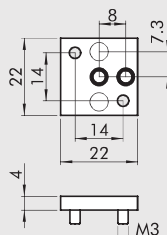
SOLENOID VALVES PV ON BASE

NC/NO ADAPTER FOR PIV.T VALVES



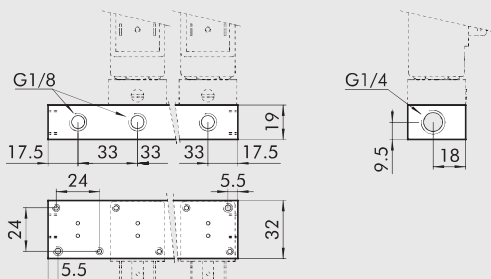
Code	Description	Abbrev.	Weight [g]
W0400101190	NC/NO adapter	I-9000	15

BASE BLANKING PLATE FOR PIV.T VALVES, UNUSED POSITIONS



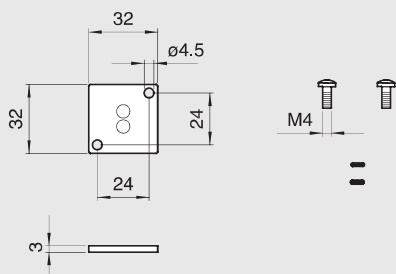
Code	Description	Abbrev.	Weight [g]
W0400112000	Blanking plate	B6000	5

MULTIPLE BASES FOR PIV.B VALVES



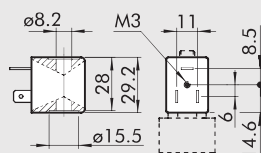
Code	Description	Abbrev.	Weight [g]
W0400101201	Base 1 position	B4001	42
W0400101202	Base 2 positions	B4002	94
W0400101203	Base 3 positions	B4003	142
W0400101204	Base 4 positions	B4004	188
W0400101205	Base 5 positions	B4005	234
W0400101206	Base 6 positions	B4006	280
W0400101207	Base 7 positions	B4007	326
W0400101208	Base 8 positions	B4008	372
W0400101209	Base 9 positions	B4009	418

BASE BLANKING PLATE FOR PIV.B VALVES, UNUSED POSITIONS



Code	Description	Weight [g]
W0400112001	Blanking plate	14

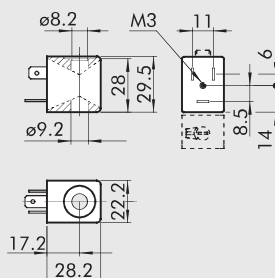
COILS, SIDE 22 mm FOR PIV.I SOLENOID VALVES, OPERATOR Ø 8



- Voltage tolerance: -10 to +15%
- Insulation class: F155
- Degree of protection: IP65 – EN60529 with connector
- Avoid prolonged exposure to the atmospheric agents.
- Maximum coil temperature at 100% use: 70°C at 20° ambient temperature
- According to Atex 2014/34/EU rule, group 2, category 3 GD

Code	Abbrev.	Nominal voltage	Absorption Inrush Holding
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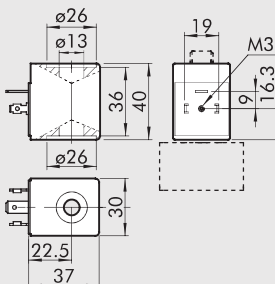
COILS, SIDE 22 mm FOR PIV.T SOLENOID VALVES, OPERATOR Ø 9



- Voltage tolerance: -10 to +15%
- Insulation class: F155
- Degree of protection: IP65 – EN60529 with connector
- Avoid prolonged exposure to the atmospheric agents
- Maximum coil temperature at 100% use: 70°C at 20° ambient temperature
- According to Atex 2014/34/EU rule, group 2, category 3 GD

Code	Abbrev.	Nominal voltage	Absorption	
			Inrush	Holding
W0216000001	Coil 22 Ø9 3.8W-24VDC	24Vcc	3.8W	3.8W
W0216000011	Coil 22 Ø9 6.5VA-24VAC	24V 50/60Hz	9VA	6.5VA
W0216000021	Coil 22 Ø9 6.5VA-110VAC	110V 50/60Hz	9VA	6.5VA
W0216000031	Coil 22 Ø9 6.5VA-220VAC	220V 50/60Hz	9VA	6.5VA

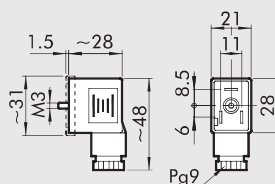
COILS, SIDE 30 mm FOR PIV.B SOLENOID VALVES



- Voltage tolerance: -10 to +15%
- Insulation class: M180
- Degree of protection: IP65 – EN60529 with connector
- Avoid prolonged exposure to the atmospheric agents
- According to Atex 2014/34/EU rule, group 2, category 3 GD

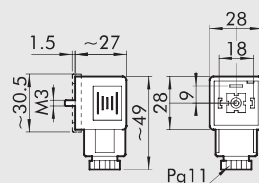
Code	Abbrev.	Nominal voltage	Power absorption (average power input)
W0216001001	Coil 30 Ø13 10W-24VDC	24Vcc	10W
W0216001011	Coil 30 Ø13 13VA-24VAC	24V 50/60Hz	13VA
W0216001021	Coil 30 Ø13 13VA-110VAC	110V 50/60Hz	13VA
W0216001031	Coil 30 Ø13 13VA-220VAC	220V 50/60Hz	13VA

CONNECTORS, SIDE 22 mm FOR PIV.I-PIV.T



Code	Type	Colour	Ø Cable
W0970510011	Standard	Black	PG9
W0970510012	LED 24V	Transparent	PG9
W0970510013	LED 110V	Transparent	PG9
W0970510014	LED 220V	Transparent	PG9
W0970510015	LED + VDR 24V	Transparent	PG9
W0970510016	LED + VDR 110V	Transparent	PG9
W0970510017	LED + VDR 220V	Transparent	PG9
W0970510070	Atex II 2 GD	Black	PG9

CONNECTORS, SIDE 30 mm FOR PIV.B



Code	Type	Colour	Ø Cable
W0970520033	Standard	Black	PG11
W0970520034	LED 24V	Transparent	PG11
W0970520035	LED 110V	Transparent	PG11
W0970520036	LED 220V	Transparent	PG11
W0970520037	LED + VDR 24V	Transparent	PG11
W0970520038	LED + VDR 110V	Transparent	PG11
W0970520039	LED + VDR 220V	Transparent	PG11

- PIV.I – PIV.B in-line solenoid valves
- Threaded ports: M5, G1/8", G1/4"
- 2/2 – 3/2 solenoid valves - normally closed/normally open
- Installation in any position
- Particularly suitable for high operating frequencies and low response times.



VALVES

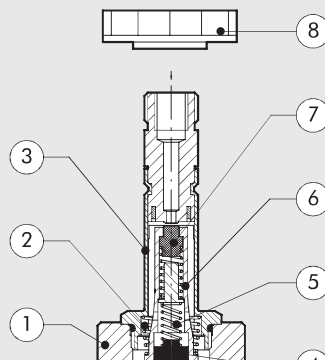
SOLENOID VALVES PIV IN LINE

TECHNICAL DATA	PIV.I IN LINE	PIV.B IN LINE
Absorption	5W to 5VA	10W - 13VA
Voltage available	12; 24VDC - 24; 110; 220VAC 50/60Hz	24VDC - 24; 110; 220VAC 50/60 Hz
Voltage tolerance	% -10 to 15	% -10 to 15
Max operating frequency	Hz 30	Hz 15
Solenoid rating	% 100	% 100
Response time	ms 8 to 15	ms 10 to 15
Type of protection	IP 65	IP 65
Type of coil	Coil side 22 Ø 8 DIN 43650	Coil side 30 DIN 43650
Insulation class	155	155
Ambient temperature	°C -15 to 50	°C -15 to 50
Fluid temperature	°C -15 to 50	°C -15 to 50
Fluid	Filtered lubricated or unlubricated air	Filtered lubricated or unlubricated air
Working life	25 million cycles	-
Weight	35 to 40 (depending on version)	130
Maximum coil/nut torque	Nm 1	1

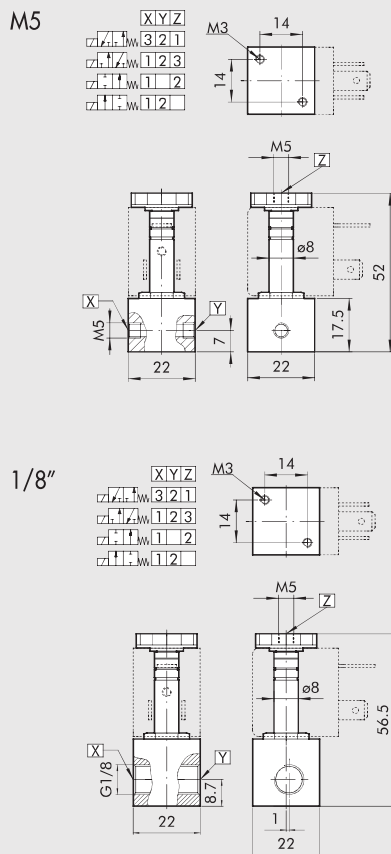
Note on use:
The 2/2 NC and 2/2 NO valves work only with inlet pressure $\geq$ outlet pressure.

COMPONENTS

- ① Body: aluminium
- ② Springs: steel
- ③ Sleeve
- ④ Gasket: NBR
- ⑤ Springs: steel
- ⑥ Mobile core
- ⑦ Gasket: FKM/FPM
- ⑧ Coil locking ring

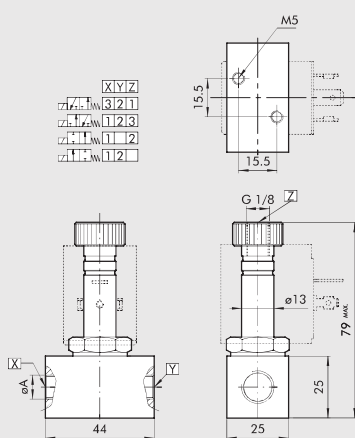


PIV.I VALVES, OPERATOR Ø 8 mm, IN LINE – M5 – 1/8"



Symbol	Code	Description	Input thread	Air hole Ø [mm]	kv Factor	Max oper. pressure [bar]	
						DC 5W	AC 5VA
	W4017000100	PIV4215S NC	M5	1.2	0.65	30	30
	W4017001300	PIV9218S NC	G1/8"	2.4	2	6	7
	W4017001100	PIV4218S NC	G1/8"	1.2	0.65	30	30
	W4017001200	PIV7218S NC	G1/8"	1.6	1.2	15	14
	W4017000101	PIV7215S NO	M5	1.4	0.8	10	10
	W4017001201	PIV7218S NO	G1/8"	1.4	0.8	10	10
	W4017003100	PIV4315S NC	M5	1.2	0.65	10	10
	W4017004100	PIV4318S NC	G1/8"	1.2	0.65	10	10
	W4017004200	PIV7318S NC	G1/8"	1.6	1	6.5	6.5
	W4017004201	PIV7318S NO	G1/8"	1.4	0.7	6	7

PIV.B VALVES, OPERATOR Ø 13, IN LINE



Symbol	Code	Description	Input thread	Ø Air hole [mm]	kv Factor	Max oper. pressure [bar]	
						DC 10W	AC 13VA
	W4026005001	PIV73B8S NO	G1/8"	1.6	1.2	6	12
	W4026005101	PIV73B4S NO	G1/4"	1.6	1.2	6	12
	W4026005111	PIV93B4S NO	G1/4"	2.4	2	3	4
	W4026005010	PIV93B8S NC	G1/8"	2.4	2.8	8	10
	W4026005020	PIVW3B8S NC	G1/8"	3	4	5.5	6
	W4026005000	PIV73B8S NC	G1/8"	1.6	1.4	14	17
	W4026005100	PIV73B4S NC	G1/4"	1.6	1.4	14	17
	W4026005110	PIV93B4S NC	G1/4"	2.4	2.8	8	8
	W4026005120	PIVW3B4S NC	G1/4"	3	4	5.5	6
	W4026004000	PIV92B4S NC	G1/4"	2.4	3	15	30
	W4026004010	PIVX2B4S NC	G1/4"	4	7	6	12
	W4026004020	PIVZ2B4S NC	G1/4"	6	9	1.5	5
	W4026004001	PIV92B4S NO	G1/4"	2.4	2.6	13	15

SYNOPTIC, SIZES AND VERSIONS

P I V FAMILY	7 AIR HOLE	2 NUMBER OF WAYS	B CONNECTION	4 THREAD	S VERSION	N C FURTHER DETAILS
	4 1.2 mm 7 1.6 mm	2 2 ways 3 3 ways	I 22 x 22 operator Ø 8	5 M5 4 G1/4"	S standard	NC normally closed NO normally open

Solenoid valve to CNOMO 060580.

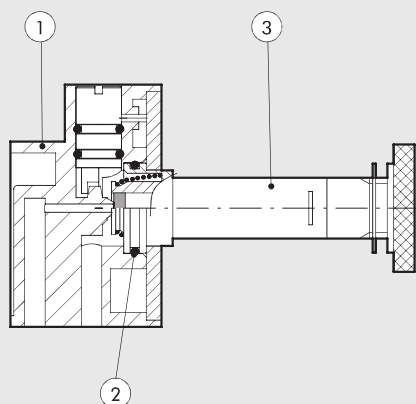
- 3/2 version normally closed
- Bistable and monostable manual actuation
- Assembly on manifold base



TECHNICAL DATA

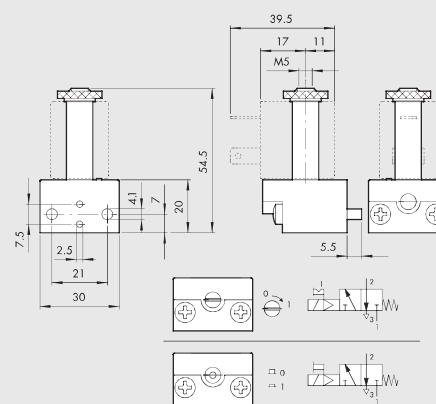
Operating pressure	bar	Max 10
Operating temperature range	°C	-10 to 60
Solenoid rating		100% ED
Fluid		Filtered lubricated or unlubricated air
System		With poppet
Nominal flow rate	l/min	40
TRA/TRR at 6 bar	ms	22/32
Maximum coil nut torque	Nm	1

COMPONENTS



- 1 VALVE BODY: HOSTAFORM®
- 2 GASKETS: NBR
- 3 OPERATOR: Brass pipe – Stainless steel core

DIMENSIONS



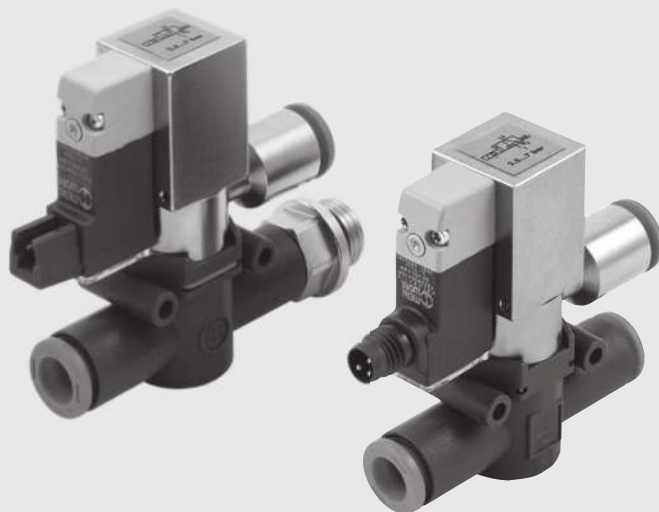
Code	Description
9453920	Cnomo 3/2 with monostable manual actuation
9453922	Cnomo 3/2 with bistable manual actuation

MODULAR CONFIGURATION OF CNOMO BASES

- 1 Two fixing screws (included in input kit)
- 2 CNOMO manifold base kit
- 3 CNOMO manifold base input kit



SOV L solenoid valves belong to the LINE ON LINE® family, which means they can be connected to all the other components in series or in parallel. Available in the version for pipe-pipe connection with two push-in fittings, and in the version for thread-pipe connection with a brass nickel-plated male thread and a push-in fitting. Though small in size, SOV L valves are solenoid-piloted and feature very high performance. The spool distributor is fitted with special polyurethane gaskets to ensure a very long working life. Each valve comes complete with a monostable manual control and LED. The electrical connection can be the PLUG-IN type or the type with an M8 3 PIN IP65 threaded fitting. Exhaust can be damped with an annular silencer or conveyed via a pipe fitting. The fitting for conveyed exhaust can be oriented freely.

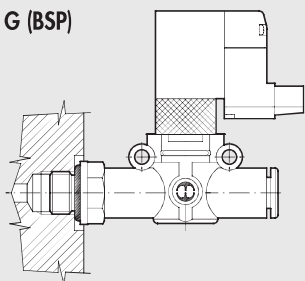


TECHNICAL DATA		Ø 6	Ø 1/4	Ø 8 (Ø5/16")
Operating pressure	MPa		0.3 to 0.7	
	bar		3 to 7	
	psi		43.5 to 101	
Temperature range	°C		5 to 50	
	°F		41 to 122	
Flow rate at 6.3 bar ΔP 0.5 bar	NI/min	270	270	500
Flow rate at 6.3 bar ΔP 1 bar	NI/min	380	380	700
Conductance C	NI/min-bar	95.8	95.8	178.1
Coefficient b	bar/bar	0.145	0.145	0.129
Voltage	VDC		24	
Power			0.9	
Recommended pipe		Rilsan PA11 - Nylon 6 - Polyamide 12 - Polypropylene		
Fluid		Lubricated or unlubricated filtered compressed air; if used, must be continuous		
Compatibility with oils		See chapter Z1		
Type of electrical connection		PLUG-IN - M8 3 PIN IP65 threaded fitting		

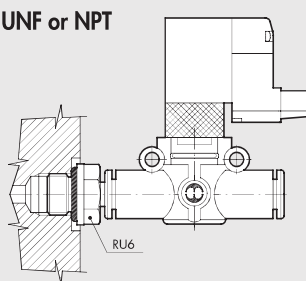
ASSEMBLY OPTIONS

(A)

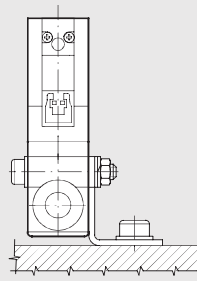
G (BSP)



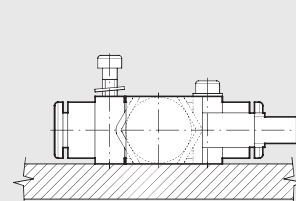
UNF or NPT



(B)



(C)



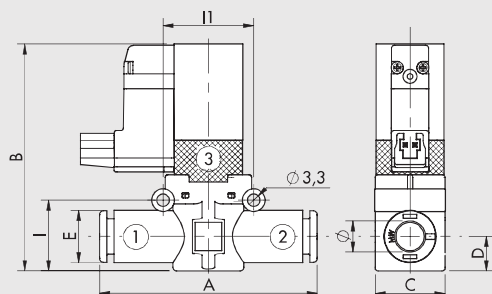
How to mount the SOV L:

IN-LINE SOLENOID VALVE SERIES SOV L

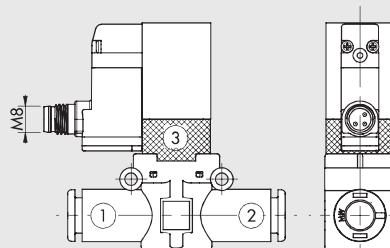
ACCESSORIES

SOV L 3/2 NC-NO PIPE - PIPE SILENCED EXHAUST

PLUG-IN VERSION

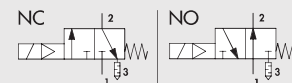


M8 VERSION



M8 CONNECTION

- 1 Not used
3 0 V (Operation also with reverse polarity)
4 +24V

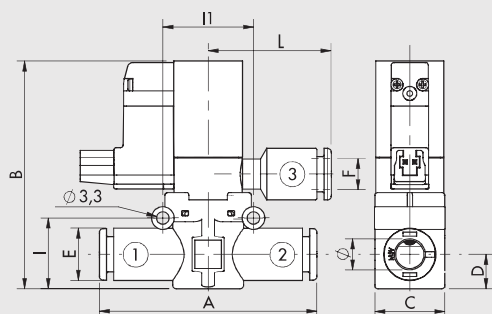


Code	Ref..	Ø	A	B	C	D	E	I	I1	Electrical connection
9069016	SOV L 3/2 NC Ø6-Ø6	6	49.4	57.5	14.7	6.4	11.4	14.6	20	PLUG-IN
906M016	SOV L 3/2 NC Ø6-Ø6 M8									M8
9069116	SOV L 3/2 NO Ø6-Ø6									PLUG-IN
9069016U	SOV L 3/2 NC Ø1/4-Ø1/4	1/4	49.4	57.5	14.7	6.4	11.4	14.6	20	PLUG-IN
906M016U	SOV L 3/2 NC Ø1/4-Ø1/4 M8									M8
9069116U	SOV L 3/2 NO Ø1/4-Ø1/4									PLUG-IN
9069024	SOV L 3/2 NC Ø8-Ø8	8 ▲	57.3	63.5	18.7	9.1	13.8	18.7	24	PLUG-IN
906M024	SOV L 3/2 NC Ø8-Ø8 M8									M8
9069124	SOV L 3/2 NO Ø8-Ø8									PLUG-IN

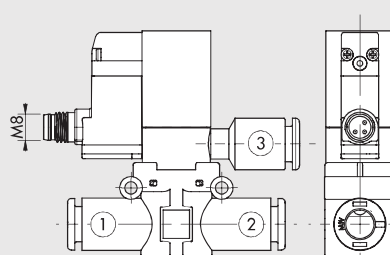
▲ Ø8 = Ø5/16"

SOV L 3/2 NC-NO PIPE - PIPE CONVEYED EXHAUST

PLUG-IN VERSION

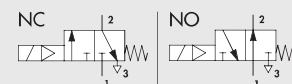


M8 VERSION



M8 CONNECTION

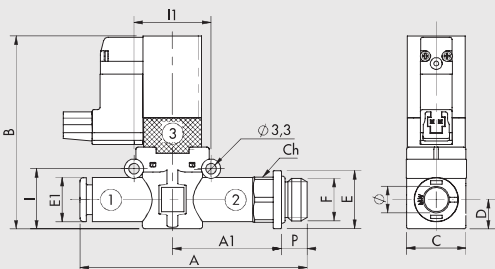
- 1 Not used
3 0 V (Operation also with reverse polarity)
4 +24V



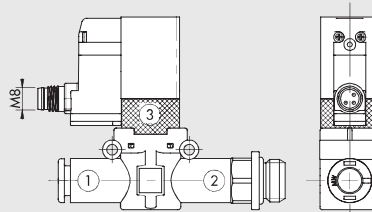
Code	Ref.	Ø	A	B	C	D	E	F	I	I1	L	Electrical connection
9069216	SOV L 3/2 NC Ø6-Ø6-Ø6	6	49.4	57.5	14.7	6.4	11.4	Ø 6	14.6	20	28.3	PLUG-IN
906M216	SOV L 3/2 NC Ø6-Ø6-Ø6 M8											M8
9069316	SOV L 3/2 NO Ø6-Ø6-Ø6											PLUG-IN
9069216U	SOV L 3/2 NC Ø1/4-Ø1/4-Ø1/4	1/4	49.4	57.5	14.7	6.4	11.4	Ø1/4	14.6	20	28.3	PLUG-IN
906M216U	SOV L 3/2 NC Ø1/4-Ø1/4-Ø1/4 M8											M8

SOV L 3/2 NC-NO PIPE - G (BSP) THREAD SILENCED EXHAUST

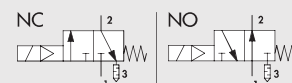
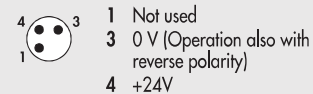
PLUG-IN VERSION



M8 VERSION



M8 CONNECTION

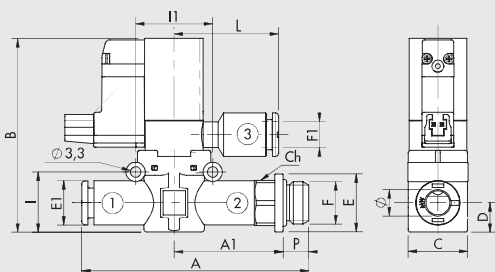


Code	Ref.	Ø	F	P	A	A1	B	C	D	E	E1	I	I1	Ch	Electrical connection
9069408	SOV L 3/2 NC Ø6-1/8	6	1/8	6	58.5	27.8	57.5	14.7	6.4	14	11.4	14.6	20	12	PLUG-IN
906M408	SOV L 3/2 NC Ø6-1/8 M8														M8
9069508	SOV L 3/2 NO Ø6-1/8														PLUG-IN
9069409	SOV L 3/2 NC Ø6-1/4	6	1/4	8	61.5	28.8	57.5	14.7	6.4	18	11.4	14.6	20	14	PLUG-IN
906M409	SOV L 3/2 NC Ø6-1/4 M8														M8
9069509	SOV L 3/2 NO Ø6-1/4														PLUG-IN
9069410	SOV L 3/2 NC Ø8-1/8	8 ▲	1/8	6	66.2	31.8	63.5	18.7	9.1	15	13.8	18.7	24	14	PLUG-IN
906M410	SOV L 3/2 NC Ø8-1/8 M8														M8
9069510	SOV L 3/2 NO Ø8-1/8														PLUG-IN
9069411	SOV L 3/2 NC Ø8-1/4	8 ▲	1/4	8	70.6	34.2	63.5	18.7	9.1	18	13.8	18.7	24	14	PLUG-IN
906M411	SOV L 3/2 NC Ø8-1/4 M8														M8
9069511	SOV L 3/2 NO Ø8-1/4														PLUG-IN
9069412	SOV L 3/2 NC Ø8-3/8	8 ▲	3/8	9	72.2	34.8	63.5	18.7	9.1	22	13.8	18.7	24	17	PLUG-IN
906M412	SOV L 3/2 NC Ø8-3/8 M8														M8
9069512	SOV L 3/2 NO Ø8-3/8														PLUG-IN

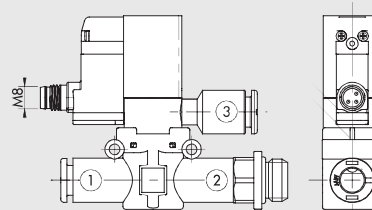
▲ Ø8 = Ø5/16"

SOV L 3/2 NC-NO PIPE - G (BSP) THREAD CONVEYED EXHAUST

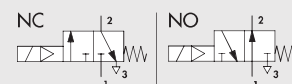
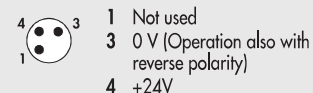
PLUG-IN VERSION



M8 VERSION



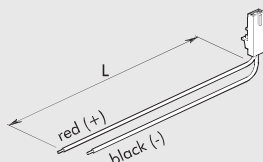
M8 CONNECTION



Code	Ref.	Ø	F	P	A	A1	B	C	D	E	E1	F1	I	I1	L	Ch	Electrical connection
9069608	SOV L 3/2 NC Ø6-1/8-Ø6	6	1/8	6	58.5	27.8	57.5	14.7	6.4	14	11.4	Ø 6	14.6	20	28.3	12	PLUG-IN
906M608	SOV L 3/2 NC Ø6-1/8-Ø6 M8																M8
9069708	SOV L 3/2 NO Ø6-1/8-Ø6																PLUG-IN
9069609	SOV L 3/2 NC Ø6-1/4-Ø6	6	1/4	8	61.5	28.8	57.5	14.7	6.4	18	11.4	Ø 6	14.6	20	28.3	14	PLUG-IN
906M609	SOV L 3/2 NC Ø6-1/4-Ø6 M8																M8
9069709	SOV L 3/2 NO Ø6-1/4-Ø6																PLUG-IN
9069610	SOV L 3/2 NC Ø8-1/8-Ø8	8 ▲	1/8	6	66.2	31.8	63.5	18.7	9.1	15	13.8	Ø 8 ▲	18.7	24	30	14	PLUG-IN
906M610	SOV L 3/2 NC Ø8-1/8-Ø8 M8																M8
9069710	SOV L 3/2 NO Ø8-1/8-Ø8																PLUG-IN
9069611	SOV L 3/2 NC Ø8-1/4-Ø8	8 ▲	1/4	8	70.6	34.2	63.5	18.7	9.1	18	13.8	Ø 8 ▲	18.7	24	30	14	PLUG-IN
906M611	SOV L 3/2 NC Ø8-1/4-Ø8 M8																M8

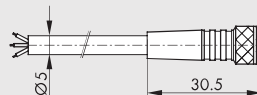
ACCESSORIES

PLUG-IN CONNECTOR



Code	Description
W0970512000	Plug-in connector Mach 11 L = 300 mm
W0970512007	Plug-in connector Mach 11 L = 1 m
W0970512002	Plug-in connector Mach 11 L = 2 m

M8 STRAIGHT CONNECTOR WITH CABLE

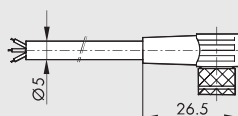


Pin	Cable color
1	Brown
3	Blue
4	Black

Code	Description
02400A0100	M8 female 3 PIN HIGH FLEX CL6 connector with cable L = 1 m
02400A0250	M8 female 3 PIN HIGH FLEX CL6 connector with cable L = 2.5 m
02400A0500	M8 female 3 PIN HIGH FLEX CL6 connector with cable L = 5 m
02400A1000	M8 female 3 PIN HIGH FLEX CL6 connector with cable L = 10 m

Mobile laying cable, class 6 according to IEC 60228

90° M8 CONNECTOR WITH CABLE

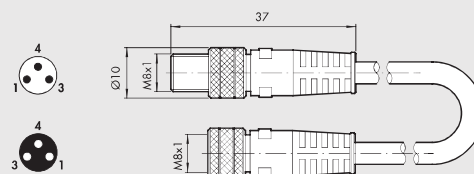


Pin	Cable color
1	Brown
3	Blue
4	Black

Code	Description
02400B0100	M8 female 3 PIN 90° HIGH FLEX CL6 connector with cable L = 1 m
02400B0250	M8 female 3 PIN 90° HIGH FLEX CL6 connector with cable L = 2.5 m
02400B0500	M8 female 3 PIN 90° HIGH FLEX CL6 connector with cable L = 5 m
02400B1000	M8 female 3 PIN 90° HIGH FLEX CL6 connector with cable L = 10 m

Mobile laying cable, class 6 according to IEC 60228

M8 M - M8 F CONNECTOR

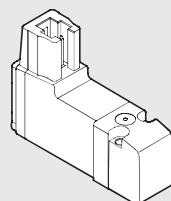


Code	Description
0240009009	M8-M8 3-pin straight connector with cable L = 3 m

Note: Can be used for direct connection to the modules with digital INPUT of the EB 80 and CM valves

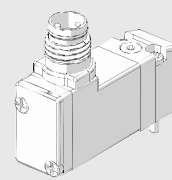
SPARE PARTS

PLUG-IN PILOT



Code	Description
722213541100	PLT-10 722213541100

M8 PILOT



Code	Description
7222M3541100	PLT-10 3/2 NC 0.8W 24VDC LED M8 with manual

The job of this valve is to make the circuit independent from the air supply. It is basically a three-way valve. In the closed position, it cuts off the air supply and discharges the downstream circuit at the same time, which means it is particularly useful during servicing operations. The hand-operated version can be padlocked to lock the knob in a closed position so that it can only be opened by someone with the right key. An interlocked version is available for low pressure operation.

N.B.: With size 400, when the V3V is mounted upstream of the regulator, the pilot regulator must be piloted at a pressure taken upstream of the V3V, otherwise when the system is relieved, most of the air downstream will be relieved by the regulator and not the V3V relief port. For connecting instruction see page C3.23



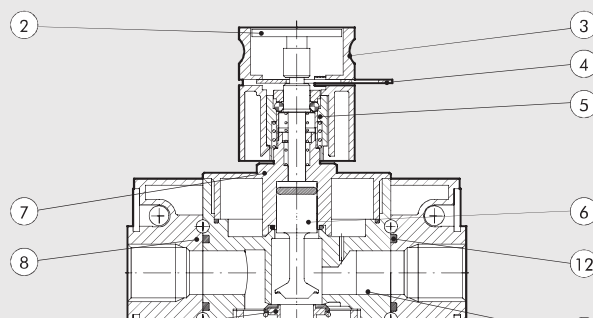
UNITS

Skillair® SHUT-OFF VALVE

TECHNICAL DATA		V3V 100		V3V 200			V3V 300			V3V 400			
Threaded port		1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1"1/4	1"1/2	2"
Min. inlet pressure for solenoid version **	MPa	0.3		0.3			0.2			0.3			0.3
	bar	3		3			2			3			3
	psi	43.5		43.5			29			43.5			43.5
Max. input pressure*	MPa	1.5		1.3			1.3			1.3			1.3
	bar	15		13			13			13			13
	psi	217		188			188			188			188
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1300		2400			3200			13000			14000
ΔP 0.5 bar (0.05 MPa to 7 psi)	scfm	46		85			113			460			494
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1650		3000			4700			-			-
ΔP 1 bar (0.1 MPa to 14 psi)	scfm	58		106			166			-			-
Max temperature	°C	50		50			50			50			50
	°F	122		122			122			122			122
Weight	kg	~ 0.5		~ 0.8			~ 1.2			4.8			5.6
Wall fixing screws		M4 x 50		M5 x 60			M5 x 70			M6 x 110			M6 x 110
Type of control		Manual - Pneumatic - Solenoid						Manual - Pneumatic - Solenoid					
		Solenoid pilot-assisted						Solenoid pilot-assisted - Key-operated					
Mounting position		In any position.											
Fluid		Filtered, lubricated or unlubricated compressed air. Lubrication, if used, must be continuous.											
Note		* 1 MPa - 10 bar - 145 psi for solenoid version											
		** 0.01 MPa – 0.1 bar – 1.45 psi for manual, pneumatic and pilot-assisted versions with controls min. 0.3 MPa 3 bar 43.5 psi.											

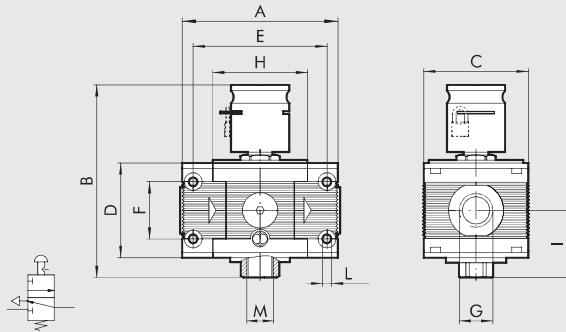
COMPONENTS

- ① Technopolymer body
- ② Operating button
- ③ Technopolymer knob
- ④ Stainless steel safety lamination
- ⑤ Locking unit
- ⑥ OT58 brass piston rod
- ⑦ Anodized aluminium top plug
- ⑧ Zamak end plate
- ⑨ Valve with vulcanized NBR gasket
- ⑩ Anodized aluminium bottom plug
- ⑪ Stainless steel valve spring
- ⑫ NBR gaskets

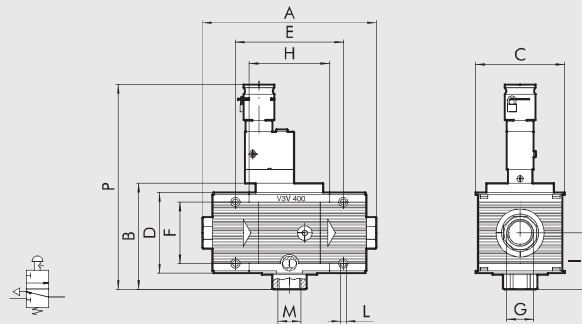


DIMENSIONS OF V3V MANUAL VERSION

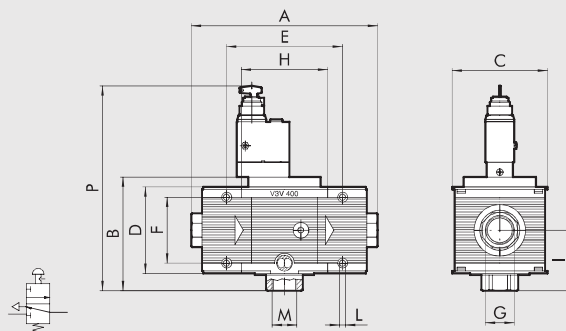
100 - 200 - 300 LOCKABLE



400 LOCKABLE



400 KEY-OPERATED



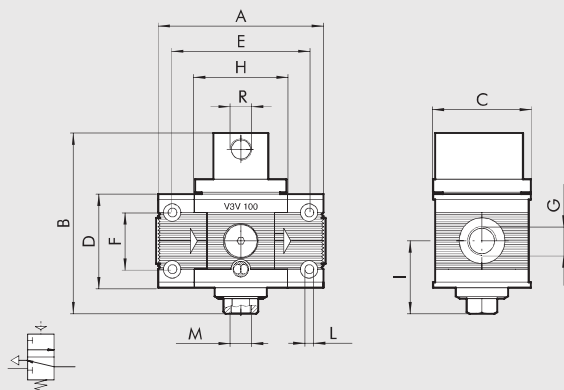
UNITS

Skillair® SHUT-OFF VALVE

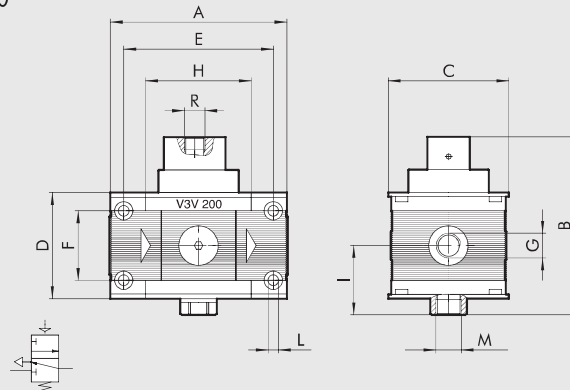
	V3V 100		V3V 200			V3V 300			V3V 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78			93.5		110		112		225 to 255		283 to 313
B	106			119			132			137		
C	50			63			72			118		
D	43			55			65			105		
E	63			78.5			92			141.4		
F	26			36			42			80		
H	43			55.5			65			105.4		
I	33.5			40			46.5			72.5		
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			

DIMENSIONS OF V3V PNEUMATIC VERSION

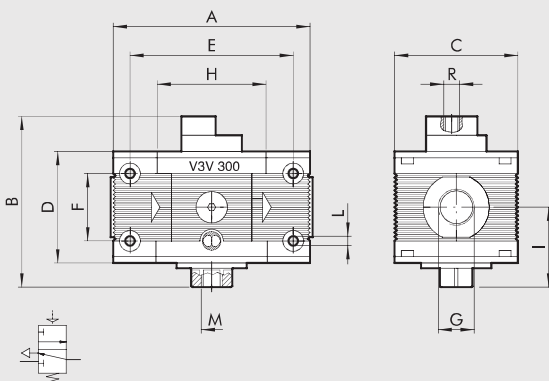
100



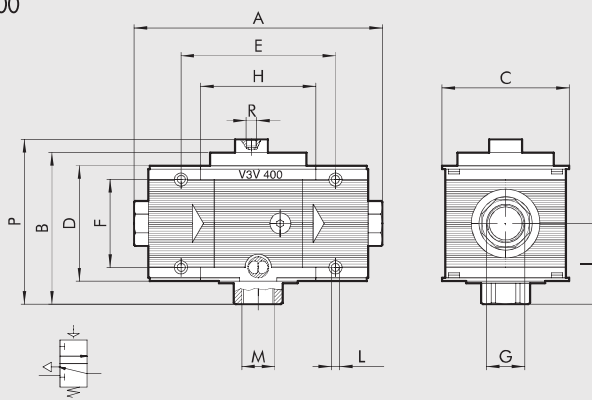
200



300



400



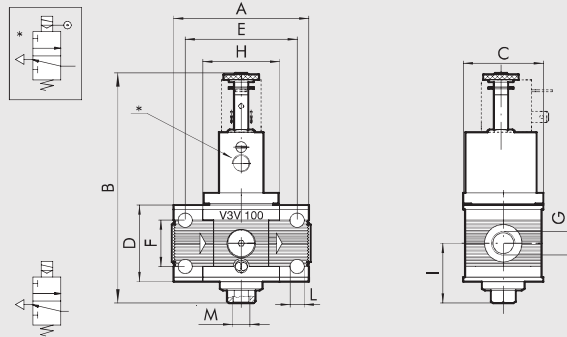
UNITS

Skillair® SHUT-OFF VALVE

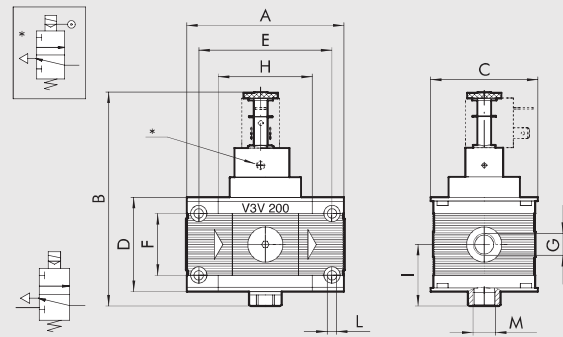
	V3V 100		V3V 200			V3V 300			V3V 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78			93.5		110		112	225 to 255			
B	83			96			106		137			
C	50			63			72		118			
D	43			55			65		105			
E	63			78.5			92		141.4			
F	26			36			42		80			
H	43			55.5			65		105.4			
I	33.5			40			46.5		72.5			
L	Hole for M4 screws		Hole for M5 screws			Hole for M5 screws			Hole for M6 screws			

DIMENSIONS OF V3V SOLENOID/SOLENOID PILOT-ASSISTED VALVE

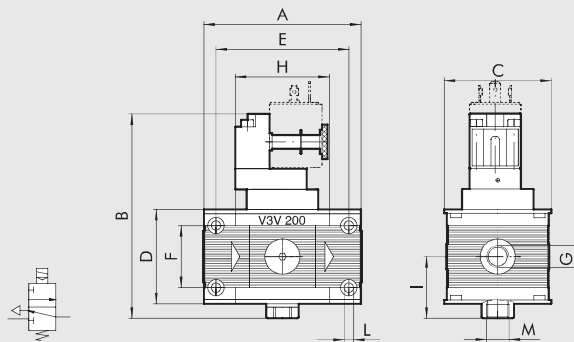
100 SOLENOID/SOLENOID PILOT-ASSISTED VALVE



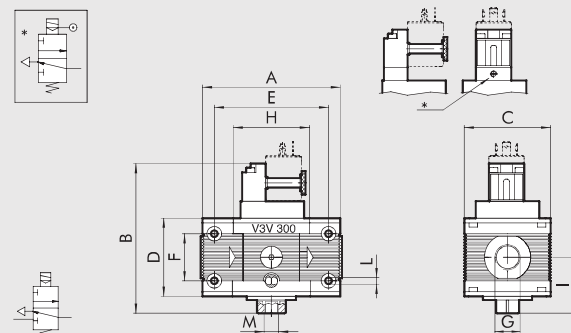
200 SOLENOID/SOLENOID PILOT-ASSISTED VALVE



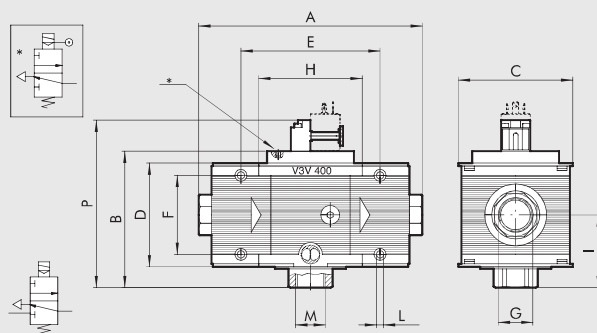
200 CNOMO



300 CNOMO SOLENOID/CNOMO SOLENOID PILOT-ASSISTED VALVE



400 CNOMO SOLENOID/CNOMO SOLENOID PILOT-ASSISTED VALVE



UNITS

Skillair® SHUT-OFF VALVE

	V3V 100		V3V 200			V3V 300			V3V 400			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	78			93.5		110		112		225 to 255		283 to 313
B Solenoid	128			129			152			-		
Solenoid pilot-ass.	129			129			-			-		
CNOMO control	-			123			125			137		
CNOMO pilot-ass.	-			-			138			137		
C	50			63			72			118		
D	43			55			65			105		
E	63			78.5			92			141.4		
F	26			36			42			80		
H	43			55.5			65			105.4		

The 2/2 progressive valve comes in two versions, with solenoid or pneumatic actuation.

STD progressive start valve: a differential balanced valve automatically opens the air port fully when the downstream pressure is about 50% of the upstream pressure.

Progressive start valve with pneumatic or solenoid actuation: without a pilot, the upstream air flows downstream through the regulation needle.

When an external or pneumatic solenoid signal is generated, the valve opens the main port to create full flow. It does not relieve the downstream circuit.



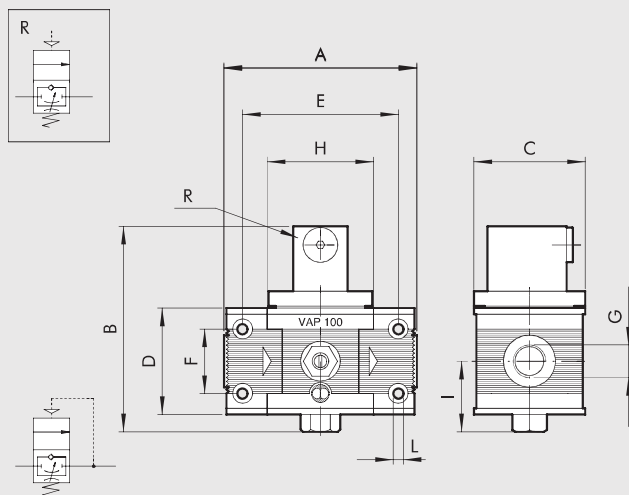
TECHNICAL DATA

		VAP 100	
		1/4"	3/8"
Threaded port			
Min. inlet pressure **	MPa	0.3	
	bar	3	
	psi	43.5	
Max. inlet pressure*	MPa	1.5	
	bar	15	
	psi	217	
Flow rate at 6 bar (0.6 MPa to 87 psi) ΔP 0.5 bar (0.05 MPa to 7 psi)	Nl/min	1300	
	scfm	46	
Flow rate at 6 bar (0.6 MPa to 87 psi) ΔP 1 bar (0.1 MPa to 14 psi)	Nl/min	2000	
	scfm	71	
Max temperature	°C	50	
	°F	122	
Weight	kg	0.5 ~	
Wall fixing screws		M4 x 50	
Mounting position		In any position	
Type of control		Automatic - Pneumatic - Solenoid - Solenoid pilot-assisted	
Fluid		Filtered, lubricated or unlubricated compressed air. Lubrication, if used, must be continuous	
** 0.01 MPa - 0.1 bar - 1.45 psi for pneumatic and pilot-assisted versions with controls at min. 0.3 MPa 3 bar 43.5 psi.			
* 1 MPa - 10 bar - 145 psi			

UNITS

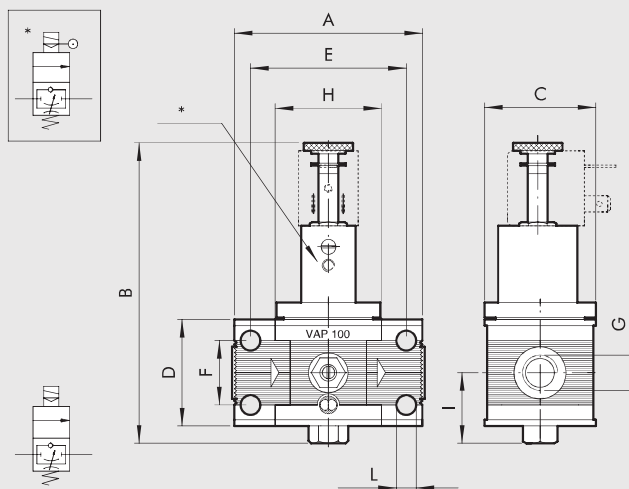
Skillair® PROGRESSIVE START VALVE

DIMENSIONS OF VAP 100 STD/PNEUMATIC VALVE



Threaded port G	VAP 100	
	1/4"	3/8"
A	78	
B	83.5	
C	50	
D	43	
E	63	
F	26	
H	43	
I	29	
L	Hole for M4 screws	
R (pilot - pneumatic version)	1/8"	

DIMENSIONS OF VAP 100 SOLENOID/SOLENOID PILOT-ASSISTED VALVE



Threaded port G	VAP 100	
	1/4"	3/8"
A	78	
B	122.5	
C	50	
D	43	
E	63	
F	26	
H	43	
I	29	
L	Hole for M4 screws	
O	89	
* (pilot assisted)	M5	

ORDERING CODES

Code	Description
3271000A	VAP 100 without end plates
3271500A	VAP 100 pneumatic without end plates
3271600A	VAP 100 solenoid without end plates
3271700A	VAP 100 solenoid pilot-assisted without end plates
3271000	VAP 100 1/4
3271500	VAP 100 1/4 pneumatic
3271600	VAP 100 1/4 solenoid
3271700	VAP 100 1/4 solenoid pilot-assisted
3371000	VAP 100 3/8
3371500	VAP 100 3/8 pneumatic
3371600	VAP 100 3/8 solenoid
3371700	VAP 100 3/8 solenoid pilot-assisted

NOTES

UNITS

Skillair® PROGRESSIVE START VALVE

The job of the progressive starter is to feed air into the circuit gradually with controlled flow. It comes in two versions with solenoid or pneumatic actuation. Both control signals cause the valve to open, which allows the air controlled by the flow regulator to flow slowly towards the downstream circuit. In the APR, when the pressure in the downstream circuit reaches 50%-60% of the upstream pressure, the valve opens the main inlet duct connecting. The time elapsing between starting and opening the valve can be adjusted via the built-in flow regulator. If it is necessary to relieve the downstream circuit quickly, merely operate the control valve which cuts off air flow in the pipe. This closes the valve and starts relieving the downstream circuit. The progressive starter acts both as an actuator positioner, which eliminates the risk of sudden kickback, and as a valve.

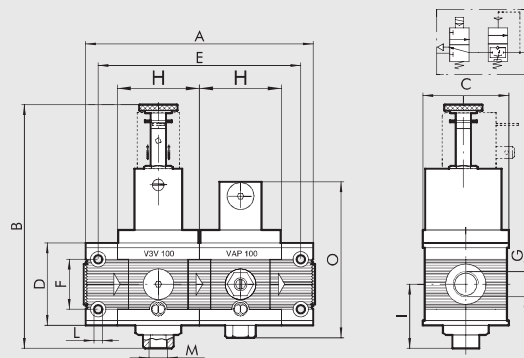
N.B. With size 400, when the APR is mounted upstream of the regulator, the pilot regulator must be piloted at a pressure taken upstream of the APR, otherwise when the system is relieved, most of the air downstream will be relieved by the regulator and not the APR relief port. For connecting instruction see page C3.23



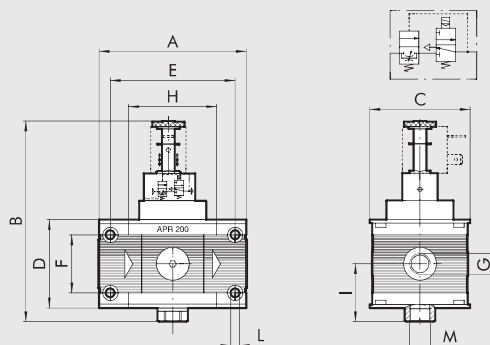
TECHNICAL DATA		APR 100		APR 200			APR 300			APR 400			
Threaded port		1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
Min. inlet pressure	MPa	0.3		0.3				0.4			0.3		0.3
	bar	3		3				4			3		3
	psi	43.5		43.5				58			43.5		43.5
Max. inlet pressure*	MPa	1.5		1.3				1.3			1		1
	bar	15		13				13			10		10
	psi	217		188.5				188.5			145		145
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	1300		2000				2400			13000		14000
ΔP 0.5 bar (0.05 MPa to 7 psi)	scfm	46		71				85			460		494
Flow rate at 6.3 bar (0.63 MPa to 91 psi)	Nl/min	2000		3200				3600			-		-
ΔP 1 bar (0.1 MPa to 14 psi)	scfm	71		113				127			-		-
Max temperature	°C	50		50				50			50		50
	°F	122		122				122			122		122
Weight	kg	~ 0.8		~ 0.9				~ 1.5			5.6		6.4
Wall fixing screws		M4 x 50		M5 x 60				M5 x 70			M6 x 110		M6 x 110
Type of control		Pneumatic Solenoid		Pneumatic Solenoid		CNOMO Solenoid		Pneumatic CNOMO Solenoid			Pneumatic - Solenoid		
Mounting position		In any position											
Fluid		Filtered, lubricated or unlubricated compressed air. Lubrication, if used, must be continuous.											
Notes on use		For the pneumatic version 200 the pilot pressure must range between the inlet P and the inlet P + 2 bar.											
		For pneumatic version 300, the pilot pressure must be greater or equal to the input pressure.											
		* 1 MPa - 10 bar - 145 psi for solenoid version											

DIMENSIONS APR SOLENOID

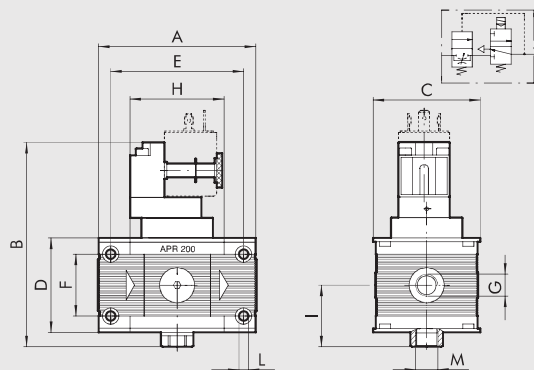
APR 100 SOLENOID



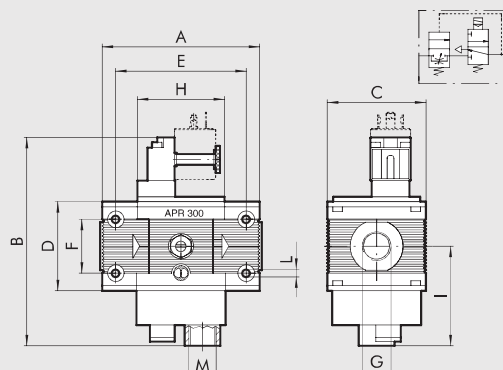
APR 200 SOLENOID



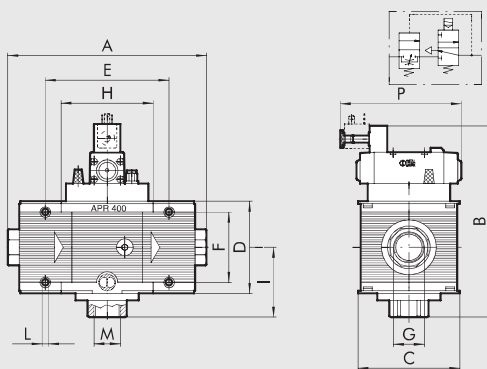
APR 200 CNOMO SOLENOID



APR 300 CNOMO SOLENOID



APR 400 SOLENOID



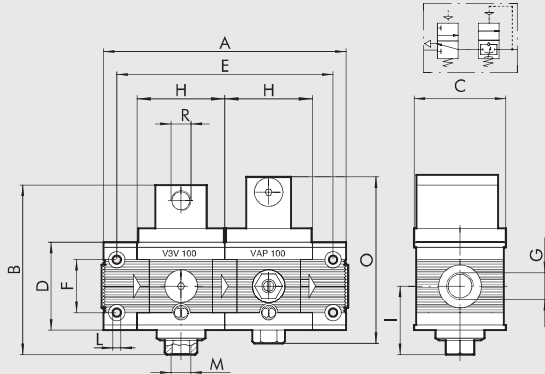
UNITS

Skillair® PROGRESSIVE STARTER

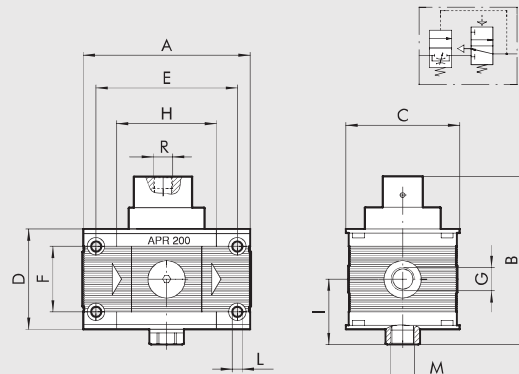
	APR 100 ELPN		APR 200 ELPN			APR 200 ELPN CNOMO			APR 300 ELPN CNOMO			APR 400 ELPN			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	121		93.5			93.5			110	112		225 to 255			283 to 313
B	128		125			120			152			218			
C	50		63			63			72			118			
D	43		55			55			65			105			
E	106		78.5			78.5			92			141.4			
F	26		36			36			42			80			
H	43		55.5			55.5			65			105.4			

DIMENSIONS APR PNEUMATIC

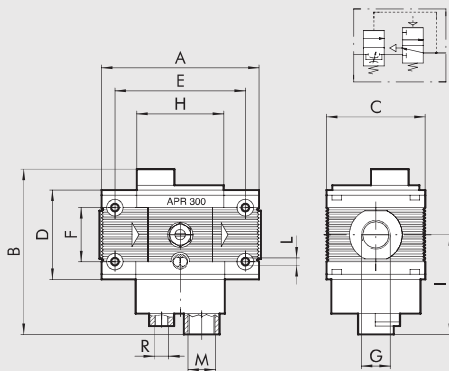
APR 100 PNEUMATIC



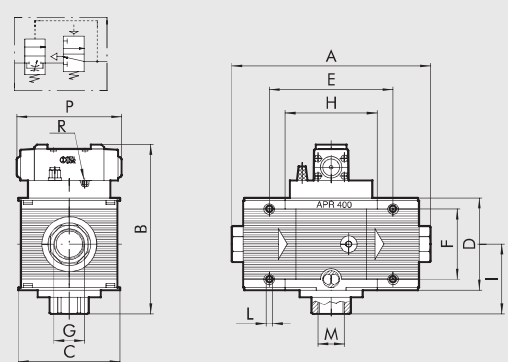
APR 200 PNEUMATIC



APR 300 PNEUMATIC



APR 400 PNEUMATIC

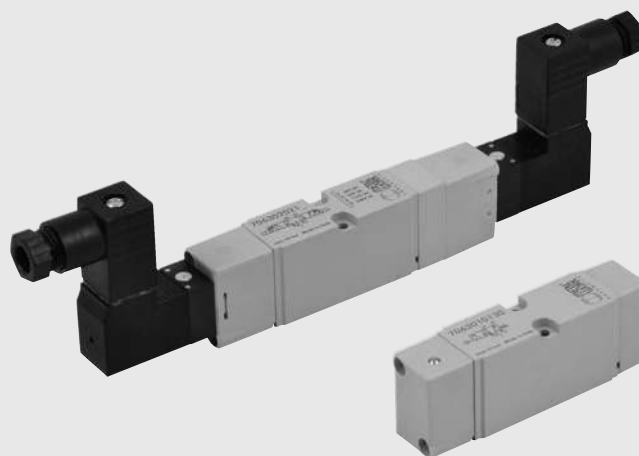


UNITS

Skillair® PROGRESSIVE STARTER

	APR 100 PN		APR 200 PN			APR 300 PN			APR 400 PN			
Threaded port G	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
A	121		93.5			110			225 to 255			
B	83		92			122			193			
C	50		63			72			118			
D	43		55			65			105			
E	106		78.5			92			141.4			
F	26		36			42			80			
H	43		55.5			65			105.4			

Mach 18 valve is manufactured according to the ISO 1507-1 standard, which in turn absorbs the VDMA 24563-02 rule. It comes in 5-way versions with 2 and 3 positions with solenoid or pneumatic actuation.



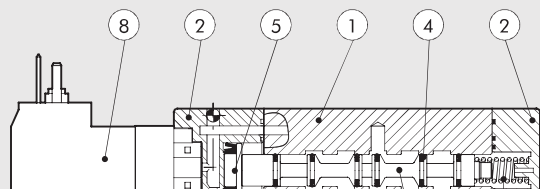
VALVES

TECHNICAL DATA

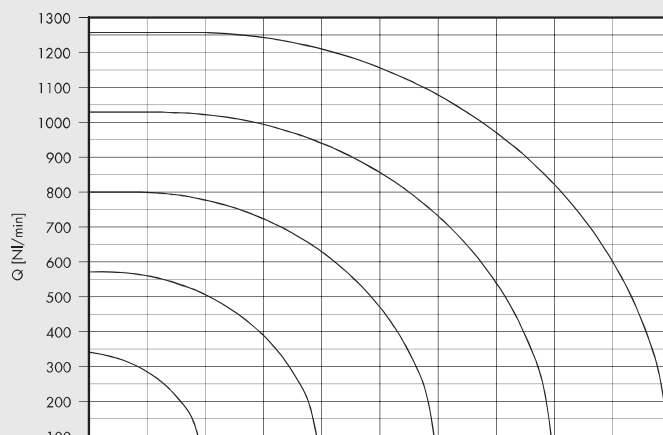
Fluid		Filtered air without lubrication; lubrication, if used, must be continuous
Operating pressure:	bar	1.5 to 10
• monostable		Vacuum to 10 pneumatic/1.9 to 10 solenoid/pneumatic
• monostable 5/3		Vacuum to 10 pneumatic/1 to 10 solenoid/pneumatic
• bistable		Vacuum to 10
• pilot-assisted		2 to 10
Minimum pilot pressure	bar	-10 to +60
Operating temperature range	°C	114.86
Conductance C	Nl/min · bar	0.25
Critical ratio b	bar/bar	340
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	470
Flow rate at 6 bar ΔP 1 bar	Nl/min	In any position (vertical assembly is not recommended for bistable valves subjected to vibration)
Installation		On manifold bases
Assembly		ISO and UNI FD 22
Recommended lubricant		Integrated coil to DIN 43650 C-shape
Solenoid pilot		Monostable on solenoid pilot (with manual monostable on request)
Manual		See chapter Z1
Compatibility with oils		

COMPONENTS

- ① VALVE BODY: Aluminium
- ② CONTROL/END CAP: Hostaform®
- ③ SPOOL: Aluminium
- ④ GASKETS: Polyurethane
- ⑤ PISTONS: Hostaform®
- ⑥ PISTON GASKET: Polyurethane
- ⑦ FILTER: sintered bronze
- ⑧ PILOT: with integrated coil
- ⑨ SPRINGS: special steel



FLOW CHART

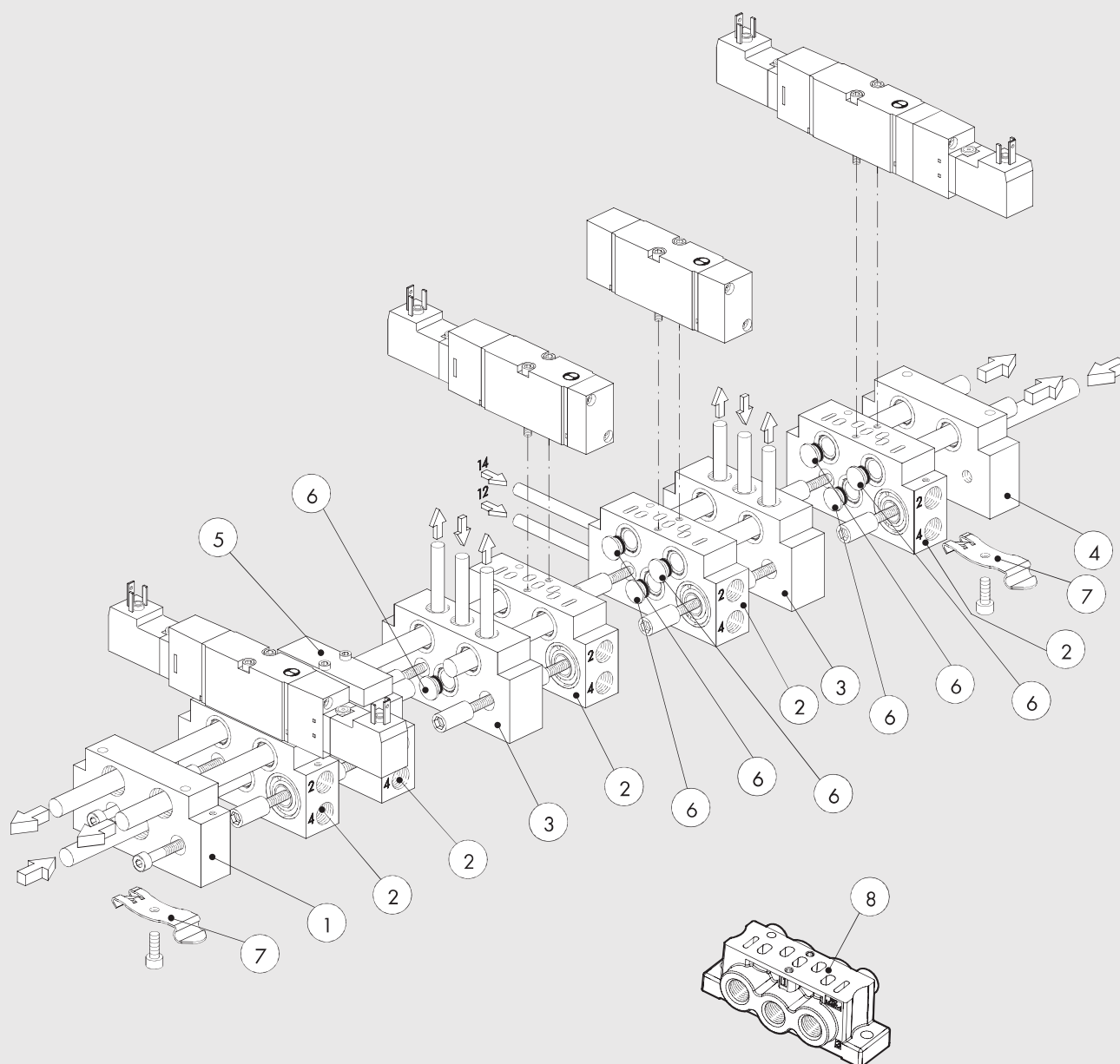


VALVES MACH 18, ISO 15407-1/VDMA 24563-02

MODULARITY

VALVES

VALVES MACH 18, ISO 15407-1 / VDMA 24563-02



Reference	Code	Description
①	0227100201	ISO 15407-1 input end plate kit
②	0227200150	ISO 15407-1 manifold side base kit
③	0227200300	ISO 15407-1 intermediate bases
④	0227100200	ISO 15407-1 output end plate kit
⑤	0227200500	ISO 15407-1 blanking plate
⑥	0227100000	Intermediate diaphragm
⑦	0227300600	Connection bracket on DIN bar
⑧	0227200800	ISO 15407-1 individual base kit

SYNOPTIC, SIZES AND VERSIONS

M S V FAMILY	D DIMENSIONS	5 FUNCTION	S O OPERATORS 14	S RESETTING (12)	O O FURTHER DETAILS	2 4 V D C VOLTAGE
-----------------	-----------------	---------------	---------------------	---------------------	------------------------	----------------------

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Fax: ۰۲۱-۴۴۹۹۴۶۴۲

تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

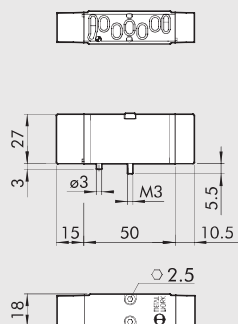
روبروی پالایشگاه نفت پارس، پلاک ۱۲

TECHNICAL DATA

Operating pressure:	bar	Vacuum to 10
Minimum operating pressure:	bar	
• monostable		1.5
• monostable 5/3		1.9
• bistable		1
Conductance C	Nl/min · bar	114.86
Critical ratio b	bar/bar	0.25
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	340
Flow rate at 6 bar ΔP 1 bar	Nl/min	470
Actuation response times at 6 bar:	ms	
• monostable		4
• bistable		4
Repositioning response times at 6 bar	ms	
• monostable		8.4
• bistable		4
Operating temperature range	°C	-10 to + 60

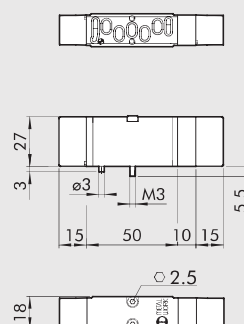


MONOSTABLE 5/2



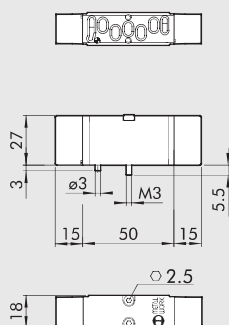
Symbol	Code	Abbrev.	Weight [g]
	7063010130	MPV D5 PNS OO	80

MONOSTABLE 5/3



Symbol	Code	Abbrev.	Weight [g]
	7063010210	MPV D6 PNS CC	93
	7063010310	MPV D6 PNS OC	93
	7063010410	MPV D6 PNS PC	93

BISTABLE 5/2



NOTES

MACH 18 ISO 15407-1/VDMA 24563-02 SOLENOID/PNEUMATIC MSV

VALVES

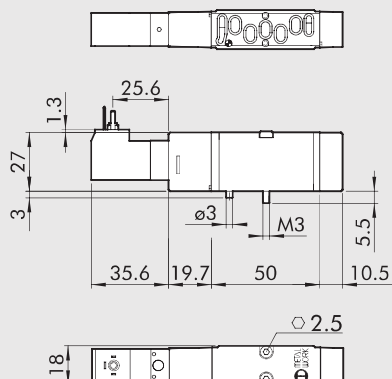
VALVES MACH 18, ISO 15407-1/VDMA 24563-02

TECHNICAL DATA

Operating pressure:	bar	
• monostable		1.5 to 10
• monostable 5/3		1.9 to 10
• bistable		1 to 10
• pilot-assisted		Vacuum to 10
Minimum pilot pressure	bar	2
Operating temperature range	°C	-10 to +60
Conductance C	NI/min · bar	114.86
Critical ratio b	bar/bar	0.25
Flow rate at 6 bar ΔP 0.5 bar	NI/min	340
Flow rate at 6 bar ΔP 1 bar	NI/min	470
TRA / TRR monostable at 6 bar	ms	12 / 26
TRA / TRR bistable at 6 bar	ms	21 / 21
Type of manual actuation		Monostable on solenoid pilot (with bistable manual valve on request)
Pilot with integrated coil		24 VDC - 24 VAC - 110 VAC - 220 VAC
Power	W	1
Voltage tolerance		-10% to -15%
Insulation class		F 155
Degree of protection		IP 65 EN60529 with connector
Solenoid rating		100% ED
Electrical contacts		DIN 43650 C Shape

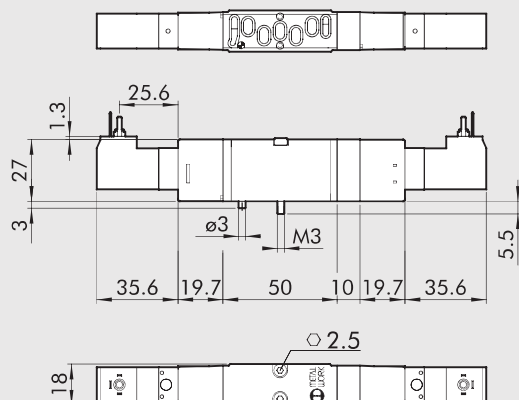


MONOSTABLE 5/2



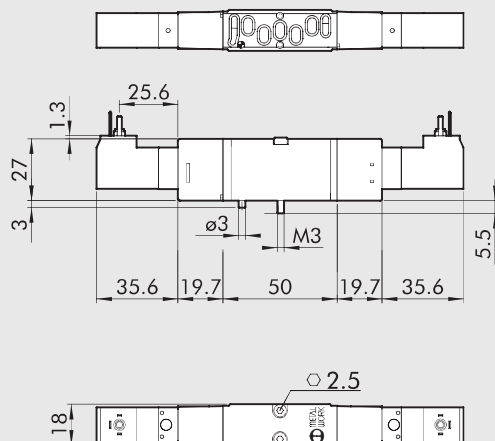
Symbol	Code	Abbrev.	Weight [g]
	7063020132	MSV D5 SOS OO 24VDC	110
	7063020133	MSV D5 SOS OO 24VAC	110
	7063020134	MSV D5 SOS OO 110VAC	110
	7063020135	MSV D5 SOS OO 220VAC	110
	7063030132	MSV D5 SES OO 24VDC	110
	7063030133	MSV D5 SES OO 24VAC	110
	7063030134	MSV D5 SES OO 110VAC	110
	7063030135	MSV D5 SES OO 220VAC	110

MONOSTABLE 5/3



Symbol	Code	Abbrev.	Weight [g]
	7063020212	MSV D6 SOS CC 24VDC	156
	7063020213	MSV D6 SOS CC 24VAC	156
	7063020214	MSV D6 SOS CC 110VAC	156
	7063020215	MSV D6 SOS CC 220VAC	156
	7063020312	MSV D6 SOS OC 24VDC	156
	7063020313	MSV D6 SOS OC 24VAC	156
	7063020314	MSV D6 SOS OC 110VAC	156
	7063020315	MSV D6 SOS OC 220VAC	156
	7063020412	MSV D6 SOS PC 24VDC	156
	7063020413	MSV D6 SOS PC 24VAC	156
	7063020414	MSV D6 SOS PC 110VAC	156
	7063020415	MSV D6 SOS PC 220VAC	156
	7063030212	MSV D6 SES CC 24VDC	156
	7063030213	MSV D6 SES CC 24VAC	156
	7063030214	MSV D6 SES CC 110VAC	156
	7063030215	MSV D6 SES CC 220VAC	156
	7063030312	MSV D6 SES OC 24VDC	156
	7063030313	MSV D6 SES OC 24VAC	156

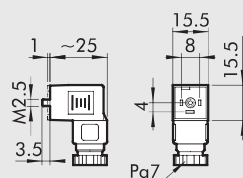
BISTABLE 5/2



Symbol	Code	Abbrev.	Weight [g]
	7063020112	MSV D5 SOB OO 24VDC	143
	7063020113	MSV D5 SOB OO 24VAC	143
	7063020114	MSV D5 SOB OO 110VAC	143
	7063020115	MSV D5 SOB OO 220VAC	143
	7063030112	MSV D5 SEB OO 24VDC	143
	7063030113	MSV D5 SEB OO 24VAC	143
	7063030114	MSV D5 SEB OO 110VAC	143
	7063030115	MSV D5 SEB OO 220VAC	143

ACCESSORIES

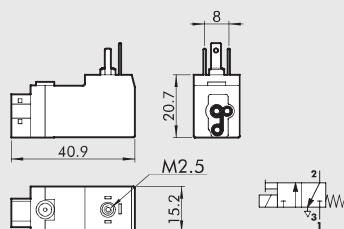
CONNECTOR 15 mm DIN 43650 SHAPE C



Code	Description
W0970501021	Connector 15 mm C shape DIN 43650
W0970501022	Connector 15 mm C shape DIN 43650 LED 24V
W0970501025	Connector 15 mm C shape DIN 43650 LED+VDR 24V

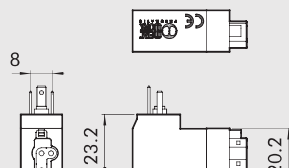
SPARE PARTS

PILOT MACH 18 (OLD)



Code	Description
W4015101000	In-line pilot 24VDC
W4015101010	In-line pilot 24VAC 50/60 Hz
W4015101020	In-line pilot 110VAC 50/60 Hz
W4015101030	In-line pilot 220VAC 50/60 Hz

PILOT MACH 18 (NEW)



Code	Description
W4015301000	In-line pilot 24VDC
W4015301010	In-line pilot 24VAC 50/60 Hz
W4015301020	In-line pilot 110VAC 50/60 Hz
W4015301030	In-line pilot 220VAC 50/60 Hz

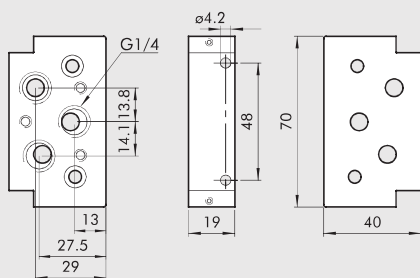
N.B.: if the pilot to be replaced bears the writing **CE**, you have to order among the NEW

BASES TO ISO 15407-1/VDMA 24563-02 FOR MACH 18 VALVES

VALVES

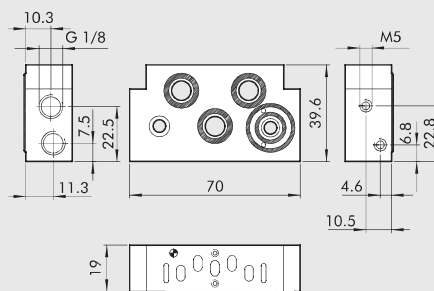
VALVES MACH 18, ISO 15407-1/VDMA 24563-02

① INPUT END PLATE



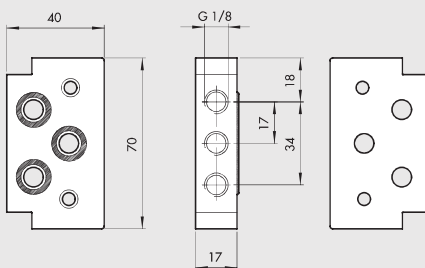
Code	Description	Weight [g]
0227100201	ISO 15407-1 input end plate kit	125

② MANIFOLD BASE, SIDE PORTS



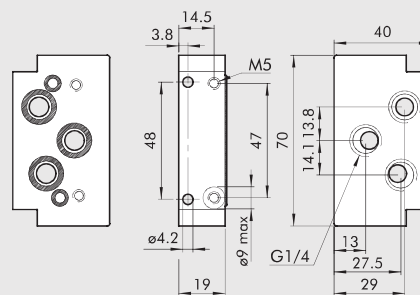
Code	Description	Weight [g]
0227200150	ISO 15407-1 manifold base, side ports kit	125

③ INTERMEDIATE UPPER PORTS



Code	Description	Weight [g]
0227200300	ISO 15407-1 intermediate upper ports kit	118

④ OUTPUT END PLATE



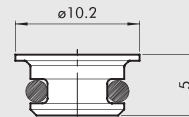
Code	Description	Weight [g]
0227100200	ISO 15407-1 output end-plate kit	122

(5) BLANKING PLATE - UNUSED POSITION



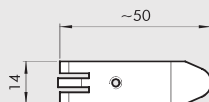
Code	Description	Weight [g]
0227200500	ISO 15407-1 blanking plate	24

⑥ INTERMEDIATE DIAPHRAGM

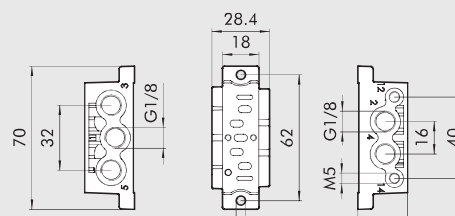


Code	Description	Weight [g]
0227100000	Intermediate diaphragm	2

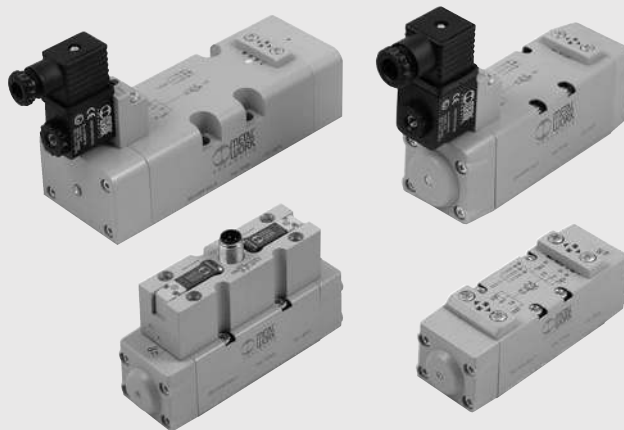
⑦ CONNECTION BRACKETS ON THE BAR OMEGA (DIN EN 50022)



⑧ INDIVIDUAL BASE



The assembly surface dimensions of ISO1, ISO2 and ISO 3 valves are to ISO5599-1. They are available in the 5-way versions with 2 and 3 positions and with pneumatic or solenoid actuation.



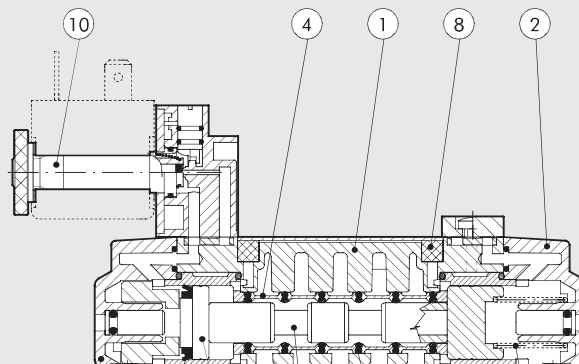
VALVES

VALVES ISO 5599/1, SERIES IPV-ISV

TECHNICAL DATA	ISO 1	ISO 2	ISO 3
Fluid	Filtered air without lubrication; lubrication, if used, must be continuous		
Operating pressure:	bar		
• monostable and bistable differential	Vacuum to 10 pneumatic / 2.5 to 10 solenoid/pneumatic		
• bistable	Vacuum to 10 pneumatic / 1 to 10 solenoid/pneumatic		
• pilot-assisted	Vacuum to 10		
Minimum pilot pressure	bar		
Operating temperature range	°C		
Nominal diameter	mm		
Conductance C	Nl/min · bar		
Critical ratio b	bar/bar		
Flow rate at 6 bar ΔP 0.5 bar	Nl/min		
Flow rate at 6 bar ΔP 1 bar	Nl/min		
Installation	In any position (vertical assembly is not recommended for bistable valves subjected to vibration)		
Assembly	On single and manifold bases according to ISO 5599/1		
Recommended lubricant	ISO and UNI FD 22		
Solenoid pilot	to CNOMO/in-line pilot / M12 to CNOMO		
Manual	Bistable on solenoid pilot Monostable on valve body		
Maximum coil nut torque	Nm		
Compatibility with oils	See chapter Z1		

COMPONENTS

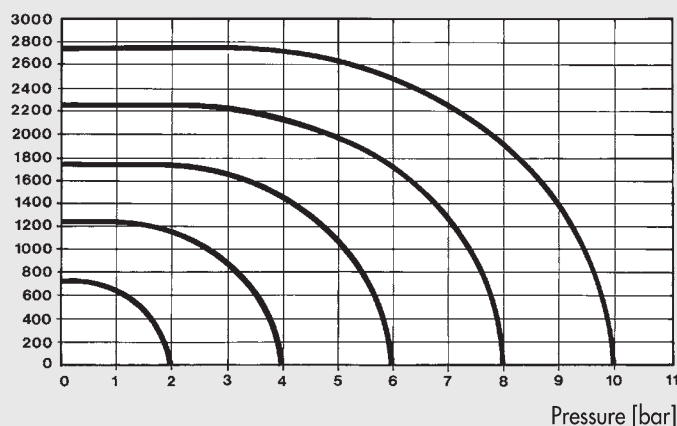
- ① VALVE BODY: Aluminium
- ② END CAP: Hostaform®
- ③ SPOOL: chemically nickel-plated aluminium
- ④ DISTANCE PLATES: plastic
- ⑤ GASKETS: NBR
- ⑥ PISTONS: Hostaform®
- ⑦ PISTON GASKET: NBR
- ⑧ FILTER: sintered bronze
- ⑨ SPRINGS: special steel
- ⑩ OPERATOR: Brass pipe – Stainless steel core



FLOW CHART

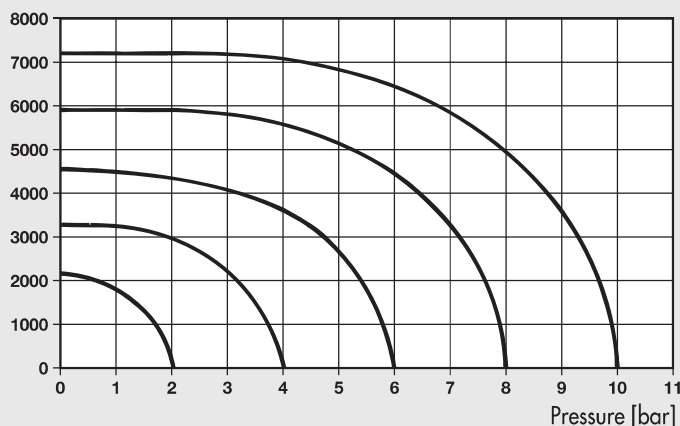
ISO 1

Flow rates [Nl/min]



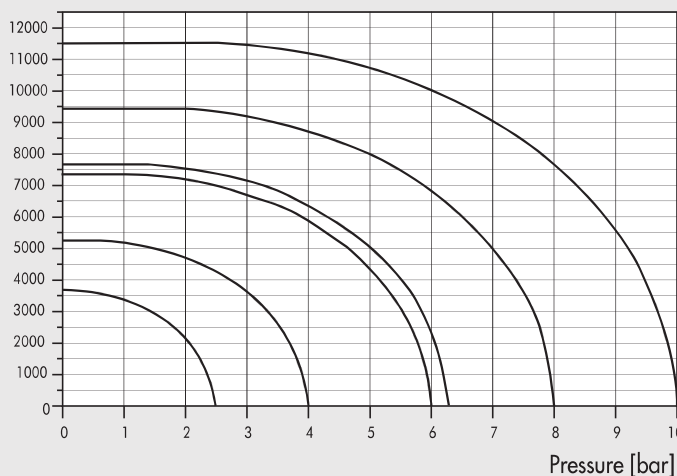
ISO 2

Flow rates [Nl/min]



ISO 3

Flow rates [Nl/min]



SYNOPTIC, SIZES AND VERSIONS

I P V		5	5	P N	S	O O
FAMILY		DIMENSIONS	FUNCTION	OPERATORS 14	RESETTING (12)	FURTHER DETAILS
IPV	ISO pneumatic	5 ISO 1	5 5/2	PN pneumatic	S mechanical springs	OO no indication
ISV	ISO solenoid/pneumatic	6 ISO 2	6 5/3	SO solenoid/pneumatic	B bistable	CC closed centres
		7 ISO 3		SE electric pilot-assisted	D differential	OC open centres
				* DO solenoid/pneumatic in line		PC pressure centres
				* DE solenoid assisted in line M12		
				● CO M12 solenoid/pneumatic		
				● CE M12 solenoid assisted		

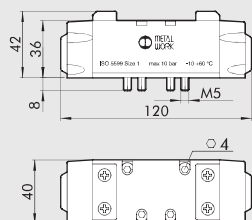
VALVES

VALVES ISO 5599/1, SERIES IPV-ISV

TECHNICAL DATA		ISO 1	ISO 2	ISO 3
Operating pressure	bar	Vacuum to 10		
Minimum operation pressure:				
• monostable and bistable differential	bar	2.5		
• bistable	bar	1		
Operating temperature range	°C	-10° to +60		
Nominal diameter	mm	7.5	12	15
Conductance C	Nl/min · bar	250	657.14	971.43
Critical ratio b	bar/bar	0.36	0.25	0.43
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	700	1800	3200
Flow rate at 6 bar ΔP 1 bar	Nl/min	1100	2700	4600
Response times at 6 Bar:				
• monostable	ms	12	24	35
• bistable	ms	20	30	45
Repositioning response times at 6 Bar:				
• monostable	ms	30	43	55
• bistable	ms	20	30	45
Manual		monostable on valve body		

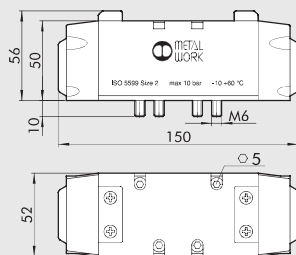


PNEUMATIC ACTUATION ISO 1



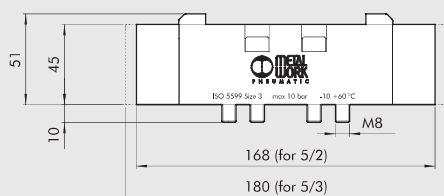
Symbol	Code	Abbrev.	Weight [g]
	7051011100	IPV 55 PNS OO	310
	7051011200	IPV 55 PNB OO	310
	7051011300	IPV 55 PND OO	310
	7051012100	IPV 56 PNS CC	310
	7051012200	IPV 56 PNS OC	310
	7051012300	IPV 56 PNS PC	310

PNEUMATIC ACTUATION ISO 2



Symbol	Code	Abbrev.	Weight [g]
	7052011100	IPV 65 PNS OO	705
	7052011200	IPV 65 PNB OO	705
	7052011300	IPV 65 PND OO	705
	7052012100	IPV 66 PNS CC	705
	7052012200	IPV 66 PNS OC	705
	7052012300	IPV 66 PNS PC	705

PNEUMATIC ACTUATION ISO 3



Symbol	Code	Abbrev.	Weight [g]
	7056011100	IPV 75 PNS OO	1175
	7056011200	IPV 75 PNB OO	1175
	7056011300	IPV 75 PND OO	1175
	7056012100	IPV 76 PNS CC	1290

VALVES ISO 5599/1, SOLENOID/PNEUMATIC, SERIES ISV

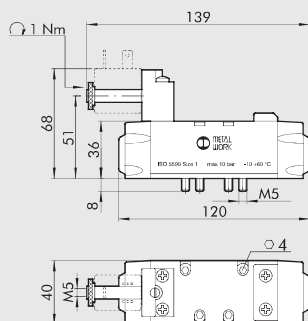
VALVES

VALVES ISO 5599/1, SERIES IPV-ISV

TECHNICAL DATA	ISO 1	ISO 2	ISO 3
Operating pressure: bar			
• monostable and bistable differential	2.5 to 10		
• bistable	1 to 10		
• pilot-assisted	Vacuum to 10		
Minimum pilot pressure bar	2.5		
Operating temperature range °C	-10 to +60		
Nominal diameter mm	7.5	12	15
Conductance C l/min · bar	250	657.14	971.43
Critical ratio b bar/bar	0.36	0.25	0.43
Flow rate at 6 bar ΔP 0.5 bar l/min	700	1800	3200
Flow rate at 6 bar ΔP 1 bar l/min	1100	2700	4600
TRA / TRR monostable at 6 bar ms	24 / 50	39 / 60	50 / 120
TRA / TRR bistable at 6 bar ms	20 / 20	25 / 25	35 / 35
Solenoid pilot	Standards CNOMO		
Manual	Bistable on solenoid pilot Monostable on valve body		
Coils	30 mm side DIN 43650 Form A - ISO 22 mm side		
Maximum coil nut torque Nm	1		

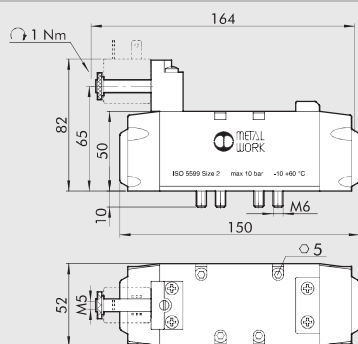


MONOSTABLE 5/2 ISO 1



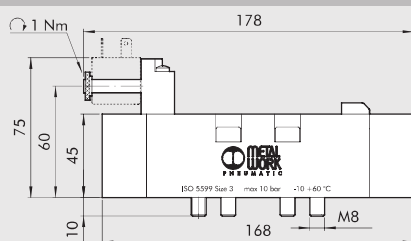
Symbol	Code	Abbrev.	Weight [g]
	7051021100	ISV 55 SOS OO	344
	7051021400	ISV 55 SES OO	344

MONOSTABLE 5/2 ISO 2



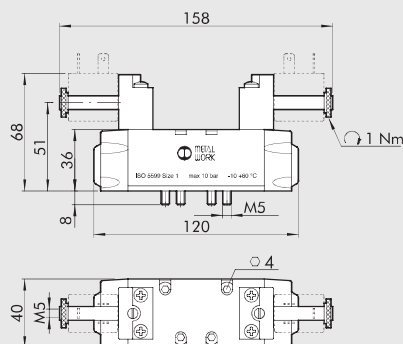
Symbol	Code	Abbrev.	Weight [g]
	7052021100	ISV 65 SOS OO	715
	7052021400	ISV 65 SES OO	715

MONOSTABLE 5/2 ISO 3



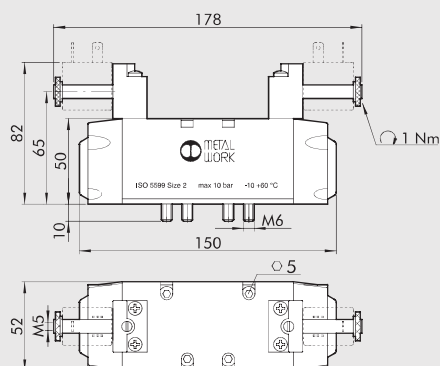
Symbol	Code	Abbrev.	Weight [g]
	7056021100	ISV 75 SOS OO	1207
	7056021400	ISV 75 SES OO	1207

BISTABLE 5/2 ISO 1 - MONOSTABLE 5/3 ISO 1



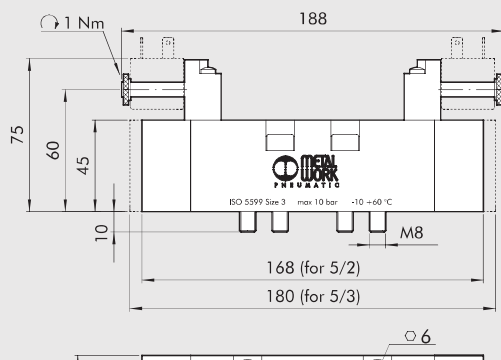
Symbol	Code	Abbrev.	Weight [g]
	7051021200	ISOV 55 SOB OO	388
	7051021300	ISOV 55 SOD OO	375
	7051022100	ISOV 56 SOS CC	372
	7051022200	ISOV 56 SOS OC	372
	7051022300	ISOV 56 SOS PC	372
	7051021500	ISOV 55 SEB OO	388
	7051021600	ISOV 55 SED OO	375
	7051022400	ISOV 56 SES CC	372
	7051022500	ISOV 56 SES OC	372
	7051022600	ISOV 56 SES PC	372

BISTABLE 5/2 ISO 2 - MONOSTABLE 5/3 ISO 2



Symbol	Code	Abbrev.	Weight [g]
	7052021200	ISOV 65 SOB OO	740
	7052021300	ISOV 65 SOD OO	710
	7052022100	ISOV 66 SOS CC	720
	7052022200	ISOV 66 SOS OC	720
	7052022300	ISOV 66 SOS PC	720
	7052021500	ISOV 65 SEB OO	740
	7052021600	ISOV 65 SED OO	710
	7052022400	ISOV 66 SES CC	720
	7052022500	ISOV 66 SES OC	720
	7052022600	ISOV 66 SES PC	720

BISTABLE 5/2 ISO 3 - MONOSTABLE 5/3 ISO 3



Symbol	Code	Abbrev.	Weight [g]
	7056021200	ISOV 75 SOB OO	1230
	7056021300	ISOV 75 SOD OO	1230
	7056022100	ISOV 76 SOS CC	1355
	7056022200	ISOV 76 SOS OC	1355
	7056022300	ISOV 76 SOS PC	1355
	7056021500	ISOV 75 SEB OO	1230
	7056021600	ISOV 75 SED OO	1230

VALVES ISO 5599/1, PNEUMATIC, SERIES ISV WITH IN-LINE SOLENOID PILOT

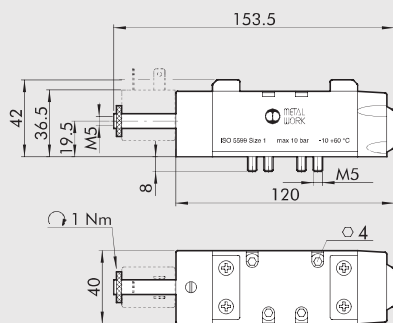
VALVES

VALVES ISO 5599/1, SERIES IPV-ISV

TECHNICAL DATA		ISO 1
Operating pressure:	bar	
• monostable		2.5 to 10
• bistable		1 to 10
• pilot-assisted		Vacuum to 10
Minimum pilot pressure	bar	2.5
Operating temperature range	°C	-10 to +60
Nominal diameter	mm	7.5
Conductance C	NI/min · bar	250
Critical ratio b	bar/bar	0.36
Flow rate at 6 bar ΔP 0.5 bar	NI/min	700
Flow rate at 6 bar ΔP 1 bar	NI/min	1100
TRA / TRR monostable at 6 bar	ms	24 / 50
TRA / TRR bistable at 6 bar	ms	20 / 20
Solenoid pilot		In line pilot
Manual		Bistable on solenoid pilot
Coils		30 mm side DIN 43650
		Form A – ISO
		22 mm side
Maximum coil nut torque	Nm	1

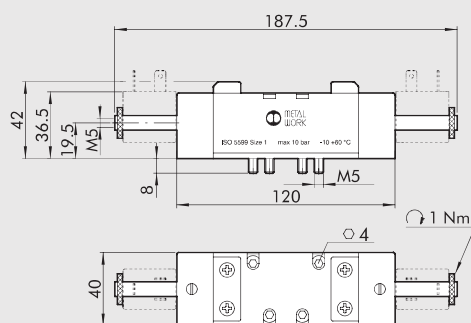


MONOSTABLE 5/2 ISO 1



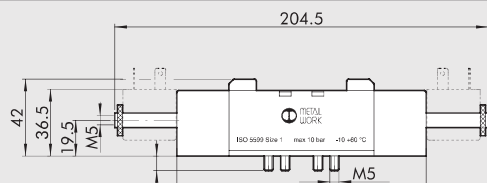
Symbol	Code	Abbrev.	Weight [g]
	7053021100	ISV 55 DOS OO	396
	7053021400	ISV 55 DES OO	396

BISTABLE 5/2 ISO 1



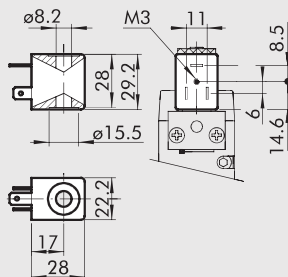
Symbol	Code	Abbrev.	Weight [g]
	7053021200	ISV 55 DOB OO	450
	7053021500	ISV 55 DEB OO	450

MONOSTABLE 5/3 ISO 1



Symbol	Code	Abbrev.	Weight [g]
	7053022100	ISV 56 DOS CC	517
	7053022200	ISV 56 DOS OC	516
	7053022300	ISV 56 DOS PC	516

COILS SIDE 22 mm

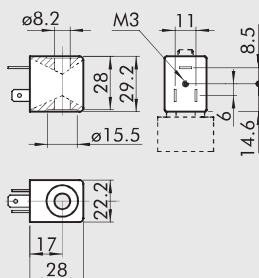


- Voltage tolerance: -10% to + 15%
- Insulation class: F155
- Degree of protection: IP65 EN60529 with connector
- Avoid prolonged exposure to the atmospheric agents

- Coil temperature 100% ED:
55°C at 20°C ambient temperature
- According to Atex 2014/34/EU rule, group 2, category 3 GD

Code	Abbrev.	Nominal voltage	Absorption	
			Inrush	Holding
W0215000151	Coil 22 Ø 8 BA 2W-12VDC	12Vcc	2W	2W
W0215000101	Coil 22 Ø 8 BA 2W-24VDC	24Vcc	2W	2W
W0215000111	Coil 22 Ø 8 BA 3.5VA-24VAC	24V 50/60Hz	5.3VA	3.5VA
W0215000121	Coil 22 Ø 8 BA 3.5VA-110VAC	110V 50/60Hz	5.3VA	3.5VA
W0215000131	Coil 22 Ø 8 BA 3.5VA-220VAC	220V 50/60Hz	5.3VA	3.5VA

"UL" AND "CSA" COILS 22 mm



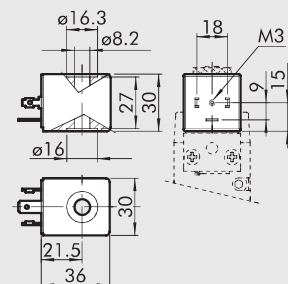
- Voltage tolerance: -10% to + 15%
- Insulation class: F155
- Degree of protection: IP65 EN60529 with connector
- Avoid prolonged exposure to the atmospheric agents

- Coil temperature 100% ED:
55°C at 20°C ambient temperature

Code	Abbrev.	Nominal voltage	Absorption	
			Inrush	Holding
W0215000251	Coil 22 Ø 8 BA 2W-12VDC UR	12Vcc	2W	2W
W0215000201	Coil 22 Ø 8 BA 2W-24VDC UR	24Vcc	2W	2W
W0215000211	Coil 22 Ø 8 BA 3.5VA-24VAC UR	24V 50/60Hz	5.3VA	3.5VA
W0215000221	Coil 22 Ø 8 BA 3.5VA-110VAC UR	110V 50/60Hz	5.3VA	3.5VA
W0215000231	Coil 22 Ø 8 BA 3.5VA-220VAC UR	220V 50/60Hz	5.3VA	3.5VA



COILS SIDE 30 mm

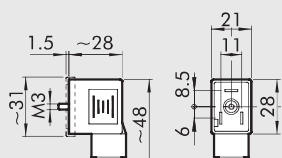


- Electric contact DIN43650 shape A - ISO 4400
- Voltage tolerance: -10% + 10%
- Insulation class: F155
- Degree of protection: IP65 EN60529 with connector

- Avoid prolonged exposure to the atmospheric agents
- According to Atex 2014/34/EU rule, group 2, category 3 GD

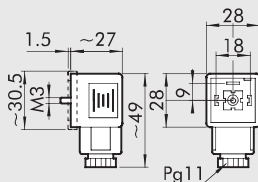
Code	Abbrev.	Nominal voltage	Absorption	
			Inrush	Holding
W0210010100	Coil 30 Ø 8 2W-24VDC	24Vcc	5W	2W
W0210011100	Coil 30 Ø 8 3.5VA-24VAC	24V 50/60Hz	10VA	3.5VA
W0210012100	Coil 30 Ø 8 3.5VA-110VAC	110V 50/60Hz	10VA	3.5VA
W0210013100	Coil 30 Ø 8 3.5VA-220VAC	220V 50/60Hz	10VA	3.5VA

CONNECTOR FOR COILS SIDE 22 mm



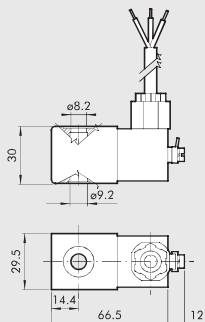
Code	Type	Colour	Ø Cable
W0970510011	Standard	Black	PG9
W0970510012	LED 24V	Transparent	PG9
W0970510013	LED 110V	Transparent	PG9
W0970510014	LED 220V	Transparent	PG9
W0970510015	LED + VDR 24V	Transparent	PG9
W0970510016	LED + VDR 110V	Transparent	PG9
W0970510017	LED + VDR 220V	Transparent	PG9
W0970510070	Atex II 2 GD	Black	PG9

CONNECTOR FOR COILS SIDE 30 mm



Code	Type	Colour	Ø Cable
W0970520033	Standard	Black	PG11
W0970520034	LED 24V	Transparent	PG11
W0970520035	LED 110V	Transparent	PG11
W0970520036	LED 220V	Transparent	PG11
W0970520037	LED + VDR 24V	Transparent	PG11
W0970520038	LED + VDR 110V	Transparent	PG11
W0970520039	LED + VDR 220V	Transparent	PG11

KIT COIL EEXM



Code	Description
0227606913	Kit for coil 30 24 VDC EEXMT5 cable 3 m
0227606915	Kit for coil 30 24 VDC EEXMT5 cable 5 m
0227608013	Kit for coil 30 24 VAC EEXMT5 cable 3 m
0227608015	Kit for coil 30 24 VAC EEXMT5 cable 5 m
0227608023	Kit for coil 30 110 VAC EEXMT5 cable 3 m
0227608025	Kit for coil 30 110 VAC EEXMT5 cable 5 m
0227608033	Kit for coil 30 230 VAC EEXMT5 cable 3 m
0227608035	Kit for coil 30 230 VAC EEXMT5 cable 5 m

According to Atex 2014/34/EU rule: II 2G Ex mb IIC T4/T5 Gb
 II 2D Ex tb IIIC T130/T95 °C IP66 Db

N.B.: Supplied complete with adapter for Ø8 mm sleeve.

KIT COILS SIDE 22 IP65



Code	Description
0222100100	Kit for coil 22 - IP65

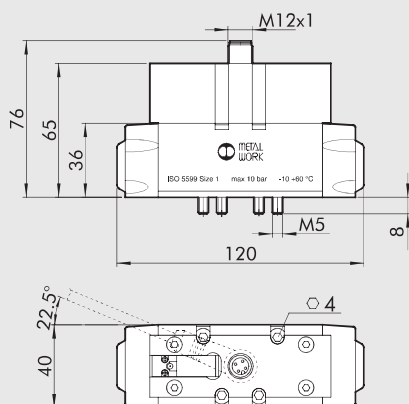
Improved IP65 protection, even after prolonged exposure to atmospheric agents.
Applicable to valves with a technopolymer control.

NOTES

TECHNICAL DATA		ISO 1	ISO 2
Operating pressure:	bar	2.5 to 10	
• monostable and bistable differential		1 to 10	
• bistable		Vacuum to 10	
• pilot-assisted		2.5	
Minimum pilot pressure	bar	-10 to +60	
Operating temperature range	°C	7.5	
Nominal diameter	mm	250	12
Conductance C	NI/min · bar	0.36	657.14
Critical ratio b	bar/bar	700	0.25
Flow rate at 6 bar ΔP 0.5 bar	NI/min	1100	1800
Flow rate at 6 bar ΔP 1 bar	NI/min	22 / 60	2700
TRA / TRR monostable at 6 bar	ms	78 / 180	
Solenoid pilot		With built-in coil	
Manual		Monostable on solenoid pilot	
		Monostable on valve body	
Coil power	W	1.2	
Voltage		24 VDC ±10%	
Electrical connection		M12	
Degree of protection		IP65 EN60529	
Electrical protection		Transil	

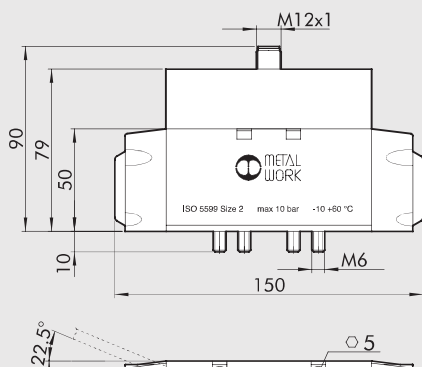


MONOSTABLE 5/2 ISO 1



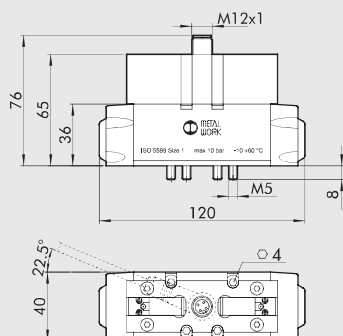
Symbol	Code	Abbrev.	Weight [g]
	7054021100	ISV 55 COS OO	508
	7054021400	ISV 55 CES OO	508

MONOSTABLE 5/2 ISO 2



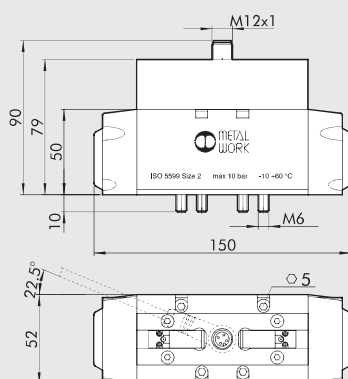
Symbol	Code	Abbrev.	Weight [g]
	7055021100	ISV 65 COS OO	901
	7055021400	ISV 65 CES OO	901

BISTABLE 5/2 ISO 1 - MONOSTABLE 5/3 ISO 1



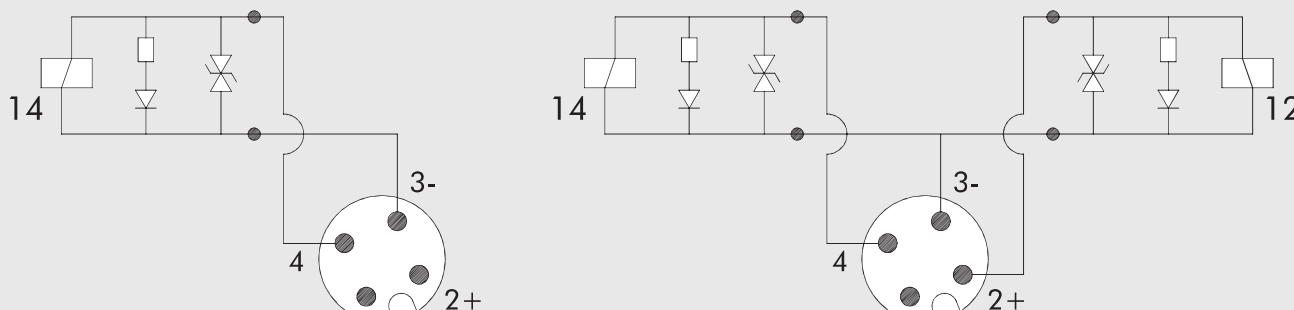
Symbol	Code	Abbrev.	Weight [g]
	7054021200	ISV 55 COB OO	512
	7054021300	ISV 55 COD OO	490
	7054022100	ISV 56 COS CC	496
	7054022200	ISV 56 COS OC	496
	7054022300	ISV 56 COS PC	496
	7054021500	ISV 55 CEB OO	512
	7054021600	ISV 55 CED OO	490
	7054022400	ISV 56 CES CC	496
	7054022500	ISV 56 CES OC	496
	7054022600	ISV 56 CES PC	496

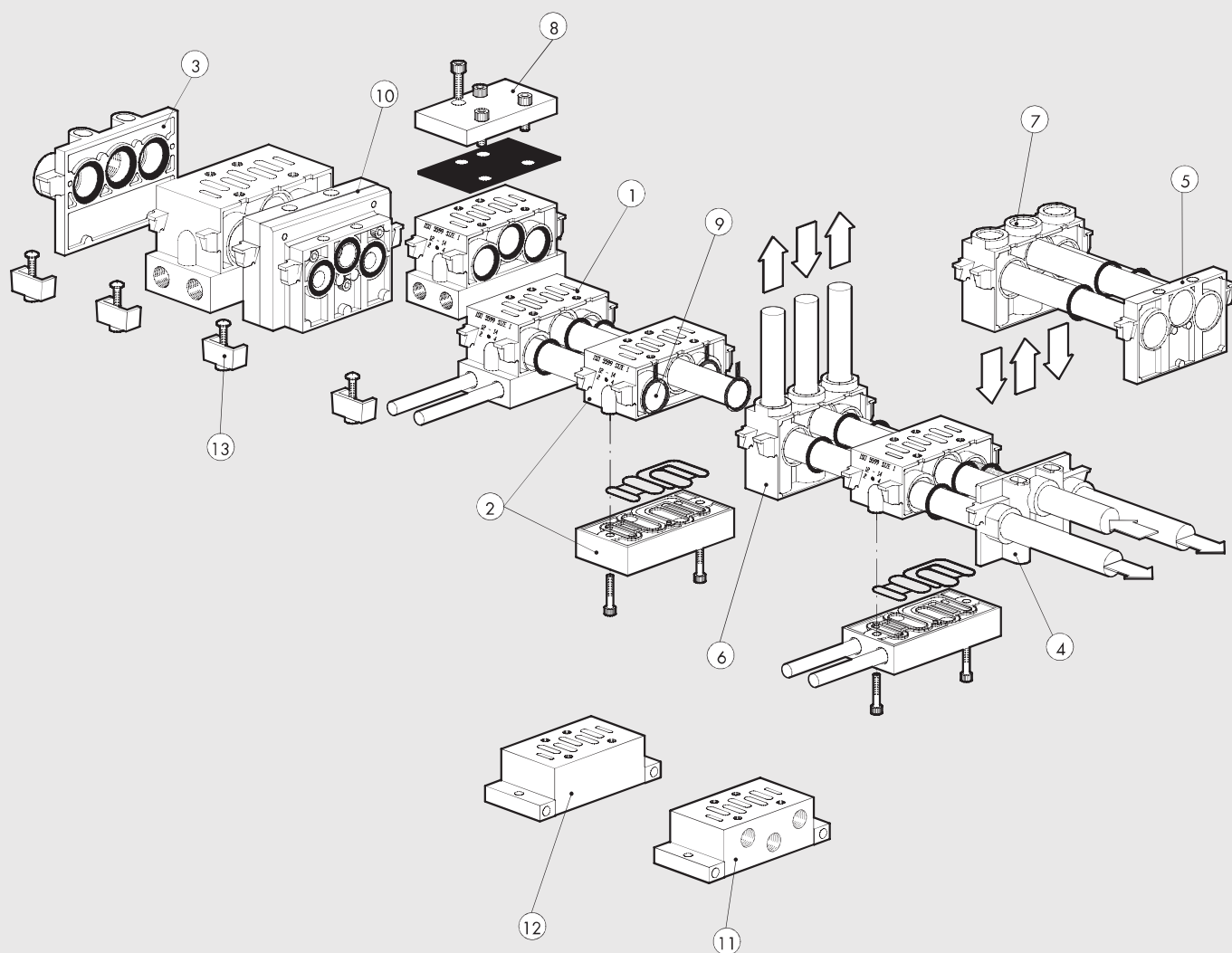
BISTABLE 5/2 ISO 2 - MONOSTABLE 5/3 ISO 2



Symbol	Code	Abbrev.	Weight [g]
	7055021200	ISV 65 COB OO	860
	7055021300	ISV 65 COD OO	860
	7055022100	ISV 66 COS CC	868
	7055022200	ISV 66 COS OC	868
	7055022300	ISV 66 COS PC	868
	7055021500	ISV 65 CEB OO	860
	7055021600	ISV 65 CED OO	860
	7055022400	ISV 66 CES CC	868
	7055022500	ISV 66 CES OC	868
	7055022600	ISV 66 CES PC	868

WIRING DIAGRAM

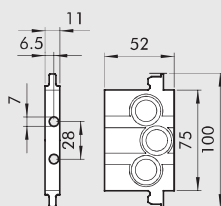




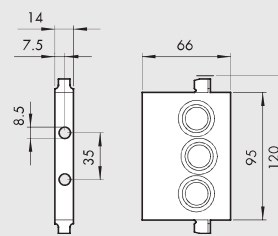
Reference	Code ISO 1	Code ISO 2	Description
①	0228000150	0228001150	Manifold base - side ports
②	0228000155	0228001155	Manifold base with bottom ports
③	0228000200	0228001200	Input end plate
④	0228000201	0228001201	Additional input end plate
⑤	0228000210	0228001210	Blind end plate
⑥	0228000300	0228001300	Intermediate - top ports
⑦	0228000301	0228001301	Intermediate - back ports
⑧	0228000500	0228001500	Blanking plate

5 BLIND END PLATE

ISO 1



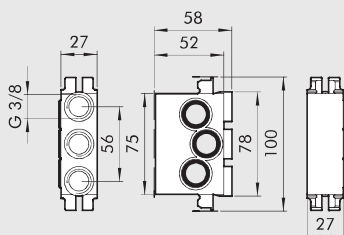
ISO 2



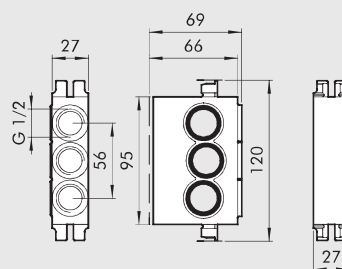
Code	Description	Weight [g]
0228000210	Blind end plate, ISO 1	79
0228001210	Blind end plate, ISO 2	130

6 INTERMEDIATE TOP PORTS

ISO 1



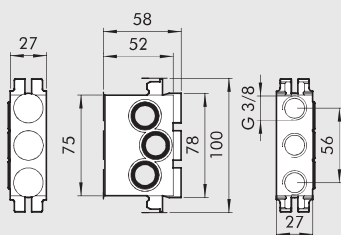
ISO 2



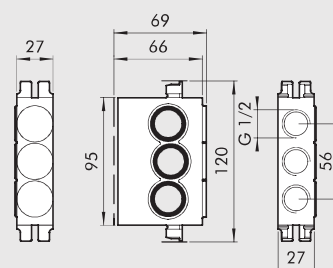
Code	Description	Weight [g]
0228000300	Intermediate top ports, ISO 1	235
0228001300	Intermediate top ports, ISO 2	299

7 INTERMEDIATE REAR PORTS

ISO 1



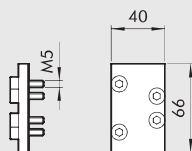
ISO 2



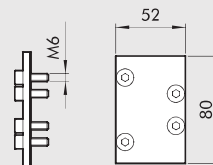
Code	Description	Weight [g]
0228000301	Intermediate rear ports, ISO 1	237
0228001301	Intermediate rear ports, ISO 2	299

8 BLANKING PLATE

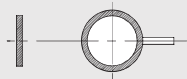
ISO 1



ISO 2

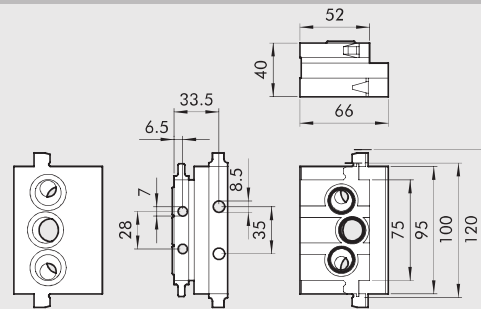


9 INTERMEDIATE DIAPHRAGM



Code	Description	Weight [g]
0228000400	Intermediate diaphragm, ISO 1	4
0228001400	Intermediate diaphragm, ISO 2	7

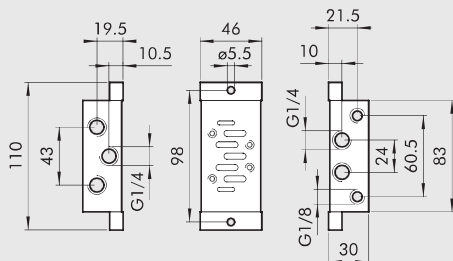
10 DIMENSION ADAPTER



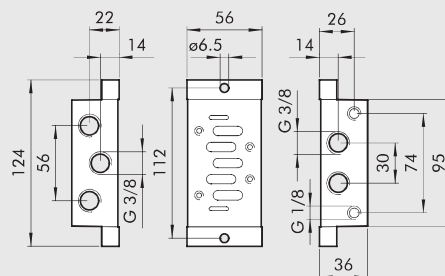
Code	Description	Weight [g]
0228000600	Dimension adapter ISO 1-2	454

11 INDIVIDUAL BASE SIDE PORTS

ISO 1



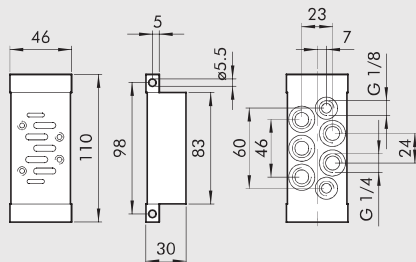
ISO 2



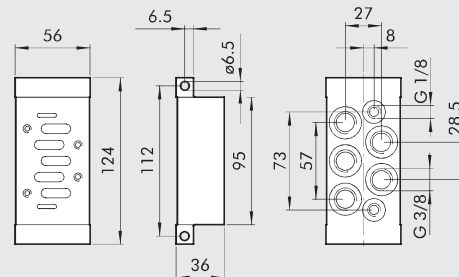
Code	Description	Weight [g]
0228000100	Individual base side ports, ISO 1	165
0228001100	Individual base side ports, ISO 2	257

12 INDIVIDUAL BASE BOTTOM PORTS

ISO 1



ISO 2



Code	Description	Weight [g]
0228000110	Individual base bottom ports, ISO 1	197
0228001110	Individual base bottom ports, ISO 2	304

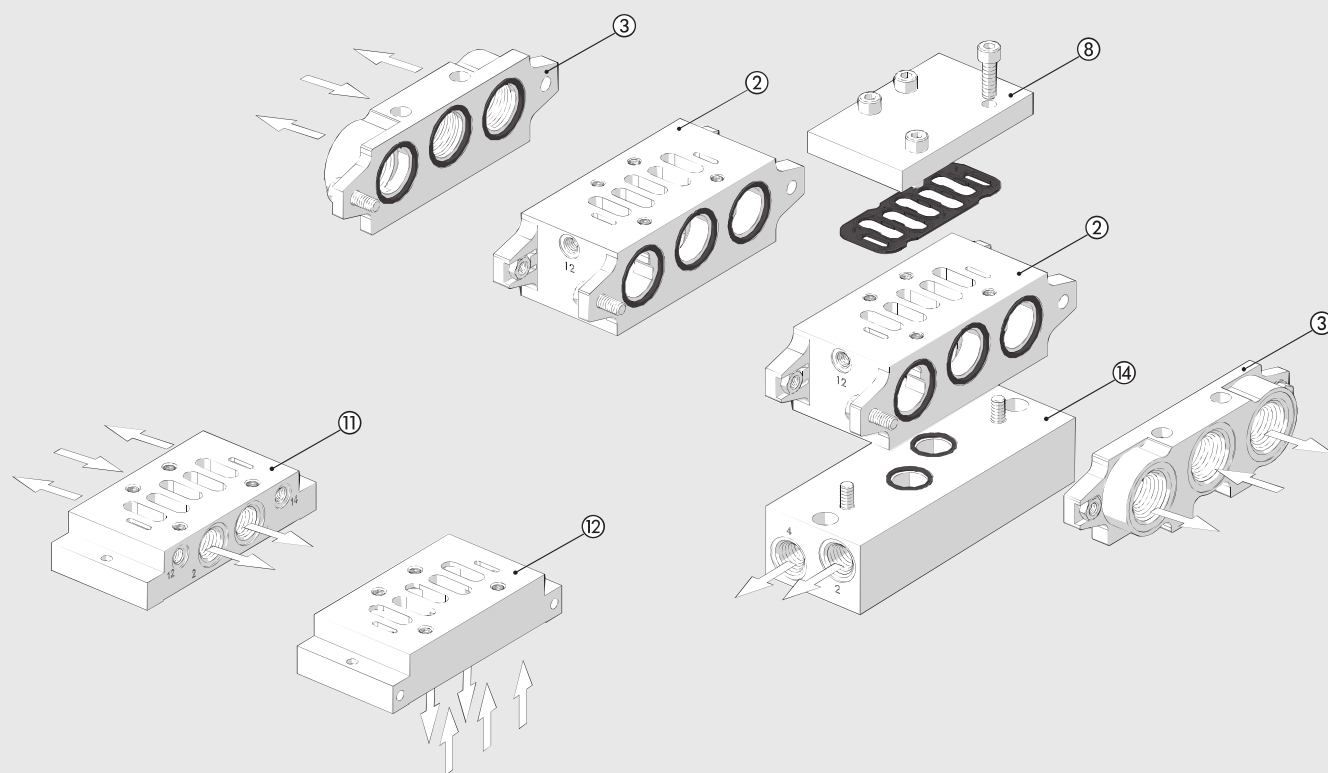
13 ASSEMBLY KIT

ISO 1



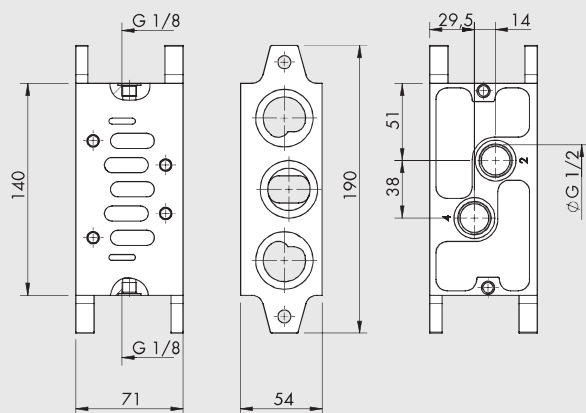
ISO 2





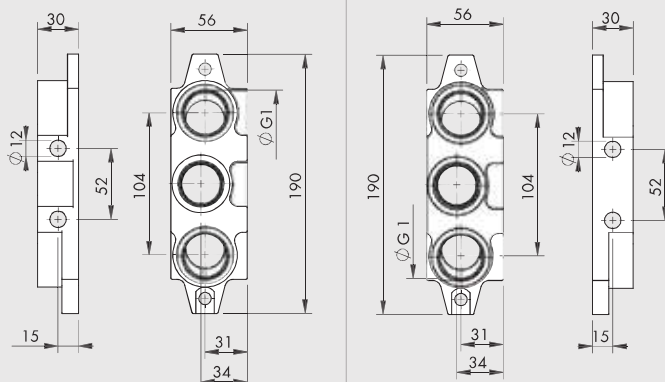
Reference	Code ISO 3	Description
②	0228002155	Manifold base with bottom ports
③	0228002200	Input end plate
⑧	0228002500	Blanking plate
⑪	0228002100	Individual base - side ports
⑫	0228002110	Base - bottom ports
⑭	0228002150	Side interface

② MANIFOLD BASE, BOTTOM PORTS



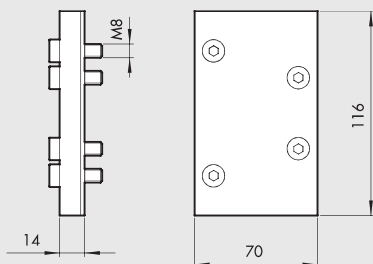
Code	Description	Weight [g]
0228002155	Manifold base, bottom ports, ISO 3	915

③ INPUT END PLATE



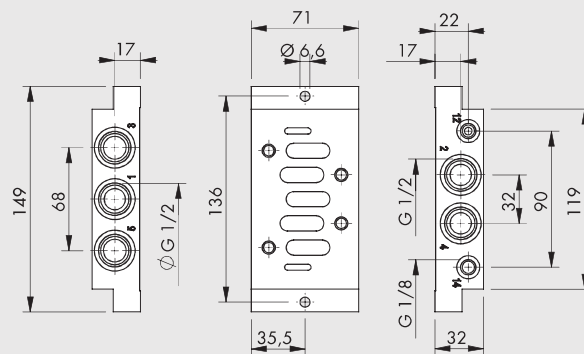
Code	Description	Weight [g]
0228002200	Input end plate, ISO 3	880

⑧ BLANKING PLATE



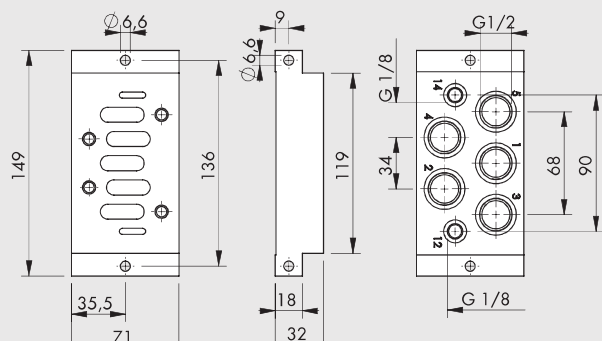
Code	Description	Weight [g]
0228002500	Blanking plate, ISO 3	350

⑪ INDIVIDUAL BASE SIDE PORTS

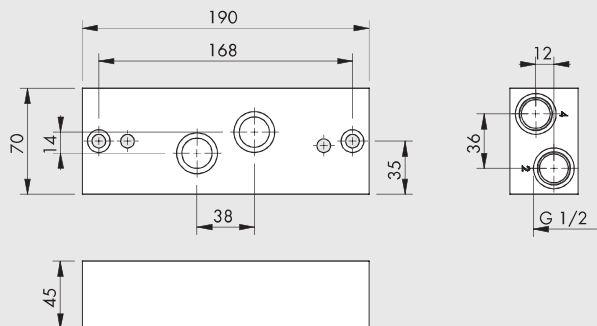


Code	Description	Weight [g]
0228002100	Individual base side ports, ISO 3	470

⑫ INDIVIDUAL BASE BOTTOM PORTS



⑭ SIDE INTERFACE



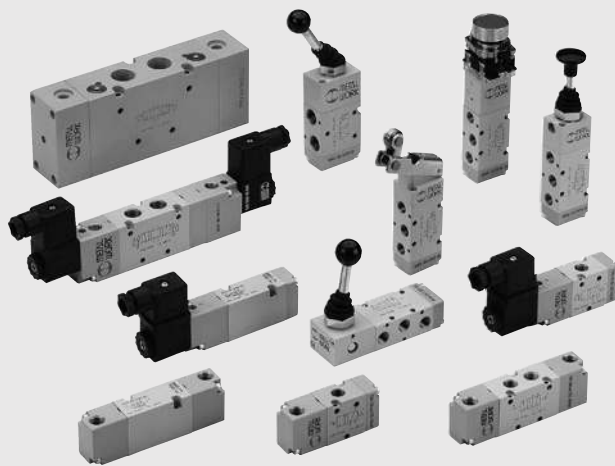
The Series 70 forms part of Metal Work's full range of traditional valves.

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.

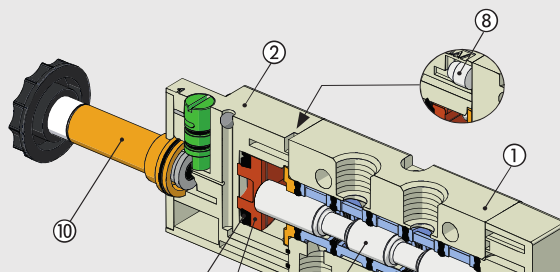
These highly reliable valves comply with the main applicable standards, including Atex, ISO 13489 and SIL, as stated in the documents and certificates available online.



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 perfectly 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. 1			
Compatibility with oils		See chapter Z1			

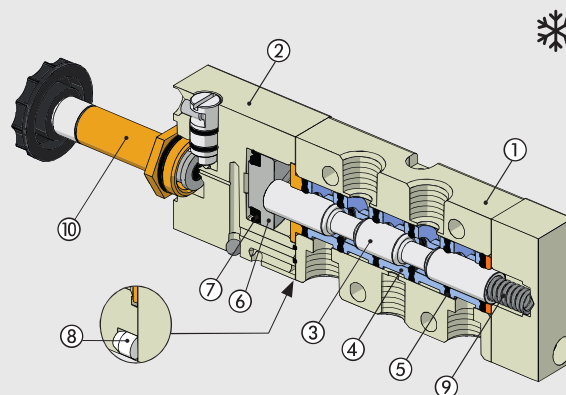
COMPONENTS SERIES 70

- 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



COMPONENTS SERIES 70 LT (LOW TEMPERATURE)

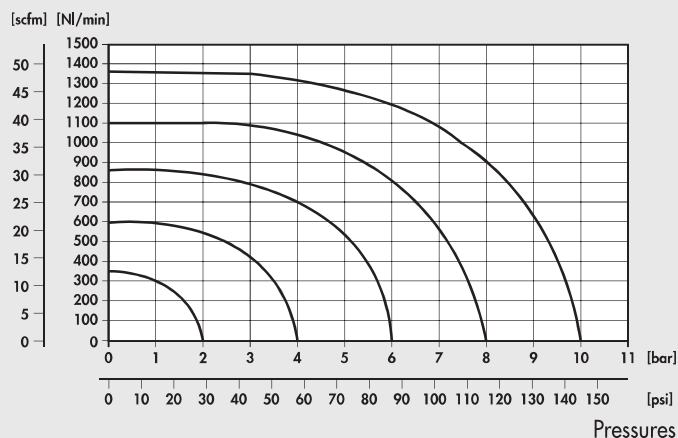
- ① ALVE BODY: aluminium
- ② CONTROL/END CAP: aluminium
- ③ SPOOL: chemically nickel-plated aluminium
- ④ DISTANCE PLATES: plastic
- ⑤ GASKETS: HNBR
- ⑥ PISTONS: aluminium
- ⑦ PISTON GASKET: HNBR
- ⑧ FILTER: plastic
- ⑨ SPRINGS: special steel
- ⑩ OPERATOR: brass pipe - Stainless steel core
(version specific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



FLOW CHARTS

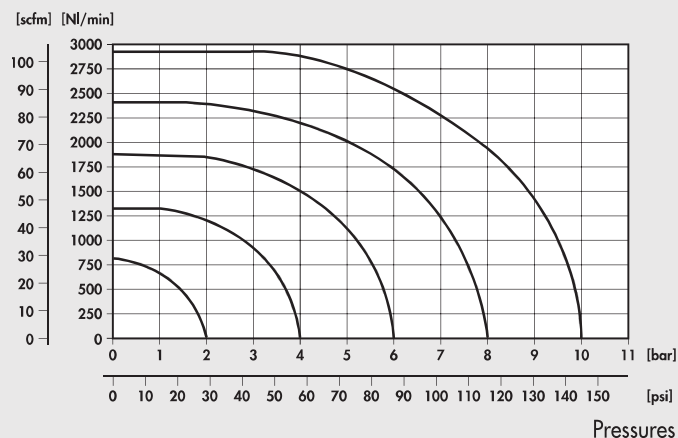
VALVES SERIES 70 1/8"

Flow rates



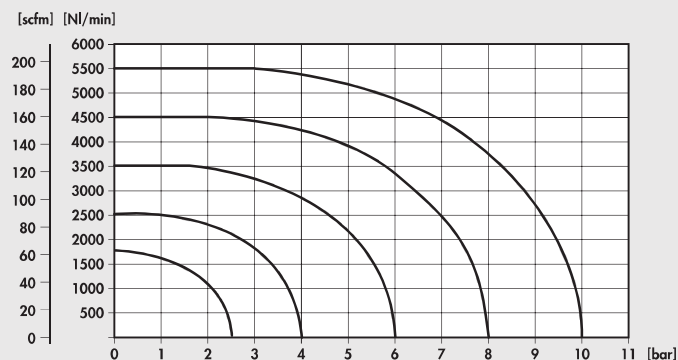
VALVES SERIES 70 1/4"

Flow rates



VALVES SERIES 70 3/8"

Flow rates



VALVES SERIES 70 1/2"

Flow rates



... SERIES 70, HAND OPERATED

VALVES

VALVES SERIES 70, HAND OPERATED

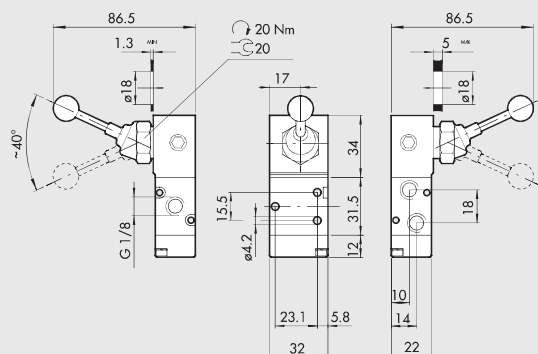
[illegible]

SYNOPTIC, SIZES AND VERSIONS

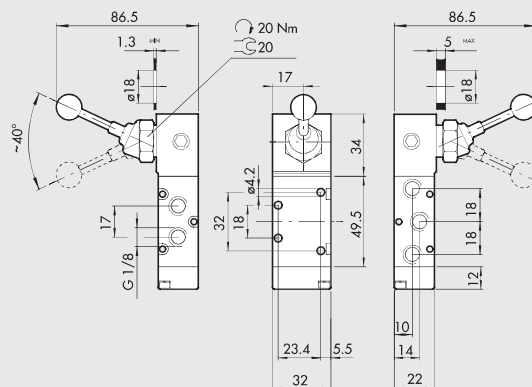
M A V		2		3		P P		S		N C	
FAMILY		DIMENSIONS		FUNCTION		OPERATORS 14		RESETTING (12)		FURTHER DETAILS	
MAV	manual valves	2	1/8"	3	3/2	PP	drawer	A	pneumatic/ mechanical springs*	NC	normally closed
		3	1/4"	5	5/2	VL	axial lever	S	mechanical springs	NO	normally open
		4	1/2"	6	5/3	LE	90° lever	B	bistable	OO	no indication
				8	2 x 3/2	BRE	arranged for manual panel actuators	D	differential	CC	closed centres
								O	stable for 5/3	OC	open centres
									*on demand	PC	pressure centres

VALVES SERIES 70, HAND OPERATED, 1/8"

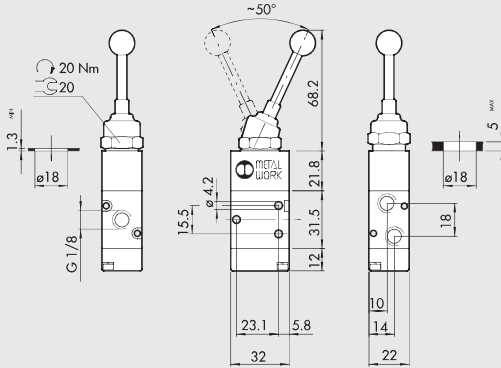
90° LEVER 3/2 1/8"



90° LEVER 5/2 1/8"

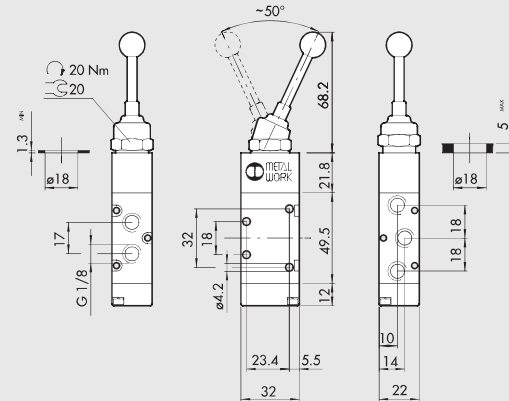


FRONT LEVER 3/2, 1/8"



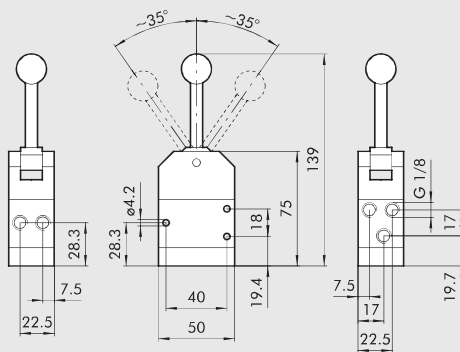
Symbol	Code	Abbrev.	Weight [g]
	7010001400	MAV 23 VLB OO	130

FRONT LEVER 5/2, 1/8"



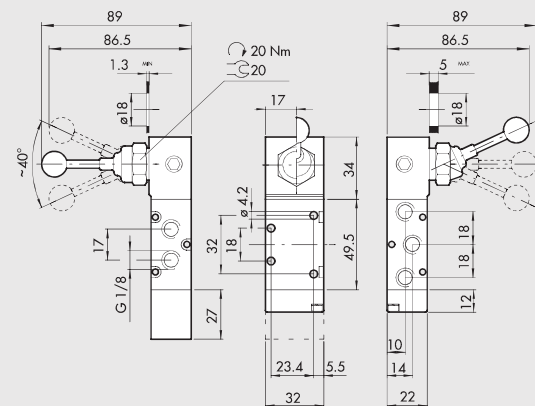
Symbol	Code	Abbrev.	Weight [g]
	7010001700	MAV 25 VLB OO	156

FRONT LEVER 5/3, 1/8"



Symbol	Code	Abbrev.	Weight [g]
	7010001150	MAV 28 VLO OC	316
	7010001160	MAV 28 VLS OC	325

90° LEVER 5/3, 1/8"

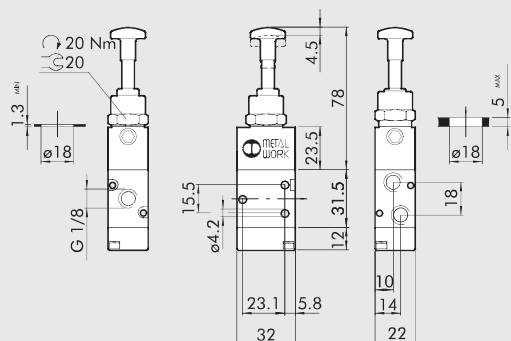


Symbol	Code	Abbrev.	Weight [g]
	7010001000	MAV 26 LES CC	242
	7010000900	MAV 26 LES OC	242
	7010001100	MAV 26 LES PC	242

VALVES

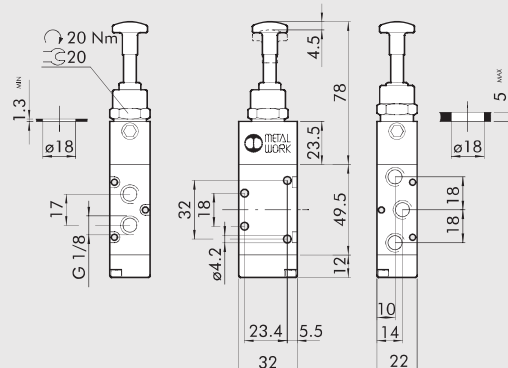
VALVES SERIES 70, HAND OPERATED

DRAWER 3/2, 1/8"



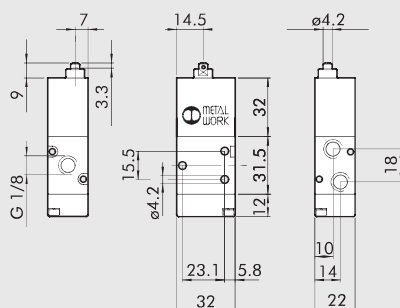
Symbol	Code	Abbrev.	Weight [g]
	7010001300	MAV 23 PPB OO	134
	7010001200	MAV 23 PPS NC	134

DRAWER 5/2, 1/8"



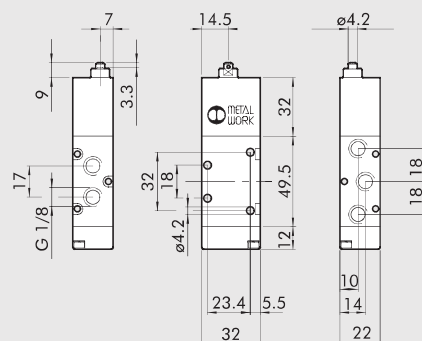
Symbol	Code	Abbrev.	Weight [g]
	7010001600	MAV 25 PPB OO	160
	7010001500	MAV 25 PPS OO	160

PILOT-ASSISTED PLUNGER 3/2 1/8" FOR PANEL ACTUATORS



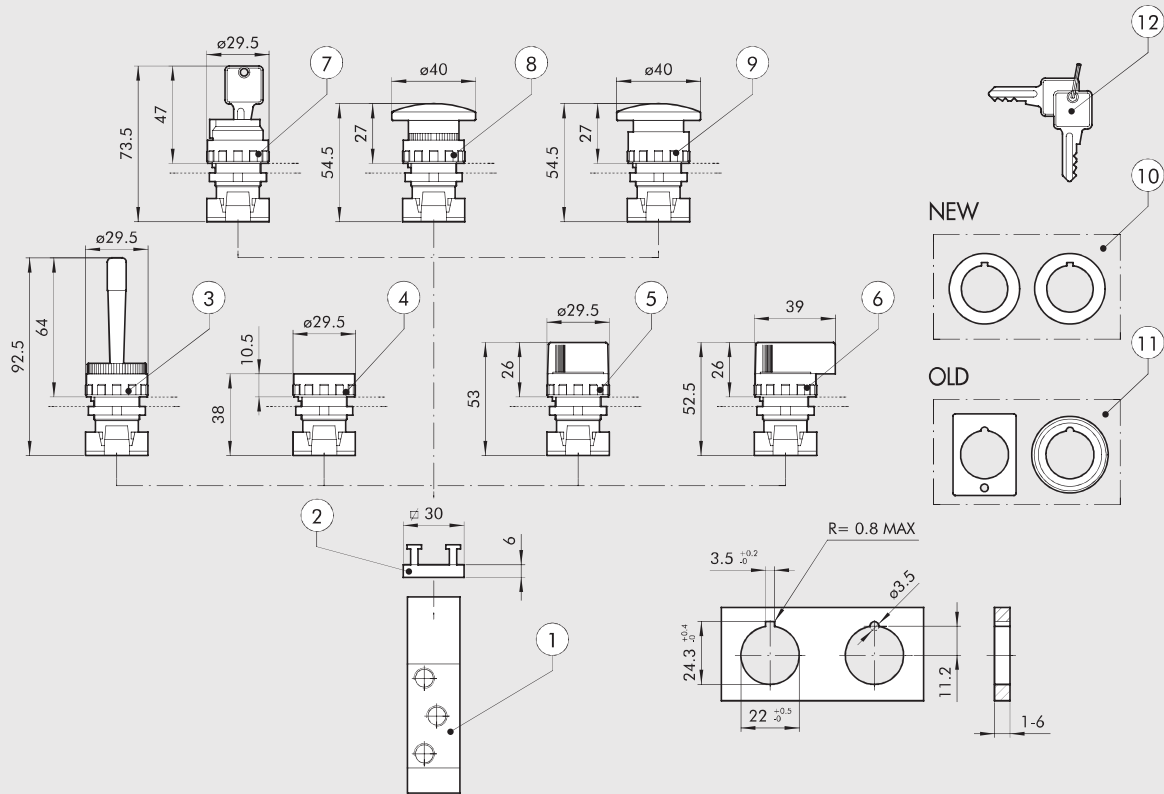
Symbol	Code	Abbrev.	Weight [g]
	7010001800	MAV 23 BRE NC	124

PILOT-ASSISTED PLUNGER 5/2 1/8" FOR PANEL ACTUATORS

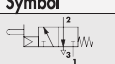
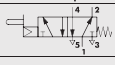


Symbol	Code	Abbrev.	Weight [g]
	7010001900	MAV 25 BRE OO	150

ASSEMBLY DIAGRAM FOR PILOT-ASSISTED HAND-OPERATED VALVES SERIES 70 WITH PANEL ACTUATORS

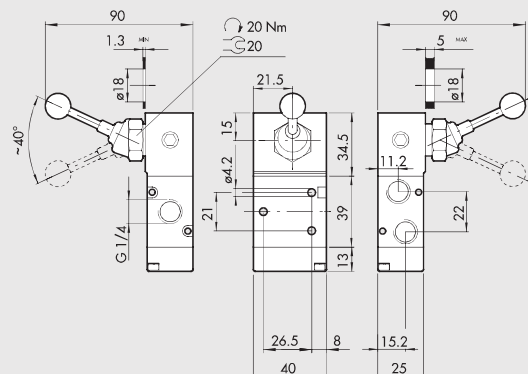


ORDERING CODES

Symbol	Reference	Code	Description	Weight [g]
	①	7010001800	Pilot-assisted plunger 3/2, 1/8"	124
	①	7010001900	Pilot-assisted plunger 5/2, 1/8"	150
	②	0351000050	2 places adaptor thickness 6.8 mm	5
	③	W0351000015	Red handler with horizontally pivoted lever	25
	④	W0351000011	Fat push button + 2 red/black coloured disks ◆ Bistable fat push button without disk	15
	⑤	W0351000030	Black selector short lever at 2 positions with return	20
		W0351000031	Black selector short lever at 2 positions	20
	⑤	W0351000032	Black selector short lever at 3 positions with return	20
		W0351000033	Black selector short lever at 3 positions	20
	⑥	W0351000034	Black selector long lever at 2 positions with return	26
		W0351000035	Black selector long lever at 2 positions	26
	⑥	W0351000036	Black selector long lever at 3 positions with return	26
		W0351000037	Black selector long lever at 3 positions	26
	⑦	W0351000016	2 positions key selector with extractable key in 2 positions	50
		W0351000018	2 positions key selector with extractable key in 0	50
	⑧	W0351000013	Red mushroom-head push button Ø 40	27
		W0351000017	Black mushroom-head push button Ø 40	27
	⑨	W0351000014	Red mushroom-head push button with lock Ø 40	29

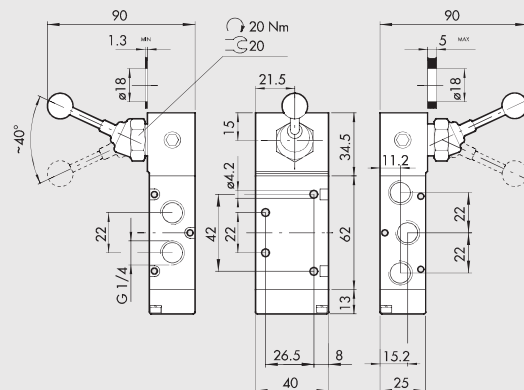
VALVES SERIES 70, HAND-OPERATED, 1/4"

90° LEVER 3/2, 1/4"



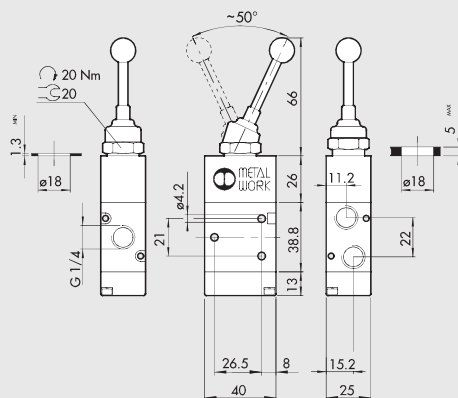
Symbol	Code	Abbrev.	Weight [g]
	7020000100	MAV 33 LES NC	244
	7020000200	MAV 33 LEB OO	244

90° LEVER 5/2, 1/4"



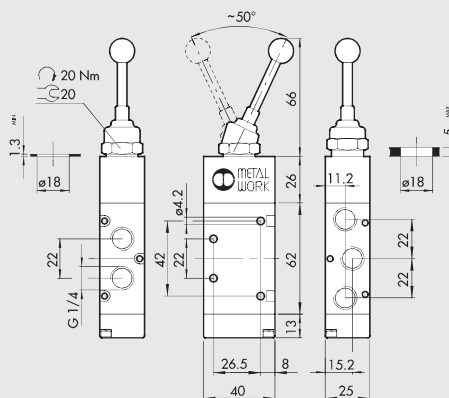
Symbol	Code	Abbrev.	Weight [g]
	7020000300	MAV 35 LES OO	290
	7020000400	MAV 35 LEB OO	290

FRONT LEVER 3/2, 1/4"



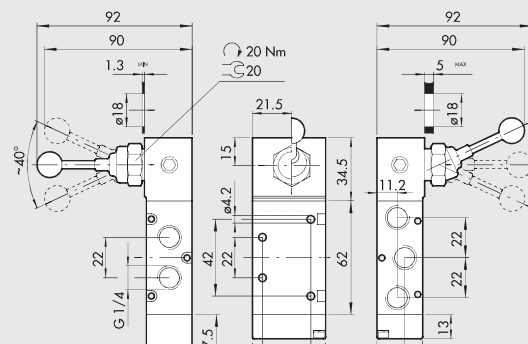
Symbol	Code	Abbrev.	Weight [g]
	7020001400	MAV 33 VLB OO	194

FRONT LEVER 5/2, 1/4"



Symbol	Code	Abbrev.	Weight [g]
	7020001700	MAV 35 VLB OO	244

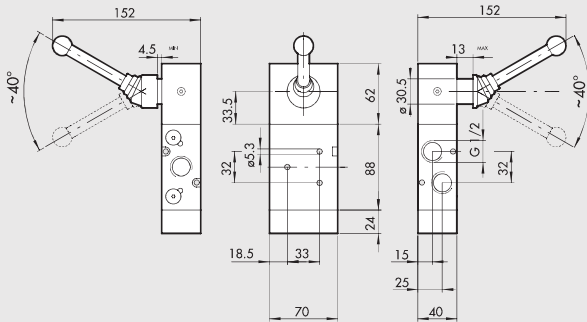
90° LEVER 5/3, 1/4"



Symbol	Code	Abbrev.	Weight [g]
	7020001000	MAV 36 LES CC	354
	7020000900	MAV 36 LES OC	354
	7020001100	MAV 36 LES PC	354
	7020000500	MAV 36 LEO CC	288
	7020000600	MAV 36 LEO OC	288
	7020000700	MAV 36 LEO PC	288

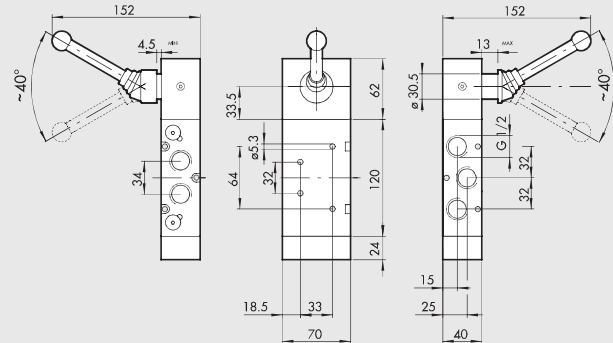
VALVES SERIES 70, HAND OPERATED, 1/2"

90° LEVER 3/2, 1/2"



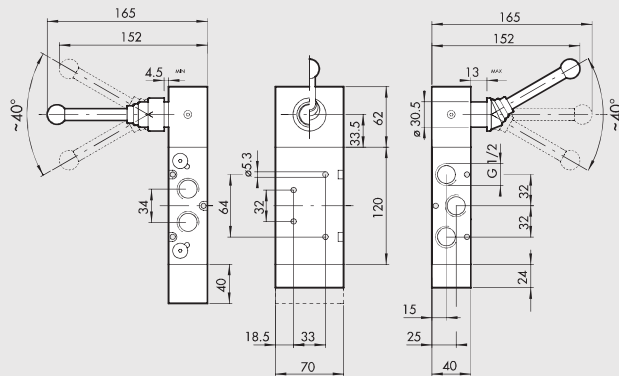
Symbol	Code	Abbrev.	Weight [g]
	7030000100	MAV 43 LES NC	1443
	7030000200	MAV 43 LEB OO	1435

90° LEVER 5/2, 1/2"



Symbol	Code	Abbrev.	Weight [g]
	7030000300	MAV 45 LES OO	1588
	7030000400	MAV 45 LEB OO	1630

90° LEVER 5/3, 1/2"



Symbol	Code	Abbrev.	Weight [g]
	7030001000	MAV 46 LES CC	1810
	7030000900	MAV 46 LES OC	1800
	7030001100	MAV 46 LES PC	1800
	7030000500	MAV 46 LEO CC	1615
	7030000600	MAV 46 LEO OC	1605
	7030000700	MAV 46 LEO PC	1605

NOTES

VALVES

VALVES SERIES 70, HAND OPERATED

VALVES SERIES 70, MECHANICALLY OPERATED, 1/8"

VALVES

VALVES SERIES 70, MECHANICALLY OPERATED

TECHNICAL DATA

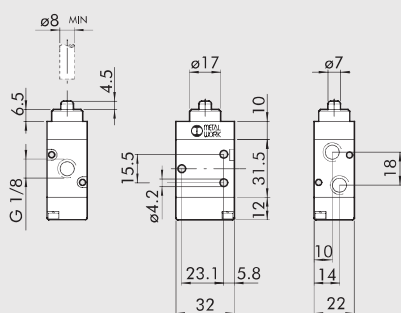
Thread at valve ports		1/8"
Operation force at 6 bar:		
• version with direct control	N	50
• pilot-assisted version	N	6
Operating pressure:		
• version with direct control	bar	Vacuum to 10
• pilot-assisted version	bar	2.5 to 10
Operating temperature range	°C	-10 to +60
Nominal diameter	mm	5
Conductance C	Nl/min · bar	121.43
Critical ratio b	bar/bar	0.32
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	400
Flow rate at 6 bar ΔP 1 bar	Nl/min	550



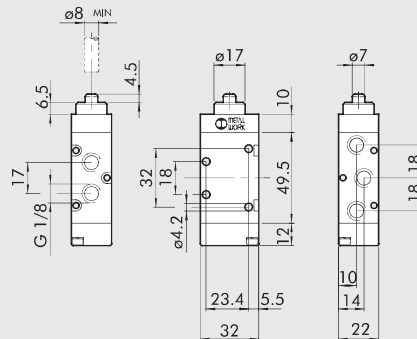
SYNOPTIC, SIZES AND VERSIONS

MEV	2	3	T A	S	N C
FAMILY	DIMENSIONS	FUNCTION	OPERATORS 14	RESETTING (12)	FURTHER DETAILS
MEV mechanically-operated valves	2 1/8"	3 3/2 5 5/2	TA plunger BR bidirectional roller UR unidirectional roller TS sensitive plunger RS sensitive roller AS sensitive aerial LL frontal roller lever	S mechanical springs A pneumatic/mechanical spring* *on demand	NC normally closed OO no indication

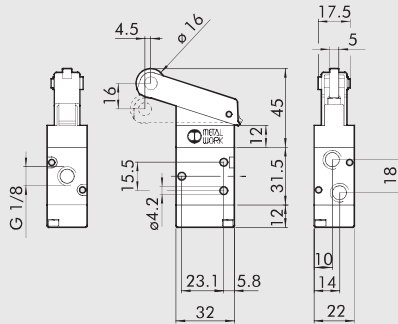
PLUNGER 3/2, 1/8"



PLUNGER 5/2, 1/8"

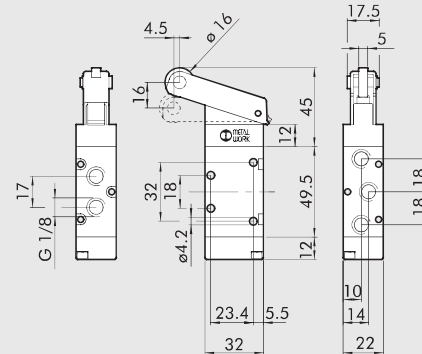


ROLLER LEVER 3/2, 1/8"



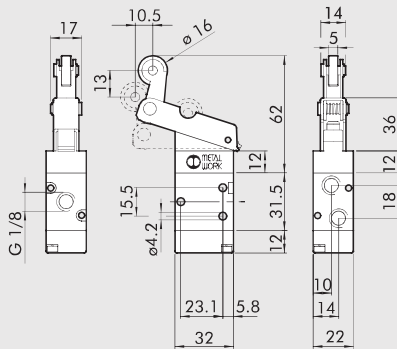
Symbol	Code	Abbrev.	Weight [g]
	7001000500	MEV 23 BRS NC	130

ROLLER LEVER 5/2, 1/8"



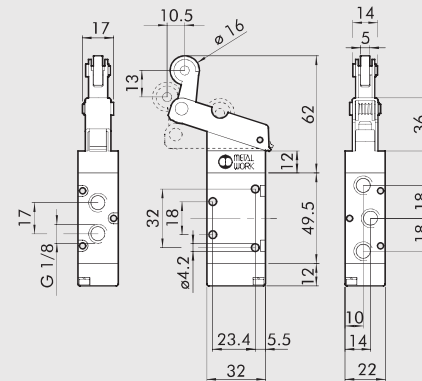
Symbol	Code	Abbrev.	Weight [g]
	7001000510	MEV 25 BRS OO	156

UNIDIRECTIONAL ROLLER 3/2, 1/8" LEVERS



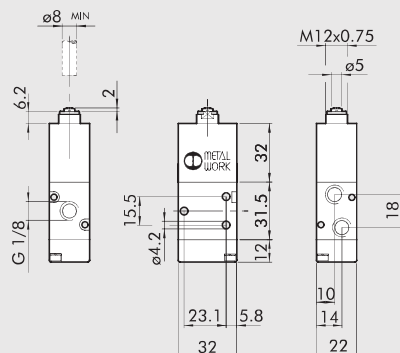
Symbol	Code	Abbrev.	Weight [g]
	7001000600	MEV 23 URS NC	136

UNIDIRECTIONAL ROLLER 5/2, 1/8" LEVERS

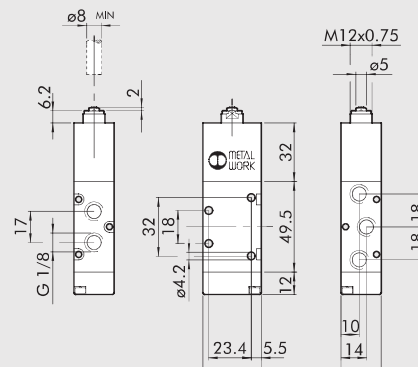


Symbol	Code	Abbrev.	Weight [g]
	7001000610	MEV 25 URS OO	162

PILOT-ASSISTED PLUNGER 3/2 NC, 1/8"



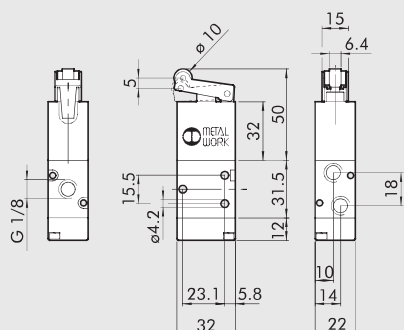
PILOT-ASSISTED PLUNGER 5/2, 1/8"



VALVES

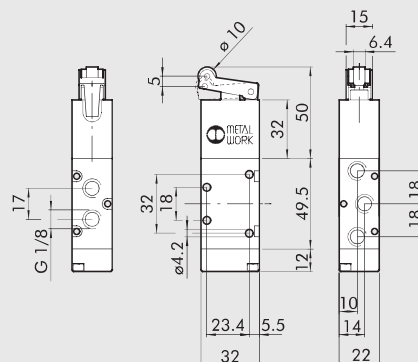
VALVES SERIES 70, MECHANICALLY OPERATED

PILOT-ASSISTED ROLLER LEVER 3/2 NC, 1/8"



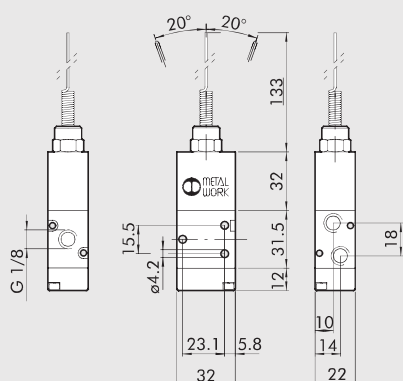
Symbol	Code	Abbrev.	Weight [g]
	7001000400	MEV 23 RSS NC	138

PILOT-ASSISTED ROLLER LEVER 5/2, 1/8"



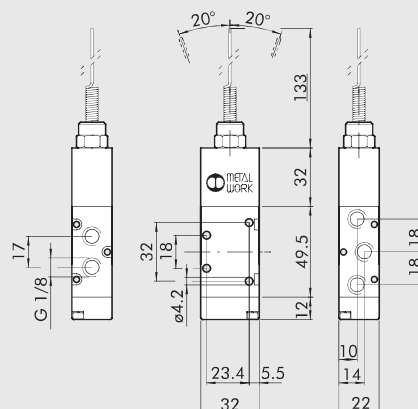
Symbol	Code	Abbrev.	Weight [g]
	7001000410	MEV 25 RSS OO	164

PILOT-ASSISTED AERIAL 3/2 NC, 1/8"



Symbol	Code	Abbrev.	Weight [g]
	7001000700	MEV 23 ASS NC	142

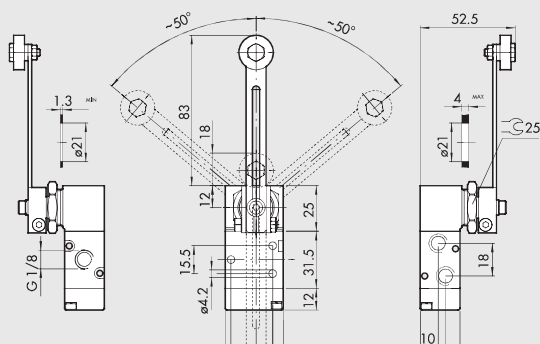
PILOT-ASSISTED AERIAL 5/2 NC, 1/8"



Symbol	Code	Abbrev.	Weight [g]
	7001000710	MEV 25 ASS OO	168

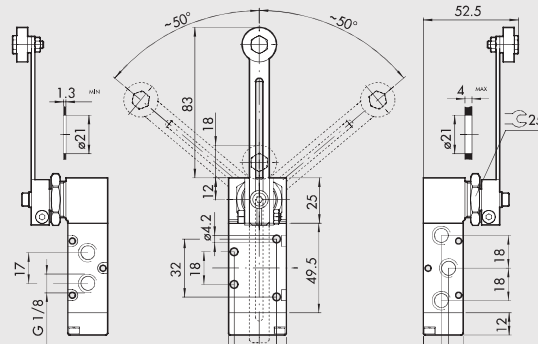
ROLLER-LEVER 3/2 1/8"

Operating torque: 0.5 Nm



ROLLER-LEVER 5/2 1/8"

Operating torque: 0.5 Nm



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
Hand operation		-	-	-	*

* Monostable on valve body



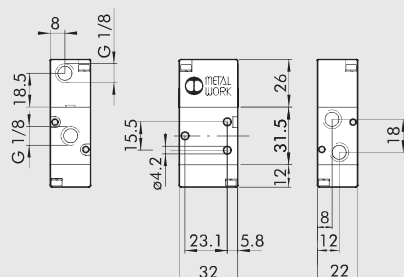
SYNOPTIC, SIZES AND VERSIONS

P N V FAMILY	2 DIMENSIONS	3 FUNCTION	P N OPERATORS 14	S RESETTING (12)	N C FURTHER DETAILS
P N V pneumatic valves	2 1/8"	3 3/2	P N 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

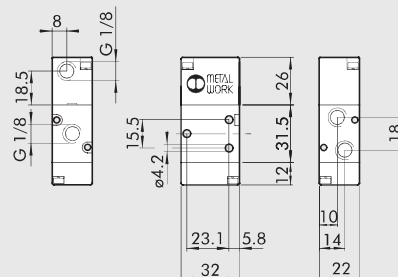
- Only available for size 1/8" and 1/4"
- ◆ On demand
- ▲ Only available for function 2-3/2

VALVES SERIES 70, PNEUMATIC, 1/8"

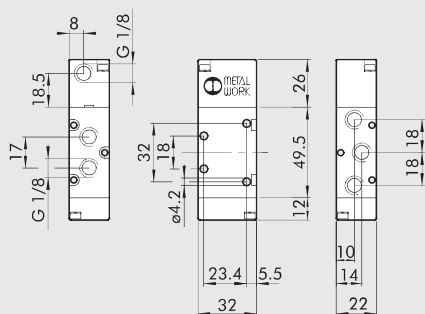
MONOSTABLE 3/2 NO, 1/8"



MONOSTABLE 3/2 NC, 1/8"

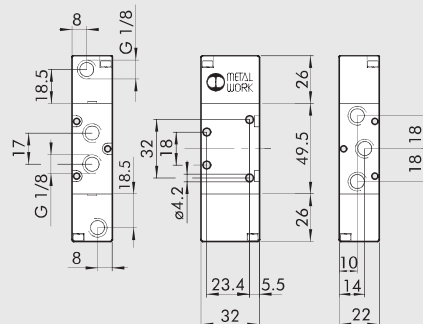


MONOSTABLE 5/2, 1/8"



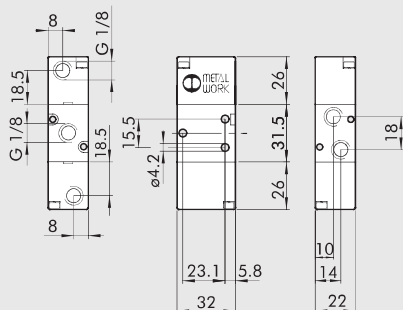
Symbol	Code	Abbrev.	Weight [g]
	7010011100	PNV 25 PNS OO	108

BISTABLE 5/2, 1/8"



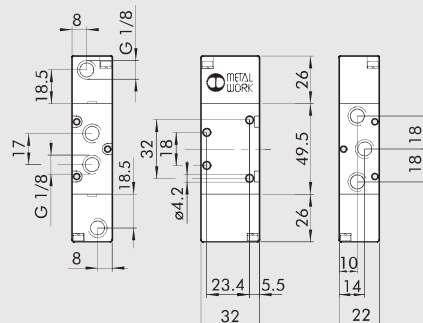
Symbol	Code	Abbrev.	Weight [g]
	7010011200	PNV 25 PNB OO	122
	7010011300	PNV 25 PND OO	128

BISTABLE 3/2, 1/8"



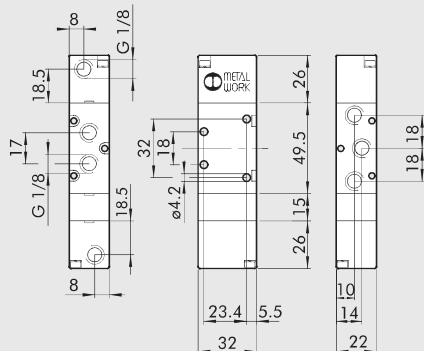
Symbol	Code	Abbrev.	Weight [g]
	7010010100	PNV 23 PNB OO	96

DOUBLE 3/2 1/8"



Symbol	Code	Abbrev.	Weight [g]
	7010013100	PNV 28 PNS NC	136
	7010013200	PNV 28 PNS NO	136
	7010013300	PNV 28 PNS NC-NO	136

MONOSTABLE 5/3, 1/8"

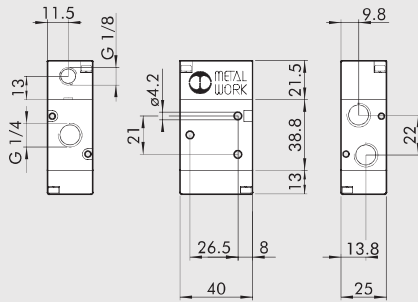


Symbol	Code	Abbrev.	Weight [g]
	7010012100	PNV 26 PNS CC	150

NOTES

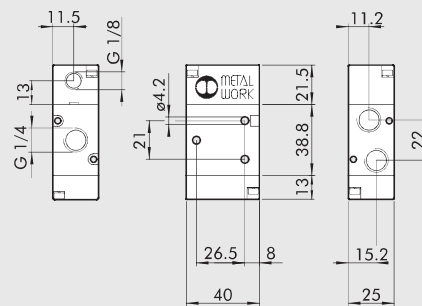
VALVES SERIES 70, PNEUMATIC, 1/4"

MONOSTABLE 3/2 NO, 1/4"



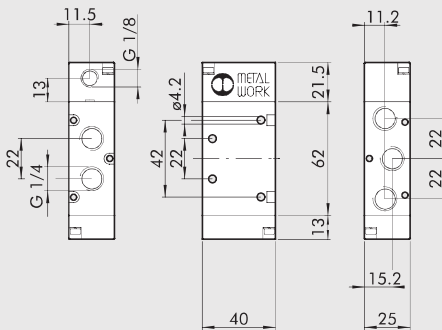
Symbol	Code	Abbrev.	Weight [g]
	7020010400	PNV 33 PNS NO	124

MONOSTABLE 3/2 NC, 1/4"



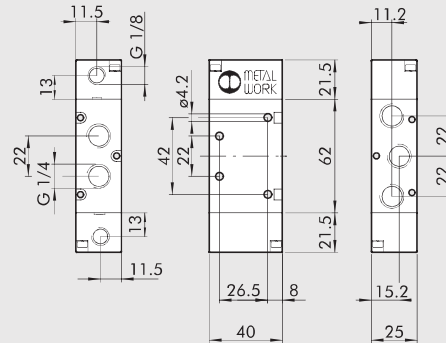
Symbol	Code	Abbrev.	Weight [g]
	7020010200	PNV 33 PNS NC	122

MONOSTABLE 5/2, 1/4"



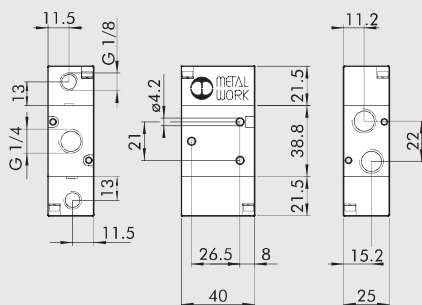
Symbol	Code	Abbrev.	Weight [g]
	7020011100	PNV 35 PNS OO	174

BISTABLE 5/2, 1/4"



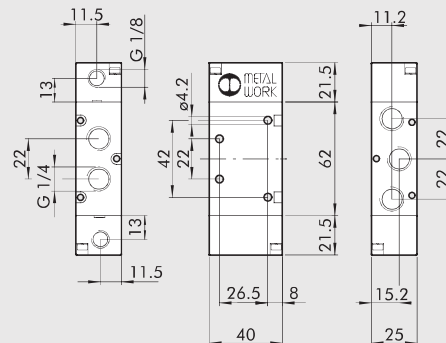
Symbol	Code	Abbrev.	Weight [g]
	7020011200	PNV 35 PNB OO	174
	7020011300	PNV 35 PND OO	198

BISTABLE 3/2, 1/4"



Symbol	Code	Abbrev.	Weight [g]
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DOUBLE 3/2, 1/4"

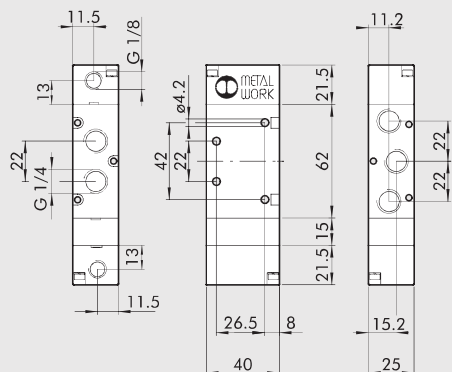


Symbol	Code	Abbrev.	Weight [g]
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VALVES

VALVES SERIES 70, PNEUMATIC

MONOSTABLE 5/3, 1/4"

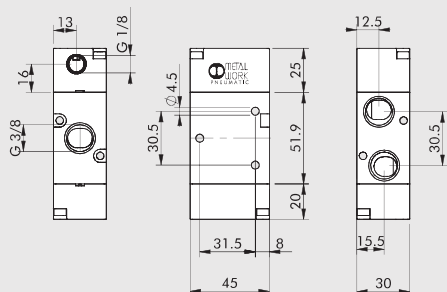


Symbol	Code	Abbrev.	Weight [g]
	7020012100	PNV 36 PNS CC	124
	7020012200	PNV 36 PNS OC	124
	7020012300	PNV 36 PNS PC	124

NOTES

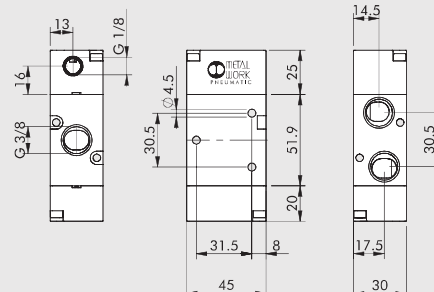
VALVES SERIES 70, PNEUMATIC, 3/8"

MONOSTABLE 3/2 NO, 3/8"



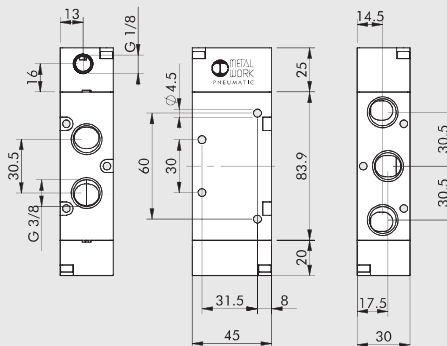
Symbol	Code	Abbrev.	Weight [g]
	7040010400	PNV C3 PNS NO	223

MONOSTABLE 3/2 NC, 3/8"

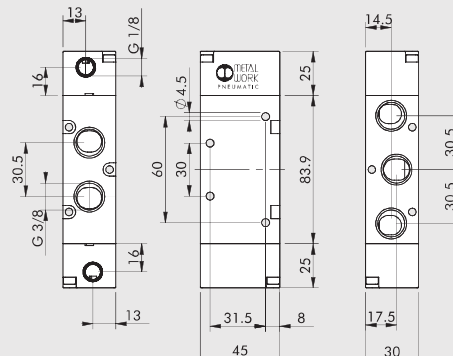


Symbol	Code	Abbrev.	Weight [g]
	7040010200	PNV C3 PNS NC	223

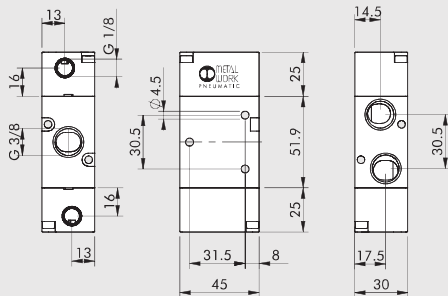
MONOSTABLE 5/2, 3/8"



BISTABLE 5/2, 3/8"

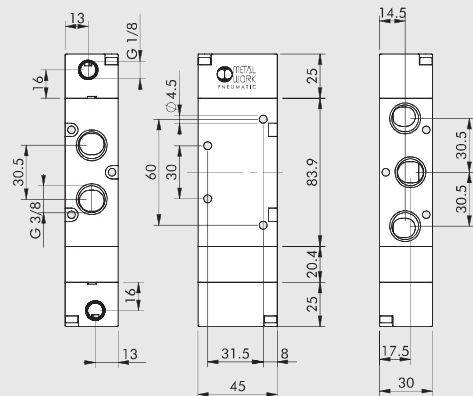


BISTABLE 3/2, 3/8"



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

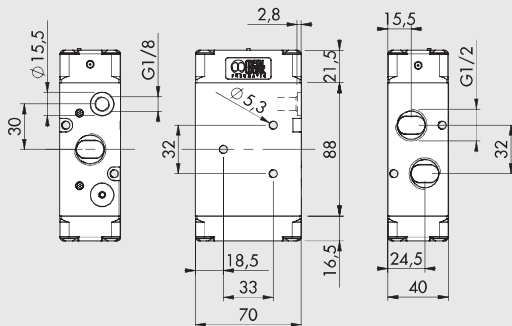
MONOSTABLE 5/3, 3/8"



Symbol	Code	Abbrev.	Weight [g]
	7040012100	PNV C6 PNS CC	411
	7040012200	PNV C6 PNS OC	409
	7040012300	PNV C6 PNS PC	409

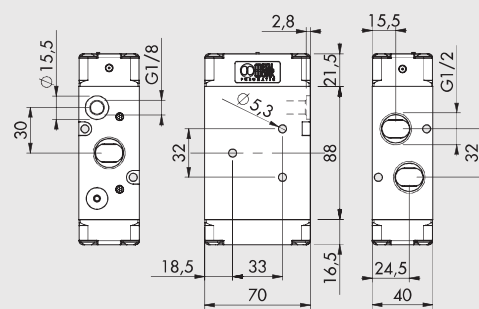
VALVES SERIES 70, PNEUMATIC, 1/2"

MONOSTABLE 3/2 NO, 1/2"



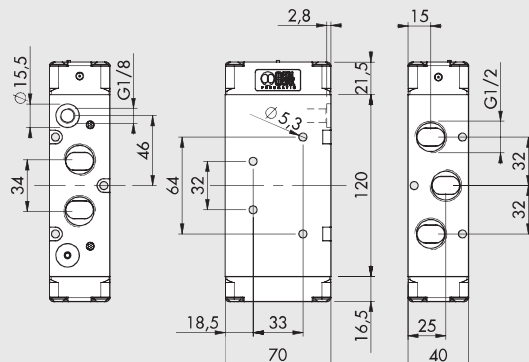
Symbol	Code	Abbrev.	Weight [g]
	7030010400	PNV 43 PNS NO	640

MONOSTABLE 3/2 NC, 1/2"

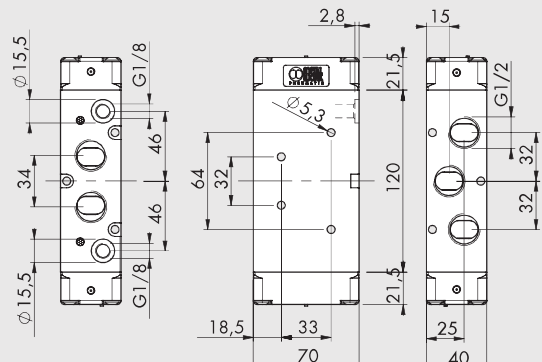


Symbol	Code	Abbrev.	Weight [g]
	7030010200	PNV 43 PNS NC	640

MONOSTABLE 5/2, 1/2"



BISTABLE 5/2, 1/2"



VALVES

VALVES SERIES 70, PNEUMATIC

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			*

* Bistable on solenoid pilot. Monostable on valve body.



SYNOPTIC, SIZES AND VERSIONS

SOV FAMILY	2 DIMENSIONS	3 FUNCTION	SO OPERATORS 14	S RESETING (12)	N C 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

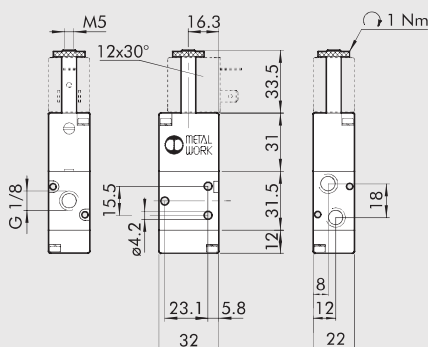
■ Only available for size 1/8" and 1/4"

◆ On demand

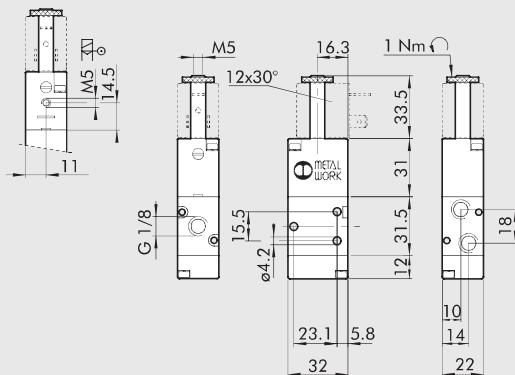
▲ Only available for function 2-3/2

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]	Symbol	Code	Abbrev.	Weight [g]
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Fax: ۰۲۱- ۴ ۴ ۹ ۹ ۴ ۶ ۴ ۲

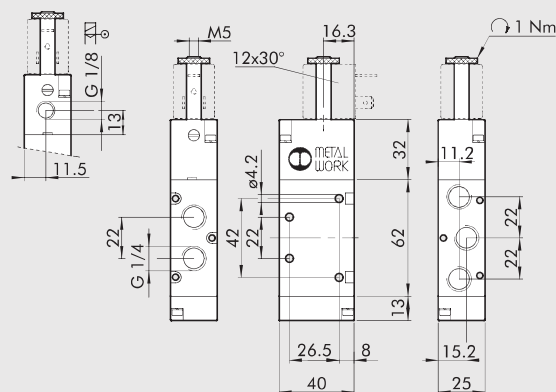
تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲

VALVES

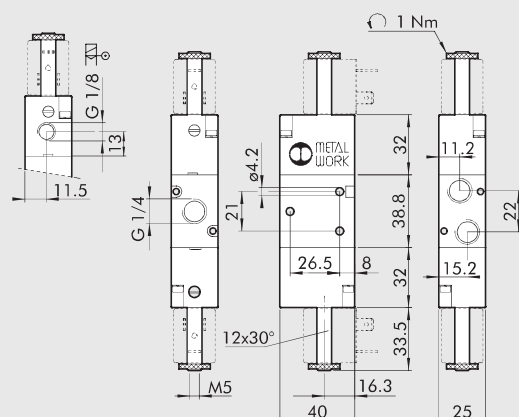
VALVES SERIES 70, PNEUMATIC

MONOSTABLE 5/2, 1/4"



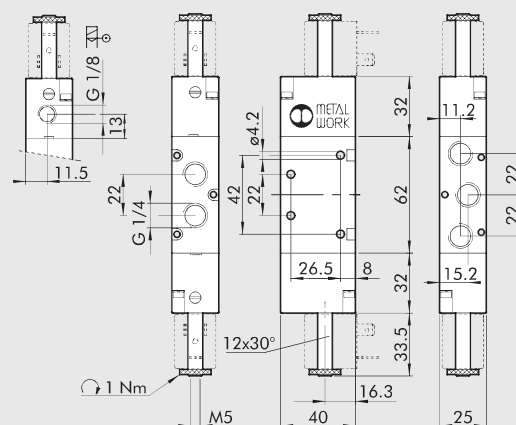
Symbol	Code	Abbrev.	Weight [g]
	7020021100	SOV 35 SOS OO	200
	7020021500	SOV 35 SES OO	200

BISTABLE 3/2, 1/4"



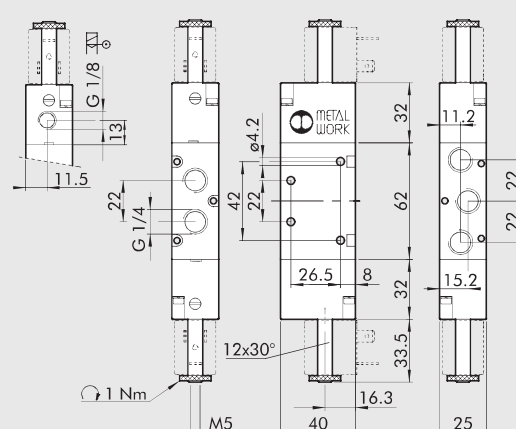
Symbol	Code	Abbrev.	Weight [g]
	7020020100	SOV 33 SOB OO	190
	7020020300	SOV 33 SEB OO	190

BISTABLE 5/2, 1/4"



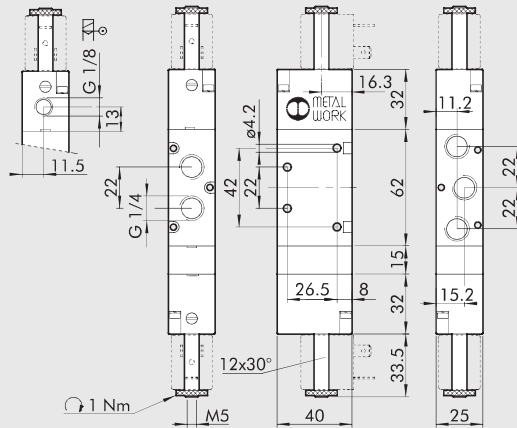
Symbol	Code	Abbrev.	Weight [g]
	7020021200	SOV 35 SOB OO	236
	7020021300	SOV 35 SOD OO	252
	7020021600	SOV 35 SEB OO	242

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

MONOSTABLE 5/3, 1/4"

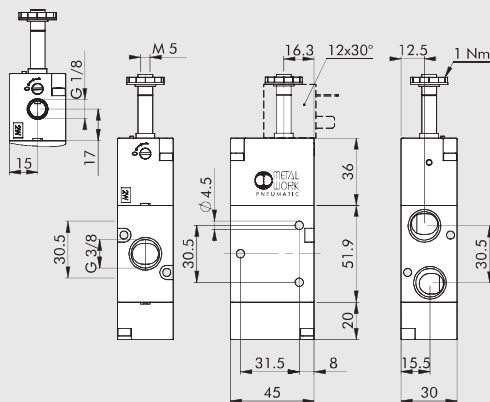


NOTES

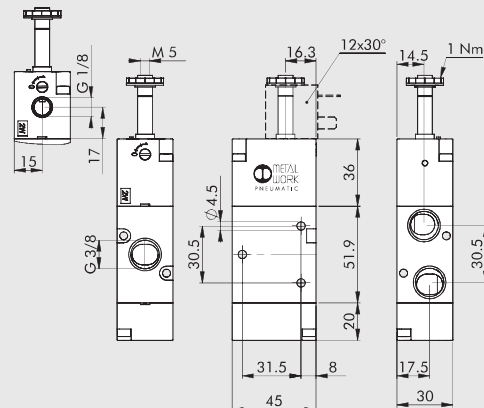
Symbol	Code	Abbrev.	Weight [g]
	7020022100	SOV 36 SOS CC	274
	7020022200	SOV 36 SOS OC	274
	7020022300	SOV 36 SOS PC	274
	7020022400	SOV 36 SES CC	277
	7020022500	SOV 36 SES OC	277
	7020022600	SOV 36 SES PC	277

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]
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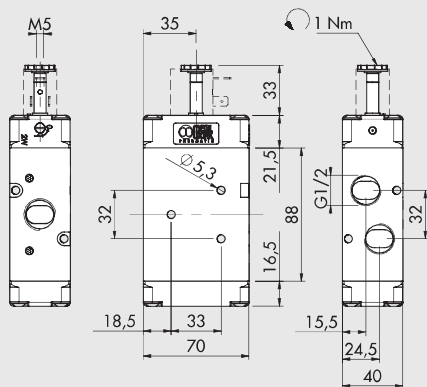
Symbol	Code	Abbrev.	Weight [g]
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VALVES

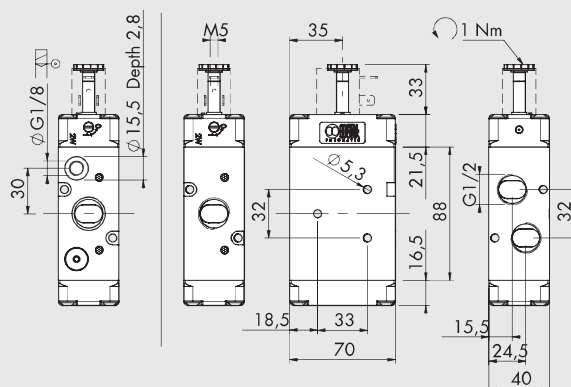
VALVES SERIES 70, SOLENOID/PNEUMATIC

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

MONOSTABLE 3/2 NO, 1/2"



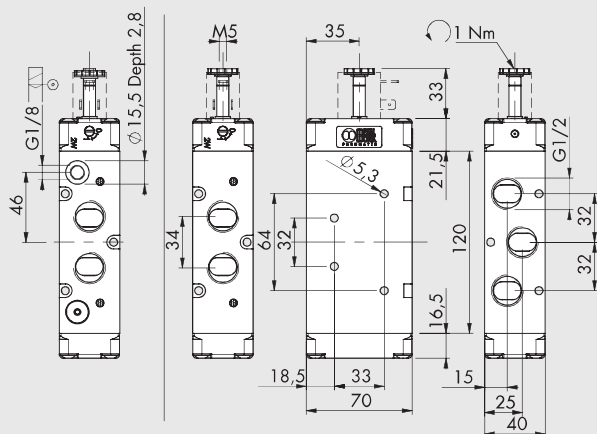
MONOSTABLE 3/2 NC, 1/2"



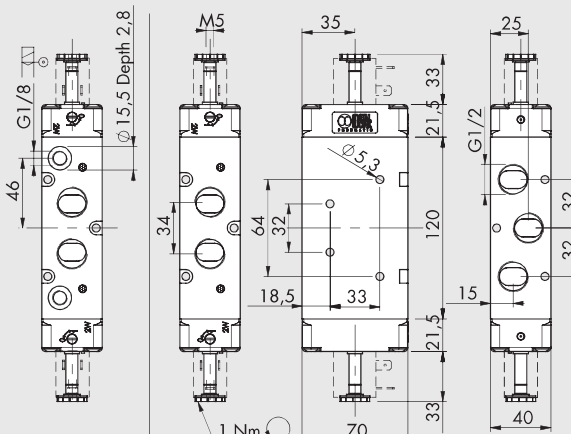
Symbol	Code	Abbrev.	Weight [g]
	7030020400	SOV 43 SOS NO	660

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"



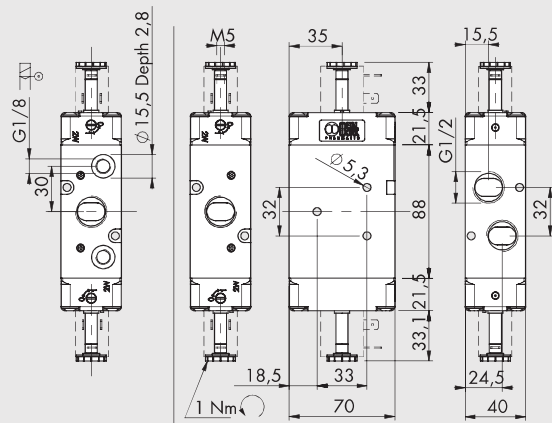
Symbol	Code	Abbrev.	Weight [g]
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Symbol	Code	Abbrev.	Weight [g]
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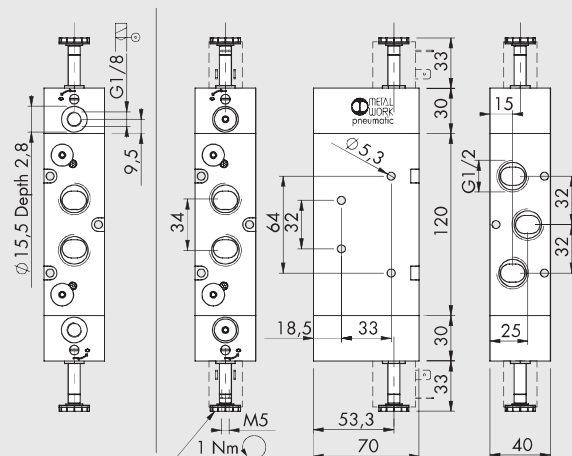
VALVES

VALVES SERIES 70, SOLENOID/PNEUMATIC

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

VALVES SERIES 70 LT (LOW TEMPERATURE)

TECHNICAL DATA		1/8"	1/4"
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
Conductance C	Nl/min · bar	121.43	264.26
Critical ratio b	bar/bar	0.32	0.27
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	400	750
Flow rate at 6 bar ΔP 1 bar	Nl/min	550	1100
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
TRA / TRR bistable at 6 bar (at 20°C)	ms	7/7	7/7
SOLENOID/PNEUMATIC			
TRA / TRR monostable at 6 bar (at 20°C)	ms	15/35	19/45
TRA / TRR bistable at 6 bar (at 20°C)	ms	20/20	21/21
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 operation		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

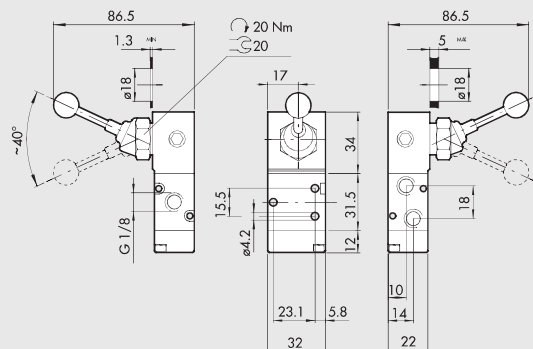
VALVES SERIES 70 LT (LOW TEMPERATURE)

SYNOPTIC, SIZES AND VERSIONS

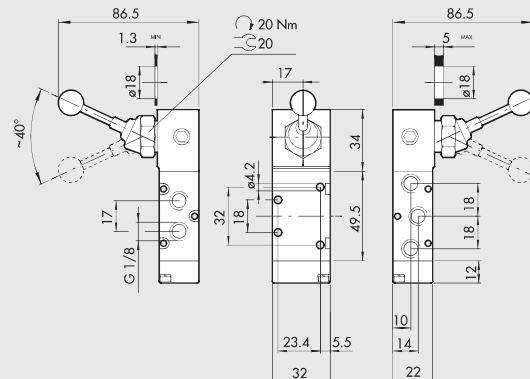
P N V FAMILY	2 DIMENSIONS	3 FUNCTION	P N OPERATORS 14	S RESETTING (12)	OO FURTHER DETAILS	LT
MAV valvole manuali	2 1/8"	3 3/2	LE leva 90°	S mechanical springs	OO no indication	LT low temperature
PNV pneumatic valves	3 1/4"	5 5/2	PN pneumatic	B bistable	NC normally closed	
SOV solenoid/ pneumatic		6 5/3	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"



90° LEVER 5/2 1/8"



Technical drawing showing three views of the G1/4 connector assembly:

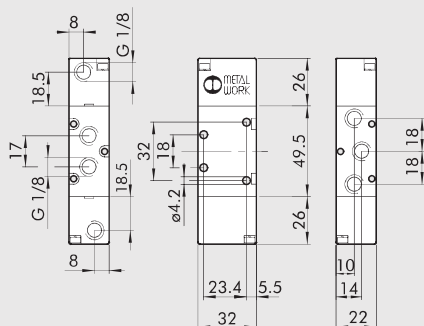
- Top View:** Shows a circular base with a central hole and four mounting holes. Dimensions include a total width of 90 mm, a distance of 1.3 mm from the edge to the first hole, a hole diameter of $\varnothing 18$, and a maximum height of 5 mm.
- Side View:** Shows the profile of the base and the internal components. Dimensions include a total height of 90 mm, a distance of 5 mm from the top edge to the first hole, a hole diameter of $\varnothing 18$, and a maximum height of 5 mm.
- Front View:** Shows the top of the base and the internal components. Dimensions include a total width of 90 mm, a distance of 1.3 mm from the edge to the first hole, a hole diameter of $\varnothing 18$, and a maximum height of 5 mm.

[illegible]

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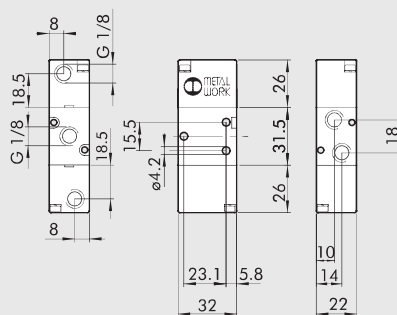
VALVES SERIES 70 LT, PNEUMATIC (LOW TEMPERATURE)

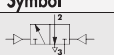
BISTABLE 5/2, 1/8"



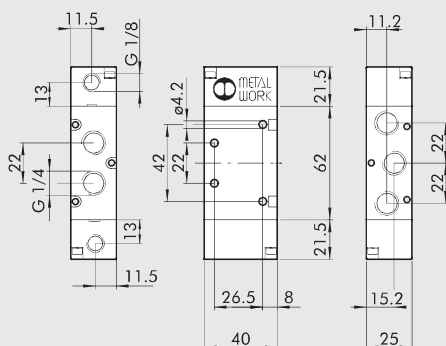
Symbol	Code	Abbrev.	Weight [g]
	* 70L1011200	PNV 25 PNB OO LT	176

BISTABLE 3/2, 1/8"



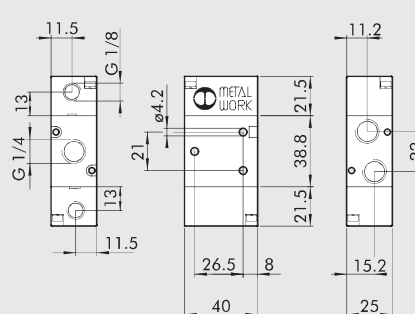
Symbol	Code	Abbrev.	Weight [g]
	* 70L1010100	PNV 23 PNB OO LT	150

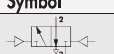
BISTABLE 5/2, 1/4"



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

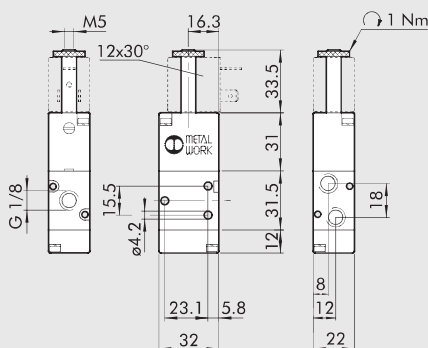
BISTABLE 3/2, 1/4"



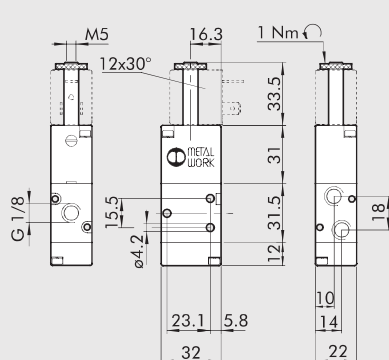
Symbol	Code	Abbrev.	Weight [g]
	* 70L2010100	PNV 33 PNB OO LT	194

VALVES SERIES 70 LT, SOLENOID/PNEUMATIC (LOW TEMPERATURE)

MONOSTABLE 3/2 NO, 1/8"



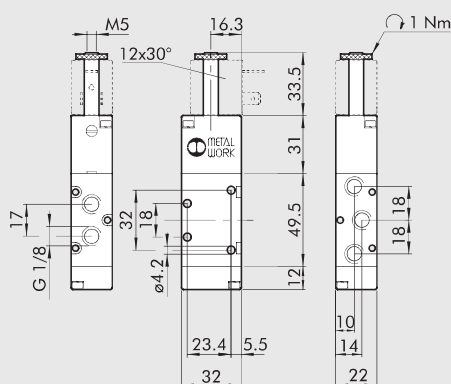
MONOSTABLE 3/2 NC, 1/8"



VALVES

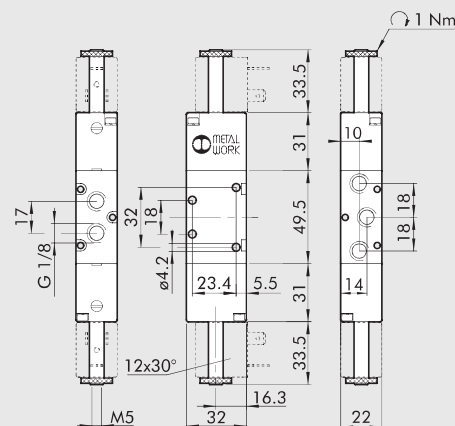
VALVES SERIES 70 LT (LOW TEMPERATURE)

MONOSTABLE 5/2, 1/8"



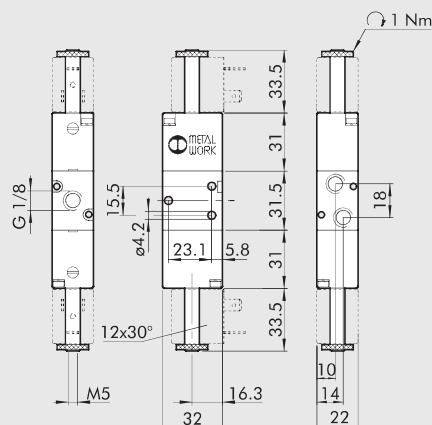
Symbol	Code	Abbrev.	Weight [g]
	* 70L1021100	SOV 25 SOS OO LT	175

BISTABLE 5/2, 1/8"



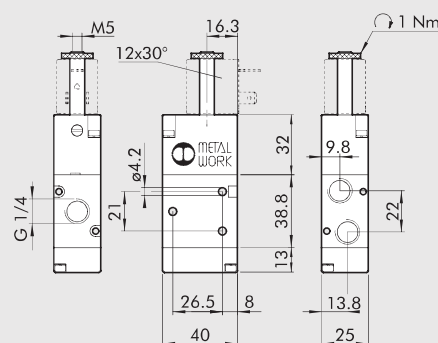
Symbol	Code	Abbrev.	Weight [g]
	* 70L1021200	SOV 25 SOB OO LT	228

BISTABLE 3/2, 1/8"



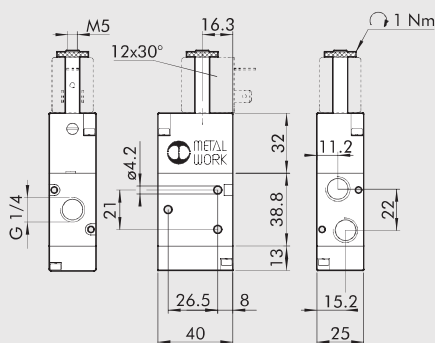
Symbol	Code	Abbrev.	Weight [g]
	* 70L1020100	SOV 23 SOB OO LT	203

MONOSTABLE 3/2 NO, 1/4"

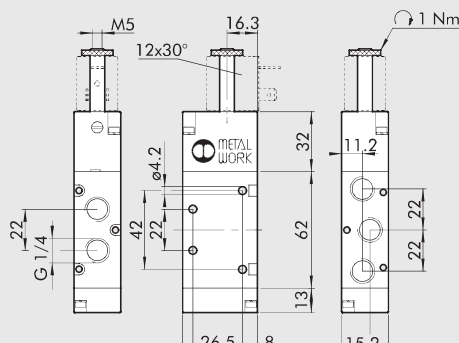


Symbol	Code	Abbrev.	Weight [g]
	* 70L2020400	SOV 33 SOS NO LT	230

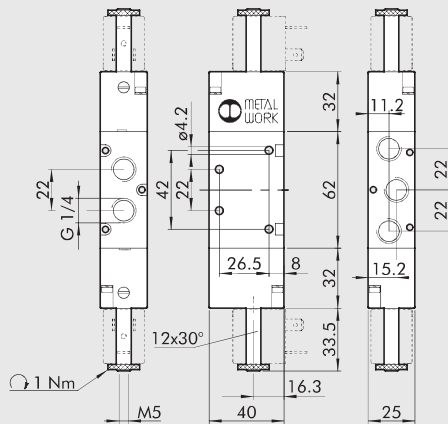
MONOSTABLE 3/2 NC, 1/4"

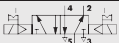


MONOSTABLE 5/2, 1/4"

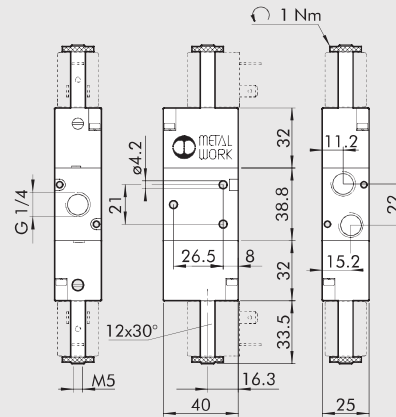


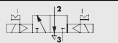
BISTABLE 5/2, 1/4"



Symbol	Code	Abbrev.	Weight [g]
	* 70L2021200	SOV 35 SOB OO LT	332

BISTABLE 3/2, 1/4"



Symbol	Code	Abbrev.	Weight [g]
	* 70L2020100	SOV 33 SOB OO LT	286

COILS AND CONNECTORS



Refer to page B1.60 for coils and connectors

For temperatures $T < -10^{\circ}\text{C}$ it is necessary to use coils side 22 mm from 5 W or 5 VA .
(see page B1.77)

NOTES

VALVES

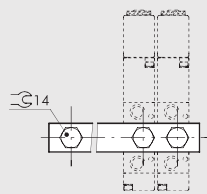
VALVES SERIES 70 LT (LOW TEMPERATURE)

NOTES

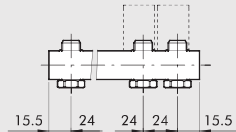
VALVES

ACCESSORIES: 1/8 MANIFOLDS FOR SERIES 70 PNV-SOV AND SERIES BASIC VALVES

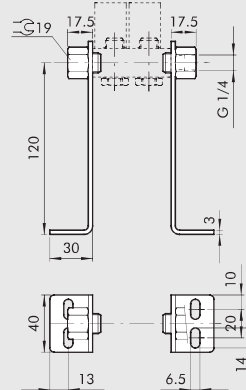
MANIFOLD WITH 2 TO 7 POSITIONS + FITTINGS



Code	Description	Weight [g]
0221000200	CSA-18-02	70
0221000300	CSA-18-03	99
0221000400	CSA-18-04	131
0221000500	CSA-18-05	162
0221000600	CSA-18-06	192
0221000700	CSA-18-07	229

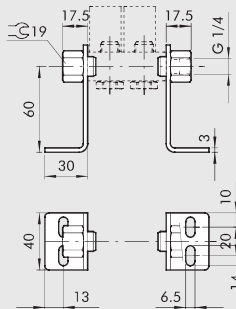


BRACKET SET H120



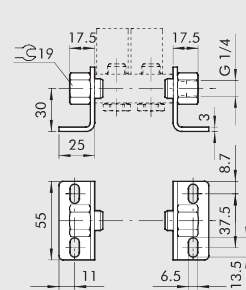
Code	Description	Weight [g]
0221000190	CSA-18-00	309

BRACKET SET H60



Code	Description	Weight [g]
0221000191	CSA-18-0C	213

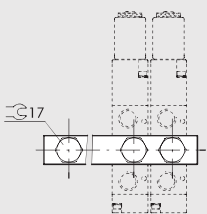
BRACKET SET H30



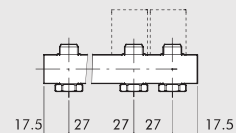
Code	Description	Weight [g]
0221000192	CSA-18-0E	181

ACCESSORIES: 1/4 MANIFOLDS FOR SERIES 70 PNV-SOV AND SERIES BASIC VALVES

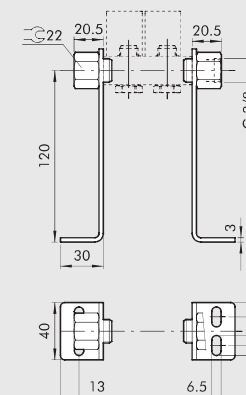
MANIFOLD WITH 2 TO 7 POSITIONS + FITTINGS



Code	Description	Weight [g]
0222000200	CSA-14-02	89
0222000300	CSA-14-03	131
0222000400	CSA-14-04	174
0222000500	CSA-14-05	213
0222000600	CSA-14-06	252
0222000700	CSA-14-07	328

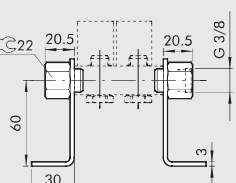


BRACKET SET H120



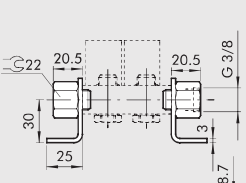
Code	Description	Weight [g]
0222000190	CSA-14-00	338

BRACKET SET H60



Code	Description	Weight [g]
0222000191	CSA-14-0C	242

BRACKET SET H30



Code	Description	Weight [g]
0222000192	CSA-14-0E	209

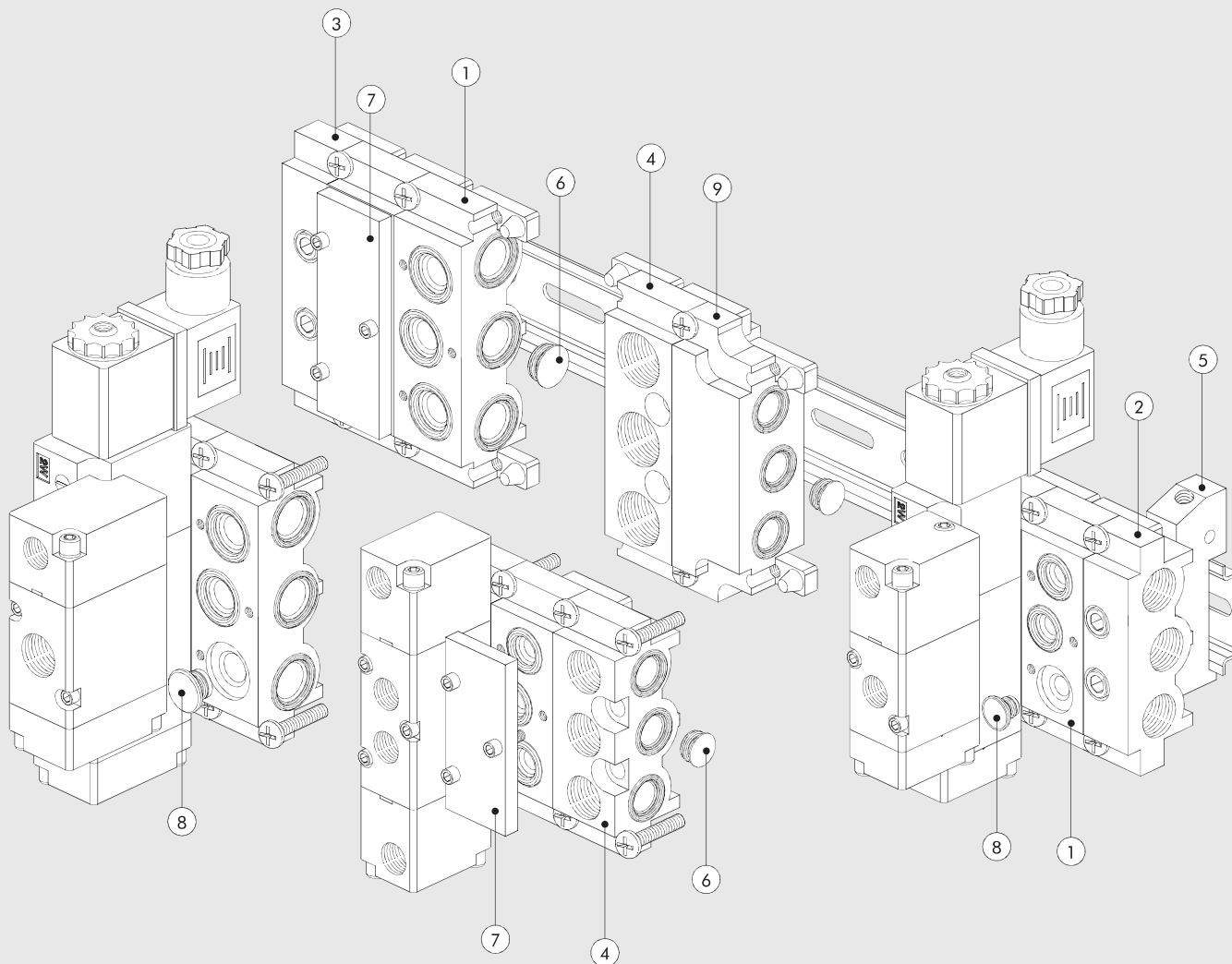
VALVES

ACCESSORIES FOR VALVES SERIES 70

MODULAR BASES FOR SERIES 70 SOV-PNV VALVES

VALVES

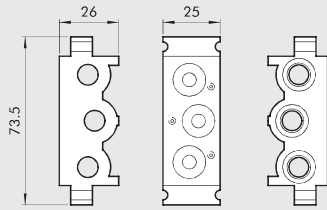
ACCESSORIES FOR VALVES SERIES 70



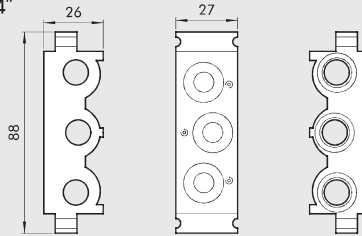
	1/8"	1/4"	
Reference	Code	Code	Description
①	0226004150	0226005150	Modular manifold base
②	0226004201	0226005201	End plate without OR
③	0226004200	0226005200	End plate with OR
④	0226004300	0226005300	Intermediate part for upper feed
⑤	0226004600	0226005600	Adapter for omega bar
⑥	0226004000	0226005000	Intermediate diaphragm
⑦	0226004500	0226005500	Blanking plate
⑧	0226004001	0226005001	3/2 cap
⑨	0226006600	-	Dimensional adapter

1 MODULAR BASE MANIFOLD

1/8"



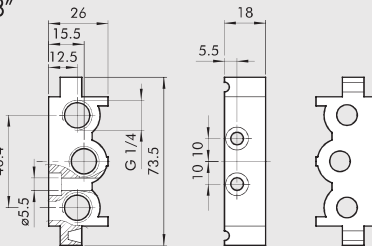
1/4"



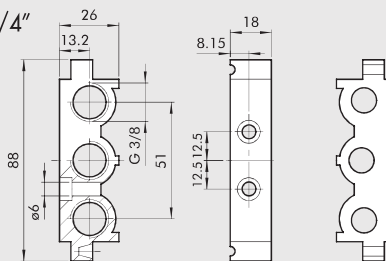
Code	Description	Weight [g]
0226004150	Modular base MANIFOLD 1/8"	110
0226005150	Modular base MANIFOLD 1/4"	131

2 END PLATE WITHOUT OR

1/8"



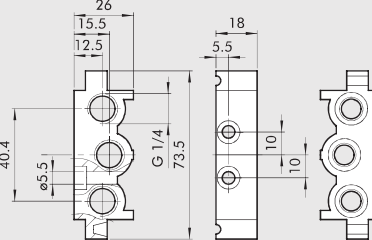
1/4"



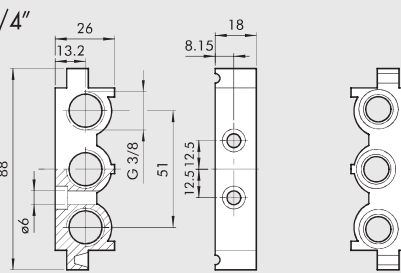
Code	Description	Weight [g]
0226004201	End plate without OR 1/8"	52
0226005201	End plate without OR 1/4"	57

3 END PLATE WITH OR

1/8"



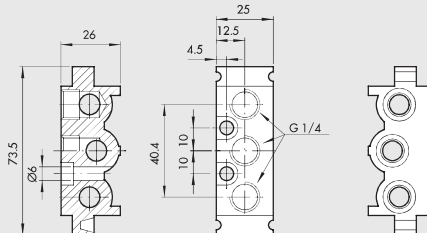
1/4"



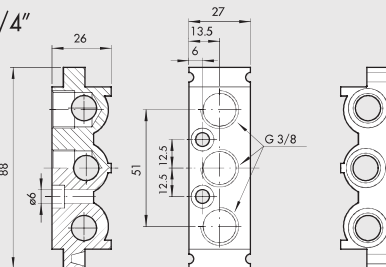
Code	Description	Weight [g]
0226004200	End plate with OR 1/8"	74
0226005200	End plate with OR 1/4"	80

4 INTERMEDIATE PART FOR UPPER FEED

1/8"



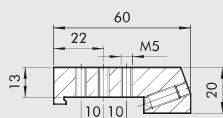
1/4"



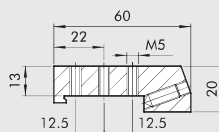
Code	Description	Weight [g]
0226004300	Intermediate part for upper feed 1/8"	93
0226005300	Intermediate part for upper feed 1/4"	109

5 ADAPTER FOR OMEGA BAR BASES (DIN EN 50022)

1/8"



1/4"

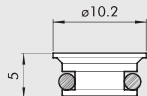


Code	Description	Weight [g]
0226004600	Adapter 1/8"	46
0226005600	Adapter 1/4"	46

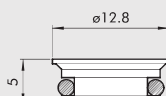
N.B.: Also for multiple bases

⑥ INTERMEDIATE DIAPHRAGM

1/8"



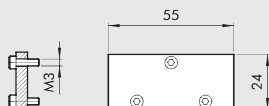
1/4"



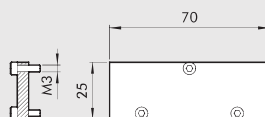
Code	Description	Weight [g]
0226004000	Intermediate diaphragm 1/8"	2
0226005000	Intermediate diaphragm 1/4"	3

⑦ BLANKING PLATE FOR UNUSED POSITIONS

1/8"



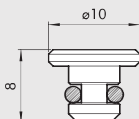
1/4"



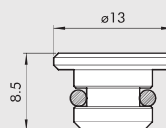
Code	Description	Weight [g]
0226004500	Blanking plate 1/8"	23
0226005500	Blanking plate 1/4"	29

⑧ PLUG FOR 3/2

1/8"

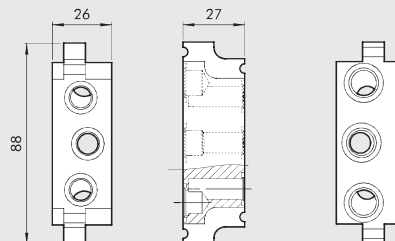


1/4"



Code	Description	Weight [g]
0226004001	Blanking plate 3/2 1/8"	2
0226005001	Blanking plate 3/2 1/4"	4

⑨ DIMENSIONAL ADAPTER 1/8" - 1/4"

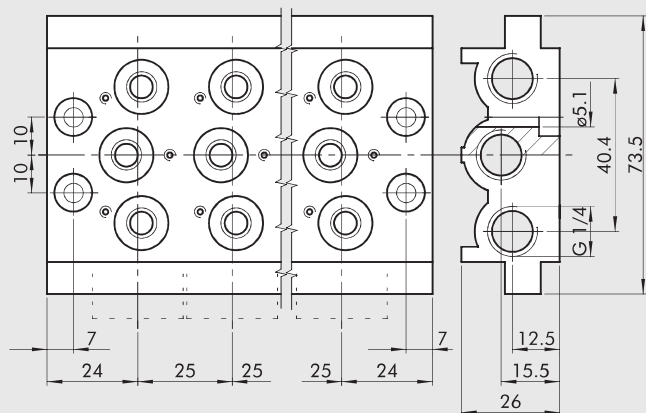


Code	Description	Weight [g]
0226006600	Adapter 1/8", 1/4"	177

NOTES

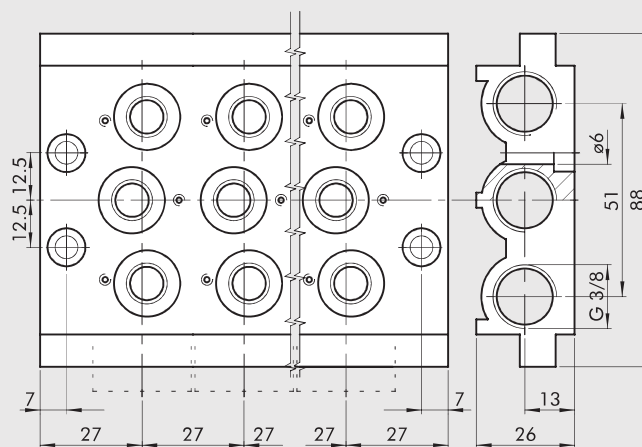
ACCESSORIES: MULTIPLE BASES FOR SERIES 70 PNV-SOV VALVES

MULTIPLE BASE 1/8"



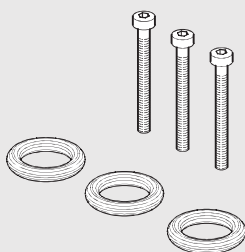
Code	Description	Abbrev.	Weight [g]
0223000201	2-position base	CVM-18-02	236
0223000301	3-position base	CVM-18-03	321
0223000401	4-position base	CVM-18-04	407
0223000501	5-position base	CVM-18-05	494
0223000601	6-position base	CVM-18-06	587
0223000701	7-position base	CVM-18-07	711
0223000801	8-position base	CVM-18-08	760
0223000901	9-position base	CVM-18-09	842
0223001001	10-position base	CVM-18-10	923

MULTIPLE BASE 1/4"



Code	Description	Abbrev.	Weight [g]
0224000201	2-position base	CVM-14-02	296
0224000301	3-position base	CVM-14-03	406
0224000401	4-position base	CVM-14-04	515
0224000501	5-position base	CVM-14-05	624
0224000601	6-position base	CVM-14-06	733
0224000701	7-position base	CVM-14-07	845
0224000801	8-position base	CVM-14-08	956
0224000901	9-position base	CVM-14-09	1055
0224001001	10-position base	CVM-14-10	1086

GASKET KIT



Code	Description	Weight [g]
0226004701	Gasket kit for 1/8" base	5
0226005701	Gasket kit for 1/4" base	5

The series 70 valves on base, available in the air- and solenoid-actuated versions, is an excellent clean solution for use when it is necessary to intervene on the valves without disconnecting the pipes. Here, the inlet, output and utility ports are in the base.

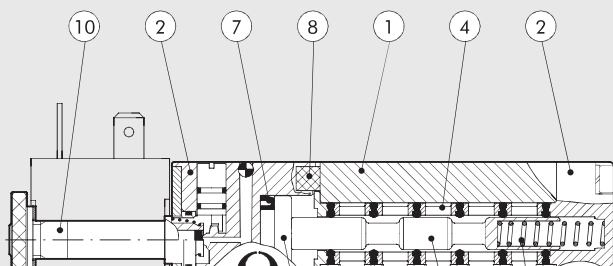


TECHNICAL DATA

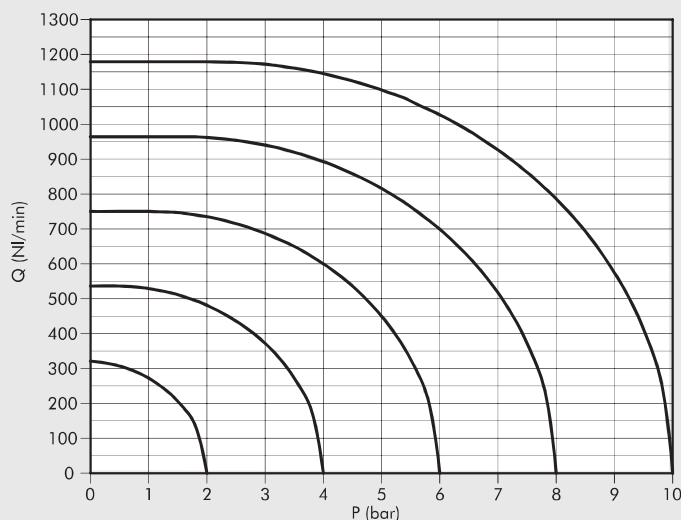
Operating pressure:		
• monostable and bistable differential	bar	2.5 to 10
• bistable	bar	1 to 10
• pilot-assisted	bar	Vacuum to 10
Minimum pilot pressure	bar	2.5
Operating temperature range	°C	-10 to +60
Nominal diameter	mm	5
Conductance C	Nl/min · bar	107.69
Critical ratio b	bar/bar	0.29
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	320
Flow rate at 6 bar ΔP 1 bar	Nl/min	450
Maximum torque coil nut	Nm	1

COMPONENTS

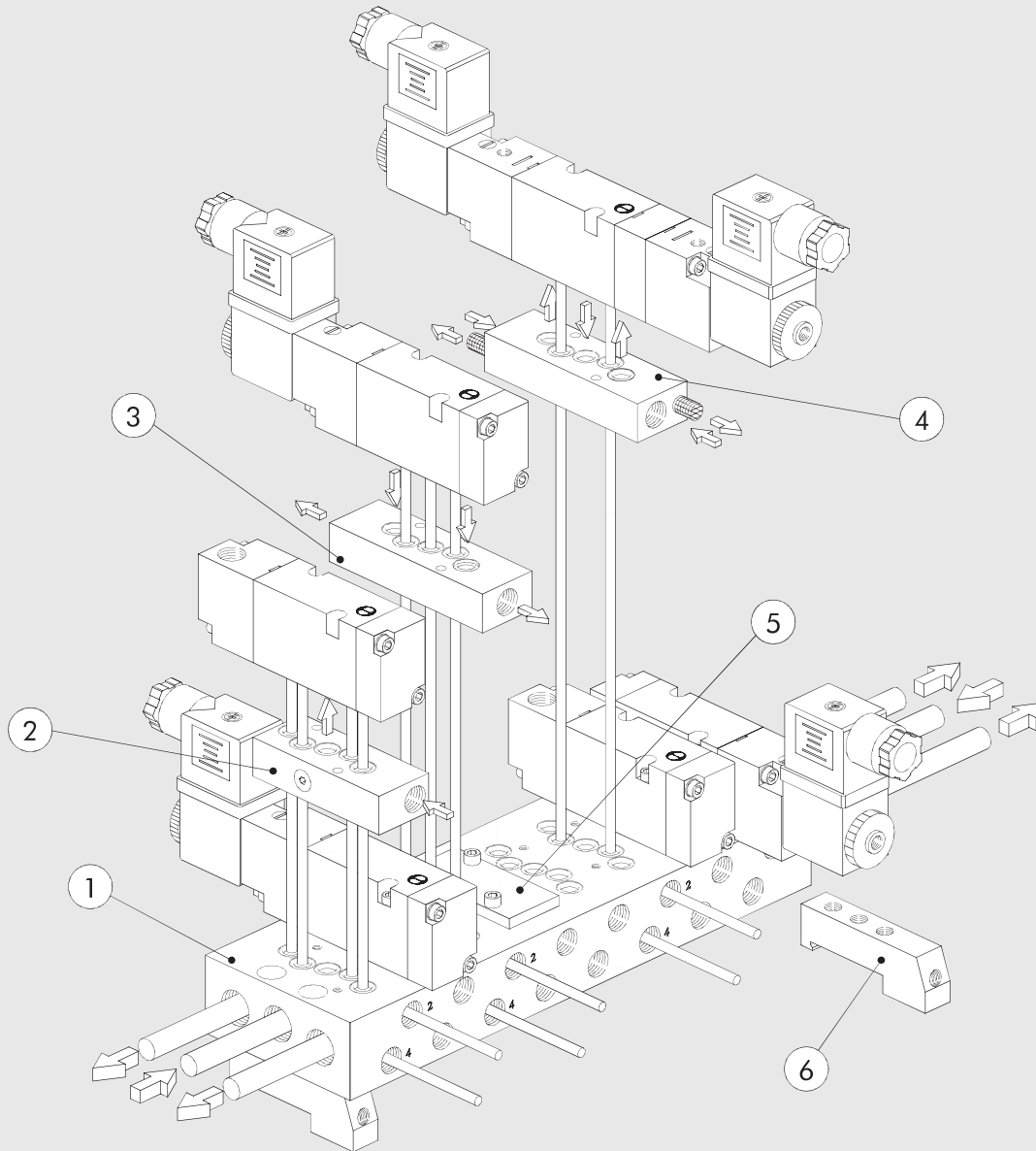
- ① VALVE BODY: Aluminium
- ② CONTROL/BASE: Hostaform®
- ③ SPOOL: chemically nickel-plated aluminium
- ④ DISTANCE PLATES: plastic
- ⑤ GASKETS: NBR
- ⑥ PISTONS: Hostaform®
- ⑦ PISTON GASKET: NBR
- ⑧ FILTER: sintered Bronze
- ⑨ SPRINGS: special steel
- ⑩ OPERATOR: Brass pipe – Stainless steel core



FLOW CHART



MULTI-PURPOSE BASE FOR VALVES SERIES 70 ON BASE



VALVES

VALVES SERIES 70 ON BASE

Reference	Code	Description
①	0223100201	2-position base 1/8 on base
	0223100401	4-position base 1/8 on base
	0223100601	6-position base 1/8 on base
	0223100801	8-position base 1/8 on base
	0223101001	10-position base 1/8 on base
②	0223106301	Separate feed kit
③	0223106303	Exhaust regulation kit
④	0223106302	Exhaust feed kit
⑤	0223106500	Blanking plate
⑥	0226004600	Adapter for omega bar

SYNOPTIC, SIZES AND VERSIONS

P N V FAMILY	B DIMENSIONS	5 FUNCTION	P N OPERATORS 14	S RESETTING (12)	O O FURTHER DETAILS
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روبروی پالایشگاه نفت پارس، پلاک ۱۲

VALVES, SERIES 70, PNEUMATIC, ON BASE

VALVES

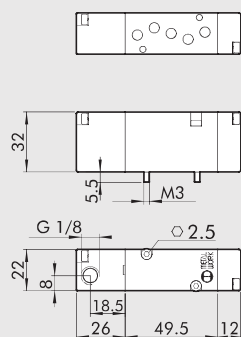
VALVES SERIES 70 ON BASE

TECHNICAL DATA

Operating pressure	bar	Vacuum to 10
Minimum actuation pressure:		
• monostable and bistable differential	bar	2.5
• bistable	bar	1
Operating temperature range	°C	-10 to +60
Nominal diameter	mm	5
Conductance C	NI/min · bar	107.69
Critical ratio b	bar/bar	0.29
Flow rate at 6 bar ΔP 0.5 bar	NI/min	320
Flow rate at 6 bar ΔP 1 bar	NI/min	450
TRA / TRR monostable at 6 bar	ms	6/15
TRA / TRR bistable at 6 bar	ms	7/7

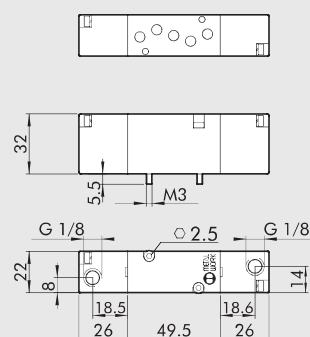


MONOSTABLE 5/2



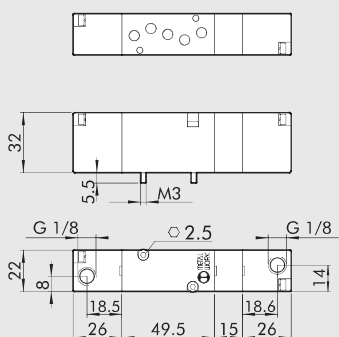
Symbol	Code	Abbrev.	Weight [g]
	7011011100	PNV B5 PNS OO	125

BISTABLE 5/2



Symbol	Code	Abbrev.	Weight [g]
	7011011200	PNV B5 PNB OO	136
	7011011300	PNV B5 PND OO	142

MONOSTABLE 5/3



Symbol	Code	Abbrev.	Weight [g]
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NOTES

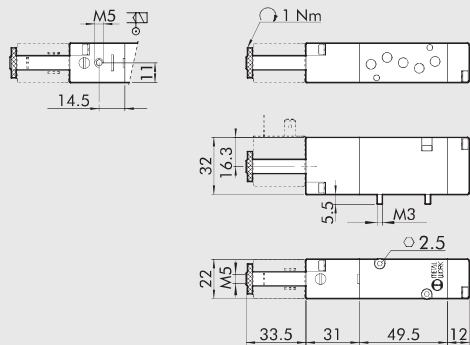
VALVES SERIES 70, SOLENOID/PNEUMATIC ON BASE

TECHNICAL DATA

Operating pressure:		
• monostable and bistable differential	bar	2.5 to 10
• bistable	bar	1 to 10
• pilot-assisted	bar	Vacuum to 10
Minimum pilot pressure	bar	2.5
Operating temperature range	°C	-10 to +60
Nominal diameter	mm	5
Conductance C	Nl/min · bar	107.69
Critical ratio b	bar/bar	0.29
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	320
Flow rate at 6 bar ΔP 1 bar	Nl/min	450
TRA / TRR monostable at 6 bar	ms	15 / 35
TRA / TRR bistable at 6 bar	ms	20 / 20
Electrical technical data		
Coil voltage values		12; 24VDC - 24; 110; 220VAC 50/60Hz
Power		2 W (DC) 3.5VA (AC)
Voltage tolerance	%	-10 to +15
Insulation class		F 155
Maximum coil nut torque	Nm	1

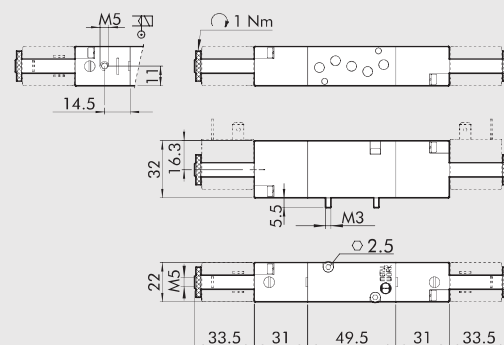


MONOSTABLE 5/2



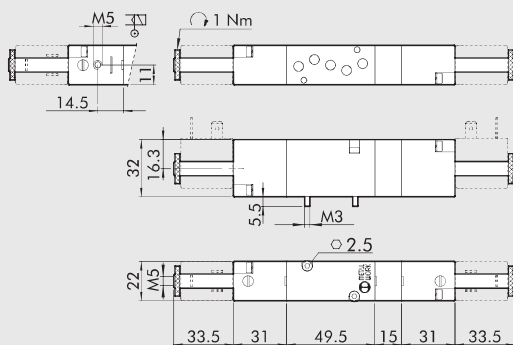
Symbol	Code	Abbrev.	Weight [g]
	7011021100	SOV B5 SOS OO	142
	7011021500	SOV B5 SES OO	143

BISTABLE 5/2



Symbol	Code	Abbrev.	Weight [g]
	7011021200	SOV B5 SOB OO	174
	7011021300	SOV B5 SOD OO	180
	7011021600	SOV B5 SEB OO	174

MONOSTABLE 5/3



Symbol	Code	Abbrev.	Weight [g]
	7011022100	SOV B6 SOS CC	204
	7011022200	SOV B6 SOS OC	204
	7011022300	SOV B6 SOS PC	204
	7011022400	SOV B6 SES CC	202
	7011022500	SOV B6 SES OC	202
	7011022600	SOV B6 SES PC	202

ACCESSORIES

Refer to page B1.60 for coils and connectors

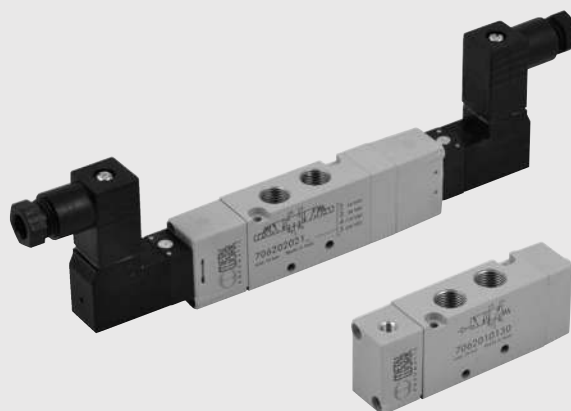
VALVES

VALVES SERIES 70 ON BASE

Available in size 1/8" only, versions 5/2 and 5/3 and with pneumatic and solenoid actuation. The Mach 16 valve is a typical small size valve, only 16 mm wide, with excellent performance 750 NL/min flow rate at 6 bar ΔP 1 bar.

The valve can be used in line, on a panel or on a base (multiple or manifold)

The Mach design is the result of the miniaturisation concept with the same durability, sturdiness and reliability.

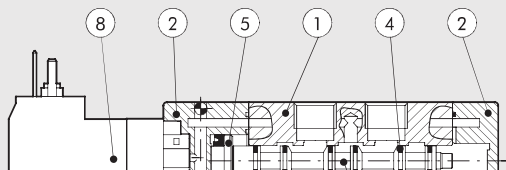


TECHNICAL DATA

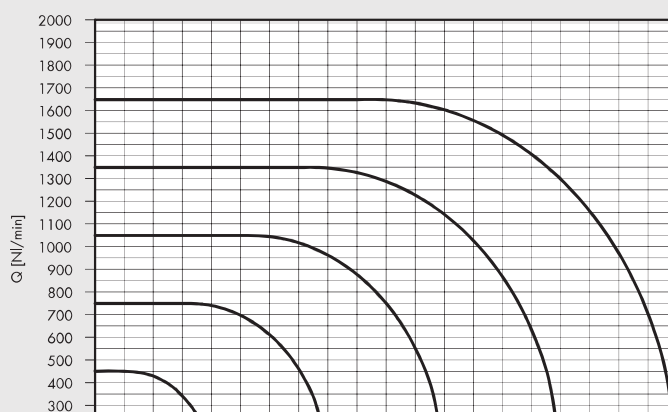
Valve port thread	1/8"
Type of control	M5 pneumatic actuation - Solenoid/pneumatic operation with integrated coil
Maximum outer diameter of gaskets for ports 1 - 3 - 5	mm 15
Maximum outer diameter for ports 2 - 4	mm 15
Operating temperature range	°C -10 to +60
Minimum pressure pilot-pneumatic controls	bar Monostable with pneumatic spring: see picture on page B1.98
	bar 1.6 bar for monostable valves - mechanical spring
	bar 1 bar for bistable valves - 1.9 bar for valves 5/3
	bar vacuum -10
Operating pressure	
Fluid	Filtered lubricated or unlubricated air lubrication, if used, must be continuous
Recommended lubricant	ISO e UNI FD22
Solenoid pilot	Integrated coil DIN 43650 C shape
Manual	Monostable on solenoid pilot (with bistable manual valve on request)
Number of ways in base	1-3-5 and pilot exhaust
Screws for wall-mounting single valve	2 screws M3
Screws for base-mounting valve	2 screws M2.5x30
Installation	In any position (vertical assembly is not recommended for bistable valves subjected to vibration)
Flow rate at 6 bar ΔP 0.5 bar	NL/min 540
Flow rate at 6 bar ΔP 1 bar	NL/min 750
Conductance C	NL/min · bar 149.8
Critical ratio b	bar/bar 0.525
Compatibility with oils	See chapter Z1

COMPONENTS

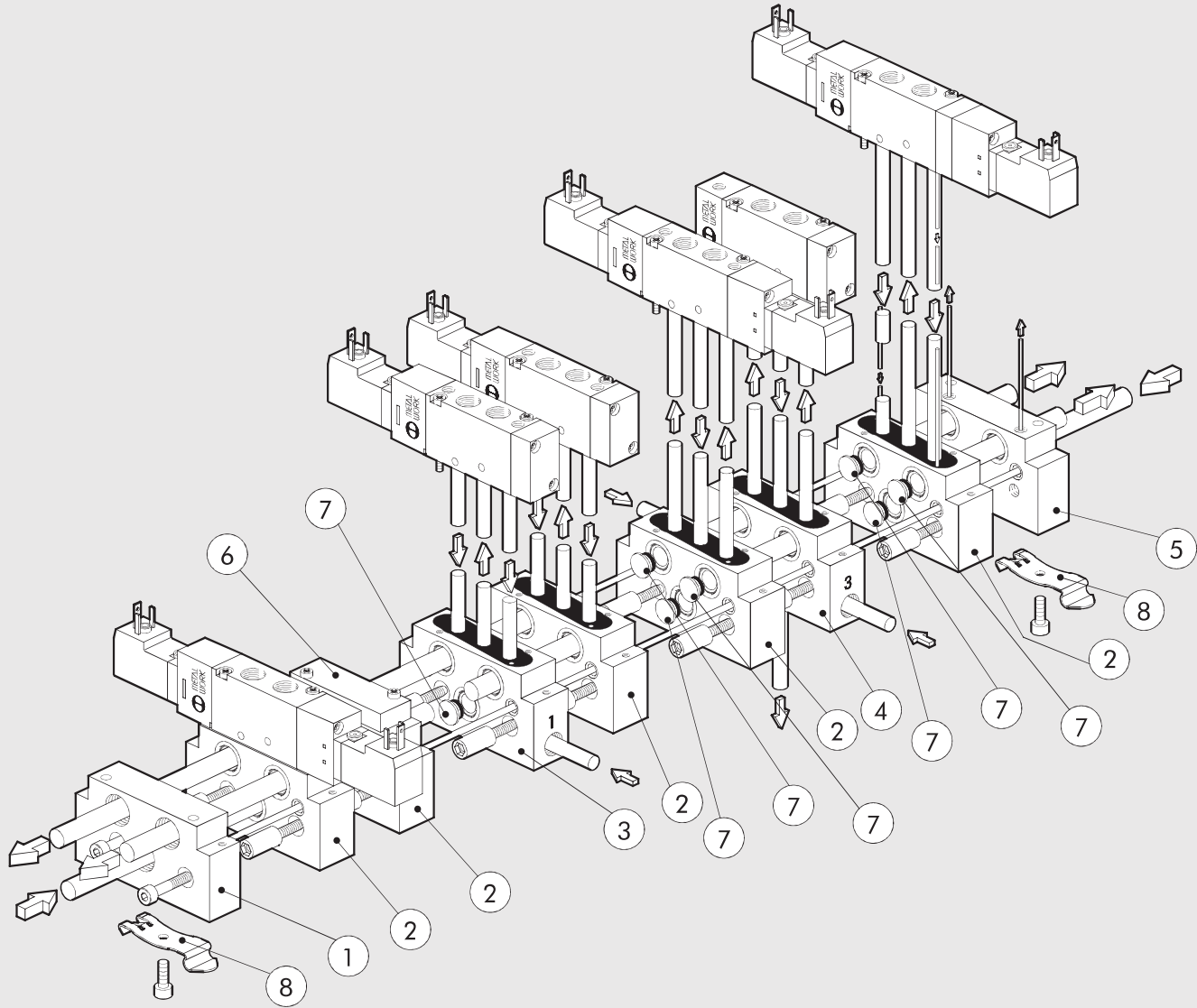
- ① VALVE BODY: Aluminium
- ② CONTROL/BASE: Hostaform®
- ③ SPOOL: Aluminium
- ④ GASKETS: Polyurethane
- ⑤ PISTONS: Hostaform®
- ⑥ PISTON GASKET: Polyurethane
- ⑦ INTERFACE GASKETS: NBR nitrile rubber
- ⑧ PILOT: with integrated coil



FLOW CHART



MANIFOLD BASES



VALVES

VALVES MACH 16

Reference	Code	Description
①	0227100201	M16/VDMA Input end-plate kit
②	0227100150	M16 manifold base kit
③	0227100301	M16 separate feed manifold base kit
④	0227100302	M16 exhaust feed manifold base kit
⑤	0227100200	M16/VDMA output end-plate kit
⑥	0225004500	M16 blanking plate
⑦	0227100000	Intermediate diaphragm
⑧	0227300600	Connection bracket on DIN-bar

SYNOPTIC, SIZES AND VERSIONS

M S V FAMILY	2 DIMENSIONS	5 FUNCTION	S O OPERATORS 14	B RESETTING 12	O O FURTHER DETAILS	2 4 V D C VOLTAGE
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Fax: ۰۲۱-۴۴۹۹۴۶۴۲

تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

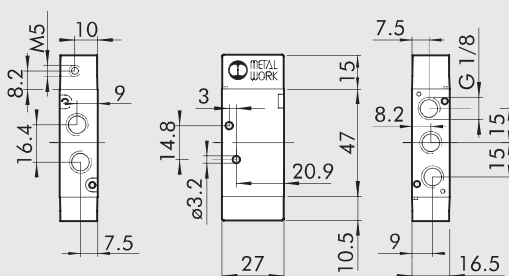
روبروی پالایشگاه نفت پارس، پلاک ۱۲

TECHNICAL DATA

Operating pressure	bar	Vacuum to 10
Minimum operating pressure:	bar	
• monostable with pneumatic spring		see graph
• monostable with mechanical spring		1.6
• monostable 5/3		1.9
• bistable		1
Conductance C	Nl/min · bar	149.8
Critical ratio b	bar/bar	0.525
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	540
Flow rate at 6 bar ΔP 1 bar	Nl/min	750
Repositioning response times at 6 bar:		
• monostable	ms	4
• bistable	ms	4
Repositioning response times at 6 bar:		
• monostable	ms	8.4
• bistable	ms	4

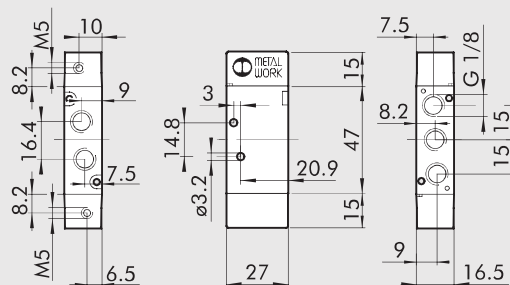


MONOSTABLE 5/2



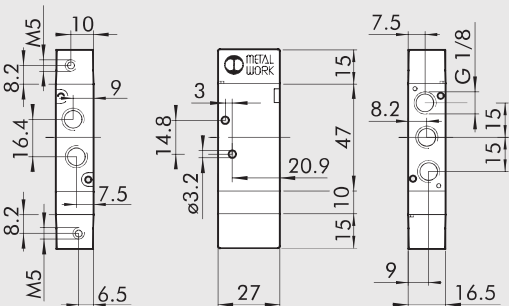
Symbol	Code	Abbrev.	Weight [g]
	7062010100	MPV 25 PNP ○○	60
	7062010130	MPV 25 PNS ○○	61

BISTABLE 5/2



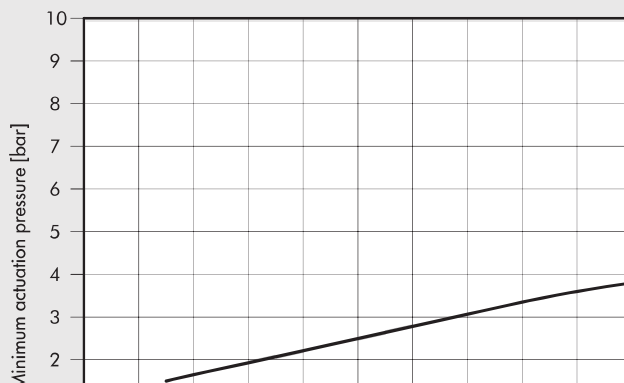
Symbol	Code	Abbrev.	Weight [g]
	7062010110	MPV 25 PNB OO	62

MONOSTABLE 5/3



Symbol	Code	Abbrev.	Weight [g]
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OPERATING PRESSURE



Technical drawing of a metal workpiece showing four views: front, top, side, and end view. The front view shows a rectangular block with a central slot and two circular features. The top view shows the block's length and width. The side view shows the block's height and the slot's depth. The end view shows the block's width and the circular features. Dimensions are given in millimeters.

Dimensions (mm):

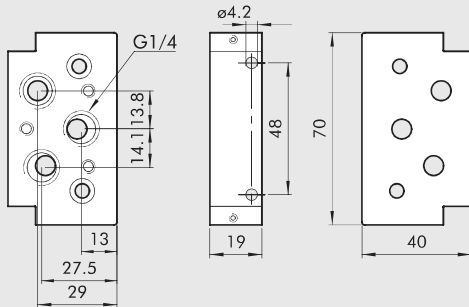
- Front View: 8.9 (total width), 7.5 (bottom flange width), 39.6 (total height), 15 (bottom flange height), 7.6 (top flange height), 9 (top flange width), 1.3 (top flange thickness).
- Top View: 16.4 (total length), 7.5 (bottom flange length), 14.8 (total width), 3 (bottom flange width), 3.2 (bottom flange thickness).
- Side View: 27 (total height), 10.5 (bottom flange height), 20.9 (total width), 19.7 (bottom flange width), 25.6 (bottom flange thickness).
- End View: 16.5 (total width), 15 (bottom flange width), 8.2 (bottom flange height), 7.5 (top flange height), 9 (top flange width), 1.3 (top flange thickness).

Symbol	Code	Abbrev.	Weight [g]

Symbol	Code	Abbrev.	Weight [g]
	7062020112	MSV 25 SOB OO 24VDC	124
	7062020113	MSV 25 SOB OO 24VAC	124
	7062020114	MSV 25 SOB OO 110VAC	124
	7062020115	MSV 25 SOB OO 220VAC	124
	7062030112	MSV 25 SEB OO 24VDC	125
	7062030113	MSV 25 SEB OO 24VAC	125
	7062030114	MSV 25 SEB OO 110VAC	125
	7062030115	MSV 25 SEB OO 220VAC	125

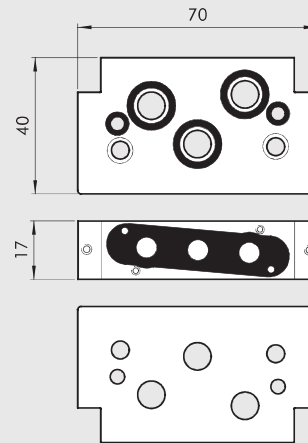
MANIFOLD BASES FOR VALVES MACH 16

① MACH 16 INPUT END-PLATE



Code	Description	Weight [g]
0227100201	Input end-plate kit M16/VDMA	125

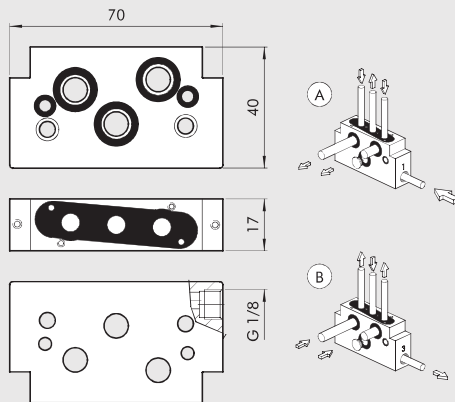
② MACH 16 MANIFOLD BASE



Code	Description	Weight [g]
0227100150	Manifold base kit M16	121

③ MACH 16 SEPARATE FEED MANIFOLD BASE

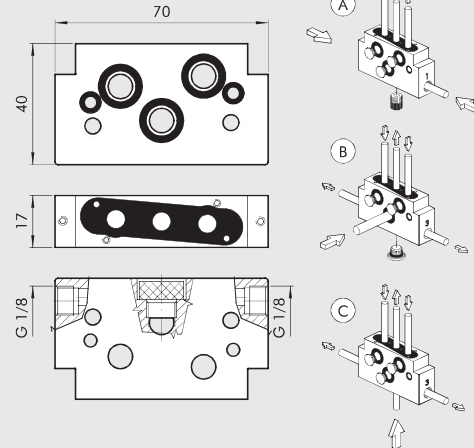
- Ⓐ Separate feed
- Ⓑ Separate exhaust



Code	Description	Weight [g]
0227100301	Manifold base kit-separate feed M16	119

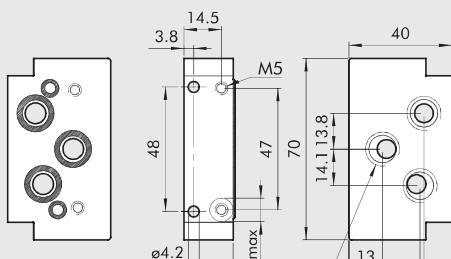
④ MACH 16 EXHAUST FEED MANIFOLD BASE

- Ⓐ Exhaust feed
- Ⓑ Separate exhausts
- Ⓒ Separate feed/exhausts

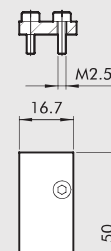


Code	Description	Weight [g]
0227100302	Manifold base kit-exhaust feed M16	113

⑤ MACH 16 OUTPUT END-PLATE



⑥ BLANKING PLATE – UNUSED POSITION



Mach 16 valves can be mounted on bases with pneumatic or electrical connection. The electric contacts of the individual valves are connected by means of a printed circuit board in a sealed conduit to a single connection point suitable for up to 16 controls.

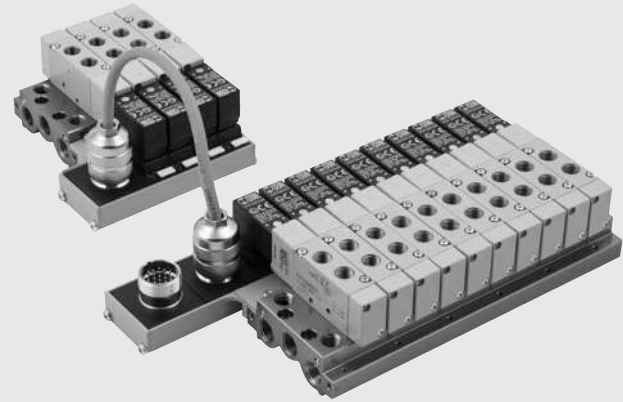
The number 16 was chosen because the number of outputs of most PLC output boards is 16 or a multiple of it.

The system has numerous alternatives and variants for a wide range of requirements:

- Base for monostable or bistable valves.
- Connection via a multiple connector or wired cable.
- Supply of individual parts or ready prepared bases or complete valve units
- The configuration can be modified at any time to convert bases for monostable valves into bases for bistable valves.
- The return cable can be used to connect two monostable valve units to a single multiple connector.

All versions are certified for electromagnetic compatibility and hence they bear the CE mark. The system is prearranged for mounting a slave for field buses, which can be added at any time. Valve units with multiple pneumatic/electrical connection are supplied complete with valves and are tested.

System modularity means that the valve sequence can be ordered to meet your own requirements (see key to codes).



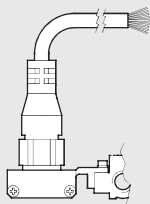
VALVES

MULTIPLE CONNECTORS MACH 16

TECHNICAL DATA

Supply voltage	24VDC - 24VAC
Maximum absorption	50 mA for each position
Valve actuation indicator	Yellow LED
Protection	Fuse
Operating temperature range	-10 to +60 °C
Degree of protection with valves mounted	IP65
Insulation class	In compliance with IEC 664-1 and VDE 0110 Group C
Electromagnetic compatibility	In compliance with EEC 366/89
Maximum number of solenoid valves which can be applied	16
n° of contacts	19, 16 of which for solenoid valves, 2 common and 1 earth
Pre-wired version	
Cable length	5 m
n° of wires	19, 16 of which for solenoid valves, 2 common and 1 earth
Wire section	0.22 mm ²
Shielding	Tin plated – covering 80 to 90%
Cable	Outer oil-proof and flame-proof PVC sheath
Cable outside diameter	8.5 mm

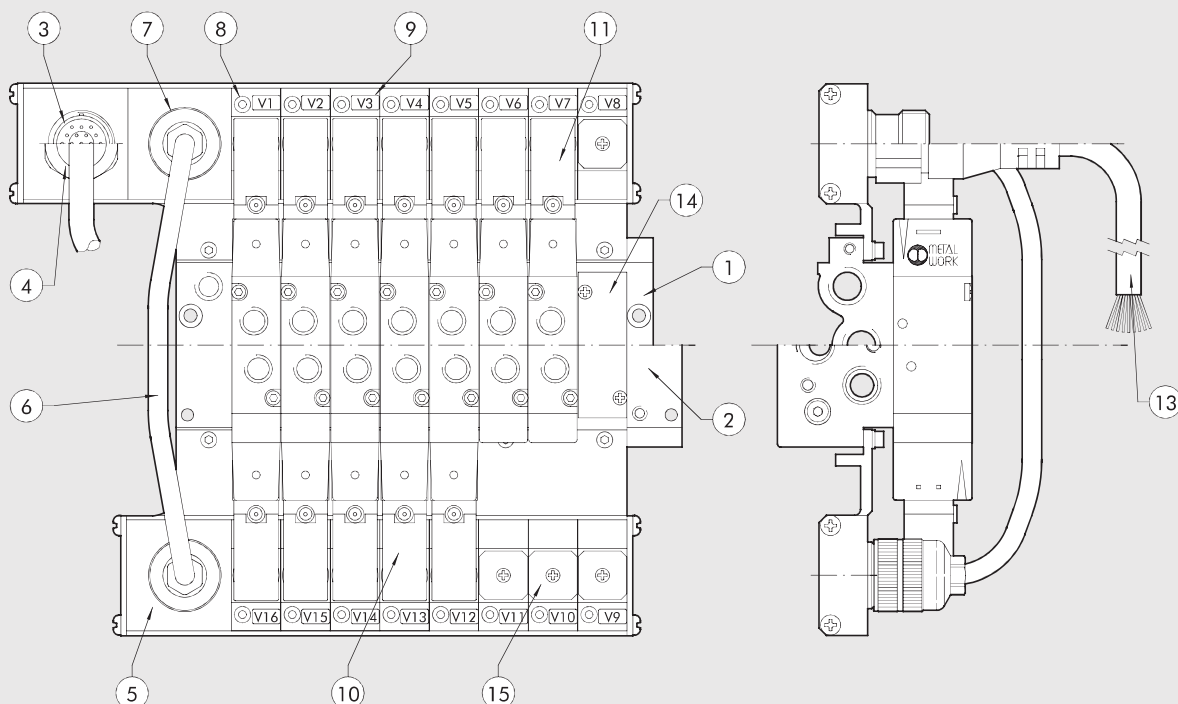
WIRING DIAGRAM FOR VERSION WITH CONNECTOR



Position of electrical contact	Colour of the corresponding wire
V1	Green /black
V2	Yellow
V3	White/black
V4	Blue
V5	Red
V6	Yellow/black
V7	White
V8	Brown/red
V9	Red/white
V10	Red/black
V11	Green/red
V12	Blue/red
V13	Brown

NOTES

COMPONENTS



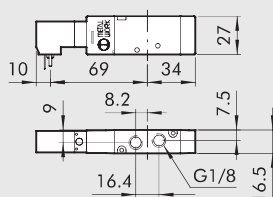
- ① Multiple base: extruded anodized aluminium
- ② Modular base: anodized aluminium
- ③ Main assembly, version with connector
- ④ Main assembly, pre-wired version
- ⑤ Secondary unit/additional secondary unit
- ⑥ 10-wire return cable
- ⑦ Socket for 10-wire return cable
- ⑧ LED (LED on = Solenoid valve energised)
- ⑨ Identification label (for writing on)
- ⑩ Bistable solenoid valve MACH 16
- ⑪ Monostable solenoid valve MACH 16
- ⑬ 19-wire cable for pre-wired version
- ⑭ Blanking plate - pneumatic position: anodized aluminium
- ⑮ Small blanking plate - electric connector: painted aluminium

SYNOPTIC, SIZES AND VERSIONS

A	0 8	B	W C 5	0 8	M M V L	2 4 V D C
FAMILY	NO. OF POSITIONS			SIZE		VOLTAGE
A multiple base for solenoid/pneumatic connection Mach 16	04 4 posn.	M electrical connection only for monostable valves	MCN electrical connection	08 G 1/8"	M MSV 25 SMS OO	24VDC
B manifold base for Mach 16 solenoid/pneumatic connection	06 6 posn.	B electrical connection for bistable valves	WC5 pre-wired cable 5 m		V MSV 25 SCS OO	24VAC
	08 8 posn.		ACM additional connection for monostable battery		L MSV 25 SMP OO	
	10 10 posn.				J MSV 25 SMB OO	
	12 12 posn.				K MSV 25 SCB OO	
					G MSV 26 SMS CC	
					O MSV 26 SCS CC	
					E MSV 26 SMS OC	
					F MSV 26 SCS OC	
					B MSV 26 SMS PC	
					C MSV 26 SCS PC	
					A blanking plate	
					D intermediate diaphragm	

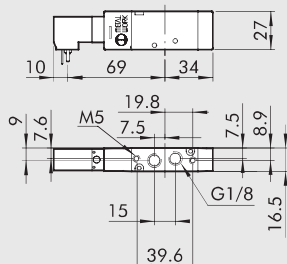
MACH 16 VALVES FOR MULTIPLE CONNECTOR

(M) MONOSTABLE 5/2, SOLENOID/PNEUMATIC - MECHANICAL SPRING



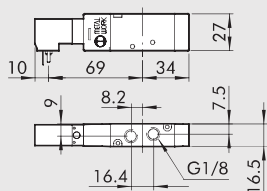
Symbol	Code	Description	Weight [g]
	7062040132	MSV 25 SMS OO 24VDC	92
	7062040133	MSV 25 SMS OO 24VAC	92

(V) MONOSTABLE 5/2, SOLENOID/PNEUMATIC, PILOT-ASSISTED - MECHANICAL SPRING



Symbol	Code	Description	Weight [g]
	7062060132	MSV 25 SCS OO 24VDC	93
	7062060133	MSV 25 SCS OO 24VAC	93

(L) MONOSTABLE 5/2, SOLENOID/PNEUMATIC - PNEUMATIC SPRING

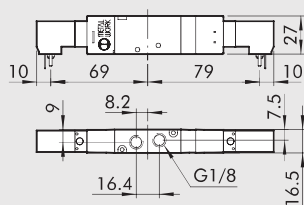


Symbol	Code	Description	Weight [g]
	7062040102	MSV 25 SMP OO 24VDC	93
	7062040103	MSV 25 SMP OO 24VAC	93

VALVES

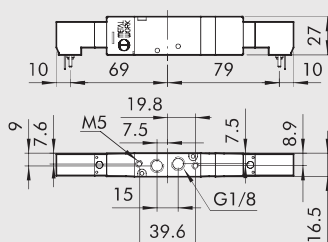
MULTIPLE CONNECTORS MACH 16

ⓐ BISTABLE 5/2, SOLENOID/PNEUMATIC



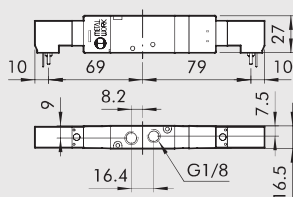
Symbol	Code	Description	Weight [g]
	7062040112	MSV 25 SMB OO 24VDC	139
	7062040113	MSV 25 SMB OO 24VAC	139

ⓑ BISTABLE 5/2, SOLENOID/PNEUMATIC, PILOT-ASSISTED



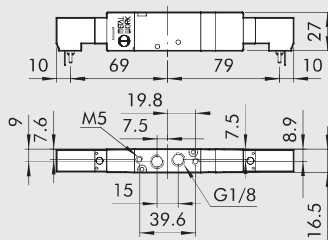
Symbol	Code	Description	Weight [g]
	7062060112	MSV 25 SCB OO 24VDC	140
	7062060113	MSV 25 SCB OO 24VAC	140

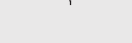
ⓒ MONOSTABLE 5/3, SOLENOID/PNEUMATIC - CLOSED CENTRES



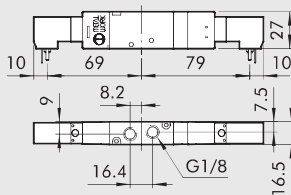
Symbol	Code	Description	Weight [g]
	7062040212	MSV 26 SMS CC 24VDC	142
	7062040213	MSV 26 SMS CC 24VAC	142

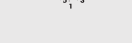
⊙ MONOSTABLE 5/3, SOLENOID/PNEUMATIC, PILOT-ASSISTED - CLOSED CENTRES



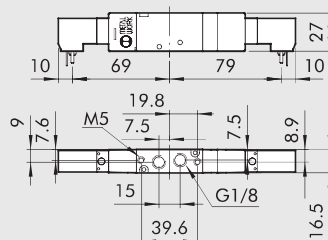
Symbol	Code	Description	Weight [g]
	7062060212	MSV 26 SCS CC 24VDC	143
	7062060213	MSV 26 SCS CC 24VAC	143

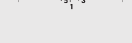
⊙ MONOSTABLE 5/3 SOLENOID/PNEUMATIC - OPEN CENTRES



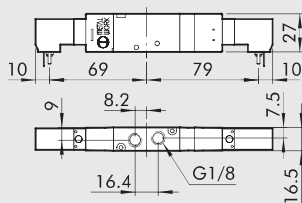
Symbol	Code	Description	Weight [g]
	7062040312	MSV 26 SMS OC 24VDC	142
	7062040313	MSV 26 SMS OC 24VAC	142

⊙ MONOSTABLE 5/3 SOLENOID/PNEUMATIC, PILOT-ASSISTED - OPEN CENTRES



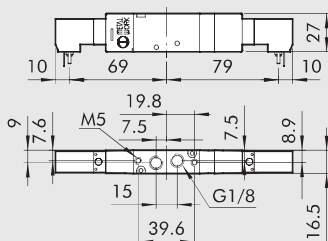
Symbol	Code	Description	Weight [g]
	7062060312	MSV 26 SCS OO 24VDC	143
	7062060313	MSV 26 SCS OO 24VAC	143

Ⓑ MONOSTABLE 5/3, SOLENOID/PNEUMATIC - PRESSURE CENTRES



Symbol	Code	Description	Weight [g]
	7062040412	MSV 26 SMS PC 24VDC	142
	7062040413	MSV 26 SMS PC 24VAC	142

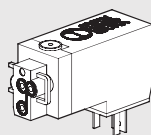
Ⓒ MONOSTABLE 5/3, SOLENOID/PNEUMATIC, PILOT-ASSISTED - PRESSURE CENTRES



Symbol	Code	Description	Weight [g]
	7062060412	MSV 26 SCS PC 24VDC	143
	7062060413	MSV 26 SCS PC 24VAC	143

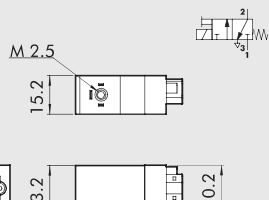
SPARE PARTS

COIL MACH 16 (OLD)



Code	Description
W4015201000	Pilot - multiple connection 24VDC
W4015201010	Pilot - multiple connection 24VAC

COIL MACH 16 (NEW)



Code	Description
W4015401000	In-line pilot 24VDC
W4015401010	In-line pilot 24VAC 50/60 Hz

N.B.: if the pilot to be replaced bears the writing **CE**, you have to order among the NEW pilots, otherwise order among the OLD pilots.

TECHNICAL DATA

Operating pressure:		
• monostable, electric	bar	2.5 to 10
• bistable, electric	bar	1 to 10
• pilot-assisted, electric	bar	Vacuum to 10
Minimum actuation pressure:		
• monostable, pneumatic	bar	2.5
• bistable, pneumatic	bar	1
Operating temperature range	°C	-10 to +60
Nominal diameter	mm	7.5
Conductance C	Nl/min · bar	264.26
Critical ratio b	bar/bar	0.27
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	750
Flow rate at 6 bar ΔP 1 bar (0.1 Mpa - 14.5 psi)	Nl/min	1100
Response time at 6 bar:		
• TRA/TRR monostable, pneumatic at 6 bar	ms	7 / 15
• TRA/TRR bistable, pneumatic at 6 bar	ms	7 / 7
• TRA/TRR monostable electric at 6 bar	ms	19 / 45
• TRA/TRR bistable electric at 6 bar	ms	21 / 21
Compatibility with oils		See chapter Z1



VALVES

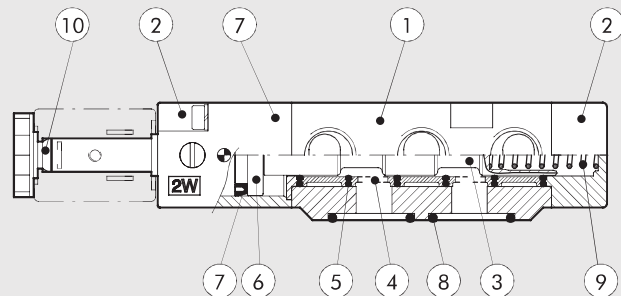
VALVES NAMUR

SYNOPTIC, SIZES AND VERSIONS

P N V	A	5	P N	S	O O
FAMILY	DIMENSIONS	FUNCTION	OPERATORS 14	RESETTING (12)	FURTHER DETAILS
PNV pneumatic	A NAMUR	5 5/2	PN pneumatic	S mechanical springs	OO no indication
SOV electro-pneumatic		4 4/2	SO solenoid	B bistable	NC normally closed

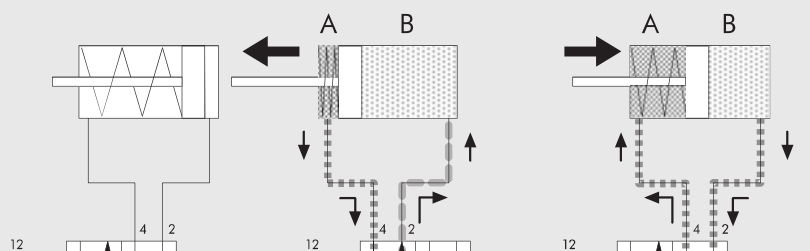
COMPONENTS

- VALVE BODY: Aluminium
- CONTROL/BASE: Hostaform®
- SPOOL: chemically nickel-plated aluminium
- DISTANCE PLATES: plastic
- GASKETS: NBR nitrile rubber
- PISTONS: Hostaform®
- PISTON GASKET: NBR nitrile rubber
- INTERFACE GASKETS: NBR nitrile rubber
- SPRINGS: special steel
- OPERATOR: Brass pipe – Stainless steel core

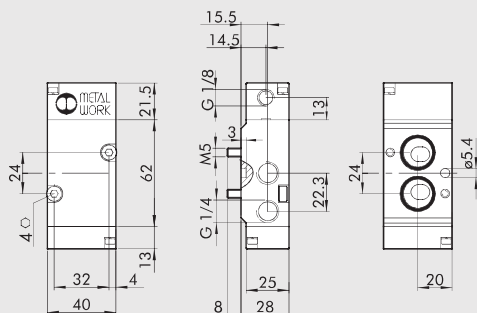


FUNCTIONING DIAGRAM 4/2 NAMUR VALVE

During the piston retraction stage, the air for chamber A is taken from the air leaving chamber B. This prevents the dirty air from getting in from the outside environment.

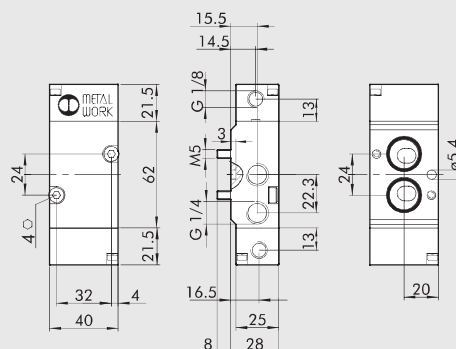


MONOSTABLE, PNEUMATIC 4/2



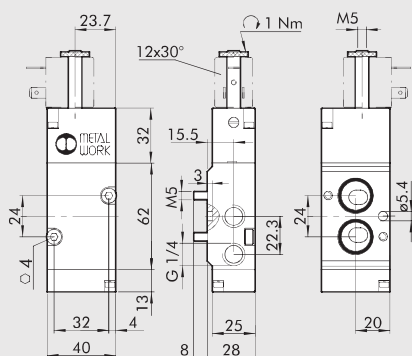
Symbol	Code	Abbrev.	Weight [g]
	7021010110	PNV A4 PNS NC	208

BISTABLE, PNEUMATIC 4/2



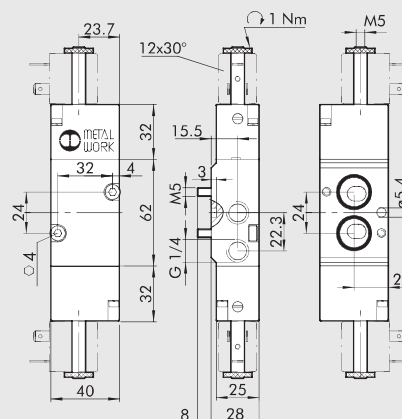
Symbol	Code	Abbrev.	Weight [g]
	7021010210	PNV A4 PNB OO	216

MONOSTABLE, SOLENOID/PNEUMATIC 4/2



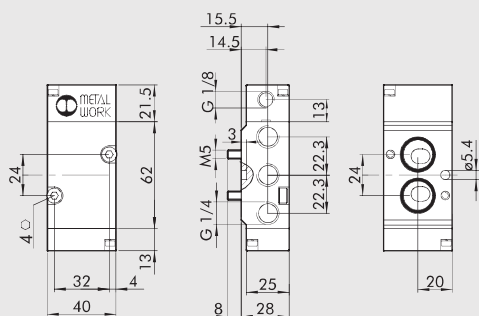
Symbol	Code	Abbrev.	Weight [g]
	7021020110	SOV A4 SOS NC	234

BISTABLE, SOLENOID/PNEUMATIC 4/2

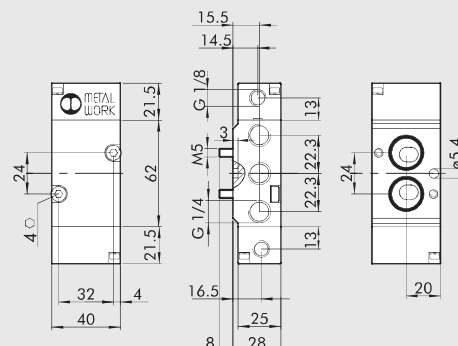


Symbol	Code	Abbrev.	Weight [g]
	7021020210	SOV A4 SOB OO	270

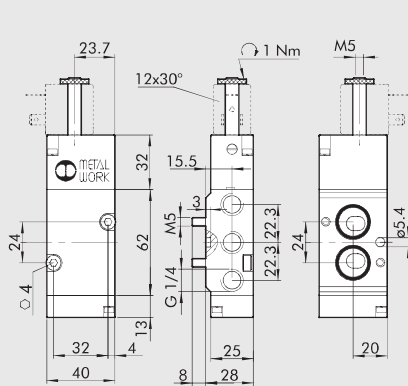
MONOSTABLE, PNEUMATIC 5/2



BISTABLE, PNEUMATIC 5/2

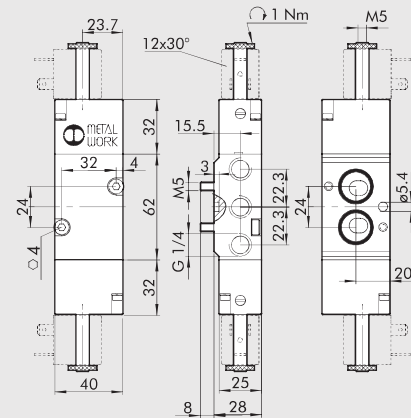


MONOSTABLE, SOLENOID/PNEUMATIC 5/2



Symbol	Code	Abbrev.	Weight [g]
	7021020100	SOV A5 SOS OO	234

BISTABLE, SOLENOID/PNEUMATIC 5/2



Symbol	Code	Abbrev.	Weight [g]
	7021020200	SOV A5 SOB OO	270

ACCESSORIES FOR NAMUR VALVES SOV, SOLENOID/PNEUMATIC

Refer to page **B1.60** for coils and connectors



NOTES