

VALVES MACH 16

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.

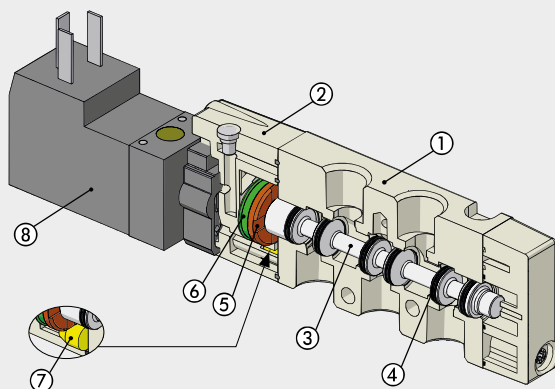


TECHNICAL DATA

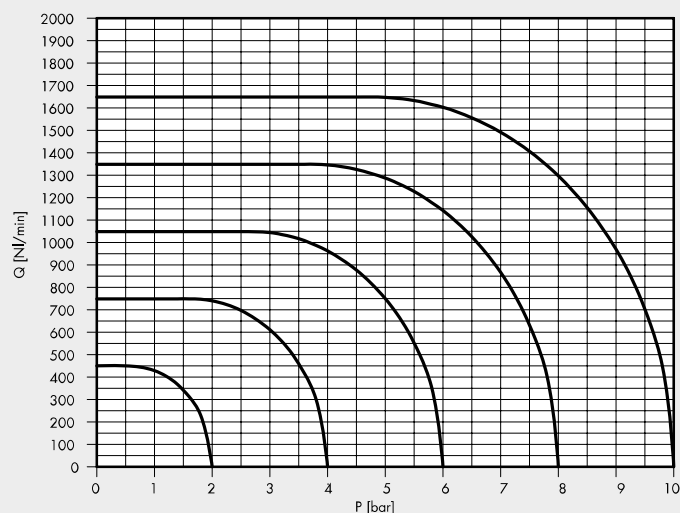
Valve port thread	1/8"
Type of control	M5 pneumatic actuation - Solenoid/pneumatic operation with integrated coil
Maximum outer diameter of gaskets for ports 1 - 3 - 5	mm
Maximum outer diameter for ports 2 - 4	mm
Operating temperature range	°C
Operating pressure	bar
• monostable - monostable 5/3	
• bistable	
• pilot-assisted	
Fluid	
Recommended lubricant	
Solenoid pilot with integrated coil	Vacuum to 10 pneumatic/1.9 to 10 solenoid/pneumatic
Hand operator	Vacuum to 10 pneumatic/1 to 10 solenoid/pneumatic
Number of ways in base	Vacuum to 10
Screws for wall-mounting single valve	Filtered lubricated or unlubricated air. Lubrication, if used, must be continuous
Screws for base-mounting valve	ISO e UNI FD22
Installation	DIN 43650 C-shape / EN 175301-803-C; M8 connection (available for 24VDC voltage)
Flow rate at 6 bar ΔP 0.5 bar	NI/min
Flow rate at 6 bar ΔP 1 bar	NI/min
Conductance C	NI/min · bar
Critical ratio b	bar/bar
Tightening torque M2.5 valve / base screws	Nm
Compatibility with oils	
	In any position (vertical assembly is not recommended for bistable valves subjected to vibration)
	540
	750
	149.8
	0.525
	0.5
	See chapter Z1

COMPONENTS

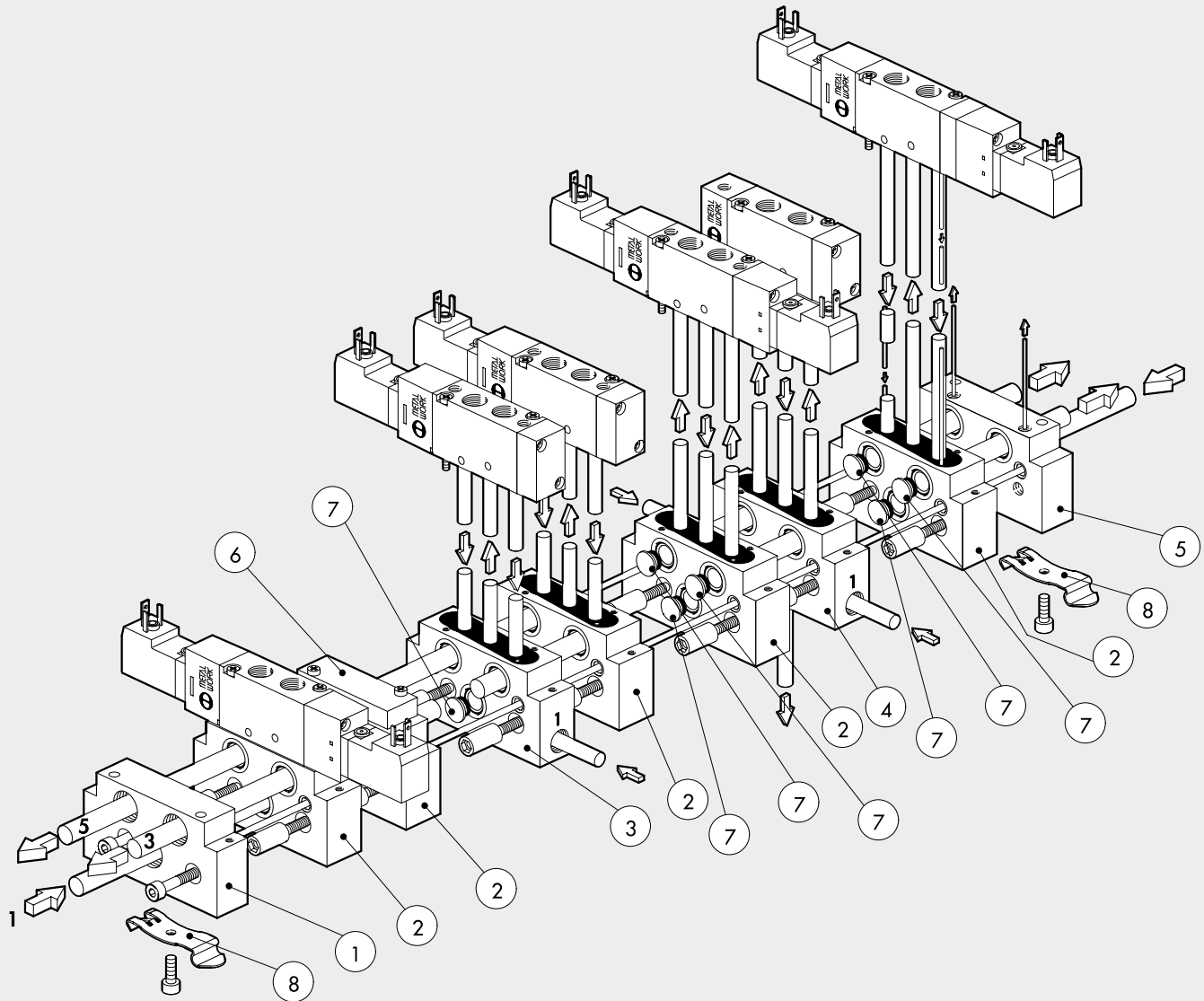
- ① VALVE BODY: Aluminium
- ② CONTROL/BASE: Hostaform®
- ③ SPOOL: Aluminium
- ④ GASKETS: Polyurethane
- ⑤ PISTONS: Hostaform®
- ⑥ PISTON GASKET: Polyurethane
- ⑦ INTERFACE GASKETS: sintered HDPE
- ⑧ PILOT: with integrated coil



FLOW CHART



MANIFOLD BASES



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

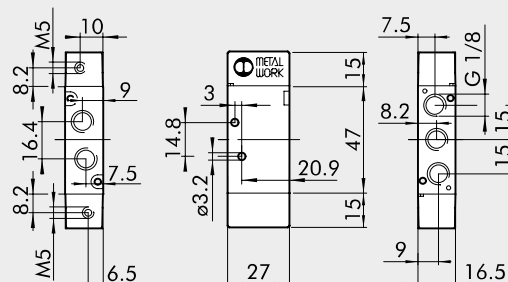
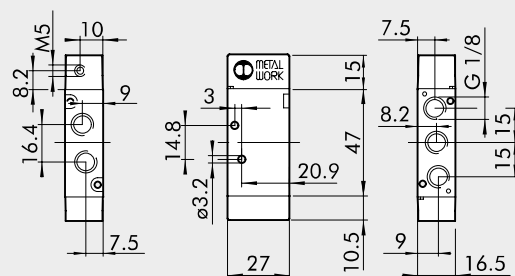
M S V FAMILY	2 DIMENSIONS	5 FUNCTION	S O OPERATORS 14	B RESETTING 12	O O FURTHER DETAILS	2 4 V D C VOLTAGE
MSV solenoid/pneumatic MPV pneumatic	2 1/8"	5 5/2 6 5/3	SO solenoid SE solenoid assisted PN pneumatic	P pneumatic spring S mechanical springs B bistable	OO no indication CC closed centres OC open centres PC pressure centres	24VDC 24VDC M8 24VAC 110VAC 220VAC

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



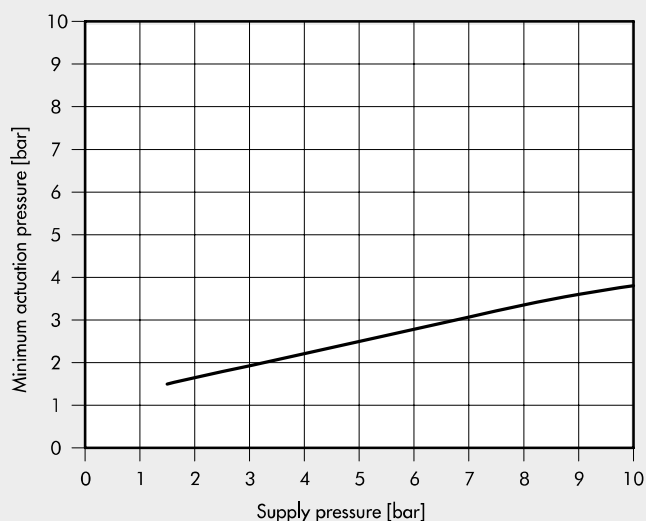
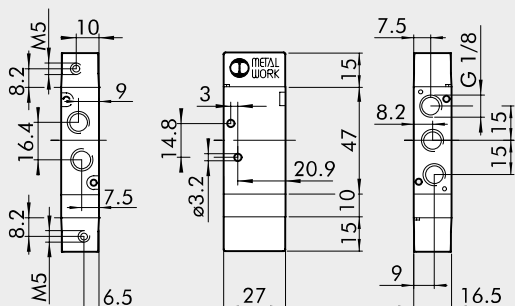
BISTABLE 5/2



Symbol	Code	Abbrev.	Weight [g]

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

OPERATING PRESSURE



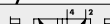
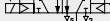
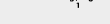
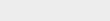
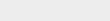
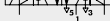
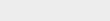
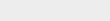
Symbol	Code	Abbrev.	Weight [g]
	7062010210	MPV 26 PNS CC	73
	7062010310	MPV 26 PNS OC	73
	7062010410	MPV 26 PNS PC	73

TECHNICAL DATA

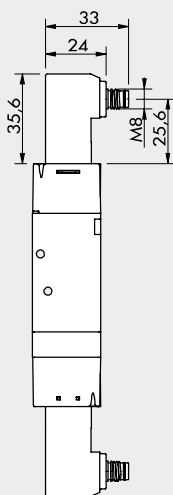
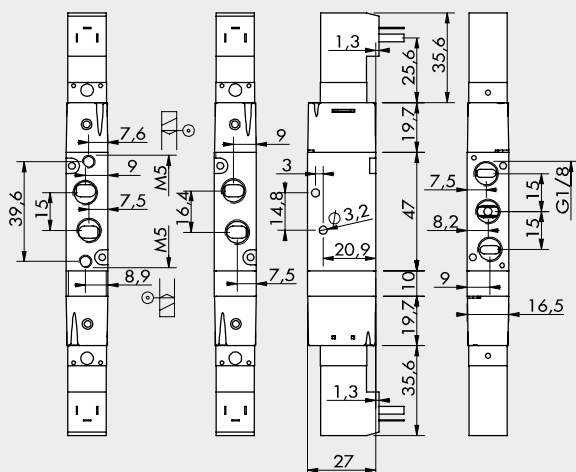
Operating pressure:	bar	
• monostable, monostable 5/3		1.9 to 10
• bistable		1 to 10
• pilot-assisted		Vacuum to 10
Minimum pilot pressure	bar	2
Operating temperature range	°C	-10 to +60
Conductance C	Nl/min · bar	149.8
Critical ratio b	bar/bar	0.525
Flow rate at 6 bar ΔP 0.5 bar	Nl/min	540
Flow rate at 6 bar ΔP 1 bar	Nl/min	750
TRA / TRR monostable at 6 bar	ms	12 / 26
TRA / TRR bistable at 6 bar	ms	21 / 21
Hand operator		monostable on the solenoid pilot (also 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 / EN 175301-803-C M8 connection *

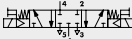
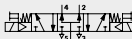
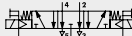
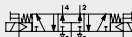
Symbol	Code	Abbrev.	Weight [g]
	70620201012	MSV 25 SOP OO 24VDC	92
	70620201010M	MSV 25 SOP OO 24VDC M8	92
	706202010103	MSV 25 SOP OO 24VAC	92
	706202010104	MSV 25 SOP OO 110VAC	92
	706202010105	MSV 25 SOP OO 220VAC	92
	70620201312	MSV 25 SOS OO 24VDC	93
	70620201310M	MSV 25 SOS OO 24VDC M8	93
	70620201313	MSV 25 SOS OO 24VAC	93
	70620201314	MSV 25 SOS OO 110VAC	93
	70620201315	MSV 25 SOS OO 220VAC	93
	70620301312	MSV 25 SES OO 24VDC	93
	70620301310M	MSV 25 SES OO 24VDC M8	93
	70620301313	MSV 25 SES OO 24VAC	93
	70620301314	MSV 25 SES OO 110VAC	93
	70620301315	MSV 25 SES OO 220VAC	93


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

Symbol	Code	Abbrev.	Weight [g]
	7062020112	MSV 25 SOB OO 24VDC	124
	706202011M	MSV 25 SOB OO 24VDC M8	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
	706203011M	MSV 25 SEB OO 24VDC M8	125
	7062030113	MSV 25 SEB OO 24VAC	125
	7062030114	MSV 25 SEB OO 110VAC	125
	7062030115	MSV 25 SEB OO 220VAC	125

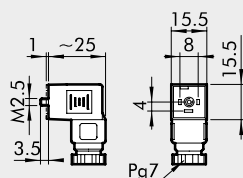

 1 Not used
 3 0 V (Operation also with reverse polarity)
 4 +24V



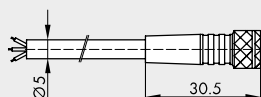
Symbol	Code	Abbrev.	Weight [g]
	7062020212	MSV 26 SOS CC 24VDC	142
	706202021M	MSV 26 SOS CC 24VDC M8	142
	7062020213	MSV 26 SOS CC 24VAC	142
	7062020214	MSV 26 SOS CC 110VAC	142
	7062020215	MSV 26 SOS CC 220VAC	142
	7062020312	MSV 26 SOS OC 24VDC	142
	706202031M	MSV 26 SOS OC 24VDC M8	142
	7062020313	MSV 26 SOS OC 24VAC	142
	7062020314	MSV 26 SOS OC 110VAC	142
	7062020315	MSV 26 SOS OC 220VAC	142
	7062020412	MSV 26 SOS PC 24VDC	142
	706202041M	MSV 26 SOS PC 24VDC M8	142
	7062020413	MSV 26 SOS PC 24VAC	142
	7062020414	MSV 26 SOS PC 110VAC	142
	7062020415	MSV 26 SOS PC 220VAC	142
	7062030212	MSV 26 SES CC 24VDC	143
	706203021M	MSV 26 SES CC 24VDC M8	143
	7062030213	MSV 26 SES CC 24VAC	143
	7062030214	MSV 26 SES CC 110VAC	143
	7062030215	MSV 26 SES CC 220VAC	143
	7062030312	MSV 26 SES OC 24VDC	143
	706203031M	MSV 26 SES OC 24VDC M8	143
	7062030313	MSV 26 SES OC 24VAC	143
	7062030314	MSV 26 SES OC 110VAC	143
	7062030315	MSV 26 SES OC 220VAC	143
	7062030412	MSV 26 SES PC 24VDC	143
	706203041M	MSV 26 SES PC 24VDC M8	143
	7062030413	MSV 26 SES PC 24VAC	143
	7062030414	MSV 26 SES PC 110VAC	143
	7062030415	MSV 26 SES PC 220VAC	143



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



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

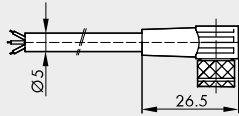


Pin	Cable color
1	Brown
3	Blue
4	Black

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

Very flexible cables, class 6 according to IEC 60228

90° M8 CONNECTOR WITH CABLE

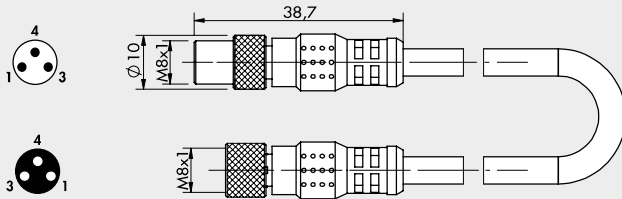


Pin	Cable color
1	Brown
3	Blue
4	Black

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

Very flexible cables, class 6 according to IEC 60228

M8 M - M8 F CONNECTOR

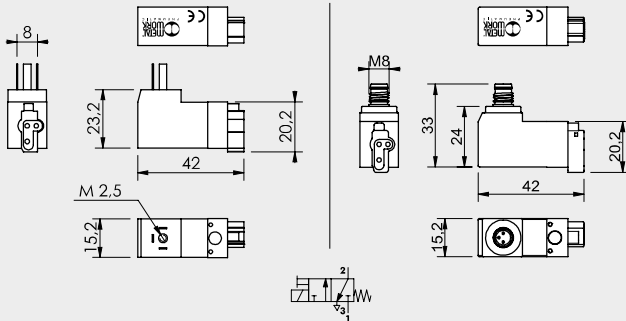


Code	Description
0240009009	M8-M8 3-pin straight connector with cable L = 3 m

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

SPARE PARTS FOR VALVES MACH 16 MSV, SOLENOID/PNEUMATIC

COIL MACH 16

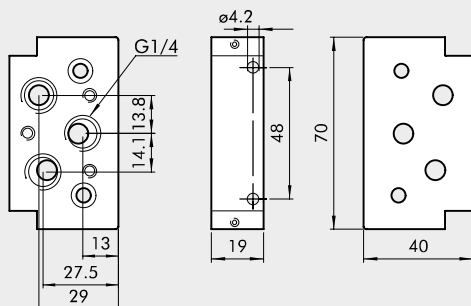


Code	Description
W4015301000	In-line pilot 24VDC
W4015301210	In-line pilot 24VDC M8
W4015301010	In-line pilot 24VAC 50/60 HZ
W4015301020	In-line pilot 110VAC 50/60 HZ
W4015301030	In-line pilot 220VAC 50/60 HZ

NOTES

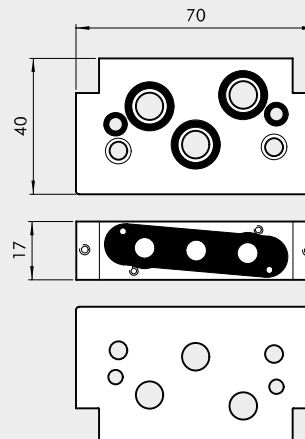
MANIFOLD BASES FOR VALVES MACH 16

① MACH 16 INPUT END-PLATE



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

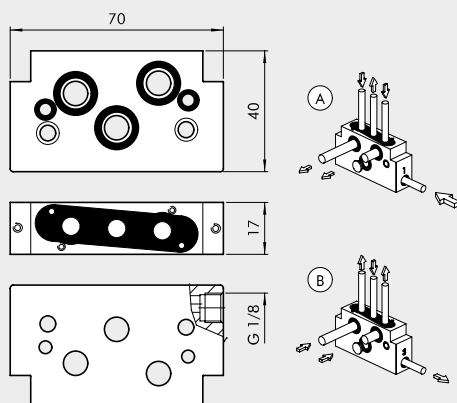
② MACH 16 MANIFOLD BASE



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

③ MACH 16 SEPARATE FEED MANIFOLD BASE

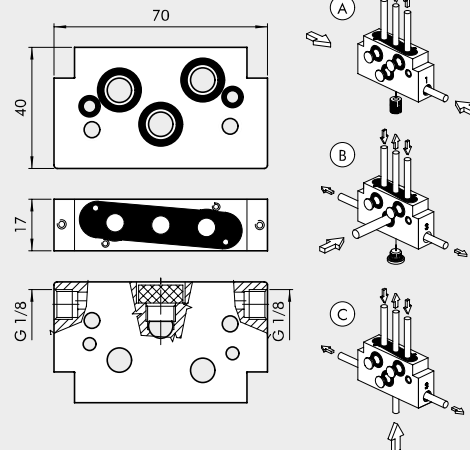
- Ⓐ Separate feed
- Ⓑ Separate exhaust



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

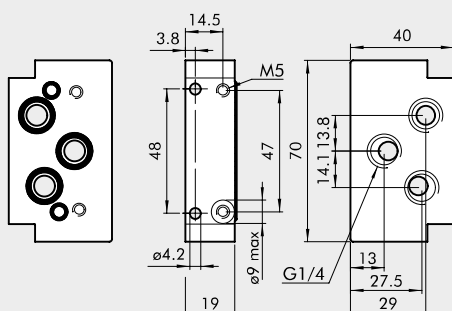
④ MACH 16 EXHAUST FEED MANIFOLD BASE

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



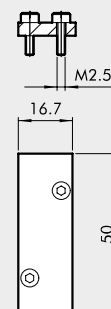
Code	Description	Weight [g]
0227100302	Manifold base kit-exhaust feed M16	113

⑤ MACH 16 OUTPUT END-PLATE



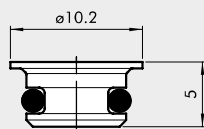
Code	Description	Weight [g]
0227100200	Output end-plate kit M16/VDMA	122

⑥ BLANKING PLATE – UNUSED POSITION



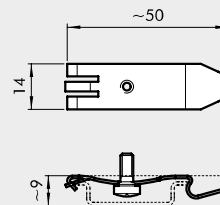
Code	Description	Weight [g]
0225004500	Accessories - blanking plate for Mach 16	18

⑦ INTERMEDIATE DIAPHRAGM



Code	Description	Weight [g]
0227100000	Intermediate diaphragm	1

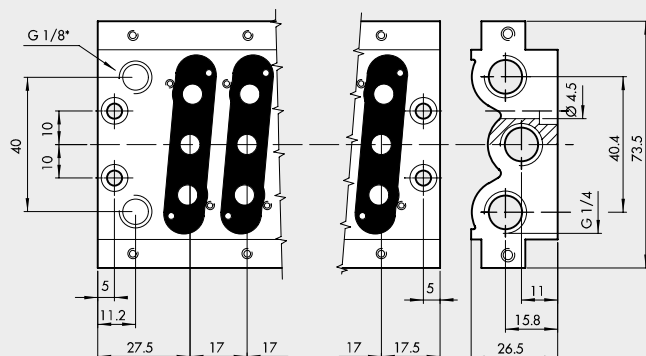
⑧ CONNECTION BRACKET ON BAR OMEGA (DIN EN 50022)



Code	Description	Weight [g]
0227300600	Connection bracket on DIN bar	7

MULTIPLE BASES FOR VALVES MACH 16

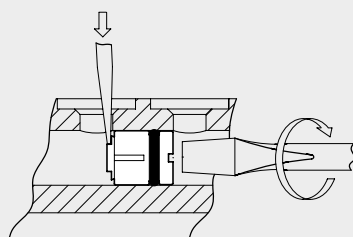
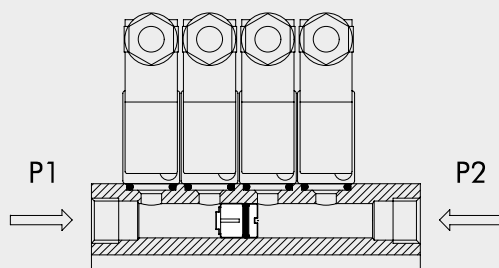
MULTIPLE BASE FOR MACH 16



* Exhaust solenoid pilots

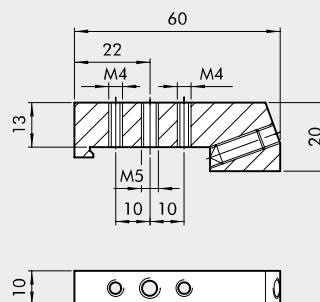
Code	Description	N° of positions	Weight [g]
0225000201	Base CVM.PN-08-02-0-000	2	180
0225000401	Base CVM.PN-08-04-0-000	4	286
0225000601	Base CVM.PN-08-06-0-000	6	390
0225000801	Base CVM.PN-08-08-0-000	8	500
0225001001	Base CVM.PN-08-10-0-000	10	613
0225001201	Base CVM.PN-08-12-0-000	12	706

INTERMEDIATE DIAPHRAGM



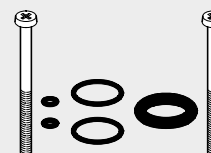
Code	Description	Weight [g]
0227100001	Acc. multiple base diaphragm	6

ADAPTER FOR BAR OMEGA (DIN EN 50022)



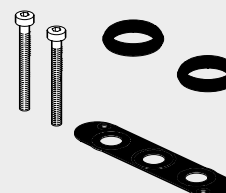
Code	Description	Weight [g]
0225004600	Omega-adapter Mach 16	46

GASKET KIT (FOR OLD BASES)



Code	Description	Weight [g]
0226007001	M16 multiple base gasket kit	5

KIT OF SPARE INTEGRATED GASKET



Code	Description	Weight [g]
0226007003	M16 multiple base gasket kit	5