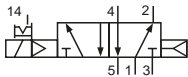


Technical details

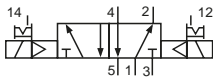
Connection	Sub-base mounting (1, 3 and 5) and G1/8 (2 and 4)
Nominal size	3 mm
Temperature range	-10°C ... +70°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass
Protection	IP 65 according to EN 60529



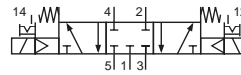
Electrically operated spool valve. The manual override is detent and is operated by screwdriver. Gaskets and screws are part of delivery.

5/2-way valves


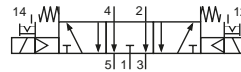
MF-04-510-HN-xxx
5/2-way, single solenoid, air spring return



MF-04-520-HN-xxx
5/2-way, double solenoid

5/3-way valves


MF-04-530-HN-xxx
5/3-way, center position closed



MF-04-533-HN-xxx
5/3-way, center position exhausted

Please complete: xxx = electrical option

Elektrische Ausführungen

Nominal voltage	Power consumption	Specifics	Plug connection*1	-xxx electrical pins on same side of ports	
				2 and 4	1, 3 and 5
12 V DC	1 W		Form C industrial norm	-441	-411
24 V DC	1 W		Form C industrial norm	-442	-412

*1 Plug socket not included, suitable plug sockets see page 4.

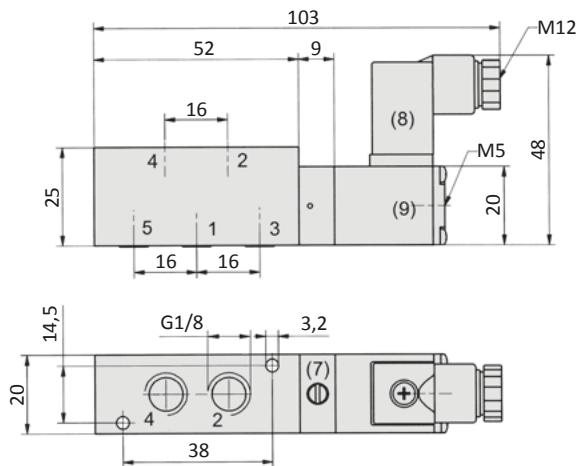
Series MF-04

Technical details

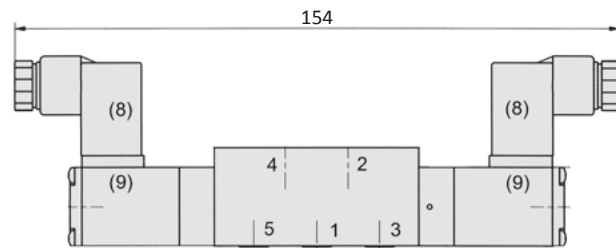
Model-no.:	MF-04-510	MF-04-520	MF-04-530	MF-04-533
Operating pressure (bar)	2,5 ... 8	2,5 ... 8	3 ... 8	3 ... 8
Pilot pressure (bar)	2,5 ... 8	2,5 ... 8	3 ... 8	3 ... 8
Flow rate (NI/min)	360	360	360	360
Response time (ms) at 6 bar	on: 13 off: 16	on: 11 off: 11	on: 15 off: 22	on: 15 off: 22
Weight (kg)	0,112	0,181	0,180	0,178

Dimensions

MF-04-510-HN



MF-04-520-HN, MF-04-53x-HN



- 1 = pressure inlet
- 2,4 = outlets
- 3,5 = exhausts

Plug socket (not included in scope of delivery) can be repositioned by 180°.
Solenoid coil can be repositioned by 4 x 90°.

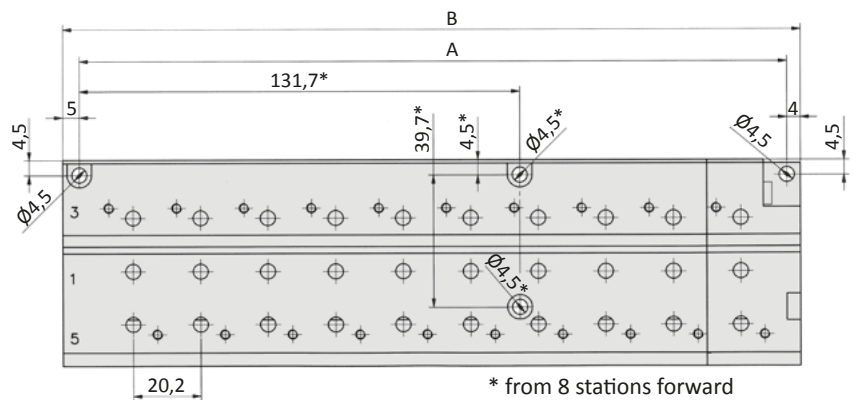
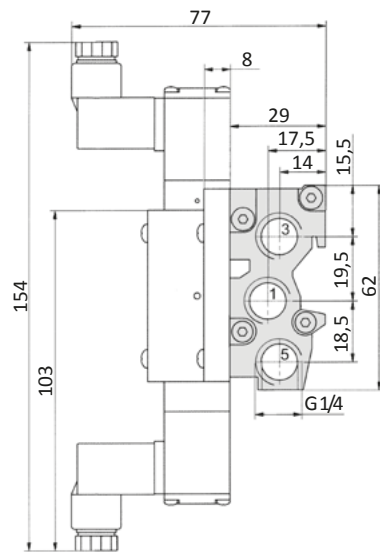
General information

The RF-24/n manifolds are suitable for the MF-04 valve series. This is a modular system and extendable up to 12 stations.

Blind plates RF-04-V are available for blank stations.

All mounting screws and the gasket are part of delivery of the valves.

Material: Al (anodized)


Dimensions RF-24/n


n = number of stations
 1 = pressure inlet
 3,5 = exhausts

Model-no.:	A	B	Weight (kg)
RF-24/2-P	50	59	0,202
RF-24/3-P	70,2	79,2	0,263
RF-24/4-P	90,4	99,4	0,324
RF-24/5-P	110,6	119,6	0,385
RF-24/6-P	130,8	139,8	0,447
RF-24/7-P	151	160	0,508
RF-24/8-P	171,2	180,2	0,567
RF-24/9-P	191,4	200,4	0,628
RF-24/10-P	211,6	220,6	0,708
RF-24/11-P	231,8	240,8	0,769
RF-24/12-P	252	261	0,831

Plug sockets

Form C industrial norm

Overall width	15 mm
Contact distance	9,4 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 requires a flat gasket



Model-no.:	28-ST-02-01	28-ST-09-112	28-ST-10-112	28-ST-10-K3-112 *
Voltage (AC/DC)	0 - 250 V	10 - 50 V	24 V	24 V
Status indicator	no	yes	yes	yes
Protective circuit	no	no	yes (varistor)	yes (varistor)
Connecting cable	without	without	without	3 m
Wire cross section	max. 0.75 mm ²	max. 0.75 mm ²	max. 0.75 mm ²	3 x 0.5 mm ²
Ø Connecting cable	4 - 6 mm	4 - 6 mm	4 - 6 mm	

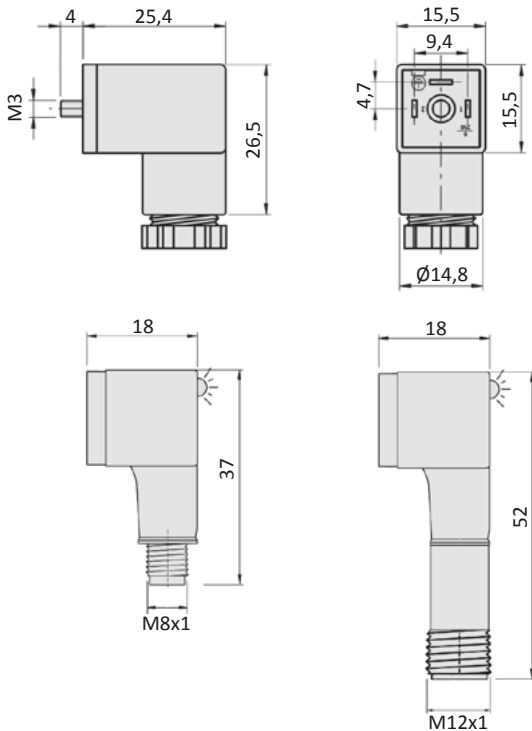
Model-no.:	28-ST-02-2-05	28-ST-02-2-07
Voltage (AC/DC)	24 V	24 V
Status indicator	yes	yes
Protective circuit	yes (varistor)	yes (varistor)
Connection	M8	M12



* These plug sockets are fitted with integrated flat gaskets.

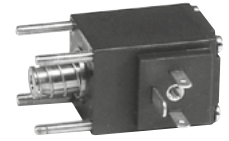
Dimensions

Form C industrial norm



Form C industrial norm

Overall width	20 mm
Contact distance	9,4 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range*	-20°C...+50°C
Voltage tolerance	± 10 %

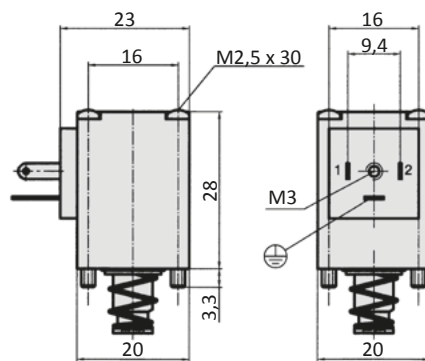


* The max. applicable operating temperature depends on the temperature specification of the used valve.

Model-no.:	23-M-20-411	23-M-20-412
Voltage	12 V DC	24 V DC
Power consumption DC	2 W	2 W
Power consumption AC	-	-

Dimensions

Form C industrial norm



Voltage code

- HN * - * * *				
Manual override	Coil and plug options	Coil type	Manual override position on side of	Voltage
HN detent	0 ATEX 2GD, encapsulated with casting compound width 30 mm	23-SP-037	0 without indication ports 1/3/(5)	0 without indication
HNR detent	1 with coil and plug	according to valve	1 DC ports 1/3/(5)	1 12 V
HNT non-detent	2		2 AC ports 1/3/(5)	2 24 V
	3		3 AC ports 1/3/(5)	3 42 V
	4 with coil, without plug	according to valve	4 DC, low power consumption ports 1/3/(5)	4 48 V
	5 without coil	no	5 DC ports 2/(4)	5 110 V
	6 without pilot valve	no	6 DC ports 2/(4)	6 115 V
	7 with coil, with enhanced humidity resistance, without plug	according to valve	7 AC ports 2/(4)	7 230 V
	8 with coil, with enhanced humidity resistance, with plug	according to valve	8 DC, low power consumption ports 2/(4)	8 240 V
	9 ATEX 2GD, intrinsically safe, with plug width 30 mm	23-SP-038	9 without indication ports 2/(4)	9
	A ATEX 3GD, without plug, width 30 mm	23-SP-040		A 4 V
	B ATEX 3GD, with plug, width 30 mm	23-SP-040		B 6 V
	C ATEX 3GD, without plug, width 22 mm	23-SP-041		C 8 V
	D			D 61 V
	E ATEX 2GD, encapsulated with casting compound width 22 mm	23-SP-036		E 36 V
	F with coil, with enhanced humidity resistance, without plug, low temperature version	23-SP-060-1		F 9 V
	G			
	H with coil shape B according to DIN EN 175301-803, with plug	23-SP-011-G		
	I with coil shape B according to DIN EN 175301-803, without plug	23-SP-011-G		
	J with coil shape A according to DIN EN 175301-803, without plug (if not standard)	23-SP-016		
	K with coil shape A according to DIN EN 175301-803, with plug (if not standard)	23-SP-016		
	L with coil, with plug with LED and protective circuit	according to valve		
	M with coil, with plug with LED, without protective circuit	according to valve		
	N with coil with M12 connection	according to valve		
	O with coil with M12 connection with LED and protective circuit	according to valve		
	P without connector bridge, without plug			
	Q with coil with cable	according to valve		
	R with cable up to 1 m length	according to valve		
	S with connector bridge, without plug			
	T			
	U ATEX 2GD, without coil (for coil 23-SP-036)	no		
	V ATEX 2GD, Flame proof enclosure and encapsulated with casting compound	23-SP-045		
	W ATEX 2GD / 3GD, without coil (for coil 23-SP-041 and 23-SP-045)	no		
	X ATEX 3GD, without coil (for coil 23-SP-040 in 230V AC and 115V AC)	no		
	Y ATEX 2GD, without coil (for coil 23-SP-038)	no		
	Z ATEX 2GD / 3GD, without coil (for coil 23-SP-040 in 24V DC and 23-SP-037)	no		

Not all options are suitable for all valve series