

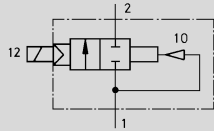
# Valves for Special Applications

2/2 - 2 Way, 2 Position Valves 1/4" to 1-1/2" NPT / G 1/4 to G 1-1/2

**FESTO**

## Single Solenoid Valve

Spring Return  
Brass Housing  
Type MN1H-...-MS



### Accessories:

Order Separately

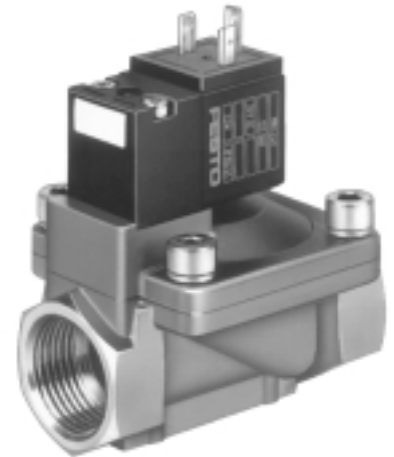
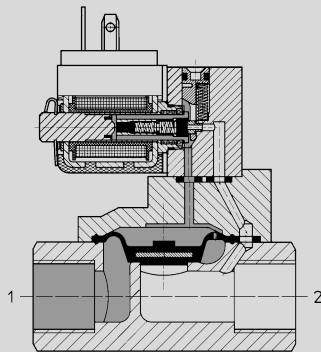
Solenoid coils, see page 731.

Sockets/cables, Types KMC-..., MSSD-C, see pages 734-735.

LED gaskets Types MC-..., MCL-..., see pages 738-739.

Manual override, 157651 AHB-MD/MF/MV

Nameplates, 18182 IBS-9 x 20



When the solenoid is energized, the valve shifts and remains shifted until the solenoid is de-energized.

Note: When pressure is first supplied to the valve, the diaphragm will open momentarily.

Caution: When using liquids, pressure surges may occur when valve is energized.

Response Time (per VDI 3290)

Type	Compressed Air (ms)		Water (ms)	
	On	Off	On	Off
MN1H-2-1/4-...	30	100	50	220
MN1H-2-3/8-...	30	100	50	220
MN1H-2-1/2-...	30	100	50	220
MN1H-2-3/4-B-...	120	180	75	350
MN1H-2-1-B-...	120	180	75	350
MN1H-2-1-1/2-...	230-440	300-1000	230-550	1000-14,000

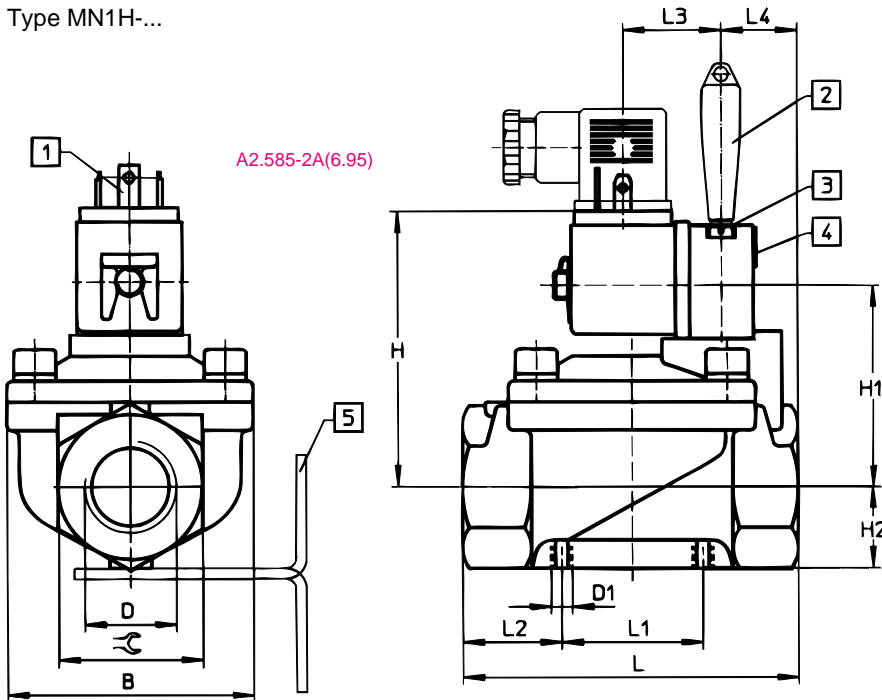
Order Number Part No./Type	ISO Connection	161725	161727	161728	161731	161732	161734
		MN1H-2-1/4-MS	MN1H-2-3/8-MS	MN1H-2-1/2-MS	MN1H-2-3/4-MS	MN1H-2-1-MS	MN1H-2-1-1/2-MS
NPT Connection		161724	161726	161729	161730	161733	161735
		MN1H-2-1/4-MS-NPT	MN1H-2-3/8-MS-NPT	MN1H-2-1/2-MS-NPT	MN1H-2-3/4-MS-NPT	MN1H-2-1-MS-NPT	MN1H-2-1-1/2-MS-NPT
+ Voltage supply							
Bracket		9769 HRM-1			9770 HRM-2		9771 HRM-3
Medium*		Compressed air (filtered, lubricated or unlubricated) distilled water**, mineral-oil base hydraulic oil up to 0.34 sq in / sec / 22 mm <sup>2</sup> / sec					
Design		Diaphragm seat valve					
Mounting		In line, mounting bracket or through holes in housing					
Connection		1/4 NPT / G 1/4	3/8 NPT / G 3/8	1/2 NPT / G 1/2	3/4 NPT / G 3/4	1 NPT / G 1	1-1/2 NPT / G 1-1/2
Orifice Size		0.52 in / 13 mm	0.52 in / 13 mm	0.52 in / 13 mm	0.79 in / 20 mm	0.98 in / 25 mm	1.58 in / 40 mm
C <sub>v</sub> Factor (1 → 2)		C <sub>v</sub> / l/min		C <sub>v</sub> / 3100 l/min		C <sub>v</sub> / 10,000 l/min	
		2.0 C <sub>v</sub> / 2000 l/min	2.9 C <sub>v</sub> / 2900 l/min	3.1 C <sub>v</sub> / 3100 l/min	10 C <sub>v</sub> / 10,000 l/min	11.5 C <sub>v</sub> / 11,500 l/min	30.5 C <sub>v</sub> / 30,500 l/min
Flow Rate For Water (kv)		ft <sup>3</sup> /h / m <sup>3</sup> /h		ft <sup>3</sup> /h / m <sup>3</sup> /h		ft <sup>3</sup> /h / m <sup>3</sup> /h	
		64.19 / 1,818	93.08 / 2,636	99.51 / 2,818	321.01 / 9,091	369.17 / 10,455	979.06 / 27,727
Pressure Range		7.5 to 150 psi / 0.5 to 10 bar					
Min. Differential Pressure to Open		12 psi / 0.8 bar					
Response Time at 90 psi / 6 bar		See table above					
Ambient Temperature		14 to 95°F / -10 to +35°C (for water: 14 to 140°F / -10 to 60°C)					
Medium Temperature		14 to 176°F / -10 to +80°C (for water: 14 to 140°F / -10 to 60°C)					
Materials		Housing: Brass; Diaphragm: Buna N					
Weight		0.99 lb / 0.45 kg	0.99 lb / 0.45 kg	0.88 lb / 0.40 kg	2.43 lb / 1.10 kg	2.20 lb / 1.0 kg	5.73 lb / 2.60 kg
Standard Voltage		DC		24V			
		AC		110V / 50 to 60 Hz, 230V / 50 to 60 Hz			
Power Consumption		Holding / Inrush		2.5W		3.7 / 5VA	
Duty Cycle		100%					
Type of Protection (DIN 40050)		IP 65 with socket					

\* Other media on request. \*\*PH value approx. 7-9.

# Valves for Special Applications

## 2/2 - 2 Way, 2 Position Valves

Type MN1H-...



Max. tightening torque:

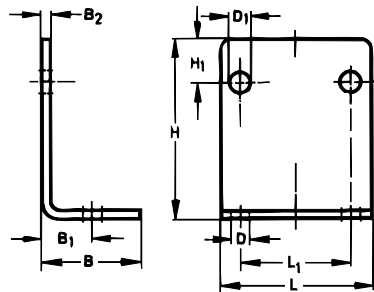
1/4" NPT / G 1/4 ISO...25.82 lb-ft / 35 N-m  
 3/8" NPT / G 3/8 ISO...44.26 lb-ft / 60 N-m  
 1/2" NPT / G 1/2 ISO...77.45 lb-ft / 105 N-m  
 3/4" NPT / G 3/4 ISO...147.51 lb-ft / 200 N-m  
 1" NPT / G 1 ISO...280.27 lb-ft / 380 N-m  
 1-1/2" NPT / G 1-1/2 ISO...626.96 lb-ft / 850 N-m

1 (P) = Supply  
 2 (A) = Outlet

- 1 Connection for socket per DIN 43650 Form A
- 2 Manual override actuator, detented
- 3 Manual override without actuator, not detented
- 4 Location of nameplate, Type IBS-9 x 20
- 5 Bracket, Type HRM-...

Type	B in / mm	D	D <sub>1</sub>	H in / mm	H <sub>1</sub> in / mm	H <sub>2</sub> in / mm	L in / mm	L <sub>1</sub> in / mm	L <sub>2</sub> in / mm	L <sub>3</sub> in / mm	L <sub>4</sub> in / mm	 mm
MN1H-2-1/4-...	1.89 / 48	1/4" NPT / G 1/4	M4	2.64 / 67	1.81 / 46	0.59 / 15	2.64 / 67	0.98 / 25	0.83 / 21	1.04 / 26.5	0.79 / 20	27
MN1H-2-3/8-...	1.89 / 48	3/8" NPT / G 3/8	M4	2.64 / 67	1.81 / 46	0.59 / 15	2.64 / 67	0.98 / 25	0.83 / 21	1.04 / 26.5	0.79 / 20	27
MN1H-2-1/2-...	1.89 / 48	1/2" NPT / G 1/2	M4	2.64 / 67	1.81 / 46	0.59 / 15	2.64 / 67	0.98 / 25	0.83 / 21	1.04 / 26.5	0.79 / 20	27
MN1H-2-3/4-...	2.76 / 70	3/4" NPT / G 3/4	M6	3.07 / 78	2.24 / 57	0.91 / 23	3.74 / 95	1.57 / 40	1.08 / 27.5	1.04 / 26.5	0.85 / 21.5	41
MN1H-2-1-...	2.76 / 70	1" NPT / G 1	M6	3.07 / 78	2.24 / 57	0.91 / 23	3.74 / 95	1.57 / 40	1.08 / 27.5	1.04 / 26.5	0.85 / 21.5	41
MN1H-2-1-1/2-...	3.78 / 96	1-1/2" NPT / G 1-1/2	M6	3.60 / 91.5	2.78 / 70.5	1.24 / 31.5	5.51 / 140	2.34 / 59.5	1.51 / 38.3	1.04 / 26.5	1.18 / 30	58

Type HRM-...



Bracket									
Type	B	B1	B2	D Ø	D1 Ø	H	H1	L	L1
	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm
HRM-1	0.98 / 25	0.49 / 12.5	0.08 / 2	0.24 / 6	0.20 / 5	1.46 / 37	0.39 / 10	1.57 / 40	0.98 / 25
HRM-2	1.38 / 35	0.69 / 17.5	0.12 / 3	0.28 / 7	0.28 / 7	2.60 / 66	0.63 / 16	2.16 / 55	1.57 / 40
HRM-3	1.85 / 47	0.93 / 23.5	0.12 / 3	0.35 / 9	0.28 / 7	3.43 / 87	0.91 / 23	2.95 / 75	2.34 / 59.5