

- Directly actuated valves
- Miniaturised design
- Flexible construction of valve manifolds
- Rapid response times of 4 ms
- Short cycle times
- Accurate cycle times

The full range for ultrafast fields of application

FESTO



Extremely miniaturized

The new miniaturized generation of poppet valves: You can choose between flow rates of 14 l/min on the 2/2-way versions or 10 l/min on the 3/2-way version. Either as individual sub-base valve or preassembled on the PR manifold. Incidentally: if used on the PR manifold, it is possible to implement an extremely high packing density.

Fast and virtually predestined for more stringent demands: The big brother MH2 with a flow rate up to 100 l/min.

Extremely versatile and fast

All new miniature valves can be interlinked by pneumatic multi-pin and electrical multi-pin. Even the electrical terminals offer selection options between horizontal, top and bottom.

One other interesting variant is mounting on an electronic printed circuit board including connection.

Everything tested and assembled in advance for Festo plug and work. And if the system is to run as fast as possible – no problem: the switching times of the miniature valves are around 4 ms.

Extreme partnership

Festo offers a broad product range of drives, rodless drives, miniature slides, rotary actuators and accessories under the generic term "compact". Optimally intermatched and aimed at manufacturing sectors which produce and process very small products. Everything incorporating the proverbial Festo quality and with all added values offered by a company operating worldwide.

Miniature valves not only for the electronics industry ...

...but also for the light assembly industry, medical engineering, semiconductor industry and process industry. Wherever extremely compact and ultrafast switching valves are needed. No speed needs are left to be desired with switching times of approx. 4 ms. Vacuum functions can be also implemented in an extremely easy manner. 100% duty and even three-shift operation guarantee maximum economy.

With flow rates of 10 and 14 l/min on the miniature valves, there is still adequate volume available for piloting process valves. And there is also adequate flow rate for the broad range of compact cylinders, rotary actuators and slides from Festo. Up to 100 l/min if demands are high: MH2.



Solenoid valves MH1, miniature

Product range overview



Function	Symbol	Version	Response time [ms]	Voltage [V DC]			→ Page
			4	5	12	24	
2/2-way valve	Standard nominal flow rate 14 l/min						
		Semi in-line valve	■	■	■	■	2 / 3.1-6
		Sub-base valve	■	■	■	■	2 / 3.1-17
3/2-way valve ¹⁾	Standard nominal flow rate 10 l/min						
		Semi in-line valve	■	■	■	■	2 / 3.1-6
		Sub-base valve	■	■	■	■	2 / 3.1-17


1) Can be used as a 2/2 way valve by sealing connection 1 or 3

Mounting options			
Mechanical connection		Semi in-line valve	Sub-base valve
Electrical connection			
Plug connection at rear (HC)			
	Individual sub-base	■	■
	Manifold mounting	■	■
Plug connection on top (TC)			
	Individual sub-base	■	■
	Manifold mounting	■	■
Plug connection underneath (PI)			
	Individual sub-base with plug base	■	■
	Manifold mounting with plug bases	■	■
	Manifold mounting with plug bases and electrical multi-pin connection	■	■
	Manifold mounting on PCB with soldering bases	■	■
	Manifold mounting on PCB with soldering bases and pneumatic multiple connector plate	–	■

Solenoid valves MH1, miniature

Type code

		MH	P	1	-	M	4	H	-	3/2	-	O	-	M3	-	HC
Valve family																
MH	Miniature and fast-switching valves															
Design																
P	Semi in-line valve															
A	Sub-base valve															
Size																
1	Flow rates 10 ... 14 l/min															
Drive function																
M	Solenoid, switching															
Operating voltage																
4	5 V DC															
5	12 V DC															
1	24 V DC															
Manual override																
H	Resetting															
Valve function																
2/2	2/2-way valve															
3/2	3/2-way valve															
Normal position																
G	Closed															
O	Open															
Pneumatic connection																
0.6	Nominal size 0.65 mm															
0.9	Nominal size 0.9 mm															
M3	Thread M3															
Electrical connection																
HC	Plug connection at rear for plug socket KMH															
TC	Plug connection on top for plug socket KMH															
PI	Plug connection underneath for plug-in connection															

-  - Note

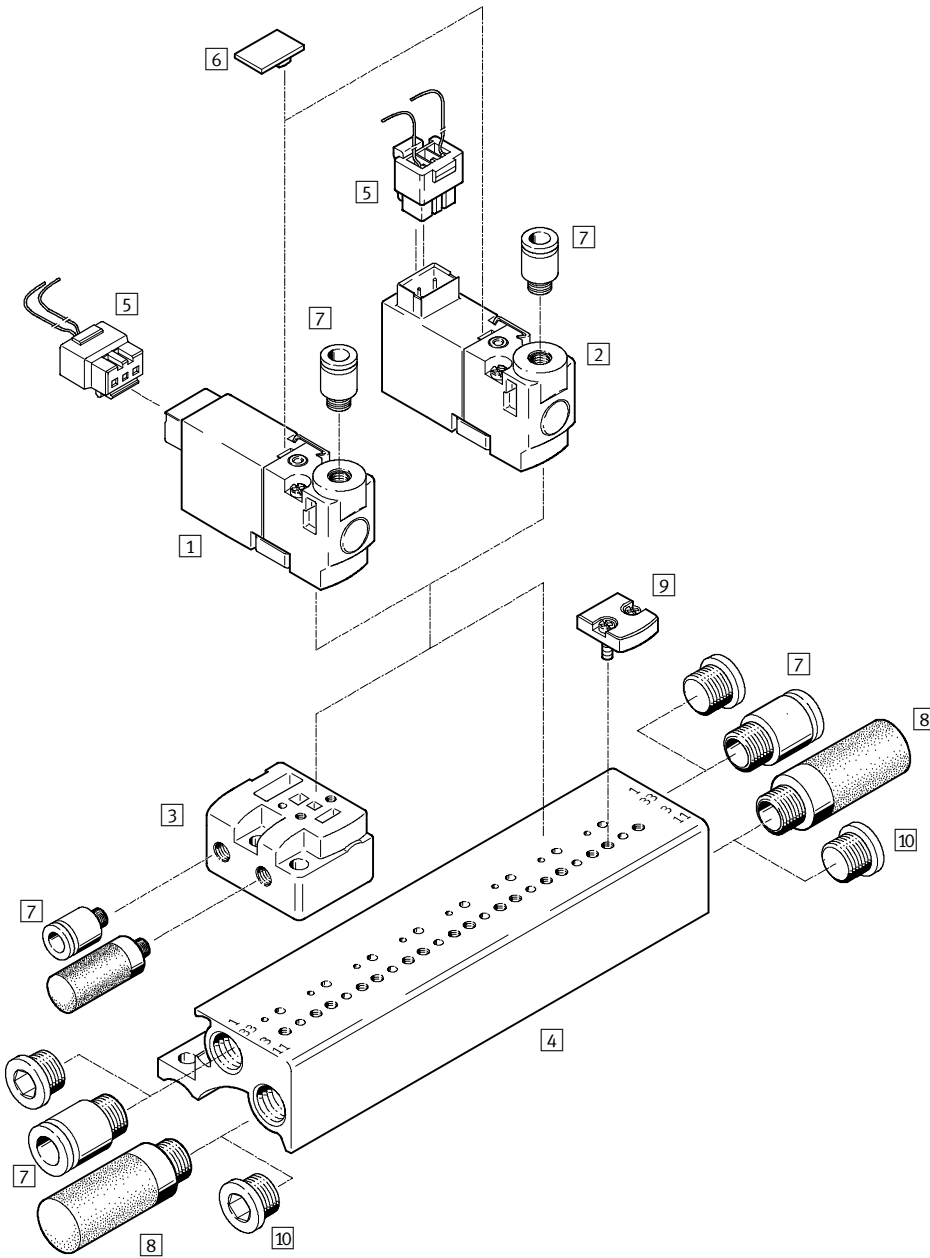
Additional variants and accessories can be configured and ordered through the MH1 modular product system → from 2 / 3.1-28

Solenoid valves MHP1, miniature

Peripherals overview – Semi in-line valve



Plug connection at rear ...-HC
 Plug connection on top ...-TC



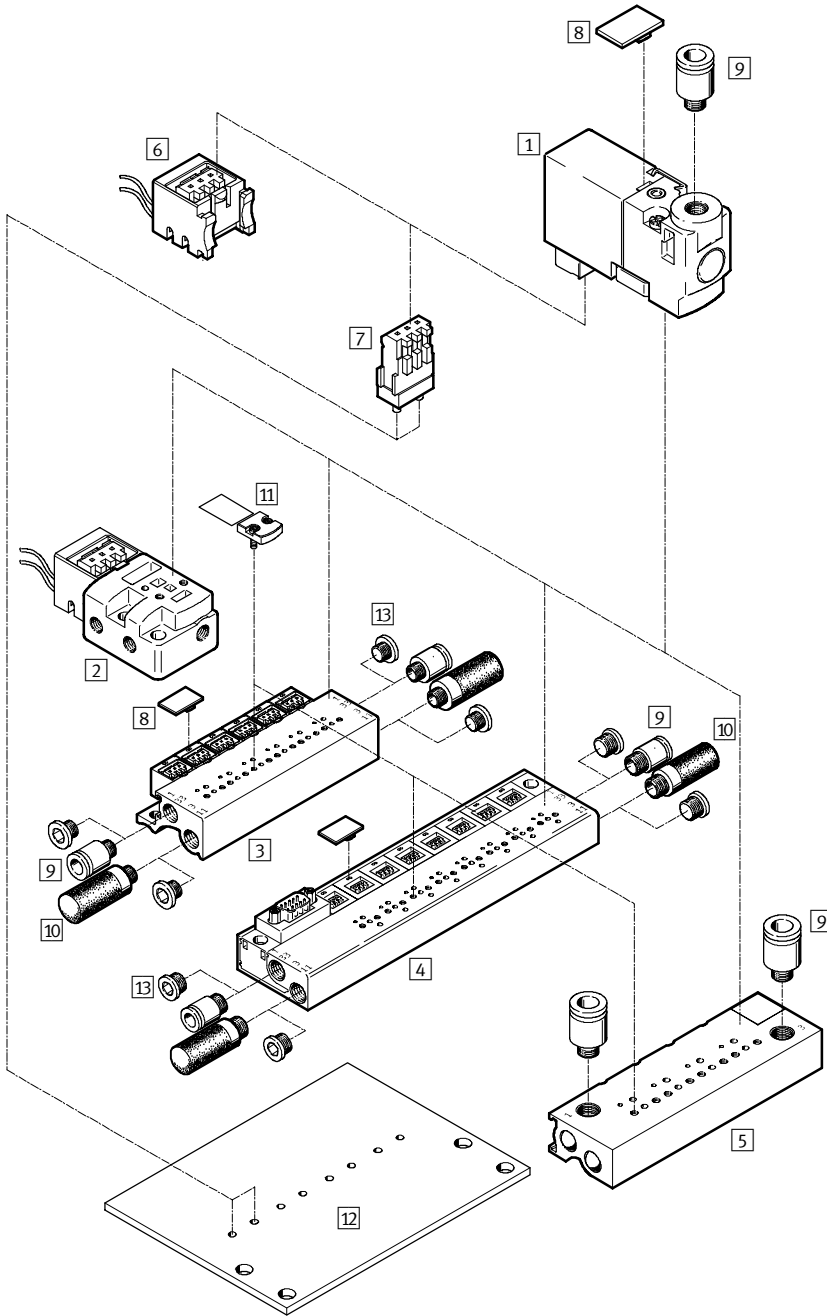
Accessories		→ Page	Accessories		→ Page
1	Semi in-line valve MHP1-...-HC	2 / 3.1-8	6	Inscription label MH-BZ-80X	2 / 3.1-38
2	Semi in-line valve MHP1-...-TC	2 / 3.1-8	7	Push-in fittings QS/QSM	Volume 3
3	Individual sub-base MHP1-AS-3-M3	2 / 3.1-11	8	Silencer UC	Volume 3
4	Manifold block MHP1-PR...-3	2 / 3.1-11	9	Blanking plate MHAP1-BP-3 for sealing vacant positions	2 / 3.1-38
5	Plug socket with cable KMH	2 / 3.1-38	10	Blanking plug B	2 / 3.1-38

Application-optimised directional control valves
 Miniature
 3.1

Solenoid valves MHP1, miniature

Peripherals overview – Semi in-line valve

Plug connection underneath ...-PI

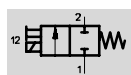
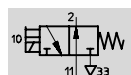
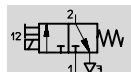



Accessories		→ Page			→ Page
1	Semi in-line valve MHP1-...-PI	2 / 3.1-8	6	Plug base MHAP-PI	2 / 3.1-38
2	Individual sub-base MHP1-AS-3-M3-PI	2 / 3.1-11	7	Soldering base PCBC-A	2 / 3.1-38
3	Manifold block MHP1-PR...-3-PI with plug bases	2 / 3.1-11	8	Inscription label MH-BZ-80x	2 / 3.1-38
4	Manifold block MHP1-PR...-3-PI-D... with plug bases and electrical multi-pin connection	2 / 3.1-13	9	Push-in fittings QS/QSM	Volume 3
5	Manifold block MHP1-PR...-3-PI-PCB for mounting on PCB	2 / 3.1-14	10	Silencer UC	Volume 3
			11	Blanking plate MHAP1-BP-3-PI for sealing vacant positions	2 / 3.1-38
			12	Printed circuit board (user-specific)	2 / 3.1-14
			13	Blanking plug B	2 / 3.1-38


Solenoid valves MHP1, miniature


Technical data – Semi in-line valve

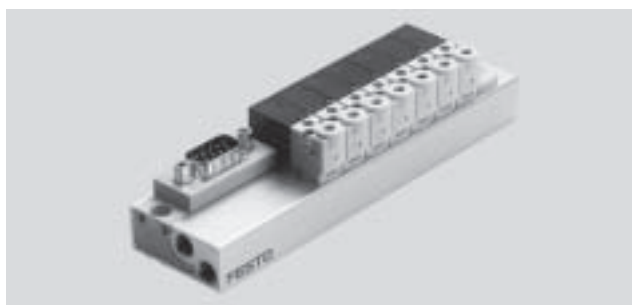
Function



-  - Voltage
5, 12, 24 V DC

-  - Pressure
-0.9 ... +8 bar

-  - Temperature range
-5 ... +50°C



General technical data			
Valve function		2/2, single solenoid	3/2, single solenoid
Constructional design		Poppet disc seat	
Sealing principle		Soft	
Actuation type		Electrical	
Type of reset		Mechanical springs	
Type of pilot control		Direct	
Direction of flow		Non-reversible	
Exhaust function		Without flow control	
Manual override		Resetting	
Type of mounting		Via through-holes	
Mounting position		Any	
Nominal size		[mm] 0.9	0.65
Standard nominal flow rate		[l/min] 14 (2 bar → 0 bar)	10
Grid dimension		[mm] 10	10
Pneumatic connection	Individual sub-base	1, 33	M3
		2	-
		3, 11	M3
	Manifold mounting	1, 33	M7
		2	-
		3, 11	M7
Product weight		[g] 50	50

Operating and environmental conditions			
Valve function		2/2, single solenoid	3/2, single solenoid
Operating medium		Filtered compressed air, lubricated or unlubricated, grade of filtration 40µ Vacuum	Filtered compressed air, lubricated or unlubricated, grade of filtration 40µ
Operating pressure range	Normally closed	[bar] -0.9 ... +2	0 ... 8 ¹⁾
	Normally open	[bar] -	0 ... 6 ¹⁾
Ambient temperature	Individual mounting	[°C] -5 ... +50	
	Manifold mounting	[°C] -5 ... +40	
Temperature of medium	Individual mounting	[°C] -5 ... +50	
	Manifold mounting	[°C] -5 ... +40	
Corrosion resistance class CRC ²⁾		1	

1) Vacuum operation possible with special connection method

2) Corrosion resistance class 1 according to Festo standard 940 070

Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Solenoid valves MHP1, miniature

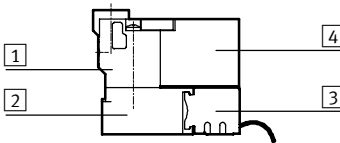
Technical data – Semi in-line valve



Electrical data		
Valve function		2/2, single solenoid 3/2, single solenoid
Operating voltage	[V DC]	5 ±10%, 12 ±10% or 24 ±10%
Type of connection		Plug connection
Power consumption	[W]	1
Protection class to EN 60 529		
with plug socket KMH		IP40
with plug base MHAP-PI		IP40
with soldering base PCBC-A		IP40
with Sub-D connector plug		IP40

Response times and switching frequencies		
Valve function		2/2, single solenoid 3/2, single solenoid
Response time on/off	[ms]	4/5 4/4
Switching frequency	[Hz]	20

Materials



1	Housing	Die-cast zinc
2	Sub-base	Aluminium
3	Plug base	Polyamide
4	Coil housing	Polyamide
-	Seals	Nitrile rubber, hydrogenated nitrile rubber
Note on material		Free of copper, PTFE and silicone

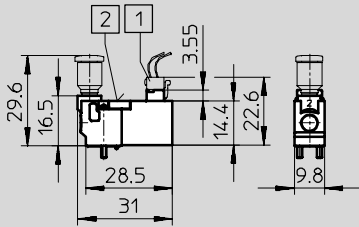
Solenoid valves MHP1, miniature

Technical data – Semi in-line valve

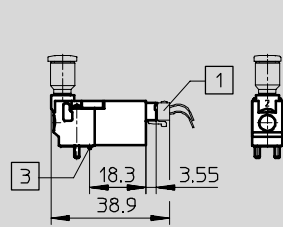


Dimensions Download CAD data → www.festo.com/en/engineering

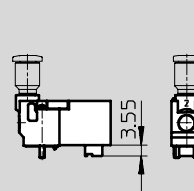
Plug connection on top



Plug connection at rear

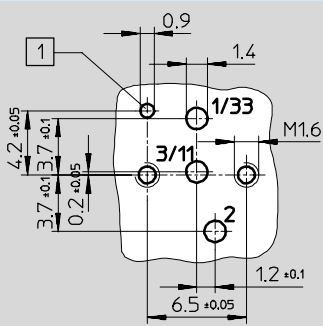


Plug connection at rear



- 1 Plug socket KMH...
- 2 Manual override
- 3 Coding pin

Port pattern on sub-bases



- 1 Hole for coding pin

- - Note

Semi in-line valves have no port 2.
If used as a 2/2-way valve, normally closed, port 3/11 is not applicable.

If used as a 2/2-way valve, normally open, port 1/33 is not applicable.

Solenoid valves MHP1, miniature

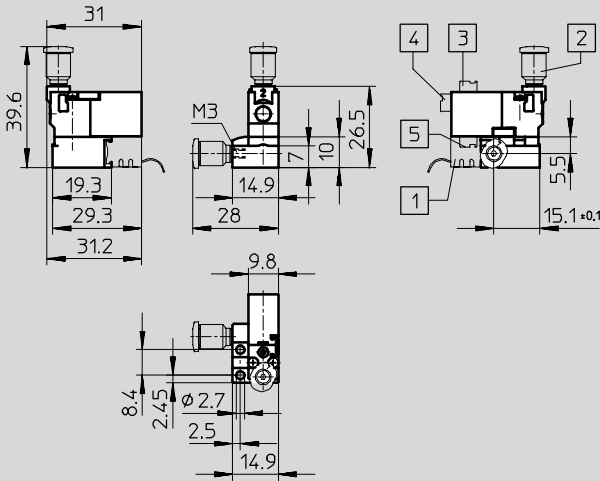
Technical data – Semi in-line valve



Dimensions – 2/2-way valve

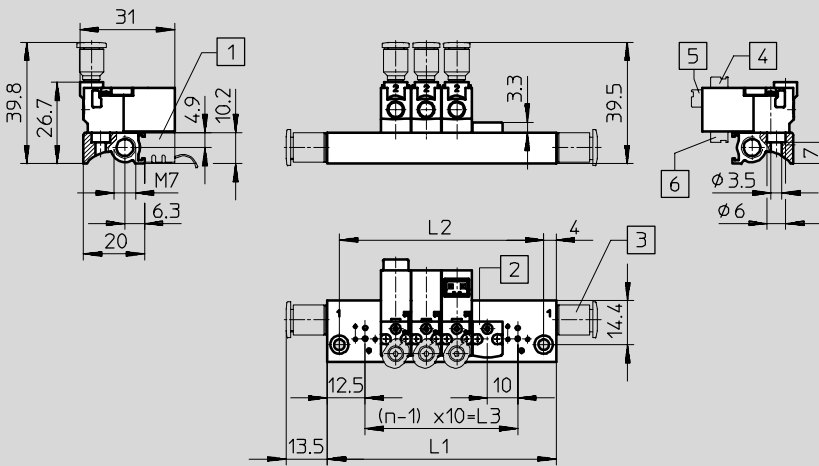
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Individual sub-base



- 1 Plug base MHAP-PI
- 2 Push-in fitting QSM-...
- 3 Plug connection on top
- 4 Plug connection at rear
- 5 Plug connection underneath

Manifold mounting



- 1 Plug base MHAP-PI
- 2 Blanking plate MHAP1
- 3 Push-in fitting QSM-...
- 4 Plug connection on top
- 5 Plug connection at rear
- 6 Plug connection underneath

Number of valves n	L1 ±0.15	L2 ±0.1	L3
2	35	27	10
3	45	37	20
4	55	47	30
5	65	57	40
6	75	67	50
7	85	77	60
8	95	87	70

Number of valves n	L1 ±0.15	L2 ±0.1	L3
9	105	97	80
10	115	107	90
11	125	117	100
12	135	127	110
13	145	137	120
14	155	147	130
15	165	157	140

Number of valves n	L1 ±0.15	L2 ±0.1	L3
16	175	167	150
17	185	177	160
18	195	187	170
19	205	197	180
20	215	207	190
21	225	217	200
22	235	227	210

Solenoid valves MHP1, miniature

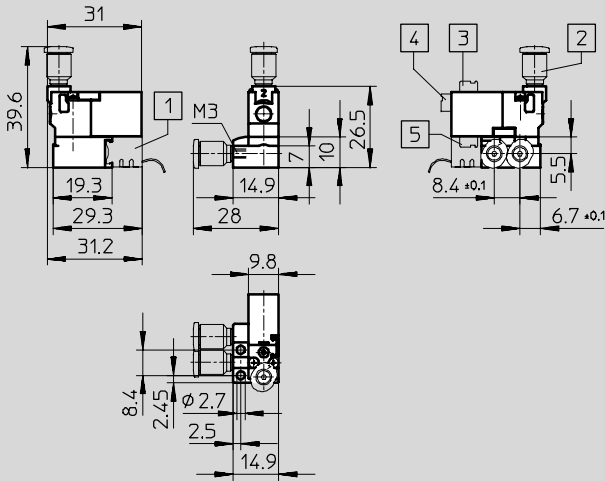
Technical data – Semi in-line valve



Dimensions – 3/2-way valve

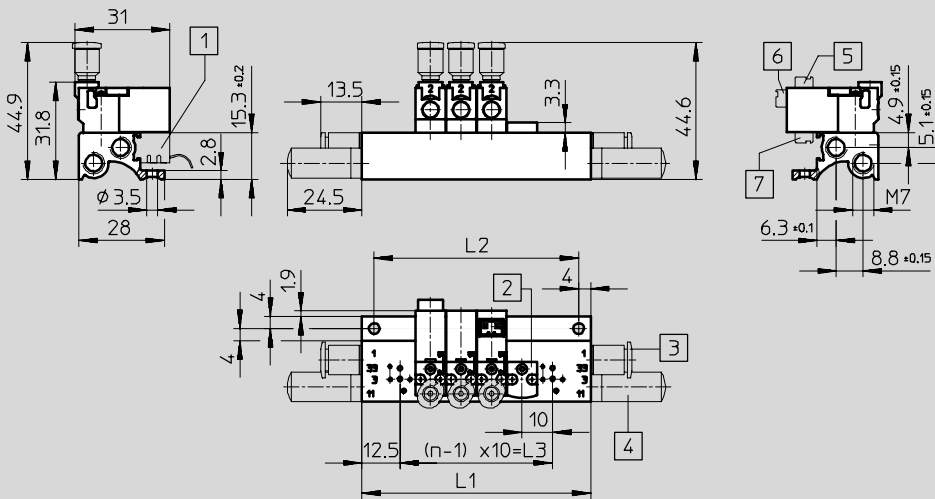
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Individual sub-base



- 1 Plug base MHAP-PI
- 2 Push-in fitting QSM-...
- 3 Plug connection on top
- 4 Plug connection at rear
- 5 Plug connection underneath

Manifold mounting



- 1 Plug base MHAP-PI
- 2 Blanking plate MHAP1
- 3 Push-in fitting QSM-...
- 4 Silencer
- 5 Plug connection on top
- 6 Plug connection at rear
- 7 Plug connection underneath

Number of valves n	L1 ±0.15	L2 ±0.1	L3
2	35	27	10
3	45	37	20
4	55	47	30
5	65	57	40
6	75	67	50
7	85	77	60
8	95	87	70

Number of valves n	L1 ±0.15	L2 ±0.1	L3
9	105	97	80
10	115	107	90
11	125	117	100
12	135	127	110
13	145	137	120
14	155	147	130
15	165	157	140

Number of valves n	L1 ±0.15	L2 ±0.1	L3
16	175	167	150
17	185	177	160
18	195	187	170
19	205	197	180
20	215	207	190
21	225	217	200
22	235	227	210

Solenoid valves MHP1, miniature

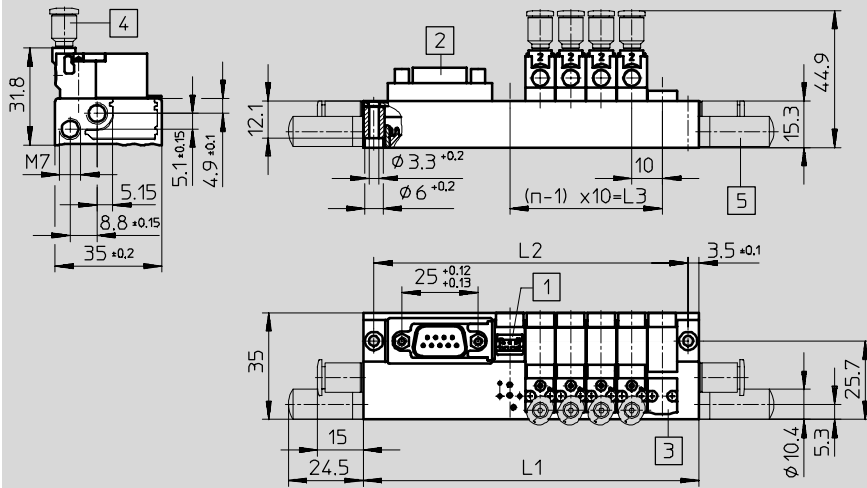
Technical data – Semi in-line valve



Dimensions – 3/2-way valve

Download CAD data → www.festo.com/en/engineering

Manifold mounting with electrical multi-pin connection



- 1 Plug base MHAP-PI
- 2 Sub-D plug 9/25, plug direction to top (standard)
- 3 Blanking plate MHAP1
- 4 Push-in fitting QSM...
- 5 Silencer

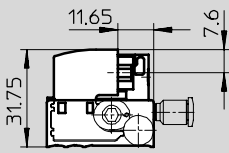
Number of valves n	L1 ±0.15	L2 ±0.1	L3
2	70	63	10
4	90	83	30
6	110	103	50
8	130	123	70

Number of valves n	L1 ±0.15	L2 ±0.1	L3
10	172	165	90
12	192	185	110
14	212	205	130
16	232	225	150

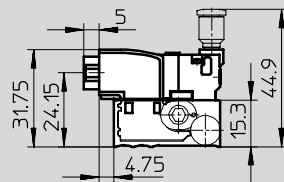
Number of valves n	L1 ±0.15	L2 ±0.1	L3
18	252	245	170
20	272	265	190
22	292	285	210

Electrical multi-pin connection – Plug directions

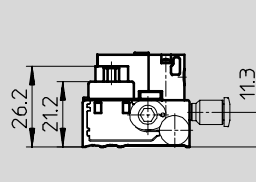
to pneumatic side



to electrical side



to top (standard)



Solenoid valves MHP1, miniature

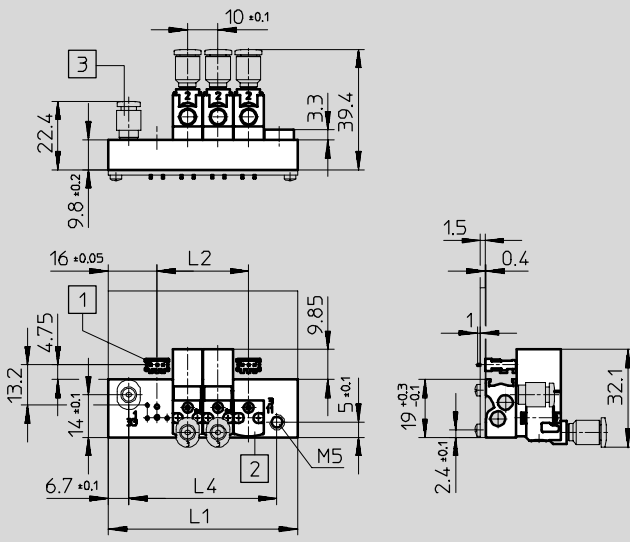
Technical data – Semi in-line valve



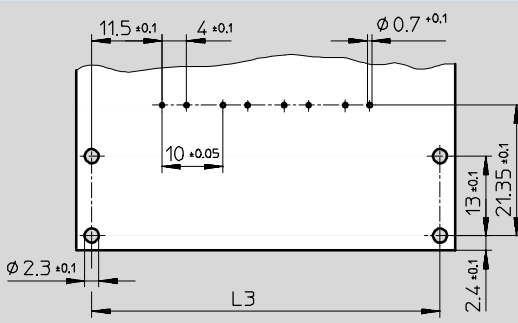
Dimensions – 3/2-way valve

Download CAD data → www.festo.com/en/engineering

Manifold mounting on PCB



Port pattern on PCB



Note
The printed circuit board is not included in the scope of delivery.

Number of valves n	L1 ±0.15	L2	L3 ±0.1	L4 ±0.1
2	42	10	37	28.6
4	62	30	57	48.6
6	82	50	77	68.6
8	102	70	97	88.6
10	122	90	117	108.6

Solenoid valves MHP1, miniature

Technical data – Semi in-line valve

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Ordering data – 2/2-way valves			
Electrical connection	Operating voltage	Normally closed	
		Part No.	Type
M3 connecting thread			
Plug connection at rear	5 V DC	197 045	MHP1-M4H-2/2G-M3-HC
	12 V DC	197 046	MHP1-M5H-2/2G-M3-HC
	24 V DC	197 047	MHP1-M1H-2/2G-M3-HC
Plug connection on top	5 V DC	197 048	MHP1-M4H-2/2G-M3-TC
	12 V DC	197 049	MHP1-M5H-2/2G-M3-TC
	24 V DC	197 050	MHP1-M1H-2/2G-M3-TC
Plug connection underneath	5 V DC	197 051	MHP1-M4H-2/2G-M3-PI
	12 V DC	197 052	MHP1-M5H-2/2G-M3-PI
	24 V DC	197 053	MHP1-M1H-2/2G-M3-PI

Ordering data – Product-specific accessories			
Designation		Part No.	Type
Valves with plug connection at rear or on top			
Individual sub-base		197 188	MHP1-AS-2-M3
Manifold block for ...	2 valves	197 196	MHP1-P2-2
	4 valves	197 197	MHP1-P4-2
	6 valves	197 198	MHP1-P6-2
	8 valves	197 200	MHP1-P8-2
	10 valves	197 201	MHP1-P10-2
Valves with plug connection underneath			
Individual sub-base		197 190	MHP1-AS-2-M3-PI
Manifold block with plug bases for ...	2 valves	197 217	MHP1-P2-2-PI
	4 valves	197 218	MHP1-P4-2-PI
	6 valves	197 219	MHP1-P6-2-PI
	8 valves	197 220	MHP1-P8-2-PI
	10 valves	197 221	MHP1-P10-2-PI



Note

Type 2/2NC and type 3/2NO valves must not be mixed on a manifold block.




Note

Manifold blocks (with and without working ports) with an uneven number of valves and for 11 ... 22 valves as well as further variants can be configured and ordered using the MH1 modular product system → from 2 / 3.1-28.


Solenoid valves MHP1, miniature

Technical data – Semi in-line valve

Ordering data – 3/2-way valves					
Electrical connection	Operating voltage	Normally closed		Normally open	
		Part No.	Type	Part No.	Type
M3 connecting thread					
Plug connection at rear	5 V DC	197 009	MHP1-M4H-3/2G-M3-HC	197 027	MHP1-M4H-3/2O-M3-HC
	12 V DC	197 010	MHP1-M5H-3/2G-M3-HC	197 028	MHP1-M5H-3/2O-M3-HC
	24 V DC	197 011	MHP1-M1H-3/2G-M3-HC	197 029	MHP1-M1H-3/2O-M3-HC
Plug connection on top	5 V DC	197 012	MHP1-M4H-3/2G-M3-TC	197 030	MHP1-M4H-3/2O-M3-TC
	12 V DC	197 013	MHP1-M5H-3/2G-M3-TC	197 031	MHP1-M5H-3/2O-M3-TC
	24 V DC	197 014	MHP1-M1H-3/2G-M3-TC	197 032	MHP1-M1H-3/2O-M3-TC
Plug connection underneath	5 V DC	197 015	MHP1-M4H-3/2G-M3-PI	197 033	MHP1-M4H-3/2O-M3-PI
	12 V DC	197 016	MHP1-M5H-3/2G-M3-PI	197 034	MHP1-M5H-3/2O-M3-PI
	24 V DC	197 017	MHP1-M1H-3/2G-M3-PI	197 035	MHP1-M1H-3/2O-M3-PI

 Note
Type 3/2NC and type 3/2NO valves must not be mixed on a manifold block.

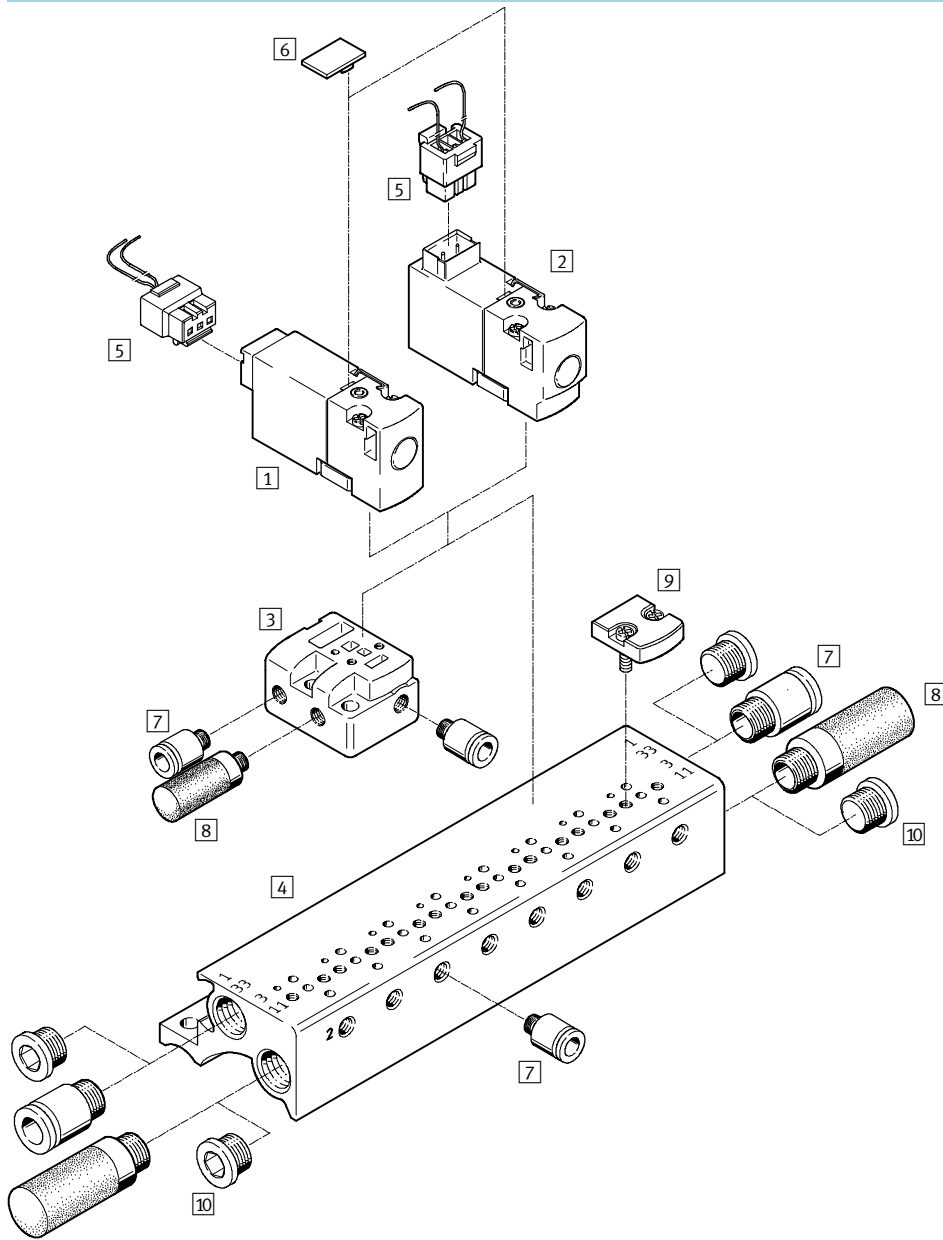
Ordering data – Product-specific accessories			
Designation		Part No.	Type
Valves with plug connection at rear or on top			
Individual sub-base		197 184	MHP1-AS-3-M3
Manifold block for ...	2 valves	197 191	MHP1-PR2-3
	4 valves	197 192	MHP1-PR4-3
	6 valves	197 193	MHP1-PR6-3
	8 valves	197 194	MHP1-PR8-3
	10 valves	197 195	MHP1-PR10-3
Valves with plug connection underneath			
Individual sub-base		197 186	MHP1-AS-3-M3-PI
Manifold block with plug bases for ...	2 valves	197 212	MHP1-PR2-3-PI
	4 valves	197 213	MHP1-PR4-3-PI
	6 valves	197 214	MHP1-PR6-3-PI
	8 valves	197 215	MHP1-PR8-3-PI
	10 valves	197 216	MHP1-PR10-3-PI
Manifold block with plug bases and electrical multi-pin connection for ...	4 valves	197 233	MHP1-PR4-3-PI-D9
	6 valves	197 234	MHP1-PR6-3-PI-D9
	8 valves	197 235	MHP1-PR8-3-PI-D9
	10 valves	197 236	MHP1-PR10-3-PI-D25
Manifold block for mounting on PCB for ...	2 valves	197 242	MHP1-PR2-3-PI-PCB
	4 valves	197 243	MHP1-PR4-3-PI-PCB
	6 valves	197 244	MHP1-PR6-3-PI-PCB
	8 valves	197 245	MHP1-PR8-3-PI-PCB
	10 valves	197 246	MHP1-PR10-3-PI-PCB

 Note
Manifold blocks (with and without working ports) with an uneven number of valves and for 11 ... 22 valves as well as further variants can be configured and ordered using the MH1 modular product system → from 2 / 3.1-28.

Solenoid valves MHA1, miniature

Peripherals overview – Sub-base valve

Plug connection at rear ...-HC
Plug connection on top ...-TC



Accessories		→ Page	→ Page
1	Sub-base valve MHA1-...-HC	2 / 3.1-19	6
2	Sub-base valve MHA1-...-TC	2 / 3.1-19	7
3	Individual sub-base MHA1-AS-3-M3	2 / 3.1-22	8
4	Manifold block MHA1-PR...-3	2 / 3.1-22	9
5	Plug socket with cable KMH	2 / 3.1-38	10
			6
			7
			8
			9
			10

Solenoid valves MHA1, miniature

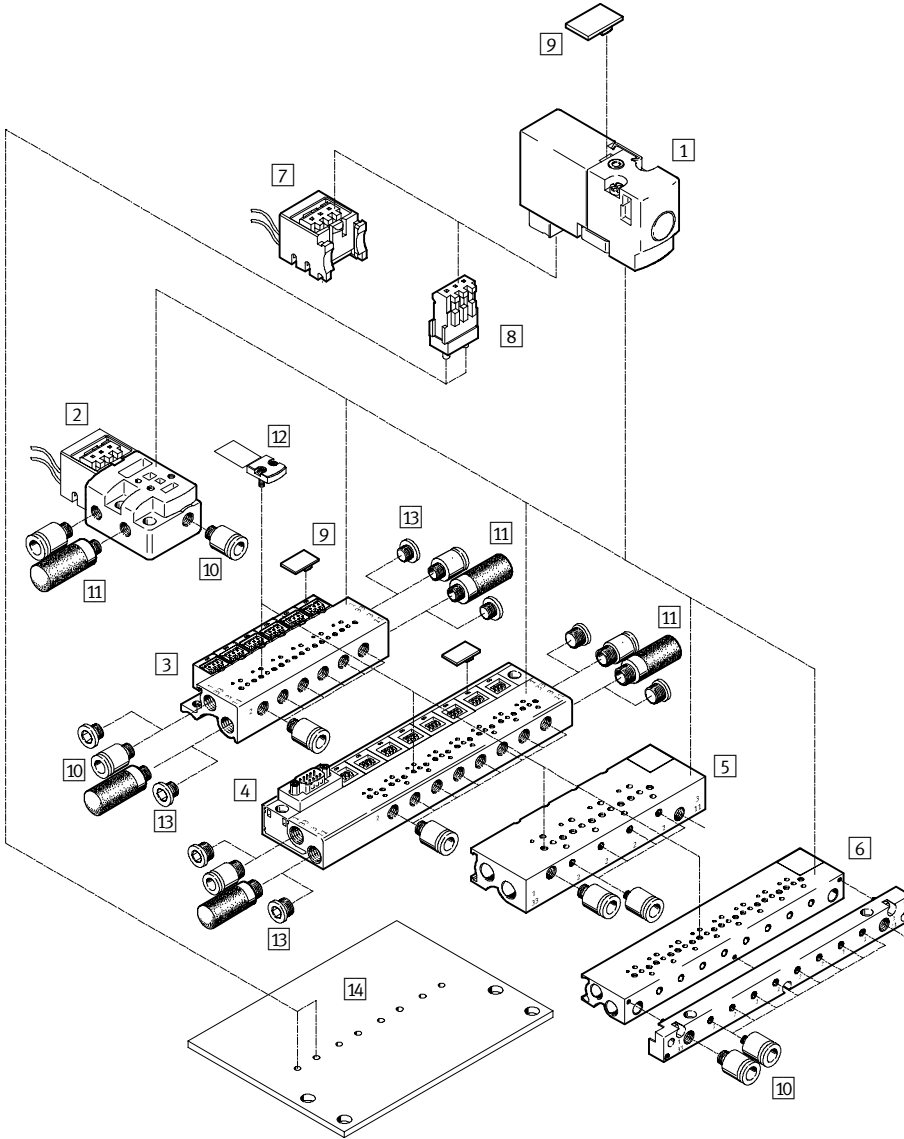
Peripherals overview – Sub-base valve



Application-optimised directional control valves
Miniature

3.1

Plug connection underneath ...-PI



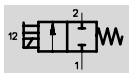
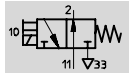
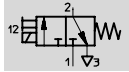
Accessories		→ Page	→ Page
1	Sub-base valve MHA1-...-PI	2 / 3.1-19	8
2	Individual sub-base MHA1-AS-3-M3-PI with plug base	2 / 3.1-22	9
3	Manifold block MHA1-PR...-3-M3-PI with plug bases	2 / 3.1-22	10
4	Manifold block MHA1-PR...-3-M3-PI-D... with plug bases and electrical multi-pin connection	2 / 3.1-24	11
5	Manifold block MHA1-PR...-3-M3-PI-PCB for mounting on PCB	2 / 3.1-25	12
6	Manifold block MHA1-PR...-3-M3-PI-PCBM for mounting on PCB with pneumatic multiple connector plate	2 / 3.1-25	13
7	Plug base MHAP-PI	2 / 3.1-38	14
			8
			9
			10
			11
			12
			13
			14

Solenoid valves MHA1, miniature

Technical data – Sub-base valve

FESTO

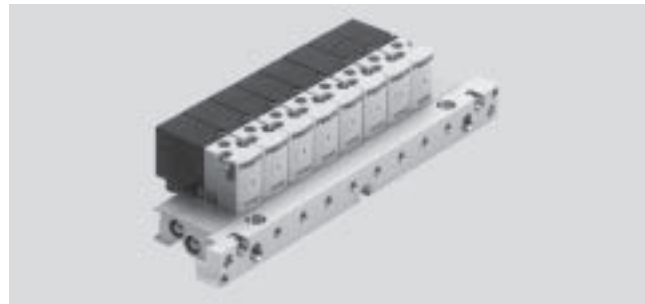
Function



- - Voltage
5, 12, 24 V DC

- - Pressure
-0.9 ... +8 bar

- - Temperature range
-5 ... +50°C



General technical data			
Valve function		2/2, single solenoid	3/2, single solenoid
Constructional design		Poppet disc seat	
Sealing principle		Soft	
Actuation type		Electrical	
Type of reset		Mechanical springs	
Type of pilot control		Direct	
Direction of flow		Non-reversible	
Exhaust function		Without flow control	
Manual override		Resetting	
Type of mounting		Via through-holes	
Mounting position		Any	
Nominal size		[mm] 0.9	0.65
Standard nominal flow rate		[l/min] 14 (2 bar → 0 bar)	10
Grid dimension		[mm] 10	10
Pneumatic connection	Individual sub-base	1, 33	M3
		2	-
		3, 11	M3
	Manifold mounting	1, 33	M7
		2	-
		3, 11	M7
Product weight		[g] 50	50

Operating and environmental conditions			
Valve function		2/2, single solenoid	3/2, single solenoid
Operating medium		Filtered compressed air, lubricated or unlubricated, grade of filtration 40µ Vacuum	Filtered compressed air, lubricated or unlubricated, grade of filtration 40µ
Operating pressure range	Normally closed	[bar] -0.9 ... +2	0 ... 8 ¹⁾
	Normally open	[bar] -	0 ... 6 ¹⁾
Ambient temperature	Individual mounting	[°C] -5 ... +50	
	Manifold mounting	[°C] -5 ... +40	
Temperature of medium	Individual mounting	[°C] -5 ... +50	
	Manifold mounting	[°C] -5 ... +40	
Corrosion resistance class CRC ²⁾		1	

1) Vacuum operation possible with special connection method

2) Corrosion resistance class 1 according to Festo standard 940 070

Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Solenoid valves MHA1, miniature

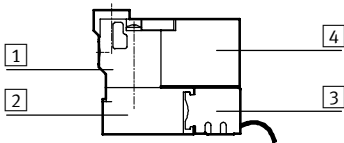
Technical data – Sub-base valve



Electrical data		
Valve function		2/2, single solenoid 3/2, single solenoid
Operating voltage	[V DC]	5 ±10%, 12 ±10% or 24 ±10%
Type of connection		Plug connection
Power consumption	[W]	1
Protection class to EN 60 529		
With plug socket KMH		IP40
With plug base MHAP-PI		IP40
With soldering base PCBC-A		IP40
With Sub-D connector plug		IP40

Response times and switching frequencies		
Valve function		2/2, single solenoid 3/2, single solenoid
Response time on/off	[ms]	4/5 4/4
Switching frequency	[Hz]	20

Materials



1	Housing	Die-cast zinc
2	Sub-base	Aluminium
3	Plug base	Polyamide
4	Coil housing	Polyamide
-	Seals	Nitrile rubber, hydrogenated nitrile rubber
Note on material		Free of copper, PTFE and silicone

Solenoid valves MHA1, miniature

Technical data – Sub-base valve



Dimensions Download CAD data → www.festo.com/en/engineering

Plug connection on top

Plug connection at rear

Plug connection at rear

- 1 Plug socket KMH...
- 2 Manual override
- 3 Coding pin

Port pattern on sub-bases

- 1 Hole for coding pin

- - Note

Semi in-line valves have no port 2.
 If used as a 2/2-way valve, normally closed, port 3/11 is not applicable.

If used as a 2/2-way valve, normally open, port 1/33 is not applicable.

Solenoid valves MHA1, miniature

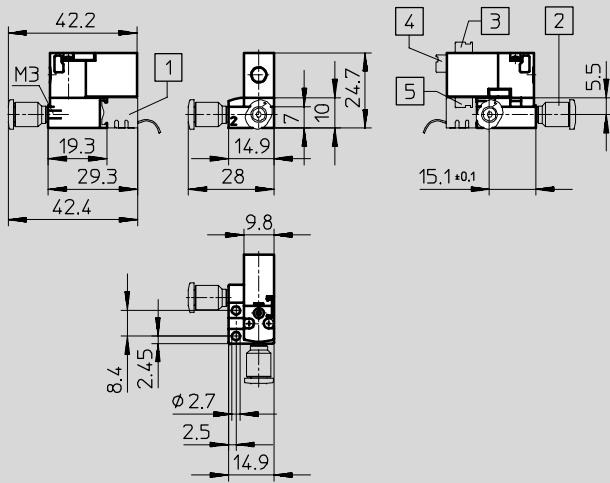
Technical data – Sub-base valve



Dimensions – 2/2-way valve

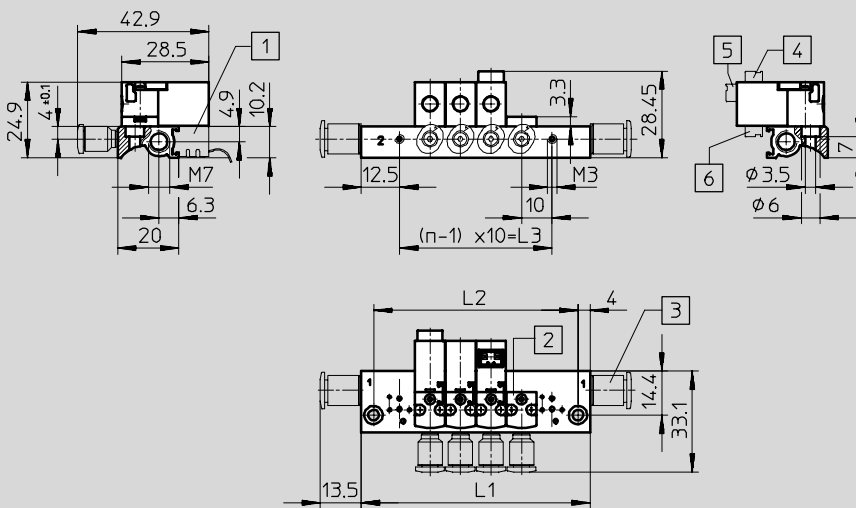
Download CAD data → www.festo.com/en/engineering

Individual sub-base



- 1 Plug base MHAP-PI
- 2 Push-in fitting QSM-...
- 3 Plug connection on top
- 4 Plug connection at rear
- 5 Plug connection underneath

Manifold mounting



- 1 Plug base MHAP-PI
- 2 Blanking plate MHAP1
- 3 Push-in fitting QSM-...
- 4 Plug connection on top
- 5 Plug connection at rear
- 6 Plug connection underneath

Number of valves n	L1 ±0.15	L2 ±0.1	L3
2	35	27	10
3	45	37	20
4	55	47	30
5	65	57	40
6	75	67	50
7	85	77	60
8	95	87	70

Number of valves n	L1 ±0.15	L2 ±0.1	L3
9	105	97	80
10	115	107	90
11	125	117	100
12	135	127	110
13	145	137	120
14	155	147	130
15	165	157	140

Number of valves n	L1 ±0.15	L2 ±0.1	L3
16	175	167	150
17	185	177	160
18	195	187	170
19	205	197	180
20	215	207	190
21	225	217	200
22	235	227	210

Solenoid valves MHA1, miniature

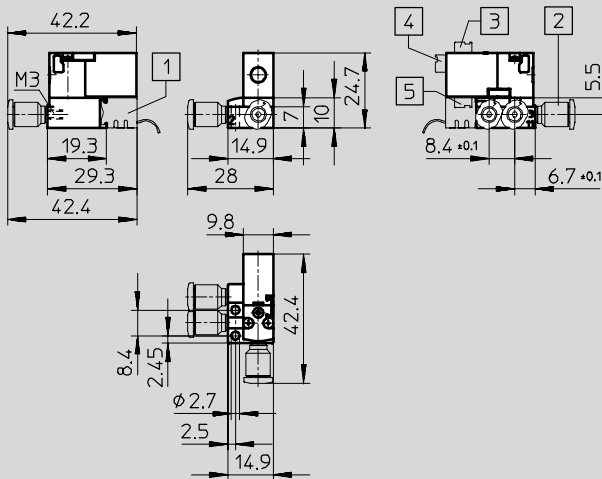
Technical data – Sub-base valve



Dimensions – 3/2-way valve

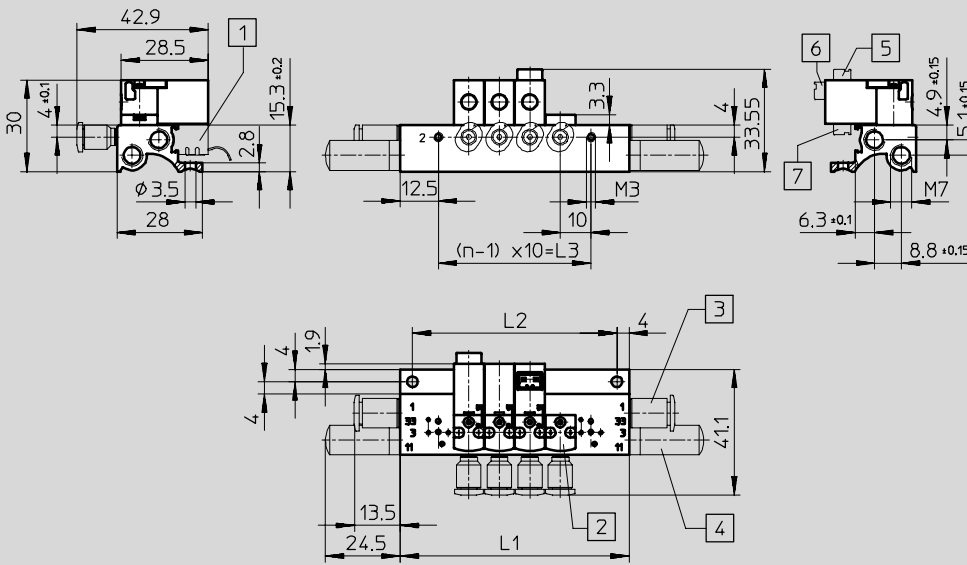
Download CAD data → www.festo.com/en/engineering

Individual sub-base



- 1 Plug base MHAP-PI
- 2 Push-in fitting QSM-...
- 3 Plug connection on top
- 4 Plug connection at rear
- 5 Plug connection underneath

Manifold mounting



- 1 Plug base MHAP-PI
- 2 Blanking plate MHAP1
- 3 Push-in fitting QSM-...
- 4 Silencer
- 5 Plug connection on top
- 6 Plug connection at rear
- 7 Plug connection underneath

Number of valves n	L1 ±0.15	L2 ±0.1	L3
2	35	27	10
3	45	37	20
4	55	47	30
5	65	57	40
6	75	67	50
7	85	77	60
8	95	87	70

Number of valves n	L1 ±0.15	L2 ±0.1	L3
9	105	97	80
10	115	107	90
11	125	117	100
12	135	127	110
13	145	137	120
14	155	147	130
15	165	157	140

Number of valves n	L1 ±0.15	L2 ±0.1	L3
16	175	167	150
17	185	177	160
18	195	187	170
19	205	197	180
20	215	207	190
21	225	217	200
22	235	227	210

Solenoid valves MHA1, miniature

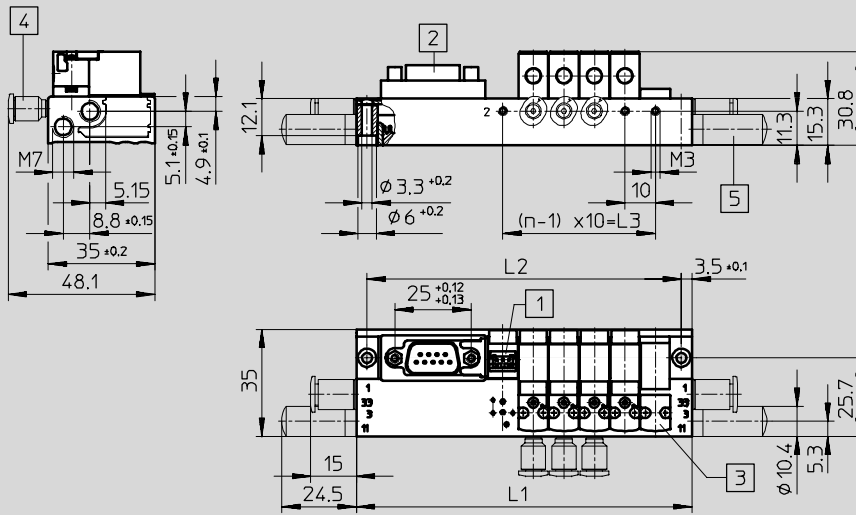
Technical data – Sub-base valve



Dimensions – 3/2-way valve

Download CAD data → www.festo.com/en/engineering

Manifold mounting with electrical multi-pin connection



- 1 Plug base MHAP-PI
- 2 Sub-D plug 9/25-pin
plug direction to top (standard)
- 3 Blanking plate MHAP1
- 4 Push-in fitting QSM-...
- 5 Silencer

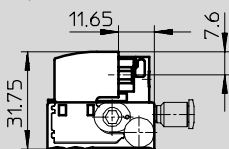
Number of valves n	L1 ±0.15	L2 ±0.1	L3
2	70	63	10
4	90	83	30
6	110	103	50
8	130	123	70

Number of valves n	L1 ±0.15	L2 ±0.1	L3
10	172	165	90
12	192	185	110
14	212	205	130
16	232	225	150

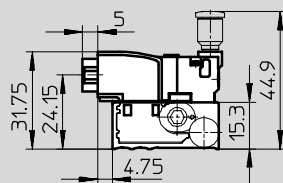
Number of valves n	L1 ±0.15	L2 ±0.1	L3
18	252	245	170
20	272	265	190
22	292	285	210

Electrical multi-pin connection – Plug directions

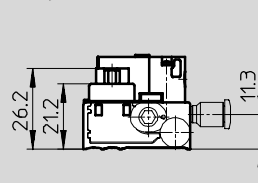
to pneumatic side



to electrical side



to top (standard)



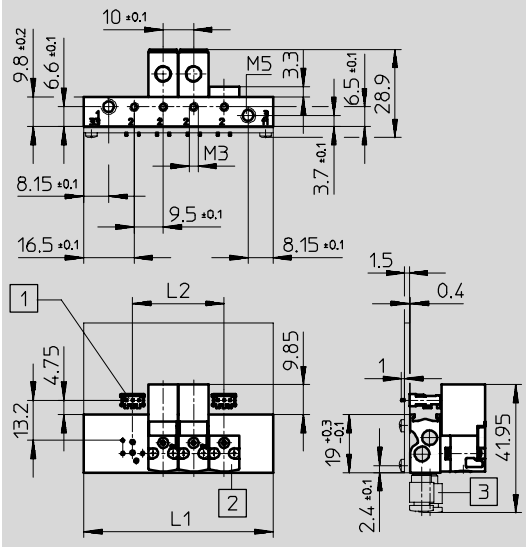
Solenoid valves MHA1, miniature

Technical data – Sub-base valve



Dimensions – 3/2-way valve Download CAD data → www.festo.com/en/engineering

Manifold mounting on PCB

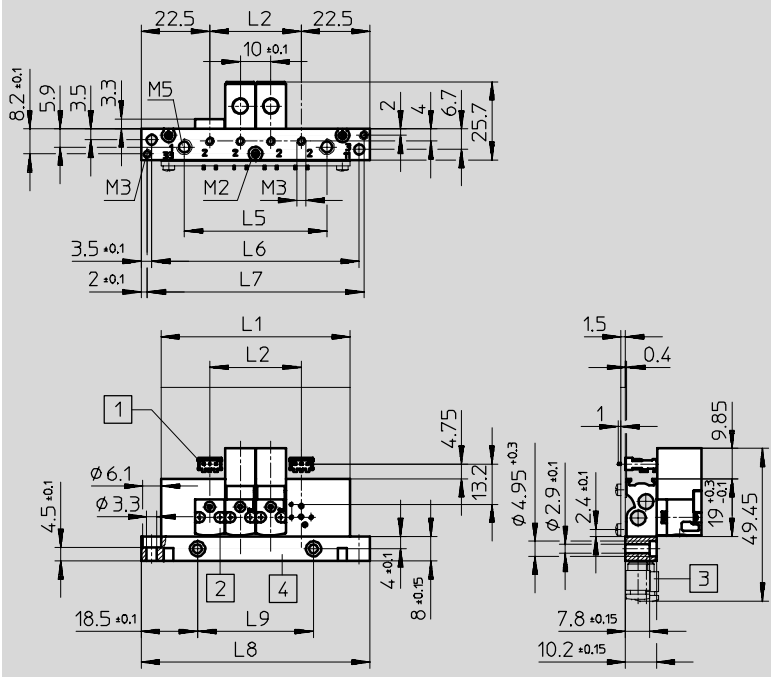


- 1 Soldering base PCBC-A...
- 2 Blanking plate MHAP1
- 3 Push-in fitting QSM...

Note

The printed circuit board is not included in the scope of delivery.
Port pattern on PCB → 2 / 3.1-26

Manifold mounting with pneumatic multiple connector plate on PCB



- 1 Soldering base PCBC-A...
- 2 Blanking plate MHAP1
- 3 Push-in fitting QSM...
- 4 Removable pneumatic multiple connector plate

Note

The printed circuit board is not included in the scope of delivery.
Port pattern on PCB → 2 / 3.1-26

Number of valves n	L1 ±0.15	L2	L3 ±0.1	L5 ±0.15	L6	L7 ±0.1	L8 ±0.2	L9 ±0.1
2	42	10	37	-	-	-	-	-
4	62	30	57	46.7	68	71	75	38
6	82	50	77	66.7	88	91	95	58
8	102	70	97	86.7	108	111	115	78
10	122	90	117	106.7	128	131	135	98

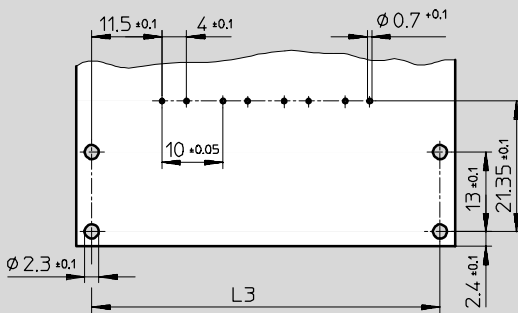
Solenoid valves MHA1, miniature

Technical data – Sub-base valve



Dimensions

Port pattern on PCB



Note
The printed circuit board is not included in the scope of delivery.

Ordering data – 2/2-way valves

Electrical connection	Operating voltage	Normally closed	
		Part No.	Type
M3 connecting thread			
Plug connection at rear	5 V DC	197 036	MHA1-M4H-2/2G-0,9-HC
	12 V DC	197 037	MHA1-M5H-2/2G-0,9-HC
	24 V DC	197 038	MHA1-M1H-2/2G-0,9-HC
Plug connection on top	5 V DC	197 039	MHA1-M4H-2/2G-0,9-TC
	12 V DC	197 040	MHA1-M5H-2/2G-0,9-TC
	24 V DC	197 041	MHA1-M1H-2/2G-0,9-TC
Plug connection underneath	5 V DC	197 042	MHA1-M4H-2/2G-0,9-PI
	12 V DC	197 043	MHA1-M5H-2/2G-0,9-PI
	24 V DC	197 044	MHA1-M1H-2/2G-0,9-PI



Note
Type 3/2NC and type 3/2NO valves must not be mixed on a manifold block.

Ordering data – Product-specific accessories

Designation		Part No.	Type
Valves with plug connection at rear or on top			
Individual sub-base		197 187	MHA1-AS-2-M3
Manifold block for ...	2 valves	197 207	MHA1-P2-2-M3
	4 valves	197 208	MHA1-P4-2-M3
	6 valves	197 209	MHA1-P6-2-M3
	8 valves	197 210	MHA1-P8-2-M3
	10 valves	197 211	MHA1-P10-2-M3
Valves with plug connection underneath			
Individual sub-base		197 189	MHA1-AS-2-M3-PI
Manifold block with plug bases for ...	2 valves	197 227	MHA1-P2-2-M3-PI
	4 valves	197 228	MHA1-P4-2-M3-PI
	6 valves	197 229	MHA1-P6-2-M3-PI
	8 valves	197 230	MHA1-P8-2-M3-PI
	10 valves	197 231	MHA1-P10-2-M3-PI



Note
Manifold blocks (with and without working ports) with an uneven number of valves and for 11 ... 22 valves as well as further variants can be configured and ordered using the MH1 modular product system → from 2 / 3.1-28.

Solenoid valves MHA1, miniature

Technical data – Sub-base valve

FESTO

Ordering data – 3/2-way valves					
Electrical connection	Operating voltage	Normally closed		Normally open	
		Part No.	Type	Part No.	Type
M3 connecting thread					
Plug connection at rear	5 V DC	197 000	MHA1-M4H-3/2G-0,6-HC	197 018	MHA1-M4H-3/2O-0,6-HC
	12 V DC	197 001	MHA1-M5H-3/2G-0,6-HC	197 019	MHA1-M5H-3/2O-0,6-HC
	24 V DC	197 002	MHA1-M1H-3/2G-0,6-HC	197 020	MHA1-M1H-3/2O-0,6-HC
Plug connection on top	5 V DC	197 003	MHA1-M4H-3/2G-0,6-TC	197 021	MHA1-M4H-3/2O-0,6-TC
	12 V DC	197 004	MHA1-M5H-3/2G-0,6-TC	197 022	MHA1-M5H-3/2O-0,6-TC
	24 V DC	197 005	MHA1-M1H-3/2G-0,6-TC	197 023	MHA1-M1H-3/2O-0,6-TC
Plug connection underneath	5 V DC	197 006	MHA1-M4H-3/2G-0,6-PI	197 024	MHA1-M4H-3/2O-0,6-PI
	12 V DC	197 007	MHA1-M5H-3/2G-0,6-PI	197 025	MHA1-M5H-3/2O-0,6-PI
	24 V DC	197 008	MHA1-M1H-3/2G-0,6-PI	197 026	MHA1-M1H-3/2O-0,6-PI



Note

Type 3/2NC and type 3/2NO valves must not be mixed on a manifold block.

Ordering data – Product-specific accessories			
Designation		Part No.	Type
Valves with plug connection at rear or on top			
Individual sub-base		197 183	MHA1-AS-3-M3
Manifold block for ...	2 valves	197 202	MHA1-PR2-3-M3
	4 valves	197 203	MHA1-PR4-3-M3
	6 valves	197 204	MHA1-PR6-3-M3
	8 valves	197 205	MHA1-PR8-3-M3
	10 valves	197 206	MHA1-PR10-3-M3
Valves with plug connection underneath			
Individual sub-base		197 185	MHA1-AS-3-M3-PI
Manifold block with plug bases for ...	2 valves	197 222	MHA1-PR2-3-M3-PI
	4 valves	197 223	MHA1-PR4-3-M3-PI
	6 valves	197 224	MHA1-PR6-3-M3-PI
	8 valves	197 225	MHA1-PR8-3-M3-PI
	10 valves	197 226	MHA1-PR10-3-M3-PI
Manifold block with plug bases and electrical multi-pin connection for ...	4 valves	197 238	MHA1-PR4-3-M3-PI-D9
	6 valves	197 239	MHA1-PR6-3-M3-PI-D9
	8 valves	197 240	MHA1-PR8-3-M3-PI-D9
	10 valves	197 241	MHA1-PR10-3-M3-PI-D25
Manifold block for mounting on PCB for ...	2 valves	197 247	MHA1-PR2-3-M3-PI-PCB
	4 valves	197 248	MHA1-PR4-3-M3-PI-PCB
	6 valves	197 249	MHA1-PR6-3-M3-PI-PCB
	8 valves	197 250	MHA1-PR8-3-M3-PI-PCB
	10 valves	197 251	MHA1-PR10-3-M3-PI-PCB
Manifold block for mounting on PCB with pneumatic multiple connector plate for ...	4 valves	197 253	MHA1-PR4-3-PI-PCBM
	6 valves	197 254	MHA1-PR6-3-PI-PCBM
	8 valves	197 255	MHA1-PR8-3-PI-PCBM
	10 valves	197 256	MHA1-PR10-3-PI-PCBM



Note

Manifold blocks (with and without working ports) with an uneven number of valves and for 11 ... 22 valves as well as further variants can be configured and ordered using the MH1 modular product system → from 2 / 3.1-28.

Solenoid valves MH1, miniature, individual sub-base

Ordering data – Modular products



M Mandatory data →

Module No.	Valve family	Design	Operating voltage	Valve function	Plug-in direction on valve	Number of valve positions	Link type
197 334	MH1	P A	5VDC 12VDC 24VDC	D C N	TC HC	1V	PS
Ordering example							
197 334	MH1	- P	- 12VDC	- D	- TC	- 1V	- PS

Ordering table

Size	1	Condi- tions	Code	Enter code
M Module No.	197 334			
Valve family	Miniature valve size 1		MH1	MH1
Design	Semi in-line valve		-P	-P
	Sub-base valve		-A	
Operating voltage [V DC]	5, 12, 24		-...VDC	
Valve function	2/2-way valve, normally closed		-D	
	3/2-way valve, normally closed		-C	
	3/2-way valve, normally open		-N	
Plug-in direction on valve	Plug connection on top for connecting cable with socket IP40 (KMH-0,5)		-TC	
	Plug connection at rear for connecting cable with socket IP40 (KMH-1)		-HC	
Number of valve positions	1		-1V	-1V
↓ Link type	Individual sub-base		-PS	-PS

Transfer order code

197 334	MH1	- P	-		-		- 1V	- PS
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Solenoid valves MH1, miniature, individual sub-base



Ordering data – Modular products

Options

Connecting cable with socket	Fitting for working port	Fitting in supply duct on left side	Fitting in exhaust duct on left side
K05 K01	QB QC	AB AC	BB BC BU
- K05	- QB	- AB	- BC

Ordering table

Size	1	Condi- tions	Code	Enter code
0 Connecting cable with socket (supplied separately)	Connecting cable 0.5 m, with socket IP40 (KMH-0,5)	1	-K05	
	Connecting cable 1 m, with socket IP40 (KMH-1)	1	-K01	
Fitting for working port	QS fitting for working port, tubing O.D. 3 mm		-QB	
	QS fitting for working port, tubing O.D. 4 mm		-QC	
Fitting in supply duct on left side	QS fitting for supply on left, tubing O.D. 3 mm	2	-AB	
	QS fitting for supply on left, tubing O.D. 4 mm		-AC	
Fitting in exhaust duct on left side	QS fitting for exhaust on left, tubing O.D. 3 mm	3	-BB	
	QS fitting for exhaust on left, tubing O.D. 4 mm		-BC	
	Silencer for exhaust on left	4	-BU	

1 **K05, K01** Not with plug-in direction PL.
2 **AB** Not with fitting QC.

3 **BB** Not with fitting AC.
4 **BU** Not with valve function D.

Transfer order code

- - - -

Solenoid valves MH1, miniature, manifold mounting, individual electr. connection **FESTO**

Ordering data – Modular products

M Mandatory data **O** Options →

Module No.	Valve family	Design	Operating voltage	Valve function	Plug-in direction on valve	Number of valve positions	Link type	Number of vacant positions
197 334	MH1	A P	5VDC 12VDC 24VDC	D C N	TC HC	2V ... 22V	PR	2L ... 22L
Ordering example								
197 334	MH1	- A	- 12VDC	- D	- TC	- 14V	- PR	- 2L

Ordering table		Size	1	Condi- tions	Code	Enter code
M	Module No.	197 334				
	Valve family	Miniature valve size 1			MH1	MH1
	Design	Sub-base valve			-A	
		Semi in-line valve			-P	
	Operating voltage [V DC]	5, 12, 24			...VDC	
	Valve function	2/2-way valve, normally closed			-D	
		3/2-way valve, normally closed			-C	
		3/2-way valve, normally open			-N	
	Plug-in direction on valve	Plug connection on top for connecting cable with socket IP40 (KMH-0,5)			-TC	
		Plug connection at rear for connecting cable with socket IP40 (KMH-1)			-HC	
	Number of valve positions	2 ... 22			...V	
	Link type	Manifold block without electrical link			-PR	
O	Number of vacant positions	2 ... 22			...L	

Transfer order code

197 334 MH1 - - - - - - - PR -

Solenoid valves MH1, miniature, manifold mounting, individual electr. connection **FESTO**

Ordering data – Modular products

0 Options					
Connecting cable with socket	Fitting for working port	Fitting in supply duct on left side	Fitting in exhaust duct on left side	Fitting in supply duct on right side	Fitting in exhaust duct on right side
K05 K01	QB QC	AX AC AD	BX BC BD BU	CX CC CD	DX DC DD DU
- K05	- QC	- AX	- BD	- CD	- DX

Ordering table					
Size	1	Condi- tions	Code	Enter code	
↓ Connecting cable with socket (supplied separately)	0.5 m with socket IP40 (KMH-0,5)		-K05		
	1 m with socket IP40 (KMH-1)		-K01		
0 Fitting for working port	QS fitting for working port, tubing O.D. 3 mm		-QB		
	QS fitting for working port, tubing O.D. 4 mm		-QC		
Fitting in supply duct on left side	Blanking plug for supply on left	1	-AX		
	QS fitting for supply on left, tubing O.D. 4 mm		-AC		
	QS fitting for supply on left, tubing O.D. 6 mm		-AD		
Fitting in exhaust duct on left side	Blanking plug for exhaust on left	2	-BX		
	QS fitting for exhaust on left, tubing O.D. 4 mm	3	-BC		
	QS fitting for exhaust on left, tubing O.D. 6 mm		-BD		
	Silencer for exhaust on left	4	-BU		
Fitting in supply duct on right side	Blanking plug for supply on right		-CX		
	QS fitting for supply on right, tubing O.D. 4 mm		-CC		
	QS fitting for supply on right, tubing O.D. 6 mm		-CD		
Fitting in exhaust duct on right side	Blanking plug for exhaust on right		-DX		
	QS fitting for exhaust on right, tubing O.D. 4 mm	3	-DC		
	QS fitting for exhaust on right, tubing O.D. 6 mm		-DD		
	Silencer for exhaust on right	4	-DU		

1 **AX** Not with fitting CX.
2 **BX** Not with fitting DX.

3 **BC, DC** Not with fitting AD, CD.
4 **BU, DU** Not with valve function D.

Transfer order code

- - - - - -

Solenoid valves MH1, miniature, manifold mounting, electr. multi-pin connection **FESTO**

Ordering data – Modular products

M Mandatory data							O Options →		
Module No.	Valve family	Design	Operating voltage	Valve function	Plug-in direction on valve	Number of valve positions	Link type	Number of vacant positions	Plug-in direction, Sub-D plug
197 334	MH1	A P	5VDC 12VDC 24VDC	D C N	PI	2V ... 22V	PRA	2L ... 22L	SP ST SE
Ordering example									
197 334	MH1	- A	- 12VDC	- D	- PI	- 14V	- PRA	- 2L	-

Ordering table				
Size	1	Condi-tions	Code	Enter code
M Module No.	197 334			
Valve family	Miniature valve size 1		MH1	MH1
Design	Sub-base valve		-A	
	Semi in-line valve		-P	
Operating voltage [V DC]	5, 12, 24		-...VDC	
Valve function	2/2-way valve, normally closed		-D	
	3/2-way valve, normally closed		-C	
	3/2-way valve, normally open		-N	
Plug-in direction on valve	Plug connection underneath with electrical link		-PI	PI
Number of valve positions	2, 4, 6 ... 22		-...V	
Link type	Manifold block with Sub-D plug		-PRA	PRA
O Number of vacant positions	2, 4, 6 ... 22		-...L	
Plug-in direction, Sub-D plug	to pneumatic side		-SP	
	to top		-ST	
	to electrical side		-SE	

Transfer order code

197 334 MH1 - A - - - PI - - PRA - -

Solenoid valves MH1, miniature, manifold mounting, electr. multi-pin connection **FESTO**

Ordering data – Modular products

0 Options					
Connecting cable with socket	Fitting for working port	Fitting in supply duct on left side	Fitting in exhaust duct on left side	Fitting in supply duct on right side	Fitting in exhaust duct on right side
S25 M25 L25 S50 M50 L50 S10 M10 L10	QB QC	AX AC AD	BX BC BD BU	CX CC CD	DX DC DD DU
- L25	- QC	- AX	- BD	- CD	- DX

Ordering table					
Size	1	Condi- tions	Code	Enter code	
Connecting cable with socket (supplied separately)	2.5 m, Sub-D 9-pin, 8-wire	1	-S25		
	5 m, Sub-D 9-pin, 8-wire	1	-S50		
	10 m, Sub-D 9-pin, 8-wire	1 2	-S10		
	2.5 m, Sub-D 25-pin, 12-wire	3	-M25		
	5 m, Sub-D 25-pin, 12-wire	3	-M50		
	10 m, Sub-D 25-pin, 12-wire	2 3	-M10		
	2.5 m, Sub-D 25-pin, 20-wire	4	-L25		
	5 m, Sub-D 25-pin, 20-wire	4	-L50		
	10 m, Sub-D 25-pin, 20-wire	2 4	-L10		
Fitting for working port	QS fitting for working port, tubing O.D. 3 mm		-QB		
	QS fitting for working port, tubing O.D. 4 mm		-QC		
Fitting in supply duct on left side	Blanking plug for supply on left	5	-AX		
	QS fitting for supply on left, tubing O.D. 4 mm		-AC		
	QS fitting for supply on left, tubing O.D. 6 mm		-AD		
Fitting in exhaust duct on left side	Blanking plug for exhaust on left	6	-BX		
	QS fitting for exhaust on left, tubing O.D. 4 mm	7	-BC		
	QS fitting for exhaust on left, tubing O.D. 6 mm		-BD		
	Silencer for exhaust on left	8	-BU		
Fitting in supply duct on right side	Blanking plug for supply on right		-CX		
	QS fitting for supply on right, tubing O.D. 4 mm		-CC		
	QS fitting for supply on right, tubing O.D. 6 mm		-CD		
Fitting in exhaust duct on right side	Blanking plug for exhaust on right		-DX		
	QS fitting for exhaust on right, tubing O.D. 4 mm	7	-DC		
	QS fitting for exhaust on right, tubing O.D. 6 mm		-DD		
	Silencer for exhaust on right	8	-DU		

1 S25, S50, S10

Max. 8 valve positions.

2 S10, M10, L10

Not with operating voltage 5VDC.

3 M25, M50, M10

Only with 10 or 12 valve positions.

4 L25, L50, L10

Min. 10 valve positions.

5 AX

Not with fitting CX.

6 BX

Not with fitting DX.

7 BC, DC

Not with fitting AD, CD.

8 BU, DU

Not with valve function D.

Transfer order code

- [] - [] - [] - [] - [] - []

Solenoid valves MH1, miniature, manifold and PCB mounting

Ordering data – Modular products



M Mandatory data →

Module No.	Valve family	Design	Operating voltage	Valve function	Plug-in direction on valve	Number of valve positions	Link type
197 334	MH1	A P	5VDC 12VDC 24VDC	D C N	PI	2V ... 10V	PCD
Ordering example							
197 334	MH1	- A	- 12VDC	- D	- PI	- 10V	- PCD

Ordering table		Size	Condi- tions	Code	Enter code
M	Module No.	197 334			
	Valve family	Miniature valve size 1		MH1	MH1
	Design	Sub-base valve		-A	
		Semi in-line valve		-P	
	Operating voltage [V DC]	5, 12, 24		-...VDC	
	Valve function	2/2-way valve, normally closed		-D	
		3/2-way valve, normally closed		-C	
		3/2-way valve, normally open		-N	
	Plug-in direction on valve	Plug connection underneath with electrical link		-PI	-PI
	Number of valve positions	2, 4, 6, 8, 10		-...V	
	Link type	PCB mounting, direct		-PCD	-PCD

Transfer order code

197 334	MH1	-		-		-	MH1	-	PI	-		-	PCD
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Solenoid valves MH1, miniature, manifold and PCB mounting



Ordering data – Modular products

0 Options			
Number of vacant positions	Fitting for working port	Fitting in supply duct on left side	Fitting in exhaust duct on left side
2L ... 10L	QB QC	AB AC AD	BB BC BD BU
- 2L	- QC	- AC	- BC

Ordering table				
Size	1	Condi- tions	Code	Enter code
0 Number of vacant positions	2, 4, 6, 8, 10		-...L	
Fitting for working port	QS fitting for working port, tubing O.D. 3 mm		-QB	
	QS fitting for working port, tubing O.D. 4 mm		-QC	
Fitting in supply duct on left side	QS fitting for supply on left, tubing O.D. 3 mm	1	-AB	
	QS fitting for supply on left, tubing O.D. 4 mm		-AC	
	QS fitting for supply on left, tubing O.D. 6 mm		-AD	
Fitting in exhaust duct on left side	QS fitting for exhaust on left, tubing O.D. 3 mm	2	-BB	
	QS fitting for exhaust on left, tubing O.D. 4 mm	3	-BC	
	QS fitting for exhaust on left, tubing O.D. 6 mm		-BD	
	Silencer for exhaust on left	4	-BU	

- 1 AB Not with fitting QC.
- 2 BB Not with fitting AC, AD.

- 3 BC Not with fitting AD, CD.
- 4 BU Not with valve function D.

Transfer order code

- - - -

Solenoid valves MH1, miniature, manifold mounting, pneumatic multi-connector **FESTO**

Ordering data – Modular products

M Mandatory data →

Module No.	Valve family	Design	Operating voltage	Valve function	Plug-in direction on valve	Number of valve positions	Link type
197 334	MH1	A	5VDC 12VDC 24VDC	D C N	PI	4V 6V 8V 10V	PCM
Ordering example							
197 334	MH1	- A	- 12VDC	- D	- PI	- 10V	- PCM

Ordering table		Size	1	Condi- tions	Code	Enter code
M	Module No.	197 334				
	Valve family	Miniature valve size 1			MH1	MH1
	Design	Sub-base valve			-A	-A
	Operating voltage [V DC]	5, 12, 24			-...VDC	
	Valve function	2/2-way valve, normally closed			-D	
		3/2-way valve, normally closed			-C	
		3/2-way valve, normally open			-N	
	Plug-in direction on valve	Plug connection underneath with electrical link			-PI	-PI
	Number of valve positions	4, 6, 8, 10			-...V	
↓	Link type	Printed circuit board mounting, pneumatic multiple connector plate			-PCM	-PCM

Transfer order code

197 334	MH1	- A			PI		PCM
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Solenoid valves MH1, miniature, manifold mounting, pneumatic multi-connector **FESTO**

Ordering data – Modular products

0 Options			
Number of vacant positions	Fitting for working port	Fitting in supply duct on left side	Fitting in exhaust duct on left side
L4 L6 L8 L10	QB QC	AB AC AD	BB BC BD BU
-	- QC	- AC	- BC

Ordering table				
Size	1	Condi- tions	Code	Enter code
0 Number of vacant positions	4, 6, 8, 10		-...L	
Fitting for working port	QS fitting for working port, tubing O.D. 3 mm		-QB	
	QS fitting for working port, tubing O.D. 4 mm	1	-QC	
Fitting in supply duct on left side	QS fitting for supply on left, tubing O.D. 3 mm		-AB	
	QS fitting for supply on left, tubing O.D. 4 mm		-AC	
	QS fitting for supply on left, tubing O.D. 6 mm	2	-AD	
Fitting in exhaust duct on left side	QS fitting for exhaust on left, tubing O.D. 3 mm	3	-BB	
	QS fitting for exhaust on left, tubing O.D. 4 mm	4	-BC	
	QS fitting for exhaust on left, tubing O.D. 6 mm	2	-BD	
	Silencer for exhaust on left	4 5	-BU	

- 1 **QC** Not with fitting AD, BD.
- 2 **AD, BD** Not with fitting QC.
- 3 **BB** Not with fitting AC, AD.

- 4 **BC, BU** Not with fitting AD.
- 5 **BU** Not with valve function D.

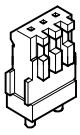
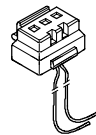









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Solenoid valves MH1, miniature

Accessories

FESTO

Ordering data		Part No.	Type	Ordering data		Part No.	Type
Soldering base				Plug socket with cable (IP40)			
		197 261	PCBC-A-10 ¹⁾		0.5 m	197 263	KMH-0,5
		197 262	PCBC-A-100 ²⁾		1 m	197 264	KMH-1
Plug base (IP40)				Inscription label			
		197 260	MHAP-PI			197 289	MH-BZ-80X ³⁾
Blanking plug B				Blanking plate			
	M5	3843	B-M5 ⁴⁾		Plug connection	197 257	MHAP1-BP-3
	M7	174 309	B-M7 ⁴⁾		Plug base	197 258	MHAP1-BP-3-PI
Silencer UC				Push-in fittings QS/QSM			
		→ Volume 3				→ Volume 3	
Connecting cable KMP6 (up to 8 valves)				Connecting cable KMP6 (up to 12 valves)			
	2.5 m	531 184	KMP6-09P-8-2,5		2.5 m	530 049	KMP6-25P-12-2,5
	5 m	531 185	KMP6-09P-8-5		5 m	530 050	KMP6-25P-12-5
	10 m	531 186	KMP6-09P-8-10		10 m	530 051	KMP6-25P-12-10
Connecting cable KMP6 (up to 22 valves)							
	2.5 m	530 046	KMP6-25P-22-2,5				
	5 m	530 047	KMP6-25P-22-5				
	10 m	530 048	KMP6-25P-22-10				

- 1) Scope of delivery 10 pieces
- 2) Scope of delivery 100 pieces
- 3) Scope of delivery 80 pieces
- 4) Scope of delivery 10 pieces