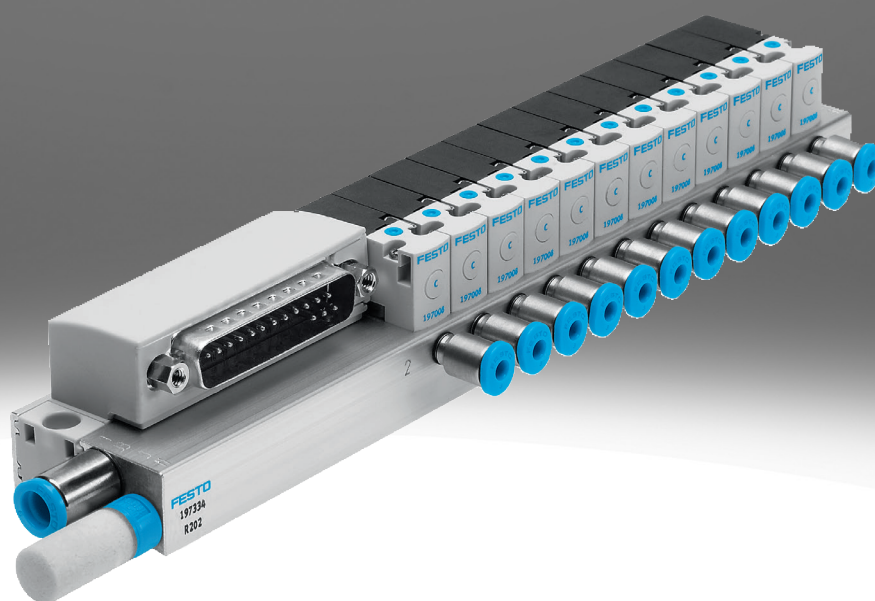


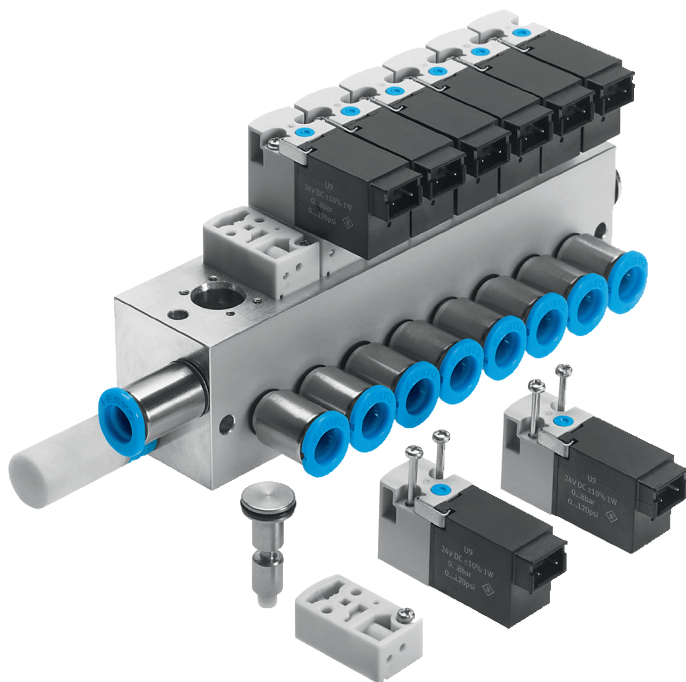
Valve manifold MH1

FESTO



Characteristics

At a glance



Extremely miniaturized:

The miniaturized generation of poppet valves. In the versions 2/2, flow rates of 14 l/min, or in the 3/2-way versions, flow rates of 10 l/min are available. Either as an individual sub-base valve or pre-assembled on the manifold rail. When used on the manifold rail, an extremely high packing density can be achieved. Designed for quick installation and to meet additional demand, the MH2 valves with a flow rate of up to 100 l/min are available.

Extremely versatile and fast:

The miniature valves can be interconnected using a pneumatic multiple connector plate or an electrical multi-pin connector. Even the electrical connections offer options for horizontal, top, or bottom mounting. Another interesting option is mounting it on a circuit board, complete with connectors. Everything is pre-tested and pre-assembled for Festo plug and work. And it is no problem if the system needs to be up and running as quickly as possible. The response times of the miniature valves are 4 ms.

Extremely collaborative:

Festo offers a wide range of products under the umbrella term “compact drives”, including drives, rodless drives, mini slides, rotary actuators, and accessories. Perfectly coordinated and designed for any manufacturing area that produces and processes very small products. All with Festo’s renowned quality, including all the added value that a global company can offer.

Miniature valves – not just for the electronics industry:

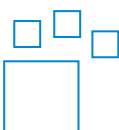
Also for the light assembly, medical technology, and semiconductor industries, and in any application where extremely compact and fast-acting valves are required, or where pilot valves for media-carrying valves are needed (e.g., the process industry).

With shift times of approx. 4 ms, it leaves nothing to be desired in terms of speed. Vacuum functions can also be easily implemented. 100% duty cycle and even three-shift operation ensure maximum cost-effectiveness.

With flow rates of 10 and 14 l/min for the miniature valves, there is always enough volume available for piloting process valves. But it also provides sufficient flow capacity for Festo’s wide range of compact cylinders, rotary actuators, and slides.

Ordering data - modular system

[Link](#) [mh1](#)

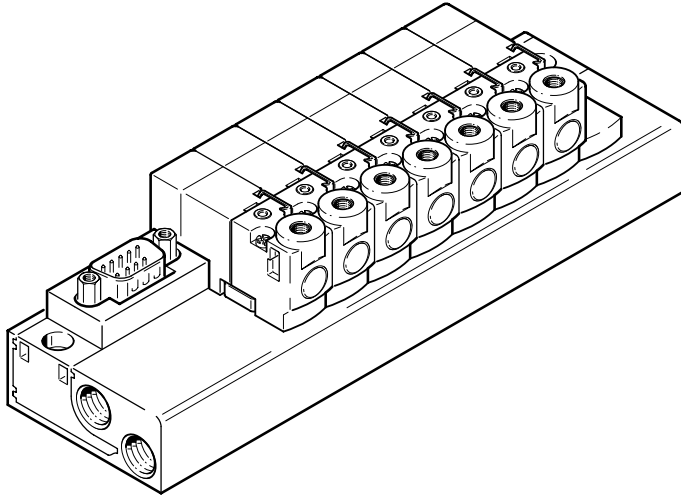


Configurable product

This product and all its product options can be ordered online via the configurator.

Datasheet

General technical data – Valve terminals

[Link](#) [mh1](#)


Valve manifold design	Fixed grid
Electrical actuation	Individual connection Multi-pin
Max. no. of valve positions	24
Valve function	2/2-way, closed, monostable 3/2-way, closed, monostable 3/2-way, monostable, open
Structural design	Poppet valve with spring return
Sealing principle	Soft
Actuation type	Electrical
Reset method	Mechanical spring
Type of control	directly
Suitability for vacuum	Yes
Exhaust air function	Adjustable
Signal status display	LED
Nominal width	0.9 mm
Max. standard nominal flow rate	10 l/min at 10 mm
Valve size	10 mm

Operating and environmental conditions – Valve terminals

Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4]
Information on operating and pilot media	Operation with oil lubrication possible (required for further use)
Operating pressure	-0.9 ... 8 bar
Ambient temperature	-5 ... 40°C
Temperature of medium	-5 ... 40°C
Corrosion resistance class (CRC) ¹⁾	1 - Low corrosion stress
Certification	c UL us - recognized (OL)
Certificate issuing authority	UL MH19482
CE marking (see declaration of conformity) ²⁾	As per EU RoHS directive

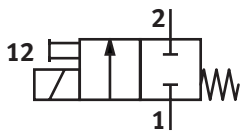
1) More information at www.festo.com/x/topic/kbk

2) Further information www.festo.com/catalogue/... -> Support/Downloads.

Datasheet

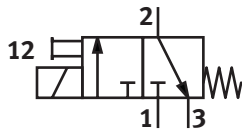
Electrical specifications – Valve manifold	
Nominal operating voltage DC	5 V 12 V 24 V
Nominal operating voltage AC	24 V
Degree of protection	IP40 IP65

Circuit symbol 2/2-way valves



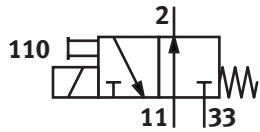
- Single solenoid
- Normally closed
- Mechanical spring return
- Vacuum operation is achieved by connecting the vacuum to the connection 2

Circuit symbol 3/2-way valves, closed



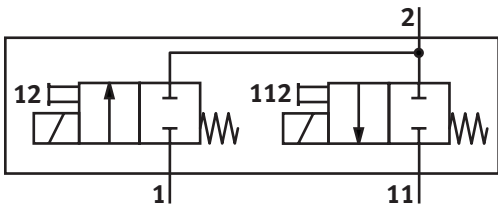
- Single solenoid
- Normally closed
- Mechanical spring return
- Vacuum operation is achieved by connecting the vacuum to the connection 3, causing the normal position to change to normally open

Circuit symbol 3/2-way valves, open



- Single solenoid
- Normally open
- Mechanical spring return
- Vacuum operation is achieved by connecting the vacuum to the connection 33, causing the normal position to change to normally closed

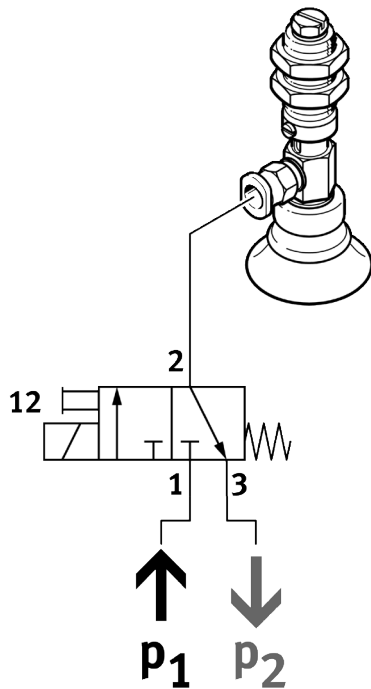
Circuit symbol 2x2/2-way valves



- Single solenoid
- Normally closed
- Mechanical spring return
- Vacuum operation is achieved by connecting the vacuum to the connection 11

Datasheet

Vacuum and reverse operation



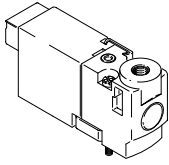
With MH1 valves, the flow direction is clearly defined and cannot be reversed .
Reverse operation is not possible.
During operation under vacuum, it is therefore important to ensure that this flow direction is maintained.
This is achieved by applying a vacuum to connection 3 or 2 (33 or 11).
No vacuum may be connected to connection 1.

Materials – Valve manifold

Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364-B2-L
Cleanroom suitability, measured according to ISO 14644-14	Class 5 according to ISO 14644-1

Datasheet

General technical data – Semi in-line valve



Valve function	2/2-way, closed, monostable		3/2-way, closed, monostable	3/2-way, monostable, open
Structural design	Poppet valve with spring return			
Lap	Negative overlap			
Sealing principle	Soft			
Actuation type	Electrical			
Reset method	Mechanical spring			
Type of control	directly			
Flow direction	Non-reversible			
Suitability for vacuum	Yes	–		
Exhaust air function	Cannot be throttled	Adjustable		
Manual override	Non-detenting			
Type of mounting	On sub-base With through-hole			
Mounting position	Any			
Valve position ID	Label			
Nominal width	0.9 mm	0.65 mm		0.7 mm
Normal nominal flow rate (normalized to DIN 1343)	14 l/min	10 l/min		
Width	10 mm			
Width dimension	10 mm			
Pneumatic connection 1	Sub-base			–
Pneumatic connection 2	M3			
Pneumatic connection 3	–	Sub-base		–
Product weight	10 g			

Operating and environmental conditions – Semi in-line valve

Valve function	2/2-way, closed, monostable	3/2-way, closed, monostable	3/2-way, monostable, open
Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4]		
Information on operating and pilot media	Operation with oil lubrication possible (required for further use)		
Operating pressure	-0.09 ... 0.2 MPa	0 ... 0.8 MPa	0 ... 0.6 MPa
Operating pressure	-0.9 ... 2 bar	0 ... 8 bar	0 ... 6 bar
Ambient temperature	-5 ... 40°C		
Temperature of medium	-5 ... 40°C		
Storage temperature	-20 ... 60°C		
Corrosion resistance class (CRC) ¹⁾	2 - Moderate corrosion stress		
Certification	c UL us - recognized (OL)		
Certificate issuing authority	UL MH19482		

1) More information at www.festo.com/x/topic/kbk

Safety characteristics – Semi in-line valve

Operating voltage	12V DC	24V DC	5V DC
Note on forced dynamization	Switching frequency at least once a week		
Max. positive test pulse with 0 signal	–	500 µs	–
Max. negative test pulse on 1 signal	–	400 µs	–
Shock resistance	Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27		
Vibration resistance	Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6		

Datasheet

Electrical specifications – Semi in-line valve

Operating voltage	12V DC 24V DC 5V DC
Permissible voltage fluctuations	+/- 10%
Electrical connection	Plug
Electrical power consumption	1 W
Duty cycle	100%
Degree of protection	IP40

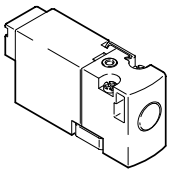
Switching times and frequencies – Half-sleeve valve

Valve function	2/2-way, closed, monostable	3/2-way, closed, monostable	3/2-way, monostable, open
On switching time	4 ms		
Switching time off	5 ms	4 ms	
Max. switching frequency	20 Hz		

Materials – Semi in-line valve

Housing material	PA-reinforced, PPS-reinforced
Seals material	FPM, HNBR, NBR
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364-B2-L
Cleanroom suitability, measured according to ISO 14644-14	Class 5 according to ISO 14644-1

General technical data – Sub-base valve without LED



Valve function	2/2-way, closed, monostable		3/2-way, closed, monostable	3/2-way, monostable, open
Structural design	Poppet valve with spring return			
Lap	Negative overlap			
Sealing principle	Soft			
Actuation type	Electrical			
Reset method	Mechanical spring			
Type of control	directly			
Flow direction	Non-reversible			
Suitability for vacuum	Yes	–		
Exhaust air function	Cannot be throttled	Adjustable		
Manual override	Non-detenting			
Type of mounting	On sub-base, With through-hole			
Mounting position	Any			
Valve position ID	Label			
Nominal width	0.9 mm	0.65 mm	0.7 mm	
Normal nominal flow rate (normalized to DIN 1343)	14 l/min	10 l/min		
Width	10 mm			
Width dimension	10 mm			
Pneumatic connection 1	Sub-base		–	
Pneumatic connection 2	Sub-base			
Pneumatic connection 3	–	Sub-base		–
Pneumatic connection 11	–			Sub-base
Pneumatic connection 33	–			Sub-base
Product weight	10 g			

Datasheet

Operating and environmental conditions – Sub-base valve without LED

Valve function	2/2-way, closed, monostable	3/2-way, closed, monostable	3/2-way, monostable, open
Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4]		
Information on operating and pilot media	Operation with oil lubrication possible (required for further use)		
Operating pressure	-0.09 ... 0.2 MPa	0 ... 0.8 MPa	0 ... 0.6 MPa
Operating pressure	-0.9 ... 2 bar	0 ... 8 bar	0 ... 6 bar
Operating pressure	-13.05 ... 29 psi	0 ... 116 psi	0 ... 87 psi
Ambient temperature	-5 ... 40°C		
Temperature of medium	-5 ... 40°C		
Storage temperature	-20°C, 60°C		
Corrosion resistance class (CRC) ¹⁾	2 - Moderate corrosion stress		
Certification	c UL us - recognized (OL)		
Certificate issuing authority	UL MH19482		

1) More information at www.festo.com/x/topic/kbk

Safety characteristics – Sub-base valve without LED

Operating voltage	12V DC	24V DC	5V DC
Note on forced dynamization	Switching frequency at least once a week		
Max. positive test pulse with 0 signal	–	500 µs	–
Max. negative test pulse on 1 signal	–	400 µs	–
Shock resistance	Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27		
Vibration resistance	Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6		

Electrical specifications – Sub-base valve without LED

Operating voltage	12V DC 24V DC 5V DC
Permissible voltage fluctuations	+/- 10%
Electrical connection	Plug
Electrical power consumption	1 W
Duty cycle	100%
Degree of protection	IP40

Switching times and frequencies – Sub-base valve without LED

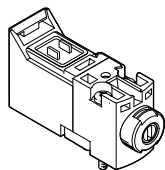
Valve function	2/2-way, closed, monostable	3/2-way, closed, monostable	3/2-way, monostable, open
On switching time	4 ms		
Switching time off	5 ms	4 ms	
Max. switching frequency	20 Hz		

Materials – Sub-base valve without LED

Housing material	PA-reinforced, PPS-reinforced
Seals material	FPM, HNBR, NBR
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364-B2-L
Cleanroom suitability, measured according to ISO 14644-14	Class 5 according to ISO 14644-1

Datasheet

General technical data – Sub-base valve with electrical sub-base



Valve function	3/2-way, closed, monostable
Structural design	Poppet valve with spring return
Lap	Negative overlap
Sealing principle	Soft
Actuation type	Electrical
Reset method	Mechanical spring
Type of control	directly
Flow direction	Non-reversible
Exhaust air function	Adjustable
Manual override	Detenting, Non-detenting
Type of mounting	On sub-base, With through-hole
Mounting position	Any
Nominal width	0.65 mm
Normal nominal flow rate (normalized to DIN 1343)	10 l/min
Width	10 mm
Width dimension	10 mm
Pneumatic connection 1	Sub-base
Pneumatic connection 2	Sub-base
Pneumatic connection 3	Sub-base
Product weight	10 g

Operating and environmental conditions – Sub-base valve with electrical sub-base

Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4]
Information on operating and pilot media	Operation with oil lubrication possible (required for further use)
Operating pressure	0.15 ... 0.8 MPa
Operating pressure	1.5 ... 8 bar
Operating pressure	21.75 ... 116 psi
Ambient temperature	-5 ... 50°C
Temperature of medium	-5 ... 50°C
Restricted ambient and media temperature	-5 - 40°C, Without holding current reduction
Storage temperature	-20 ... 60°C
Corrosion resistance class (CRC) ¹⁾	2 - Moderate corrosion stress
Certification	c UL us - recognized (OL)
Certificate issuing authority	UL MH19482

1) More information at www.festo.com/x/topic/kbk

Safety characteristics – Sub-base valve with electrical sub-base

Operating voltage	12V DC	24V DC	5V DC
Note on forced dynamization	Switching frequency at least once a week		
Max. positive test pulse with 0 signal	–	500 µs	–
Max. negative test pulse on 1 signal	–	400 µs	–
Shock resistance	Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27		
Vibration resistance	Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6		

Datasheet

Electrical specifications – Sub-base valve with electrical sub-base

Operating voltage	12V DC	24V DC	5V DC
Permissible voltage fluctuations	+/- 10%		
Electrical connection	Via electrical sub-base		
Electrical power consumption	1 W		
Duty cycle	100%		
Degree of protection	IP40 IP65		

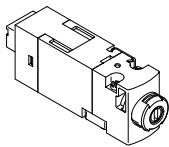
Switching times and frequencies – Sub-base valve with electrical sub-base

Operating voltage	12V DC	24V DC	5V DC
On switching time	5 ms		
Switching time off	5 ms		
Max. switching frequency	10 Hz		

Materials – Sub-base valve with electrical sub-base

Housing material	PA-reinforced, PPS-reinforced		
Seals material	FPM, HNBR, NBR		
Note on materials	RoHS compliant		
LABS (PWIS) conformity	VDMA24364-B2-L		
Cleanroom suitability, measured according to ISO 14644-14	Class 5 according to ISO 14644-1		

General technical data – Sub-base valve with LED



Valve function	3/2-way, closed, monostable	3/2-way, monostable, open
Structural design	Poppet valve with spring return	
Lap	Negative overlap	
Sealing principle	Soft	
Actuation type	Electrical	
Reset method	Mechanical spring	
Type of control	directly	
Flow direction	Non-reversible	
Exhaust air function	Adjustable	
Manual override	Detenting, Non-detenting	
Signal status display	LED	
Type of mounting	On sub-base, With through-hole	
Mounting position	Any	
Valve position ID	Label	
Nominal width	0.65 mm	0.7 mm
Normal nominal flow rate (normalized to DIN 1343)	10 l/min	
Width	10 mm	
Width dimension	10 mm	
Pneumatic connection 1	Sub-base	–
Pneumatic connection 2	Sub-base	
Pneumatic connection 3	Sub-base	–
Pneumatic connection 11	–	Sub-base
Pneumatic connection 33	–	Sub-base
Product weight	11 g	

Datasheet

Operating and environmental conditions – Sub-base valve with LED

Valve function	3/2-way, closed, monostable	3/2-way, monostable, open
Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4]	
Information on operating and pilot media	Operation with oil lubrication possible (required for further use)	
Operating pressure	0 ... 0.8 MPa	0 ... 0.6 MPa
Operating pressure	0 ... 8 bar	0 ... 6 bar
Operating pressure	0 ... 116 psi	0 ... 87 psi
Ambient temperature	-5 ... 40°C	
Temperature of medium	-5 ... 40°C	
Storage temperature	-20 ... 60°C	
Corrosion resistance class (CRC) ¹⁾	2 - Moderate corrosion stress	
Certification	c UL us - recognized (OL)	
Certificate issuing authority	UL MH19482	

1) More information at www.festo.com/x/topic/kbk

Safety characteristics – Sub-base valve with LED

Note on forced dynamization	Switching frequency at least once a week
Shock resistance	Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27
Vibration resistance	Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6

Electrical specifications – Sub-base valve with LED

Operating voltage	24V DC
Permissible voltage fluctuations	+/- 10%
Electrical connection	Plug
Electrical power consumption	1.1 W
Duty cycle	100%
Degree of protection	IP40

Switching times and frequencies – Sub-base valve with LED

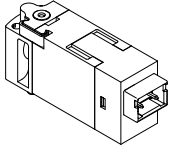
On switching time	4 ms
Switching time off	4 ms
Max. switching frequency	20 Hz

Materials – Sub-base valve with LED

Housing material	PA-reinforced, PPS-reinforced
Seals material	FPM, HNBR, NBR
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364-B2-L
Cleanroom suitability, measured according to ISO 14644-14	Class 5 according to ISO 14644-1

Datasheet

General technical data – 2x2/2-way valve on sub-base



Valve function	2/2-way, closed, monostable	2x2/2 closed, monostable
Structural design	Poppet valve with spring return	–
Lap	–	Negative overlap
Sealing principle	Soft	
Actuation type	Electrical	
Reset method	Mechanical spring	
Type of control	directly	
Flow direction	Non-reversible	
Suitability for vacuum	Yes	
Exhaust air function	Cannot be throttled	
Manual override	Non-detenting	
Signal status display	LED	
Type of mounting	On sub-base	With through-hole
Mounting position	Any	
Nominal width	1.5 mm	
Normal nominal flow rate (normalized to DIN 1343)	30 l/min	
Standard flow rate (standardized according to DIN 1343)	30 l/min	
Width	10 mm	20 mm
Width dimension	10 mm	20 mm
Pneumatic connection 1	Sub-base	QS-3, QS-4, Prepared for QSP10
Pneumatic connection 11	Sub-base	QS-3, QS-4, Prepared for QSP10
Pneumatic connection 2	Sub-base	QS-3, QS-4, Prepared for QSP10

Operating and environmental conditions – 2x2/2-way valve on sub-base

Valve function	2/2-way, closed, monostable	2x2/2 closed, monostable
Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4]	
Information on operating and pilot media	Operation with oil lubrication possible (required for further use)	
Operating pressure	0 ... 1.5 bar	
Operating pressure, reversible	-0.95 ... 0 bar	
Ambient temperature	-5 ... 50°C	
Temperature of medium	-5 ... 50°C	
Storage temperature	-20 ... 60°C	
Corrosion resistance class (CRC) ¹⁾	2 - Moderate corrosion stress	
Certification	RCM compliance mark	–
CE marking (see declaration of conformity) ²⁾	As per EU EMC directive As per EU RoHS directive	
UKCA marking (see declaration of conformity) ³⁾	To UK instructions for EMC To UK RoHS instructions	

1) More information at www.festo.com/x/topic/kbk

2) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/... -> Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or light industrial environments, further measures for reducing the emitted interference may be necessary.

3) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/... -> Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or light industrial environments, further measures for reducing the emitted interference may be necessary.

Safety characteristics – 2x2/2-way valve on sub-base

Shock resistance	Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27
Vibration resistance	Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6

Datasheet

Electrical specifications – 2x2/2-way valve on sub-base

Operating voltage	24V DC
Permissible voltage fluctuations	+/- 10%
Electrical connection	Plug KMH
Duty cycle	100%
Max. cable length	30 m
Degree of protection	IP40

Switching times and frequencies – 2x2/2-way valve on sub-base

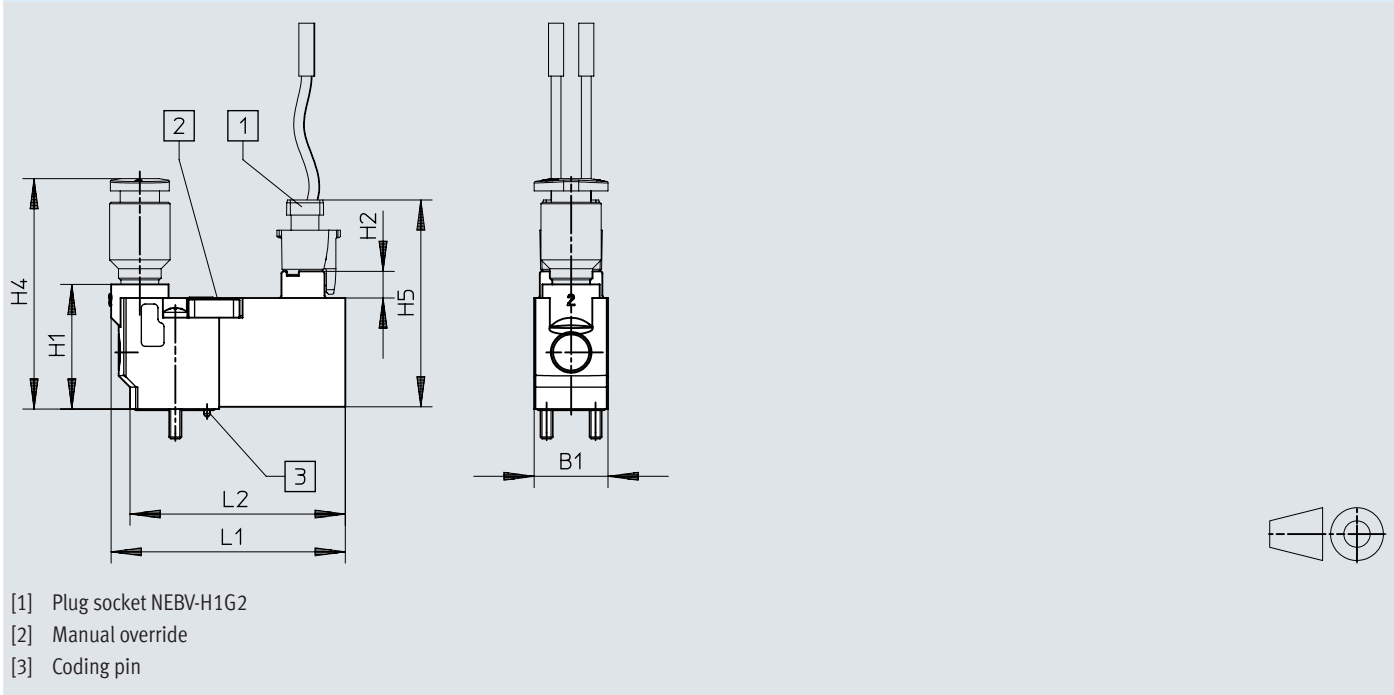
On switching time	6 ms
Switching time off	6 ms
Max. switching frequency	10 Hz

Materials – 2x2/2-way valve on sub-base

Valve function	2/2-way, closed, monostable	2x2/2 closed, monostable
Housing material	PA-reinforced, PPS-reinforced	
Material of screws	Steel	
Seals material	FPM, HNBR, NBR	
Note on materials	RoHS compliant	
LABS (PWIS) conformity	VDMA24364-B2-L	
Cleanroom suitability, measured according to ISO 14644-14	Class 5 according to ISO 14644-1	–

Dimensions

Dimensions – Semi in-line valve, plug connection at the top Download CAD data www.festo.com

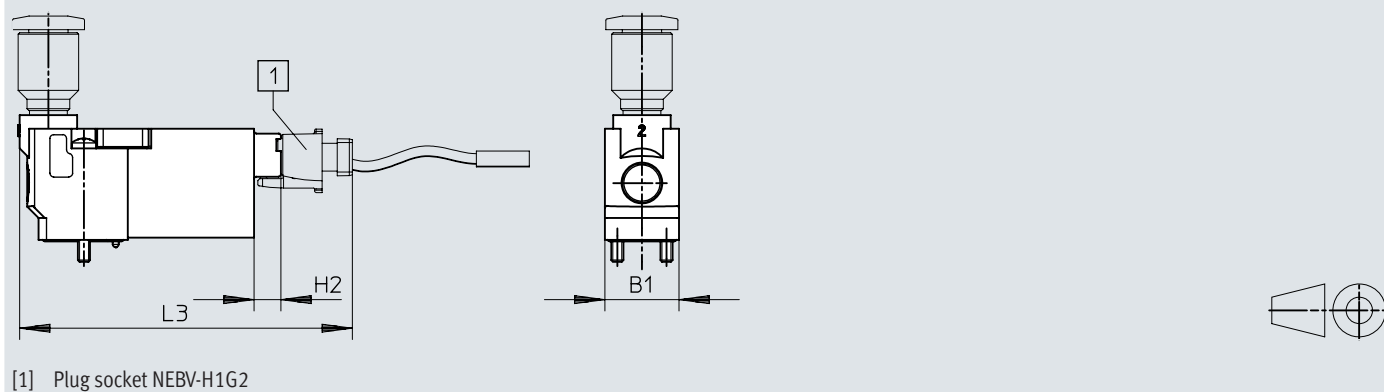


	B1	H1	H2	H4	H5	L1	L2
MHP1-...-TC	9,8	16,5	3,6	30,5	27,4	31	28,5

Dimensions

Dimensions – Semi in-line valve, rear plug connection

Download CAD data www.festo.com



	B1	H2	L3
MH1-...-HC	9,8	3,6	44

Dimensions

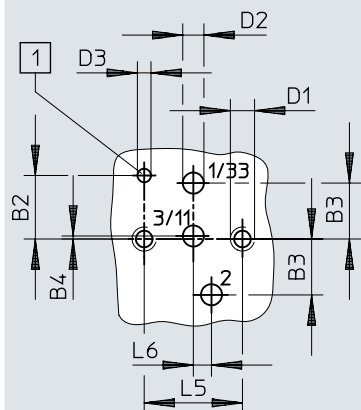
Dimensions – Semi in-line valve, bottom plug connection [Download CAD data](http://www.festo.com) www.festo.com



	B1	H2
MHP1-...-P1	9,8	3,6

Dimensions

Dimensions – Semi in-line valve, port pattern on sub-bases

[Download CAD data](http://www.festo.com)


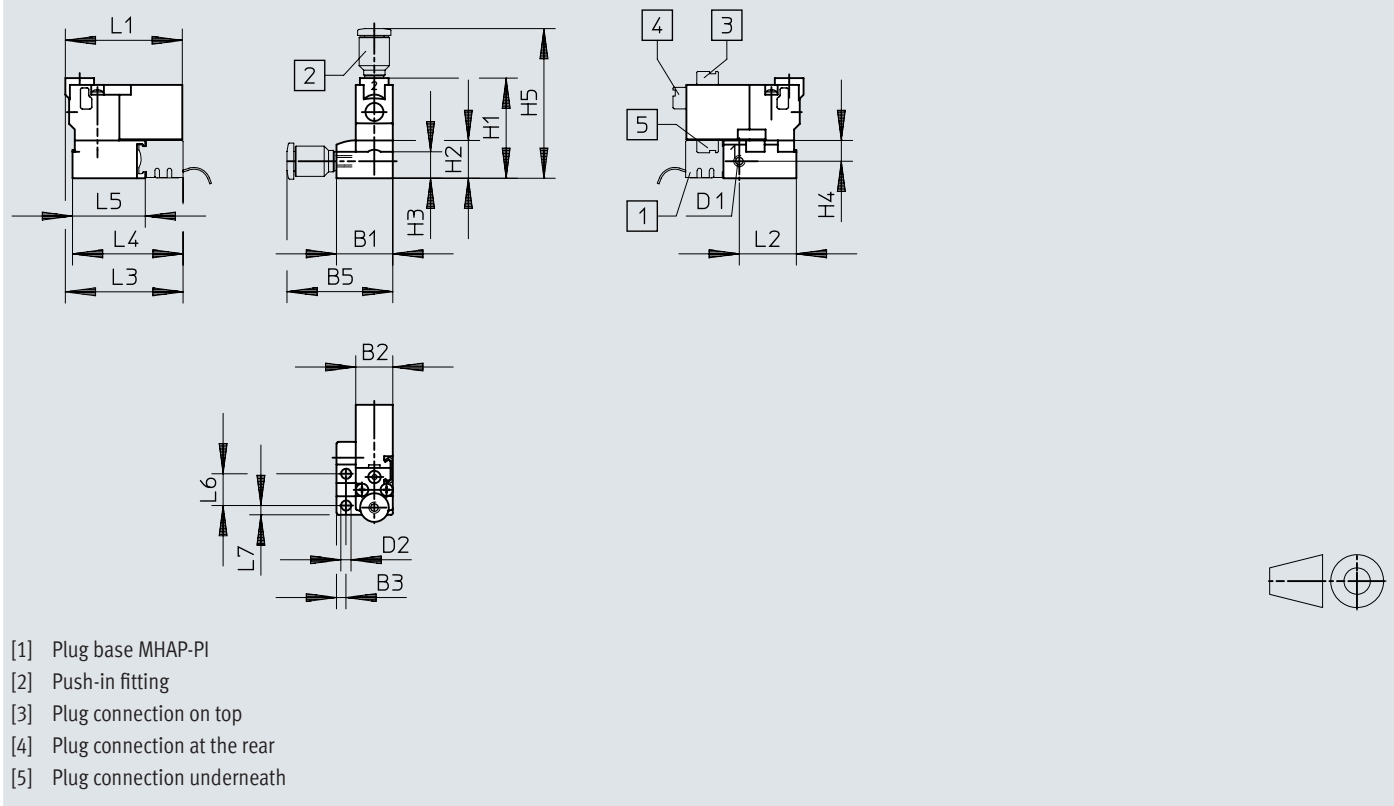
[1] Hole for coding pin

	B2	B3	B4	D1	D2	D3	L5	L6
MHP1/MHA1	4,2	3,7	0,2	M1,6	1,4	0,9	6,5	1,2

Dimensions

Dimensions – Semi in-line valve, mounted on an individual sub-base, 2/2-way valve

Download CAD data www.festo.com

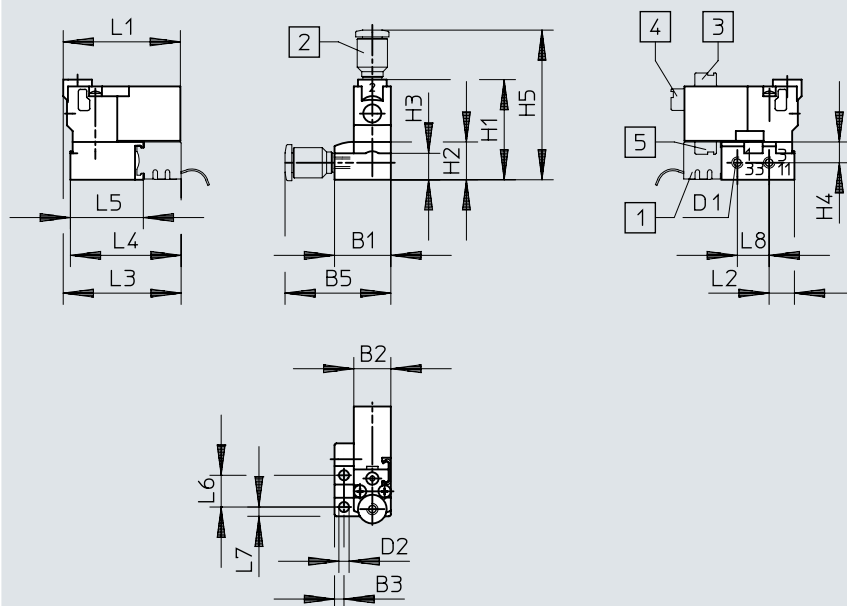


	B1	B2	B3	B5	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6	L7	L7
MHP1-...-2/2	14,9	9,8	2,5	28	M3	2,7	26,5	10	7	5,5	39,6	31	15,1	31,2	29,3	19,3	8,4	2,5	2,5

Dimensions

Dimensions – Semi in-line valve, mounted on an individual sub-base, 3/2-way valve

Download CAD data www.festo.com

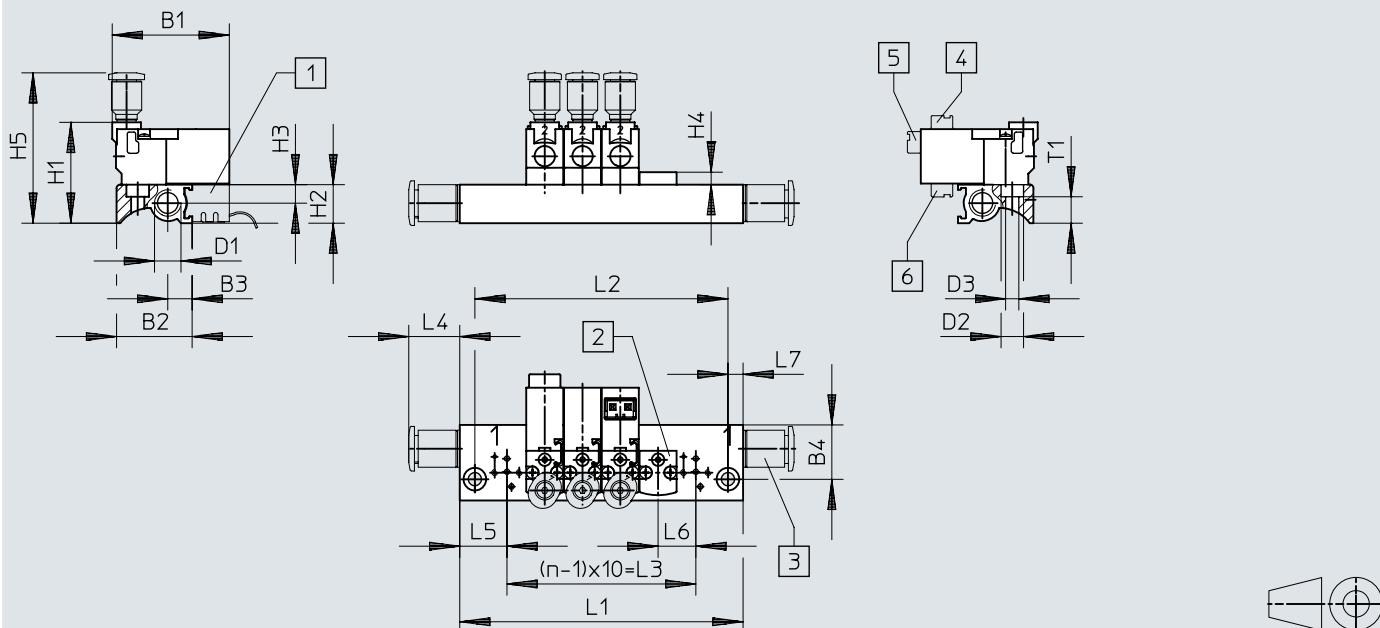


- [1] Plug base MHAP-PI
- [2] Push-in fitting
- [3] Plug connection on top
- [4] Plug connection at the rear
- [5] Plug connection underneath

	B1	B2	B3	B5	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6	L7	L7
MHP1-...-3/2	14,9	9,8	2,5	28	M3	2,7	26,5	10	7	5,5	39,6	31	6,7	31,2	29,3	19,3	8,4	2,5	8,4

Dimensions

Dimensions – Semi in-line valve, manifold assembly, 2/2-way valve

Download CAD data www.festo.com


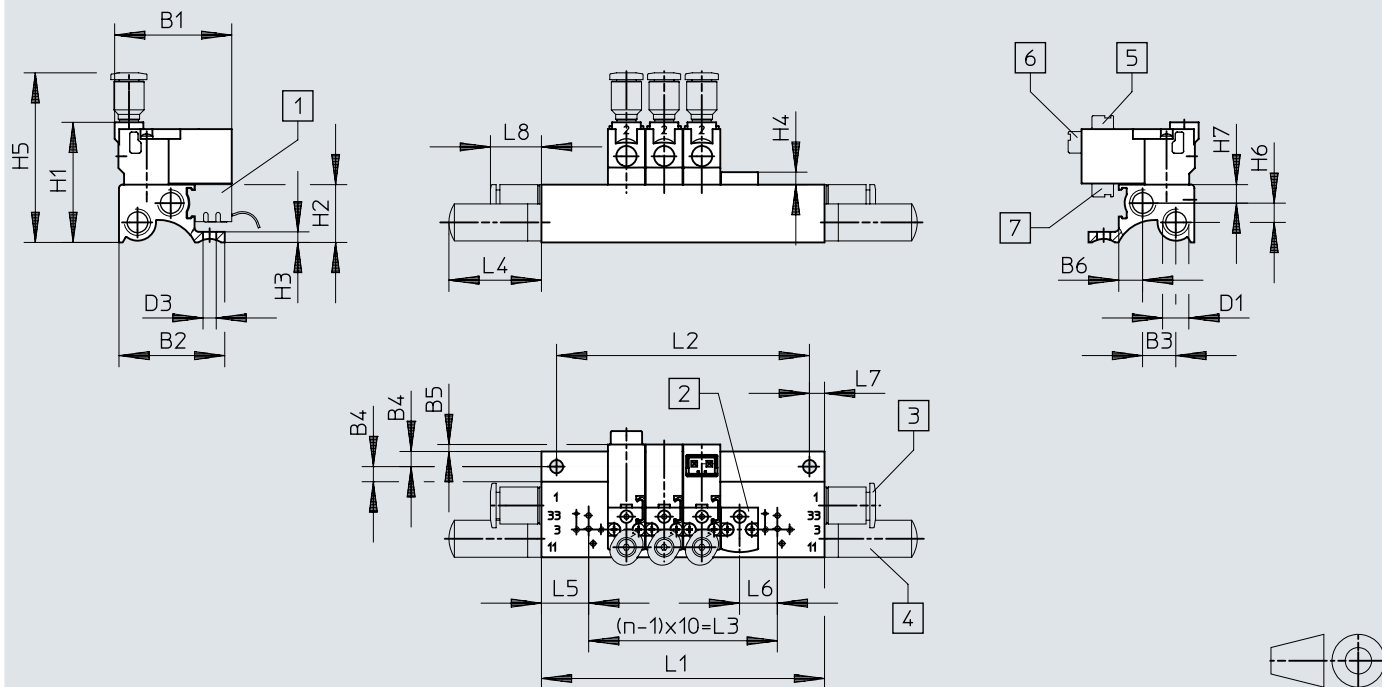
- [1] Plug base MHAP-PI
- [2] Cover plate MHAP1
- [3] Fitting
- [4] Plug connection on top
- [5] Plug connection at the rear
- [6] Plug connection underneath

	B1	B2	B3	B4	D1	D2	D3	H1	H2	H3	H4	H5	L4	L5	L6	L7	T1
MHP1-...-2/2	31	20	6,3	14,4	M7	6	3,5	26,7	10,2	4,9	3,3	39,8	13,5	12,5	10	4	7

n	L1 ±0,15	L2 ±0,1	L3	n	L1 ±0,15	L2 ±0,1	L3	n	L1 ±0,15	L2 ±0,1	L3
2x MHP1-...-2/2	35	27	10	9x MHP1-...-2/2	105	97	80	16x MHP1-...-2/2	175	167	150
3x MHP1-...-2/2	45	37	20	10x MHP1-...-2/2	115	107	90	17x MHP1-...-2/2	185	177	160
4x MHP1-...-2/2	55	47	30	11x MHP1-...-2/2	125	117	100	18x MHP1-...-2/2	195	187	170
5x MHP1-...-2/2	65	57	40	12x MHP1-...-2/2	135	127	110	19x MHP1-...-2/2	205	197	180
6x MHP1-...-2/2	75	67	50	13x MHP1-...-2/2	145	137	120	20x MHP1-...-2/2	215	207	190
7x MHP1-...-2/2	85	77	60	14x MHP1-...-2/2	155	147	130	21x MHP1-...-2/2	225	217	200
8x MHP1-...-2/2	95	87	70	15x MHP1-...-2/2	165	157	140	22x MHP1-...-2/2	235	227	210

Dimensions

Dimensions – Semi in-line valve, manifold assembly, 3/2-way valve

[Download CAD data](http://www.festo.com)


- [1] Plug base MHAP-PI
- [2] Cover plate MHAP1
- [3] Fitting
- [4] Silencer
- [5] Plug connection on top
- [6] Plug connection at the rear
- [7] Plug connection underneath

	B1	B2	B3	B4	B5	B6	D1	D3	H1	H2	H3	H4	H5	H6	H7	L4	L5	L6	L7	L8
MHP1-...-3/2	31	28	8,8	4	1,9	6,3	M7	3,5	31,8	15,3	2,8	3,3	44,9	5,1	4,9	24,5	12,5	10	4	13,5

n	L1 ±0,15	L2 ±0,1	L3
2x MHP1-...-3/2	35	27	10
3x MHP1-...-3/2	45	37	20
4x MHP1-...-3/2	55	47	30
5x MHP1-...-3/2	65	57	40
6x MHP1-...-3/2	75	67	50
7x MHP1-...-3/2	85	77	60
8x MHP1-...-3/2	95	87	70

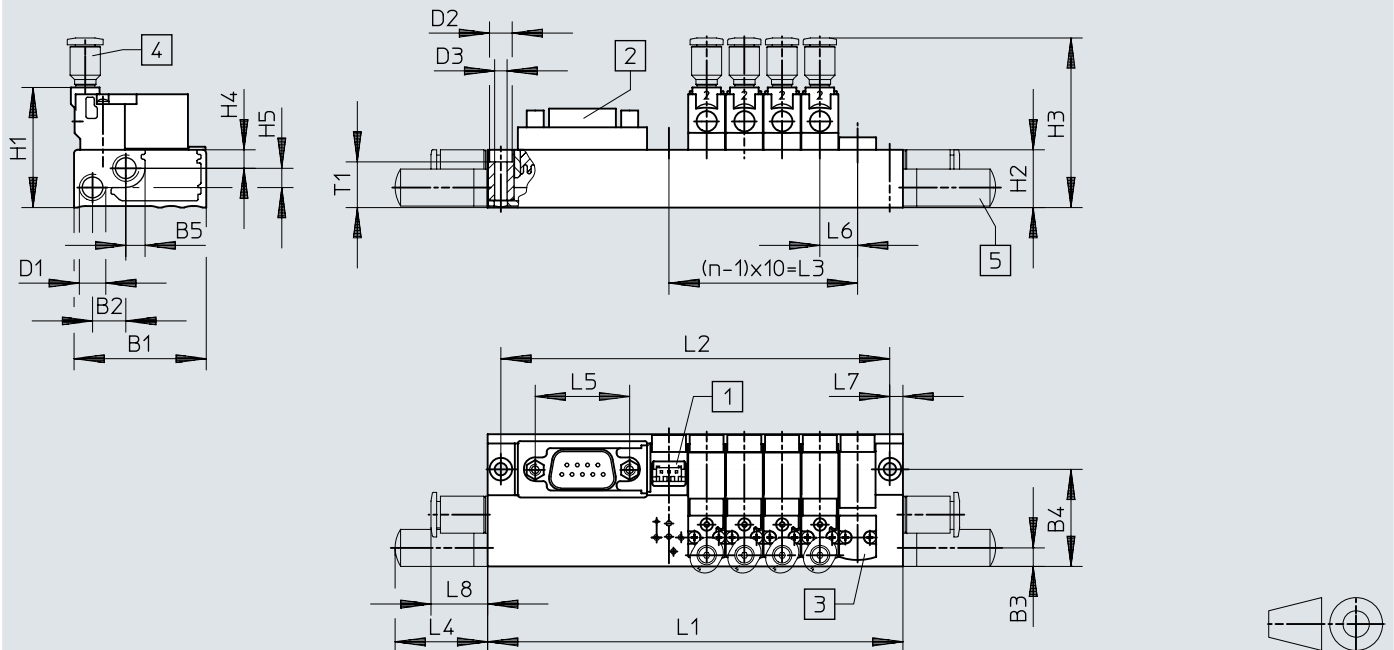
n	L1 ±0,15	L2 ±0,1	L3
9x MHP1-...-3/2	105	97	80
10x MHP1-...-3/2	115	107	90
11x MHP1-...-3/2	125	117	100
12x MHP1-...-3/2	135	127	110
13x MHP1-...-3/2	145	137	120
14x MHP1-...-3/2	155	147	130
15x MHP1-...-3/2	165	157	140

n	L1 ±0,15	L2 ±0,1	L3
16x MHP1-...-3/2	175	167	150
17x MHP1-...-3/2	185	177	160
18x MHP1-...-3/2	195	187	170
19x MHP1-...-3/2	205	197	180
20x MHP1-...-3/2	215	207	190
21x MHP1-...-3/2	225	217	200
22x MHP1-...-3/2	235	227	210

Dimensions

Dimensions – Semi in-line valve, manifold assembly with electrical multi-pin, 3/2-way valve

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- [1] Plug base MHAP-PI
- [2] Sub-D plug, plug outlet on top (standard)
- [3] Cover plate MHAP1
- [4] Fitting
- [5] Silencer

	B1	B2	B3	B4	B5	D1	D2	D3	H1	H2	H3	H4	H5	L4	L5	L6	L7	L8	T1
MHP1	35	8,8	5,3	25,7	5,2	M7	6	3,3	31,8	15,3	44,9	4,9	5,1	54,5	25	10	3,5	15	12,1

n	L1 ±0,15	L2 ±0,1	L3
2x MHP1-...-3/2	70	63	10
4x MHP1-...-3/2	90	83	30
6x MHP1-...-3/2	110	103	50
8x MHP1-...-3/2	130	123	70

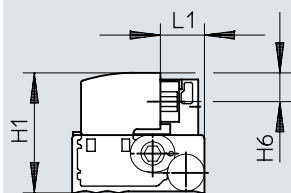
n	L1 ±0,15	L2 ±0,1	L3
10x MHP1-...-3/2	172	165	90
12x MHP1-...-3/2	192	185	110
14x MHP1-...-3/2	212	205	130
16x MHP1-...-3/2	232	225	150

n	L1 ±0,15	L2 ±0,1	L3
18x MHP1-...-3/2	252	245	170
20x MHP1-...-3/2	272	265	190
22x MHP1-...-3/2	292	285	210

Dimensions

Dimensions – Electrical multi-pin, connector outlet to the pneumatic side

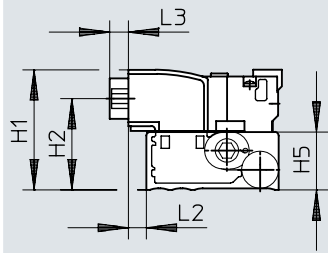
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	H1	H6	L1
MH1-...-SP	31,8	7,6	11,7

Dimensions

Dimensions – Electrical multi-pin, plug outlet to the electrical side [Download CAD data](http://www.festo.com)

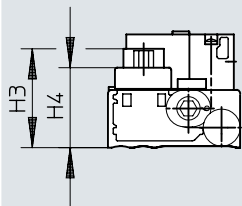


	H1	H2	H5	L2	L3
MH1-...-SE	31,8	24,2	15,3	4,8	5

Dimensions

Dimensions – Electrical multi-pin, with the plug facing upwards

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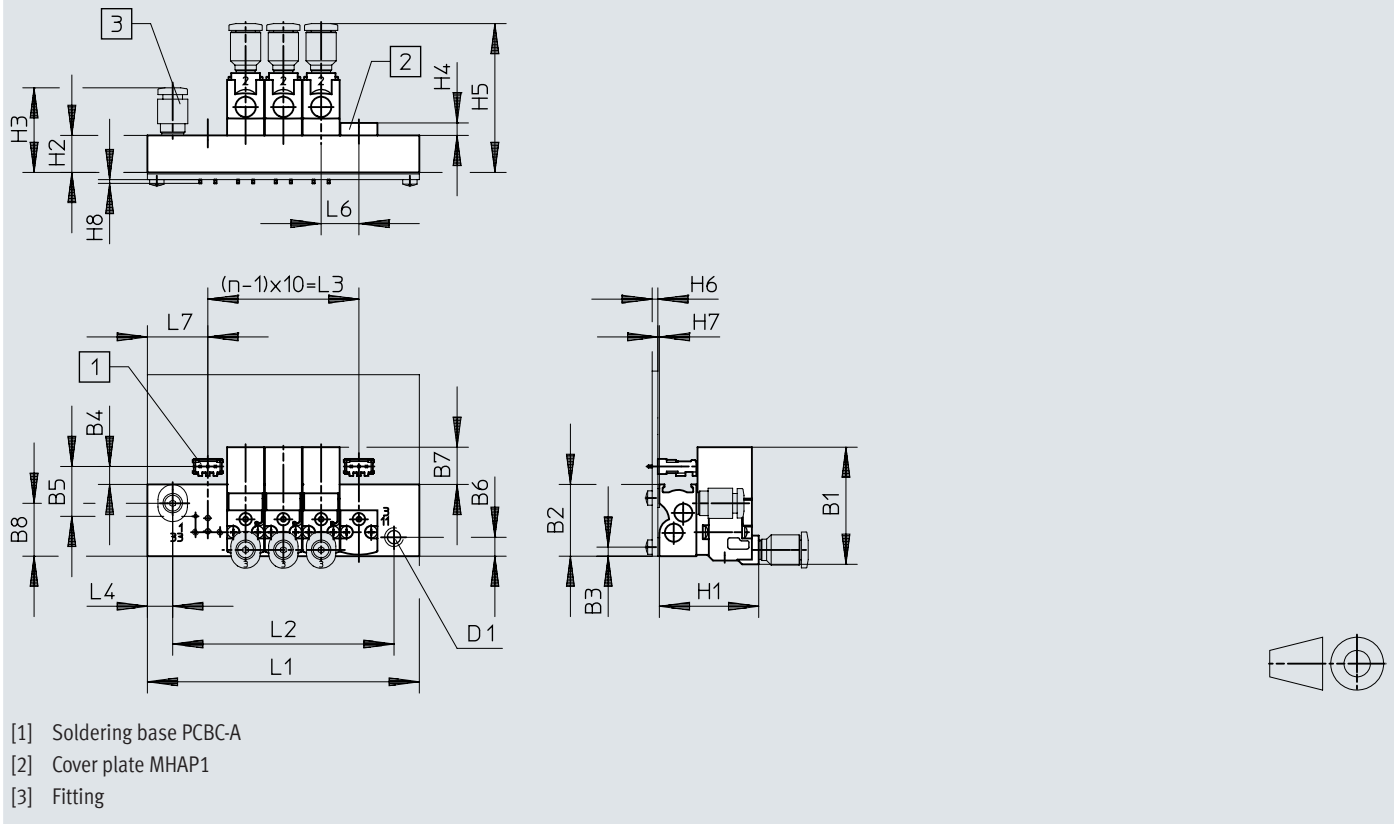


	H3	H4
MH1-...-ST	26,2	21,2

Dimensions

Dimensions – Semi in-line valve, manifold assembly on a printed circuit board, 3/2-way valve

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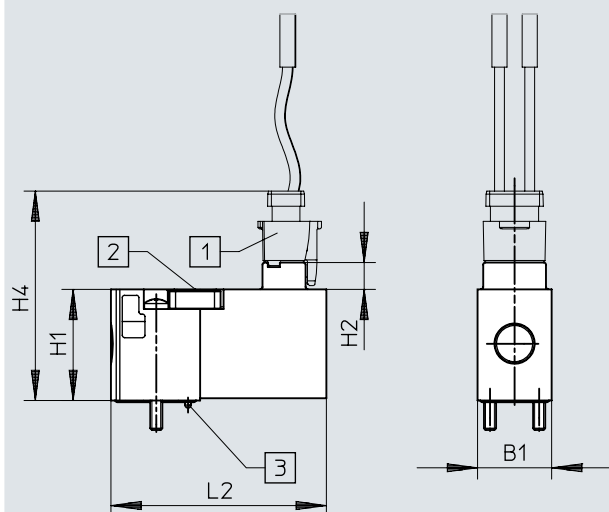
	B1	B2	B3	B4	B5	B6	B7	B8	D1	H1	H2	H3	H4	H5	H6	H7	H8	L4	L6	L7
MHP1	31	19	2,4	4,8	13,2	5	9,9	14	M5	26,3	9,8	22,4	3,3	39,4	1,5	0,4	1	6,7	10	16

n	L1 ±0,15	L2 ±0,1	L3
2x MHP1-...-3/2	42	28,6	10
4x MHP1-...-3/2	62	48,6	30
6x MHP1-...-3/2	82	68,6	50
8x MHP1-...-3/2	102	88,6	70
10x MHP1-...-3/2	122	108,6	90

Dimensions

Dimensions – Sub-base valve without LED, plug connection at the top

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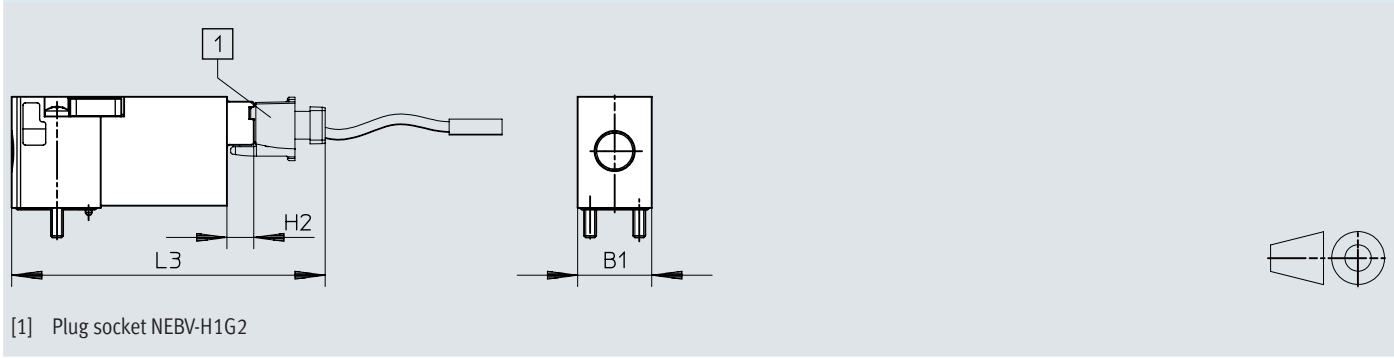


- [1] Plug socket NEBV-H1G2
- [2] Manual override
- [3] Coding pin

	B1	H1	H2	H4	L2
MHA1-...-TC	9,8	14,7	3,6	27,7	28,5

Dimensions

Dimensions – Sub-base valve without LED, plug connection at the rear Download CAD data www.festo.com

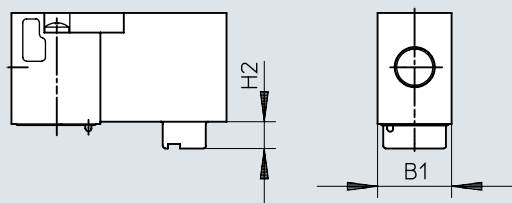


	B1	H2	L3
MH1-...-HC	9,8	3,6	41,5

Dimensions

Dimensions – Sub-base valve without LED, plug connection at bottom

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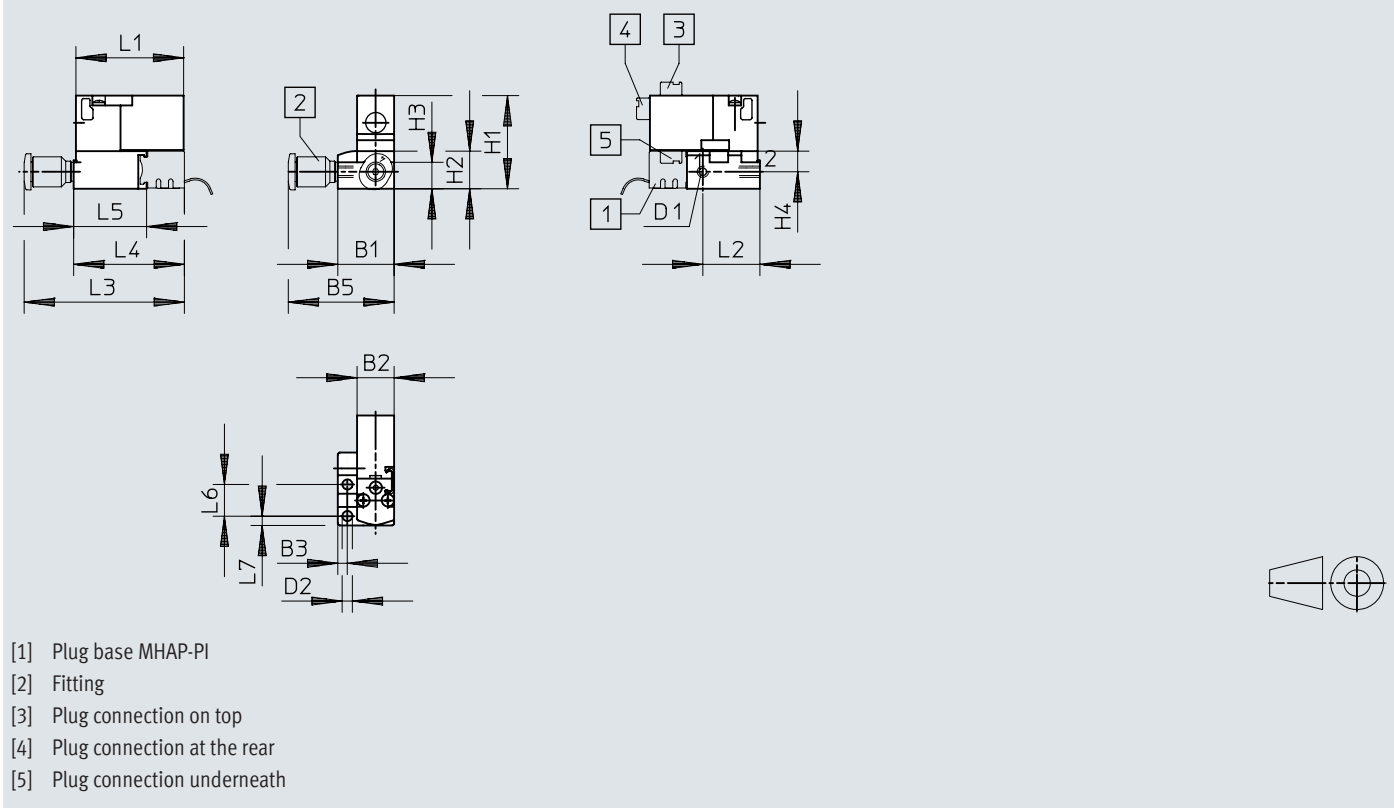


	B1	H2
MHA1-...-P1	9,8	3,6

Dimensions

Dimensions – Sub-base valve for mounting on an individual sub-base, without LED, 2/2-way valve

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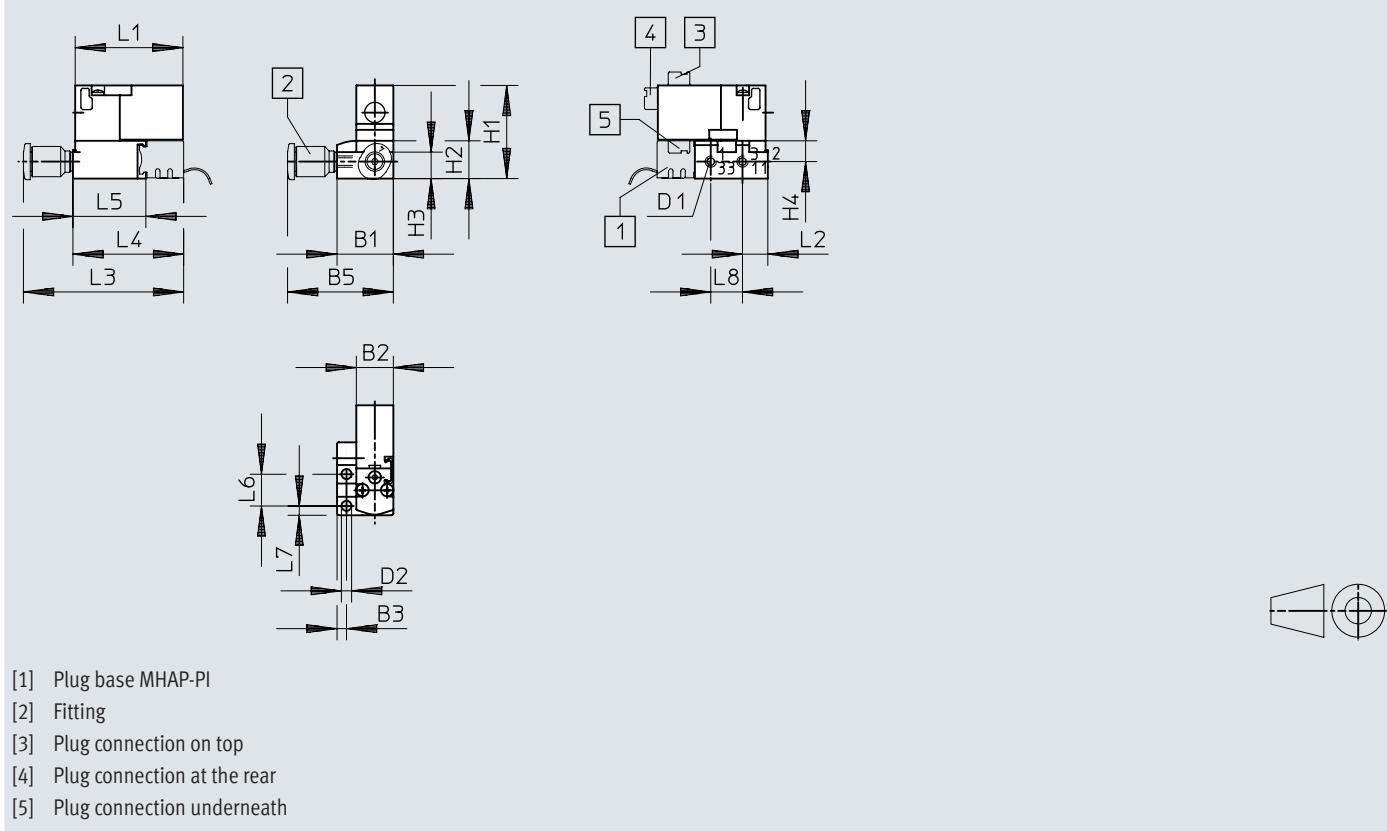


	B1	B2	B3	B4	B5	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	L7
MHA1-...-2/2	14,9	9,8	2,5	14,9	28	M3	2,7	24,7	10	7	5,5	28,5	15,1	42,4	29,3	19,3	8,4	2,5

Dimensions

Dimensions – Sub-base valve for mounting on an individual sub-base, without LED, 3/2-way valve

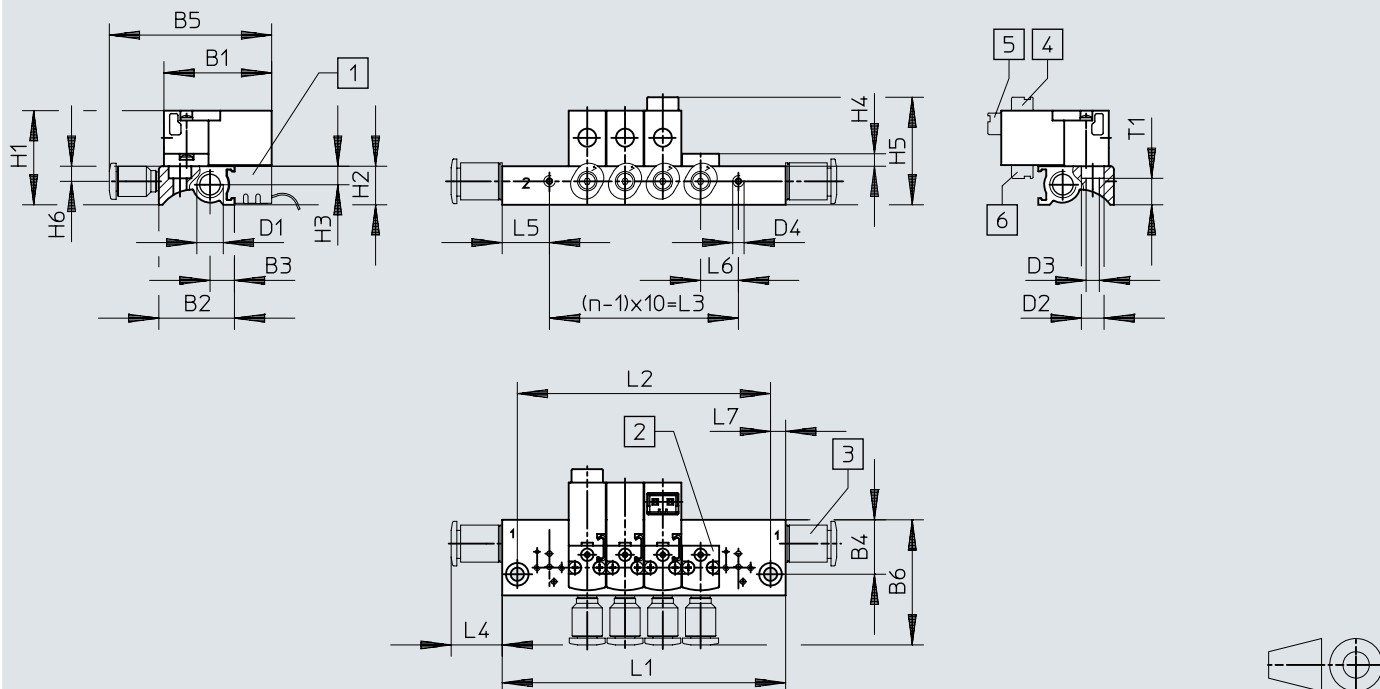
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	B1	B2	B3	B4	B5	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	L7	L8
MHA1-...-3/2	14,9	9,8	2,5	14,9	28	M3	2,7	24,7	10	7	5,5	28,5	6,7	42,4	29,3	19,3	8,4	2,5	8,4

Dimensions

Dimensions – Sub-base valve without LED, manifold assembly, 2/2-way valve

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- [1] Plug base MHAP-PI
- [2] Cover plate MHAP1
- [3] Fitting
- [4] Plug connection on top
- [5] Plug connection at the rear
- [6] Plug connection underneath

	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4
MHA1...-2/2	28,5	20	6,3	14,4	42,9	33,1	M7	6	3,5	M3

	H1	H2	H3	H4	H5	H6	L4	L5	L6	L7	T1
MHA1...-2/2	24,9	10,2	4,9	3,3	28,5	4	13,5	12,5	10	4	7

n	L1 ±0,15	L2 ±0,1	L3
2x MHA1....-2/2	35	27	10
3x MHA1....-2/2	45	37	20
4x MHA1....-2/2	55	47	30
5x MHA1....-2/2	65	57	40
6x MHA1....-2/2	75	67	50
7x MHA1....-2/2	85	77	60
8x MHA1....-2/2	95	87	70

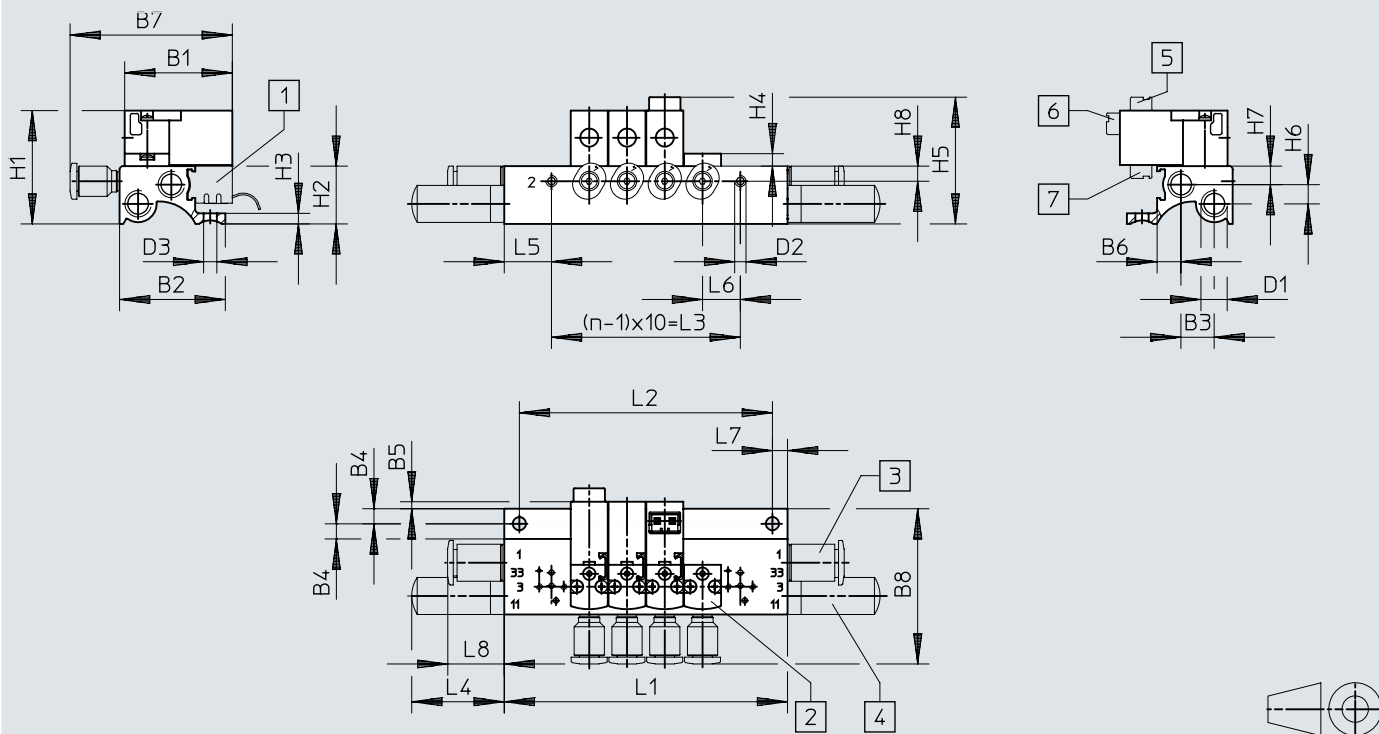
n	L1 ±0,15	L2 ±0,1	L3
9x MHA1-...-2/2	105	97	80
10x MHA1-...-2/2	115	107	90
11x MHA1-...-2/2	125	117	100
12x MHA1-...-2/2	135	127	110
13x MHA1-...-2/2	145	137	120
14x MHA1-...-2/2	155	147	130
15x MHA1-...-2/2	165	157	140

n	L1 ±0,15	L2 ±0,1	L3
16x MHA1-....-2/2	175	167	150
17x MHA1-....-2/2	185	177	160
18x MHA1-....-2/2	195	187	170
19x MHA1-....-2/2	205	197	180
20x MHA1-....-2/2	215	207	190
21x MHA1-....-2/2	225	217	200
22x MHA1-....-2/2	235	227	210

Dimensions

Dimensions – Sub-base valve without LED, manifold assembly, 3/2-way valve

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- [1] Plug base MHAP-PI
- [2] Cover plate MHAP1
- [3] Fitting
- [4] Silencer
- [5] Plug connection on top
- [6] Plug connection at the rear
- [7] Plug connection underneath

	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2	D3
MHA1-...-3/2	28,5	28	8,8	4	1,9	6,3	42,9	41,1	M7	M3	3,5

	H1	H2	H3	H4	H5	H6	H7	H8	L4	L5	L6	L7	L8
MHA1-...-3/2	30	15,3	2,8	3,3	33,6	5,1	4,9	4	24,5	12,5	10	4	13,5

n	L1 ±0,15	L2 ±0,1	L3
2x MHA1-...-3/2	35	27	10
3x MHA1-...-3/2	45	37	20
4x MHA1-...-3/2	55	47	30
5x MHA1-...-3/2	65	57	40
6x MHA1-...-3/2	75	67	50
7x MHA1-...-3/2	85	77	60
8x MHA1-...-3/2	95	87	70

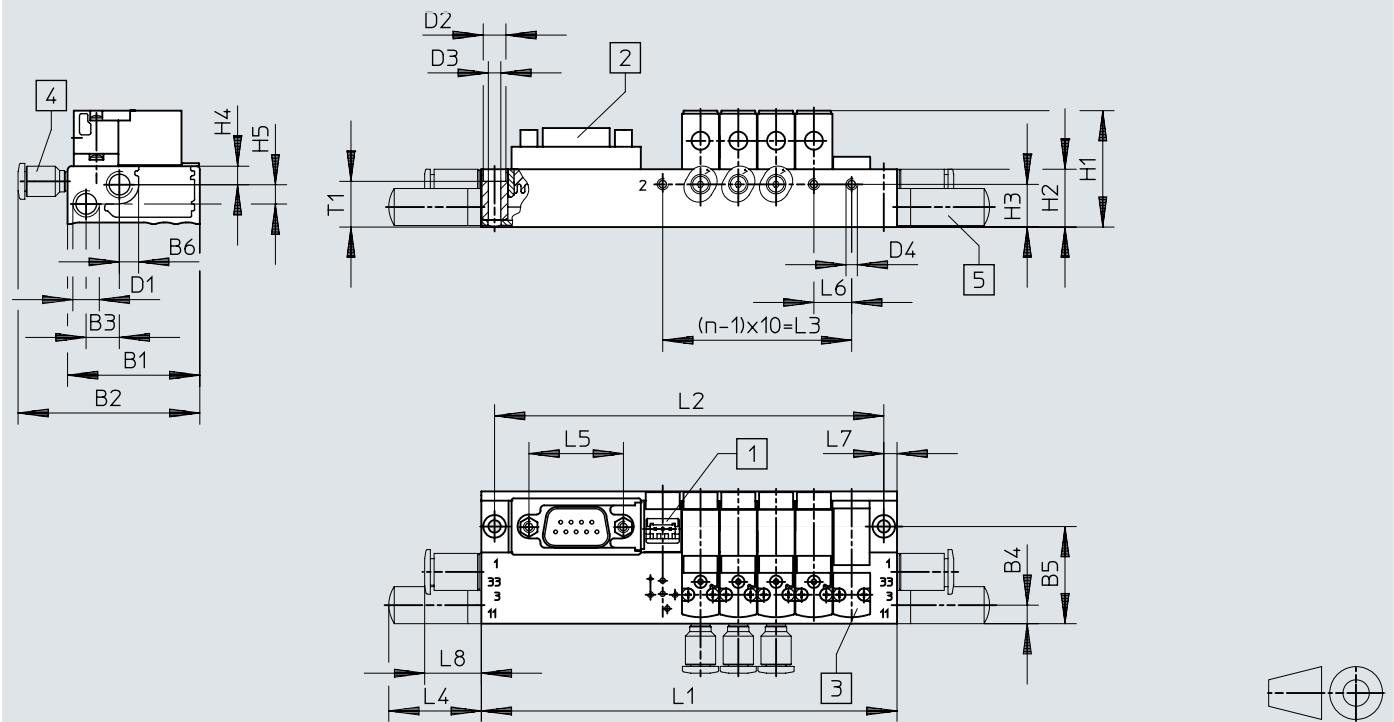
n	L1 ±0,15	L2 ±0,1	L3
9x MHA1-...-3/2	105	97	80
10x MHA1-...-3/2	115	107	90
11x MHA1-...-3/2	125	117	100
12x MHA1-...-3/2	135	127	110
13x MHA1-...-3/2	145	137	120
14x MHA1-...-3/2	155	147	130
15x MHA1-...-3/2	165	157	140

n	L1 ±0,15	L2 ±0,1	L3
16x MHA1-...-3/2	175	167	150
17x MHA1-...-3/2	185	177	160
18x MHA1-...-3/2	195	187	170
19x MHA1-...-3/2	205	197	180
20x MHA1-...-3/2	215	207	190
21x MHA1-...-3/2	225	217	200
22x MHA1-...-3/2	235	227	210

Dimensions

Dimensions – Sub-base valve without LED, manifold assembly with electrical multi-pin, 3/2-way valve

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- [1] Plug base MHAP-PI
- [2] Sub-D plug, plug outlet on top (standard)
- [3] Cover plate MHAP1
- [4] Fitting
- [5] Silencer

	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4	H1	H2	H3	H4	H5	L4	L5	L6	L7	L8	T1
MHA1	35	48,1	8,8	5,3	25,7	5,2	M7	6	3,3	M3	30,8	15,3	11,3	4,9	5,1	24,5	25	10	3,5	15	12,1

n	L1 ±0,15	L2 ±0,1	L3
2x MHA1-...-3/2	70	63	10
4x MHA1-...-3/2	90	83	30
6x MHA1-...-3/2	110	103	50
8x MHA1-...-3/2	130	123	70

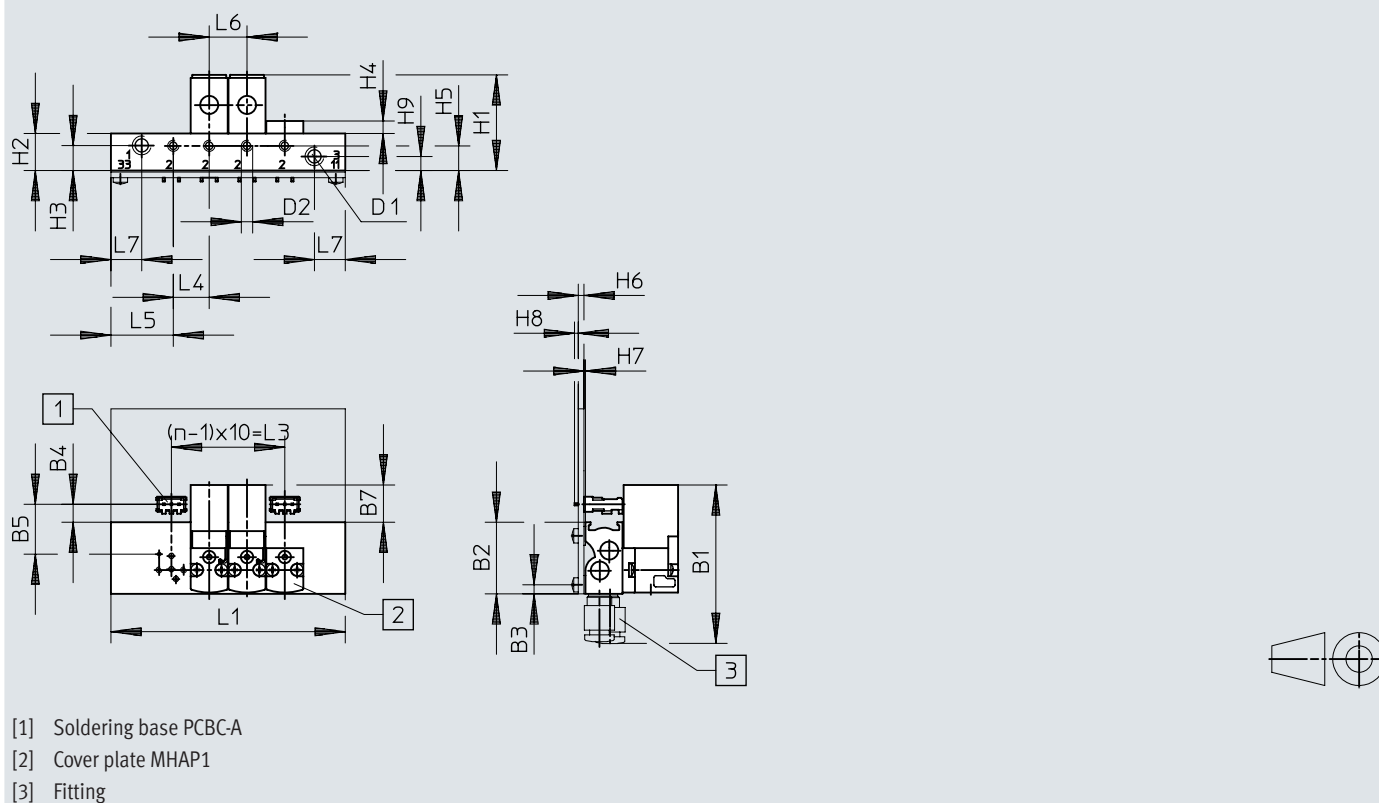
n	L1 ±0,15	L2 ±0,1	L3
10x MHA1-...-3/2	172	165	90
12x MHA1-...-3/2	192	185	110
14x MHA1-...-3/2	212	205	130
16x MHA1-...-3/2	232	225	150

n	L1 ±0,15	L2 ±0,1	L3
18x MHA1-...-3/2	252	245	170
20x MHA1-...-3/2	272	265	190
22x MHA1-...-3/2	292	285	210

Dimensions

Dimensions – Sub-base valve without LED, manifold assembly on printed circuit board, 3/2-way valve, without pneumatic multi-pin

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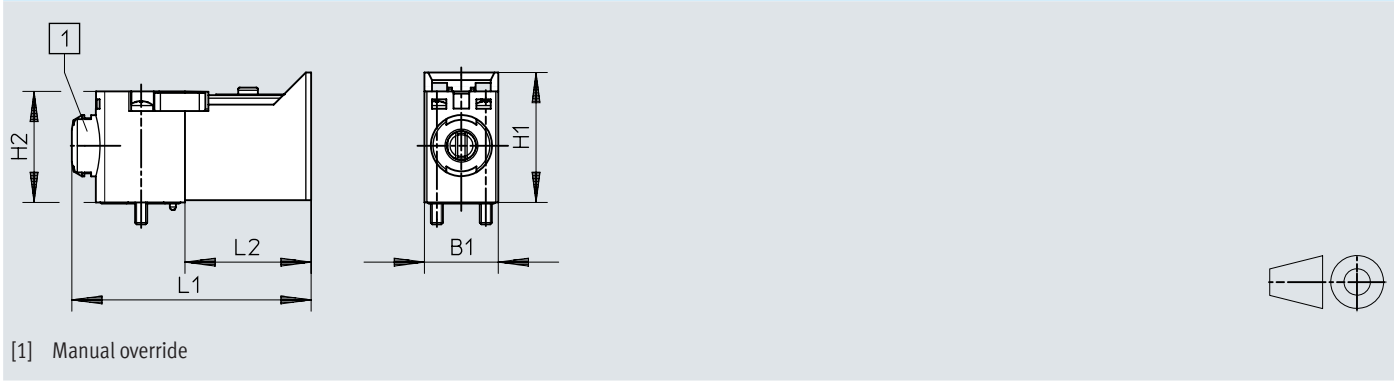
	B1	B2	B3	B4	B5	B7	D1	D2
MH1-...-PCD	42	19	2,4	4,8	13,2	9,9	M5	M3

	H1	H2	H3	H4	H5	H6	H7	H8	H9	L4	L5	L6	L7
MH1-...-PCD	25,3	9,8	6,6	3,3	6,5	1,5	0,4	1	3,7	9,5	16,5	10	8,2

n	L1 ±0,15	L3
2x MH1-...-PCD	42	10
4x MH1-...-PCD	62	30
6x MH1-...-PCD	82	50
8x MH1-...-PCD	102	70
10x MH1-...-PCD	122	90

Dimensions

Dimensions – Sub-base valve with electrical sub-base [Download CAD data](#) www.festo.com

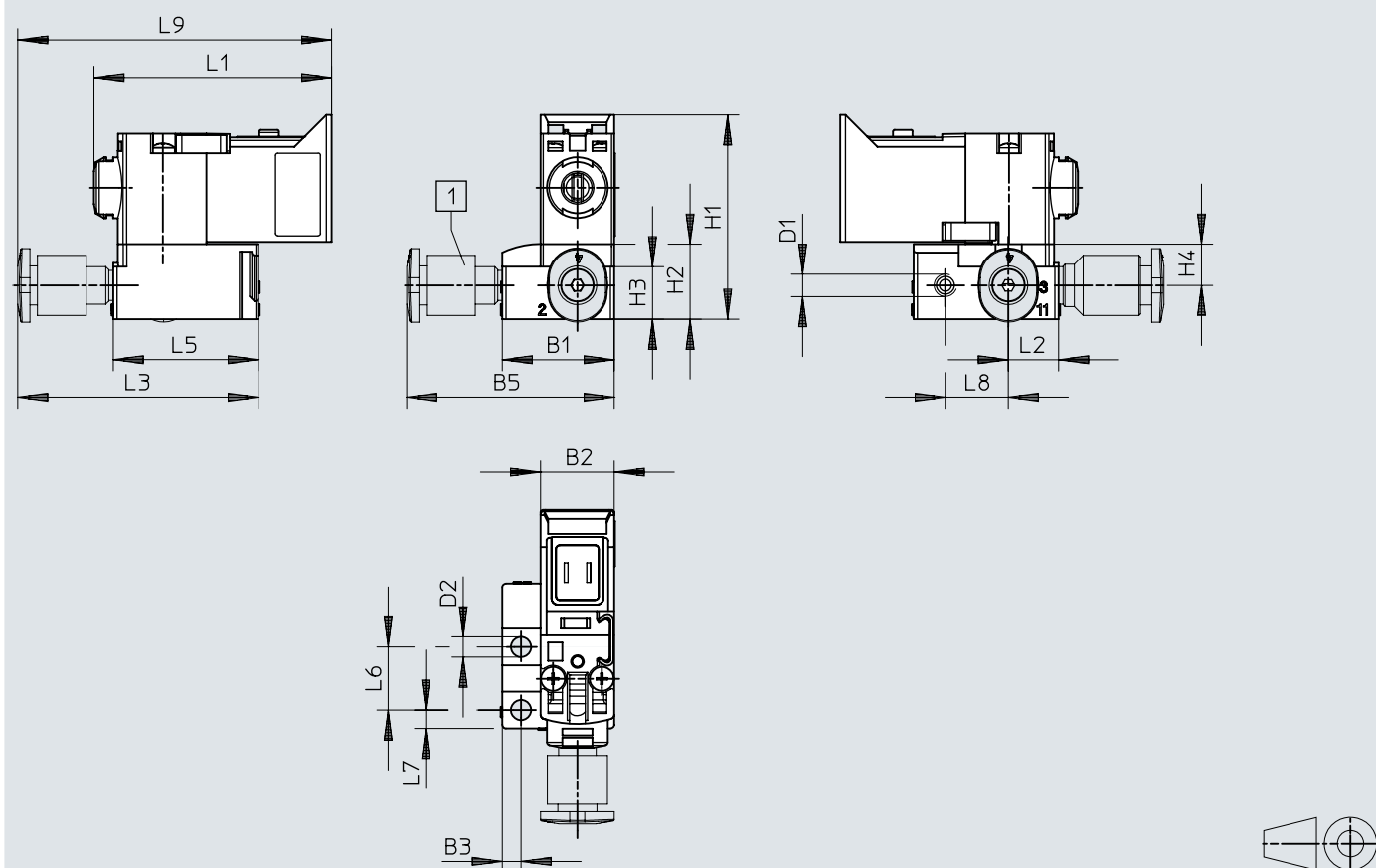


	B1	B2	B3	B4	D1	D2	D3	H1	H2	L1	L2	L5	L6
MHA1	9,8	4,2	3,7	0,2	M1,6	1,4	0,9	17,2	14,7	31,7	16,7	6,5	1,2

Dimensions

Dimensions – Sub-base valve with electrical sub-base, for mounting on an individual sub-base

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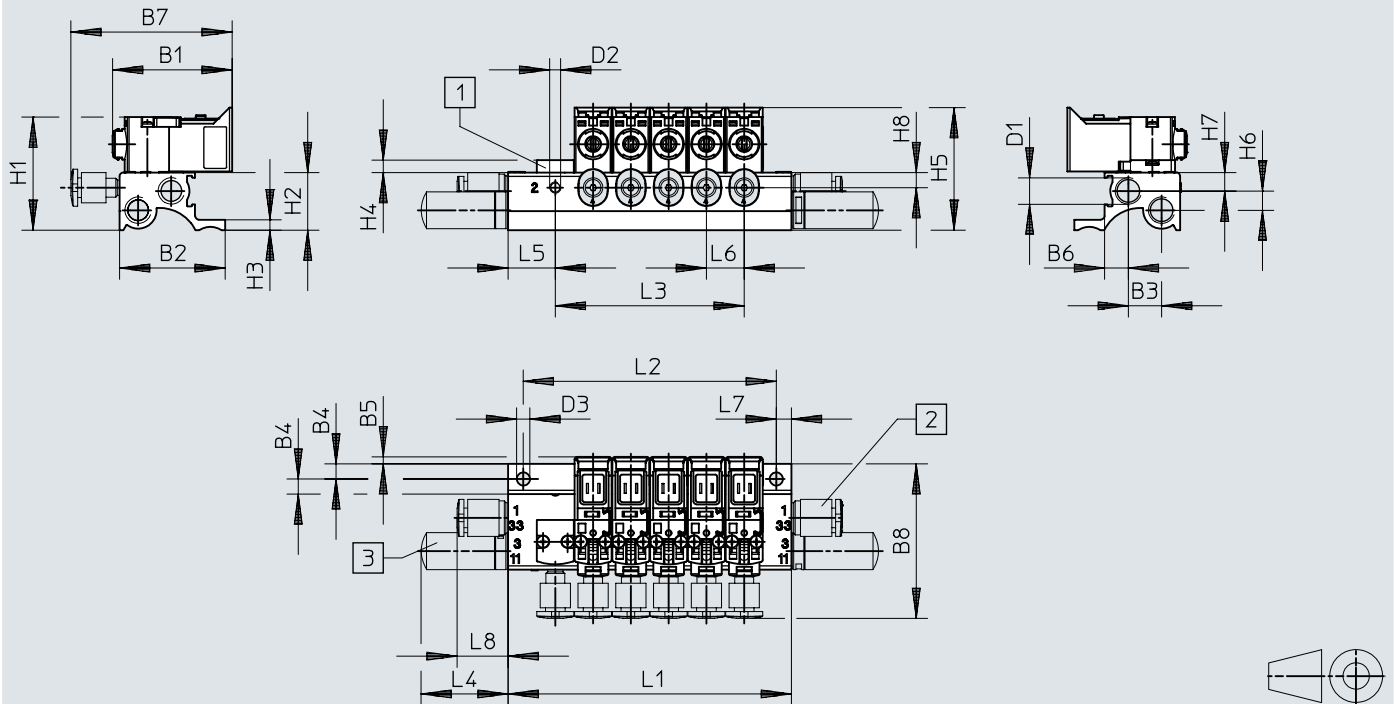


[1] Fitting

	B1	B2	B3	B5	D1	D2	H1	H2	H3	H4	L1	L2	L3	L5	L6	L7	L8	L9
MH1-A-...-PS	14,9	9,8	2,5	27,6	M3	2,7	27,2	10	7	5,5	31,7	6,7	32	19,3	8,4	2,5	8,4	42

Dimensions

Dimensions – Sub-base valve with electrical sub-base, manifold assembly

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[1] Cover plate MHAP1

[2] Fitting

[3] Silencer

	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2	D3
MH1-A-...-HC-PR	31,7	28	8,8	4	1,9	6,3	42,7	42	M7	M3	3,5

	H1	H2	H3	H4	H5	H6	H7	H8	L4	L5	L6	L7	L8
MH1-A-...-HC-PR	30	15,3	2,8	3,3	32,5	5,1	4,9	4	23,1	12,5	10	4	13,5

n	L1 ±0,15	L2 ±0,1	L3
2x MH1-A-...-HC-PR	35	27	10
3x MH1-A-...-HC-PR	45	37	20
4x MH1-A-...-HC-PR	55	47	30
5x MH1-A-...-HC-PR	65	57	40
6x MH1-A-...-HC-PR	75	67	50
7x MH1-A-...-HC-PR	85	77	60
8x MH1-A-...-HC-PR	95	87	70

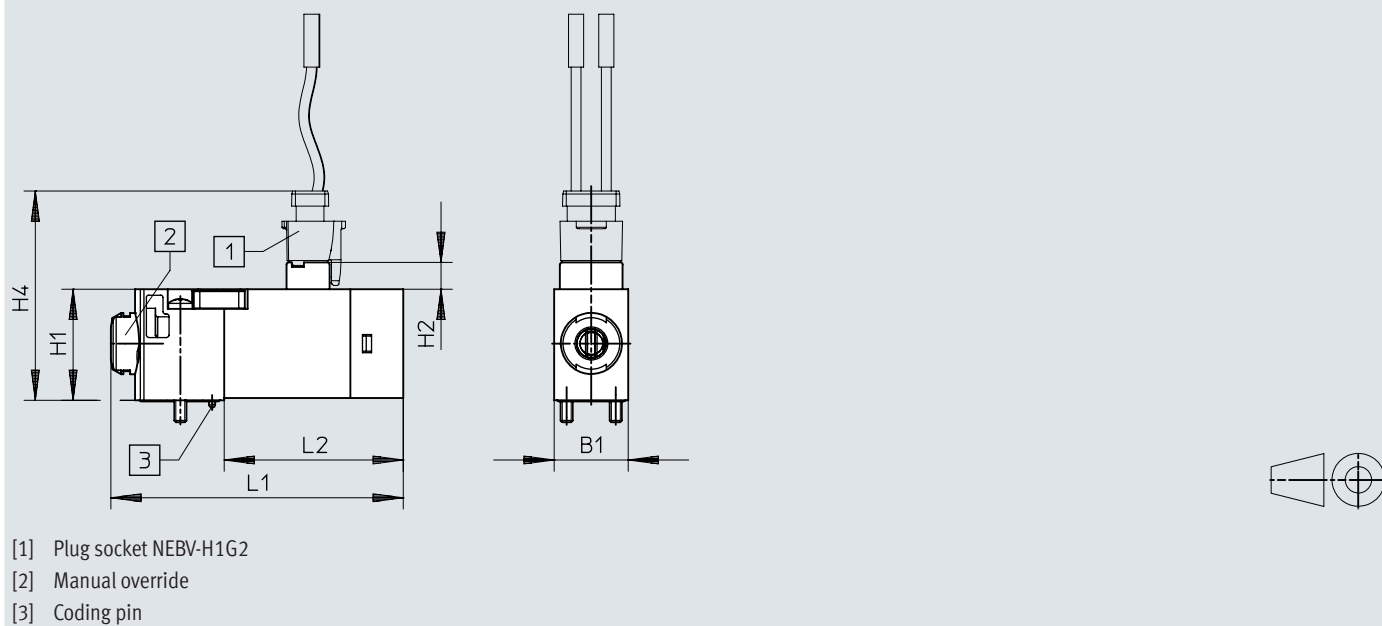
n	L1 ±0,15	L2 ±0,1	L3
9x MH1-A-...-HC-PR	105	97	80
10x MH1-A-...-HC-PR	115	107	90
11x MH1-A-...-HC-PR	125	117	100
12x MH1-A-...-HC-PR	135	127	110
13x MH1-A-...-HC-PR	145	137	120
14x MH1-A-...-HC-PR	155	147	130
15x MH1-A-...-HC-PR	165	157	140

n	L1 ±0,15	L2 ±0,1	L3
16x MH1-A-...-HC-PR	175	167	150
17x MH1-A-...-HC-PR	185	177	160
18x MH1-A-...-HC-PR	195	187	170
19x MH1-A-...-HC-PR	205	197	180
20x MH1-A-...-HC-PR	215	207	190
21x MH1-A-...-HC-PR	225	217	200
22x MH1-A-...-HC-PR	235	227	210

Dimensions

Dimensions – Sub-base valve with LED, plug connection at the top

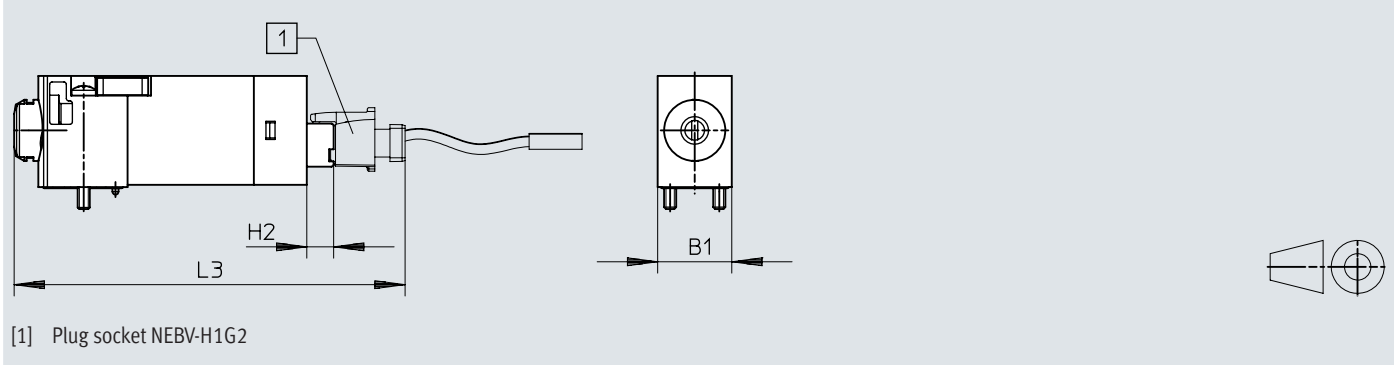
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	B1	H1	H2	H4	L1	L2
MHA-M1LH-...-TC	9,8	14,7	3,6	27,7	38,7	23,7

Dimensions

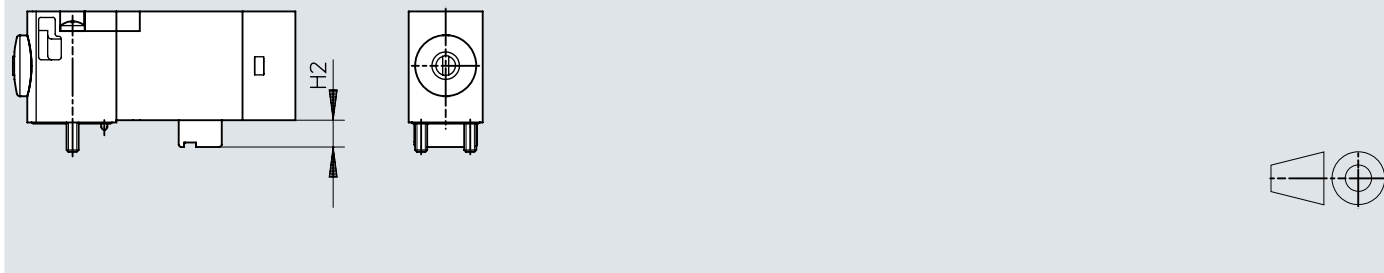
Dimensions – Sub-base valve with LED, plug connection at the rear Download CAD data www.festo.com



	B1	H2	L3
MHA1-M1LH-3/2O-0,6-HC	9,8	3,6	51,7
MHA1-M1LH-3/2G-0,6-HC			

Dimensions

Dimensions – Sub-base valve with LED, plug connection at the bottom

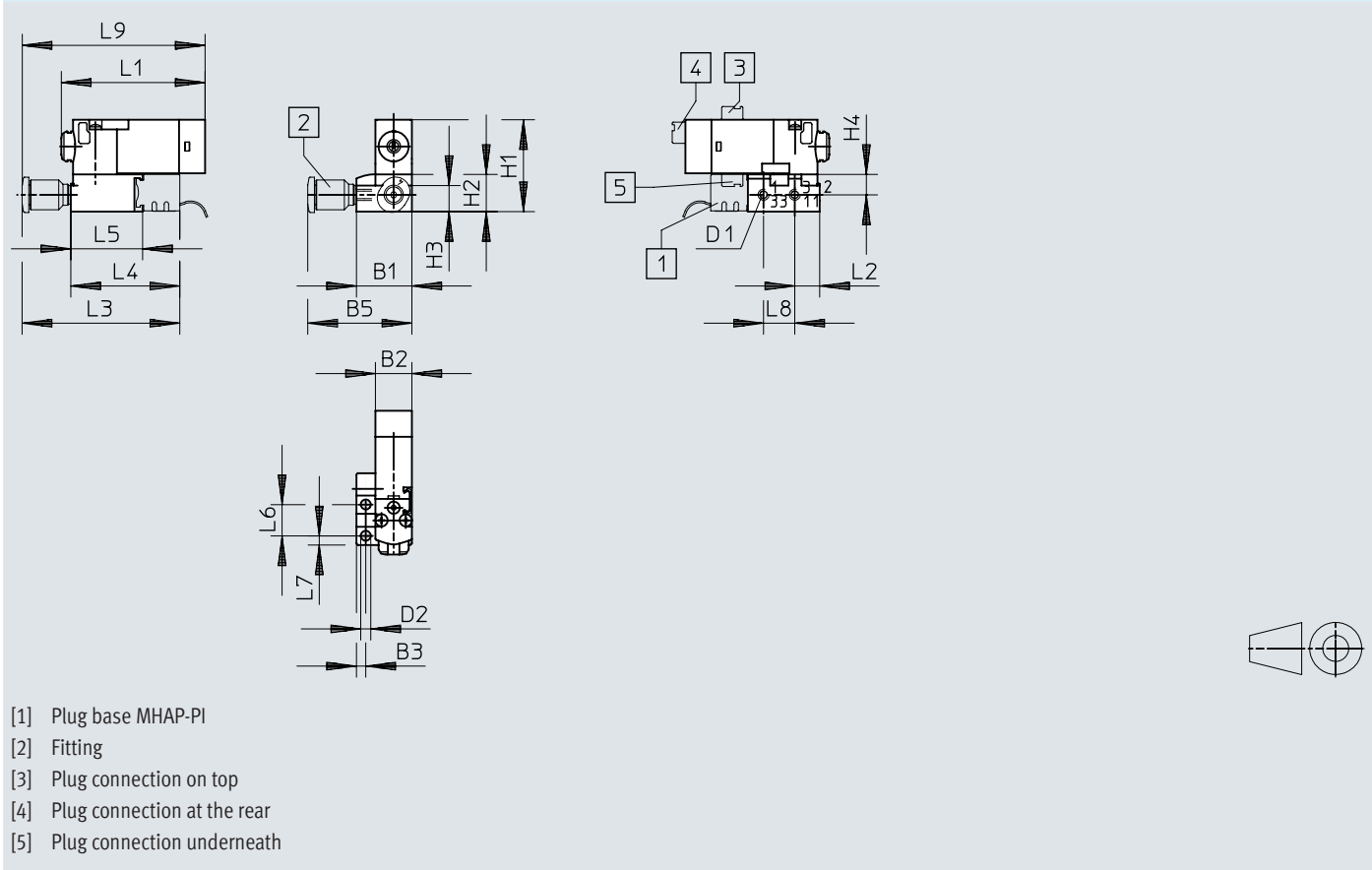
Download CAD data www.festo.com

	H2
MHA1-M1LH-...-TC	3,55

Dimensions

Dimensions – Sub-base valve with LED, for mounting on an individual sub-base

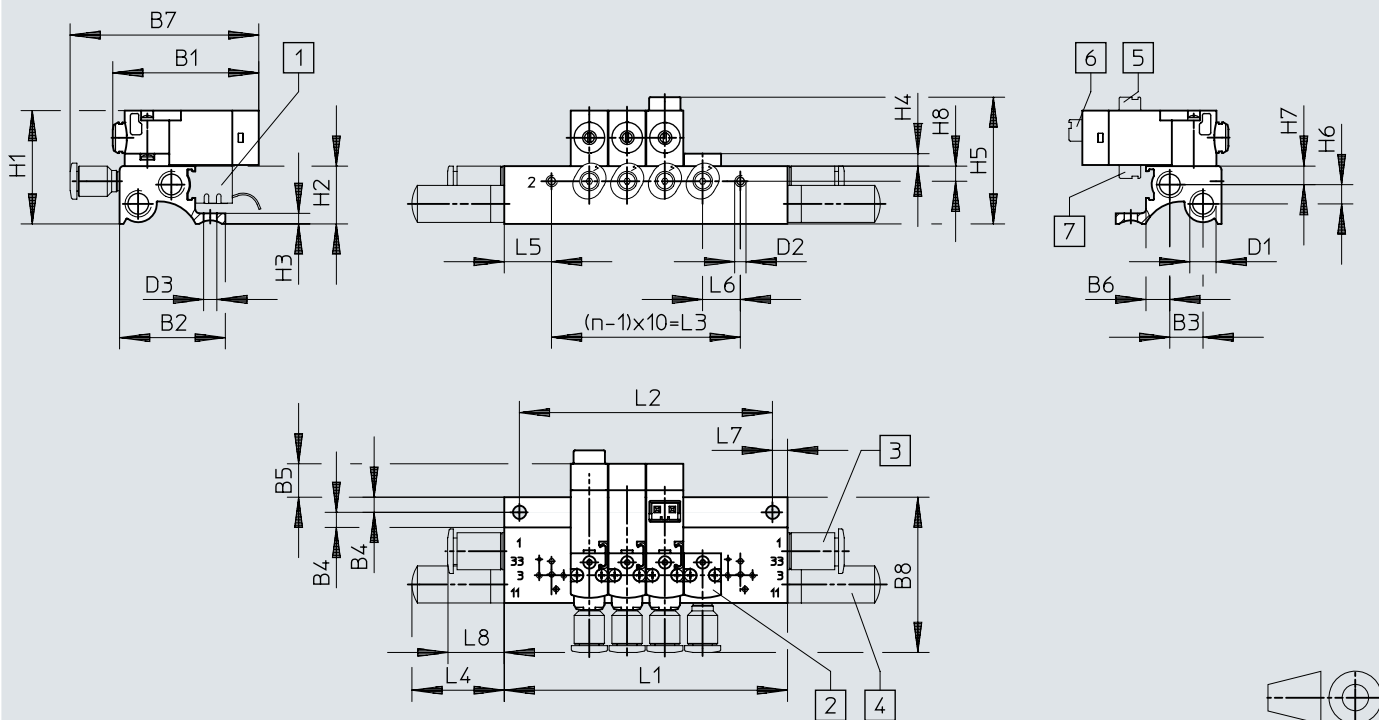
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	B1	B2	B3	B5	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	L7	L8	L9
MH1-A-...-PS-LED	14,9	9,8	2,5	28	M3	2,7	24,7	10	7	5,5	38,7	6,7	43,1	29,1	19,3	8,4	2,5	8,4	50,1

Dimensions

Dimensions – Battery assembly, sub-base valve with LED

Download CAD data www.festo.com

- [1] Plug base MHAP-PI
- [2] Cover plate MHAP1
- [3] Fitting
- [4] Silencer
- [5] Plug connection on top
- [6] Plug connection at the rear
- [7] Plug connection underneath

	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2
MH1-A-...-HC-PR-LED	38,7	28	8,8	4	8,9	6,3	50	42	M7	M3

	H1	H2	H3	H4	H5	H6	H7	H8	L4	L5	L6	L7	L8
MH1-A-...-HC-PR-LED	30	15,3	2,8	3,3	33,6	5,1	4,9	4	23,1	12,5	10	4	13,5

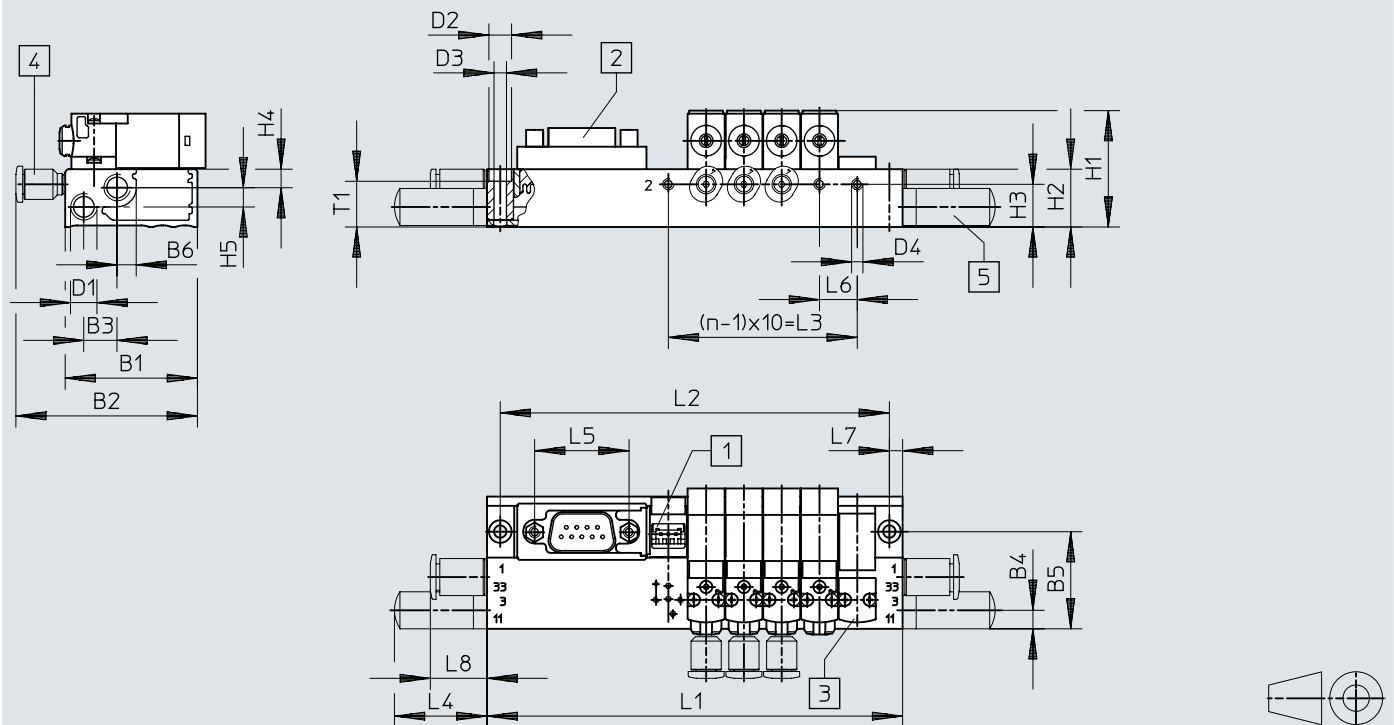
n	L1 ±0,15	L2 ±0,1	L3
2x MH1-A-...-HC-PR-LED	35	27	10
3x MH1-A-...-HC-PR-LED	45	37	20
4x MH1-A-...-HC-PR-LED	55	47	30
5x MH1-A-...-HC-PR-LED	65	57	40
6x MH1-A-...-HC-PR-LED	75	67	50
7x MH1-A-...-HC-PR-LED	85	77	60
8x MH1-A-...-HC-PR-LED	95	87	70

n	L1 ±0,15	L2 ±0,1	L3
9x MH1-A-...-HC-PR-LED	105	97	80
10x MH1-A-...-HC-PR-LED	115	107	90
11x MH1-A-...-HC-PR-LED	125	117	100
12x MH1-A-...-HC-PR-LED	135	127	110
13x MH1-A-...-HC-PR-LED	145	137	120
14x MH1-A-...-HC-PR-LED	155	147	130
15x MH1-A-...-HC-PR-LED	165	157	140

n	L1 ±0,15	L2 ±0,1	L3
16x MH1-A-...-HC-PR-LED	175	167	150
17x MH1-A-...-HC-PR-LED	185	177	160
18x MH1-A-...-HC-PR-LED	195	187	170
19x MH1-A-...-HC-PR-LED	205	197	180
20x MH1-A-...-HC-PR-LED	215	207	190
21x MH1-A-...-HC-PR-LED	225	217	200
22x MH1-A-...-HC-PR-LED	235	227	210

Dimensions

Dimensions – Sub-base valve with LED, manifold assembly with multi-pin

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- [1] Plug base MHAP-PI
- [2] Sub-D plug, plug outlet on top (standard)
- [3] Cover plate MHAP1
- [4] Fitting
- [5] Silencer

	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4	H1	H2	H3	H4	H5	L4	L5	L6	L7	L8	T1
MHA1	35	48,1	8,8	5,3	25,7	5,2	M7	6	3,3	M3	30,8	15,3	11,3	4,9	5,1	24,5	25	10	3,5	15	12,1

n	L1 ±0,15	L2 ±0,1	L3
2x MHA1	70	63	10
4x MHA1	90	83	30
6x MHA1	110	103	50
8x MHA1	130	123	70

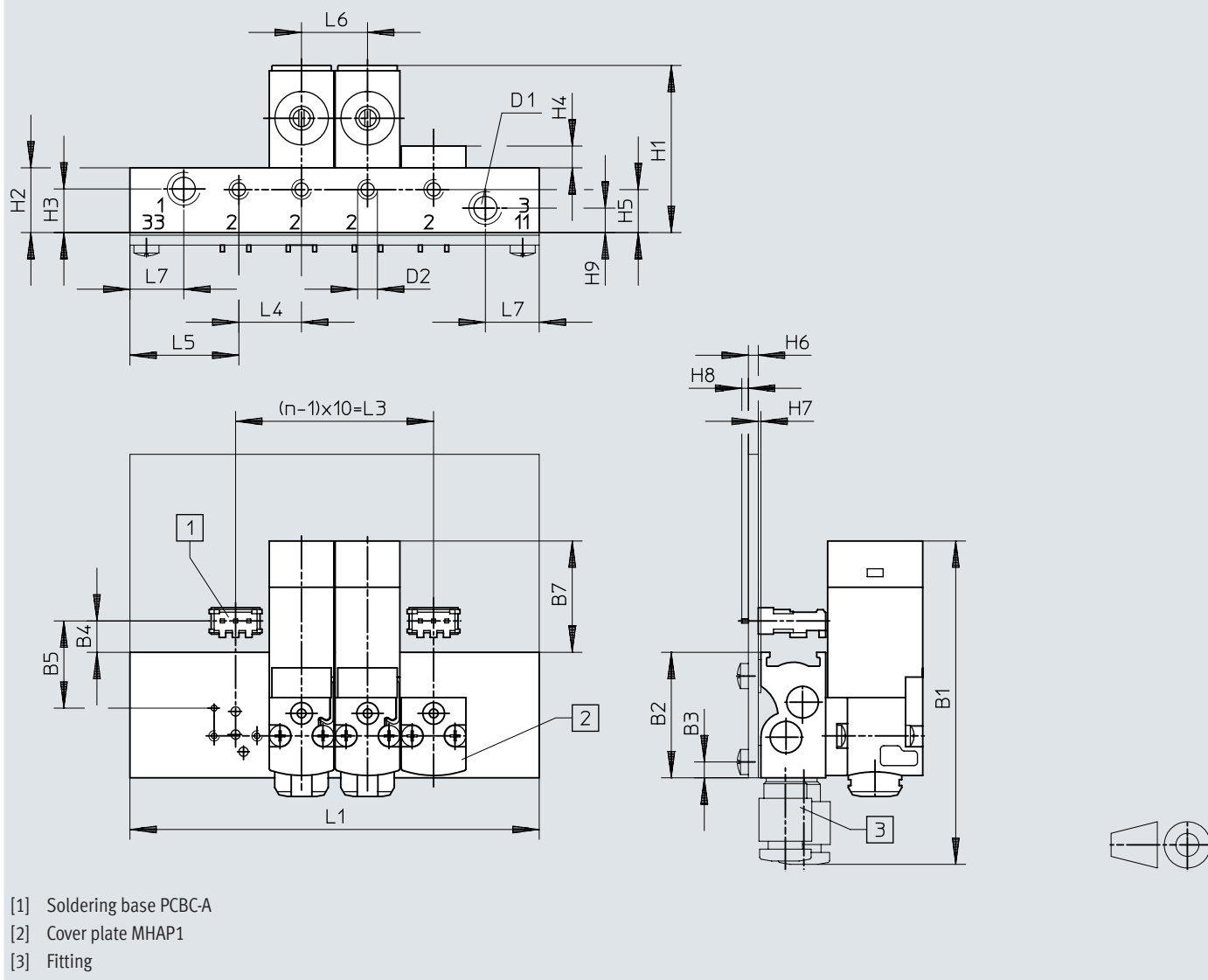
n	L1 ±0,15	L2 ±0,1	L3
10x MHA1	172	165	90
12x MHA1	192	185	110
14x MHA1	212	205	130
16x MHA1	232	225	150

n	L1 ±0,15	L2 ±0,1	L3
18x MHA1	252	245	170
20x MHA1	272	265	190
22x MHA1	292	285	210

Dimensions

Dimensions – Sub-base valve with LED, manifold assembly on a printed circuit board

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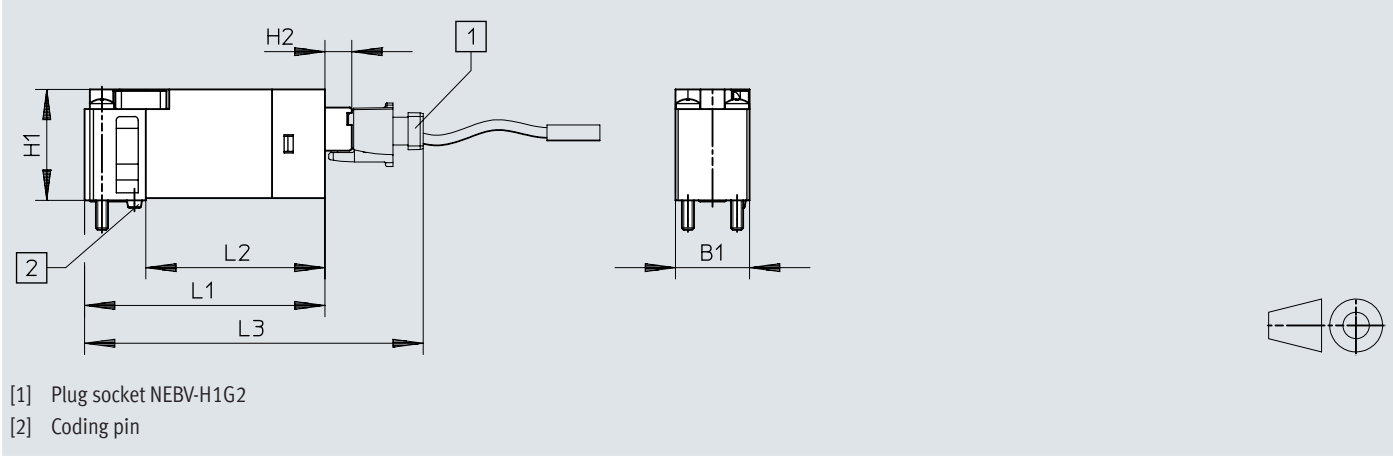
	B1	B2	B3	B4	B5	B7	D1	D2
MH1-...-PCD	49	19	2,4	4,8	13,2	16,9	M5	M3

	H1	H2	H3	H4	H5	H6	H7	H8	H9	L4	L5	L6	L7
MH1-...-PCD	25,3	9,8	6,6	3,3	6,5	1,5	0,4	1	3,7	9,5	16,5	10	8,2

n	L1 ±0,15	L3
2x MH1-...-PCD	42	10
4x MH1-...-PCD	62	30
6x MH1-...-PCD	82	50
8x MH1-...-PCD	102	70
10x MH1-...-PCD	122	90

Dimensions

Dimensions – 2/2-way valve, sub-base valve with LED, Download CAD data www.festo.com

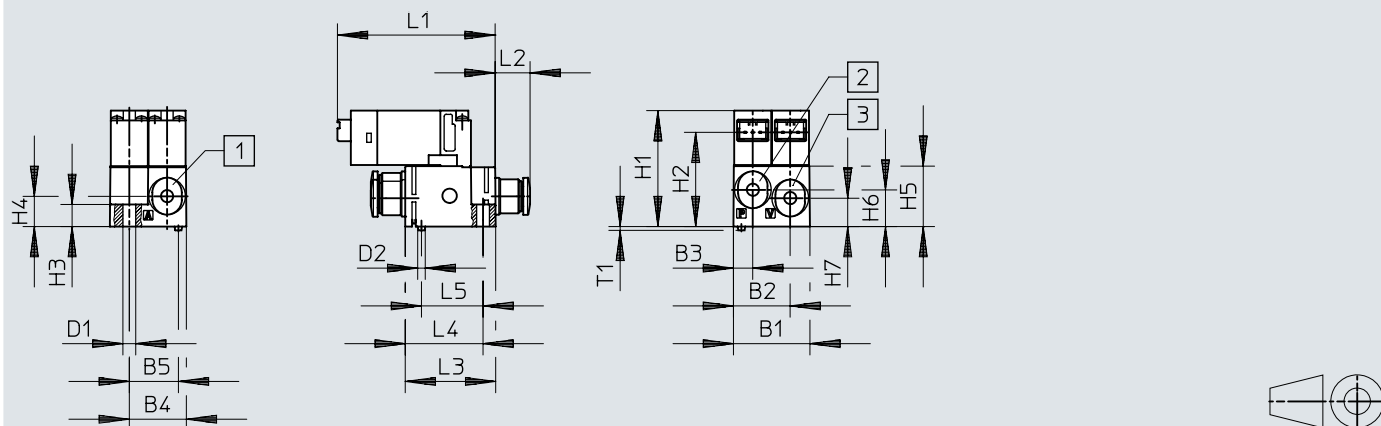


	B1	H1	H2	L1	L2	L3
MHA1-...-2/2G-1,5-HC	9,8	14,7	3,6	31,8	23,7	44,8

Dimensions

Dimensions – 2x2/2-way valve on sub-base, plug connection at the rear

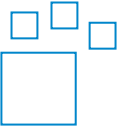
Download CAD data www.festo.com



- [1] Plug connector 2
- [2] Plug connector 1
- [3] Plug connector 11

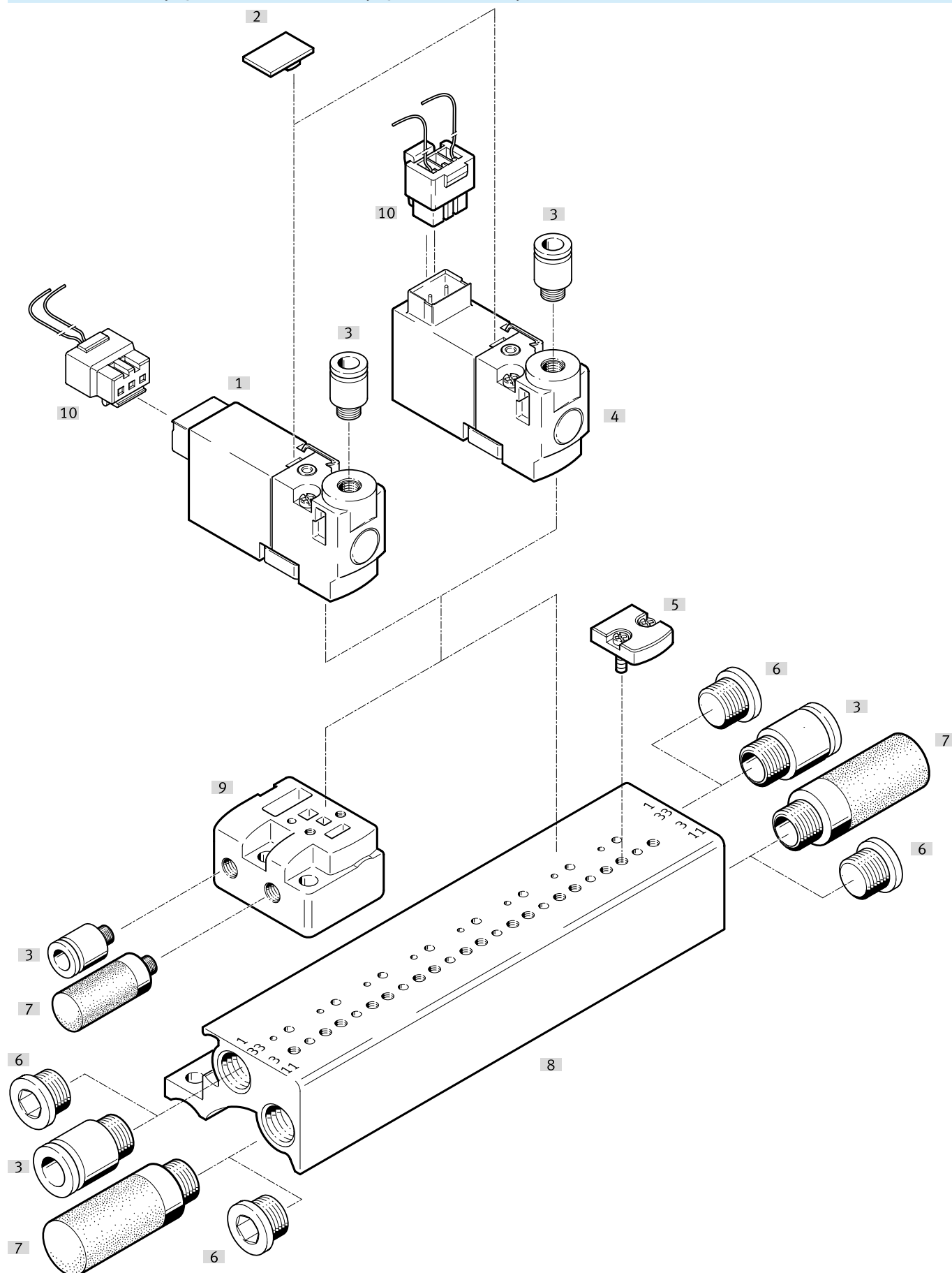
	B1	B2	B3	B4	B5	D1	D2	H1	H2	H3	H4	H5	H6	H7	L1	L2	L3	L4	L5	T1
MHA1-2x2/2G	20	14,9	5	15	13	3,4	2	30,7	26	5,9	8	16	9,7	7,5	41,8	9,2	23,8	20,6	16,3	1

Ordering data

Valve manifold		Link mh1	
	Valve function	Part no.	Type
	2/2-way, closed, monostable, 3/2-way, closed, monostable, 3/2-way, monostable, open	197334	MH1

Peripherals overview

Semi in-line valve with a plug connection at the rear and a plug connection at the top

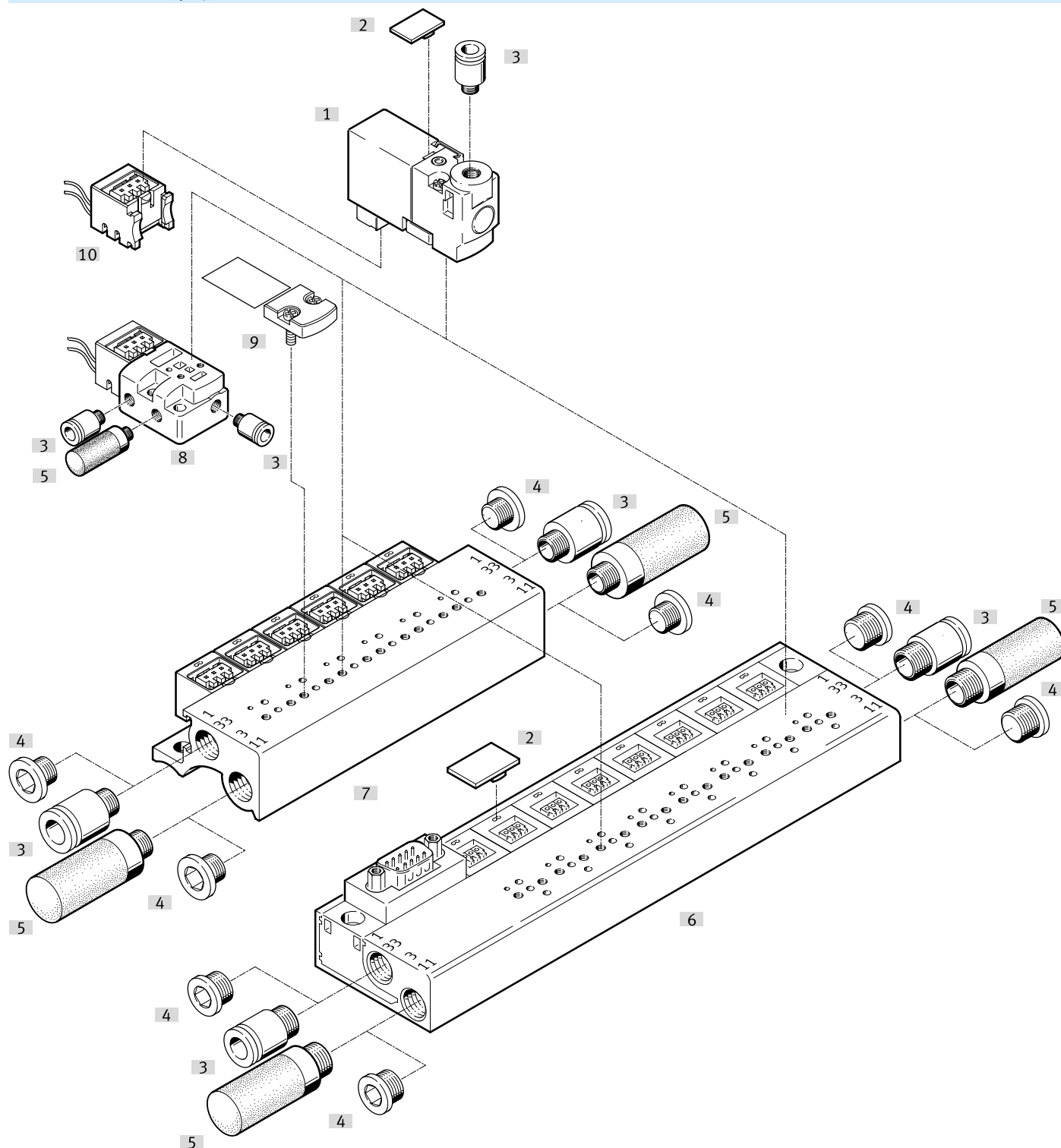


Peripherals overview

Accessories		→ Page/Internet
Type/order code	Description	
[1] Solenoid valve	Valve with plug connection at the rear	63
[2] Inscription label	for marking the valve positions	70
[3] Push-in fitting	for connecting externally calibrated compressed air hoses	70
[4] Solenoid valve	Valve with plug connection at the top	63
[5] Cover plate	for manifold rail without plug bases	68
[6] Blanking plug	For sealing connections that are not required	69
[7] Muffler	for exhaust ports	69
[8] Manifold rail	without plug bases	66
[9] Individual sub-base	for valves with a plug connection at the rear and a plug connection at the top	65
[10] Plug socket with cable	Straight socket, plug pattern H, 3-pin	72

Peripherals overview

Semi in-line valve with a plug connection at the bottom



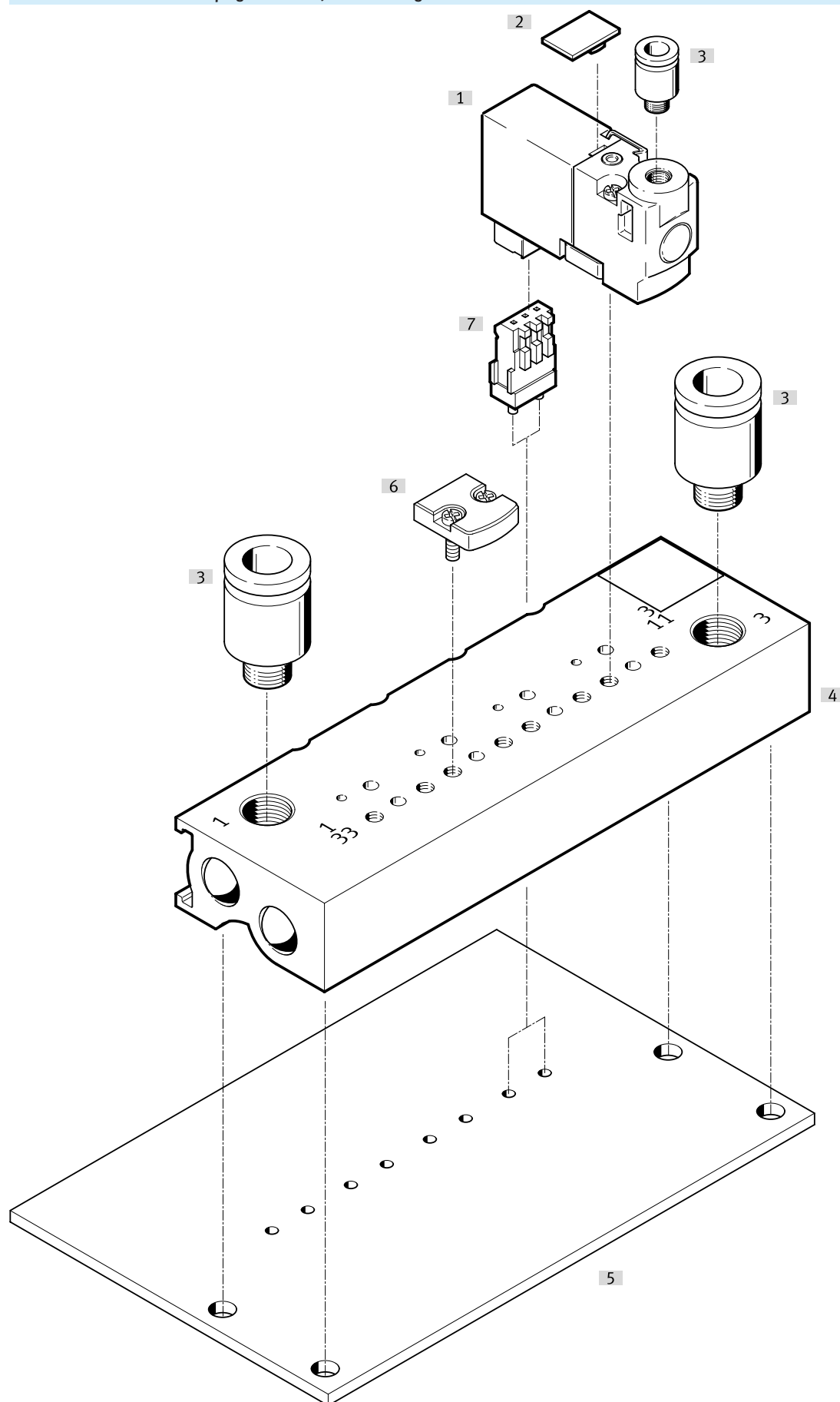
Accessories			→ Page/Internet
Type/order code	Description		
[1]	Solenoid valve	Valve with a plug connection at the bottom	63
[2]	Inscription label	for marking the valve positions	70
[3]	Push-in fitting	for connecting externally calibrated compressed air hoses	70
[4]	Blanking plug	For sealing connections that are not required	69
[5]	Muffler	for exhaust ports	69
[6]	Manifold rail	With plug bases and electrical multi-pin plug, Sub-D	67
[7]	Manifold rail	with plug bases	66

Peripherals overview

Accessories		→ Page/Internet
Type/order code	Description	
[8] Individual sub-base	for valves with a plug connection at the bottom	66
[9] Cover plate	for a manifold rail with plug bases	68
[10] Electrical plug-in base	Straight socket, plug pattern H, 3-pin	72

Peripherals overview

Half-sleeve valve with bottom plug connection, PCB mounting

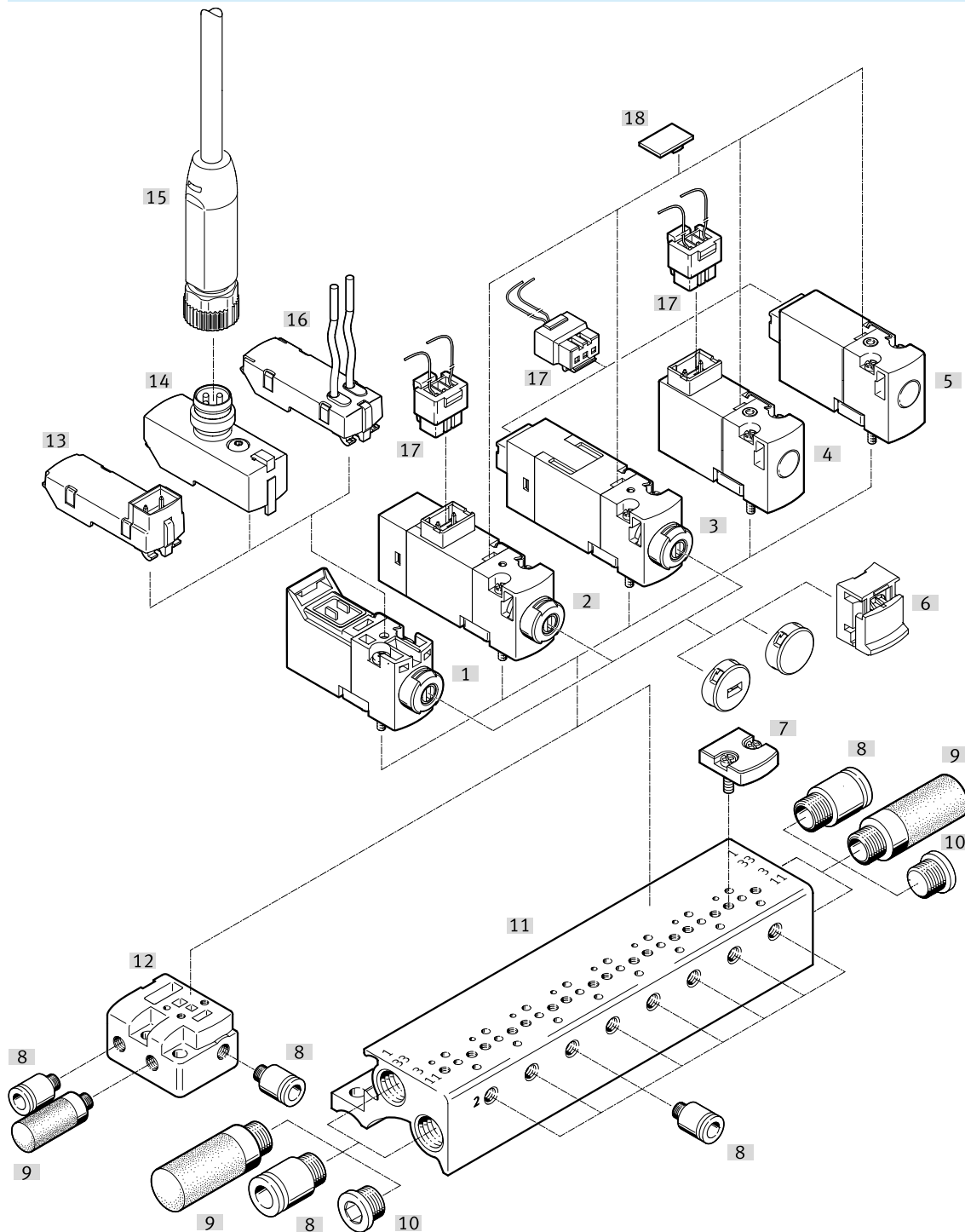


Peripherals overview

Accessories		→ Page/Internet
Type/order code	Description	
[1] Solenoid valve	Valve with plug connection at the rear	63
[2] Inscription label	for marking the valve positions	70
[3] Push-in fitting	for connecting externally calibrated compressed air hoses	70
[4] Manifold rail	without plug bases	67
[5] Circuit board	not included in the scope of delivery	
[6] Cover plate	for manifold rail without plug bases	68
[7] Soldering base	for PCB assembly, 3multi-pin	72

Peripherals overview

Sub-base valve with a plug connection at the rear and a plug connection at the top



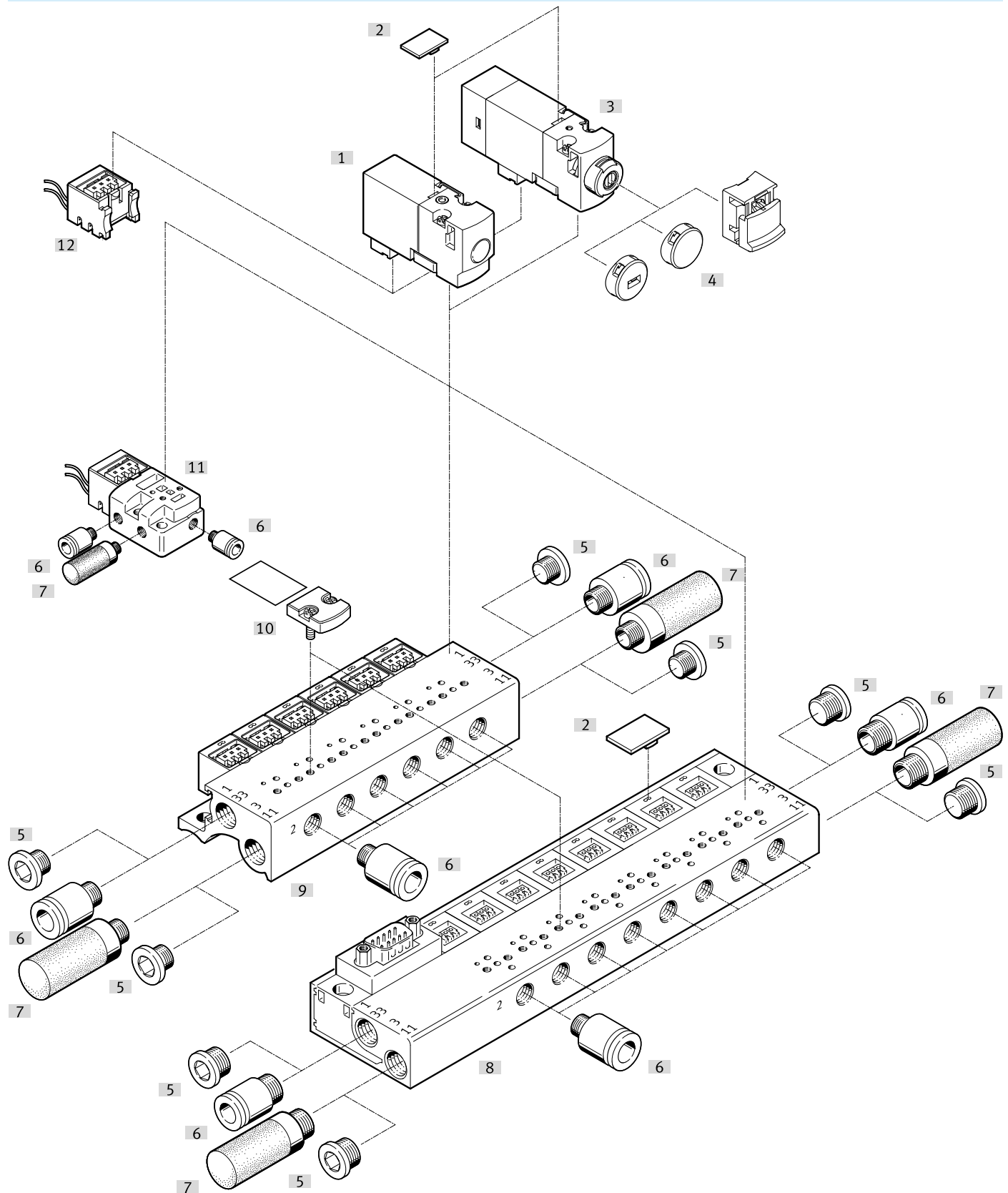
Accessories			→ Page/Internet
Type/order code	Description		
[1] Solenoid valve	Valve without plug connection, with manual override		64
[2] Solenoid valve	Valve with plug connection at the top, with LED, with manual override		64
[3] Solenoid valve	Valve with plug connection at the rear, with LED, with manual override		64
[4] Solenoid valve	Valve with plug connection at the top, without LED, without manual override		64
[5] Solenoid valve	Valve with plug connection at the rear, without LED, without manual override		63
[6] Cover cap	for manual override		69
[7] Cover plate	for manifold rail without plug bases		68
[8] Push-in fitting	for connecting externally calibrated compressed air hoses		70
[9] Muffler	for exhaust ports		69

Peripherals overview

Accessories		→ Page/Internet
Type/order code	Description	
[10] Blanking plug	For sealing connections that are not required	69
[11] Manifold rail	without plug bases	67
[12] Individual sub-base	for valves with a plug connection at the rear and a plug connection at the top	66
[13] Electrical sub-base	Plug connection pattern H or plug connection pattern S	71
[14] Electrical sub-base	Plug M8x1	71
[15] Connecting cable	Socket, M8x1, 4-pin	73
[16] Electrical sub-base	Open end	71
[17] Plug socket with cable	Straight socket, plug pattern H, 3-pin	72
[18] Inscription label	for marking the valve positions	70

Peripherals overview

Sub-base valve with plug connection at the bottom



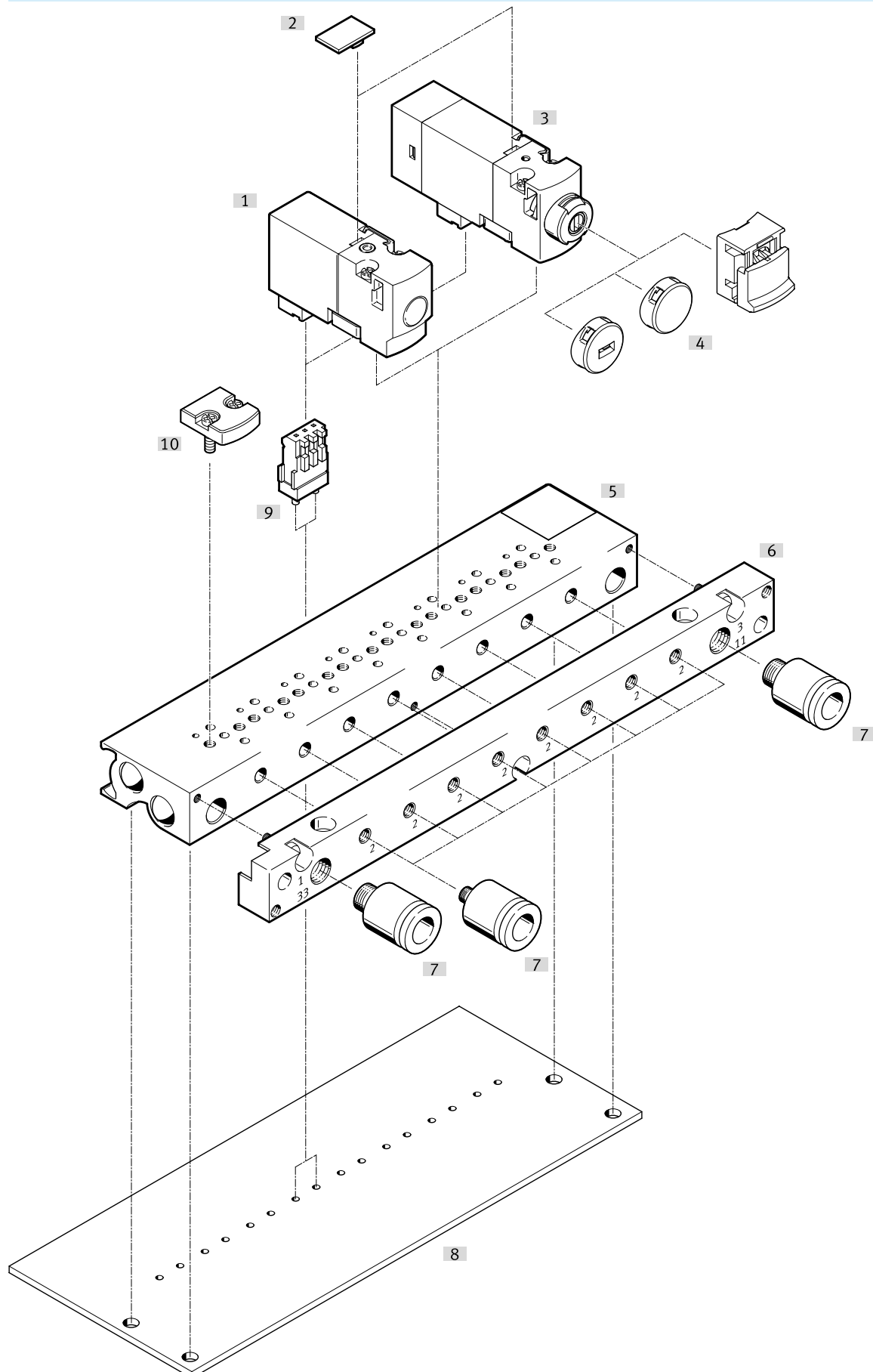
Accessories		→ Page/Internet
Type/order code	Description	
[1] Solenoid valve	Valve with plug connection at the bottom, without LED	64
[2] Inscription label	for marking the valve positions	70

Peripherals overview

Accessories		→ Page/Internet
Type/order code	Description	
[3] Solenoid valve	Valve with plug connection at the bottom, with LED	65
[4] Cover cap	for manual override	69
[5] Blanking plug	For sealing connections that are not required	69
[6] Push-in fitting	for connecting externally calibrated compressed air hoses	70
[7] Muffler	for exhaust ports	69
[8] Manifold rail	with plug bases	68
[9] Manifold rail	With plug bases and electrical multi-pin plug, Sub-D	67
[10] Cover plate	for a manifold rail with plug bases	69
[11] Individual sub-base	for valves with a plug connection at the bottom	66
[12] Electrical plug-in base	Straight socket, plug pattern H, 3-pin	72

Peripherals overview

Sub-base valve with plug connection underneath, mounting on a circuit board

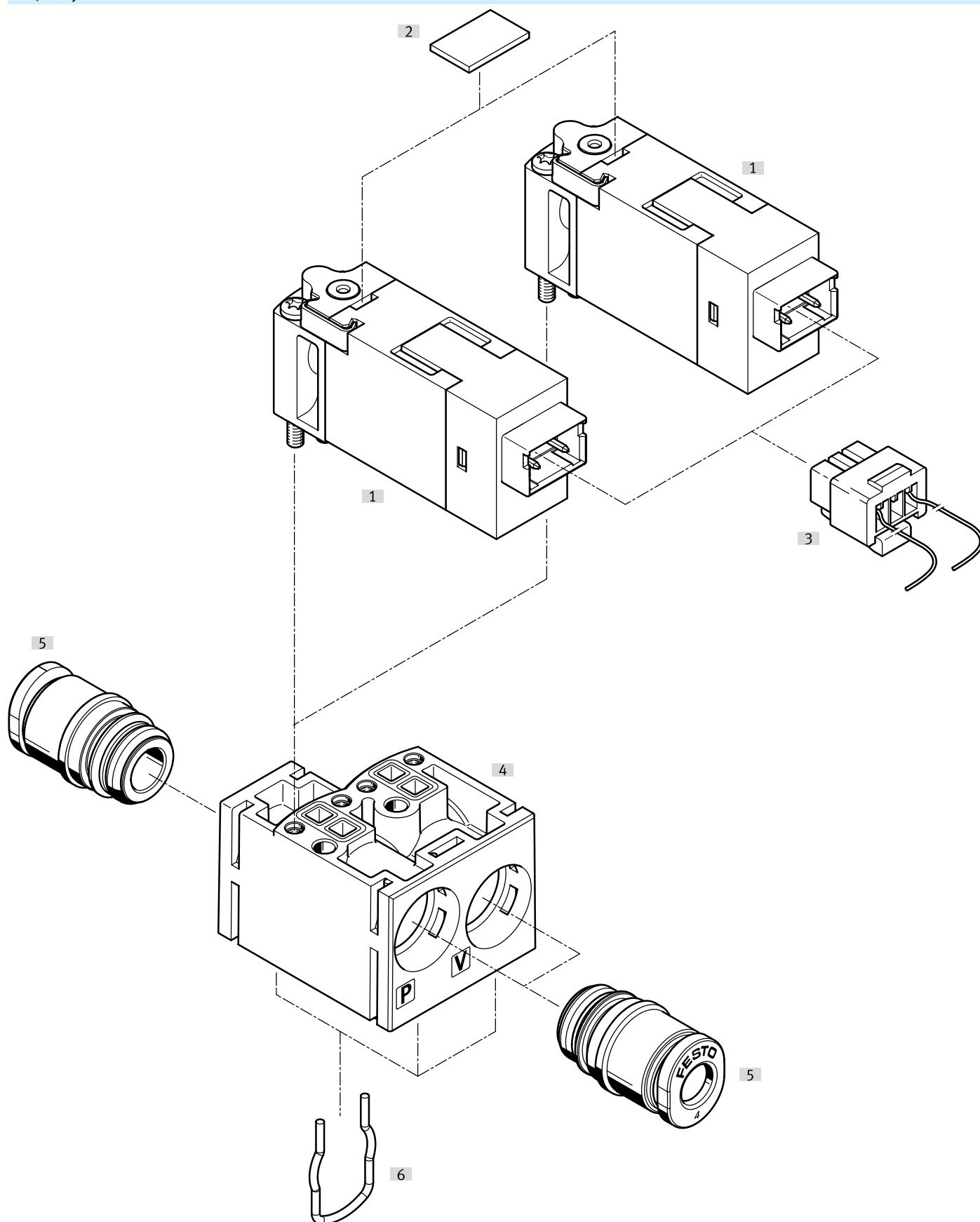


Peripherals overview

Accessories			→ Page/Internet
Type/order code	Description		
[1] Solenoid valve	Valve with plug connection at the bottom, without LED		64
[2] Inscription label	for marking the valve positions		70
[3] Solenoid valve	Valve with plug connection at the bottom, with LED		65
[4] Cover cap	for manual override		69
[5] Manifold rail	without plug bases		68
[6] Pneumatic multiple connector plate	Allows the tubing to remain attached to the printed circuit board when the valve terminal is replaced (included in the scope of delivery)		
[7] Push-in fitting	for connecting externally calibrated compressed air hoses		70
[8] Circuit board	not included in the scope of delivery		
[9] Soldering base	for PCB assembly, 3multi-pin		72
[10] Cover plate	for manifold rail without plug bases		68

Peripherals overview

2x2/2-way valve on a sub-base



Peripherals overview

Accessories		→ Page/Internet
Type/order code	Description	
[1] Solenoid valve	Valve with plug connection at the rear	65
[2] Inscription label	for marking the valve positions	70
[3] Plug socket with cable	Straight socket, plug pattern H, 3-pin	72
[4] Sub-base	Included in the scope of delivery	
[5] Plug-in cartridge	Included in the scope of delivery	70
[6] Clamp	Included in the scope of delivery	

Accessories

Semi in-line valve, rear plug connection

	Valve function	Coil characteristics	Part no.	Type
	2/2-way, closed, monostable	12 V DC: 1.0 W	197046	MHP1-M5H-2/2G-M3-HC
		24 V DC: 1.0 W	197047	MHP1-M1H-2/2G-M3-HC
		5 V DC: 1.0 W	197045	MHP1-M4H-2/2G-M3-HC
	3/2-way, closed, monostable	12 V DC: 1.0 W	197010	MHP1-M5H-3/2G-M3-HC
		24 V DC: 1.0 W	197011	MHP1-M1H-3/2G-M3-HC
		5 V DC: 1.0 W	197009	MHP1-M4H-3/2G-M3-HC
	3/2-way, monostable, open	12 V DC: 1.0 W	197028	MHP1-M5H-3/2O-M3-HC
		24 V DC: 1.0 W	197029	MHP1-M1H-3/2O-M3-HC
		5 V DC: 1.0 W	197027	MHP1-M4H-3/2O-M3-HC

Semi in-line valve, plug connection at the top

	Valve function	Coil characteristics	Part no.	Type
	2/2-way, closed, monostable	12 V DC: 1.0 W	197049	MHP1-M5H-2/2G-M3-TC
		24 V DC: 1.0 W	197050	MHP1-M1H-2/2G-M3-TC
		5 V DC: 1.0 W	197048	MHP1-M4H-2/2G-M3-TC
	3/2-way, closed, monostable	12 V DC: 1.0 W	197013	MHP1-M5H-3/2G-M3-TC
		24 V DC: 1.0 W	197014	MHP1-M1H-3/2G-M3-TC
		5 V DC: 1.0 W	197012	MHP1-M4H-3/2G-M3-TC
	3/2-way, monostable, open	12 V DC: 1.0 W	197031	MHP1-M5H-3/2O-M3-TC
		24 V DC: 1.0 W	197032	MHP1-M1H-3/2O-M3-TC
		5 V DC: 1.0 W	197030	MHP1-M4H-3/2O-M3-TC

Semi in-line valve, bottom plug connection

	Valve function	Coil characteristics	Part no.	Type
	2/2-way, closed, monostable	12 V DC: 1.0 W	197052	MHP1-M5H-2/2G-M3-PI
		24 V DC: 1.0 W	197053	MHP1-M1H-2/2G-M3-PI
		5 V DC: 1.0 W	197051	MHP1-M4H-2/2G-M3-PI
	3/2-way, closed, monostable	12 V DC: 1.0 W	197016	MHP1-M5H-3/2G-M3-PI
		24 V DC: 1.0 W	197017	MHP1-M1H-3/2G-M3-PI
		5 V DC: 1.0 W	197015	MHP1-M4H-3/2G-M3-PI
	3/2-way, monostable, open	12 V DC: 1.0 W	197034	MHP1-M5H-3/2O-M3-PI
		24 V DC: 1.0 W	197035	MHP1-M1H-3/2O-M3-PI
		5 V DC: 1.0 W	197033	MHP1-M4H-3/2O-M3-PI

Sub-base valve without LED, plug connection at the rear

	Valve function	Coil characteristics	Part no.	Type
	2/2-way, closed, monostable	12 V DC: 1.0 W	197037	MHA1-M5H-2/2G-0,9-HC
		24 V DC: 1.0 W	197038	MHA1-M1H-2/2G-0,9-HC
		5 V DC: 1.0 W	197036	MHA1-M4H-2/2G-0,9-HC
	3/2-way, closed, monostable	12 V DC: 1.0 W	197001	MHA1-M5H-3/2G-0,6-HC
		24 V DC: 1.0 W	197002	MHA1-M1H-3/2G-0,6-HC
		5 V DC: 1.0 W	197000	MHA1-M4H-3/2G-0,6-HC
	3/2-way, monostable, open	12 V DC: 1.0 W	197019	MHA1-M5H-3/2O-0,6-HC
		24 V DC: 1.0 W	197020	MHA1-M1H-3/2O-0,6-HC
		5 V DC: 1.0 W	197018	MHA1-M4H-3/2O-0,6-HC

Accessories

Sub-base valve without LED, plug connection at the top

	Valve function	Coil characteristics	Part no.	Type
	2/2-way, closed, monostable	12 V DC: 1.0 W	197040	MHA1-M5H-2/2G-0,9-TC
		24 V DC: 1.0 W	197041	MHA1-M1H-2/2G-0,9-TC
		5 V DC: 1.0 W	197039	MHA1-M4H-2/2G-0,9-TC
	3/2-way, closed, monostable	12 V DC: 1.0 W	197004	MHA1-M5H-3/2G-0,6-TC
		24 V DC: 1.0 W	197005	MHA1-M1H-3/2G-0,6-TC
		5 V DC: 1.0 W	197003	MHA1-M4H-3/2G-0,6-TC
	3/2-way, monostable, open	12 V DC: 1.0 W	197022	MHA1-M5H-3/2O-0,6-TC
		24 V DC: 1.0 W	197023	MHA1-M1H-3/2O-0,6-TC
		5 V DC: 1.0 W	197021	MHA1-M4H-3/2O-0,6-TC

Sub-base valve without LED, plug connection at bottom

	Valve function	Coil characteristics	Part no.	Type
	2/2-way, closed, monostable	12 V DC: 1.0 W	197043	MHA1-M5H-2/2G-0,9-PI
		24 V DC: 1.0 W	197044	MHA1-M1H-2/2G-0,9-PI
		5 V DC: 1.0 W	197042	MHA1-M4H-2/2G-0,9-PI
	3/2-way, closed, monostable	12 V DC: 1.0 W	197007	MHA1-M5H-3/2G-0,6-PI
		24 V DC: 1.0 W	197008	MHA1-M1H-3/2G-0,6-PI
		5 V DC: 1.0 W	197006	MHA1-M4H-3/2G-0,6-PI
	3/2-way, monostable, open	12 V DC: 1.0 W	197025	MHA1-M5H-3/2O-0,6-PI
		24 V DC: 1.0 W	197026	MHA1-M1H-3/2O-0,6-PI
		5 V DC: 1.0 W	197024	MHA1-M4H-3/2O-0,6-PI

Sub-base valve with electrical sub-base, without plug connection

	Valve function	Coil characteristics	Part no.	Type
	3/2-way, closed, monostable	12 V DC: 1.0 W	8025225	MHA1-M5R-3/2G-0,6-P3
		24 V DC: 1.0 W, 24 V DC: low-current phase 0.3 W, high-current phase 1.0 W	8025223	MHA1-M1R-3/2G-0,6-P3
		5 V DC: 1.0 W	8025224	MHA1-M4R-3/2G-0,6-P3

Sub-base valve with LED, plug connection at the rear

	Valve function	Coil characteristics	Part no.	Type
	3/2-way, closed, monostable	24 V DC: 1.1 W	540443	MHA1-M1LH-3/2G-0,6-HC
	3/2-way, monostable, open		540440	MHA1-M1LH-3/2O-0,6-HC

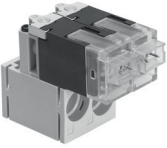
Sub-base valve with LED, plug connection at the top

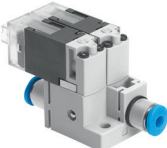
	Valve function	Coil characteristics	Part no.	Type
	3/2-way, closed, monostable	24 V DC: 1.1 W	540444	MHA1-M1LH-3/2G-0,6-TC
	3/2-way, monostable, open		540441	MHA1-M1LH-3/2O-0,6-TC

Accessories

Sub-base valve with LED, plug connection at the bottom						
	Valve function	Coil characteristics	Part no.	Type		
	3/2-way, closed, monostable	24 V DC: 1.1 W	540445	MHA1-M1LH-3/2G-0,6-PI		
	3/2-way, monostable, open		540442	MHA1-M1LH-3/2O-0,6-PI		

2x2/2-way valve on sub-base, 2/2-way solenoid valve with LED, plug connection at the rear						
	Product weight	Pneumatic connection 1	Pneumatic connection 2	Pneumatic connection 11	Part no.	Type
	10 g	Sub-base	Sub-base	Sub-base	557864	MHA1-M1LCH-2/2G-1.5-HC

2x2/2-way valve on sub-base, rear plug connection, without cartridge						
	Product weight	Pneumatic connection 1	Pneumatic connection 2	Pneumatic connection 11	Part no.	Type
	26.3 g	Prepared for QSP10	Prepared for QSP10	Prepared for QSP10	563365	MHA1-2X2/2G-1,5

2x2/2-way valve on sub-base, plug connection at the rear, with cartridge						
	Product weight	Pneumatic connection 1	Pneumatic connection 2	Pneumatic connection 11	Part no.	Type
	30.6 g	QS-3	QS-3	QS-3	562051	MHA1-2X2/2G-1,5-3-3-3
		QS-4	QS-4	QS-4	560372	MHA1-2X2/2G-1,5-4-4-3
					566175	MHA1-2X2/2G-1,5-4-4-4

Individual sub-base for semi in-line valves with a plug connection at the rear or top						
	Size	Pneumatic connection 1	Pneumatic connection 2	Pneumatic connection 11	Part no.	Type
	Size 2	M3			197188	MHP1-AS-2-M3
	Size 3				197184	MHP1-AS-3-M3

Accessories

Individual sub-base for semi in-line valves with a plug connection at the bottom

	Size	Pneumatic connection 1	Pneumatic connection 2	Pneumatic connection 11	Part no.	Type
	Size 2	M3			197190	MHP1-AS-2-M3-PI
	Size 3				197186	MHP1-AS-3-M3-PI

Individual sub-base for sub-base valves with a plug connection at the rear or top

	Size	Pneumatic connection 1	Pneumatic connection 2	Pneumatic connection 11	Part no.	Type
	Size 2	M3	M3		197187	MHA1-AS-2-M3
	Size 3				197183	MHA1-AS-3-M3

Individual sub-base for sub-base valves with a plug connection at the bottom

	Size	Pneumatic connection 1	Pneumatic connection 2	Pneumatic connection 11	Part no.	Type
	Size 2	M3	M3		197189	MHA1-AS-2-M3-PI
	Size 3				197185	MHA1-AS-3-M3-PI

Manifold rail for semi in-line valves with plug connection at the rear or top, without plug base

	Valve function	Max. no. of valve positions	Part no.	Type
	2/2-way	10	197201	MHP1-P10-2
		2	197196	MHP1-P2-2
		4	197197	MHP1-P4-2
		6	197198	MHP1-P6-2
		8	197200	MHP1-P8-2
	3/2-way valve	10	197195	MHP1-PR10-3
		2	197191	MHP1-PR2-3
		4	197192	MHP1-PR4-3
		6	197193	MHP1-PR6-3
		8	197194	MHP1-PR8-3

Manifold rail for semi in-line valves with a plug connection at the bottom, with plug bases

	Valve function	Max. no. of valve positions	Part no.	Type
	2/2-way	10	197221	MHP1-P10-2-PI
		2	197217	MHP1-P2-2-PI
		4	197218	MHP1-P4-2-PI
		6	197219	MHP1-P6-2-PI
		8	197220	MHP1-P8-2-PI
	3/2-way valve	10	197216	MHP1-PR10-3-PI
		2	197212	MHP1-PR2-3-PI
		4	197213	MHP1-PR4-3-PI
		6	197214	MHP1-PR6-3-PI
		8	197215	MHP1-PR8-3-PI

Accessories

Manifold rail for semi in-line valves with plug connection at the bottom, with plug bases and electrical multi-pin, plug Sub-D 9-pin or 25-pin				
	Valve function	Max. no. of valve positions	Part no.	Type
	3/2-way valve	10	197236	MHP1-PR10-3-PI-D25
		4	197233	MHP1-PR4-3-PI-D9
		6	197234	MHP1-PR6-3-PI-D9
		8	197235	MHP1-PR8-3-PI-D9

Manifold rail for semi in-line valves with a plug connection at the bottom, without plug bases for PCB mounting				
	Valve function	Max. no. of valve positions	Part no.	Type
	3/2-way valve	10	197246	MHP1-PR10-3-PI-PCB
		2	197242	MHP1-PR2-3-PI-PCB
		4	197243	MHP1-PR4-3-PI-PCB
		6	197244	MHP1-PR6-3-PI-PCB
		8	197245	MHP1-PR8-3-PI-PCB

Manifold rail for sub-base valves with plug connections at the rear or top, without plug bases				
	Valve function	Max. no. of valve positions	Part no.	Type
	2/2-way	10	197211	MHA1-P10-2-M3
		2	197207	MHA1-P2-2-M3
		4	197208	MHA1-P4-2-M3
		6	197209	MHA1-P6-2-M3
		8	197210	MHA1-P8-2-M3
	3/2-way valve	10	197206	MHA1-PR10-3-M3
		2	197202	MHA1-PR2-3-M3
		4	197203	MHA1-PR4-3-M3
		6	197204	MHA1-PR6-3-M3
		8	197205	MHA1-PR8-3-M3

Manifold rail for a plug connection at the bottom, with plug bases				
	Valve function	Max. no. of valve positions	Part no.	Type
	2/2-way	10	197231	MHA1-P10-2-M3-PI
		2	197227	MHA1-P2-2-M3-PI
		4	197228	MHA1-P4-2-M3-PI
		6	197229	MHA1-P6-2-M3-PI
		8	197230	MHA1-P8-2-M3-PI
	3/2-way valve	10	197226	MHA1-PR10-3-M3-PI
		2	197222	MHA1-PR2-3-M3-PI
		4	197223	MHA1-PR4-3-M3-PI
		6	197224	MHA1-PR6-3-M3-PI
		8	197225	MHA1-PR8-3-M3-PI

Accessories

Manifold rail for sub-base valves with a plug connection at the bottom, with plug bases and an electrical multi-pin

	Valve function	Electrical connection	Max. no. of valve positions	Part no.	Type
	3/2-way valve	Sub-D, 9-pin	4	197238	MHA1-PR4-3-M3-PI-D9
			6	197239	MHA1-PR6-3-M3-PI-D9
			8	197240	MHA1-PR8-3-M3-PI-D9
		Sub-D plug, 25-pin	10	197241	MHA1-PR10-3-M3-PI-D25

Manifold rail for sub-base valves with a plug connection at the bottom, without plug bases for PCB mounting

	Valve function	Max. no. of valve positions	Part no.	Type
	3/2-way valve	10	197251	MHA1-PR10-3-M3-PI-PCB
		2	197247	MHA1-PR2-3-M3-PI-PCB
		4	197248	MHA1-PR4-3-M3-PI-PCB
		6	197249	MHA1-PR6-3-M3-PI-PCB
		8	197250	MHA1-PR8-3-M3-PI-PCB

Manifold rail for sub-base valves with a plug connection at the bottom, without plug bases for PCB mounting, with pneumatic multi-pin

	Valve function	Max. no. of valve positions	Part no.	Type
	3/2-way valve	10	197256	MHA1-PR10-3-PI-PCBM
		4	197253	MHA1-PR4-3-PI-PCBM
		6	197254	MHA1-PR6-3-PI-PCBM
		8	197255	MHA1-PR8-3-PI-PCBM

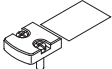
Manifold rail for sub-base valves without LEDs, with a plug connection at the bottom, without plug bases for PCB mounting

	Valve function	Max. no. of valve positions	Part no.	Type
	3/2-way valve	10	197251	MHA1-PR10-3-M3-PI-PCB
		2	197247	MHA1-PR2-3-M3-PI-PCB
		4	197248	MHA1-PR4-3-M3-PI-PCB
		6	197249	MHA1-PR6-3-M3-PI-PCB
		8	197250	MHA1-PR8-3-M3-PI-PCB

Cover plate for manifold rail without plug bases

	Size	Electrical connection	Part no.	Type
	Size 3	Without	197257	MHAP1-BP-3

Accessories

Cover plate for manifold rail with plug bases				
	Size	Electrical connection	Part no.	Type
	Size 3	Pin (electric, in the interface, inter-linked, 2x CBUS)	197258	MHAP1-BP-3-PI

Cover cap for manual override, function covered				
	LABS (PWIS) conformity	Product weight	Part no.	Type
	VDMA24364-B1/B2-L	15 g	540898	VMPA-HBV-B

Cover cap for manual override, non-detenting				
	LABS (PWIS) conformity	Product weight	Part no.	Type
	VDMA24364-B1/B2-L	15 g	540897	VMPA-HBT-B

Cover cap for manual override, detenting function				
	LABS (PWIS) conformity	Product weight	Part no.	Type
	VDMA24364-B1/B2-L	0.62 g	8002234	VAMC-L1-CD

Blanking plug					Link 
	Pneumatic connection 1	Pack size	Part no.	Type	
	External thread M3	10	30979	B-M3-S9	
	External thread M5		3843	B-M5	
	External thread M7		174309	B-M7	

Muffler						
	Pneumatic connection	Cushioning insert material	Material of screwed plug	Pack size	Part no.	Type
	M3	Bronze	Brass	20	1231120	AMTE-M-LH-M3
	M5	Protective grounding	PA-reinforced, Protective grounding	1	165003	UC-M5
		Bronze	Brass	20	1205858	AMTE-M-LH-M5
	M7	Protective grounding	PA-reinforced, Protective grounding	1	161418	UC-M7

Push-in fittings							Link  qsm
	Pneumatic connection 1	Pneumatic connection 2	Type of mounting	Pack size	Part no.	Type	
	External thread M3	for pneumatic tubing outside diameter 3 mm	External hexagon AF5.5	10	153301	QSM-M3-3	
			Internal hex AF1.5		153312	QSM-M3-3-I	
		for pneumatic tubing outside diameter 4 mm	External hexagon, AF 8		153303	QSM-M3-4	
			Internal hex AF1.5		153314	QSM-M3-4-I	
	External thread M5	for pneumatic tubing outside diameter 3 mm	External hexagon, AF 8		153302	QSM-M5-3	

Accessories

Push-in fittings

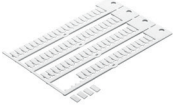
Link 

	Pneumatic connection 1	Pneumatic connection 2	Type of mounting	Pack size	Part no.	Type
	External thread M5	for pneumatic tubing outside diameter 3 mm	Internal hexagon, AF 2	10	153313	QSM-M5-3-I
		for pneumatic tubing outside diameter 4 mm	External hexagon, AF 8		153304	QSM-M5-4
			Internal hex AF2.5		153315	QSM-M5-4-I
		for pneumatic tubing outside diameter 6 mm	External hexagon SW10		153306	QSM-M5-6
	External thread M7	for pneumatic tubing outside diameter 4 mm	Internal hex AF2.5		153317	QSM-M5-6-I
		for pneumatic tubing outside diameter 6 mm	Internal hexagon, AF 3		153319	QSM-M7-4-I
			Internal hexagon, AF 4		153321	QSM-M7-6-I

Cartridge for 2x2/2-way valve on sub-base

	Pneumatic connection 1	Pneumatic connection 2	Type of mounting	Pack size	Part no.	Type
	Cartridge 10 mm	for pneumatic tubing outside diameter 3 mm	Mounting pin	10	132621	QSPKG10-3
		for pneumatic tubing outside diameter 4 mm			132622	QSPKG10-4
		for pneumatic tubing outside diameter 6 mm			132623	QSPKG10-6

Inscription label

	LABS (PWIS) conformity	Product weight	Part no.	Type
	VDMA24364-B1/B2-L	7 g	197259	MH-BZ-80X

Electrical sub-base with protective circuitry, plug connection pattern H, angled

	Electrical connection	Nominal operating voltage DC	Additional functions	Part no.	Type
	2-pin, Socket	12 V, 24 V	Spark arresting	566714	VAVE-L1-1VH2-LP
		24 V	Spark arresting, Holding current reduction	566716	VAVE-L1-1H2-LR

Accessories

Electrical sub-base with protective circuitry, plug connection pattern H, straight

	Electrical connection	Nominal operating voltage DC	Additional functions	Part no.	Type
	2-pin, Socket	12 V, 24 V	Spark arresting	566715	VAVE-L1-1VH3-LP
		24 V	Spark arresting, Holding current reduction	566717	VAVE-L1-1H3-LR

Electrical sub-base with protective circuitry, plug connection pattern S, angled

	Electrical connection	Nominal operating voltage DC	Additional functions	Part no.	Type
	2-pin, Socket	12 V, 24 V	Spark arresting	566718	VAVE-L1-1VS2-LP
		24 V	Spark arresting, Holding current reduction	566720	VAVE-L1-1S2-LR

Electrical sub-base with protective circuitry, plug connection pattern S, straight

	Electrical connection	Nominal operating voltage DC	Additional functions	Part no.	Type
	2-pin, Socket	12 V, 24 V	Spark arresting	566719	VAVE-L1-1VS3-LP
		24 V	Spark arresting, Holding current reduction	566721	VAVE-L1-1S3-LR

Electrical sub-base with protective circuitry, plug M8x1

	Electrical connection	Nominal operating voltage DC	Additional functions	Part no.	Type
	Single plug M8, 4-pin	12 V, 24 V	Spark arresting	573921	VAVE-L1-1VR1-LP
		24 V	Spark arresting, Holding current reduction	573922	VAVE-L1-1R1-LR
	Single plug M8, 3-pin	12 V, 24 V	Spark arresting	573919	VAVE-L1-1VR8-LP
		24 V	Spark arresting, Holding current reduction	573920	VAVE-L1-1R8-LR

Electrical sub-base with protective circuitry, 2x stranded conductor, open end

	Electrical connection	Nominal operating voltage DC	Additional functions	Cable length	Part no.	Type
	Flying lead	12 V, 24 V	Spark arresting	0.5 m	566722	VAVE-L1-1VL1-LP
				1 m	566723	VAVE-L1-1VL2-LP
		24 V	Spark arresting, Holding current reduction	0.5 m	566726	VAVE-L1-1L1-LR
				1 m	566727	VAVE-L1-1L2-LR
				2.5 m	566728	VAVE-L1-1L3-LR
		12 V, 24 V	Spark arresting		566724	VAVE-L1-1VL3-LP
		24 V	Spark arresting, Holding current reduction	5 m	566729	VAVE-L1-1L4-LR
					566725	VAVE-L1-1VL4-LP

Accessories

Electrical sub-base with protective circuitry, cable, open end

	Electrical connection	Nominal operating voltage DC	Additional functions	Cable length	Part no.	Type
	2-pin/2-core, Angled socket/cable, Rectangular design/open end	24 V	Spark arresting, Holding current reduction	0.5 m	573945	VAVE-L1-1K6-LR
		12 V, 24 V	Spark arresting		573941	VAVE-L1-1VK6-LP
		24 V	Spark arresting, Holding current reduction	1 m	573942	VAVE-L1-1VK7-LP
				573946	VAVE-L1-1K7-LR	
		2.5 m	573947	VAVE-L1-1K8-LR		
			573943	VAVE-L1-1VK8-LP		
		5 m	573948	VAVE-L1-1K9-LR		
	12 V, 24 V	Spark arresting	573944	VAVE-L1-1VK9-LP		

Soldering base

	Electrical connection	Pack size	Part no.	Type
	2-pin	10	197261	PCBC-A-10
		100	197262	PCBC-A-100

Electrical plug-in base

	Electrical connection	Cable length	Part no.	Type
	2-pin, Socket	0.5 m	197260	MHAP-PI
		1 m	532182	MHAP-PI-1

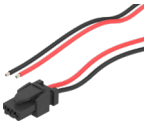
Plug socket with cable connection pattern H, electrical connection 2x stranded conductor

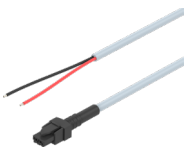
	Electrical connection 1, connection type	Electrical connection 2, connection type	Cable length	Part no.	Type
	Socket	2x single conductor	0.5 m	566654	NEBV-H1G2-KN-0.5-N-LE2
			1 m	566655	NEBV-H1G2-KN-1-N-LE2
			5 m	566657	NEBV-H1G2-KN-5-N-LE2

Plug socket with cable, connection pattern H, electrical connection cable

	Electrical connection 1, connection type	Electrical connection 2, connection type	Cable length	Part no.	Type
	Socket	Cable	0.5 m	566658	NEBV-H1G2-P-0.5-N-LE2
			1 m	566659	NEBV-H1G2-P-1-N-LE2
			2.5 m	566660	NEBV-H1G2-P-2.5-N-LE2
			5 m	566661	NEBV-H1G2-P-5-N-LE2

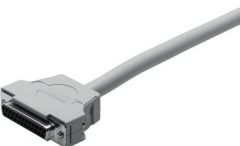
Accessories

Plug socket with cable connection pattern, electrical connection 2x stranded conductor					
	Electrical connection 1, connection type	Electrical connection 2, connection type	Cable length	Part no.	Type
	Socket	2x single conductor	0.5 m	566662	NEBV-HSG2-KN-0.5-N-LE2
			1 m	566663	NEBV-HSG2-KN-1-N-LE2
			2.5 m	566664	NEBV-HSG2-KN-2.5-N-LE2
			5 m	566665	NEBV-HSG2-KN-5-N-LE2

Plug socket with cable connection pattern, electrical connection cable					
	Electrical connection 1, connection type	Electrical connection 2, connection type	Cable length	Part no.	Type
	Socket	Cable	0.5 m	566666	NEBV-HSG2-P-0.5-N-LE2
			1 m	566667	NEBV-HSG2-P-1-N-LE2
			2.5 m	566668	NEBV-HSG2-P-2.5-N-LE2
			5 m	566669	NEBV-HSG2-P-5-N-LE2

Connecting cable socket M8x1, straight						Link 
	Electrical connection 1, number of pins/wires	Electrical connection 2, connection technology	Cable length	Part no.	Type	
	3	Open end	2.5 m	8078223	NEBA-M8G3-U-2.5-N-LE3	
	4		5 m	8078224	NEBA-M8G3-U-5-N-LE3	
			2.5 m	8078227	NEBA-M8G4-U-2.5-N-LE4	
			5 m	8078228	NEBA-M8G4-U-5-N-LE4	

Connecting cable socket M8x1, angled						Link 
	Electrical connection 1, number of pins/wires	Electrical connection 2, connection technology	Cable length	Part no.	Type	
	3	Open end	2.5 m	8078230	NEBA-M8W3-U-2.5-N-LE3	
	4		5 m	8078231	NEBA-M8W3-U-5-N-LE3	
			2.5 m	8078233	NEBA-M8W4-U-2.5-N-LE4	
			5 m	8078234	NEBA-M8W4-U-5-N-LE4	

Connecting cable for manifold rail with multi-pin						
	Electrical connection 1, connection technology	Electrical connection 1, number of pins/wires	Electrical connection 2, number of pins/wires	Cable length	Part no.	Type
	Sub-D	9	9	2.5 m	531184	KMP6-09P-8-2,5
				5 m	531185	KMP6-09P-8-5
				10 m	531186	KMP6-09P-8-10
		25	15	2.5 m	530049	KMP6-25P-12-2,5
				5 m	530050	KMP6-25P-12-5
				10 m	530051	KMP6-25P-12-10
		25	25	2.5 m	530046	KMP6-25P-20-2,5
				5 m	530047	KMP6-25P-20-5
				10 m	530048	KMP6-25P-20-10