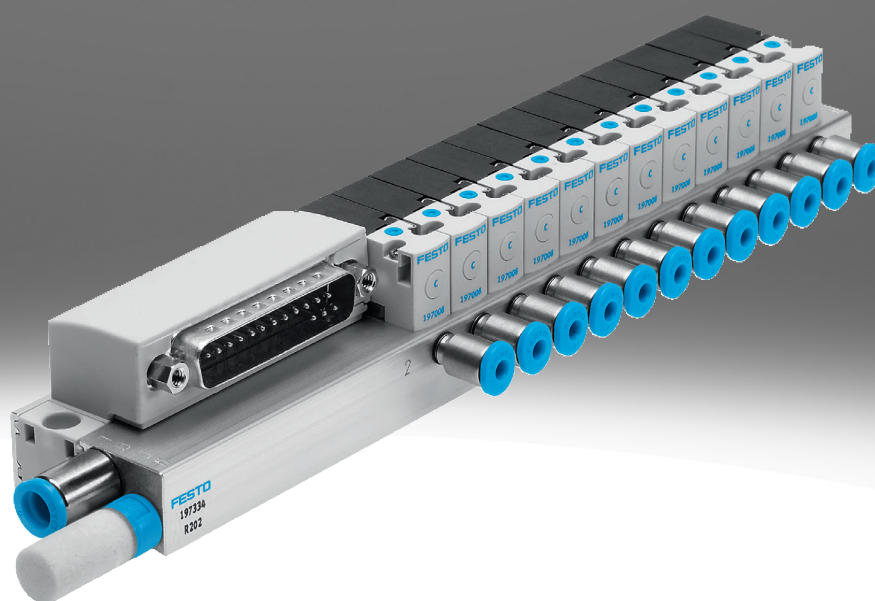


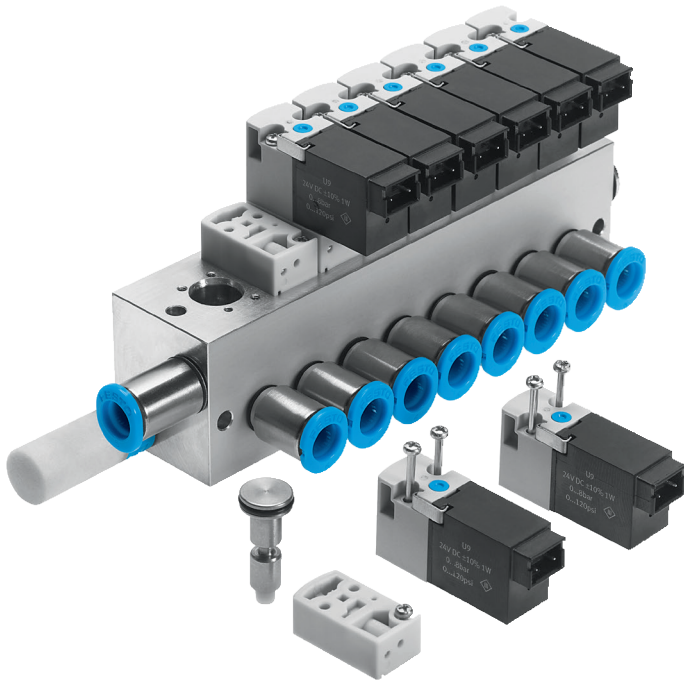
Valve terminal MH1

FESTO



Characteristics

At a glance



Extremely miniaturised:

The miniaturised generation of poppet valves. In the versions 2/2, flow rates of 14 l/min, or in the 3/2-way version, 10 l/min are available. Available either as an individual sub-base valve or pre-assembled on a 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 MH valves² with a flow rate of up to 100 l/min.

Extremely versatile and fast:

The miniature valves can be linked via a pneumatic multiple connector plate and an electrical multi-pin plug. There is also a choice between having electrical connections horizontally, on top and underneath. Another interesting variant is the option of mounting on a printed circuit board including connection. All components are tested and assembled for Festo plug and work. And it is no problem if a system needs to run as fast as possible. The response time of the miniature valves is 4 ms.

Extremely collaborative:

Festo offers an extensive product range under the umbrella term “compact”, including drives, rodless drives, mini slides, rotary drives and accessories. Perfectly coordinated and geared towards all production areas for manufacturing and processing very small products. All the components comply with the proven quality standards from Festo and include the added value that only a global company can offer.

Miniature valves – not just for the electronics industry

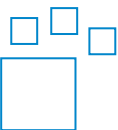
Also for the light assembly, medical technology and semiconductor industries and wherever extremely compact and fast-switching valves or pilot valves are required for valves coming into contact with media (e.g. process industry).

With response times of approximately 4 ms, there's nothing left to be desired where speed is concerned. Vacuum functions can also be easily implemented. The 100% duty cycle and the three-shift operation guarantee maximum cost-effectiveness.

With flow rates of 10 and 14 l/min for the miniature valves, there is always enough volume for the pilot control of process valves. The flow rate is also adequate for the wide range of compact cylinders, rotary drives and slides from Festo.

Ordering data - modular system

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

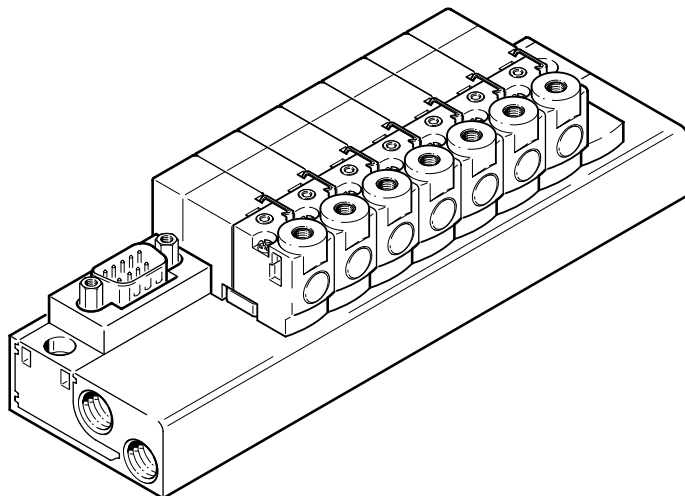


Configurable product

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

Datasheet

General technical data – Valve terminals

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


Valve terminal structure	Fixed grid
Electrical control	Individual connection Multi-pin
Max. number of valve positions	24
Valve function	2/2-way, single solenoid, closed 3/2-way, single solenoid, closed 3/2-way, single solenoid, open
Design	Poppet valve with spring return
Sealing principle	Soft
Type of actuation	Electrical
Type of reset	Mechanical spring
Type of piloting	Direct
Suitability for vacuum	Yes
Exhaust-air function	Can be throttled
Signal status display	LED
Nominal size	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 to ISO 8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure	-0.9 ... 8 bar
Ambient temperature	-5 ... 40°C
Media temperature	-5 ... 40°C
Corrosion resistance class CRC ¹⁾	1 - Low corrosion stress
Approval	c UL us - Recognised (Oil)
Certificate issuing authority	UL MH19482
CE mark (see declaration of conformity) ²⁾	In accordance with EU RoHS Directive

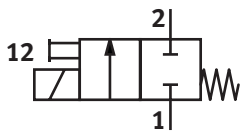
1) More information www.festo.com/x/topic/crc

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

Datasheet

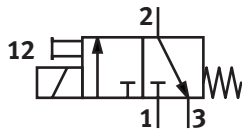
Electrical data – Valve terminal	
Nominal operating voltage DC	5 V 12 V 24 V
Nominal operating voltage AC	24 V
Degree of protection	IP40 IP65

Circuit symbol 2/2-way valves



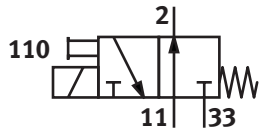
- Monostable
- Normally closed
- Mechanical spring return
- Vacuum operation is realised by connecting vacuum at port 2

Circuit symbol 3/2-way valves, closed



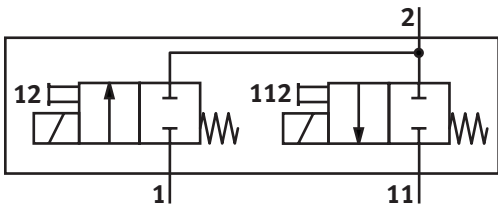
- Monostable
- Normally closed
- Mechanical spring return
- Vacuum operation is realised by connecting vacuum to port 3, causing the normal position to change to normally open

Circuit symbol 3/2-way valves, open



- Monostable
- Normally open
- Mechanical spring return
- Vacuum operation is realised by connecting vacuum at port 33, causing the normal position to change to normally closed

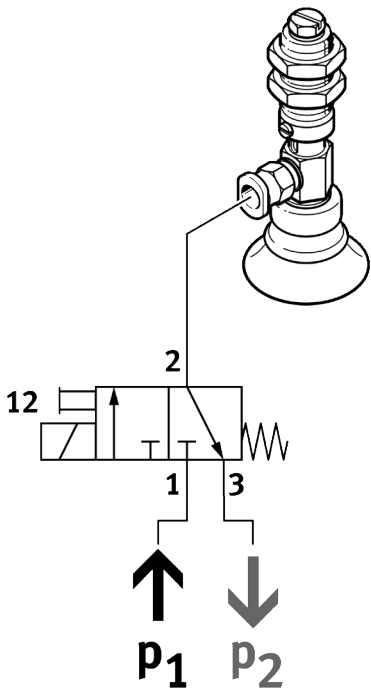
Circuit symbol 2x2/2-way valves



- Monostable
- Normally closed
- Mechanical spring return
- Vacuum operation is realised by connecting vacuum at port 11

Datasheet

Vacuum and reverse operation



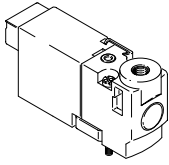
The flow direction of the MH1 valves is clearly defined and cannot be reversed .
Reverse operation is not possible.
This flow direction needs to be observed even when operating the valve with vacuum.
This is achieved by connecting the vacuum to port 3 or 2 (33 or 11).
Vacuum must not be connected at port 1.

Materials – Valve terminal

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, single solenoid, closed		3/2-way, single solenoid, closed	3/2-way, single solenoid, open
Design	Poppet valve with spring return			
lap	Underlap			
Sealing principle	Soft			
Type of actuation	Electrical			
Type of reset	Mechanical spring			
Type of piloting	Direct			
Flow direction	Non-reversible			
Suitability for vacuum	Yes	–		
Exhaust-air function	Cannot be throttled	Can be throttled		
Manual override	Non-detenting			
Type of mounting	On sub-base With through-hole			
Mounting position	Any			
Valve position code	Label			
Nominal size	0.9 mm	0.65 mm		0.7 mm
Standard nominal flow rate (standardised to DIN 1343)	14 l/min	10 l/min		
Construction width	10 mm			
Grid dimension	10 mm			
Pneumatic connection, port 1	Sub-base			–
Pneumatic connection, port 2	M3			
Pneumatic connection, port 3	–	Sub-base		–
Product weight	10 g			

Operating and environmental conditions – Semi in-line valve

Valve function	2/2-way, single solenoid, closed	3/2-way, single solenoid, closed	3/2-way, single solenoid, open
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)		
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		
Media temperature	-5 ... 40°C		
Storage temperature	-20 ... 60°C		
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress		
Approval	c UL us - Recognised (Oil)		
Certificate issuing authority	UL MH19482		

1) More information www.festo.com/x/topic/crc

Safety characteristics – Semi in-line valve

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

Datasheet

Electrical data – Semi in-line valve

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

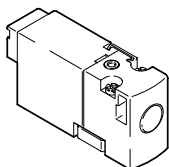
Switching times and frequencies – Semi in-line valve

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

Materials – Semi in-line valve

Material housing	Reinforced PA, Reinforced PPS
Material seals	Fluoro rubber, 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, single solenoid, closed		3/2-way, single solenoid, closed		3/2-way, single solenoid, open	
Design	Poppet valve with spring return					
lap	Underlap					
Sealing principle	Soft					
Type of actuation	Electrical					
Type of reset	Mechanical spring					
Type of piloting	Direct					
Flow direction	Non-reversible					
Suitability for vacuum	Yes		–			
Exhaust-air function	Cannot be throttled		Can be throttled			
Manual override	Non-detenting					
Type of mounting	On sub-base, With through-hole					
Mounting position	Any					
Valve position code	Label					
Nominal size	0.9 mm		0.65 mm		0.7 mm	
Standard nominal flow rate (standardised to DIN 1343)	14 l/min		10 l/min			
Construction width	10 mm					
Grid dimension	10 mm					
Pneumatic connection, port 1	Sub-base				–	
Pneumatic connection, port 2	Sub-base					
Pneumatic connection, port 3	–		Sub-base		–	
Pneumatic connection, port 11	–					Sub-base
Pneumatic port 33	–				Sub-base	
Product weight	10 g					

Datasheet

Operating and environmental conditions – Sub-base valve without LED

Valve function	2/2-way, single solenoid, closed	3/2-way, single solenoid, closed	3/2-way, single solenoid, open
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)		
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		
Media temperature	-5 ... 40°C		
Storage temperature	-20°C, 60°C		
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress		
Approval	c UL us - Recognised (Oil)		
Certificate issuing authority	UL MH19482		

¹⁾ More information www.festo.com/x/topic/crc

Safety characteristics – Sub-base valve without LED

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

Electrical data – Sub-base valve without LED

Operating voltage	12 V DC 24 V DC 5 V 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

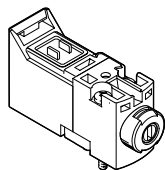
Valve function	2/2-way, single solenoid, closed	3/2-way, single solenoid, closed	3/2-way, single solenoid, open
Switching time on	4 ms		
Switching time off	5 ms	4 ms	
Max. switching frequency	20 Hz		

Materials – Sub-base valve without LED

Material housing	Reinforced PA, Reinforced PPS
Material seals	Fluoro rubber, 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 E-box



Valve function	3/2-way, single solenoid, closed
Design	Poppet valve with spring return
lap	Underlap
Sealing principle	Soft
Type of actuation	Electrical
Type of reset	Mechanical spring
Type of piloting	Direct
Flow direction	Non-reversible
Exhaust-air function	Can be throttled
Manual override	Detenting, Non-detenting
Type of mounting	On sub-base, With through-hole
Mounting position	Any
Nominal size	0.65 mm
Standard nominal flow rate (standardised to DIN 1343)	10 l/min
Construction width	10 mm
Grid dimension	10 mm
Pneumatic connection, port 1	Sub-base
Pneumatic connection, port 2	Sub-base
Pneumatic connection, port 3	Sub-base
Product weight	10 g

Operating and environmental conditions – Sub-base valve with E-box

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure	0.15 ... 0.8 MPa
Operating pressure	1.5 ... 8 bar
Operating pressure	21.75 ... 116 psi
Ambient temperature	-5 ... 50°C
Media temperature	-5 ... 50°C
Restrictions for environmental and media temperature	-5 - 40°C, Without holding current reduction
Storage temperature	-20 ... 60°C
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress
Approval	c UL us - Recognised (Oil)
Certificate issuing authority	UL MH19482

1) More information www.festo.com/x/topic/crc

Safety characteristics – Sub-base valve with E-box

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

Datasheet

Electrical data – Sub-base valve with E-box

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

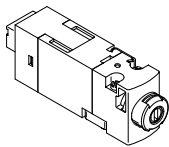
Switching times and frequencies – Sub-base valve with E-box

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

Materials – Sub-base valve with E-box

Material housing	Reinforced PA, Reinforced PPS
Material seals	Fluoro rubber, 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, single solenoid, closed	3/2-way, single solenoid, open
Design	Poppet valve with spring return	
lap	Underlap	
Sealing principle	Soft	
Type of actuation	Electrical	
Type of reset	Mechanical spring	
Type of piloting	Direct	
Flow direction	Non-reversible	
Exhaust-air function	Can be throttled	
Manual override	Detenting, Non-detenting	
Signal status display	LED	
Type of mounting	On sub-base, With through-hole	
Mounting position	Any	
Valve position code	Label	
Nominal size	0.65 mm	0.7 mm
Standard nominal flow rate (standardised to DIN 1343)	10 l/min	
Construction width	10 mm	
Grid dimension	10 mm	
Pneumatic connection, port 1	Sub-base	–
Pneumatic connection, port 2	Sub-base	
Pneumatic connection, port 3	Sub-base	–
Pneumatic connection, port 11	–	Sub-base
Pneumatic port 33	–	Sub-base
Product weight	11 g	

Datasheet

Operating and environmental conditions – Sub-base valve with LED

Valve function	3/2-way, single solenoid, closed	3/2-way, single solenoid, open
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)	
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	
Media temperature	-5 ... 40°C	
Storage temperature	-20 ... 60°C	
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress	
Approval	c UL us - Recognised (Oil)	
Certificate issuing authority	UL MH19482	

1) More information www.festo.com/x/topic/crc

Safety characteristics – Sub-base valve with LED

Note on forced dynamization	Switching frequency min. 1/week
Shock resistance	Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistance	Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

Electrical data – Sub-base valve with LED

Operating voltage	24 V 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

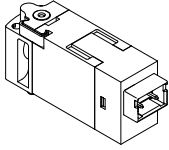
Switching time on	4 ms
Switching time off	4 ms
Max. switching frequency	20 Hz

Materials – Sub-base valve with LED

Material housing	Reinforced PA, Reinforced PPS
Material seals	Fluoro rubber, 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 a sub-base



Valve function	2/2-way, single solenoid, closed	2x2/2 closed monostable
Design	Poppet valve with spring return	–
lap	–	Underlap
Sealing principle	Soft	
Type of actuation	Electrical	
Type of reset	Mechanical spring	
Type of piloting	Direct	
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 size	1.5 mm	
Standard nominal flow rate (standardised to DIN 1343)	30 l/min	
Standard flow rate (standardised to DIN 1343)	30 l/min	
Construction width	10 mm	20 mm
Grid dimension	10 mm	20 mm
Pneumatic connection, port 1	Sub-base	QS-3, QS-4, Prepared for QSP10
Pneumatic connection, port 11	Sub-base	QS-3, QS-4, Prepared for QSP10
Pneumatic connection, port 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, single solenoid, closed	2x2/2 closed monostable
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)	
Operating pressure	0 ... 1.5 bar	
Operating pressure, reversible	-0.95 ... 0 bar	
Ambient temperature	-5 ... 50°C	
Media temperature	-5 ... 50°C	
Storage temperature	-20 ... 60°C	
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress	
Approval	RCM	–
CE mark (see declaration of conformity) ²⁾	To EU EMC Directive In accordance with EU RoHS Directive	
UKCA marking (see declaration of conformity) ³⁾	To UK instructions for EMC To UK RoHS instructions	

1) More information www.festo.com/x/topic/crc

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

Datasheet

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

Operating voltage	24 V 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

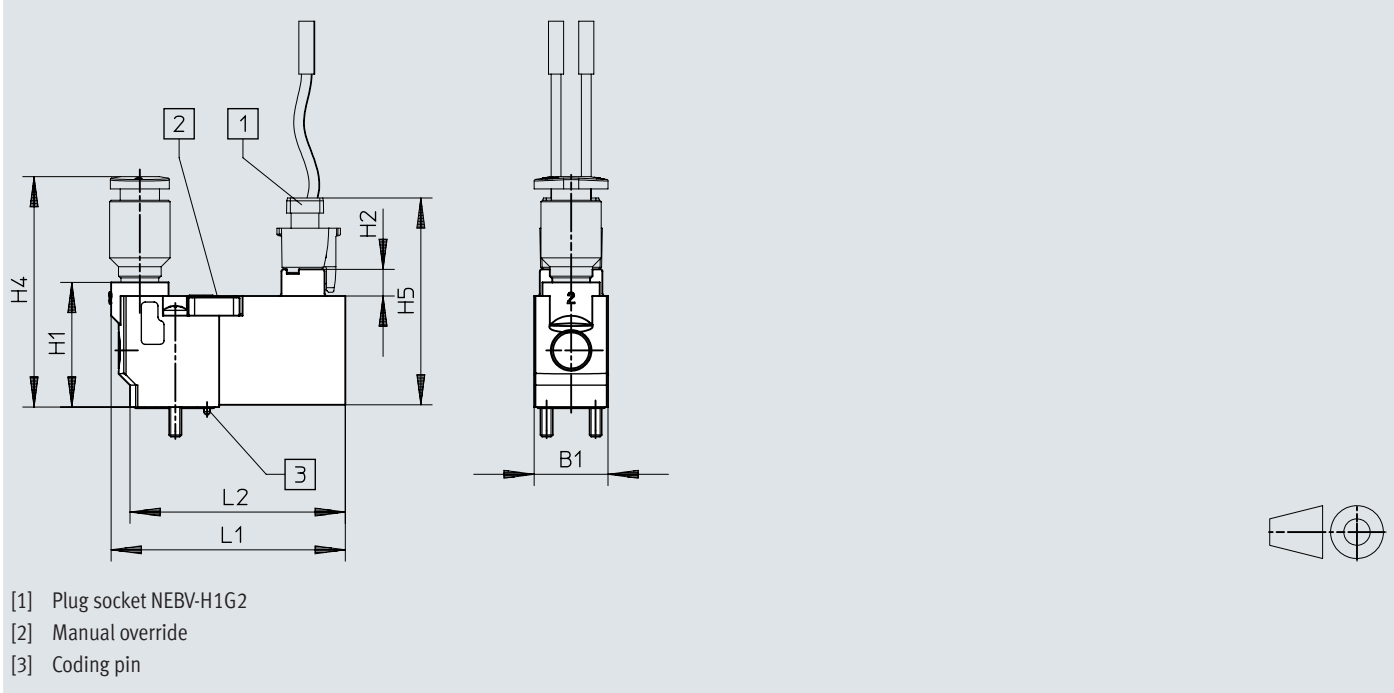
Switching time on	6 ms
Switching time off	6 ms
Max. switching frequency	10 Hz

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

Valve function	2/2-way, single solenoid, closed	2x2/2 closed monostable
Material housing	Reinforced PA, Reinforced PPS	
Material screws	Steel	
Material seals	Fluoro rubber, 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	–

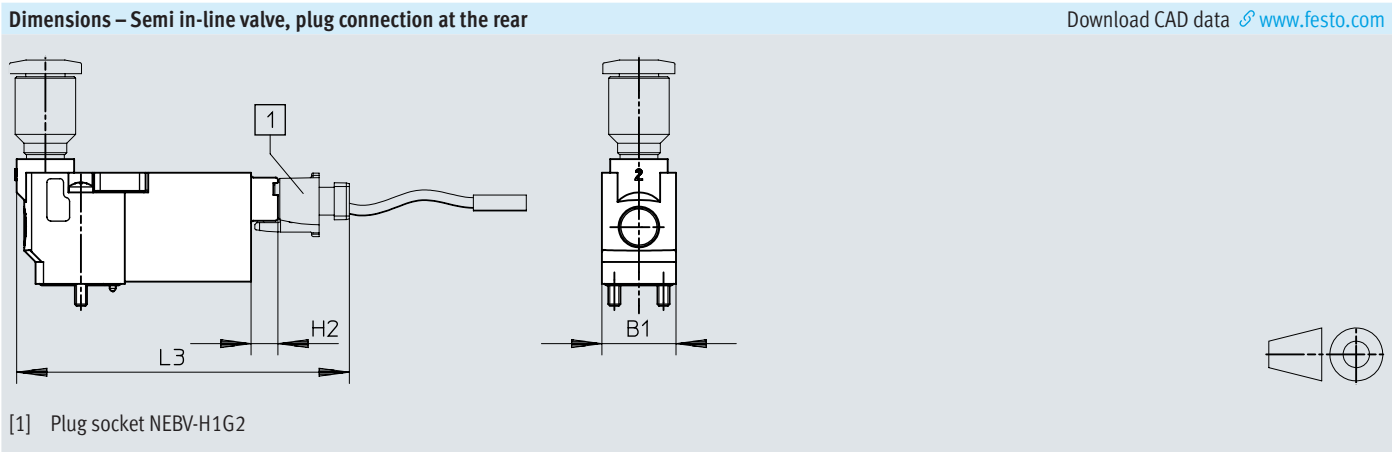
Dimensions

Dimensions – Semi in-line valve, plug connection on 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



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

Dimensions

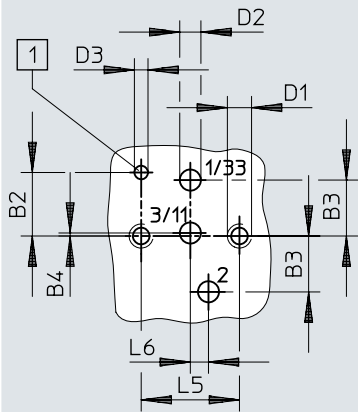
Dimensions – Semi in-line valve, plug connection underneath [Download CAD data](#) www.festo.com



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

Dimensions

Dimensions – Semi in-line valve, port pattern on sub-bases Download CAD data www.festo.com



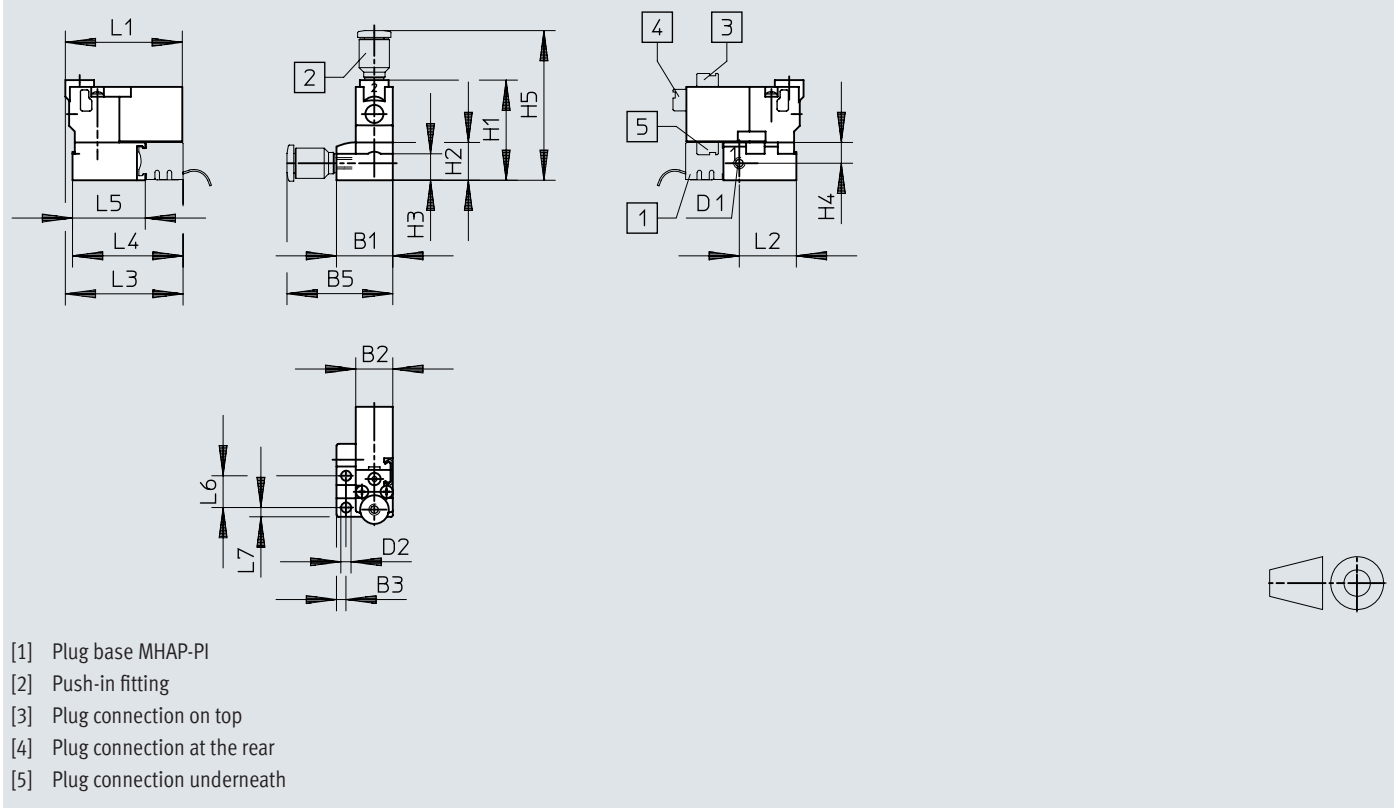
[1] Hole for coding pin

	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

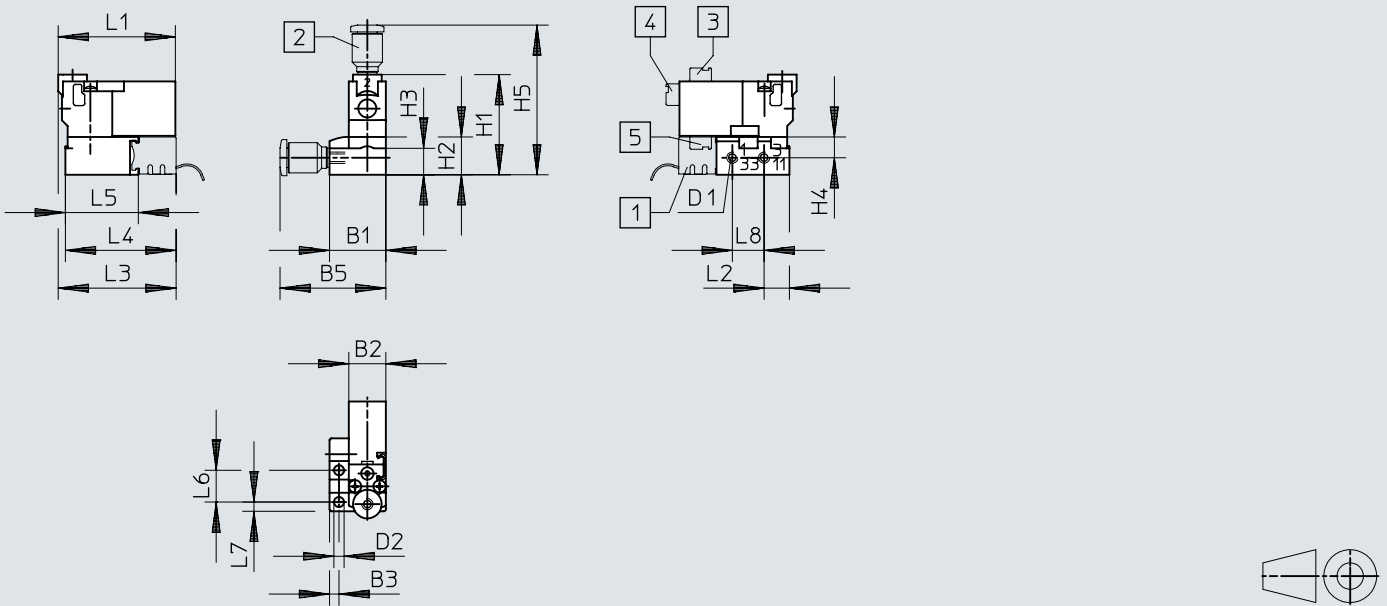


	B1	B2	B3	B5	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6	L7	L7
MHP1-...-2/2	14,9	9,8	2,5	28	M3	2,7	26,5	10	7	5,5	39,6	31	15,1	31,2	29,3	19,3	8,4	2,5	2,5

Dimensions

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

Download CAD data www.festo.com

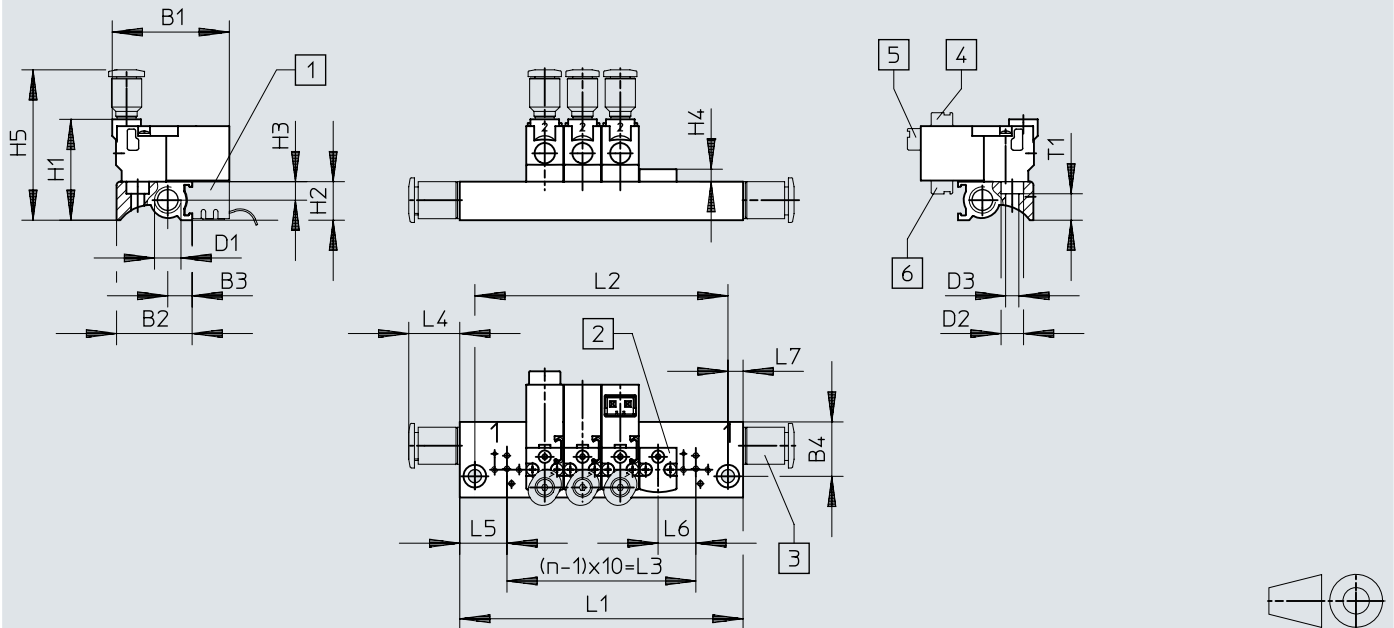


- [1] Plug base MHAP-PI
- [2] Push-in fitting
- [3] Plug connection on top
- [4] Plug connection at the rear
- [5] Plug connection underneath

	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

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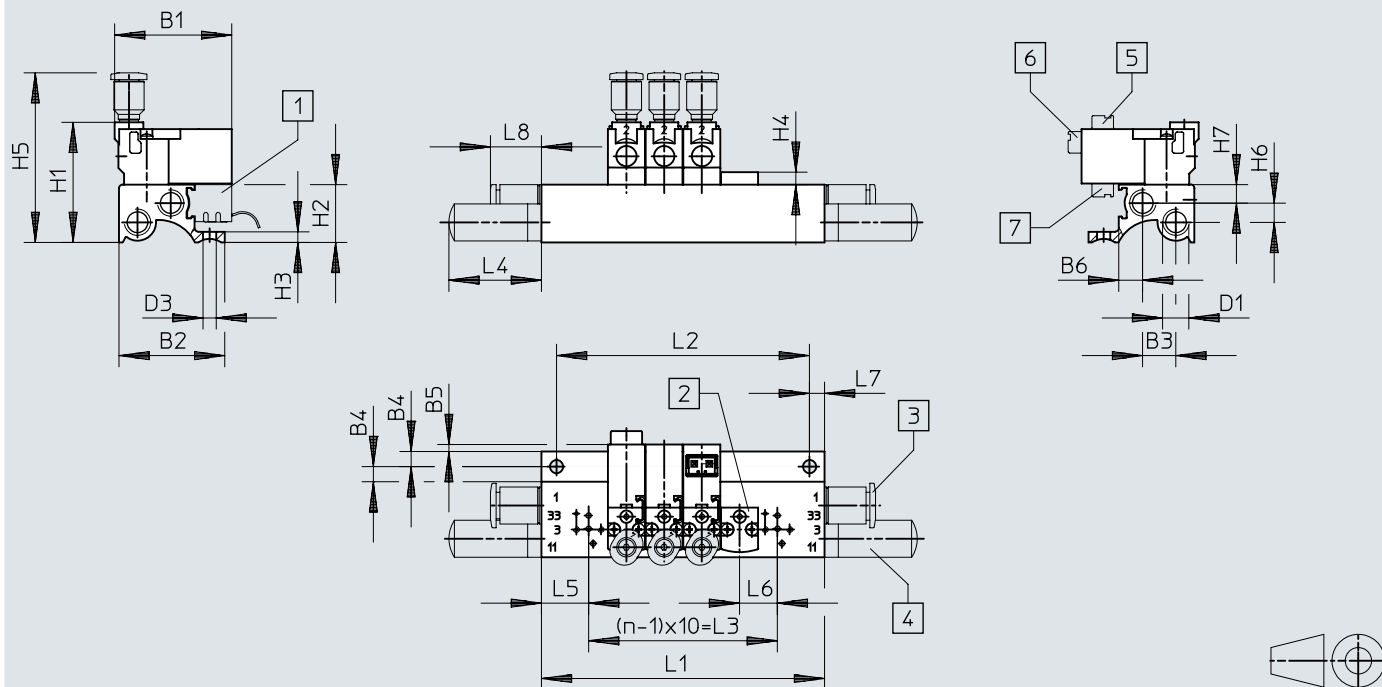
- [1] Plug base MHAP-PI
- [2] Cover plate MHAP1
- [3] Fitting
- [4] Plug connection on top
- [5] Plug connection at the rear
- [6] Plug connection underneath

	B1	B2	B3	B4	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

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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	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

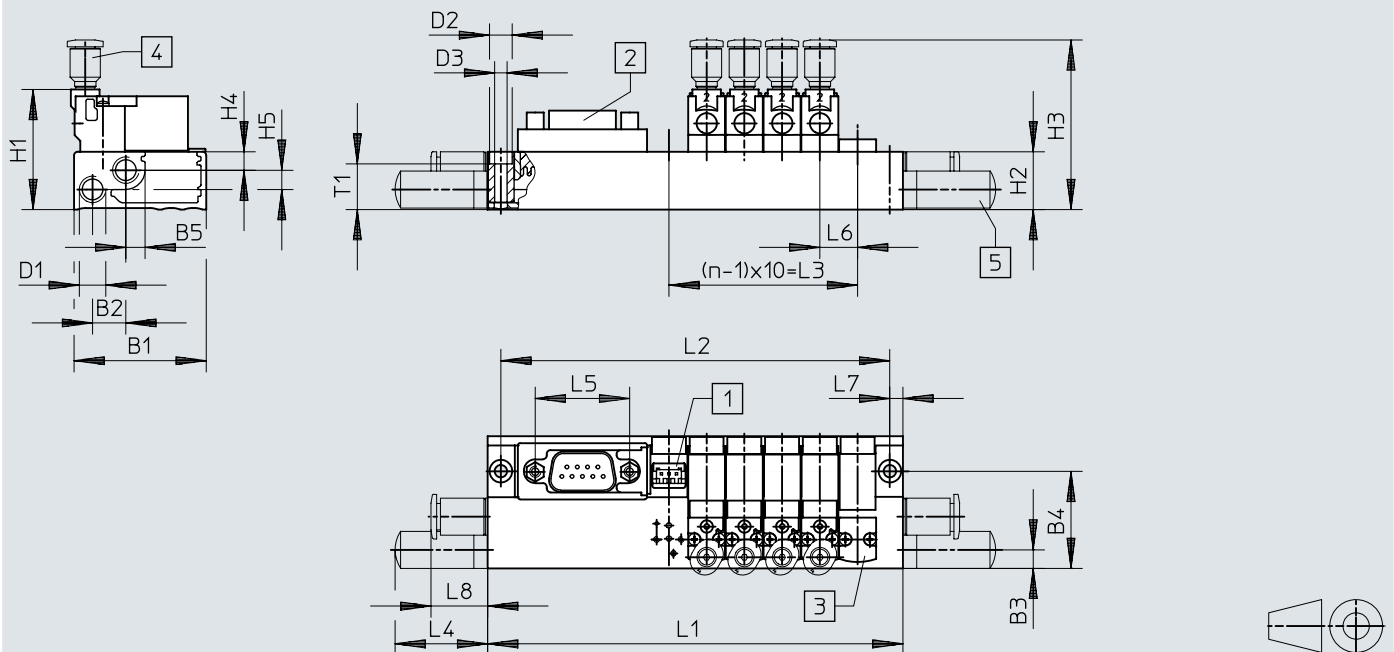
n	L1 ±0,15	L2 ±0,1	L3
9x MHP1-...-3/2	105	97	80
10x MHP1-...-3/2	115	107	90
11x MHP1-...-3/2	125	117	100
12x MHP1-...-3/2	135	127	110
13x MHP1-...-3/2	145	137	120
14x MHP1-...-3/2	155	147	130
15x MHP1-...-3/2	165	157	140

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 plug, 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

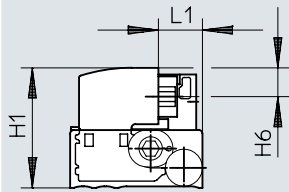
n	L1 ±0,15	L2 ±0,1	L3
10x MHP1-...-3/2	172	165	90
12x MHP1-...-3/2	192	185	110
14x MHP1-...-3/2	212	205	130
16x MHP1-...-3/2	232	225	150

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 plug, plug outlet to the pneumatic side

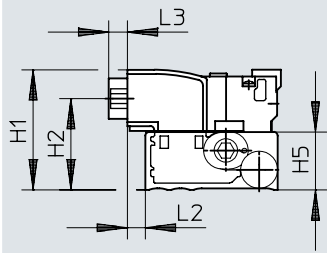
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	H1	H6	L1
MH1-...-SP	31,8	7,6	11,7

Dimensions

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

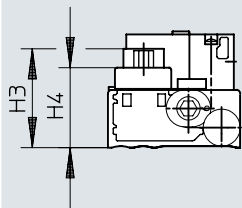


	H1	H2	H5	L2	L3
MH1-...-SE	31,8	24,2	15,3	4,8	5

Dimensions

Dimensions – Electrical multi-pin plug, plug outlet upwards

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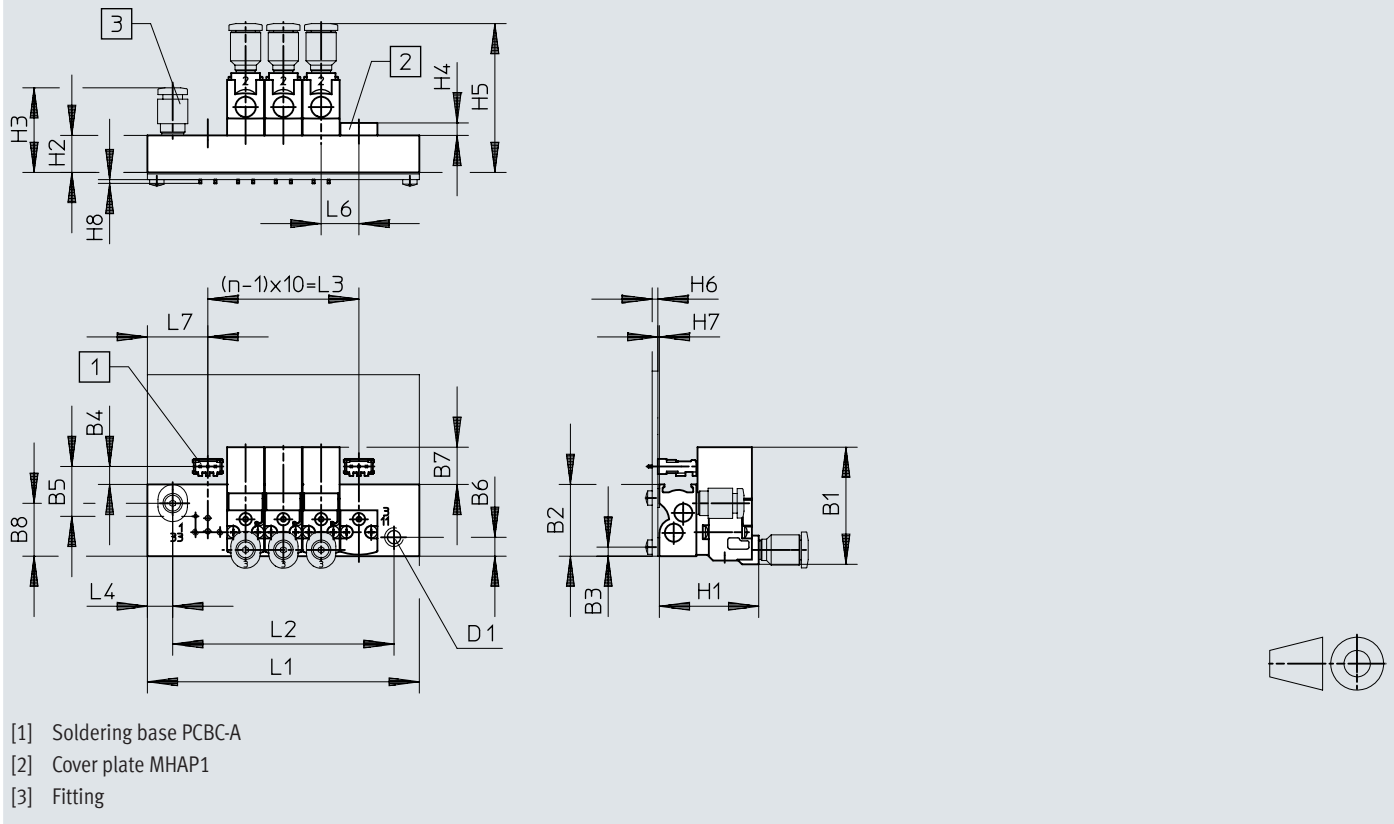


	H3	H4
MH1-...-ST	26,2	21,2

Dimensions

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

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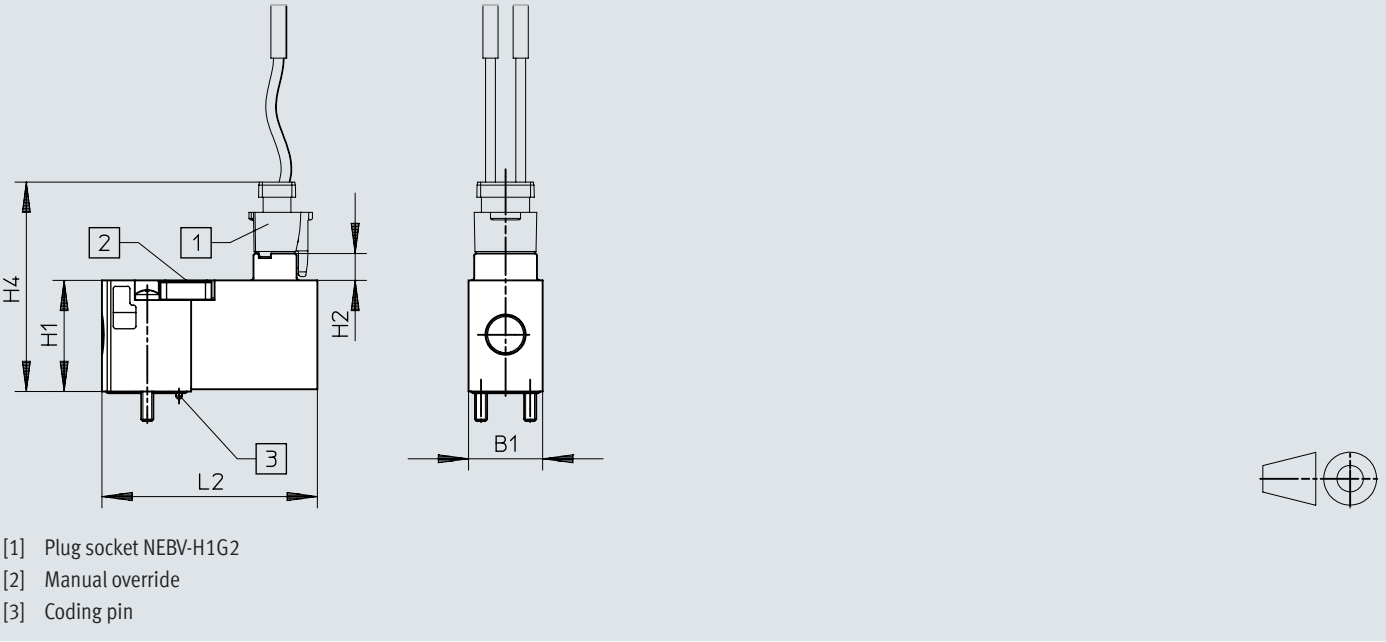
	B1	B2	B3	B4	B5	B6	B7	B8	D1	H1	H2	H3	H4	H5	H6	H7	H8	L4	L6	L7
MHP1	31	19	2,4	4,8	13,2	5	9,9	14	M5	26,3	9,8	22,4	3,3	39,4	1,5	0,4	1	6,7	10	16

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 on top

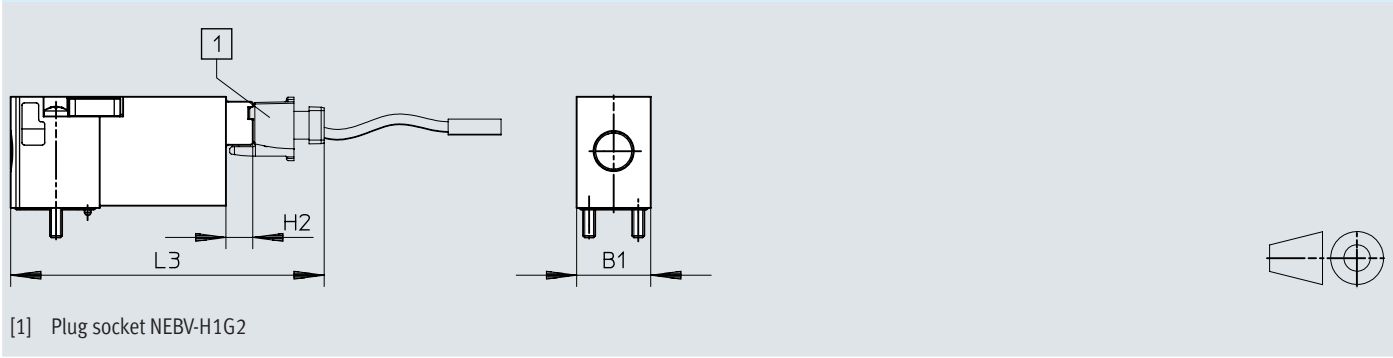
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	B1	H1	H2	H4	L2
MHA1-...-TC	9,8	14,7	3,6	27,7	28,5

Dimensions

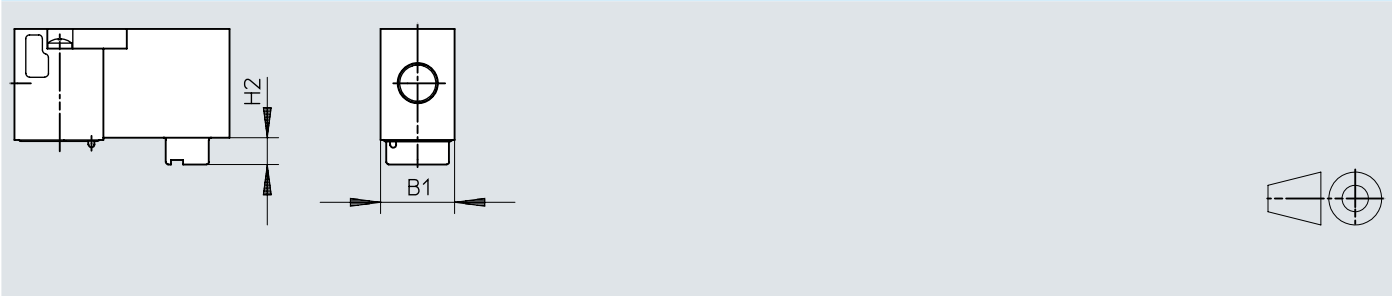
Dimensions – Sub-base valve without LED, plug connection at the rear Download CAD data www.festo.com



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

Dimensions

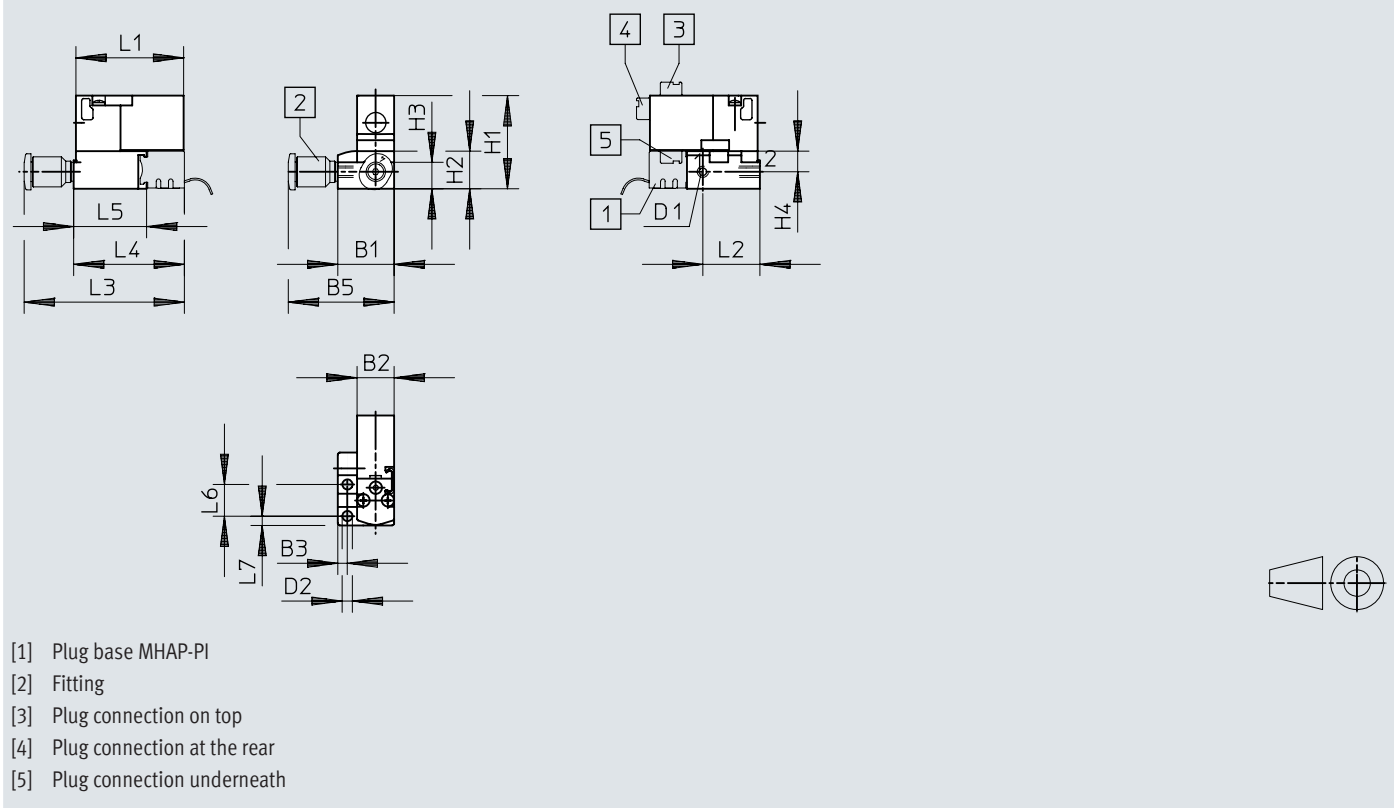
Dimensions – Sub-base valve without LED, plug connection underneath [Download CAD data](#) www.festo.com



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

Dimensions

Dimensions – Sub-base valve without LED, for mounting on an individual sub-base, 2/2-way valve Download CAD data www.festo.com

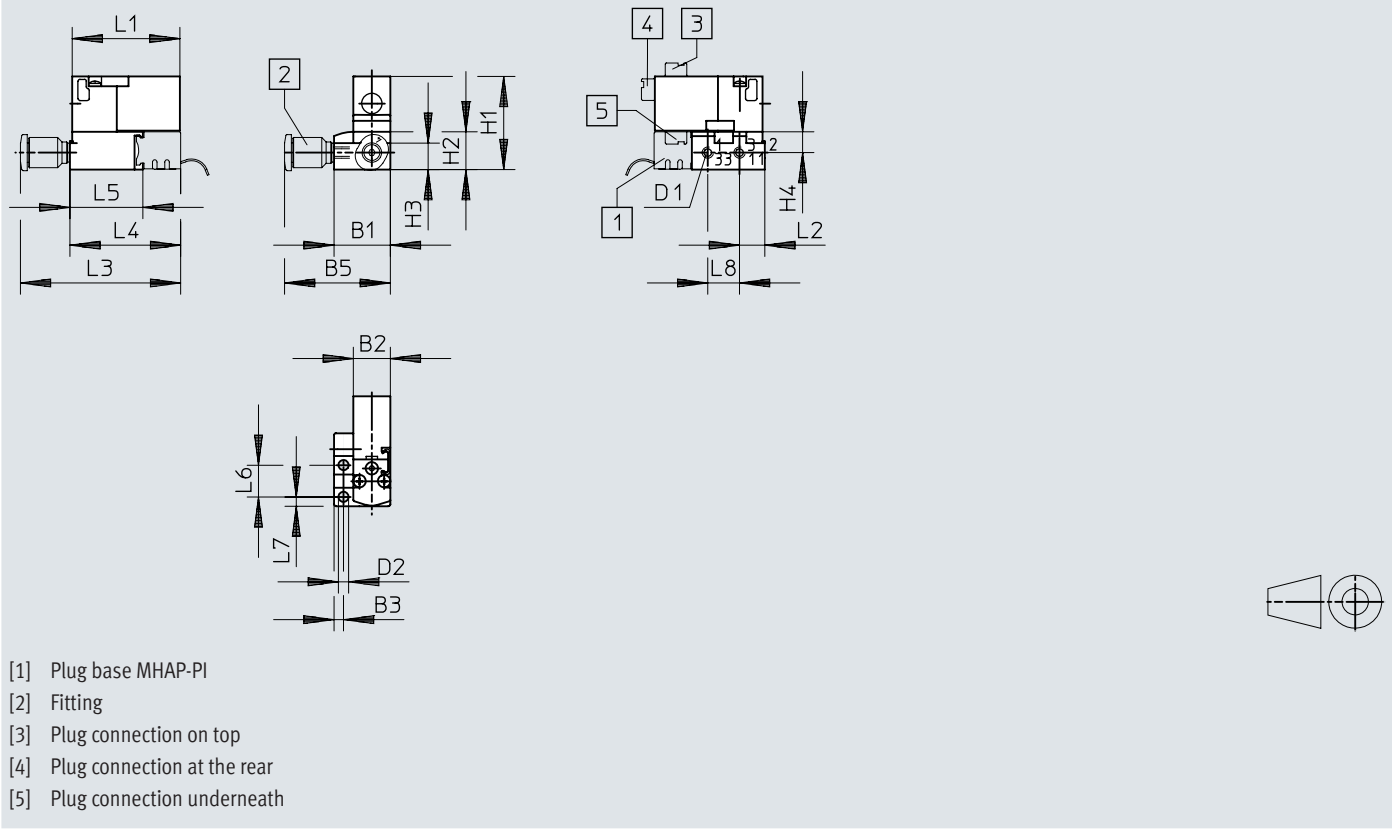


	B1	B2	B3	B4	B5	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	L7
MHA1-...-2/2	14,9	9,8	2,5	14,9	28	M3	2,7	24,7	10	7	5,5	28,5	15,1	42,4	29,3	19,3	8,4	2,5

Dimensions

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

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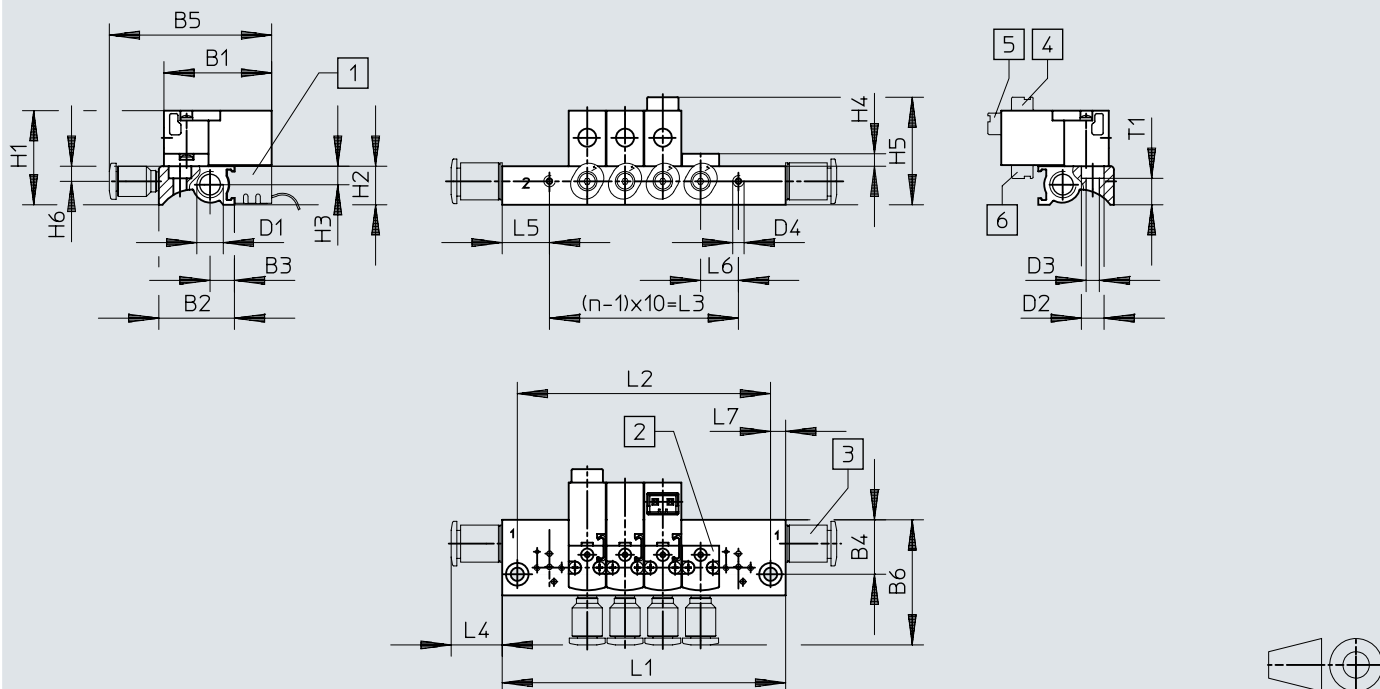


	B1	B2	B3	B4	B5	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	L7	L8
MHA1-...-3/2	14,9	9,8	2,5	14,9	28	M3	2,7	24,7	10	7	5,5	28,5	6,7	42,4	29,3	19,3	8,4	2,5	8,4

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

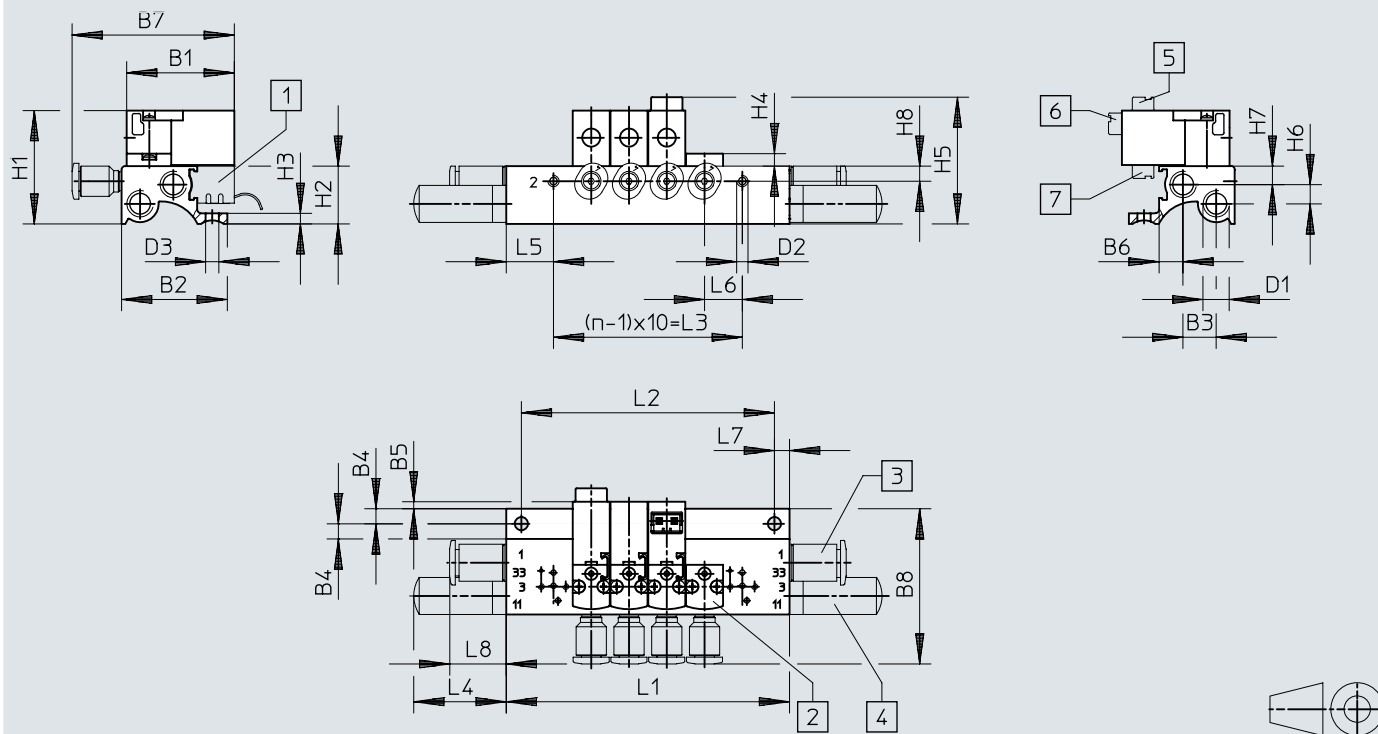
n	L1 ±0,15	L2 ±0,1	L3
9x MHA1-...-2/2	105	97	80
10x MHA1-...-2/2	115	107	90
11x MHA1-...-2/2	125	117	100
12x MHA1-...-2/2	135	127	110
13x MHA1-...-2/2	145	137	120
14x MHA1-...-2/2	155	147	130
15x MHA1-...-2/2	165	157	140

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

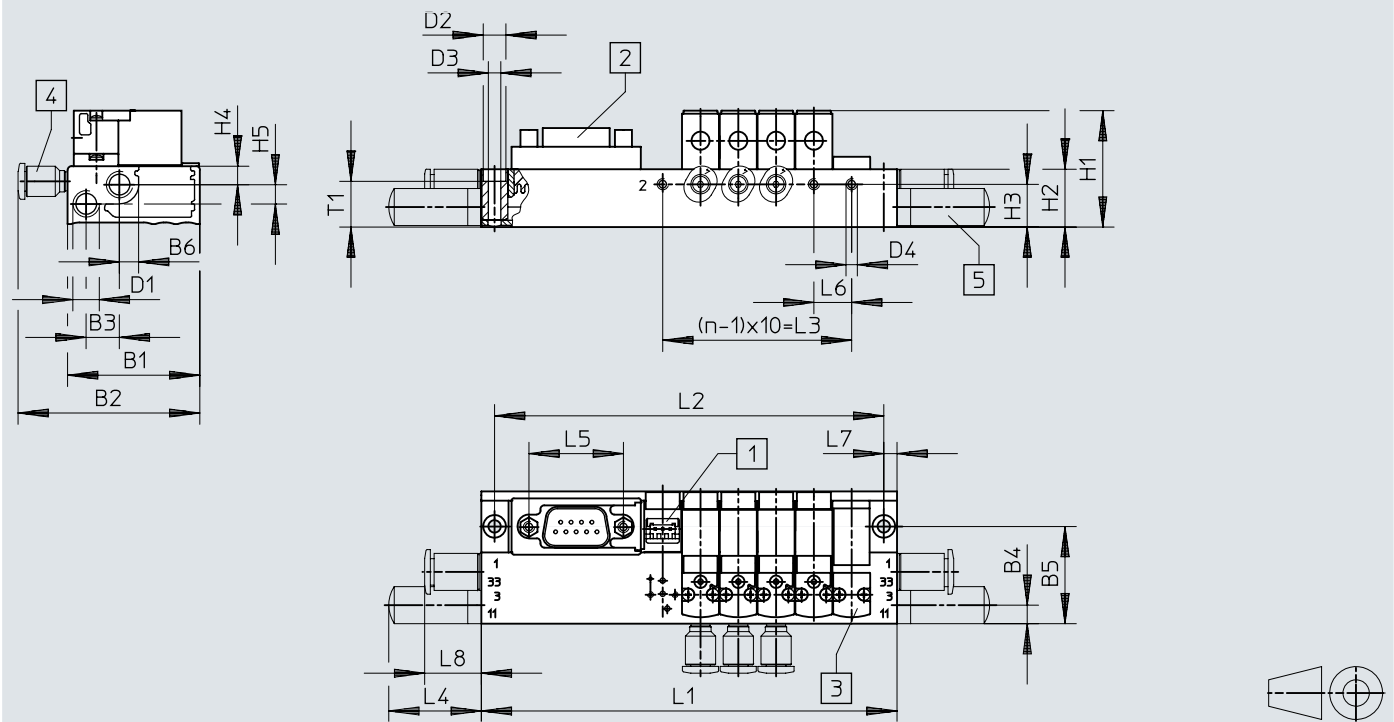
n	L1 ±0,15	L2 ±0,1	L3
9x MHA1-...-3/2	105	97	80
10x MHA1-...-3/2	115	107	90
11x MHA1-...-3/2	125	117	100
12x MHA1-...-3/2	135	127	110
13x MHA1-...-3/2	145	137	120
14x MHA1-...-3/2	155	147	130
15x MHA1-...-3/2	165	157	140

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 plug, 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

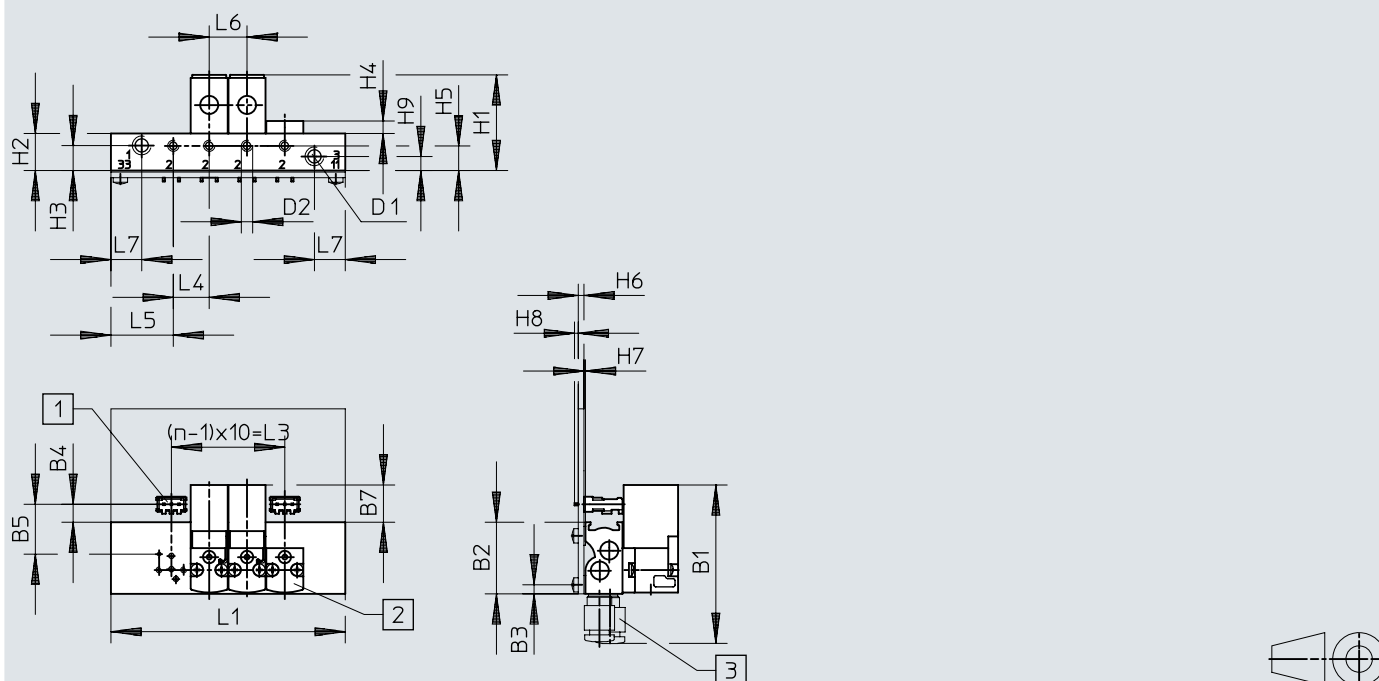
n	L1 ±0,15	L2 ±0,1	L3
10x MHA1-...-3/2	172	165	90
12x MHA1-...-3/2	192	185	110
14x MHA1-...-3/2	212	205	130
16x MHA1-...-3/2	232	225	150

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 multiple connector plate

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[1] Soldering base PCBC-A

[2] Cover plate MHAP1

[3] Fitting

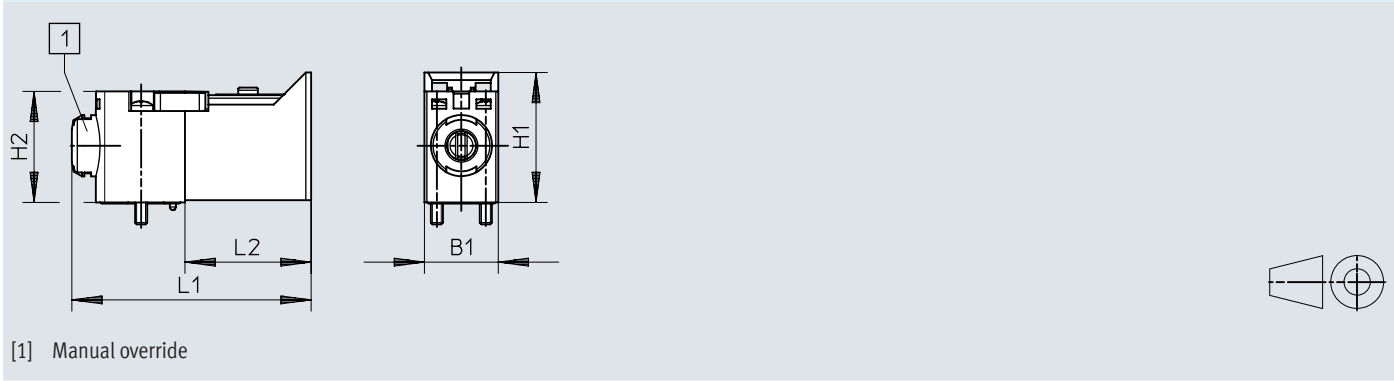
	B1	B2	B3	B4	B5	B7	D1	D2
MH1-...-PCD	42	19	2,4	4,8	13,2	9,9	M5	M3

	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 E-box Download CAD data www.festo.com

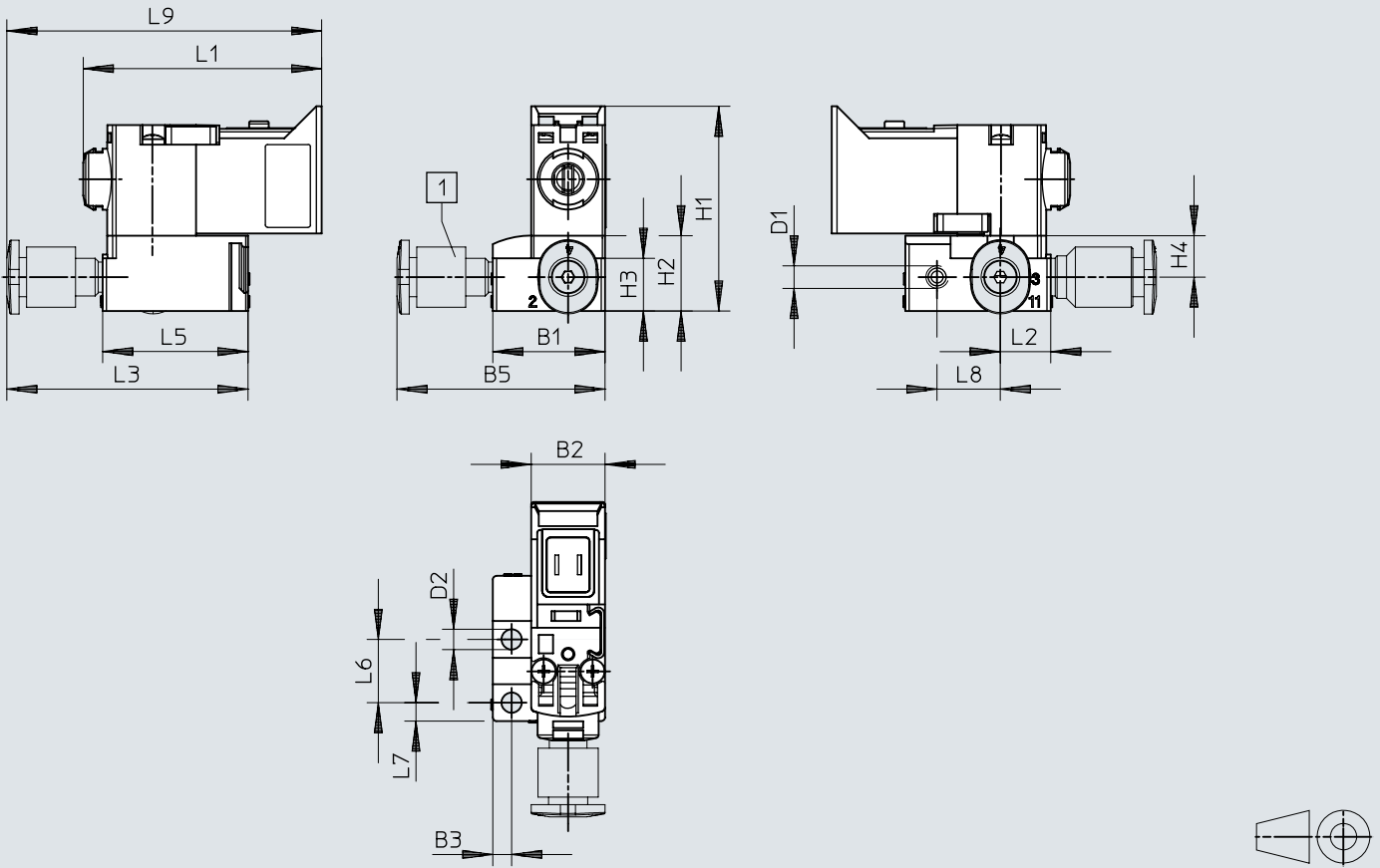


	B1	B2	B3	B4	D1	D2	D3	H1	H2	L1	L2	L5	L6
MHA1	9,8	4,2	3,7	0,2	M1,6	1,4	0,9	17,2	14,7	31,7	16,7	6,5	1,2

Dimensions

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

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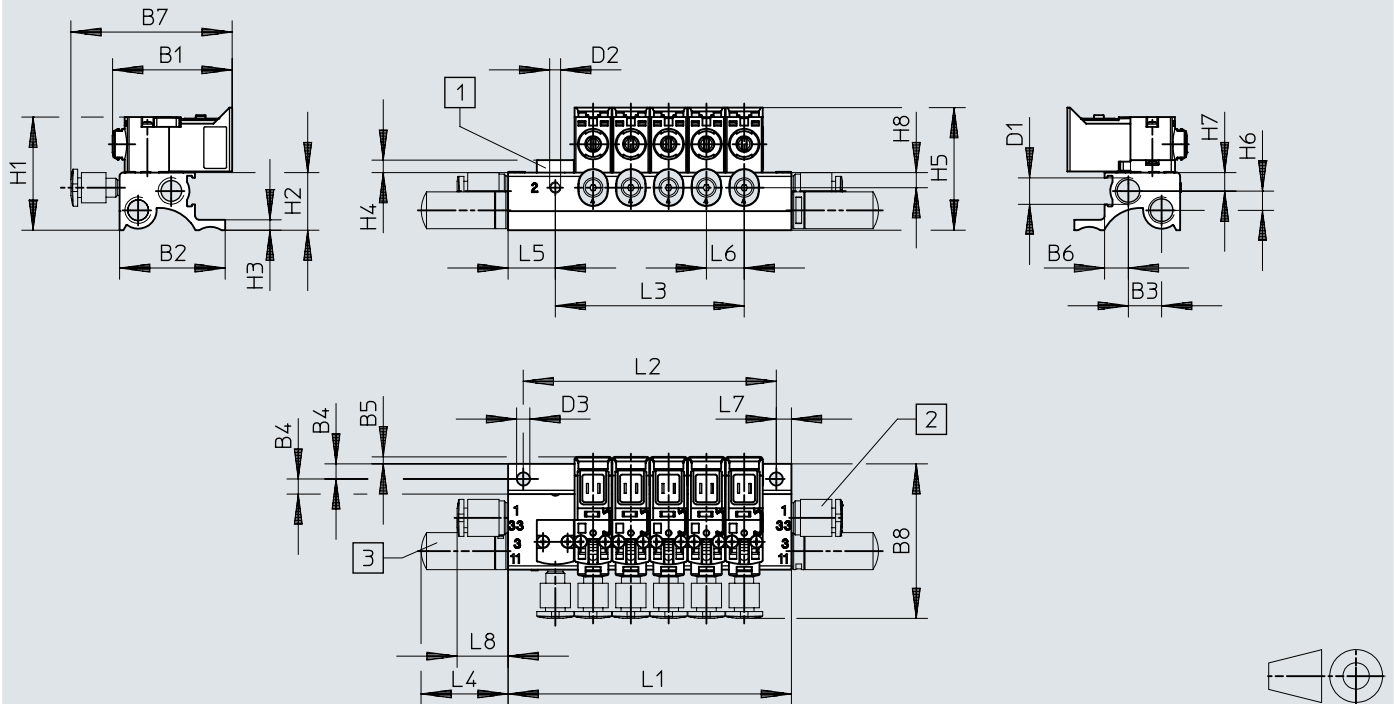


[1] Fitting

	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 E-box, 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

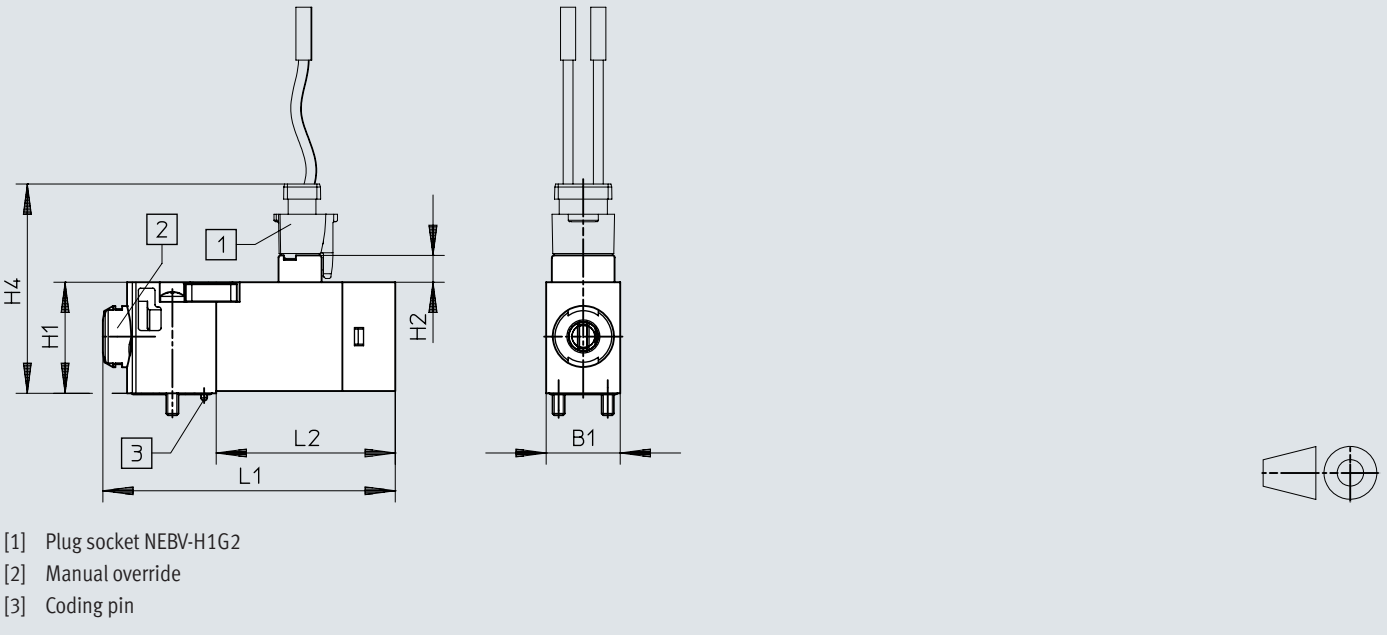
n	L1 ±0,15	L2 ±0,1	L3
9x MH1-A-...-HC-PR	105	97	80
10x MH1-A-...-HC-PR	115	107	90
11x MH1-A-...-HC-PR	125	117	100
12x MH1-A-...-HC-PR	135	127	110
13x MH1-A-...-HC-PR	145	137	120
14x MH1-A-...-HC-PR	155	147	130
15x MH1-A-...-HC-PR	165	157	140

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 on top

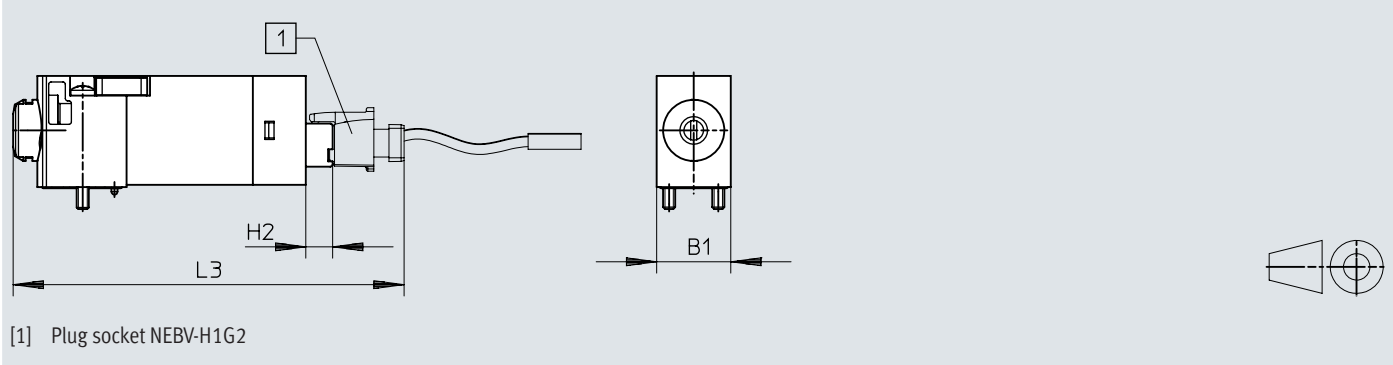
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	B1	H1	H2	H4	L1	L2
MHA-M1LH-...-TC	9,8	14,7	3,6	27,7	38,7	23,7

Dimensions

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

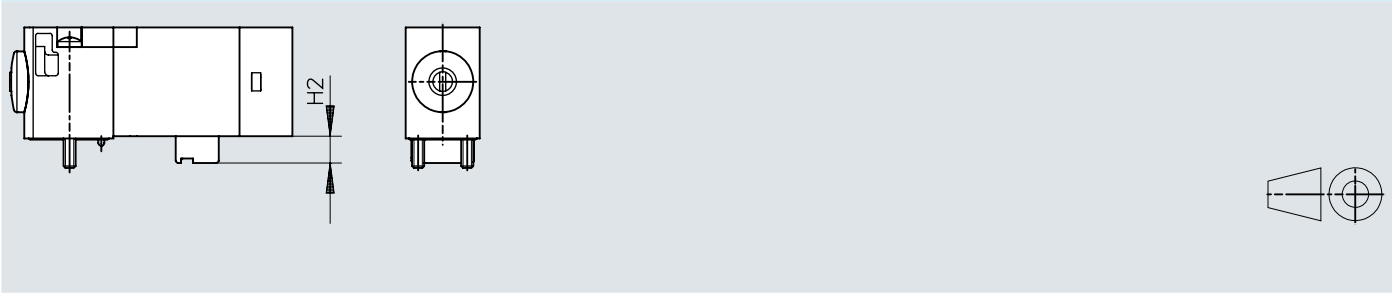


	B1	H2	L3
MHA1-M1LH-3/2O-0,6-HC	9,8	3,6	51,7
MHA1-M1LH-3/2G-0,6-HC			

Dimensions

Dimensions – Sub-base valve with LED, plug connection underneath

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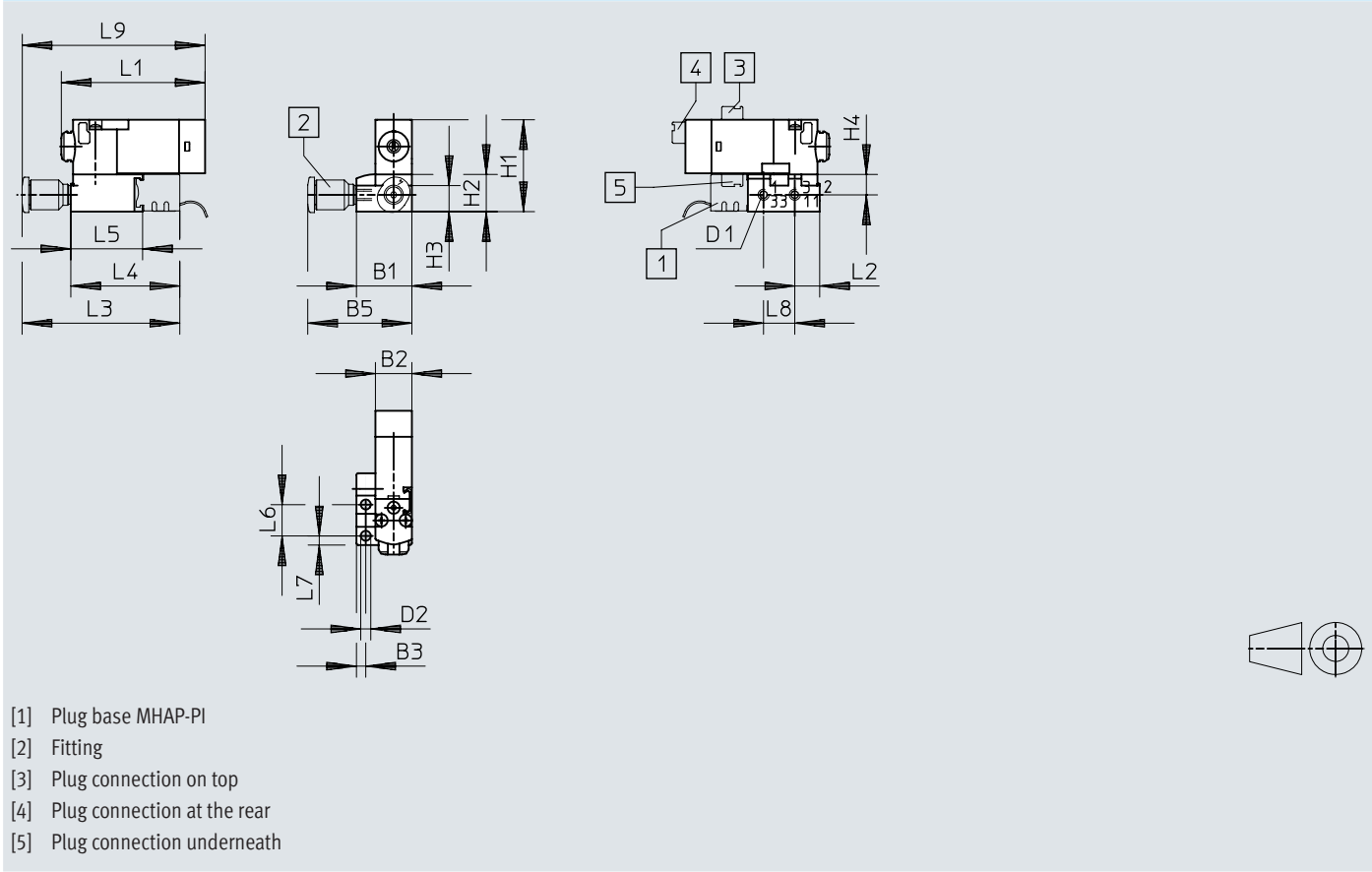


	H2
MHA1-M1LH-...-TC	3,55

Dimensions

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

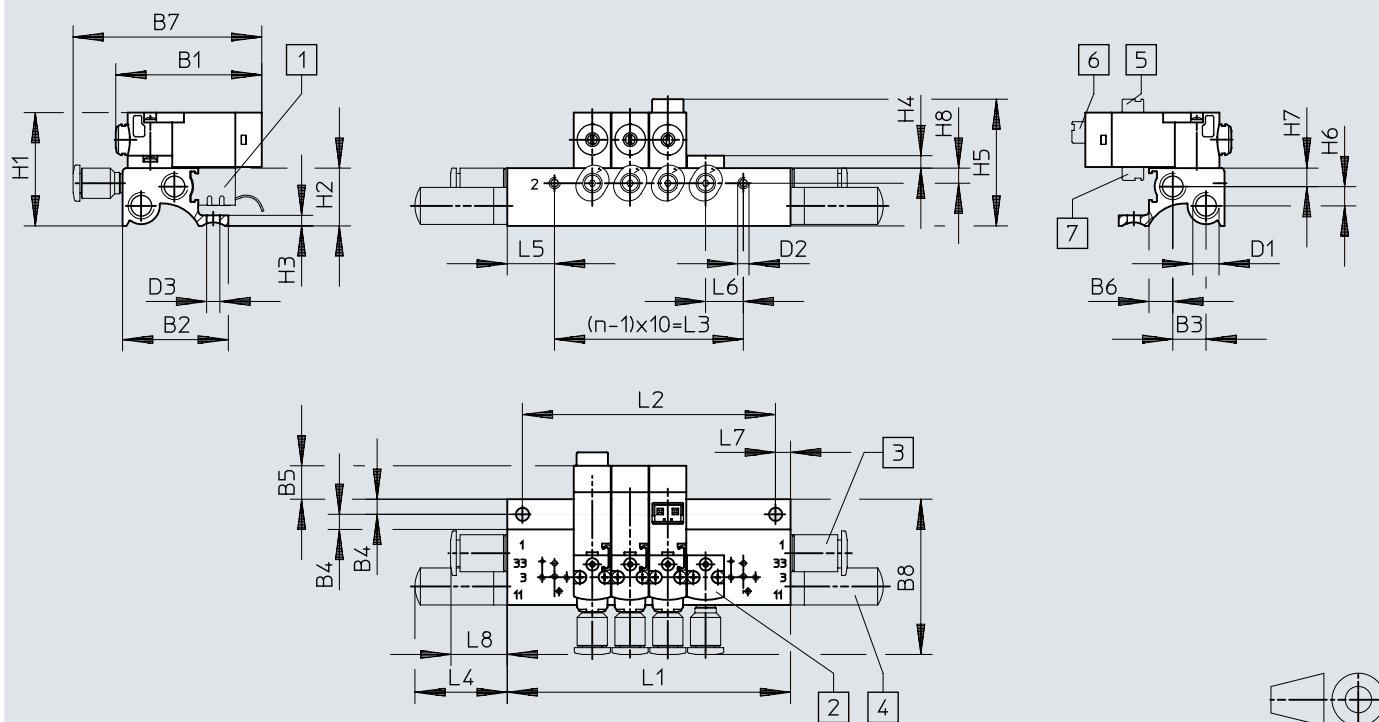
Download CAD data www.festo.com



	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 – Manifold assembly, sub-base valve with LED

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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
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

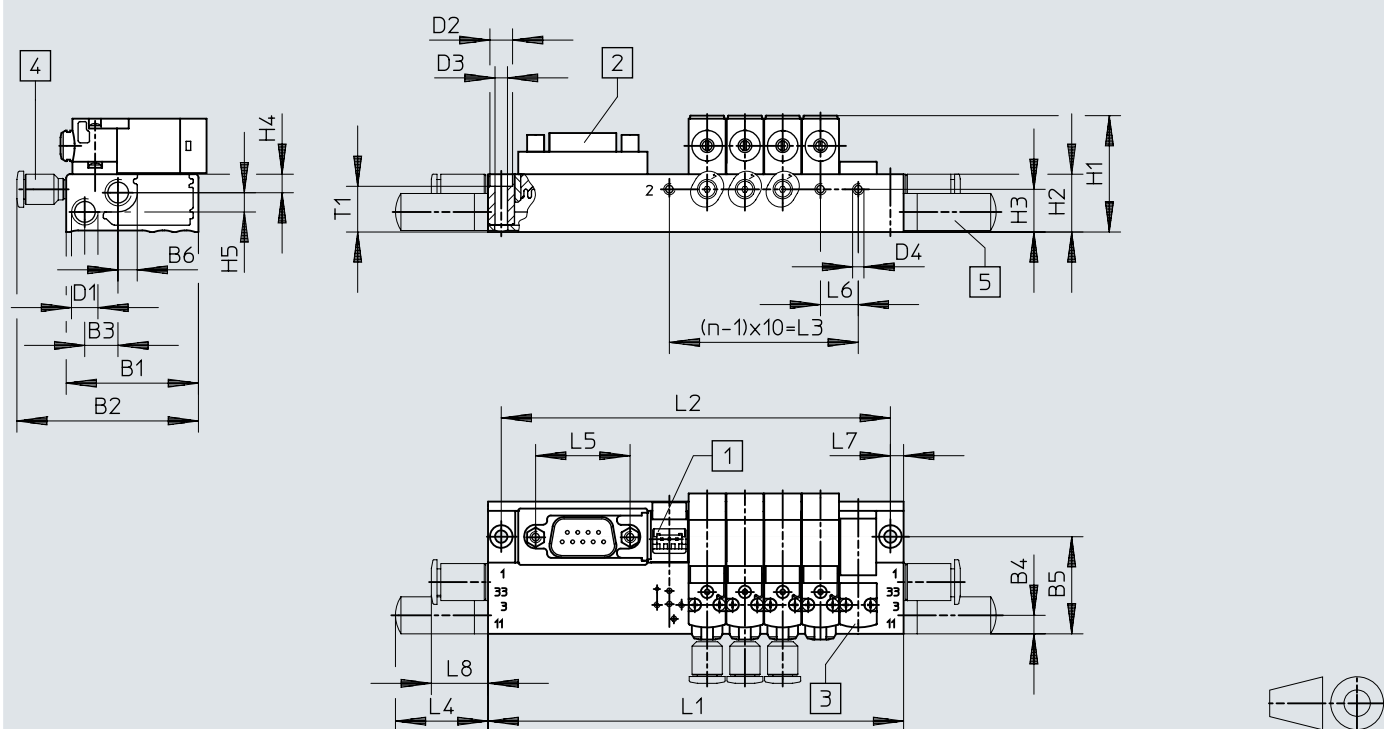
n	L1 ±0,15	L2 ±0,1	L3
9x MH1-A-...-HC-PR-LED	105	97	80
10x MH1-A-...-HC-PR-LED	115	107	90
11x MH1-A-...-HC-PR-LED	125	117	100
12x MH1-A-...-HC-PR-LED	135	127	110
13x MH1-A-...-HC-PR-LED	145	137	120
14x MH1-A-...-HC-PR-LED	155	147	130
15x MH1-A-...-HC-PR-LED	165	157	140

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 electrical multi-pin plug

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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

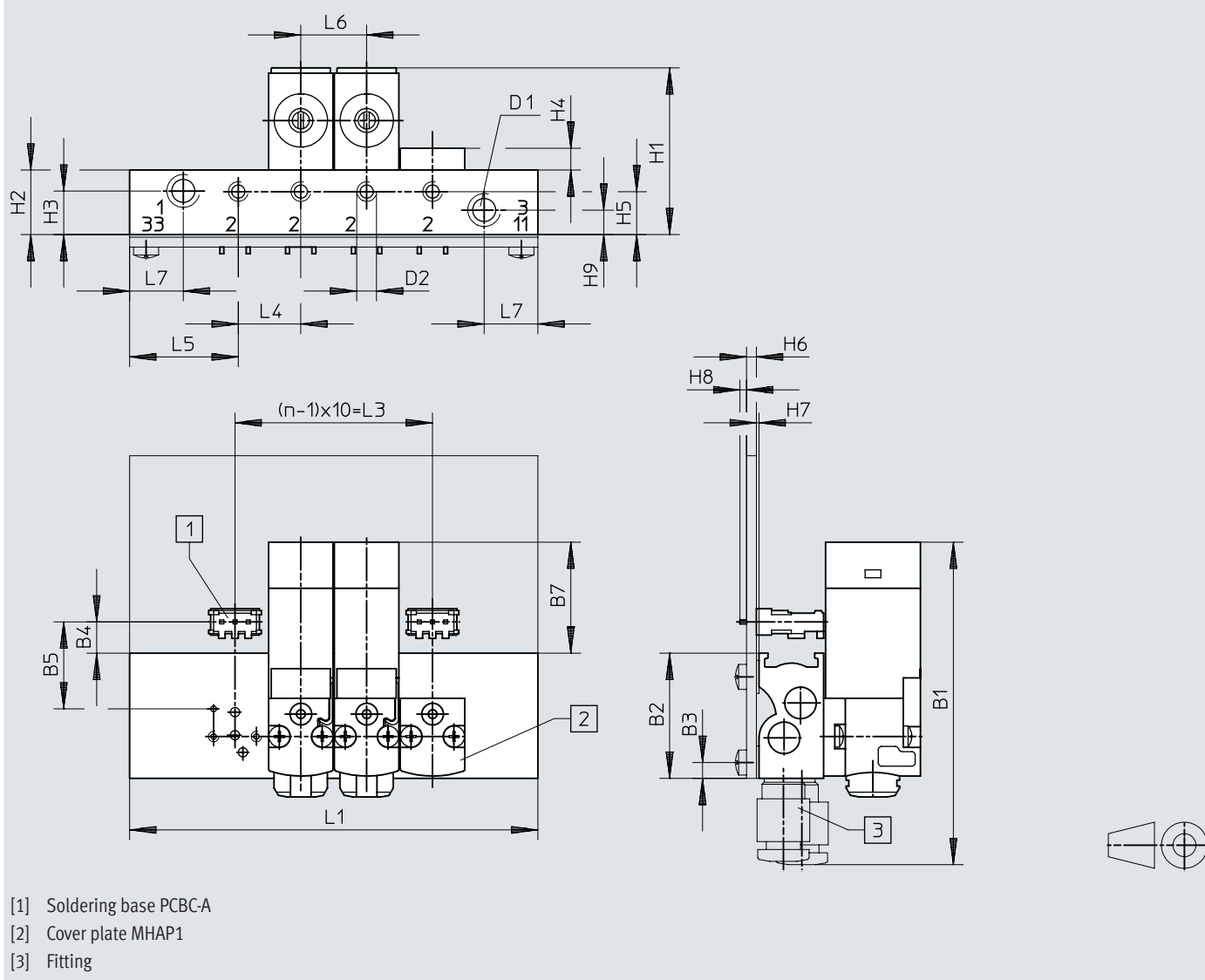
n	L1 ±0,15	L2 ±0,1	L3
10x MHA1	172	165	90
12x MHA1	192	185	110
14x MHA1	212	205	130
16x MHA1	232	225	150

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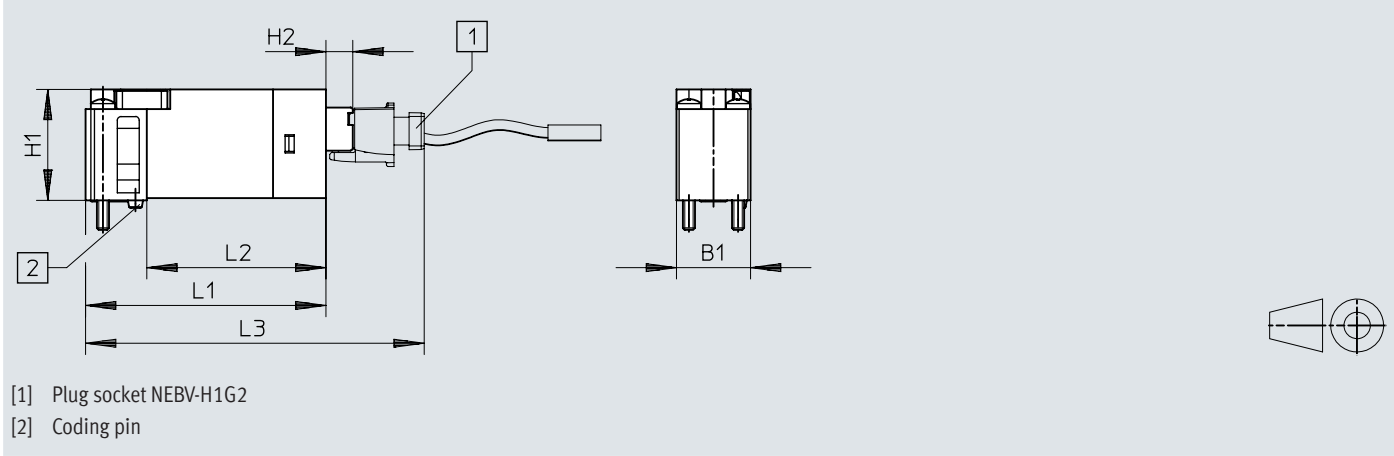
	B1	B2	B3	B4	B5	B7	D1	D2
MH1-...-PCD	49	19	2,4	4,8	13,2	16,9	M5	M3

	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

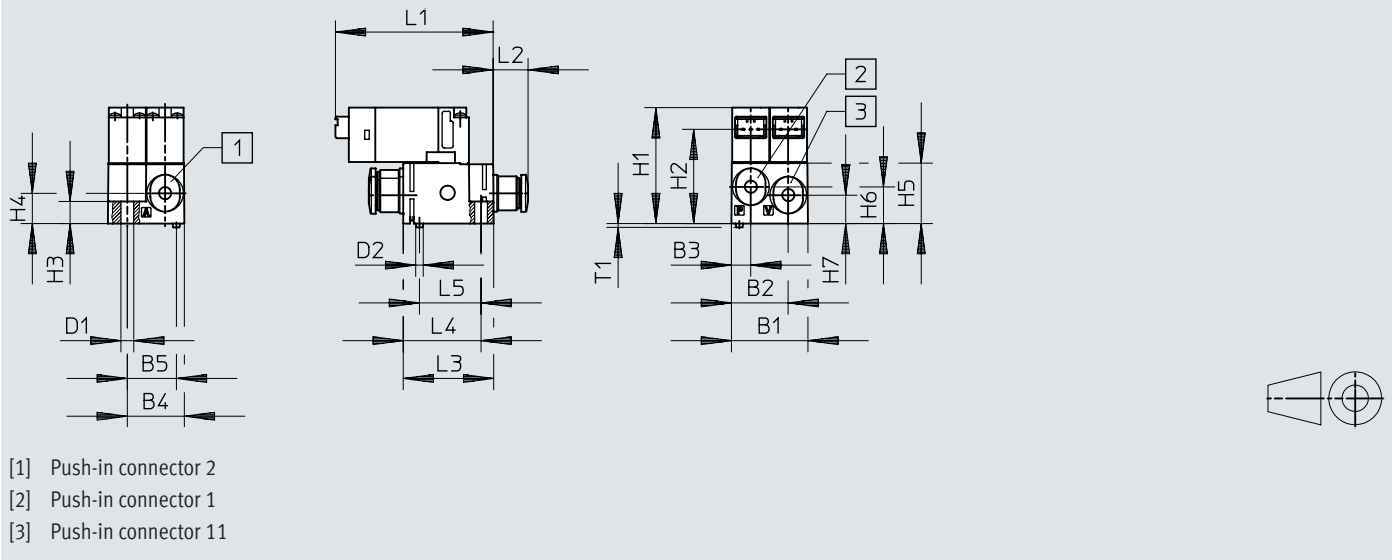


	B1	H1	H2	L1	L2	L3
MHA1-...-2/2G-1,5-HC	9,8	14,7	3,6	31,8	23,7	44,8

Dimensions

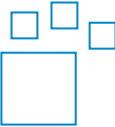
Dimensions – 2x2/2-way valve on a sub-base, plug connection at the rear

Download CAD data www.festo.com



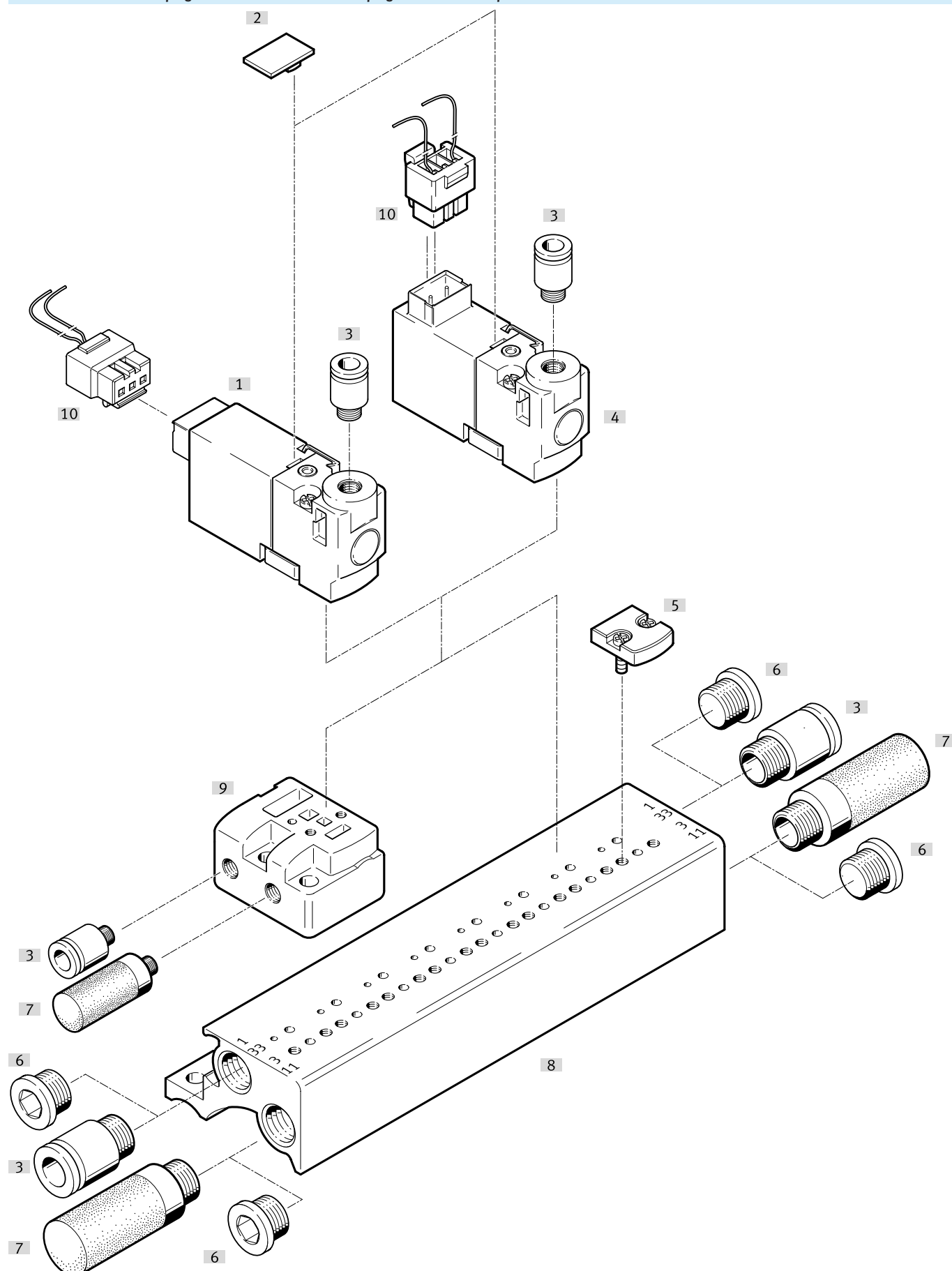
	B1	B2	B3	B4	B5	D1	D2	H1	H2	H3	H4	H5	H6	H7	L1	L2	L3	L4	L5	T1
MHA1-2x2/2G	20	14,9	5	15	13	3,4	2	30,7	26	5,9	8	16	9,7	7,5	41,8	9,2	23,8	20,6	16,3	1

Ordering data

Valve terminal		Link  mh1	
	Valve function	Part no.	Type
	2/2-way, single solenoid, closed, 3/2-way, single solenoid, closed, 3/2-way, single solenoid, open	197334	MH1

Peripherals

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

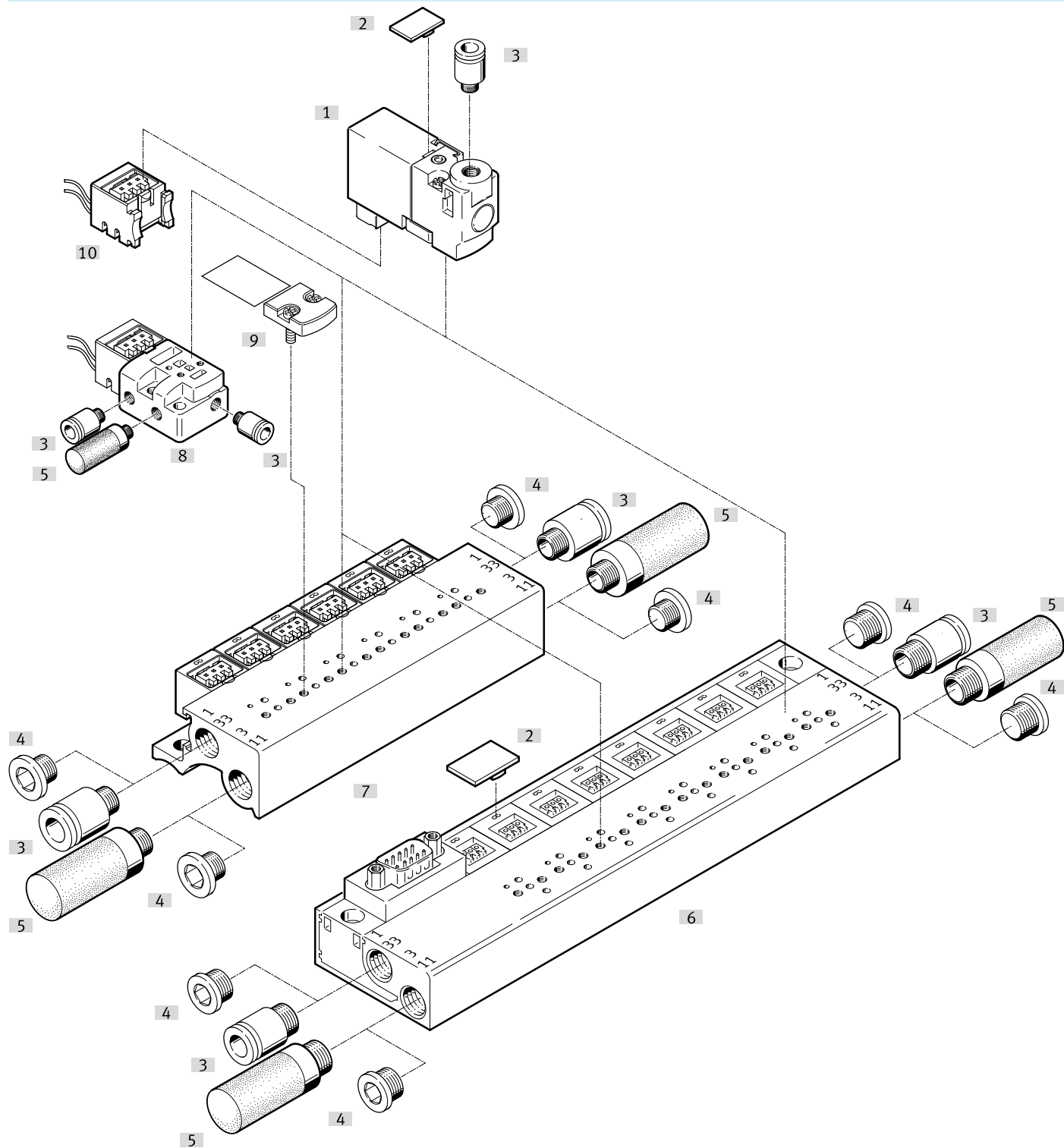


Peripherals

Accessories		→ Link
Type/order code	Description	
[1] Solenoid valve	Valve with plug connection at the rear	63
[2] Inscription label	For identifying the valve positions	70
[3] Push-in fitting	For connecting compressed air tubing with standard O.D.	70
[4] Solenoid valve	Valve with plug connection on top	63
[5] Cover plate	For manifold rail without plug bases	68
[6] Blanking plug	For sealing ports that are not required	69
[7] Silencer	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 on top	65
[10] Plug socket with cable	Straight socket, connection pattern H, 3-pin	72

Peripherals

Semi in-line valve with plug connection underneath



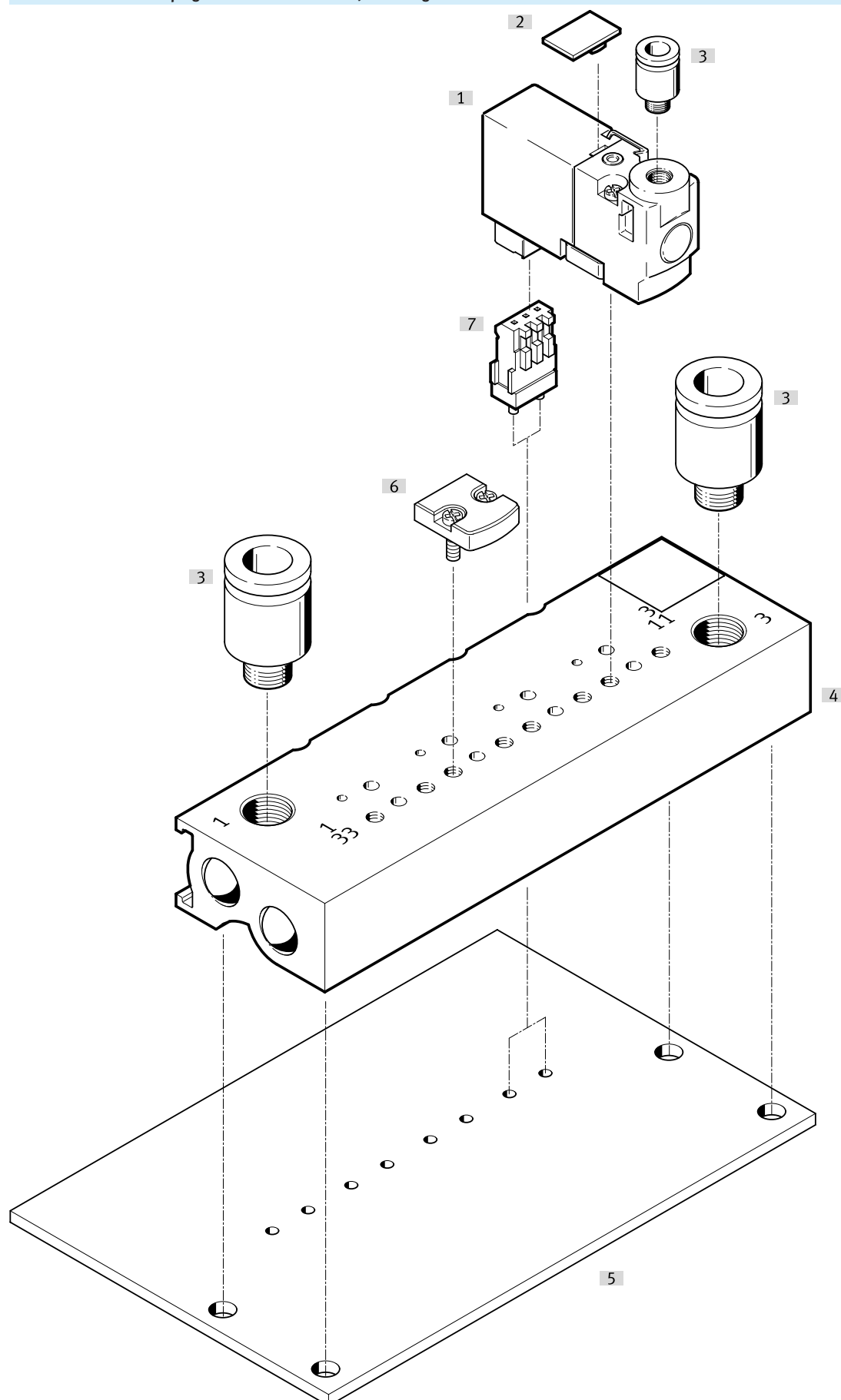
Accessories		→ Link
Type/order code	Description	
[1]	Solenoid valve	Valve with plug connection underneath
[2]	Inscription label	For identifying the valve positions
[3]	Push-in fitting	For connecting compressed air tubing with standard O.D.
[4]	Blanking plug	For sealing ports that are not required
[5]	Silencer	For exhaust ports
[6]	Manifold rail	With plug bases and electrical multi-pin plug, Sub-D
[7]	Manifold rail	With plug bases

Peripherals

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

Peripherals

Semi in-line valve with plug connection underneath, mounting on a circuit board

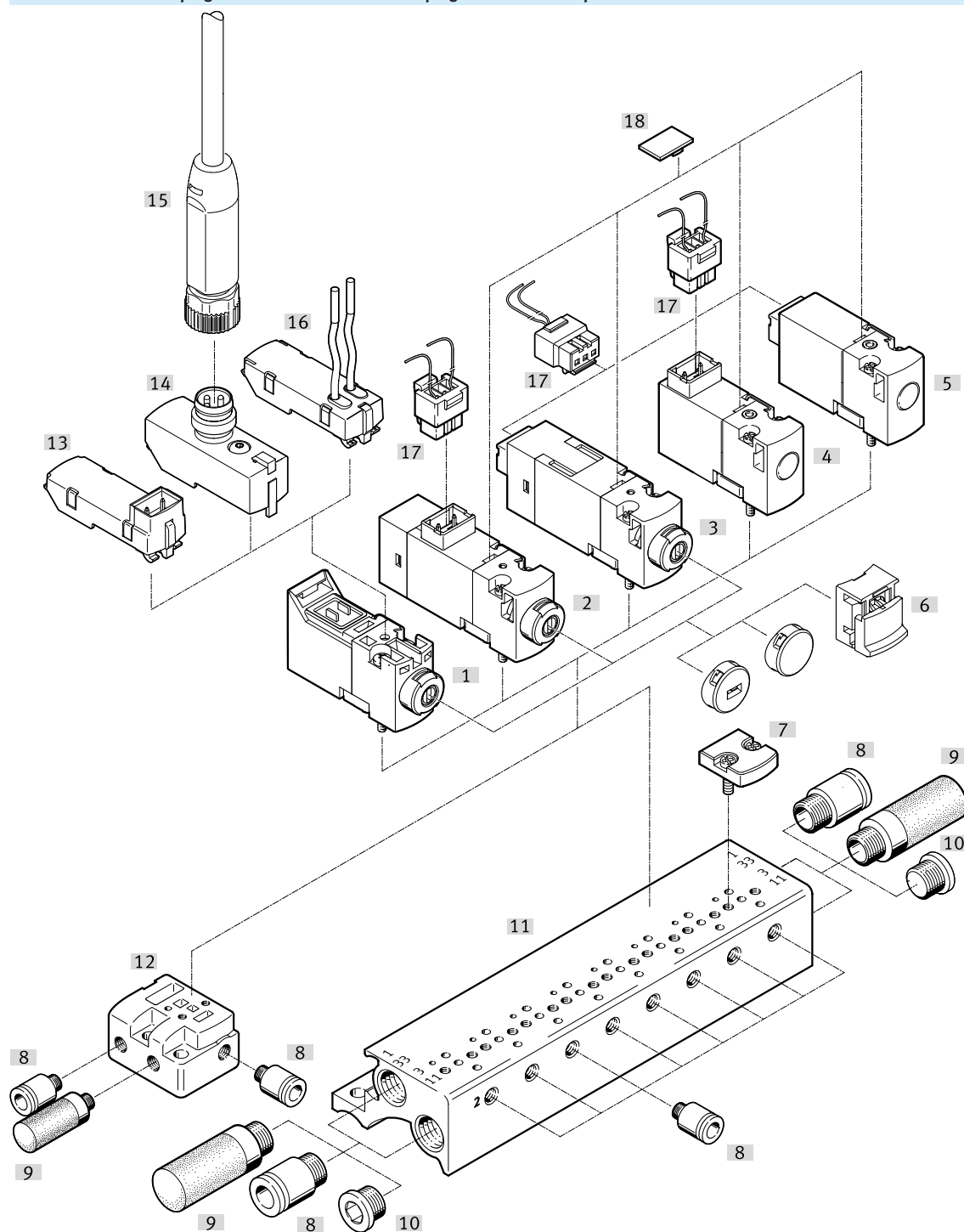


Peripherals

Accessories		→ Link
Type/order code	Description	
[1] Solenoid valve	Valve with plug connection at the rear	63
[2] Inscription label	For identifying the valve positions	70
[3] Push-in fitting	For connecting compressed air tubing with standard O.D.	70
[4] Manifold rail	Without plug bases	67
[5] Printed circuit board	Not included in the scope of delivery	
[6] Cover plate	For manifold rail without plug bases	68
[7] Soldering base	For PCB mounting, 3-pin	72

Peripherals

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



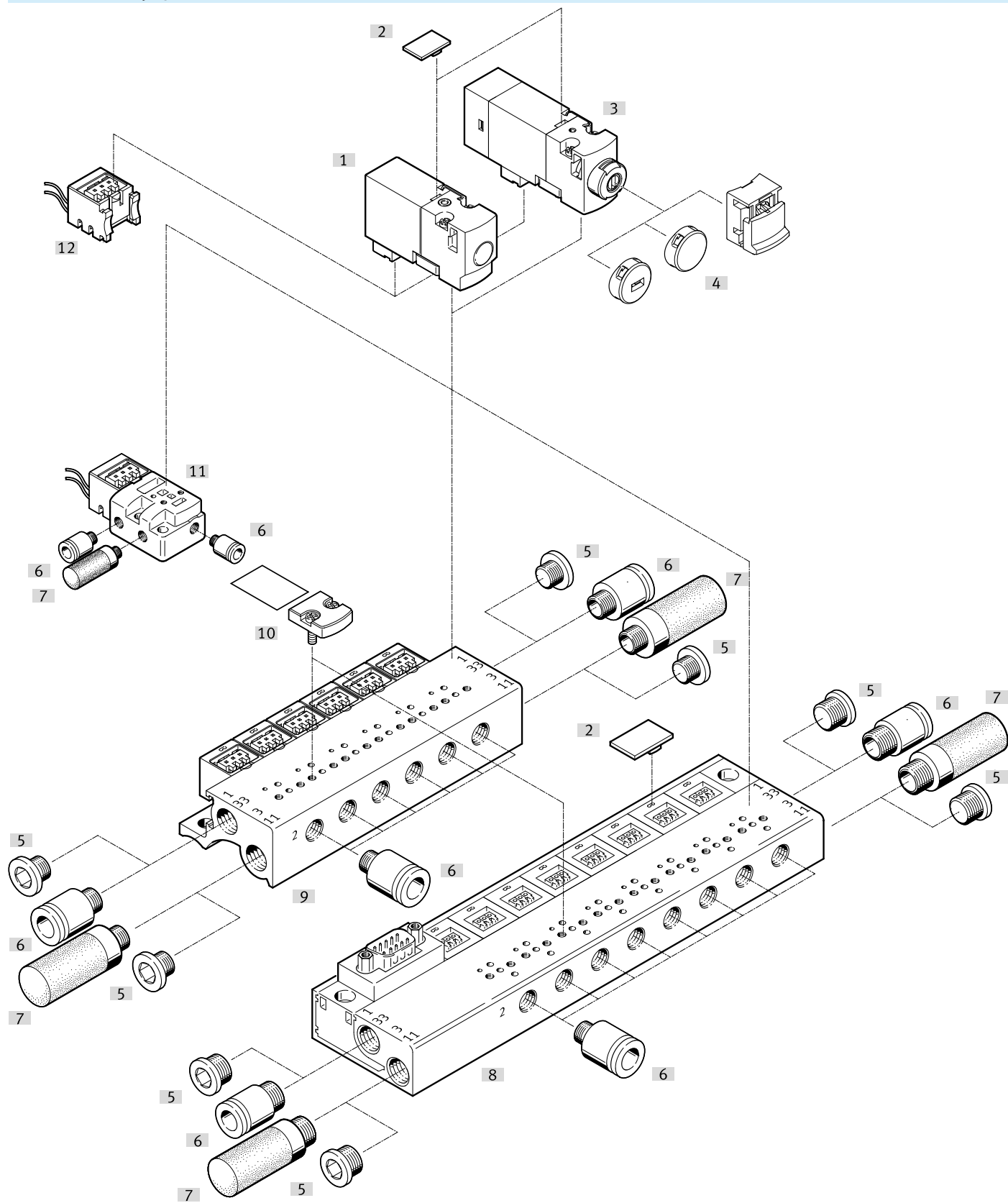
Accessories			→ Link
Type/order code	Description		
[1]	Solenoid valve	Valve without plug connection, with manual override	64
[2]	Solenoid valve	Valve with plug connection on top, with LED, with manual override	64
[3]	Solenoid valve	Valve with plug connection at the rear, with LED, with manual override	64
[4]	Solenoid valve	Valve with plug connection on 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 compressed air tubing with standard O.D.	70
[9]	Silencer	For exhaust ports	69

Peripherals

Accessories		→ Link
Type/order code	Description	
[10] Blanking plug	For sealing ports 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 on top	66
[13] E-box	Plug connection pattern H or plug connection pattern S	71
[14] E-box	Plug M8x1	71
[15] Connecting cable	Socket M8x1, 4-pin	73
[16] E-box	open end	71
[17] Plug socket with cable	Straight socket, connection pattern H, 3-pin	72
[18] Inscription label	For identifying the valve positions	70

Peripherals

Sub-base valve with plug connection underneath



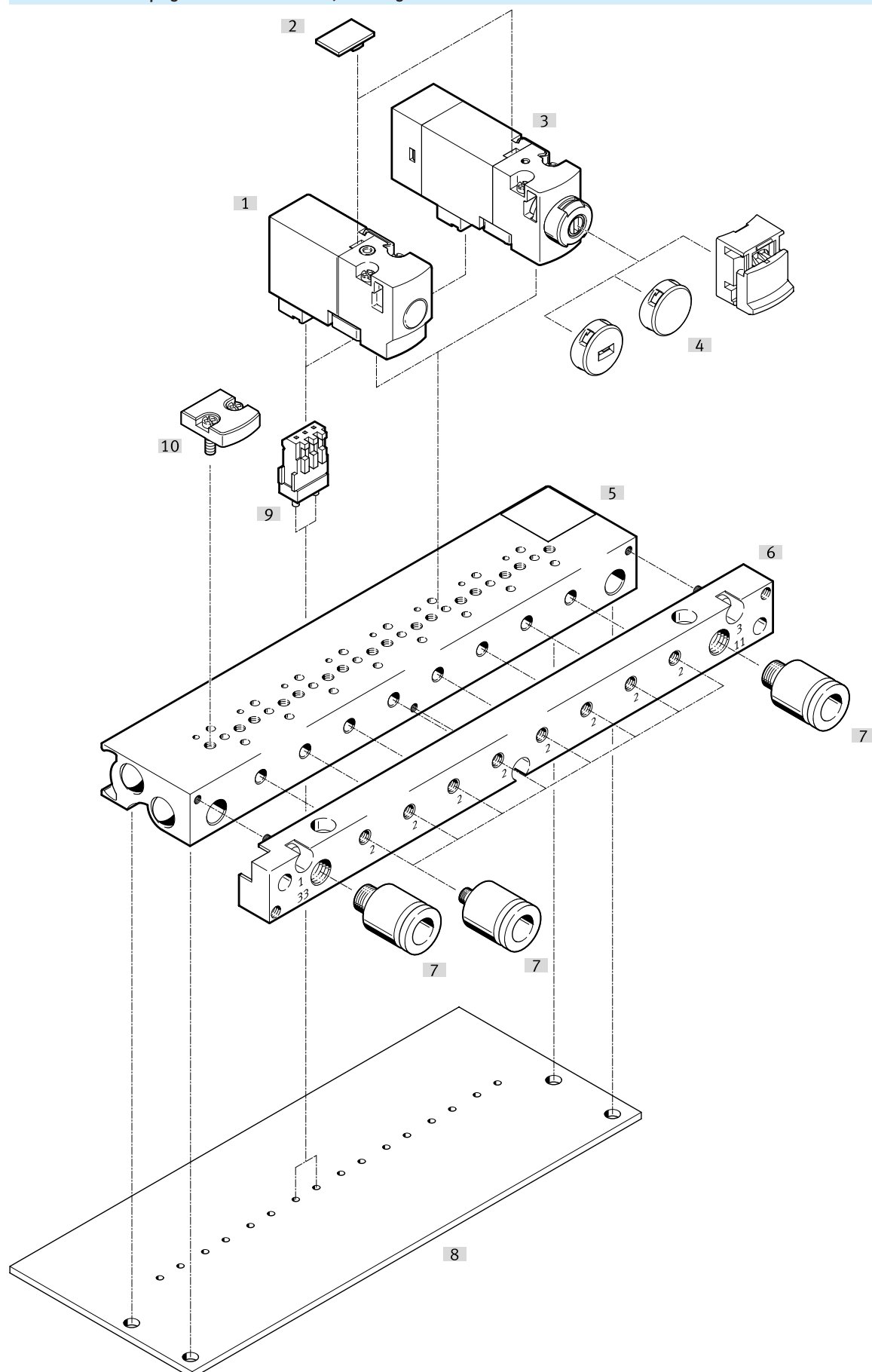
Accessories		→ Link
Type/order code	Description	
[1] Solenoid valve	Valve with plug connection underneath, without LED	64
[2] Inscription label	For identifying the valve positions	70

Peripherals

Accessories		→ Link
Type/order code	Description	
[3] Solenoid valve	Valve with plug connection underneath, with LED	65
[4] Cover cap	For manual override	69
[5] Blanking plug	For sealing ports that are not required	69
[6] Push-in fitting	For connecting compressed air tubing with standard O.D.	70
[7] Silencer	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 manifold rail with plug bases	69
[11] Individual sub-base	For valves with a plug connection underneath	66
[12] Electrical plug-in base	Straight socket, connection pattern H, 3-pin	72

Peripherals

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

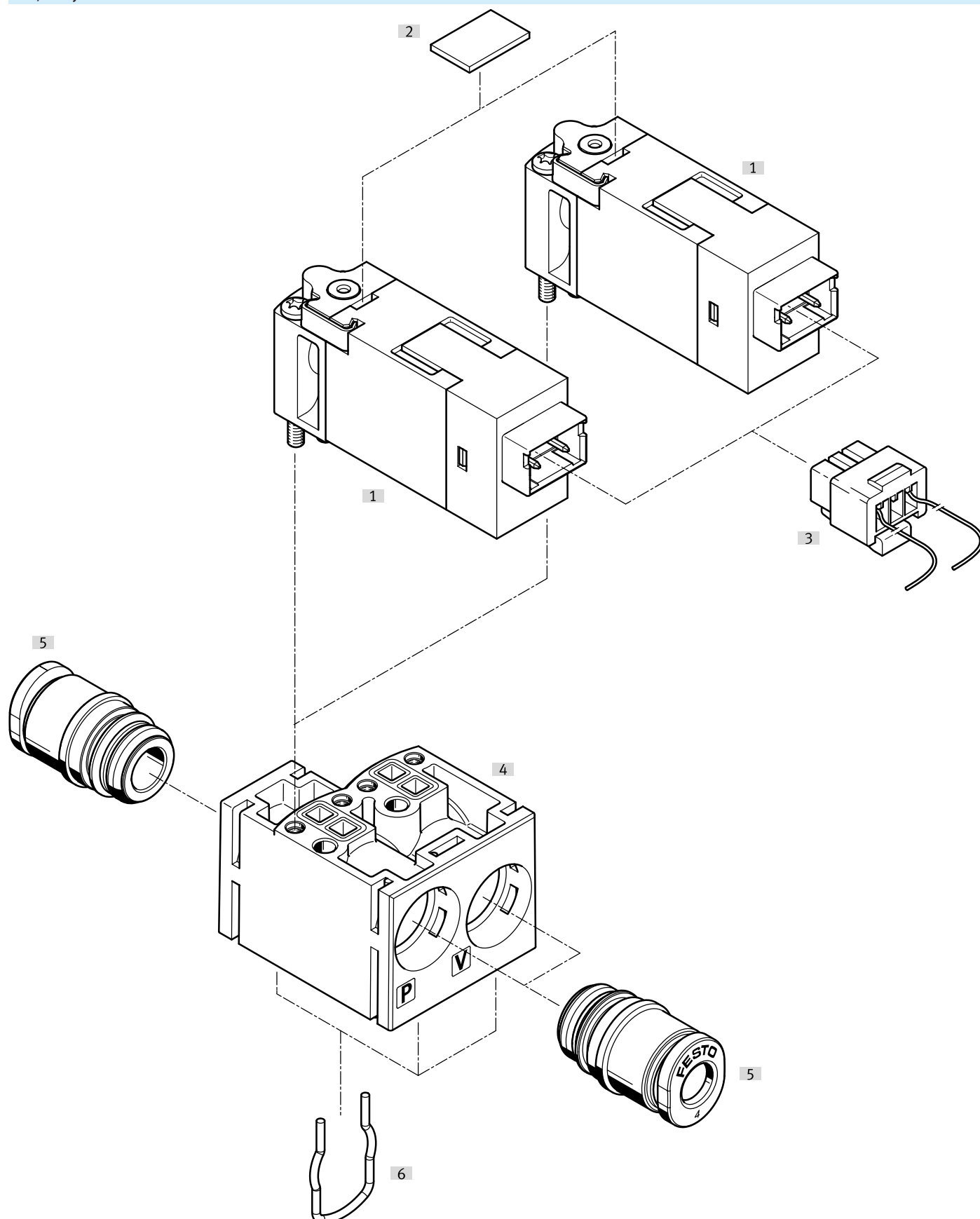


Peripherals

Accessories		→ Link
Type/order code	Description	
[1] Solenoid valve	Valve with plug connection underneath, without LED	64
[2] Inscription label	For identifying the valve positions	70
[3] Solenoid valve	Valve with plug connection underneath, with LED	65
[4] Cover cap	For manual override	69
[5] Manifold rail	Without plug bases	68
[6] Pneumatic multiple connector plate	Enables the tubing connection to be left in place on the printed circuit board when changing the valve terminal (included in the scope of delivery)	
[7] Push-in fitting	For connecting compressed air tubing with standard O.D.	70
[8] Printed circuit board	Not included in the scope of delivery	
[9] Soldering base	For PCB mounting, 3-pin	72
[10] Cover plate	For manifold rail without plug bases	68

Peripherals

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



Peripherals

Accessories		→ Link
Type/order code	Description	
[1] Solenoid valve	Valve with plug connection at the rear	65
[2] Inscription label	For identifying the valve positions	70
[3] Plug socket with cable	Straight socket, connection 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, plug connection at the rear				
	Valve function	Characteristic coil data	Part no.	Type
	2/2-way, single solenoid, closed	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, single solenoid, closed	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, single solenoid, 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 on top				
	Valve function	Characteristic coil data	Part no.	Type
	2/2-way, single solenoid, closed	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, single solenoid, closed	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, single solenoid, 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, plug connection underneath				
	Valve function	Characteristic coil data	Part no.	Type
	2/2-way, single solenoid, closed	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, single solenoid, closed	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, single solenoid, 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	Characteristic coil data	Part no.	Type
	2/2-way, single solenoid, closed	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, single solenoid, closed	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, single solenoid, 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 on top

	Valve function	Characteristic coil data	Part no.	Type
	2/2-way, single solenoid, closed	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, single solenoid, closed	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, single solenoid, 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 underneath

	Valve function	Characteristic coil data	Part no.	Type
	2/2-way, single solenoid, closed	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, single solenoid, closed	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, single solenoid, 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 E-box, without plug connection

	Valve function	Characteristic coil data	Part no.	Type
	3/2-way, single solenoid, closed	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	Characteristic coil data	Part no.	Type
	3/2-way, single solenoid, closed	24 V DC: 1.1 W	540443	MHA1-M1LH-3/2G-0,6-HC
	3/2-way, single solenoid, open		540440	MHA1-M1LH-3/2O-0,6-HC

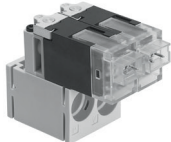
Sub-base valve with LED, plug connection on top

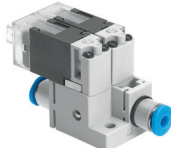
	Valve function	Characteristic coil data	Part no.	Type
	3/2-way, single solenoid, closed	24 V DC: 1.1 W	540444	MHA1-M1LH-3/2G-0,6-TC
	3/2-way, single solenoid, open		540441	MHA1-M1LH-3/2O-0,6-TC

Accessories

Sub-base valve with LED, plug connection underneath						
	Valve function	Characteristic coil data	Part no.	Type		
	3/2-way, single solenoid, closed	24 V DC: 1.1 W	540445	MHA1-M1LH-3/2G-0,6-PI		
	3/2-way, single solenoid, open		540442	MHA1-M1LH-3/2O-0,6-PI		

2x2/2-way valve on a sub-base, 2/2-way solenoid valve with LED, plug connection at the rear						
	Product weight	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 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 a sub-base, plug connection at the rear, without cartridge						
	Product weight	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 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 a sub-base, plug connection at the rear, with cartridge						
	Product weight	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 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 plug connection at the rear or on top						
	Size	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 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 plug connection underneath

	Size	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 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 plug connection at the rear or on top

	Size	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 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 plug connection underneath

	Size	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 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 bases

	Valve function	Max. number 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 plug connection underneath, with plug bases

	Valve function	Max. number 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 underneath, with plug base and electrical multi-pin plug, Sub-D plug 9-pin or 25-pin				
	Valve function	Max. number 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 plug connection underneath, without plug bases for PCB mounting				
	Valve function	Max. number 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 connection at the rear or top, without plug bases				
	Valve function	Max. number 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 sub-base valves with plug connection underneath, with plug bases				
	Valve function	Max. number 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 plug connection underneath, with plug bases and electrical multi-pin plug

	Valve function	Electrical connection	Max. number 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 plug connection underneath, without plug bases for PCB mounting

	Valve function	Max. number 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 plug connection underneath, without plug bases for PCB mounting, with pneumatic multiple connector plate

	Valve function	Max. number 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

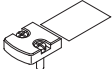
Manifold rail for sub-base valves without LEDs, with plug connection underneath, without plug bases for PCB mounting

	Valve function	Max. number 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	None	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 function				
	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, port 1	Size of pack	Part no.	Type	
	Male thread M3	10	30979	B-M3-S9	
	Male thread M5		3843	B-M5	
	Male thread M7		174309	B-M7	

Silencer						
	Pneumatic connection	Material shock absorber insert	Material screwed plug	Size of pack	Part no.	Type
	M3	Bronze	Brass	20	1231120	AMTE-M-LH-M3
	M5	Packaging unit	Reinforced PA, Packaging unit	1	165003	UC-M5
		Bronze	Brass	20	1205858	AMTE-M-LH-M5
	M7	Packaging unit	Reinforced PA, Packaging unit	1	161418	UC-M7

Push-in fittings							Link  qsm
	Pneumatic connection, port 1	Pneumatic connection, port 2	Type of mounting	Size of pack	Part no.	Type	
	Male thread M3	For tubing outer diameter of 3 mm	External hex A/F 5.5	10	153301	QSM-M3-3	
			Internal hex A/F 1.5		153312	QSM-M3-3-I	
		For tubing outside diameter of 4 mm	External hexagon, size 8 mm		153303	QSM-M3-4	
			Internal hex A/F 1.5		153314	QSM-M3-4-I	
	Male thread M5	For tubing outer diameter of 3 mm	External hexagon, size 8 mm		153302	QSM-M5-3	
			Internal hexagon A/F 2		153313	QSM-M5-3-I	
		For tubing outside diameter of 4 mm	External hexagon, size 8 mm		153304	QSM-M5-4	

Accessories

Push-in fittings

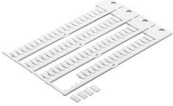
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	Pneumatic connection, port 1	Pneumatic connection, port 2	Type of mounting	Size of pack	Part no.	Type
	Male thread M5	For tubing outside diameter of 4 mm	Internal hex A/F2.5	10	153315	QSM-M5-4-I
		For tubing outside diameter of 6 mm	External hex SW10		153306	QSM-M5-6
			Internal hex A/F2.5		153317	QSM-M5-6-I
	Male thread M7	For tubing outside diameter of 4 mm	Internal hexagon A/F 3		153319	QSM-M7-4-I
		For tubing outside diameter of 6 mm	Internal hexagon A/F 4		153321	QSM-M7-6-I

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

	Pneumatic connection, port 1	Pneumatic connection, port 2	Type of mounting	Size of pack	Part no.	Type
	Cartridge 10 mm	For tubing outer diameter of 3 mm	Mounting pin	10	132621	QSPKG10-3
		For tubing outside diameter of 4 mm			132622	QSPKG10-4
		For tubing outside diameter of 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

E-boxes with protective circuit, 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

E-box with protective circuit, 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

Accessories

E-box with protective circuit, plug connection pattern H, straight					
	Electrical connection	Nominal operating voltage DC	Additional functions	Part no.	Type
	2-pin, Socket	24 V	Spark arresting, Holding current reduction	566717	VAVE-L1-1H3-LR

E-box with protective circuit, 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

E-box with protective circuit, 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

E-box with protective circuit, plug M8x1					
	Electrical connection	Nominal operating voltage DC	Additional functions	Part no.	Type
	Individual connector 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
	Individual connector 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

E-box with protective circuit, 2x stranded conductor, open end						
	Electrical connection	Nominal operating voltage DC	Additional functions	Cable length	Part no.	Type
	Stranded conductor	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
		12 V, 24 V	Spark arresting		566725	VAVE-L1-1VL4-LP

Accessories

E-box with protective circuit, cable, open end

	Electrical connection	Nominal operating voltage DC	Additional functions	Cable length	Part no.	Type
	2-pole / 2-core, Angled socket/ cable, Square 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	Size of pack	Part no.	Type
	2-pin	10	197261	PCBC-A-10
			197262	

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 cores	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

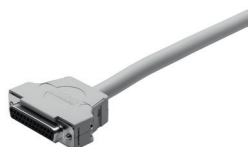
Accessories

Plug socket with cable connection pattern S, electrical connection 2x stranded conductor					
	Electrical connection 1, connection type	Electrical connection 2, connection type	Cable length	Part no.	Type
	Socket	2x single cores	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 S, 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 neba
	Electrical connection 1, number of connections/cores	Electrical connection 2, connector system	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 neba
	Electrical connection 1, number of connections/ cores	Electrical connection 2, connector system	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 electrical multi-pin plug						
	Electrical connection 1, connector system	Electrical connection 1, number of connections/cores	Electrical connection 2, number of connections/cores	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