

# Tiger valve 2000

**FESTO**



## Characteristics

### At a glance

#### General information:

- A comprehensive and complete range with 5/2- and 5/3-way valves
- Poppet valve for monostable functions or piston spool for more complex versions with air spring as well as 5/3-way valves
- With flow-optimised internal functions for higher flow rate performance with the same overall width
- Pneumatic connections G1/8, G1/4, G3/8
- Versatile and flexible, can be mounted on the side and front
- Pneumatically and electrically actuated
- Versatile electrical connection technology with F solenoid coil or V solenoid coil with low power consumption, can also be used with valve terminals
- Functional and timeless design, with enclosed front housing

#### F solenoid coils:

- Voltage 12 to 230 V DC; 12 to 240 V AC (50 to 60 Hz)
- Power consumption 4.1 to 5.5 W DC; 3.85 to 9 VA AC
- For all MFH valves
- Selected types in accordance with the ATEX directive for potentially explosive atmospheres
- Solenoid coil can be easily replaced at a later date
- Solenoid coil not included in the scope of delivery

#### V solenoid coils:

- Voltage 24 V DC
- Power consumption 2.5 W
- For all MVH valves
- Low heating

## Type code

001	Series
<b>MFH</b>	Solenoid valve, with armature tube for F-solenoid coil, monostable, normally closed
<b>MVH</b>	Single solenoid valve, with V solenoid coil
<b>JMFH</b>	Solenoid valve, with armature tube for F-solenoid coil, bistable
<b>JMVH</b>	Double solenoid valve, with V solenoid coil
<b>VL</b>	Pneumatic valve, monostable
<b>J</b>	Pneumatic valve, bistable

002	Valve function
<b>5</b>	5/2-way valve
<b>5/3G</b>	5/3-way valve, mid-position closed
<b>5/3E</b>	5/3-way valve, mid-position exhausted
<b>5/3B</b>	5/3-way valve, mid-position pressurised

003	Pneumatic connection
<b>1/8</b>	G1/8
<b>1/4</b>	G1/4
<b>3/8</b>	G3/8

004	Reset method
<b>L</b>	Pneumatic spring
	Mechanical spring

005	Pilot air
	Internal
<b>S</b>	External

006	Generation
<b>B</b>	Series B

007	Certification
	None
<b>EX</b>	EX certification (ATEX)

## Datasheet

## Solenoid valves MFH-B, 5/2-way valves, general technical data

Pneumatic connection, port 1	G1/8		G1/4		G3/8	
Type of reset	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring
Valve function	5/2-way, monostable					
Design	Poppet seat	Piston gate valve	Poppet seat	Piston gate valve		
Standard nominal flow rate (standardised to DIN 1343)	750 l/min	1,000 l/min	1,300 l/min	1,600 l/min	2,000 l/min	
lap	Underlap	Overlap	Underlap	Overlap		
Sealing principle	Soft					
Type of actuation	Electric					
Type of piloting	Pilot actuated					
Pilot air supply	External, Internal					
Flow direction	Non-reversible	Non-reversible, Reversible	Non-reversible	Non-reversible, Reversible		
Exhaust-air function	-		With flow control option			
Manual override	Non-detenting					
Type of mounting <sup>1)</sup>	Either:, On PR rail, With through-hole					
Mounting position	optional					
Electrical connection	Via F coil, to be ordered separately					
b value	0.34	-	0.29	0.38	-	
C value	3	-	5.5	6.35	-	
Nominal size	5 mm	8 mm	7 mm	10 mm	12 mm	
Grid dimension	27 mm		33 mm		41 mm	
Construction width	26 mm		32 mm		40 mm	
Product weight	220 g, 250 g	280 g, 300 g	300 g, 360 g	380 g	630 g	

1) Types MFH-3-3/4- and MOFH-3-3/4- can only be mounted via through-hole

## Solenoid valves MFH-B, 5/2-way valves, safety characteristics

Max. switching frequency	3 Hz
Max. positive test pulse with 0 signal	2,200 µs
Max. negative test pulse with 1 signal	3,700 µs

## Solenoid valves MFH-B, 5/2-way valves, ATEX

ATEX category gas	II 2G
Explosion ignition protection type for gas	Ex h IIC T4 Gb
ATEX category dust	II 2D
Explosion ignition protection type for dust	Ex h IIIC T130°C Db
Explosion ambient temperature	-5°C ≤ Ta ≤ +40°C
CE mark (see declaration of conformity) <sup>1)</sup>	To EU Explosion Protection Directive (ATEX)
UKCA marking (see declaration of conformity) <sup>2)</sup>	To UK EX instructions
Explosion protection certification outside the EU	EPL Db (GB) EPL Gb (GB)
Degree of protection	IP65

1) More information [www.festo.com/catalogue/...d/Support/Downloads](http://www.festo.com/catalogue/...d/Support/Downloads).

2) More information [www.festo.com/catalogue/...d/Support/Downloads](http://www.festo.com/catalogue/...d/Support/Downloads).

## Datasheet

Solenoid valves MFH-B, 5/2-way valves, operating and environmental conditions						
Pneumatic connection, port 1	G1/8		G1/4		G3/8	
Type of reset	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]					
Pilot 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 MPa	-0.09 ... 1 MPa	0 ... 1 MPa	-0.09 ... 1 MPa		
Operating pressure	0 ... 10 bar	-0.9 ... 10 bar	0 ... 10 bar	-0.9 ... 10 bar		
Pilot pressure	2 ... 10 bar	3 ... 10 bar	1.5 ... 8 bar	3 ... 10 bar	2.5 ... 10 bar	2 ... 10 bar
Pilot pressure	0.2 ... 1 MPa	0.3 ... 1 MPa	0.15 ... 0.8 MPa	0.3 ... 1 MPa	0.25 ... 1 MPa	0.2 ... 1 MPa
Ambient temperature	-5 ... 40°C					
Media temperature	-10 ... 60°C					
Storage temperature	-40 ... 60°C					
Note on materials	RoHS-compliant					
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress					
LABS (PWS) conformity	VDMA24364-B1/B2-L					

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

Solenoid valves MFH-B, 5/2-way valves, electrical data	
Electrical connection	Via F coil, to be ordered separately
Degree of protection	IP65

Solenoid valves MFH-B, 5/2-way valves, valve switching times						
Pneumatic connection, port 1	G1/8		G1/4		G3/8	
Type of reset	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring
Switching time on	10 ms	27 ms	12 ms	23 ms	20 ms	25 ms, 27 ms
Switching time off	30 ms	22 ms	36 ms	42 ms	56 ms	50 ms, 65 ms

Solenoid valves MFH-B, 5/2-way valves, materials	
Material housing	Die-cast aluminium
Material seals	NBR, TPE-U(PU)
Note on materials	RoHS-compliant

Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, general technical data			
Pneumatic connection, port 1	G1/8		G3/8
Valve function	5/2 bistable		
Design	Piston gate valve		
lap	Overlap		
Sealing principle	Soft		
Type of actuation	Electric		
Type of reset	-		Mechanical spring
Type of piloting	Pilot actuated		
Pilot air supply	External, Internal		
Flow direction	Non-reversible, Reversible		
Exhaust-air function	-		With flow control option
Manual override	Non-detenting		
Type of mounting	Either:, On PR rail, With through-hole		
Mounting position	optional		
Electrical connection	Via F coil, to be ordered separately		
b value	-	0.38	-
C value	-	6.35	-
Nominal size	8 mm	10 mm	12 mm
Standard nominal flow rate (standardised to DIN 1343)	1,000 l/min	1,600 l/min	2,000 l/min
Grid dimension	27 mm	33 mm	41 mm
Construction width	26 mm	32 mm	40 mm
Product weight	400 g, 440 g	460 g	650 g

## Datasheet

**Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, safety characteristics**

Max. switching frequency	3 Hz
Max. positive test pulse with 0 signal	2,200 µs
Max. negative test pulse with 1 signal	3,700 µs

**Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, operating and environmental conditions**

Pneumatic connection, port 1	G1/8	G1/4	G3/8
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	0.2 ... 1 MPa	0.2 ... 0.8 MPa	
Operating pressure	2 ... 10 bar	2 ... 8 bar	
Ambient temperature	-5 ... 40°C		
Media temperature	-10 ... 60°C		
Storage temperature	-40 ... 60°C		
Note on materials	RoHS-compliant		
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

**Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, electrical data**

Electrical connection	Via F coil, to be ordered separately
Degree of protection	IP65

**Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, valve switching times**

Pneumatic connection, port 1	G1/8	G1/4	G3/8
Switching time reversal	12 ms	14 ms	12 ms

**Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, materials**

Material housing	Die-cast aluminium
Material seals	NBR
Note on materials	RoHS-compliant

## Datasheet

Solenoid valves MFH-B, 5/3-way valves, general technical data			
Pneumatic connection, port 1	G1/8	G1/4	G3/8
Type of actuation	Electric		
Valve function	5/3-way, pressurised, 5/3 exhausted, 5/3 closed		
Design	Piston gate valve		
lap	Overlap		
Sealing principle	Soft		
Type of piloting	Direct, Pilot actuated	Pilot actuated	
Pilot air supply	External, Internal		
Flow direction	Non-reversible, Reversible		
Exhaust-air function	–	With flow control option	
Manual override	None, Non-detenting	Non-detenting	
Type of mounting	Either:, On PR rail, With through-hole		
Mounting position	optional		
Electrical connection	Via F coil, to be ordered separately		
b value	–	0.38	–
C value	–	6.35	–
Nominal size	8 mm	10 mm	12 mm
Standard nominal flow rate (standardised to DIN 1343)	1,000 l/min	1,600 l/min	2,200 l/min, 2,600 l/min
Grid dimension	27 mm	33 mm	41 mm
Construction width	26 mm	32 mm	40 mm
Product weight	400 g, 440 g, 575 g	500 g	780 g, 1,000 g

Solenoid valves MFH-B, 5/3-way valves, safety characteristics	
Max. switching frequency	3 Hz
Max. positive test pulse with 0 signal	2,200 µs
Max. negative test pulse with 1 signal	3,700 µs

Solenoid valves MFH-B, 5/3-way valves, ATEX	
ATEX category gas	II 2G
Explosion ignition protection type for gas	Ex h IIC T4 Gb
ATEX category dust	II 2D
Explosion ignition protection type for dust	Ex h IIIC T130°C Db
Explosion ambient temperature	-5°C ≤ Ta ≤ +40°C
CE mark (see declaration of conformity) <sup>1)</sup>	To EU Explosion Protection Directive (ATEX)
UKCA marking (see declaration of conformity) <sup>2)</sup>	To UK EX instructions
Explosion protection certification outside the EU	EPL Db (GB) EPL Gb (GB)
Degree of protection	IP65

1) More information [www.festo.com/catalogue/...d/Support/Downloads](http://www.festo.com/catalogue/...d/Support/Downloads).2) More information [www.festo.com/catalogue/...d/Support/Downloads](http://www.festo.com/catalogue/...d/Support/Downloads).

## Datasheet

## Solenoid valves MFH-B, 5/3-way valves, operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Pilot 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 ... 1 MPa
Operating pressure	-0.9 ... 10 bar
Pilot pressure	0.3 ... 1 MPa
Pilot pressure	3 ... 10 bar
Ambient temperature	-5 ... 40°C
Media temperature	-10 ... 60°C
Storage temperature	-40 ... 60°C
Note on materials	RoHS-compliant
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress
LABS (PWIS) conformity	VDMA24364-B1/B2-L

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Solenoid valves MFH-B, 5/3-way valves, electrical data

Electrical connection	Via F coil, to be ordered separately
Degree of protection	IP65

## Solenoid valves MFH-B, 5/3-way valves, valve switching times

Pneumatic connection, port 1	G1/8			G1/4			G3/8		
	5/3-way, presurised	5/3 exhausted	5/3 closed	5/3-way, presurised	5/3 exhausted	5/3 closed	5/3-way, presurised	5/3 exhausted	5/3 closed
Switching time on	23 ms	21 ms	20 ms, 23 ms	22 ms	23 ms, 24 ms	18 ms, 20 ms	25 ms	26 ms	20 ms, 24 ms
Switching time off	21 ms	20 ms	23 ms, 30 ms	23 ms	32 ms, 36 ms	30 ms, 36 ms	118 ms	114 ms	80 ms, 96 ms
Switching time reversal	16 ms	24 ms	23 ms	35 ms	35 ms, 37 ms	30 ms	78 ms	83 ms	54 ms

## Solenoid valves MFH-B, 5/3-way valves, materials

Material housing	Die-cast aluminium
Material seals	NBR
Note on materials	RoHS-compliant

## Solenoid valves MVH-B, 5/2-way valves, general technical data

Pneumatic connection, port 1	G1/8		G1/4		G3/8	
	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring
Valve function	5/2-way, monostable					
Design	Poppet seat	Piston gate valve	Poppet seat	Piston gate valve		
lap	Underlap	Overlap, Underlap	Underlap	Overlap		
Sealing principle	Soft					
Type of actuation	Electric					
Type of piloting	Pilot actuated					
Pilot air supply	External, Internal					
Flow direction	Non-reversible	Non-reversible, Reversible	Non-reversible	Non-reversible, Reversible		
Exhaust-air function	-		With flow control option			
Manual override	Non-detenting					
Type of mounting	Either:, On PR rail, With through-hole					
Mounting position	optional					
b value	0.34	-	0.29	0.38	-	
C value	3	-	5.5	6.35	-	
Nominal size	5 mm	8 mm	7 mm	10 mm	12 mm	
Standard nominal flow rate (standardised to DIN 1343)	750 l/min	1,000 l/min	1,300 l/min	1,600 l/min	2,000 l/min	
Grid dimension	-		33 mm		41 mm	
Construction width	26 mm		32 mm		40 mm	
Product weight	230 g	290 g	360 g	440 g	750 g	



## Datasheet

**Solenoid valves MVH-B, 5/2-way valves, safety characteristics**

Max. switching frequency	3 Hz
Max. positive test pulse with 0 signal	2,200 µs
Max. negative test pulse with 1 signal	3,700 µs

**Solenoid valves MVH-B, 5/2-way valves, operating and environmental conditions**

Pneumatic connection, port 1	G1/8		G1/4		G3/8	
Type of reset	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]					
Pilot 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 MPa	-0.09 ... 1 MPa	0 ... 1 MPa	-0.09 ... 1 MPa		
Operating pressure	0 ... 10 bar	-0.9 ... 10 bar	0 ... 10 bar	-0.9 ... 10 bar		
Pilot pressure	0.2 ... 1 MPa	0.3 ... 1 MPa	0.15 ... 0.8 MPa	0.3 ... 1 MPa	0.25 ... 1 MPa	0.2 ... 1 MPa
Pilot pressure	2 ... 10 bar	3 ... 10 bar	1.5 ... 8 bar	3 ... 10 bar	2.5 ... 10 bar	2 ... 10 bar
Ambient temperature	-5 ... 50°C					
Media temperature	-5 ... 50°C					
Storage temperature	-40 ... 60°C					
Note on materials	RoHS-compliant					
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress					
LABS (PWIS) conformity	VDMA24364-B1/B2-L					

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

**Solenoid valves MVH-B, 5/2-way valves, electrical data**

Characteristic coil data	24 V DC: 2.5 W
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**Solenoid valves MVH-B, 5/2-way valves, valve switching times**

Pneumatic connection, port 1	G1/8		G1/4		G3/8	
Type of reset	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring	Mechanical spring	Pneumatic spring
Switching time on	20 ms	30 ms	15 ms	28 ms	22 ms	
Switching time off	36 ms	25 ms	36 ms	37 ms	60 ms	

**Solenoid valves MVH-B, 5/2-way valves, materials**

Material housing	Die-cast aluminium
Material seals	NBR, TPE-U(PU)
Note on materials	RoHS-compliant

## Datasheet

**Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, general technical data**

Pneumatic connection, port 1	G1/8	G1/4	G3/8
Valve function	5/2 bistable		
Design	Piston gate valve		
lap	Overlap		
Sealing principle	Soft		
Type of actuation	Electric		
Type of piloting	Pilot actuated		
Pilot air supply	External, Internal		
Flow direction	Non-reversible, Reversible		
Exhaust-air function	–	With flow control option	
Manual override	Non-detenting		
Type of mounting	Either:, On PR rail, With through-hole		
Mounting position	optional		
b value	–	0.38	–
C value	–	6.35 l/sbar	–
Nominal size	8 mm	10 mm	12 mm
Standard nominal flow rate (standardised to DIN 1343)	1,000 l/min	1,600 l/min	2,000 l/min
Grid dimension	–	33 mm	41 mm
Construction width	26 mm	32 mm	40 mm
Product weight	560 g	615 g	900 g

**Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, safety characteristics**

Max. switching frequency	3 Hz
Max. positive test pulse with 0 signal	2,200 µs
Max. negative test pulse with 1 signal	3,700 µs

**Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, operating and environmental conditions**

Pneumatic connection, port 1	G1/8	G1/4	G3/8
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Pilot 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 ... 1 MPa		
Operating pressure	-0.9 ... 10 bar		
Pilot pressure	0.2 ... 1 MPa		
Pilot pressure	2 ... 10 bar		
Ambient temperature	-5 ... 50°C		
Media temperature	-5 ... 50°C		
Storage temperature	-40 ... 60°C		
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

**Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, electrical data**

Characteristic coil data	24 V DC: 2.5 W
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**Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, valve switching times**

Pneumatic connection, port 1	G1/8	G1/4	G3/8
Switching time reversal	18 ms	16 ms	17 ms

## Datasheet

## Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, materials

Material housing	Die-cast aluminium
Material seals	NBR
Note on materials	RoHS-compliant

## Solenoid valves MVH-B, 5/3-way valves, general technical data

Pneumatic connection, port 1	G1/8				G1/4				G3/8							
Valve function	5/3-way, pressurised		5/3 exhausted	5/3 closed	5/3-way, pressurised		5/3 exhausted		5/3 closed		5/3-way, pressurised		5/3 exhausted		5/3 closed	
Flow direction	Non-reversible	Reversible	Non-reversible		Reversible	Non-reversible	Reversible	Non-reversible	Reversible	Non-reversible	Reversible	Non-reversible	Reversible	Non-reversible	Reversible	
Design	Piston gate valve															
lap	Overlap															
Sealing principle	Soft															
Type of actuation	Electric															
Type of reset	Mechanical spring															
Type of piloting	Pilot actuated															
Pilot air supply	Internal	External	Internal		External	Internal	External	Internal	External	Internal	External	Internal	External	Internal	External	
Exhaust-air function	-				With flow control option											
Manual override	Non-detenting															
Type of mounting	Either., On PR rail, With through-hole															
Mounting position	optional															
b value	-				0.38				-							
C value	-				6.35 l/sbar				-							
Nominal size	8 mm				10 mm				12 mm							
Standard nominal flow rate (standardised to DIN 1343)	1,000 l/min				1,600 l/min				2,600 l/min		2,200 l/min					
Grid dimension	27 mm				33 mm				41 mm							
Construction width	26 mm				32 mm				40 mm							
Product weight	575 g				660 g				1,000 g				780 g	1,000 g		

## Solenoid valves MVH-B, 5/3-way valves, safety characteristics

Max. switching frequency	3 Hz
Max. positive test pulse with 0 signal	2,200 µs
Max. negative test pulse with 1 signal	3,700 µs

## Solenoid valves MVH-B, 5/3-way valves, operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Pilot 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 ... 1 MPa
Operating pressure	-0.9 ... 10 bar
Pilot pressure	0.3 ... 1 MPa
Pilot pressure	3 ... 10 bar
Ambient temperature	-5 ... 50°C
Media temperature	-5 ... 50°C
Storage temperature	-40 ... 60°C
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress
LABS (PWIS) conformity	VDMA24364-B1/B2-L

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

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**Solenoid valves MVH-B, 5/3-way valves, electrical data**

Characteristic coil data	24 V DC: 2.5 W
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**Solenoid valves MVH-B, 5/3-way valves, valve switching times**

Pneumatic connection, port 1	G1/8			G1/4			G3/8		
Valve function	5/3-way, presurised	5/3 exhausted	5/3 closed	5/3-way, presurised	5/3 exhausted	5/3 closed	5/3-way, presurised	5/3 exhausted	5/3 closed
Switching time on	31 ms	30 ms	28 ms	32 ms	36 ms	24 ms, 27 ms	35 ms		27 ms
Switching time off <sup>1)</sup>	26 ms	29 ms	32 ms	41 ms	38 ms	36 ms, 37 ms	92 ms	87 ms	89 ms
Switching time reversal	20 ms	34 ms	32 ms	46 ms		39 ms	73 ms	75 ms	57 ms

1) MVH-5/3...1/8 and MVH-5/3...1/8-B-VI-X: after having been actuated for a long period (> 16h), the switch-off time of 5/3-way valves can increase to max. 50 ms.

MVH-5/3...1/4 and MVH-5/3...1/4-B-VI-X: after having been actuated for a long period (> 16h), the switch-off time of 5/3-way valves can increase to max. 100 ms.

MVH-5/3...3/8: after having been actuated for a long period (> 16h), the switch-off time of 5/3-way valves can increase to max. 150 ms.

**Solenoid valves MVH-B, 5/3-way valves, materials**

Material housing	Die-cast aluminium
Material seals	NBR
Note on materials	RoHS-compliant

**Pneumatic valves VL, 5/2-way valves, general technical data**

Pneumatic connection, port 1	G1/8		G1/4	G3/8
Valve function	5/2-way, monostable			
Design	Poppet seat		Piston gate valve	
lap	Underlap		Overlap	
Sealing principle	Soft			
Type of actuation	Pneumatic			
Type of reset	Mechanical spring			
Type of piloting	Direct			
Pilot air supply	External			
Flow direction	Non-reversible		Reversible	
Exhaust-air function	With flow control option			
Manual override	None			
Type of mounting	Either:, On PR rail, With through-hole			
Mounting position	optional			
b value	–	0.29	–	
C value	–	5.5 l/sbar	–	
Nominal size	5 mm	7 mm	12 mm	
Standard nominal flow rate (standardised to DIN 1343)	750 l/min	1,300 l/min	2,000 l/min	
Grid dimension	27 mm	33 mm	41 mm	
Construction width	26 mm	32 mm	40 mm	
Product weight	170 g	240 g	570 g	

**Pneumatic valves VL, 5/2-way valves, safety characteristics**

Max. switching frequency	3 Hz
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## Datasheet

**Pneumatic valves VL, 5/2-way valves, ATEX**

ATEX category gas	II 2G
Explosion ignition protection type for gas	Ex h IIC T4 Gb
ATEX category dust	II 2D
Explosion ignition protection type for dust	Ex h IIIC T130°C Db
Explosion ambient temperature	-10°C ≤ Ta ≤ +60°C
CE mark (see declaration of conformity) <sup>1)</sup>	To EU Explosion Protection Directive (ATEX)
UKCA marking (see declaration of conformity) <sup>2)</sup>	To UK EX instructions
Explosion protection certification outside the EU	EPL Db (GB) EPL Gb (GB)

1) More information [www.festo.com/catalogue/...d/Support/Downloads](http://www.festo.com/catalogue/...d/Support/Downloads).

2) More information [www.festo.com/catalogue/...d/Support/Downloads](http://www.festo.com/catalogue/...d/Support/Downloads).

**Pneumatic valves VL, 5/2-way valves, operating and environmental conditions**

Pneumatic connection, port 1	G1/8	G1/4	G3/8
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Pilot 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 MPa		-0.09 ... 1 MPa
Operating pressure	0 ... 10 bar		-0.9 ... 10 bar
Pilot pressure	0.15 ... 0.8 MPa	0.15 ... 1 MPa	0.25 ... 1 MPa
Pilot pressure	1.5 ... 8 bar	1.5 ... 10 bar	2.5 ... 10 bar
Ambient temperature	-10 ... 60°C		
Media temperature	-10 ... 60°C		
Storage temperature	-40 ... 60°C		
Note on materials	RoHS-compliant		
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

**Pneumatic valves VL, 5/2-way valves, valve switching times**

Pneumatic connection, port 1	G1/8	G1/4	G3/8
Switching time on	2 ms		4 ms
Switching time off	10 ms	12 ms	16 ms

**Pneumatic valves VL, 5/2-way valves, materials**

Material housing	Die-cast aluminium
Material seals	NBR, PU, TPE-U(PU)
Note on materials	RoHS-compliant

## Datasheet

Pneumatic valves J, 5/2-way valves, double pilot valves, general technical data			
Pneumatic connection, port 1	G1/8	G1/4	G3/8
Valve function	5/2 bistable		
Design	Piston gate valve		
lap	Overlap		
Sealing principle	Soft		
Type of actuation	Pneumatic		
Type of piloting	Direct		
Pilot air supply	External		
Flow direction	Reversible		
Exhaust-air function	With flow control option		
Manual override	None		
Type of mounting	Either:, On PR rail, With through-hole		
Mounting position	optional		
b value	–	0.38	–
C value	–	6.35 l/sbar	–
Nominal size	8 mm	10 mm	12 mm
Standard nominal flow rate (standardised to DIN 1343)	1,000 l/min	1,600 l/min	2,000 l/min
Grid dimension	27 mm	33 mm	41 mm
Construction width	26 mm	32 mm	40 mm
Product weight	320 g	375 g	550 g

Pneumatic valves J, 5/2-way valves, double pilot valves, safety characteristics	
Max. switching frequency	3 Hz

Pneumatic valves J, 5/2-way valves, double pilot valves, double solenoid valves, operating and environmental conditions			
Pneumatic connection, port 1	G1/8	G1/4	G3/8
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 ... 1 MPa		
Operating pressure	-0.9 ... 10 bar		
Pilot pressure	2 ... 10 bar		–
Pilot pressure	0.2 ... 1 MPa		–
Ambient temperature	-10 ... 60°C		
Media temperature	-10 ... 60°C		
Storage temperature	-40 ... 60°C		
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

Pneumatic valves J, 5/2-way valves, double pilot valves, double solenoid valves, valve switching times	
Switching time reversal	3 ms

Pneumatic valves J, 5/2-way valves, impulse valves, double solenoid valves, materials	
Material housing	Die-cast aluminium
Material seals	NBR
Note on materials	RoHS-compliant

## Datasheet

Pneumatic valves J, 5/3-way valves, general technical data			
Pneumatic connection, port 1	G1/8	G1/4	G3/8
Type of actuation	Pneumatic		
Valve function	5/3-way, pressurised, 5/3 exhausted, 5/3 closed		
Design	Piston gate valve		
lap	Overlap		
Sealing principle	Soft		
Type of piloting	Direct		
Pilot air supply	External		
Flow direction	Reversible		
Exhaust-air function	With flow control option		
Manual override	None		
Type of mounting	Either., On PR rail, With through-hole		
Mounting position	optional		
b value	–	0.38	–
C value	–	6.35 l/sbar	–
Nominal size	8 mm	10 mm	12 mm
Standard nominal flow rate (standardised to DIN 1343)	1,000 l/min	1,600 l/min	2,000 l/min, 2,200 l/min, 2,600 l/min
Grid dimension	27 mm	33 mm	41 mm
Construction width	26 mm	32 mm	40 mm
Product weight	320 g	375 g	680 g

Pneumatic valves J, 5/3-way valves, safety characteristics	
Max. switching frequency	3 Hz

Pneumatic valves J, 5/3-way valves, operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Pilot 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 ... 1 MPa
Operating pressure	-0.9 ... 10 bar
Pilot pressure	0.3 ... 1 MPa
Pilot pressure	3 ... 10 bar
Ambient temperature	-10 ... 60°C
Media temperature	-10 ... 60°C
Storage temperature	-40 ... 60°C
Note on materials	RoHS-compliant
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress
LABS (PWIS) conformity	VDMA24364-B1/B2-L

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

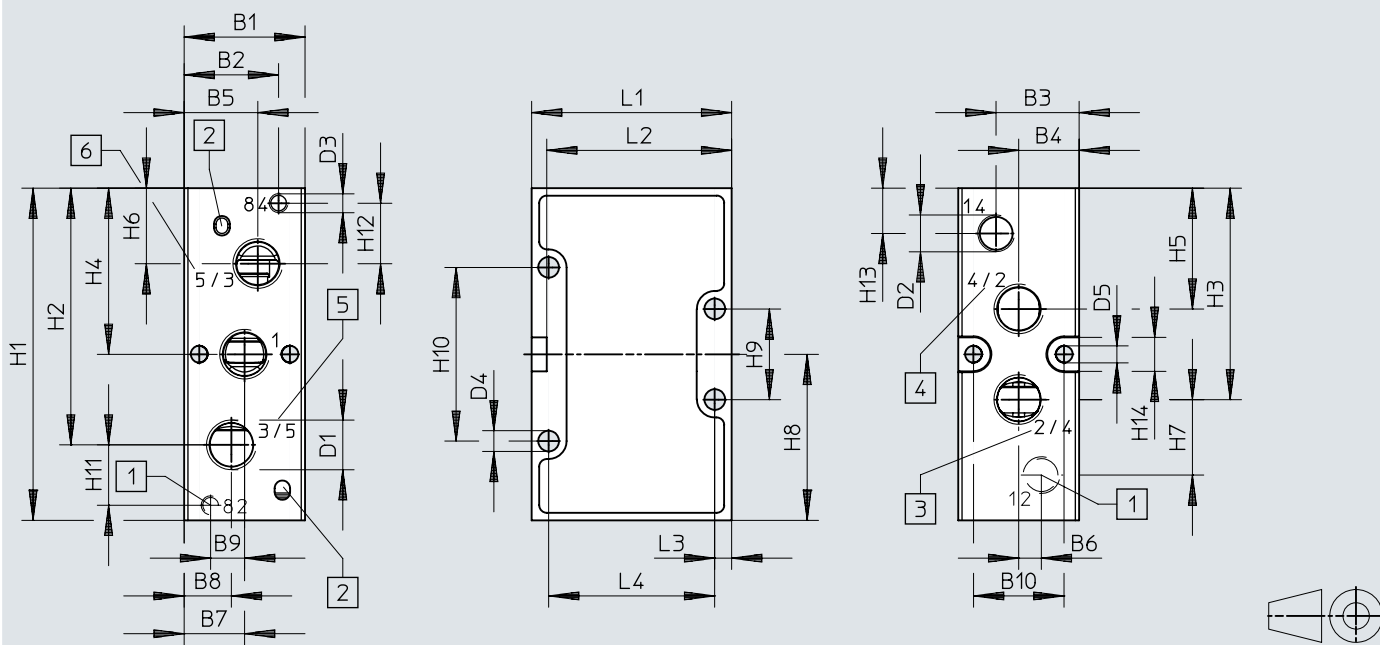
Pneumatic valves J, 5/3-way valves, valve switching times									
Pneumatic connection, port 1	G1/8			G1/4			G3/8		
Valve function	5/3-way, pressurised	5/3 exhausted	5/3 closed	5/3-way, pressurised	5/3 exhausted	5/3 closed	5/3-way, pressurised	5/3 exhausted	5/3 closed
Switching time on	5 ms			6 ms			7 ms		
Switching time off	14 ms			26 ms			28 ms		
Switching time reversal	16 ms	24 ms	23 ms	35 ms	30 ms	78 ms	83 ms	54 ms	

Pneumatic valves J, 5/3-way valves, materials	
Material housing	Die-cast aluminium
Material seals	NBR
Note on materials	RoHS-compliant

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/2-way valves, pneumatic connection  
G1/8, G1/4

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



- [1] Port 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- [2] Protection against rotation
- [3] 2 for poppet seat valve; 4 for piston spool valve
- [4] 4 for poppet seat valve; 2 for piston spool valve
- [5] 3 for poppet seat valve; 5 for piston spool valve
- [6] 5 for poppet seat valve; 3 for piston spool valve

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ø	D2 ø	D3	D4 ø	D5	H1 ±0,2	H2
MFH-5-1/8	26	16,5	18	13	16,5	5	13	9,5	8	19,5	G1/8	G1/8	M5	4,5	4,3	77	59,5
MFH-5-1/4	32	19,5	22	16	19,5	6	16	12,5	9	24	G1/4			5,5	4,3	88	68

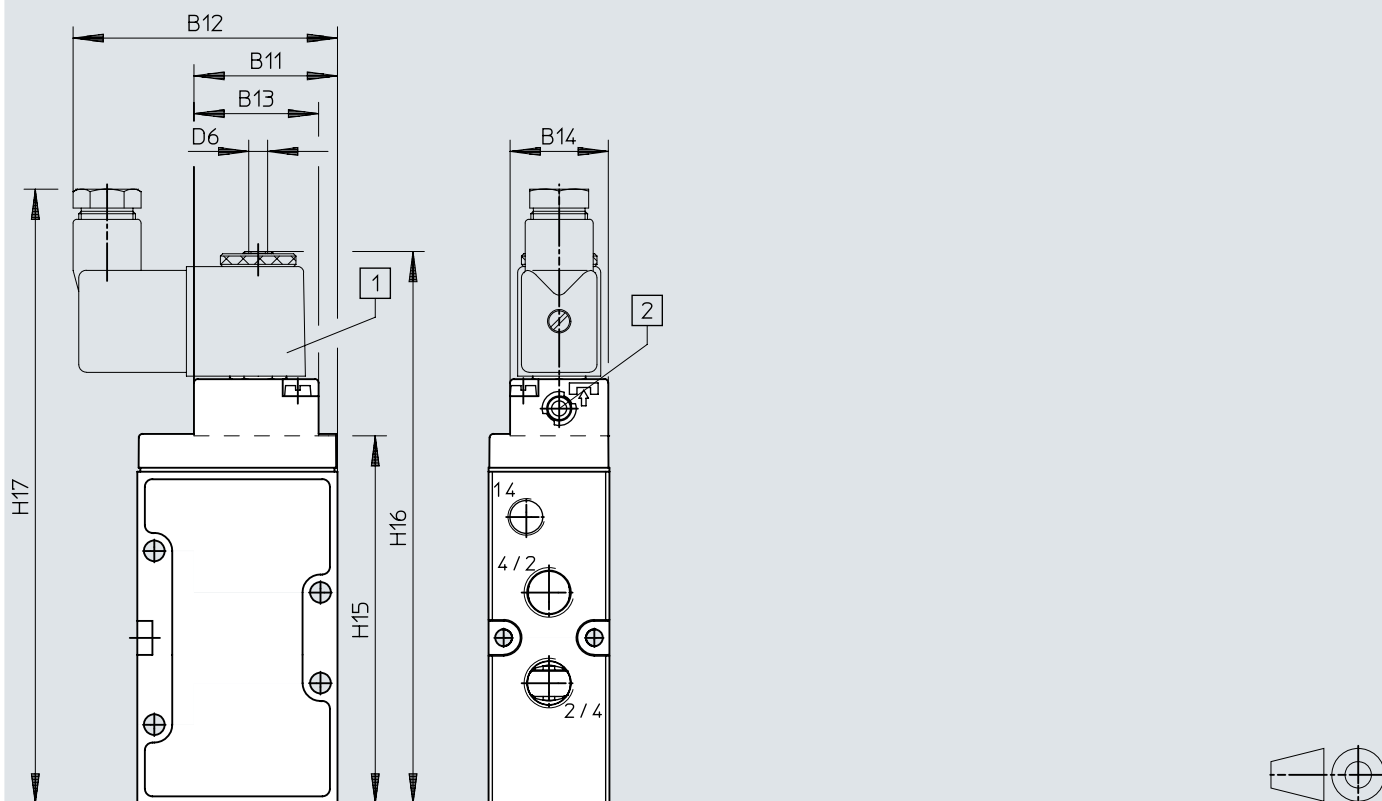
	H3	H4	H5	H6	H7	H8 ±0,2	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3	L4
MFH-5-1/8	49,5	38,5	27,5	17,5	19	38,5	21	41	12	12	8,5	9	47	43	3,5	40
MFH-5-1/4	56	44	32	20	20	44	22	48	16	16	12		53	49	4,5	44



## Dimensions

Dimensions – Solenoid valves MFH-B, 5/2-way valves, pneumatic connection  
G1/8, G1/4, installation dimensions with F solenoid coil, mechanical reset  
type

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[1] Solenoid coil can be rotated 360°

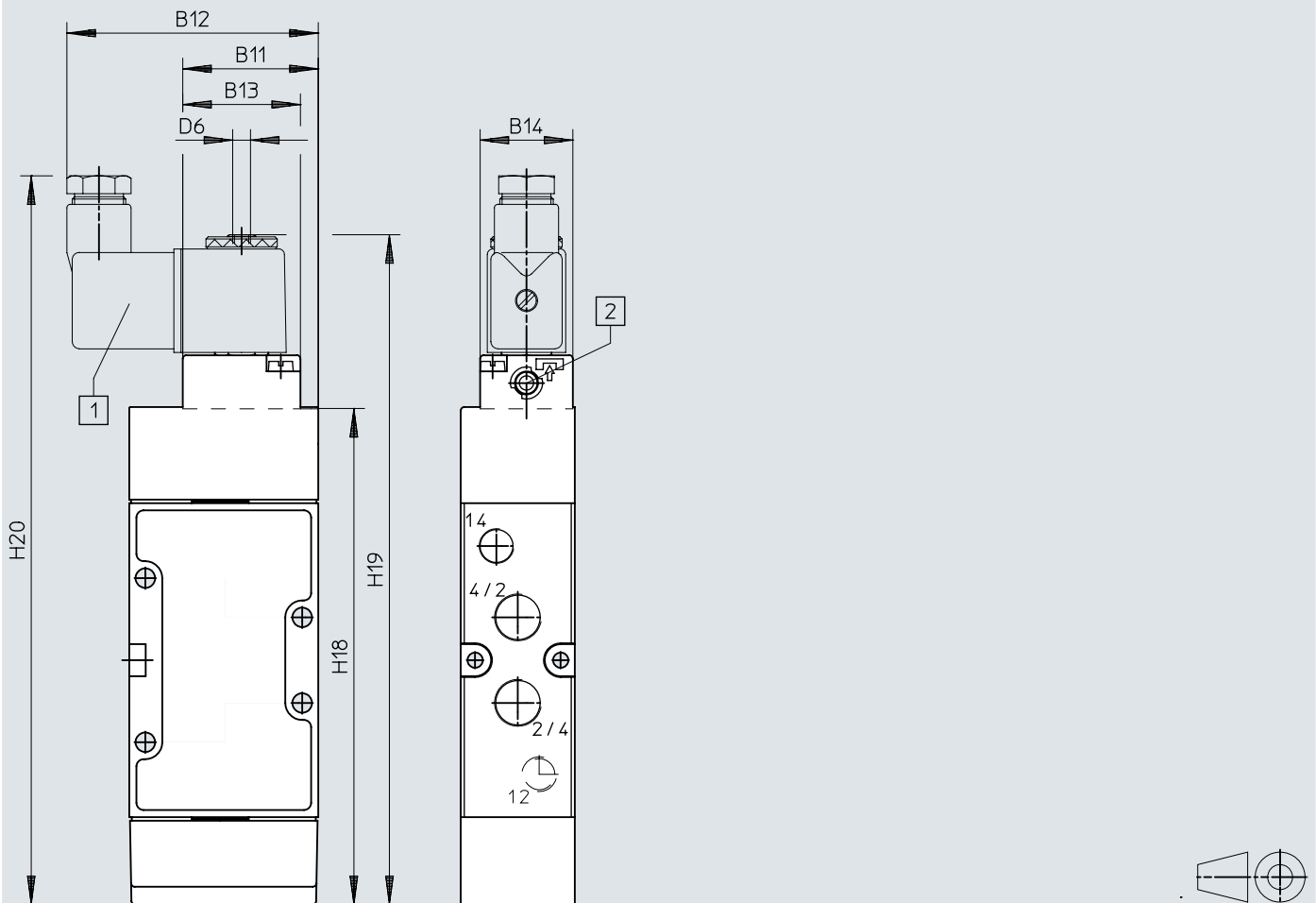
[2] Manual override can be turned 180°

	B11	B12	B13	B14	D6	H15	H16	H17
MFH-5-1/8	36,8	67	33	26	M5	86,5	135,3	151,8
MFH-5-1/4	38	70				97,5	146,3	162,8

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/2-way valves, pneumatic connection  
G1/8, G1/4, installation dimensions with F solenoid coil, pneumatic reset

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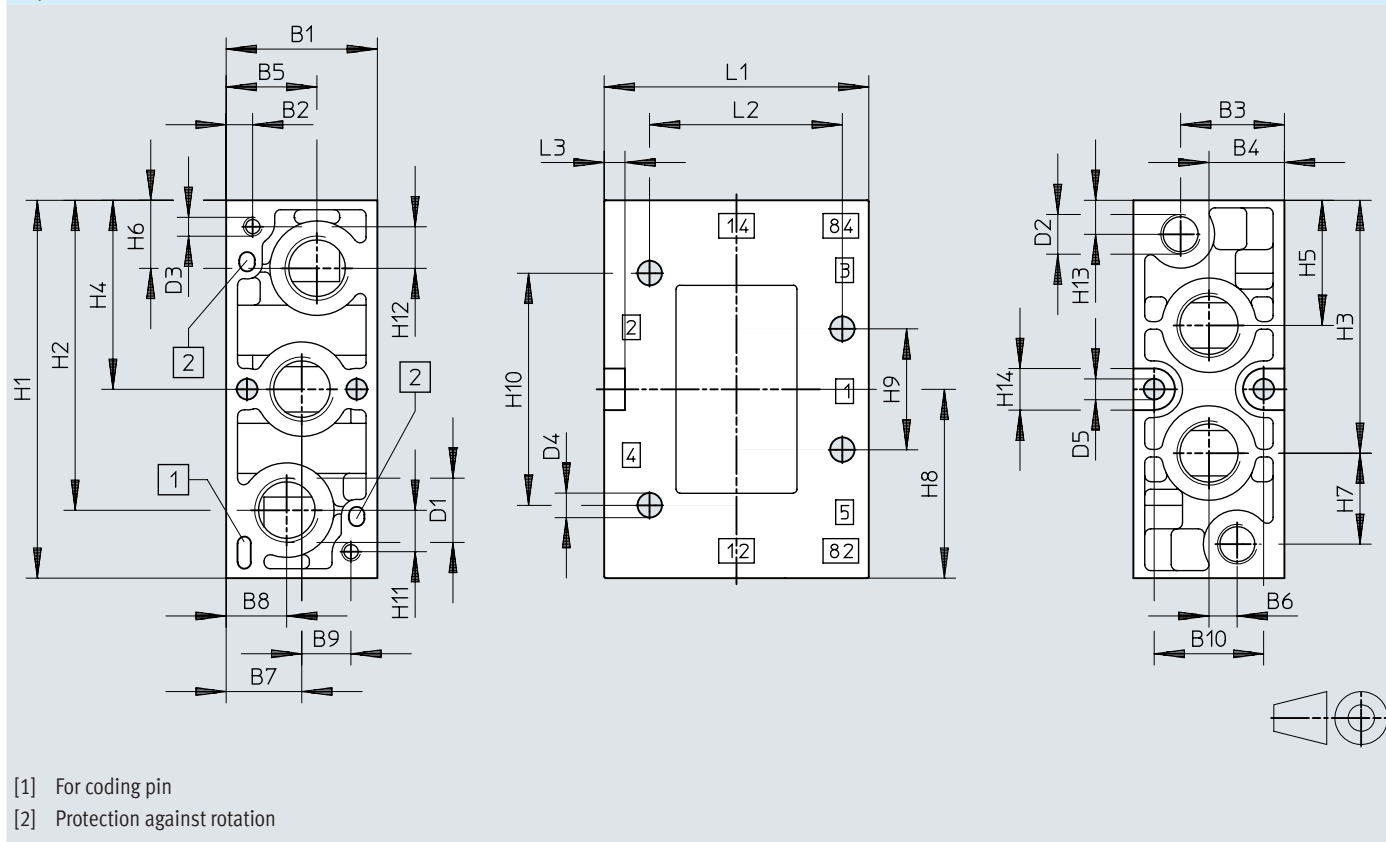
- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°

	B11	B12	B13	B14	D6	H18	H19	H20
MFH-5-1/8	36,8	67	33	26	M5	126,2	175	191,5
MFH-5-1/4	38	70				139	187,8	204,3

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/2-way valves, pneumatic connection  
G3/8

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	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4	D5
	±0,1										∅	∅		∅	
MFH-5-3/8	40	13	27,5	20	24	7,6	20	16	13	29	G3/8	G1/8	M5	6,5	5,5

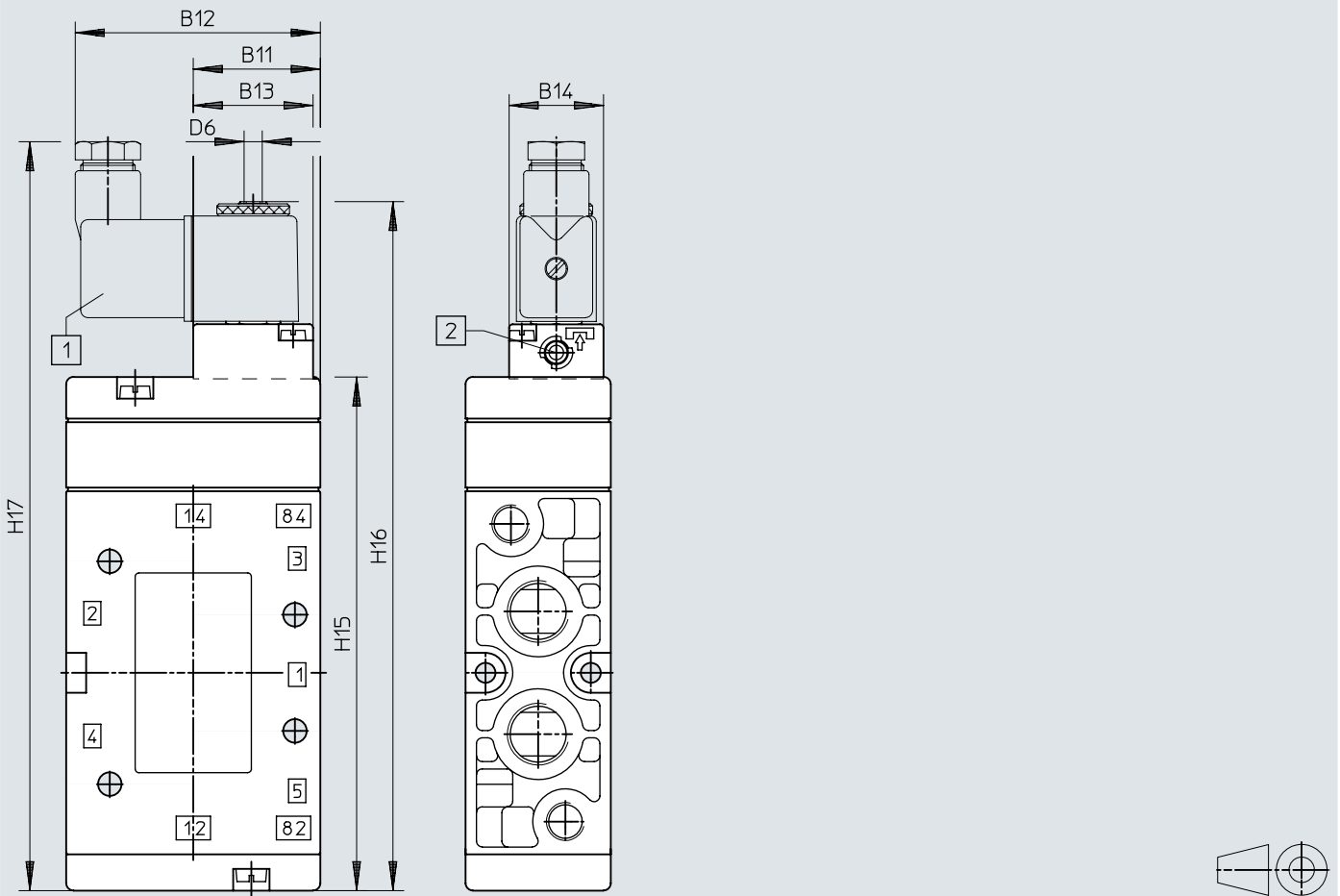
  

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1	L2	L3
	±0,1														±0,2		
MFH-5-3/8	100	82	66,9	50	33,1	18	24,1	50	32	61,4	11	11	9	11	70	51	5,5

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/2-way valves, pneumatic connection G3/8, installation dimensions with F solenoid coil, mechanical or pneumatic reset

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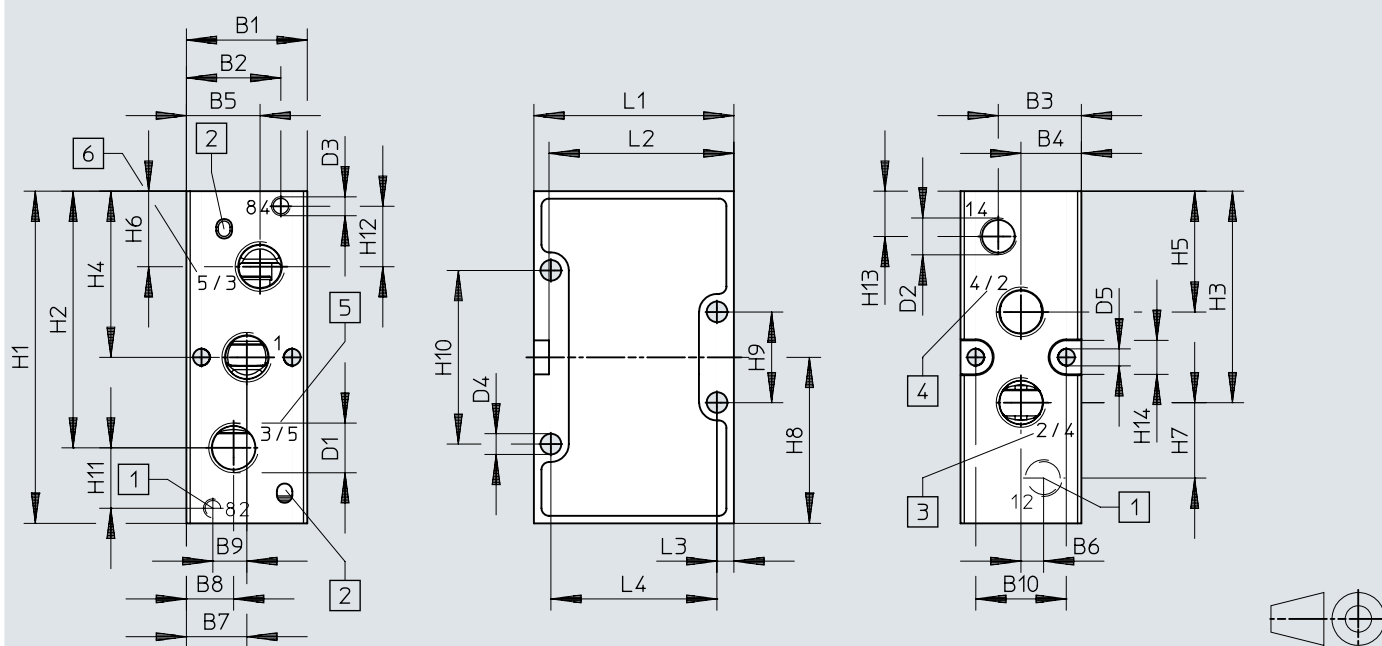
- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°

	B11	B12	B13	B14	D6	H15	H16	H17
MFH-5-3/8	35	67,5	33	26	M5	141,5	190	206

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, pneumatic connection G1/8, G1/4

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- [1] Port 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- [2] Protection against rotation
- [3] 2 for poppet seat valve; 4 for piston spool valve
- [4] 4 for poppet seat valve; 2 for piston spool valve
- [5] 3 for poppet seat valve; 5 for piston spool valve
- [6] 5 for poppet seat valve; 3 for piston spool valve

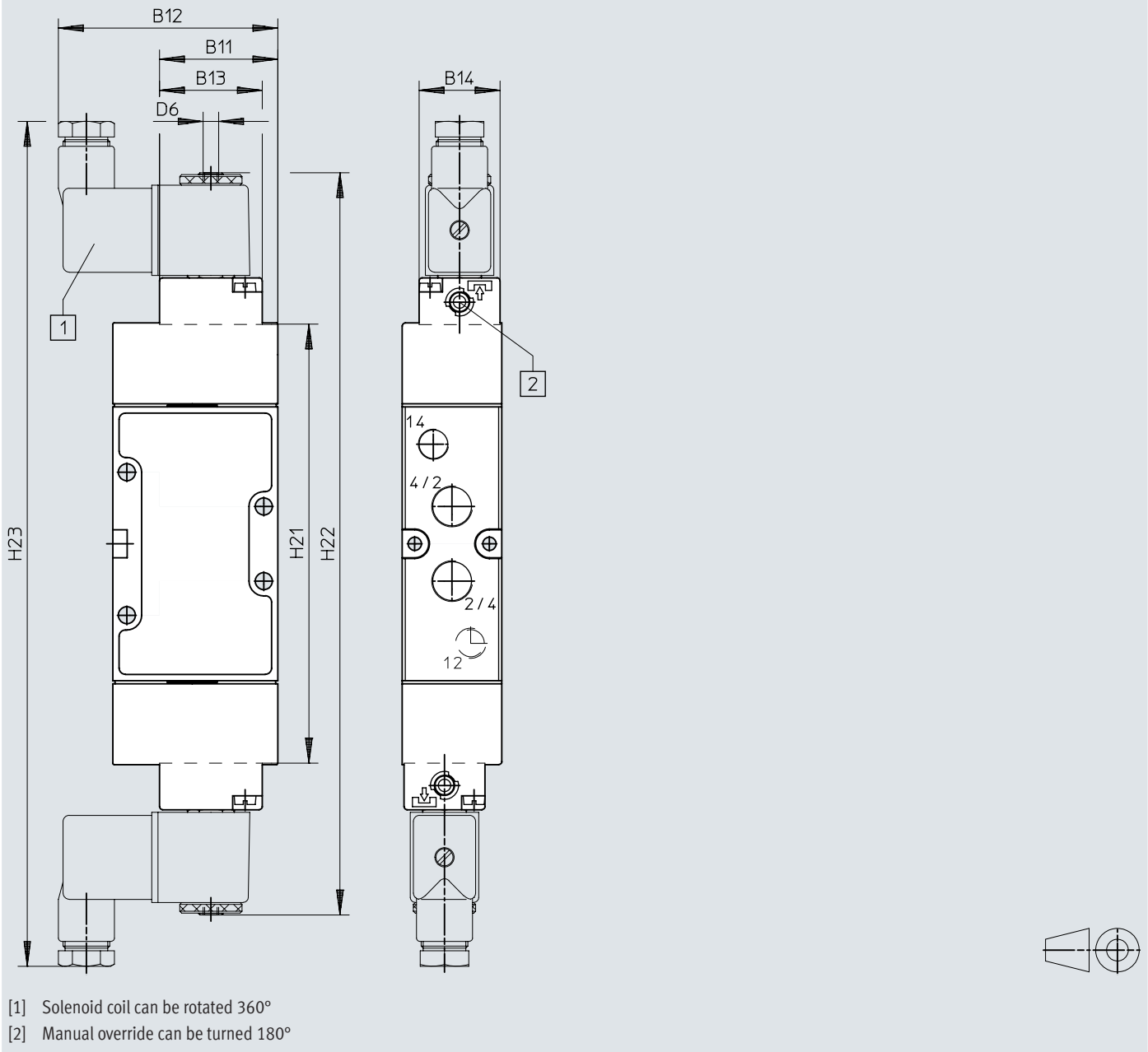
	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ø	D2 ø	D3	D4 ø	D5	H1 ±0,2	H2
JMFH-5-1/8	26	16,5	18	13	16,5	5	13	9,5	8	19,5	G1/8	G1/8	M5	4,5	4,3	77	59,5
JMFH-5-1/4	32	19,5	22	16	19,5	6	16	12,5	9	24	G1/4			5,5	4,3	88	68

	H3	H4	H5	H6	H7	H8 ±0,2	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3	L4
JMFH-5-1/8	49,5	38,5	27,5	17,5	19	38,5	21	41	12	12	8,5	9	47	43	3,5	40
JMFH-5-1/4	56	44	32	20	20	44	22	48	16	16	12		53	49	4,5	44

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, pneumatic connection G1/8, G1/4, installation dimensions with F solenoid coil, mechanical or pneumatic reset

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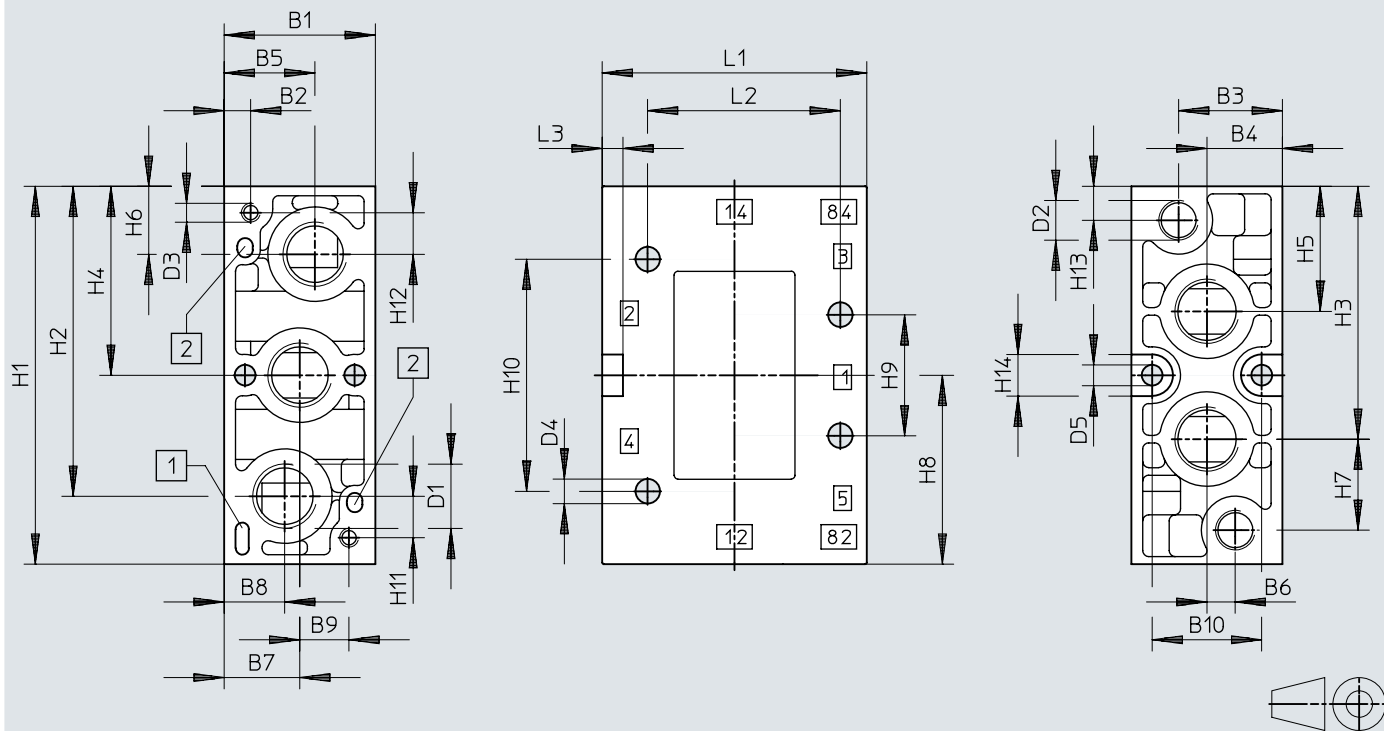


	B11	B12	B13	B14	D6	H21	H22	H23
JMFH-5-1/8	36,8	67	33	26	M5	129	226,6	259,6
JMFH-5-1/4	38	70				141,5	239,1	272,1

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, pneumatic connection G3/8

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- [1] For coding pin
- [2] Protection against rotation

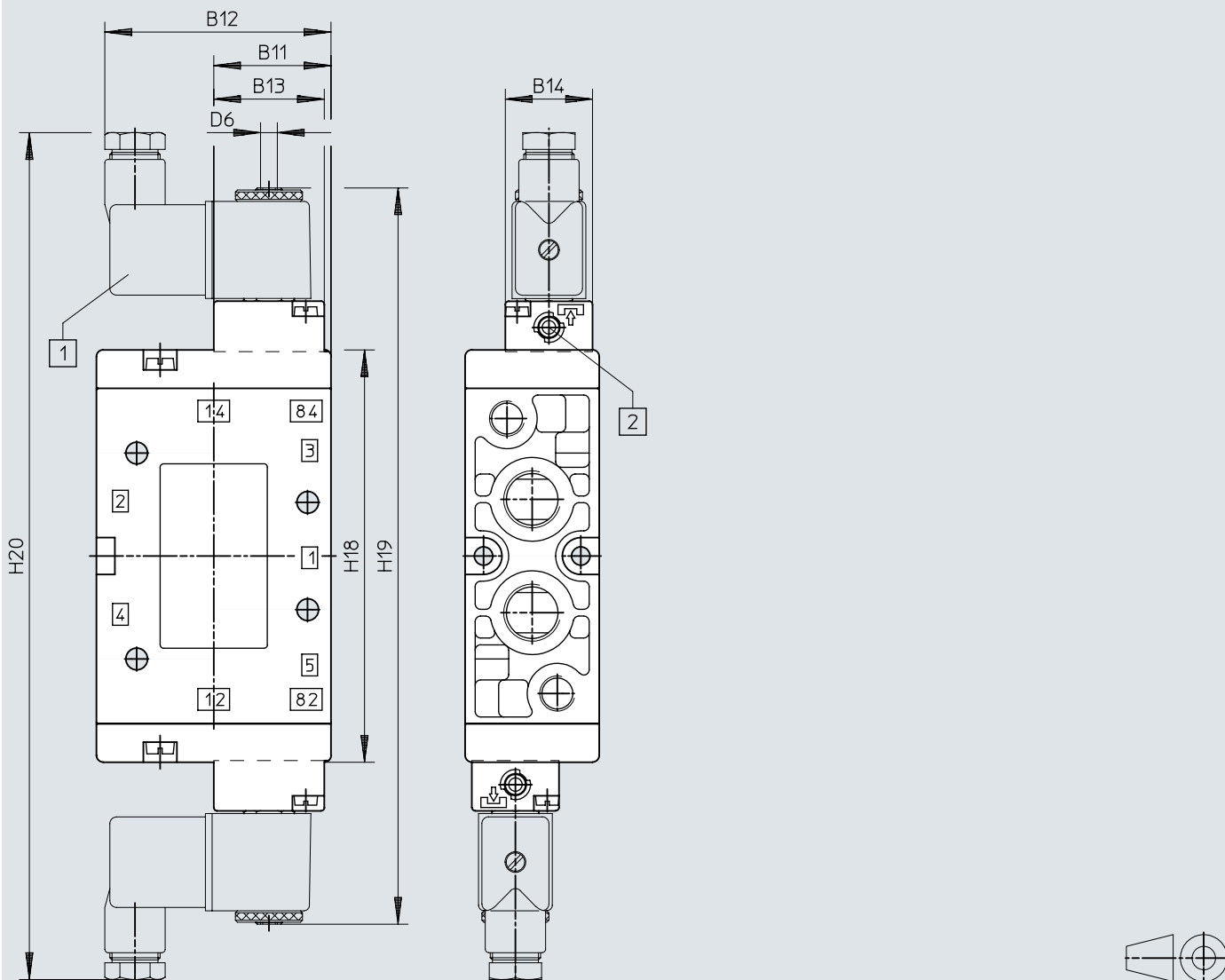
	B1 ±0,1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5
MFH-5/3-3/8	40	13	27,5	20	24	7,6	20	16	13	29	G3/8	G1/8	M5	6,5	5,5

	H1 ±0,1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3
MFH-5/3-3/8	100	82	66,9	50	33,1	18	24,1	50	32	61,4	11	11	9	11	70	51	5,5

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, pneumatic connection G3/8, installation dimensions with F solenoid coil, mechanical or pneumatic reset

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- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°

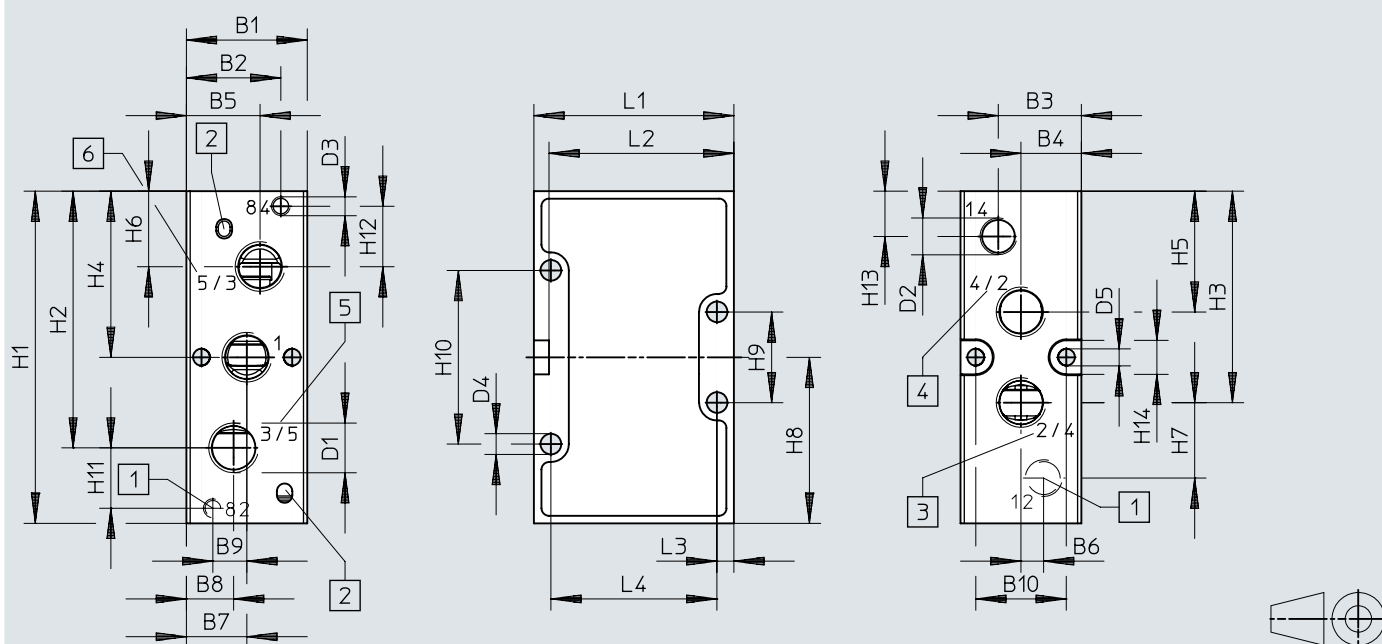
	B11	B12	B13	B14	D6	H18	H19	H20
JMFH-5-3/8	35	67,5	33	26	M5	123	220	253



## Dimensions

Dimensions – Solenoid valves MFH-B, 5/3-way valves, pneumatic connection  
G1/8, G1/4

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[1] Port 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B

[2] Protection against rotation

[3] 2 for poppet seat valve; 4 for piston spool valve

[4] 4 for poppet seat valve; 2 for piston spool valve

[5] 3 for poppet seat valve; 5 for piston spool valve

[6] 5 for poppet seat valve; 3 for piston spool valve

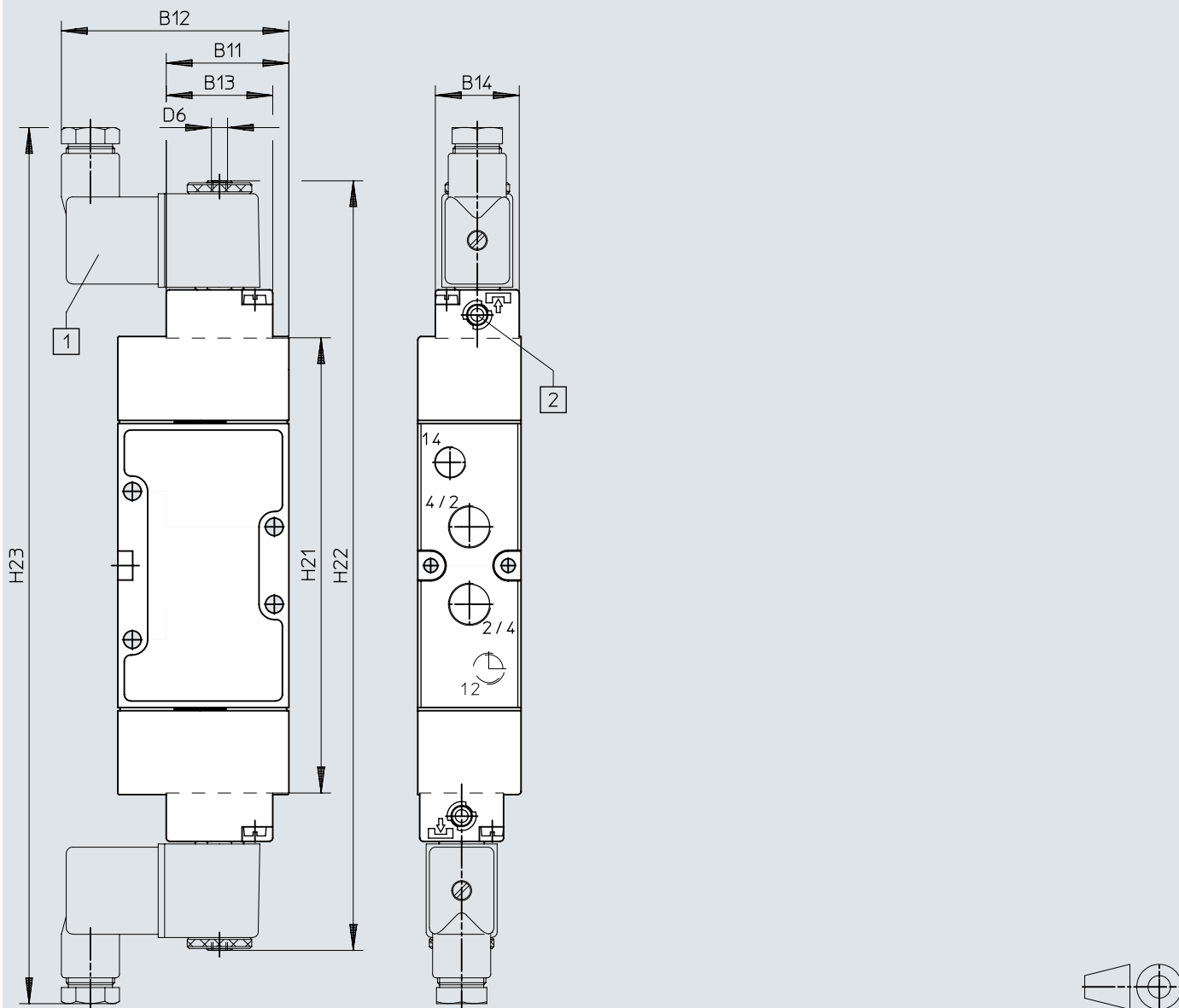
	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ø	D2 ø	D3	D4 ø	D5	H1 ±0,2	H2
MFH-5/3-1/8	26	16,5	18	13	16,5	5	13	9,5	8	19,5	G1/8	G1/8	M5	4,5	4,3	77	59,5
MFH-5/3-1/4	32	19,5	22	16	19,5	6	16	12,5	9	24	G1/4			5,5	4,3	88	68

	H3	H4	H5	H6	H7	H8 ±0,2	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3	L4
MFH-5/3-1/8	49,5	38,5	27,5	17,5	19	38,5	21	41	12	12	8,5	9	47	43	3,5	40
MFH-5/3-1/4	56	44	32	20	20	44	22	46	16	16	12		53	49	4,5	44

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/3-way valves, pneumatic connection  
G1/8, G1/4, installation dimensions with F solenoid coil, mechanical or  
pneumatic reset

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



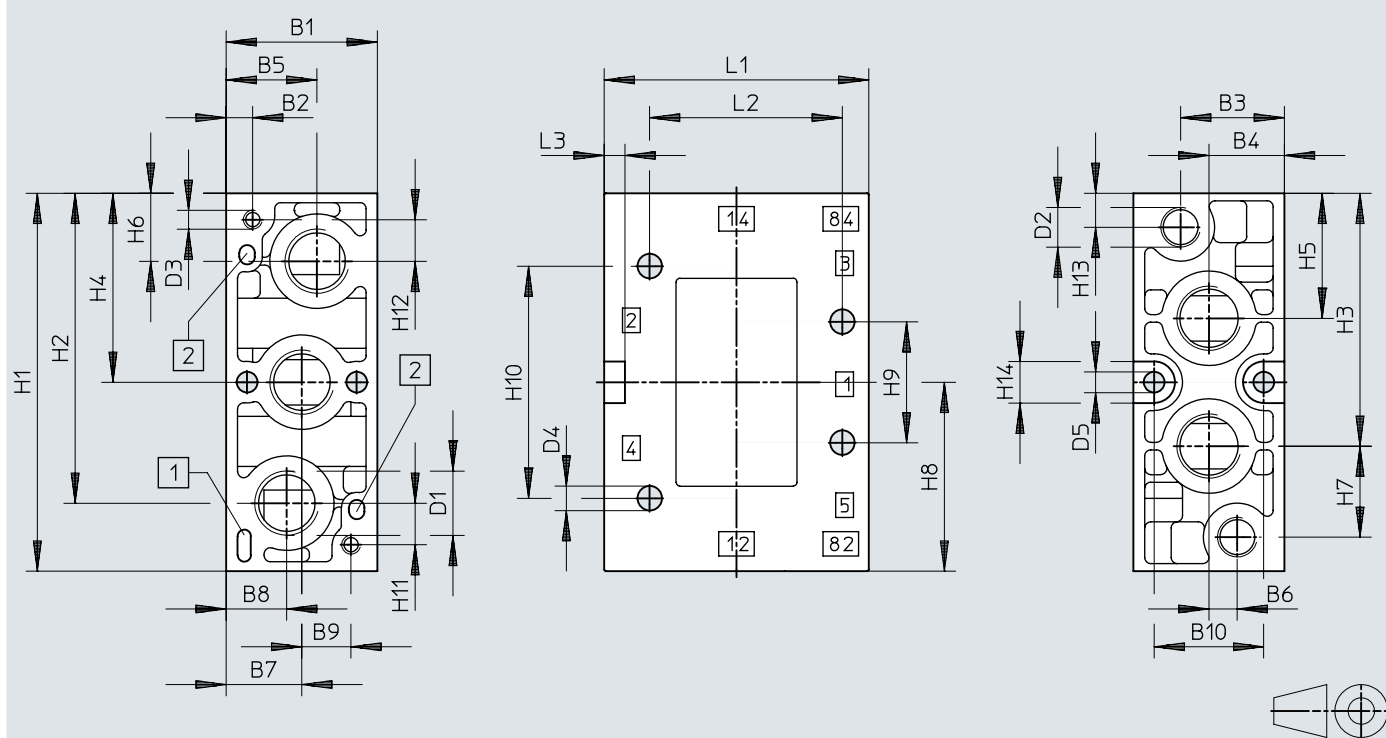
- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°

	B11	B12	B13	B14	D6	H21	H22	H23
MFH-5/3-1/8	36,8	67	33	26	M5	129	226,6	259,6
MFH-5/3-1/4	38	70				141,5	239,1	272,1

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/3-way valves, pneumatic connection  
G3/8

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



- [1] For coding pin
- [2] Protection against rotation

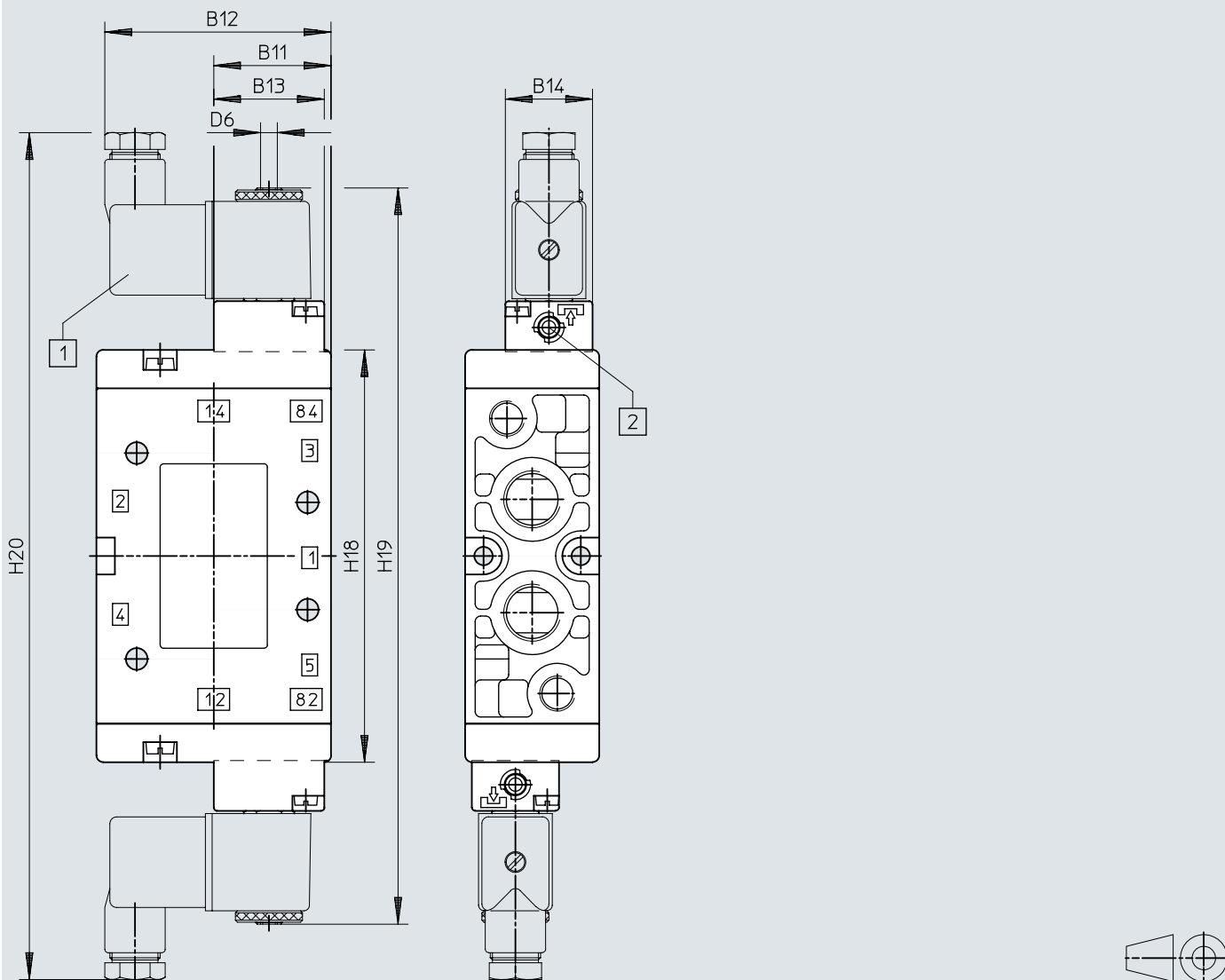
	B1 ±0,1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5
MFH-5/3-3/8	40	13	27,5	20	24	7,6	20	16	13	29	G3/8	G1/8	M5	6,5	5,5

	H1 ±0,1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3
MFH-5/3-3/8	100	82	66,9	50	33,1	18	24,1	50	32	61,4	11	11	9	11	70	51	5,5

## Dimensions

Dimensions – Solenoid valves MFH-B, 5/3-way valves, pneumatic connection G3/8, installation dimensions with F solenoid coil, mechanical or pneumatic reset

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



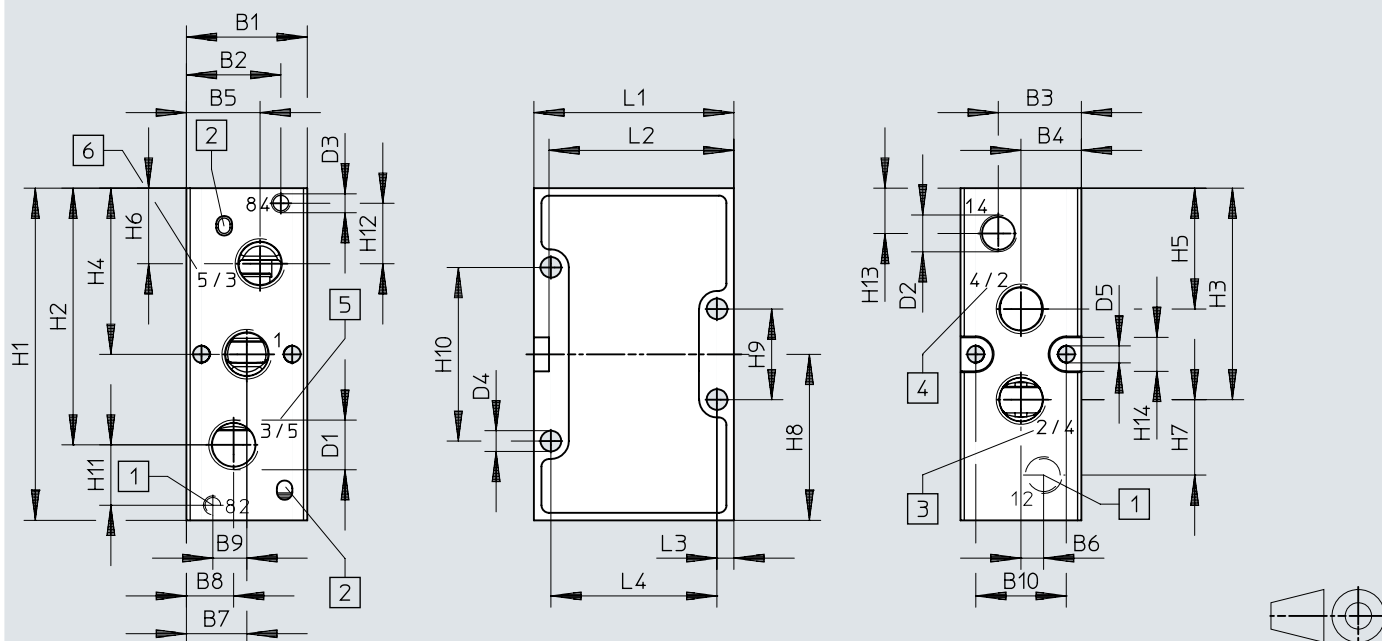
- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°

	B11	B12	B13	B14	D6	H18	H19	H20
JMFH-5/3-3/8	35	67,5	33	26	M5	123	220	253

## Dimensions

Dimensions – Solenoid valves MVH-B, 5/2-way valves, pneumatic connection  
G1/8, G1/4

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



[1] Port 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B

[2] Protection against rotation

[3] 2 for poppet seat valve; 4 for piston spool valve

[4] 4 for poppet seat valve; 2 for piston spool valve

[5] 3 for poppet seat valve; 5 for piston spool valve

[6] 5 for poppet seat valve; 3 for piston spool valve

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ø	D2 ø	D3	D4 ø	D5	H1 ±0,2	H2
MVH-5-1/8	26	16,5	18	13	16,5	5	13	9,5	8	19,5	G1/8	G1/8	M5	4,5	4,3	77	59,5
MVH-5-1/4	32	19,5	22	16	19,5	6	16	12,5	9	24	G1/4			5,5	4,3	88	68

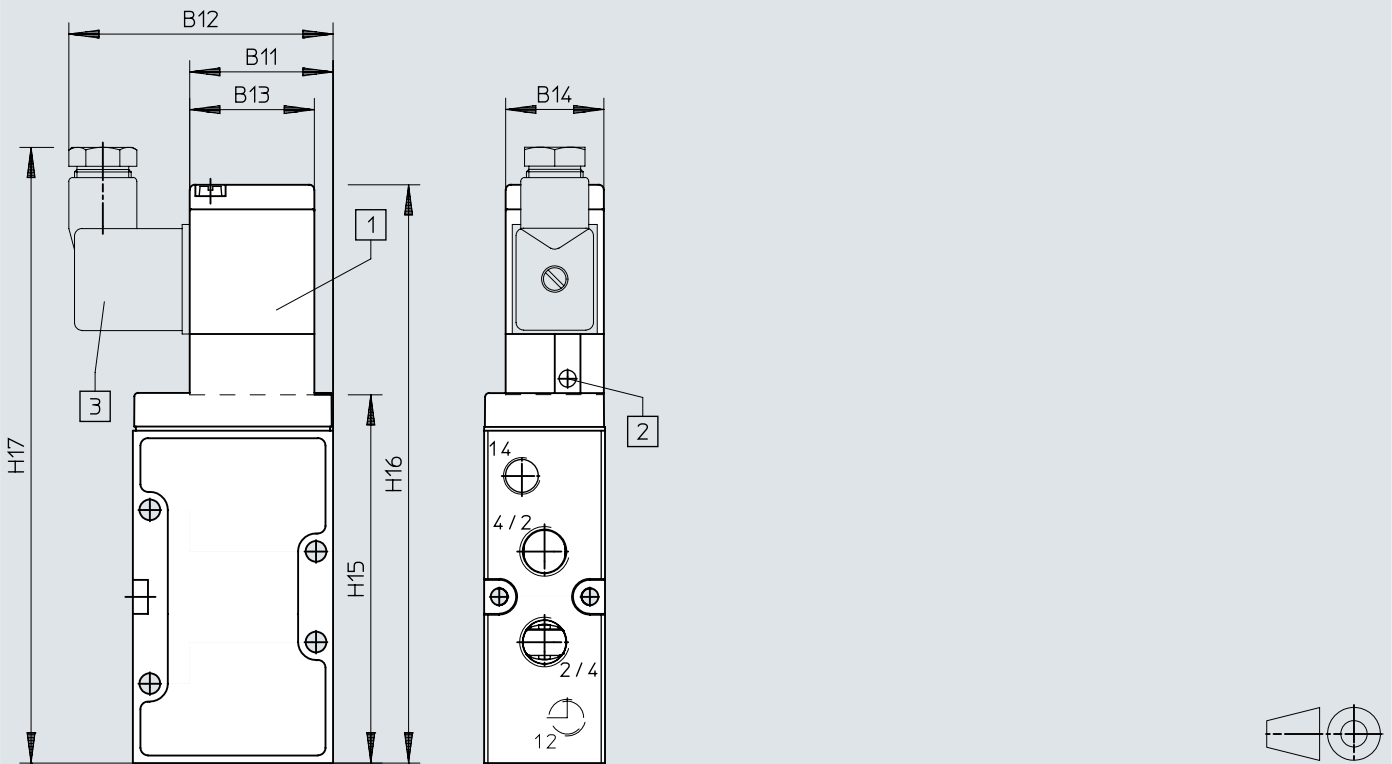
  

	H3	H4	H5	H6	H7	H8 ±0,2	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3	L4
MVH-5-1/8	49,5	38,5	27,5	17,5	19	38,5	21	41	12	12	8,5	9	47	43	3,5	40
MVH-5-1/4	56	44	32	20	20	44	22	48	16	16	12		53	49	4,5	44

## Dimensions

Dimensions – Solenoid valves MVH-B, 5/2-way valves, pneumatic connection  
G1/8, G1/4, installation dimensions with V solenoid coil, mechanical reset  
type

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



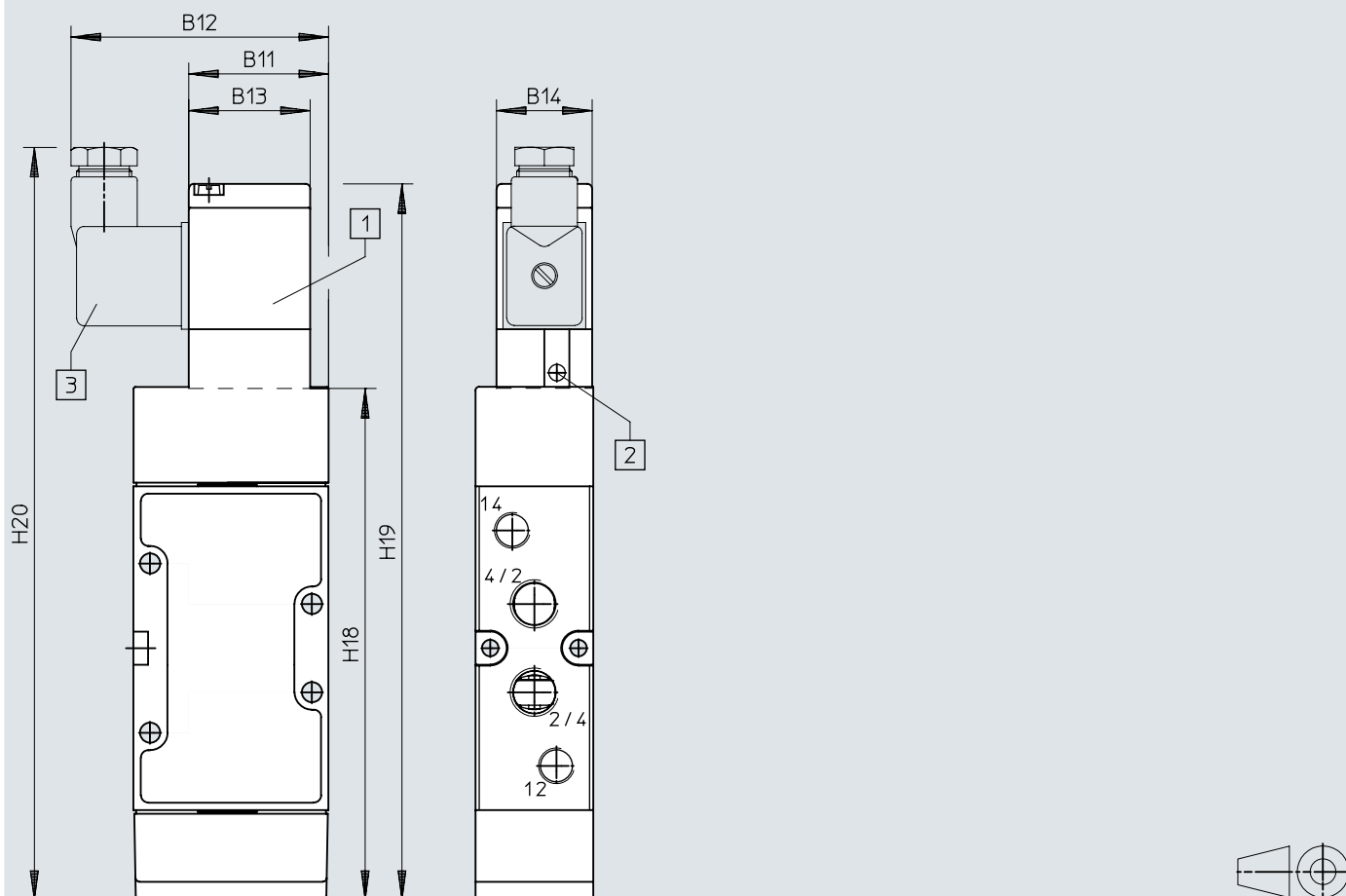
- [1] Solenoid coil can be rotated 180°
- [2] Manual override can be turned 180°
- [3] Electrical connection to EN 175301-803, type B

	B11	B12	B13	B14	H15	H16	H17
MVH-5-1/8	36,8	67	33	26	86,5	142,6	152,6
MVH-5-1/4	38	70			97,5	153,1	163,1

## Dimensions

Dimensions – Solenoid valves MVH-B, 5/2-way valves, pneumatic connection  
G1/8, G1/4, installation dimensions with V solenoid coil, pneumatic reset  
type

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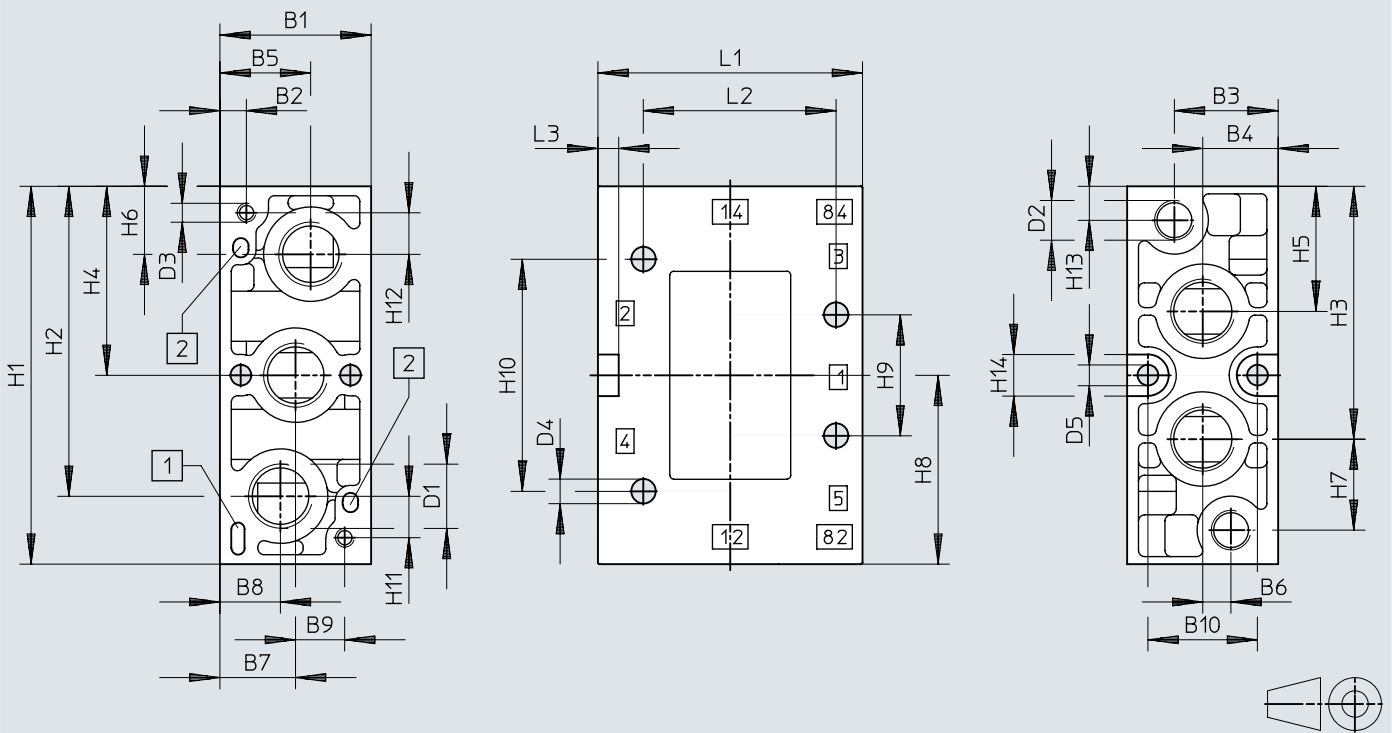
- [1] Solenoid coil can be rotated 180°
- [2] Manual override can be turned 180°
- [3] Electrical connection to EN 175301-803, type B

	B11	B12	B13	B14	H18	H19	H20
MVH-5-1/8	36,8	67	33	26	126,2	182,3	192,3
MVH-5-1/4	38	70			139	195,6	205,8

## Dimensions

Dimensions – Solenoid valves MVH-B, 5/2-way valves, pneumatic connection  
G3/8

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- [1] For coding pin
- [2] Protection against rotation

	B1 ±0,1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5
MVH-5-3/8	40	13	27,5	20	24	7,6	20	16	13	29	G3/8	G1/8	M5	6,5	5,5

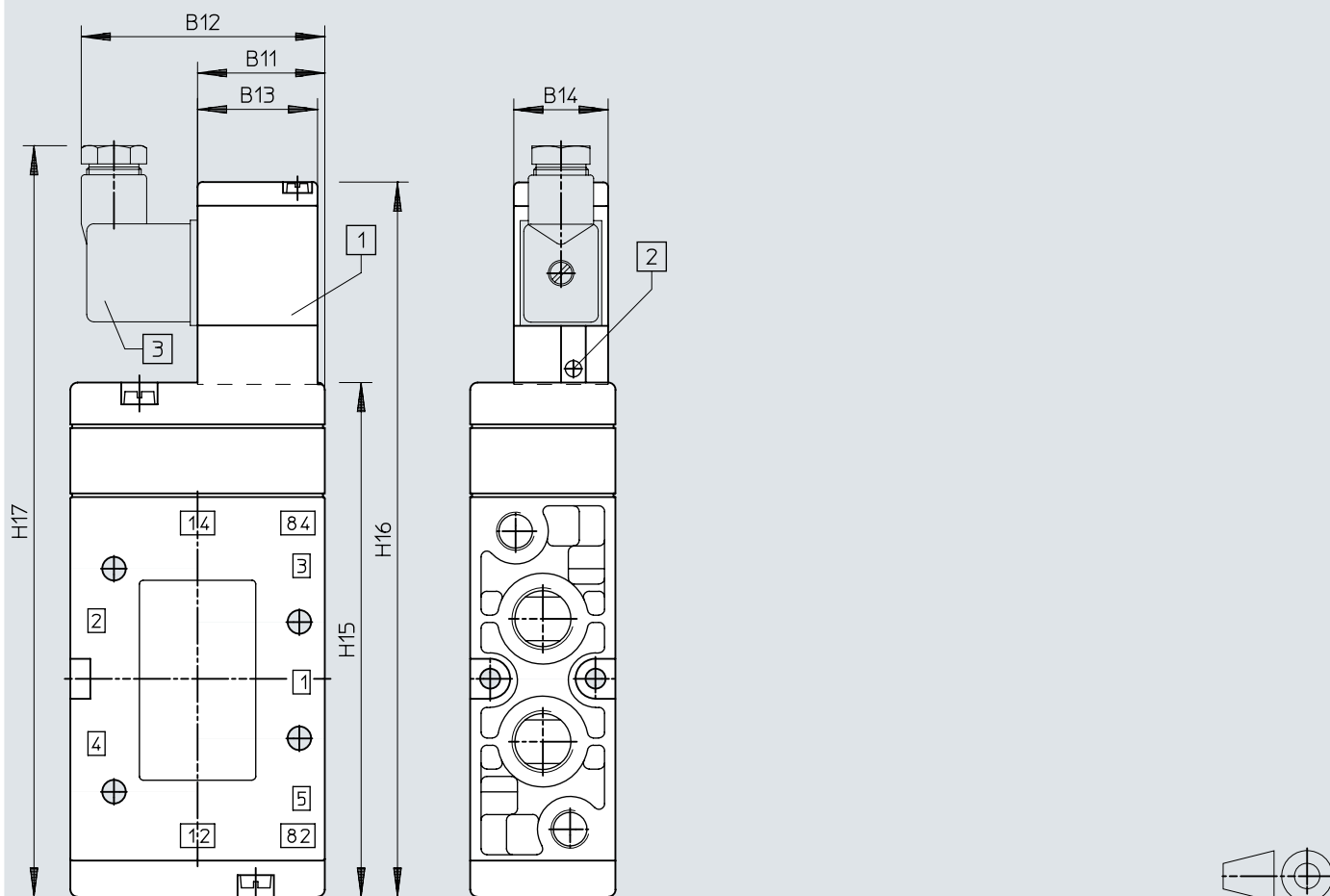
	H1 ±0,1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3
MVH-5-3/8	100	82	66,9	50	33,1	18	24,1	50	32	61,4	11	11	9	11	70	51	5,5



## Dimensions

Dimensions – Solenoid valves MVH-B, 5/2-way valves, pneumatic connection  
G3/8, installation dimensions with V solenoid coil, mechanical or pneumatic  
reset type

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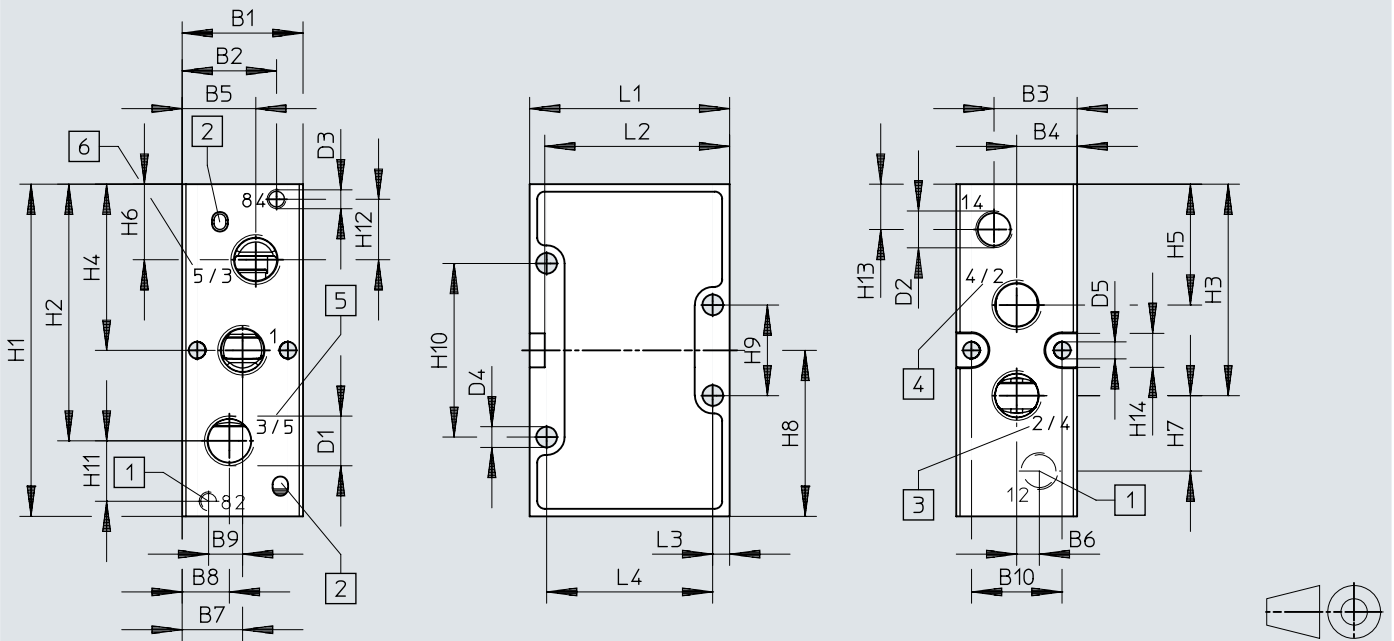
- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°
- [3] Connection for power supply to EN 175301-803, type B

	B11	B12	B13	B14	H15	H16	H17
MVH-5-3/8	35	67,5	33	26	141,5	197	207

## Dimensions

Dimensions – Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, pneumatic connection G1/8, G1/4

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- [1] Port 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- [2] Protection against rotation
- [3] 2 for poppet seat valve; 4 for piston spool valve
- [4] 4 for poppet seat valve; 2 for piston spool valve
- [5] 3 for poppet seat valve; 5 for piston spool valve
- [6] 5 for poppet seat valve; 3 for piston spool valve

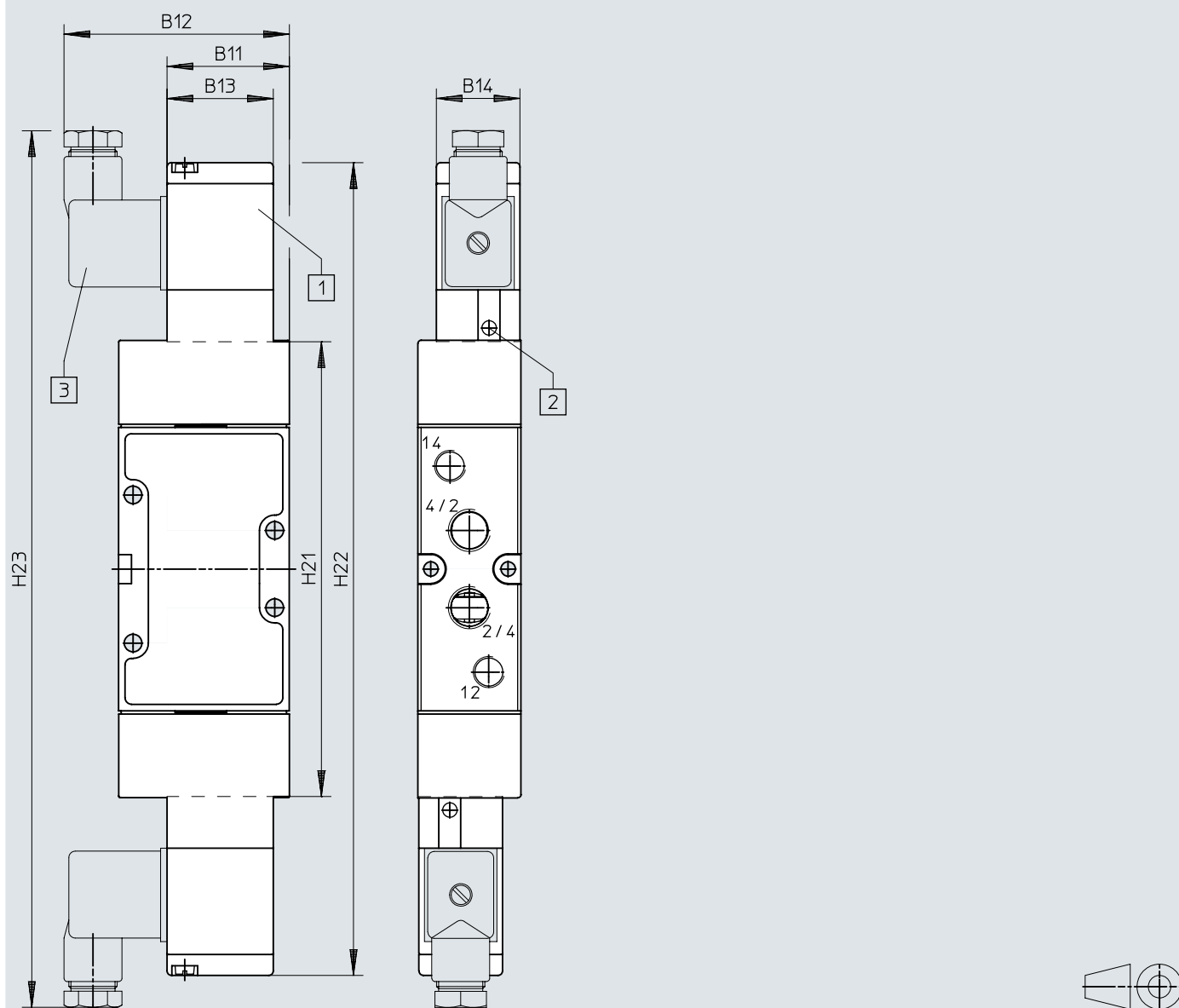
	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ø	D2 ø	D3	D4 ø	D5	H1 ±0,2	H2
JMVH-5-1/8	26	16,5	18	13	16,5	5	13	9,5	8	19,5	G1/8	G1/8	M5	4,5	4,3	77	59,5
JMVH-5-1/4	32	19,5	22	16	19,5	6	16	12,5	9	24	G1/4			5,5	4,3	88	68

	H3	H4	H5	H6	H7	H8 ±0,2	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3	L4
JMVH-5-1/8	49,5	38,5	27,5	17,5	19	38,5	21	41	12	12	8,5	9	47	43	3,5	40
JMVH-5-1/4	56	44	32	20	20	44	22	48	16	16	12		53	49	4,5	44

## Dimensions

Dimensions – Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, pneumatic connection G1/8, G1/4, installation dimensions with V solenoid coil, mechanical or pneumatic reset

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



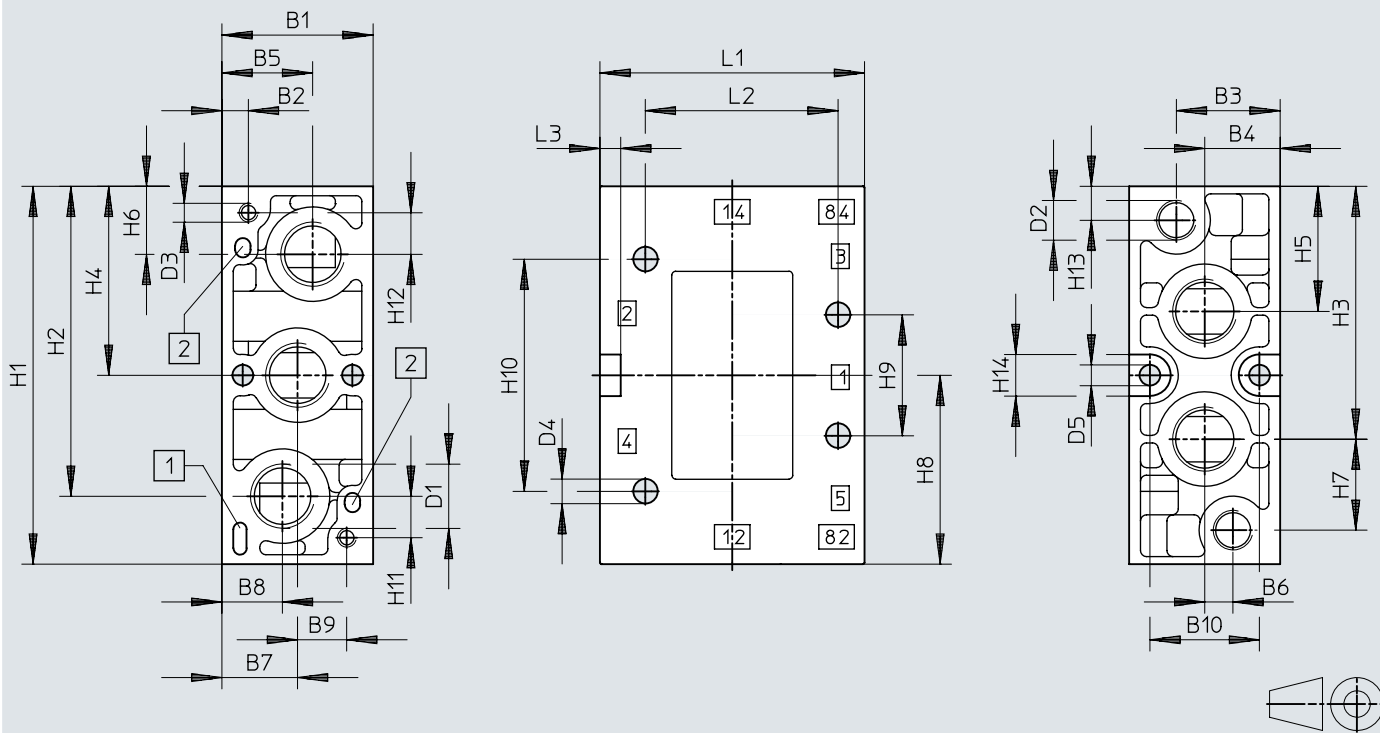
- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°
- [3] Electrical connection to EN 175301-803, type B

	B11	B12	B13	B14	H21	H22	H23
JMVH-5-1/8	36,8	67	33	26	129	241,2	261,2
JMVH-5-1/4	38	70			141	254,2	274,5

## Dimensions

Dimensions – Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, pneumatic connection G3/8

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- [1] For coding pin
- [2] Protection against rotation

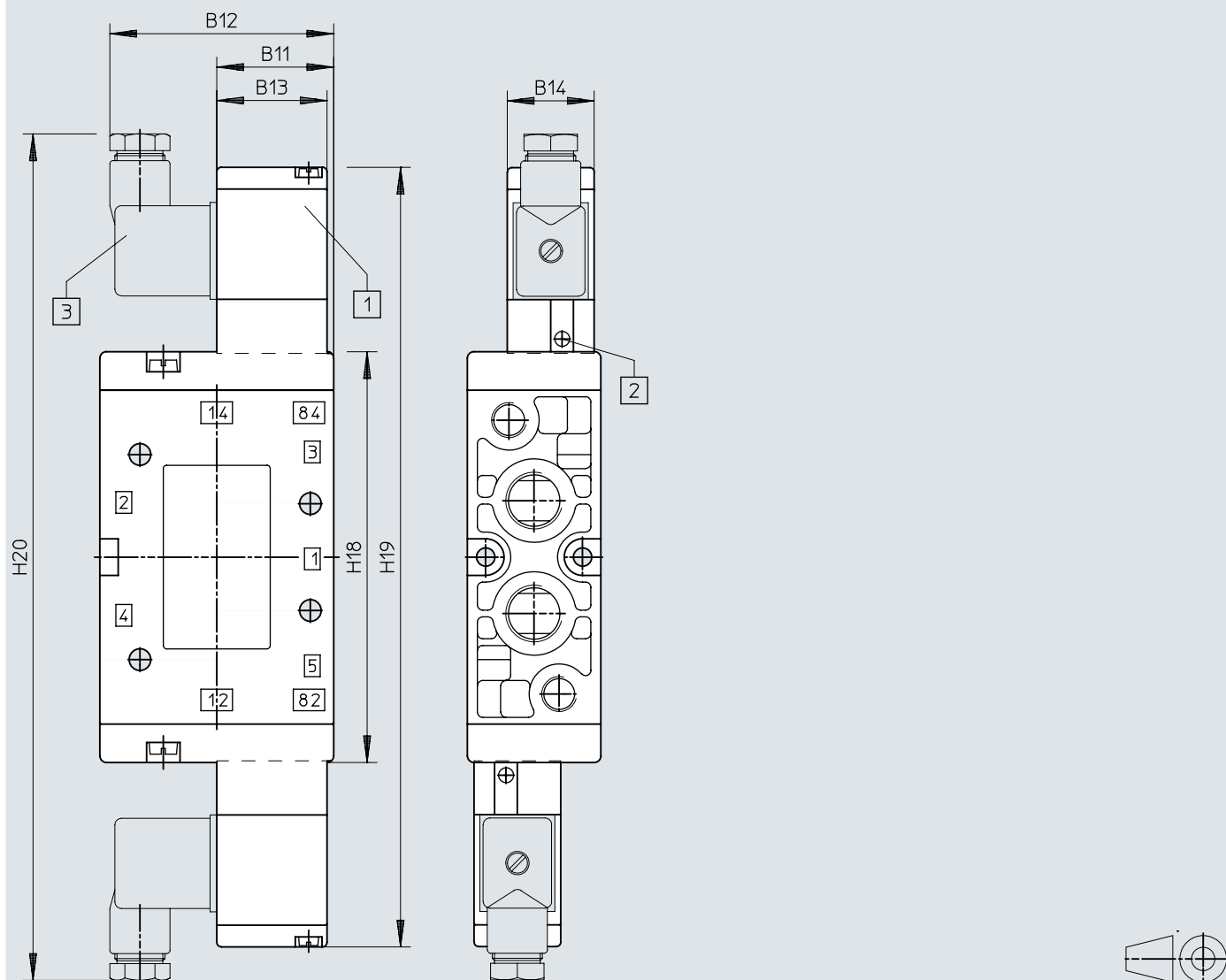
	B1 ±0,1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5
JMVH-5-3/8	40	13	27,5	20	24	7,6	20	16	13	29	G3/8	G1/8	M5	6,5	5,5

	H1 ±0,1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3
JMVH-5-3/8	100	82	66,9	50	33,1	18	24,1	50	32	61,4	11	11	9	11	70	51	5,5

## Dimensions

Dimensions – Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, pneumatic connection G3/8, installation dimensions with V solenoid coil, reset type mechanical or pneumatic

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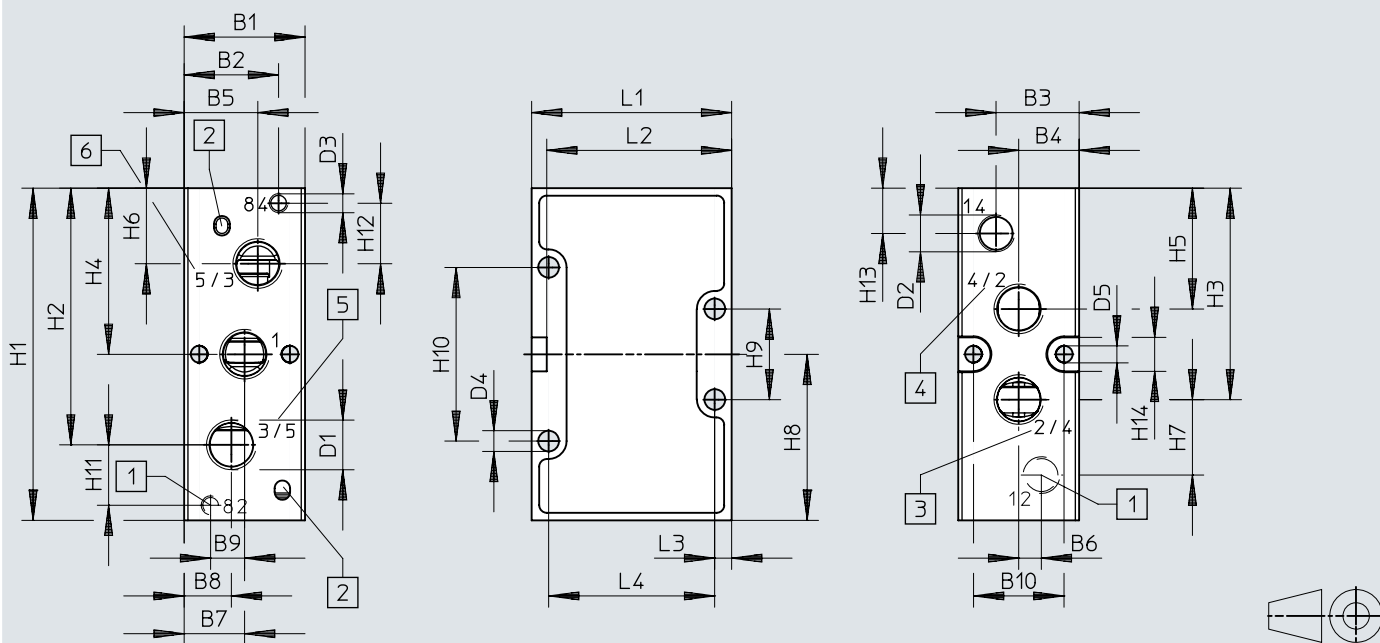
- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°
- [3] Electrical connection to EN 175301-803, type B

	B11	B12	B13	B14	H18	H19	H20
JMVH-5-3/8	35	67,5	33	26	123	234	254

## Dimensions

Dimensions – Solenoid valves MVH-B, 5/3-way valves, pneumatic connection  
G1/8, G1/4

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- [1] Port 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- [2] Protection against rotation
- [3] 2 for poppet seat valve; 4 for piston spool valve
- [4] 4 for poppet seat valve; 2 for piston spool valve
- [5] 3 for poppet seat valve; 5 for piston spool valve
- [6] 5 for poppet seat valve; 3 for piston spool valve

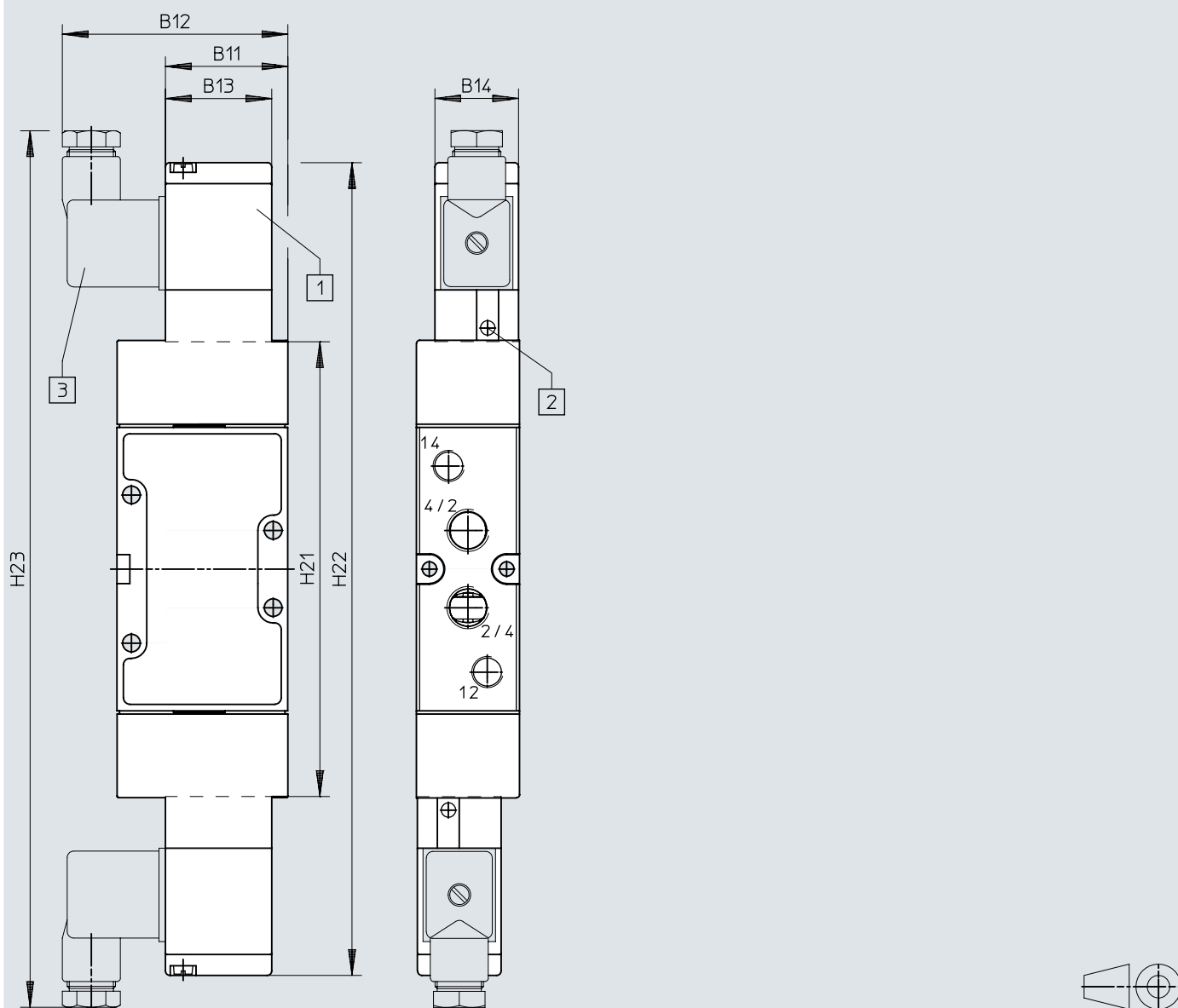
	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ø	D2 ø	D3	D4 ø	D5	H1 ±0,2	H2
MVH-5/3-1/8	26	16,5	18	13	16,5	5	13	9,5	8	19,5	G1/8	G1/8	M5	4,5	4,3	77	59,5
MVH-5/3-1/4	32	19,5	22	16	19,5	6	16	12,5	9	24	G1/4			5,5	4,3	88	68

	H3	H4	H5	H6	H7	H8 ±0,2	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3	L4
MVH-5/3-1/8	49,5	38,5	27,5	17,5	19	38,5	21	41	12	12	8,5	9	47	43	3,5	40
MVH-5/3-1/4	56	44	32	20	20	44	22	48	16	16	12		53	49	4,5	44

## Dimensions

Dimensions – Solenoid valves MVH-B, 5/3-way valves, pneumatic connection  
G1/8, G1/4, installation dimensions with V solenoid coil, mechanical reset  
type

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



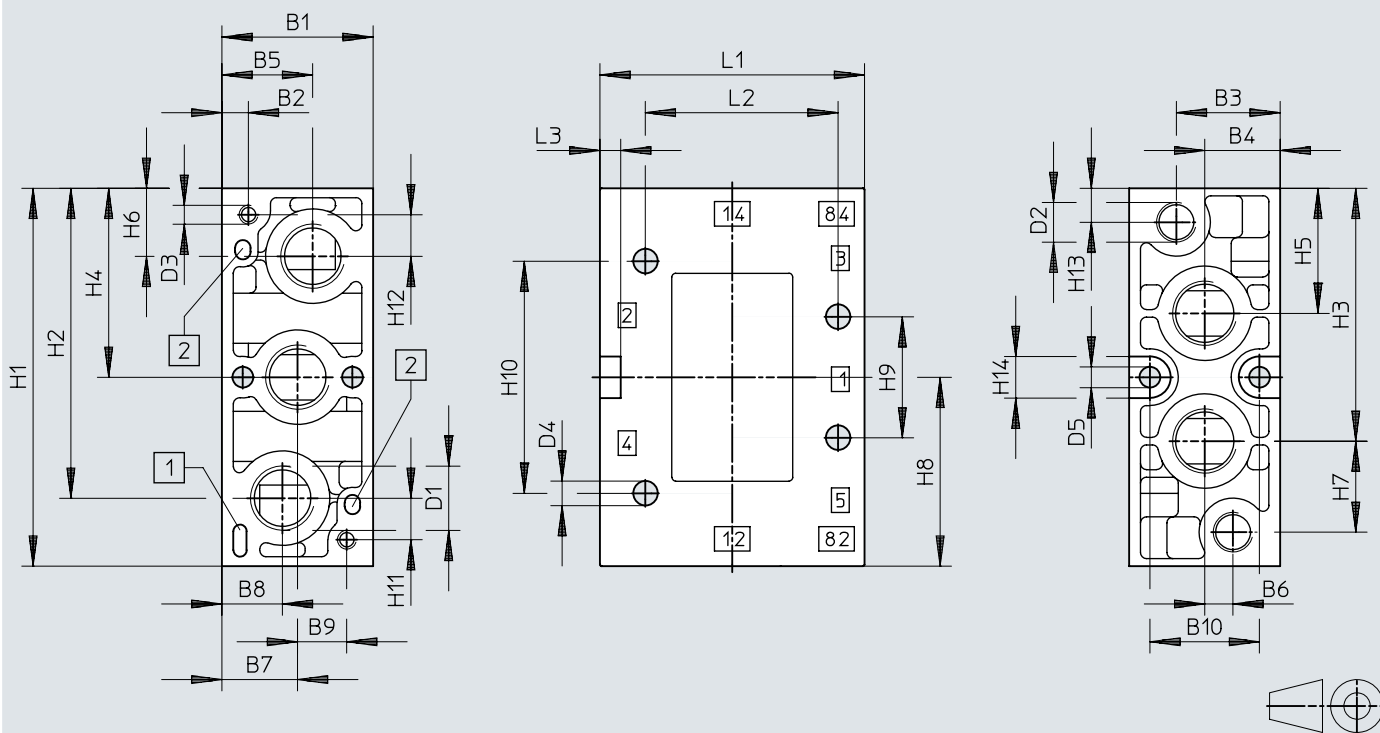
- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°
- [3] Electrical connection to EN 175301-803, type B

	B11	B12	B13	B14	H21	H22	H23
MVH-5/3-1/8	36,8	67	33	26	129	241,2	261,2
MVH-5/3-1/4	38	70			141	254,2	274,5

## Dimensions

Dimensions – Solenoid valves MVH-B, 5/3-way valves, pneumatic connection  
G3/8

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- [1] For coding pin
- [2] Protection against rotation

	B1 ±0,1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5
MVH-5/3-3/8	40	13	27,5	20	24	7,6	20	16	13	29	G3/8	G1/8	M5	6,5	5,5

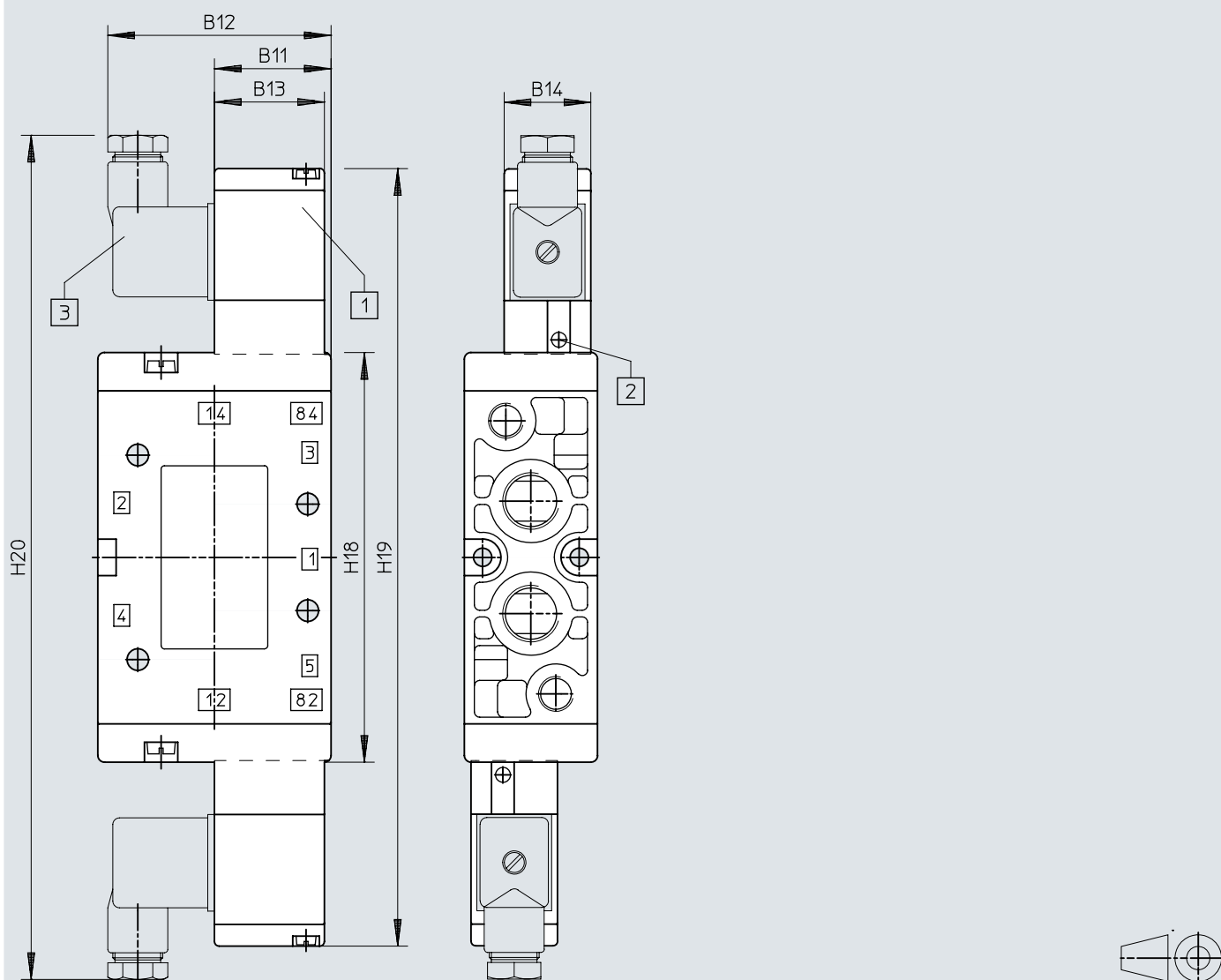
	H1 ±0,1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1 ±0,2	L2	L3
MVH-5/3-3/8	100	82	66,9	50	33,1	18	24,1	50	32	61,4	11	11	9	11	70	51	5,5



## Dimensions

Dimensions – Solenoid valves MVH-B, 5/3-way valves, pneumatic connection  
G3/8, installation dimensions with F solenoid coil, mechanical reset

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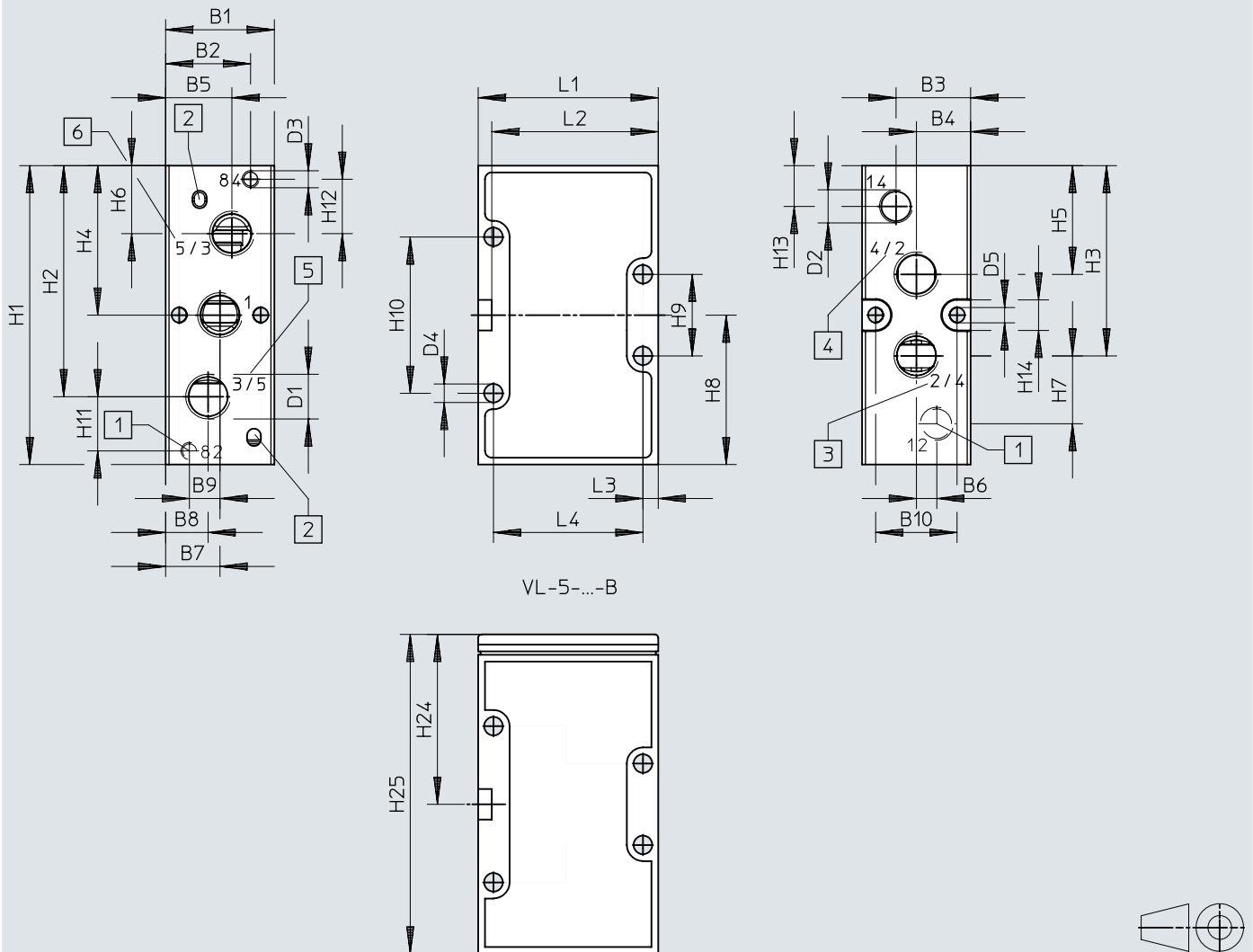
- [1] Solenoid coil can be rotated 360°
- [2] Manual override can be turned 180°
- [3] Electrical connection to EN 175301-803, type B

	B11	B12	B13	B14	H18	H19	H20
MVH-5/3-3/8	35	67,5	33	26	123	234	254

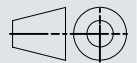
## Dimensions

Dimensions – Pneumatic valves VL, 5/2-way valves, pneumatic connection  
G1/8, G1/4, VL-5-...-B

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- [1] Port 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- [2] Protection against rotation
- [3] 2 for poppet seat valve; 4 for piston spool valve
- [4] 4 for poppet seat valve; 2 for piston spool valve
- [5] 3 for poppet seat valve; 5 for piston spool valve
- [6] 5 for poppet seat valve; 3 for piston spool valve



## Dimensions

	B1	B2	B3	B4	B5	B6	B7	B8		
VL-5-1/8	26	16,5	18	13	16,5	5	13	9,5		
VL-5-1/4	32	19,5	22	16	19,5	6	16	12,5		

	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5		
VL-5-1/8	8	19,5	G1/8	G1/8	M5	4,5	4,3		
VL-5-1/4	9	24	G1/4			5,5	4,3		

	H1 ± 0,2	H2	H3	H4	H5	H6	H7	H8 ± 0,2	H9	H10
VL-5-1/8	77	59,5	49,5	38,5	27,5	17,5	19	38,5	21	41
VL-5-1/4	88	68	56	44	32	20	20	44	22	46

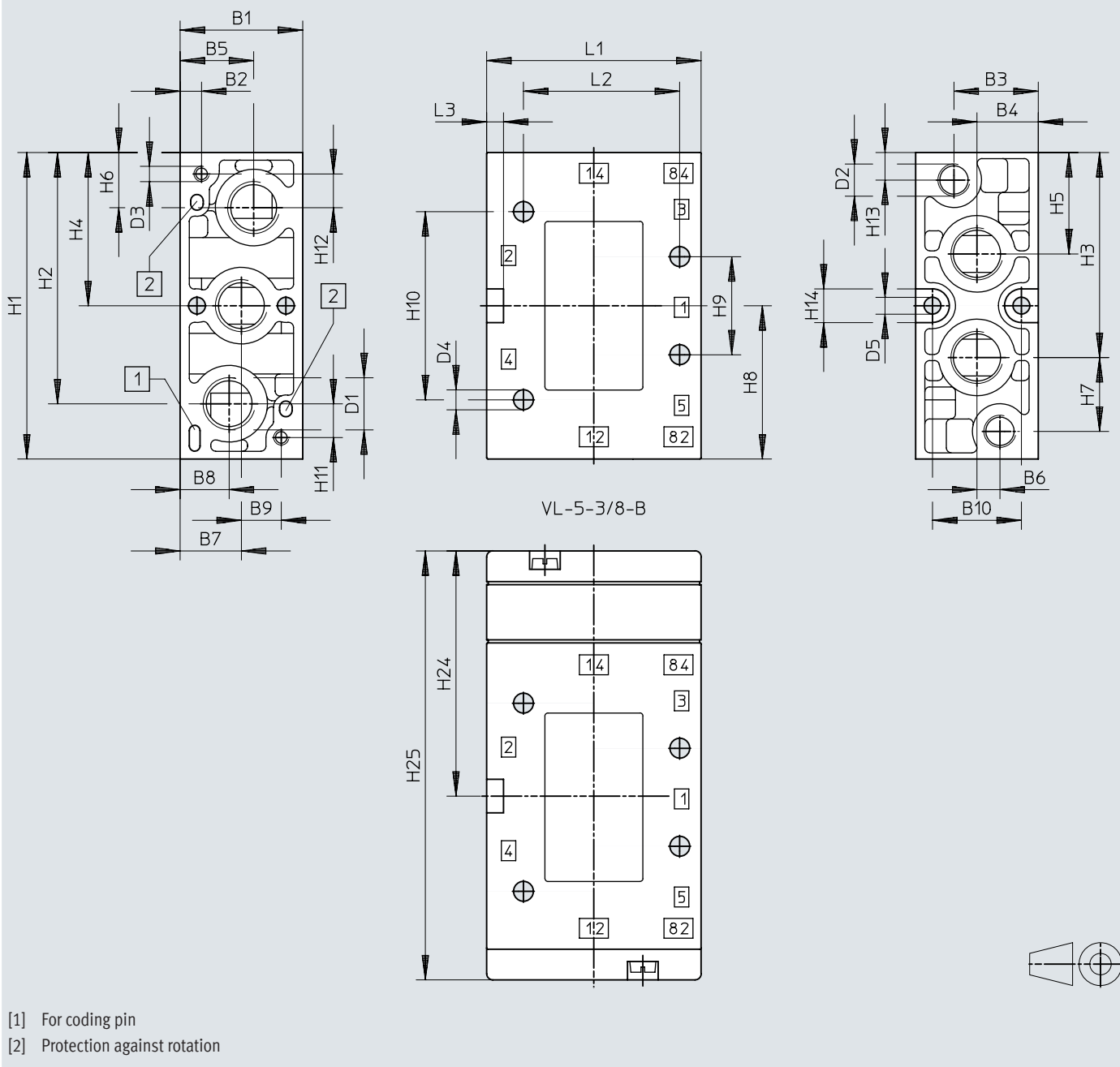
  

	H11	H12	H13	H14	H24	H25	L1 ± 0,2	L2	L3	L4
VL-5-1/8	12	12	8,5	9	50	94	47	43	3,5	40
VL-5-1/4	16	16	12		44,4	83	53	49	4,5	44

## Dimensions

Dimensions – Pneumatic valves VL, 5/2-way valves, pneumatic connection  
G3/8, VL-5-...-B

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

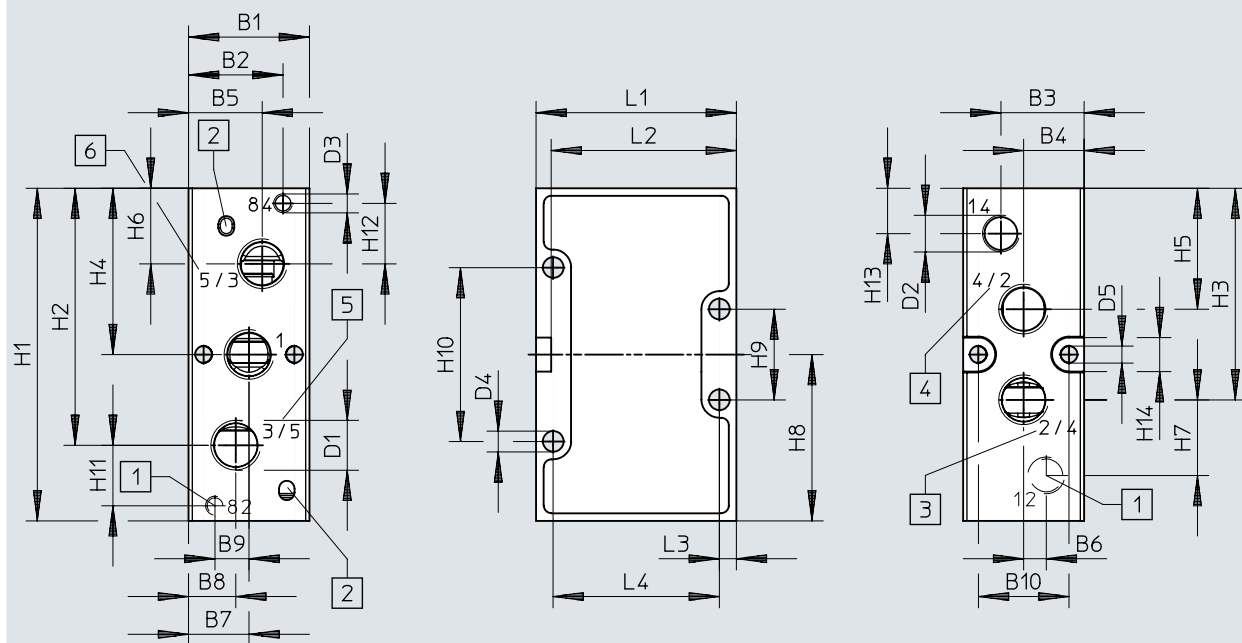


	B1 ±0,1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4 ∅	D5 ∅	H1 ±0,1	H2
VL-5-3/8	40	13	27,5	20	24	7,6	20	16	13	29	G3/8	G1/8	M5	6,5	5,5	100	82
	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H24	H25	L1 ±0,2	L2	L3
VL-5-3/8	66,9	50	33,1	18	24,1	50	32	61,4	11	11	9	11	11	11	70	51	5,5

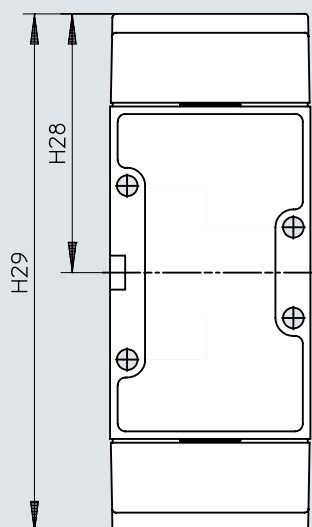
## Dimensions

Dimensions – Pneumatic valves J, 5/2-way valves, double pilot valves, pneumatic connection G1/8, G1/4, J-5-...-B

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VL-5/3...-...-B



- [1] Port 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- [2] Protection against rotation and for coding pin
- [3] 2 for poppet seat valve; 4 for piston spool valve
- [4] 4 for poppet seat valve; 2 for piston spool valve
- [5] 3 for poppet seat valve; 5 for piston spool valve
- [6] 5 for poppet seat valve; 3 for piston spool valve



## Dimensions

	B1	B2	B3	B4	B5	B6	B7	B8
J-5-1/8	26	16,5	18	13	16,5	5	13	9,5
J-5-1/4	32	19,5	22	16	19,5	6	16	12,5

	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5
J-5-1/8	8	19,5	G1/8	G1/8	M5	4,5	4,3
J-5-1/4	9	24	G1/4			5,5	4,3

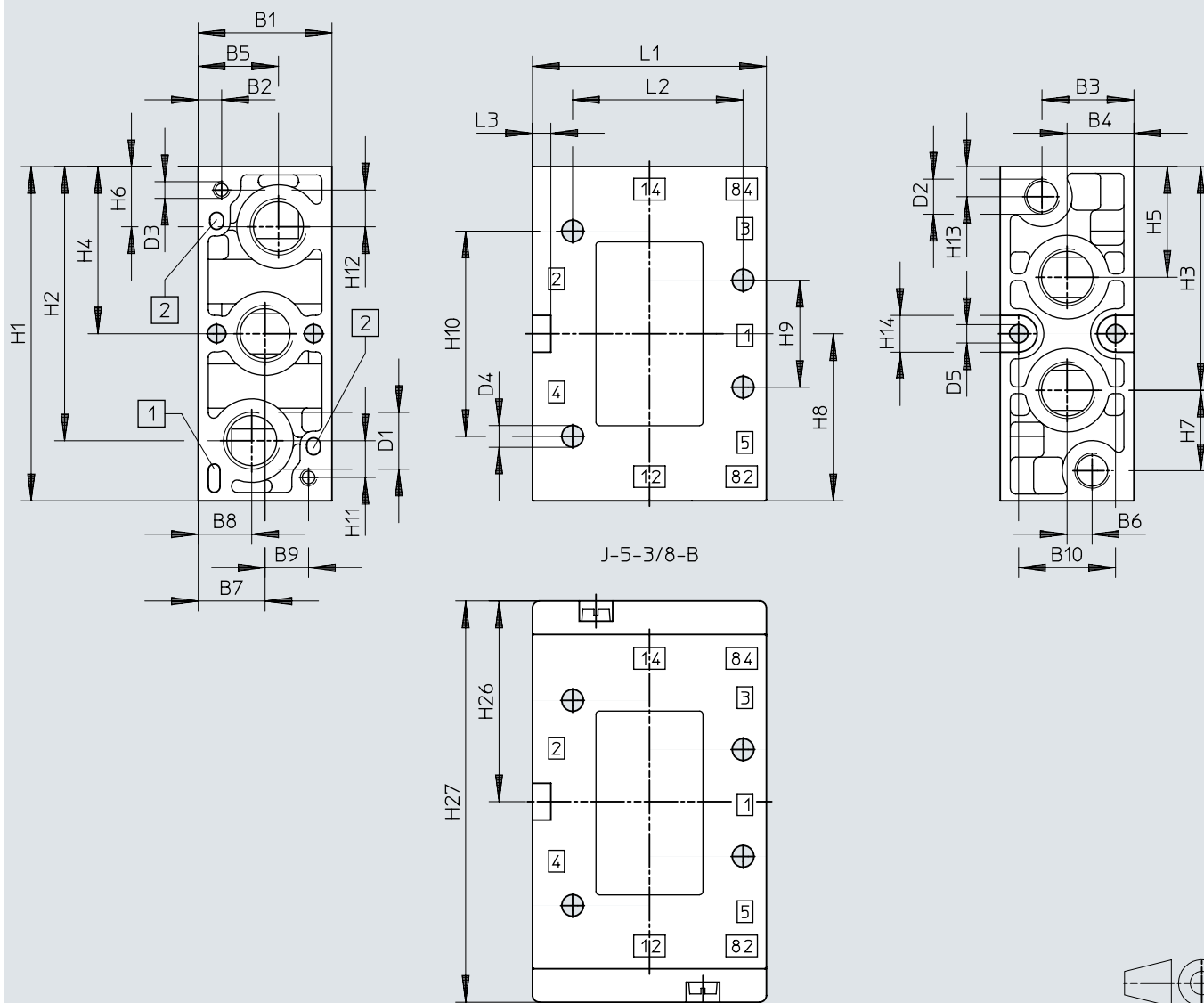
	H1 ± 0,2	H2	H3	H4	H5	H6	H7	H8 ± 0,2	H9	H10
J-5-1/8	77	59,5	49,5	38,5	27,5	17,5	19	38,5	21	41
J-5-1/4	88	68	56	44	32	20	20	44	22	46

	H11	H12	H13	H14	H28	H29	L1 ± 0,2	L2	L3	L4
J-5-1/8	12	12	8,5	9	68,5	137	47	43	3,5	40
J-5-1/4	16	16	12		61,7	123,4	53	49	4,5	44

## Dimensions

Dimensions – Pneumatic valves J, 5/2-way valves, double pilot valves, pneumatic connection G3/8, J-5-3/8-B

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- [1] For coding pin
- [2] Protection against rotation

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4	D5	H1	H2
	±0,1													∅	∅	±0,1	
J-5-3/8	40	13	27,5	20	24	7,6	20	16	13	29	G3/8	G1/8	M5	6,5	5,5	100	82

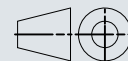
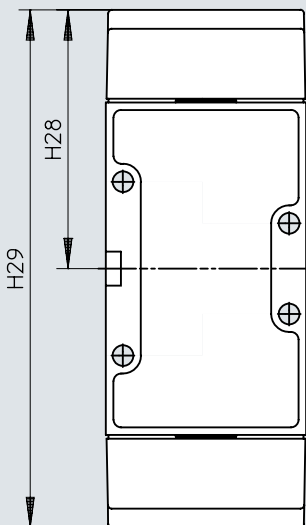
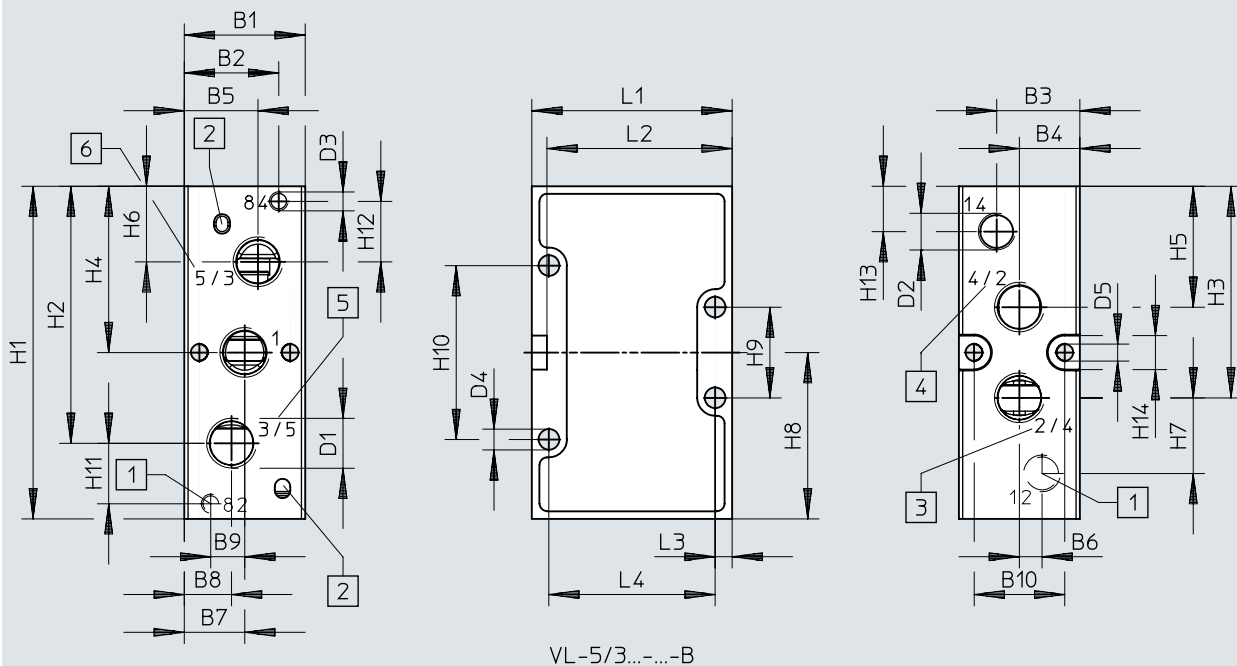
  

	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H26	H27	L1	L2	L3
															±0,2		
J-5-3/8	66,9	50	33,1	18	24,1	50	32	61,4	11	11	9	11	60	120	70	51	5,5

## Dimensions

Dimensions – Pneumatic valves VL, 5/2-way valves, pneumatic connection  
 G1/8, G1/4, VL-5/3...-...-B

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- [1] Port 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- [2] Protection against rotation and for coding pin
- [3] 2 for poppet seat valve; 4 for piston spool valve
- [4] 4 for poppet seat valve; 2 for piston spool valve
- [5] 3 for poppet seat valve; 5 for piston spool valve
- [6] 5 for poppet seat valve; 3 for piston spool valve



## Dimensions

	B1	B2	B3	B4	B5	B6	B7	B8		
J-5-1/8	26	16,5	18	13	16,5	5	13	9,5		
J-5-1/4	32	19,5	22	16	19,5	6	16	12,5		

	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5		
J-5-1/8	8	19,5	G1/8	G1/8	M5	4,5	4,3		
J-5-1/4	9	24	G1/4			5,5	4,3		

	H1 ± 0,2	H2	H3	H4	H5	H6	H7	H8 ± 0,2	H9	H10
J-5-1/8	77	59,5	49,5	38,5	27,5	17,5	19	38,5	21	41
J-5-1/4	88	68	56	44	32	20	20	44	22	46

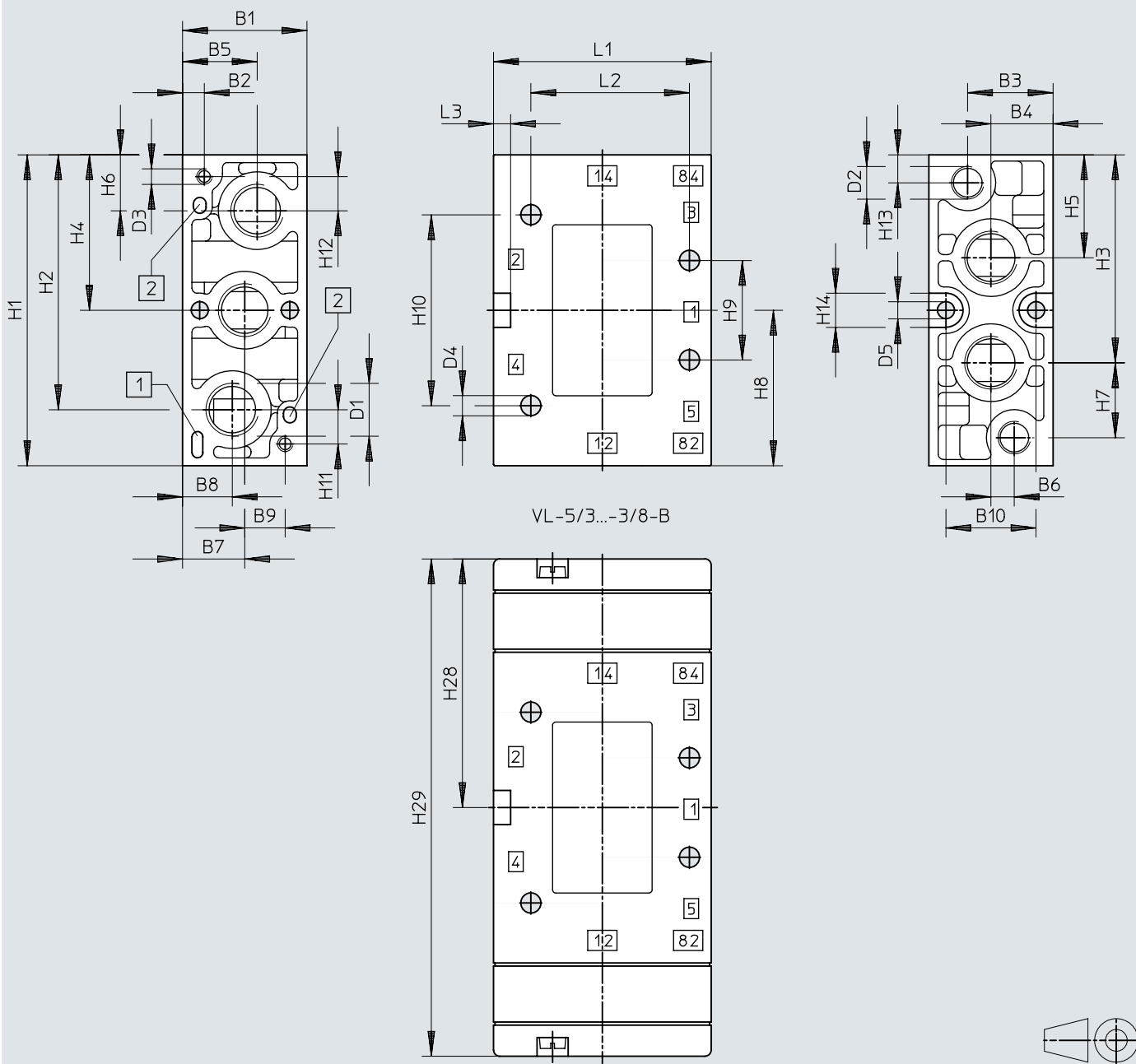
  

	H11	H12	H13	H14	H28	H29	L1 ± 0,2	L2	L3	L4
J-5-1/8	12	12	8,5	9	68,5	137	47	43	3,5	40
J-5-1/4	16	16	12		61,7	123,4	53	49	4,5	44

## Dimensions

Dimensions – Pneumatic valves VL, 5/2-way valves, pneumatic connection  
G3/8, VL-5/3...-3/8-B

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VL-5/3...-3/8-B

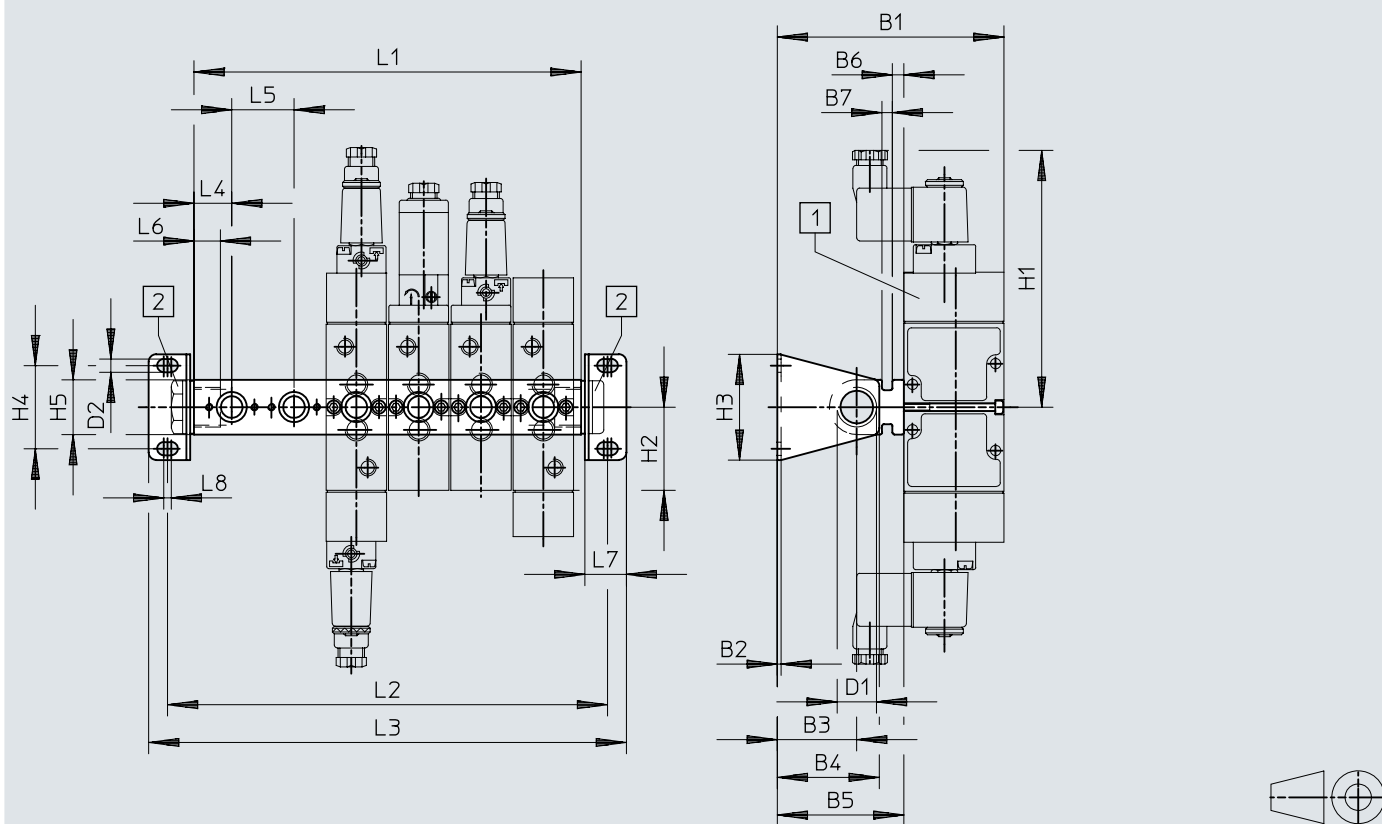
- [1] For coding pin
- [2] Protection against rotation

	B1 ±0,1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4 ∅	D5 ∅	H1 ±0,1	H2
VL-5-3/8	40	13	27,5	20	24	7,6	20	16	13	29	G3/8	G1/8	M5	6,5	5,5	100	82

	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H28	H29	L1 ±0,2	L2	L3
VL-5-3/8	66,9	50	33,1	18	24,1	50	32	61,4	11	11	9	11	80	160	70	51	5,5

## Dimensions

## Dimensions – Manifold rail PAL-...-B

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[1] The cover of all valves can be turned 180°

[2] Blanking plugs and reducing nipples are not included in the scope of delivery

## Dimensions

	B1	B2	B3	B4	B5	B6	B7	D1	D2	H1	H2	H3	H4	L4	L5	L6	L7	L8
PAL-1/8	104	2	33,5	44,5	57	5	5,5	G3/8	5,2	130	38,5	44	32	18	27	12	20	4
PAL-1/4	120	2	42	54	67	6,1	5,5	G1/2	7	136	44	56	44	20	33	14	22	4
PAL-3/8	176	3	75	93	106	4	14	G3/4	9	147	50	80	60	25	41	17	30	5

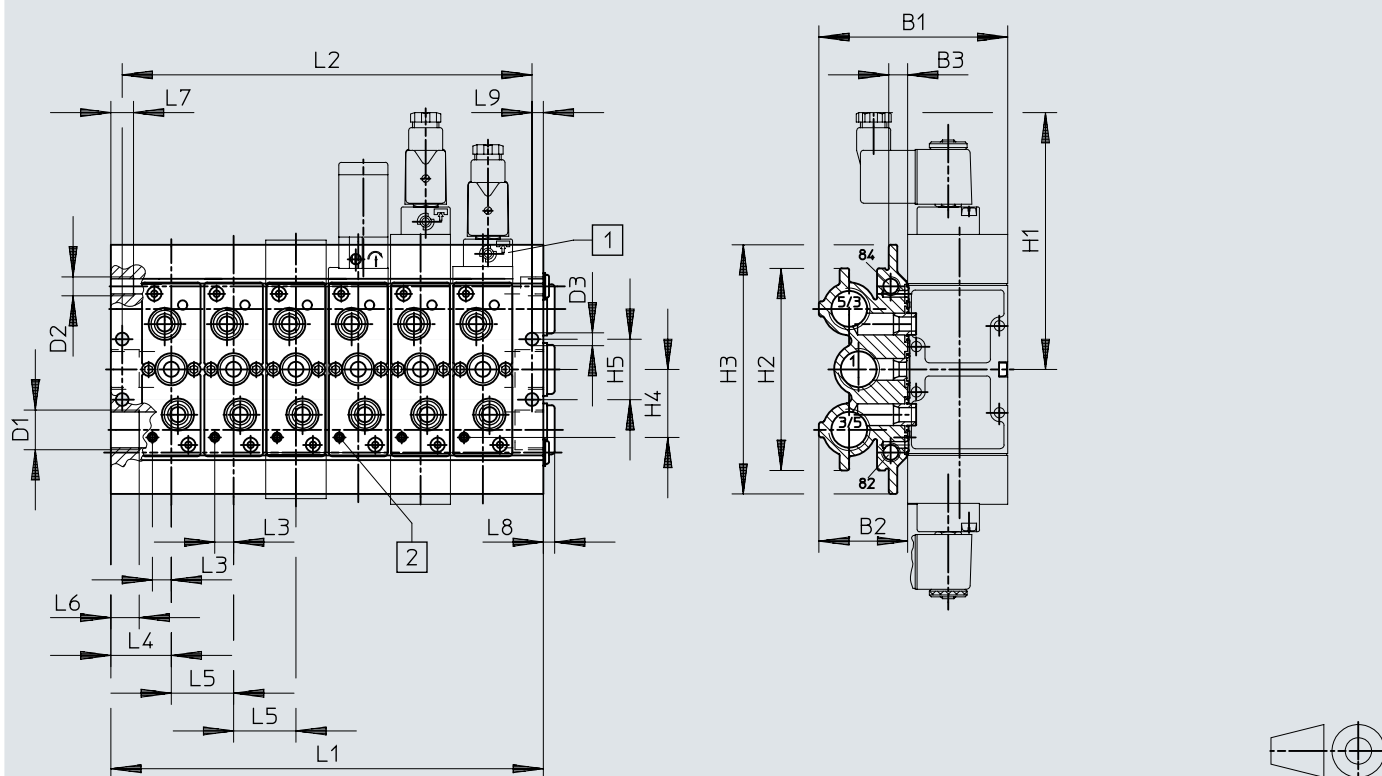
	L1			L2			L3		
PAL-1/8-2-B	63			89			107		
PAL-1/8-3-B	90			116			134		
PAL-1/8-4-B	117			143			161		
PAL-1/8-5-B	144			170			188		
PAL-1/8-6-B	171			197			215		
PAL-1/8-7-B	198			224			242		
PAL-1/8-8-B	225			251			269		
PAL-1/8-9-B	252			278			296		
PAL-1/8-10-B	279			305			323		

	L1			L2			L3		
PAL-1/4-2-B	73			101			121		
PAL-1/4-3-B	106			134			154		
PAL-1/4-4-B	139			167			187		
PAL-1/4-5-B	172			200			220		
PAL-1/4-6-B	205			233			253		
PAL-1/4-7-B	238			266			286		
PAL-1/4-8-B	271			299			319		
PAL-1/4-9-B	304			322			352		
PAL-1/4-10-B	337			365			385		

	L1			L2			L3		
PAL-3/8-2-B	91			127			155		
PAL-3/8-3-B	132			168			196		
PAL-3/8-4-B	173			209			237		
PAL-3/8-5-B	214			250			278		
PAL-3/8-6-B	255			291			319		
PAL-3/8-7-B	296			332			360		
PAL-3/8-8-B	337			373			401		
PAL-3/8-9-B	378			414			442		
PAL-3/8-10-B	419			455			483		

## Dimensions

## Dimensions – Manifold block PRS

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

[1] The cover of all valves can be turned 180°

[2] Hole for spring pin DIN 7346  $\varnothing$  3 mm

## Dimensions

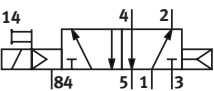
	B1	B2	B3	D1	D2	D3	H1	H2	H3	H4	H5	L3	L4	L5	L6	L7	L8	L9
PRS-1/8	93	45,5	11,2	G3/8	G1/8	6,8	130	95	120	27	27,5	9,4	25,5	27	14	8	5	6
PRS-1/4	100	47	10	G1/2	G1/8	6,8	136	107	132	36	32	10	32	33	15	12	6	9
PRS-3/8	131	60,5	12,5	G3/4	G1/8	9	147	128	153	44	44	15,2	36,5	41	16	12	6	7,5

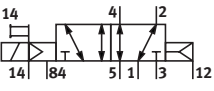
	L1	L2
PRS-1/8-2-BB	78	66
PRS-1/8-3-BB	105	93
PRS-1/8-4-BB	132	120
PRS-1/8-5-BB	159	147
PRS-1/8-6-BB	186	174
PRS-1/8-7-BB	213	201
PRS-1/8-8-BB	240	228
PRS-1/8-9-BB	267	255
PRS-1/8-10-BB	294	282

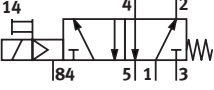
	L1	L2
PRS-1/4-2-B	97	85
PRS-1/4-3-B	130	118
PRS-1/4-4-B	163	151
PRS-1/4-5-B	196	184
PRS-1/4-6-B	229	217
PRS-1/4-7-B	262	250
PRS-1/4-8-B	259	283
PRS-1/4-9-B	328	316
PRS-1/4-10-B	361	349

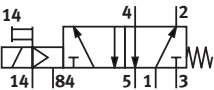
	L1	L2
PRS-3/8-2-B	114	99
PRS-3/8-3-B	155	140
PRS-3/8-4-B	196	181
PRS-3/8-5-B	237	222
PRS-3/8-6-B	278	263
PRS-3/8-8-B	360	345
PRS-3/8-10-B	442	427

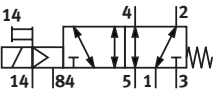
## Ordering data

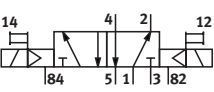
Solenoid valves MFH-B, 5/2-way valves, pneumatic reset, non-reversible flow direction, internal pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30991	MFH-5-1/8-L-B
				II 2G	II 2D	535921	MFH-5-1/8-L-B-EX
	G1/4	G1/4	G1/4			31010	MFH-5-1/4-L-B
				II 2G	II 2D	535922	MFH-5-1/4-L-B-EX
	G3/8	G3/8	G3/8			14946	MFH-5-3/8-L-B
				II 2G	II 2D	535923	MFH-5-3/8-L-B-EX

Solenoid valves MFH-B, 5/2-way valves, pneumatic reset, reversible flow direction, external pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30992	MFH-5-1/8-L-S-B
				II 2G	II 2D	535927	MFH-5-1/8-L-S-B-EX
	G1/4	G1/4	G1/4			33185	MFH-5-1/4-L-S-B
				II 2G	II 2D	535928	MFH-5-1/4-L-S-B-EX
	G3/8	G3/8	G3/8			33181	MFH-5-3/8-L-S-B
				II 2G	II 2D	535929	MFH-5-3/8-L-S-B-EX

Solenoid valves MFH-B, 5/2-way valves, mechanical reset, non-reversible flow direction, internal pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			19758	MFH-5-1/8-B
				II 2G	II 2D	535918	MFH-5-1/8-B-EX
	G1/4	G1/4	G1/4			15901	MFH-5-1/4-B
				II 2G	II 2D	535919	MFH-5-1/4-B-EX
	G3/8	G3/8	G3/8			19705	MFH-5-3/8-B
				II 2G	II 2D	535920	MFH-5-3/8-B-EX

Solenoid valves MFH-B, 5/2-way valves, mechanical reset, non-reversible flow direction, external pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			19759	MFH-5-1/8-S-B
				II 2G	II 2D	535924	MFH-5-1/8-S-B-EX
	G1/4	G1/4	G1/4			15902	MFH-5-1/4-S-B
				II 2G	II 2D	535925	MFH-5-1/4-S-B-EX

Solenoid valves MFH-B, 5/2-way valves, mechanical reset, reversible flow direction, external pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G3/8	G3/8	G3/8			19706	MFH-5-3/8-S-B
				II 2G	II 2D	535926	MFH-5-3/8-S-B-EX

Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, flow direction non-reversible, internal pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30486	JMFH-5-1/8-B

## Ordering data

### Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, flow direction non-reversible, internal pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8	II 2G	II 2D	535930	JMFH-5-1/8-B-EX
	G1/4	G1/4	G1/4			19789	JMFH-5-1/4-B
				II 2G	II 2D	535931	JMFH-5-1/4-B-EX
	G3/8	G3/8	G3/8			19700	JMFH-5-3/8-B
				II 2G	II 2D	535932	JMFH-5-3/8-B-EX

### Solenoid valves MFH-B, 5/2-way valves, double solenoid valves, reversible flow direction, external pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30487	JMFH-5-1/8-S-B
				II 2G	II 2D	535933	JMFH-5-1/8-S-B-EX
	G1/4	G1/4	G1/4			19790	JMFH-5-1/4-S-B
				II 2G	II 2D	535934	JMFH-5-1/4-S-B-EX
G3/8	G3/8	G3/8			19702	JMFH-5-3/8-S-B	
				II 2G	II 2D	535935	JMFH-5-3/8-S-B-EX

### Solenoid valves MFH-B, 5/3-way valves, normally closed, internal pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30484	MFH-5/3G-1/8-B
				II 2G	II 2D	535936	MFH-5/3G-1/8-B-EX
	G1/4	G1/4	G1/4			19787	MFH-5/3G-1/4-B
				II 2G	II 2D	535937	MFH-5/3G-1/4-B-EX
G3/8	G3/8	G3/8			19707	MFH-5/3G-3/8-B	
				II 2G	II 2D	535938	MFH-5/3G-3/8-B-EX

### Solenoid valves MFH-B, 5/3-way valves, normally closed, external pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30993	MFH-5/3G-1/8-S-B
				II 2G	II 2D	535939	MFH-5/3G-1/8-S-B-EX
	G1/4	G1/4	G1/4			31001	MFH-5/3G-1/4-S-B
				II 2G	II 2D	535940	MFH-5/3G-1/4-S-B-EX
G3/8	G3/8	G3/8			31317	MFH-5/3G-3/8-S-B	
				II 2G	II 2D	535941	MFH-5/3G-3/8-S-B-EX

### Solenoid valves MFH-B, 5/3-way valves, normally exhausted, internal pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30483	MFH-5/3E-1/8-B
				II 2G	II 2D	535942	MFH-5/3E-1/8-B-EX
	G1/4	G1/4	G1/4			19786	MFH-5/3E-1/4-B
				II 2G	II 2D	535943	MFH-5/3E-1/4-B-EX
G3/8	G3/8	G3/8			19708	MFH-5/3E-3/8-B	
				II 2G	II 2D	535944	MFH-5/3E-3/8-B-EX



## Ordering data

## Solenoid valves MFH-B, 5/3-way valves, normally exhausted, external pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30994	MFH-5/3E-1/8-S-B
				II 2G	II 2D	535945	MFH-5/3E-1/8-S-B-EX
	G1/4	G1/4	G1/4			31002	MFH-5/3E-1/4-S-B
				II 2G	II 2D	535946	MFH-5/3E-1/4-S-B-EX
	G3/8	G3/8	G3/8			31318	MFH-5/3E-3/8-S-B
				II 2G	II 2D	535947	MFH-5/3E-3/8-S-B-EX

## Solenoid valves MFH-B, 5/3-way valves, normally open, internal pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30485	MFH-5/3B-1/8-B
				II 2G	II 2D	535948	MFH-5/3B-1/8-B-EX
	G1/4	G1/4	G1/4			19788	MFH-5/3B-1/4-B
				II 2G	II 2D	535949	MFH-5/3B-1/4-B-EX
	G3/8	G3/8	G3/8			19709	MFH-5/3B-3/8-B
				II 2G	II 2D	535950	MFH-5/3B-3/8-B-EX

## Solenoid valves MFH-B, 5/3-way valves, normally open, external pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30995	MFH-5/3B-1/8-S-B
				II 2G	II 2D	535951	MFH-5/3B-1/8-S-B-EX
	G1/4	G1/4	G1/4			31003	MFH-5/3B-1/4-S-B
				II 2G	II 2D	535952	MFH-5/3B-1/4-S-B-EX
	G3/8	G3/8	G3/8			31319	MFH-5/3B-3/8-S-B
				II 2G	II 2D	535953	MFH-5/3B-3/8-S-B-EX

## Solenoid valves MVH-B, 5/2-way valves, pneumatic reset, internal pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			19749	MVH-5-1/8-L-B
						31009	MVH-5-1/4-L-B
						14947	MVH-5-3/8-L-B

## Solenoid valves MVH-B, 5/2-way valves, pneumatic reset, external pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			19750	MVH-5-1/8-L-S-B
						33184	MVH-5-1/4-L-S-B
						33180	MVH-5-3/8-L-S-B

## Solenoid valves MVH-B, 5/2-way valves, mechanical reset, internal pilot air supply

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			19779	MVH-5-1/8-B

Ordering data

Solenoid valves MVH-B, 5/2-way valves, mechanical reset, internal pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/4	G1/4	G1/4			19701	MVH-5-1/4-B
	G3/8	G3/8	G3/8			14945	MVH-5-3/8-B

Solenoid valves MVH-B, 5/2-way valves, mechanical reset, external pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30996	MVH-5-1/8-S-B
	G1/4	G1/4	G1/4			15903	MVH-5-1/4-S-B

Solenoid valves MVH-B, 5/2-way valves, mechanical reset, external pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G3/8	G3/8	G3/8			15342	MVH-5-3/8-S-B

Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, internal pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30475	JMVH-5-1/8-B
	G1/4	G1/4	G1/4			19136	JMVH-5-1/4-B
	G3/8	G3/8	G3/8			14948	JMVH-5-3/8-B

Solenoid valves JMVH-B, 5/2-way valves, double solenoid valves, external pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30476	JMVH-5-1/8-S-B
	G1/4	G1/4	G1/4			19137	JMVH-5-1/4-S-B
	G3/8	G3/8	G3/8			15343	JMVH-5-3/8-S-B

Solenoid valves MVH-B, 5/3-way valves, normally closed, internal pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30477	MVH-5/3G-1/8-B
	G1/4	G1/4	G1/4			19138	MVH-5/3G-1/4-B
	G3/8	G3/8	G3/8			14944	MVH-5/3G-3/8-B

## Ordering data

Solenoid valves MVH-B, 5/3-way valves, normally closed, external pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30997	MVH-5/3G-1/8-S-B
	G1/4	G1/4	G1/4			31004	MVH-5/3G-1/4-S-B
	G3/8	G3/8	G3/8			15346	MVH-5/3G-3/8-S-B

Solenoid valves MVH-B, 5/3-way valves, normally exhausted, internal pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30478	MVH-5/3E-1/8-B
	G1/4	G1/4	G1/4			19139	MVH-5/3E-1/4-B
	G3/8	G3/8	G3/8			14943	MVH-5/3E-3/8-B

Solenoid valves MVH-B, 5/3-way valves, normally exhausted, external pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30998	MVH-5/3E-1/8-S-B
	G1/4	G1/4	G1/4			31005	MVH-5/3E-1/4-S-B
	G3/8	G3/8	G3/8			15344	MVH-5/3E-3/8-S-B

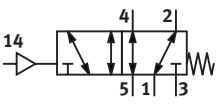
Solenoid valves MVH-B, 5/3-way valves, normally open, internal pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30480	MVH-5/3B-1/8-B
	G1/4	G1/4	G1/4			19140	MVH-5/3B-1/4-B
	G3/8	G3/8	G3/8			19699	MVH-5/3B-3/8-B

Solenoid valves MVH-B, 5/3-way valves, normally open, external pilot air supply							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30999	MVH-5/3B-1/8-S-B
	G1/4	G1/4	G1/4			31006	MVH-5/3B-1/4-S-B
	G3/8	G3/8	G3/8			15345	MVH-5/3B-3/8-S-B

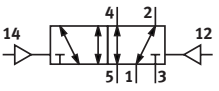
Pneumatic valves VL, 5/2-way valves, mechanical reset, pneumatic connection G1/8, G1/4							
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			31000	VL-5-1/8-B
	G1/8	G1/8	G1/8	II 2G	II 2D	536040	VL-5-1/8-B-EX
	G1/4	G1/4	G1/4			14294	VL-5-1/4-B
	G1/4	G1/4	G1/4	II 2G	II 2D	536041	VL-5-1/4-B-EX

## Ordering data

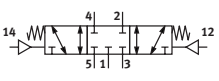
## Pneumatic valves VL, 5/2-way valves, mechanical reset, pneumatic connection G3/8

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G3/8	G3/8	G3/8			14952	VL-5-3/8-B
				II 2G	II 2D	536042	VL-5-3/8-B-EX

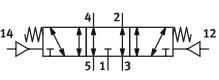
## Pneumatic valves J, 5/2-way valves, double pilot valves

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30988	J-5-1/8-B
				II 2G	II 2D	536043	J-5-1/8-B-EX
	G1/4	G1/4	G1/4			14295	J-5-1/4-B
				II 2G	II 2D	536044	J-5-1/4-B-EX
	G3/8	G3/8	G3/8			14953	J-5-3/8-B
				II 2G	II 2D	536045	J-5-3/8-B-EX

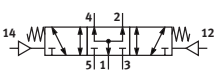
## Pneumatic valves VL, 5/3-way valves, normally closed

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			30990	VL-5/3G-1/8-B
				II 2G	II 2D	536046	VL-5/3G-1/8-B-EX
	G1/4	G1/4	G1/4			14298	VL-5/3G-1/4-B
				II 2G	II 2D	536047	VL-5/3G-1/4-B-EX
	G3/8	G3/8	G3/8			14950	VL-5/3G-3/8-B
				II 2G	II 2D	536048	VL-5/3G-3/8-B-EX

## Pneumatic valves VL, 5/3-way valves, normally exhausted

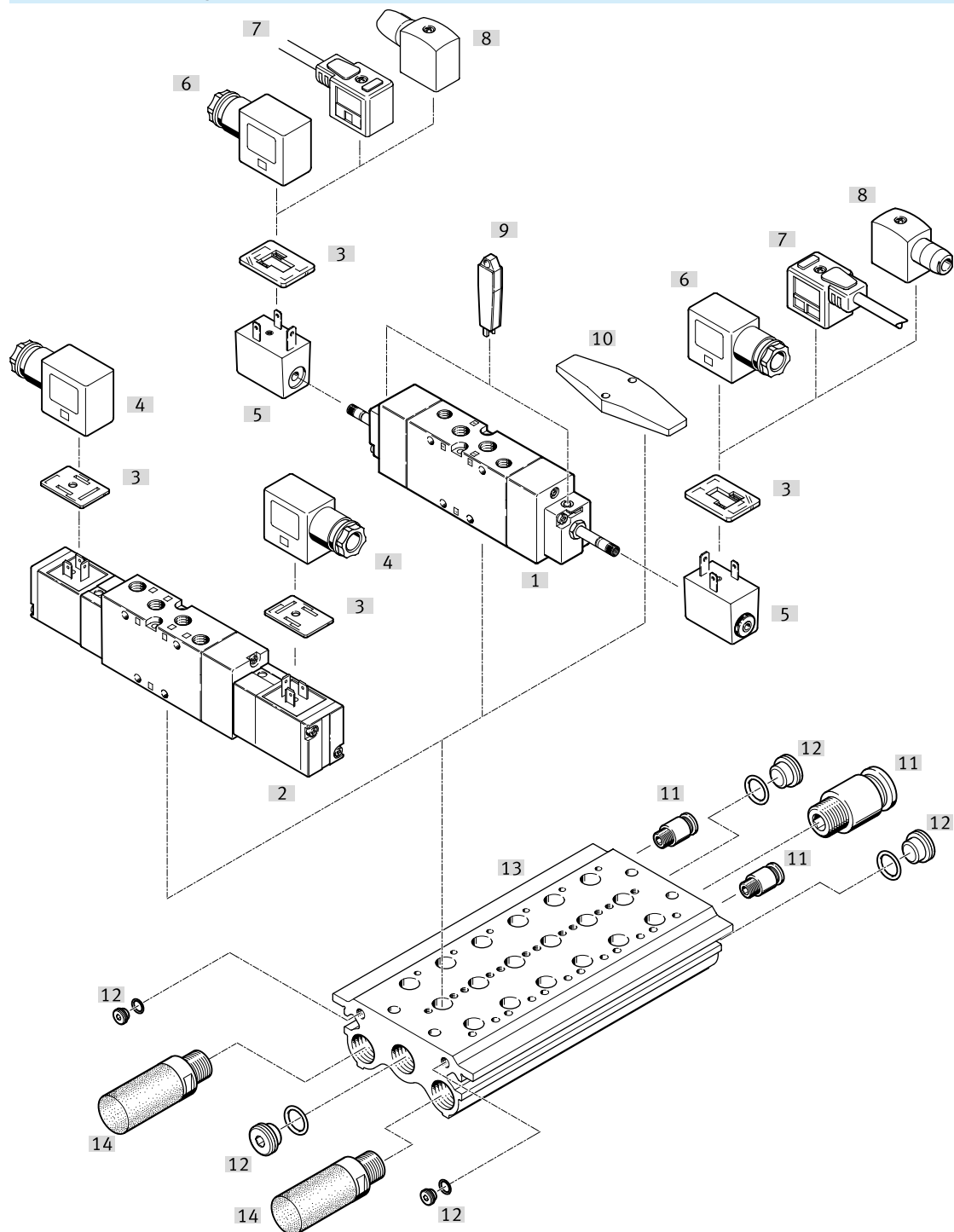
	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			31309	VL-5/3E-1/8-B
				II 2G	II 2D	536049	VL-5/3E-1/8-B-EX
	G1/4	G1/4	G1/4			14297	VL-5/3E-1/4-B
				II 2G	II 2D	536050	VL-5/3E-1/4-B-EX
	G3/8	G3/8	G3/8			14949	VL-5/3E-3/8-B
				II 2G	II 2D	536051	VL-5/3E-3/8-B-EX

## Pneumatic valves VL, 5/3-way valves, normally open

	Pneumatic connection, port 1	Pneumatic connection, port 2	Pneumatic connection, port 3	ATEX category gas	ATEX category dust	Part no.	Type
	G1/8	G1/8	G1/8			31310	VL-5/3B-1/8-B
				II 2G	II 2D	536052	VL-5/3B-1/8-B-EX
	G1/4	G1/4	G1/4			14299	VL-5/3B-1/4-B
				II 2G	II 2D	536053	VL-5/3B-1/4-B-EX
	G3/8	G3/8	G3/8			14951	VL-5/3B-3/8-B
				II 2G	II 2D	536054	VL-5/3B-3/8-B-EX

## Peripherals

## Solenoid valves, mounting on manifold block



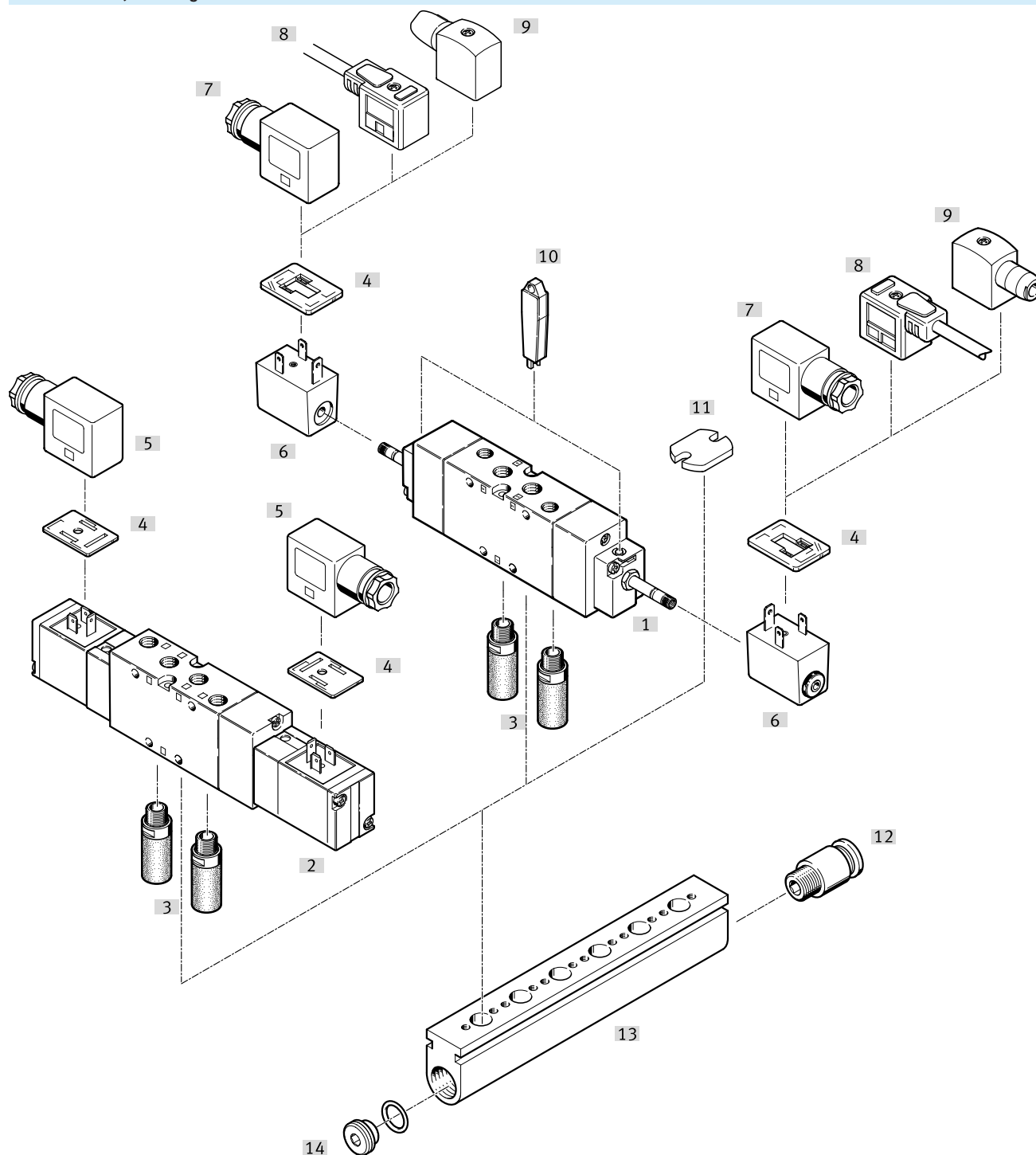
Accessories		→ Link
Type/order code	Description	
[1] Solenoid valve MFH	Basic valve for F solenoid coil	<a href="#">mfh</a>
[2] Solenoid valve MVH	With V solenoid coil	<a href="#">mvh</a>
[3] Illuminating seal M...-LD	For displaying the switching status	<a href="#">-</a>
[4] Plug socket MSSD-V	For solenoid valves MVH, JMVH	<a href="#">70</a>
[5] F solenoid coil MSFG, MSFW	F solenoid coil for basic valves MFH, JMFH	<a href="#">68</a>
[6] Plug socket MSSD-F	For solenoid valves MFH, JMFH	<a href="#">70</a>
[7] Connecting cable KMF	For solenoid valves MFH, JMFH	<a href="#">70</a>
[8] Plug socket MSSD-F-S	For solenoid valves MFH, JMFH	
[9] Manual override AHB	By inserting and turning the manual override AHB (by 90°), the valve can be locked	<a href="#">68</a>

## Peripherals

Accessories		→ Link
Type/order code	Description	
[10]	Cover plate PRSB	<a href="#">68</a>
[11]	Push-in fitting QS	<a href="#">qs</a>
[12]	Sealing plug PRSV	<a href="#">68</a>
[13]	Manifold block PRS	<a href="#">67</a>
[14]	Silencer	<a href="#">u</a>

## Peripherals

## Solenoid valves, mounting on manifold rail



Accessories		→ Link	
Type/order code	Description		
[1]	Solenoid valve MFH	Basic valve for F solenoid coil	<a href="#">mfh</a>
[2]	Solenoid valve MVH	With V solenoid coil	<a href="#">mvh</a>
[3]	Silencer	For fitting in exhaust ports	<a href="#">u</a>
[4]	Illuminating seal M...-LD	For displaying the switching status	<a href="#">-</a>
[5]	Plug socket MSSD-V	For solenoid valves MVH, JMVH	<a href="#">70</a>
[6]	F solenoid coil MSFG, MSFW	F solenoid coil for basic valves MFH, JMFH	<a href="#">68</a>
[7]	Plug socket MSSD-F	For solenoid valves MFH, JMFH	<a href="#">70</a>
[8]	Manifold rail PAL	-	<a href="#">67</a>
[9]	Sealing plug PRSV	-	<a href="#">68</a>

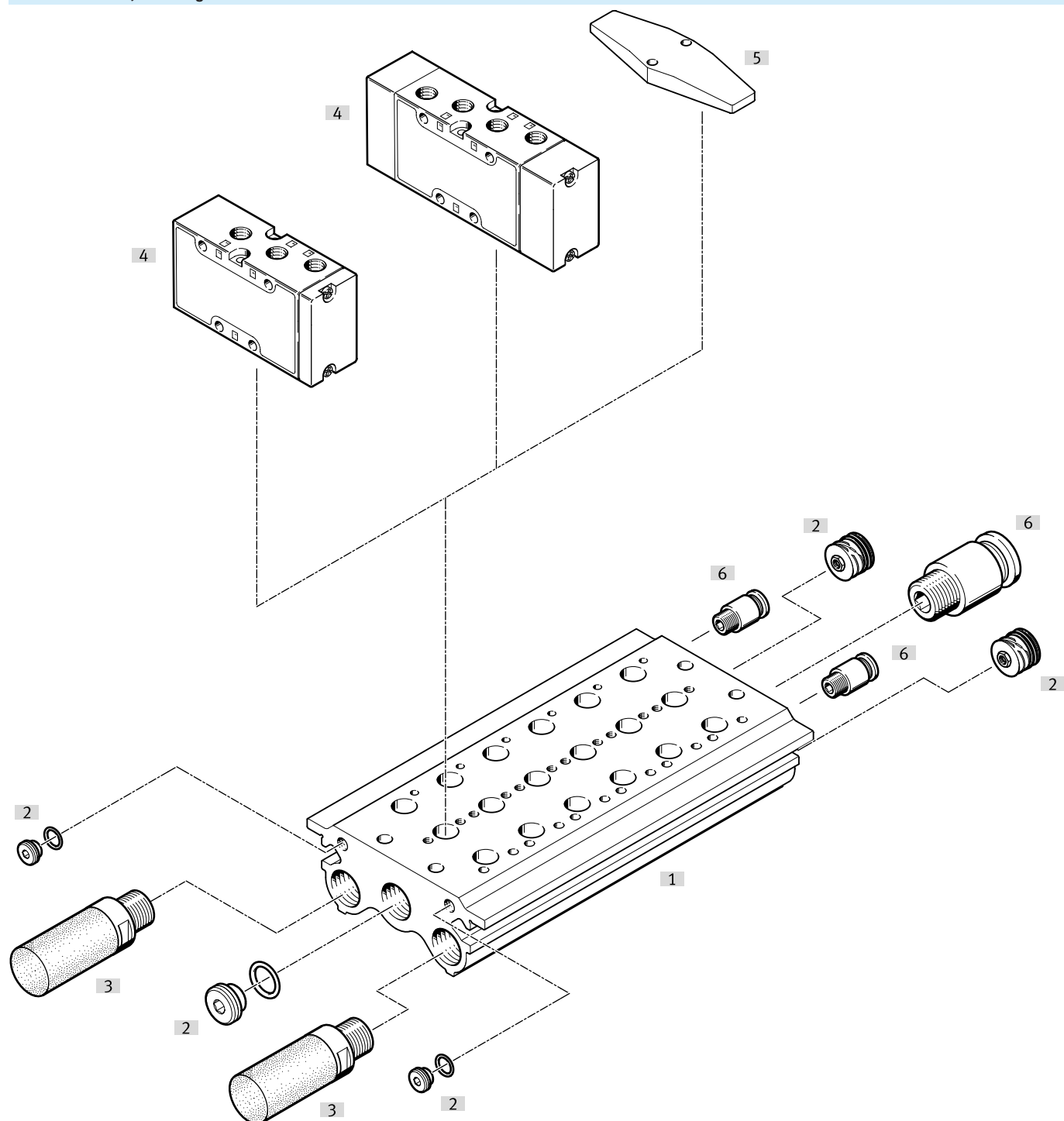
## Peripherals

Accessories		→ Link
Type/order code	Description	
[10] Manual override AHB	By inserting and turning the manual override AHB (by 90°), the valve can be locked	<a href="#">68</a>
[11] Cover plate PALB	For covering vacant positions	<a href="#">68</a>
[12] Push-in fitting QS	For connecting tubing with standard O.D	<a href="#">↗ qs</a>
[13] Connecting cable KMF	For solenoid valves MFH, JMFH	<a href="#">70</a>
[14] Plug socket MSSD-FS	For solenoid valves MFH, JMFH	



## Peripherals

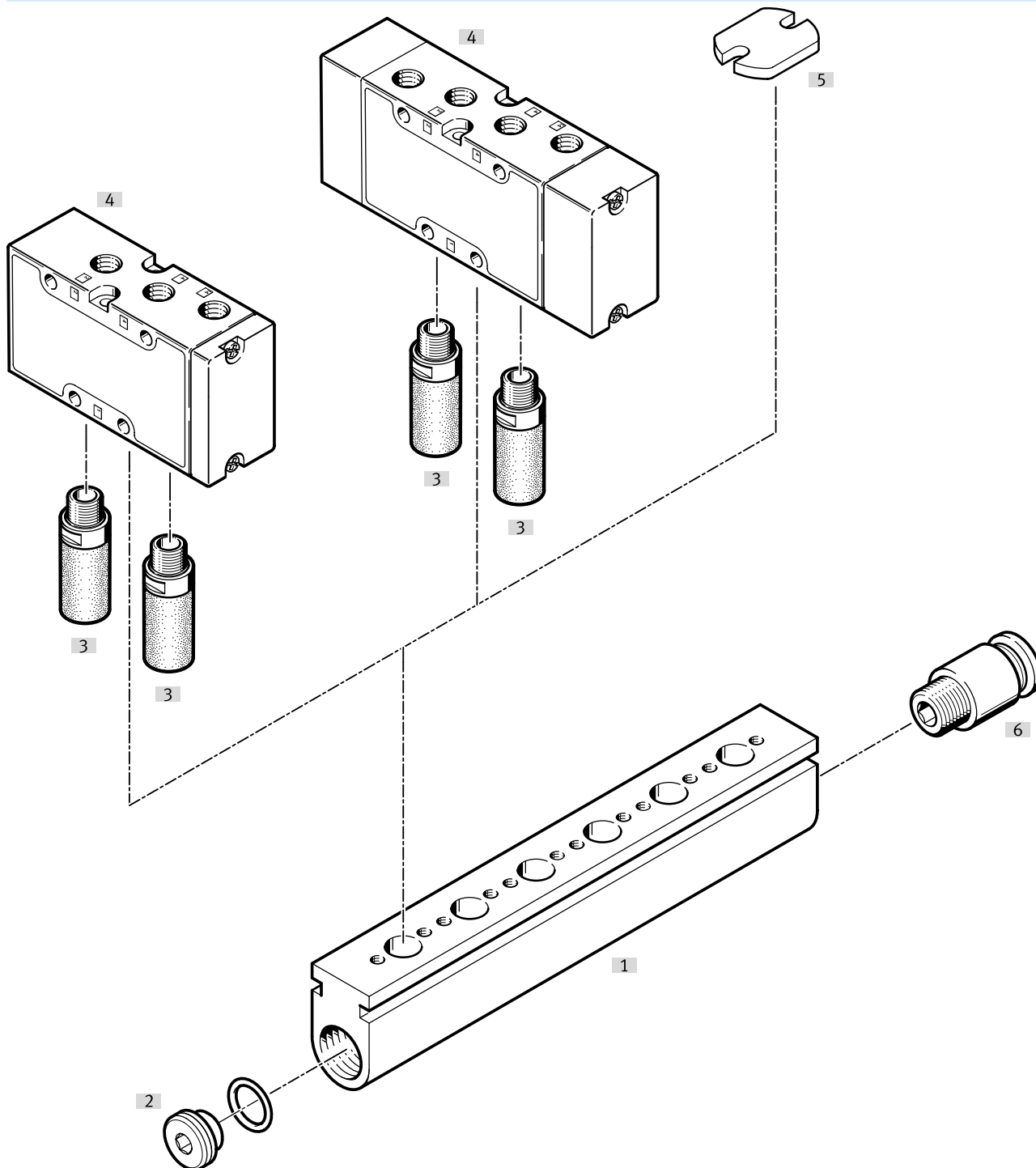
## Pneumatic valves, mounting on manifold block



Accessories			→ Link
Type/order code	Description		
[1] Manifold block PRS	–		<a href="#">67</a>
[2] Sealing plug PRSV	–		<a href="#">68</a>
[3] Silencer	For fitting in exhaust ports		<a href="#">u</a>
[4] Pneumatic valve VL, J	–		<a href="#">vl, j</a>
[5] Cover plate PRSB	For covering vacant positions		<a href="#">68</a>
[6] Push-in fitting QS			<a href="#">qs</a>


## Peripherals


### Pneumatic valves, mounting on manifold rail




Accessories		→ Link
Type/order code	Description	
[1] Manifold rail PAL	–	67
[2] Sealing plug PRSV	–	68
[3] Silencer	For fitting in exhaust ports	<a href="#">u</a>
[4] Pneumatic valve VL, J	–	<a href="#">vl, j</a>
[5] Cover plate PALB	For covering vacant positions	68
[6] Push-in fitting QS		<a href="#">qs</a>


## Accessories


Manifold rail PAL-...-B					
	Pneumatic connection, port 1	Product weight	Material sub-base	Part no.	Type
	G3/8	150 g	Aluminium, Anodised	30552	PAL-1/8-2-B
		190 g		30553	PAL-1/8-3-B
		230 g		30554	PAL-1/8-4-B
		260 g		30555	PAL-1/8-5-B
		290 g		30556	PAL-1/8-6-B
		340 g		30557	PAL-1/8-7-B
		370 g		30558	PAL-1/8-8-B
		410 g		30559	PAL-1/8-9-B
		450 g		30560	PAL-1/8-10-B
		G1/2		230 g	30280
	290 g		30281	PAL-1/4-3-B	
	350 g		30282	PAL-1/4-4-B	
	420 g		30283	PAL-1/4-5-B	
	480 g		30284	PAL-1/4-6-B	
	540 g		30285	PAL-1/4-7-B	
	600 g		30286	PAL-1/4-8-B	
	660 g		30287	PAL-1/4-9-B	
	730 g		30288	PAL-1/4-10-B	
	G3/4		510 g	30692	PAL-3/8-2-B
		610 g	30693	PAL-3/8-3-B	
		720 g	30694	PAL-3/8-4-B	
		830 g	30695	PAL-3/8-5-B	
		960 g	30696	PAL-3/8-6-B	
		1,060 g	30697	PAL-3/8-7-B	
		1,160 g	30698	PAL-3/8-8-B	
		1,260 g	30699	PAL-3/8-9-B	
		1,360 g	30680	PAL-3/8-10-B	


Manifold block PRS					
	Pneumatic connection, port 1	Product weight	Material sub-base	Part no.	Type
	G3/8	700 g	Aluminium	30542	PRS-1/8-2-BB
		920 g		30543	PRS-1/8-3-BB
		1,150 g		30544	PRS-1/8-4-BB
		1,320 g		30545	PRS-1/8-5-BB
		1,520 g		30546	PRS-1/8-6-BB
		1,750 g		30547	PRS-1/8-7-BB
		2,010 g		30548	PRS-1/8-8-BB
		2,200 g		30549	PRS-1/8-9-BB
		2,400 g		30550	PRS-1/8-10-BB
		G1/2		1,050 g	15861
	1,310 g		15862	PRS-1/4-3-B	
	1,610 g		15863	PRS-1/4-4-B	
	1,900 g		15864	PRS-1/4-5-B	
	2,200 g		15865	PRS-1/4-6-B	
	2,500 g		15866	PRS-1/4-7-B	
	2,800 g		15867	PRS-1/4-8-B	
	3,100 g		15868	PRS-1/4-9-B	
	3,360 g		15869	PRS-1/4-10-B	
	G3/4		1,600 g	30682	PRS-3/8-2-B
		2,100 g	30683	PRS-3/8-3-B	
		2,630 g	30684	PRS-3/8-4-B	
		3,100 g	30685	PRS-3/8-5-B	
		3,500 g	30686	PRS-3/8-6-B	


## Accessories

Manifold block PRS					
	Pneumatic connection, port 1	Product weight	Material sub-base	Part no.	Type
	G3/4	4,620 g	Aluminium	30688	PRS-3/8-8-B
		5,600 g		30690	PRS-3/8-10-B


Cover plate for vacant positions PRSB			
	LABS (PWIS) conformity	Part no.	Type
	VDMA24364-B1/B2-L	15909	PRSB-1/8-B
		30666	PRSB-1/4-B
		30681	PRSB-3/8-B

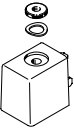
Cover plate for vacant positions PALB			
	LABS (PWIS) conformity	Part no.	Type
	VDMA24364-B1/B2-L	30905	PALB-3/8-B
		30903	PALB-1/8-B
		30904	PALB-1/4-B

Sealing plug PRSV for creating pressure zones			
	LABS (PWIS) conformity	Part no.	Type
	VDMA24364-B1/B2-L	160997	PRSV-1/8
		160996	PRSV-1/4

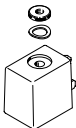
Manual override AHB			
	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	2 - Moderate corrosion stress	157651	AHB-MD/MF/MV


1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

Inscription label KMC/F/V-BZ-35X			
	LABS (PWIS) conformity	Part no.	Type
	VDMA24364-B2-L	33362	KMC/F/V-BZ-35X


F solenoid coils, without plug socket							
	Characteristic coil data	Explosion ignition protection type for gas	Explosion ignition protection type for dust	ATEX category gas	ATEX category dust	Part no.	Type
	110 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA					34420	MSFW-110-50/60-OD
		Ex nA IIC T4 X Gc	Ex tc IIIC T130°C X Dc IP65	II 3G	II 3D	536933	MSFW-110-50/60-EX
	12 V DC: 4.1 W					34410	MSFG-12-OD


## Accessories

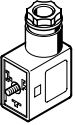
F solenoid coils, without plug socket									
	Characteristic coil data	Explosion ignition protection type for gas	Explosion ignition protection type for dust	ATEX category gas	ATEX category dust	Part no.	Type		
	230 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA					34422	MSFW-230-50/60-OD		
		Ex nA IIC T4 X Gc	Ex tc IIIC T130°C X Dc IP65	II 3G	II 3D	536934	MSFW-230-50/60-EX		
	240 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA						34424	MSFW-240-50/60-OD	
		24 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	Ex nA IIC T4 X Gc	Ex tc IIIC T130°C X Dc IP65	II 3G	II 3D	34415	MSFW-24-50/60-OD	
	24 V DC: 4.5 W, 42 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA								
		24 V DC: 4.5 W	Ex nA IIC T4 X Gc	Ex tc IIIC T130°C X Dc IP65	II 3G	II 3D	536931	MSFG-24-EX	
	42 V DC: 5.5 W						34413	MSFG-42-OD	
	48 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA						34418	MSFW-48-50/60-OD	

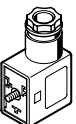
F solenoid coils, cable with open end, 3-core									
	Characteristic coil data	Explosion ignition protection type for gas	Explosion ignition protection type for dust	ATEX category gas	ATEX category dust	Cable length	Part no.	Type	
	110 V AC: 50/60 Hz, power 4.18 VA	Ex mb IIC T5 Gb	Ex mb IIIC T95°C Db	II 2G	II 2D	1 m	8059811	VACF-B-K1-16B-1-EX4-M	
						5 m	8059812	VACF-B-K1-16B-5-EX4-M	
	230 V AC: 50/60 Hz, power 5.0 VA						1 m	8059809	VACF-B-K1-3A-1-EX4-M
							5 m	8059810	VACF-B-K1-3A-5-EX4-M
	24 V AC: 50/60 Hz, power 3.85 VA						1 m	8059808	VACF-B-K1-1A-1-EX4-M
		24 V DC: 4.36 W						8059804	VACF-B-K1-1-1-EX4-M
							5 m	8059805	VACF-B-K1-1-5-EX4-M
							10 m	8059806	VACF-B-K1-1-10-EX4-M
						20 m	8059807	VACF-B-K1-1-20-EX4-M	


## Accessories

Plug socket for F solenoid coils, without cable, cable connection with clamping screws				
	Electrical connection 2	Cable fitting	Part no.	Type
		M16x1.5	<b>539710</b>	<b>MSSD-F-M16</b>
	Screw terminal	Pg 9	<b>34431</b>	<b>MSSD-F</b>

Connecting cable for F solenoid coils					
	Switching position indicator	Nominal operating voltage DC	Cable length	Part no.	Type
			2.5 m	<b>30936</b>	<b>KMF-1-230AC-2.5</b>
			5 m	<b>30938</b>	<b>KMF-1-230AC-5</b>
	LED	24 V	2.5 m	<b>30935</b>	<b>KMF-1-24DC-2.5-LED</b>
			5 m	<b>30937</b>	<b>KMF-1-24DC-5-LED</b>
			10 m	<b>193458</b>	<b>KMF-1-24-10-LED</b>

Plug socket for V solenoid coils, without cable, cable connection with clamping screws				
	Electrical connection 2	Cable fitting	Part no.	Type
	Screw terminal	Pg 9	<b>33295</b>	<b>MSSD-V</b>

Plug socket for V solenoid coils, without cable, cable connection with insulation displacement technology				
	Type of mounting		Part no.	Type
	On solenoid valve via M3 central screw		<b>539713</b>	<b>MSSD-V-M16</b>

Connecting cable for V solenoid coils					
	Switching status indication	Nominal operating voltage DC	Cable length	Part no.	Type
	LED	24 V	2.5 m	<b>30939</b>	<b>KMV-1-24DC-2,5-LED</b>
			5 m	<b>30941</b>	<b>KMV-1-24DC-5-LED</b>
			10 m	<b>193456</b>	<b>KMV-1-24-10-LED</b>

Illuminating seal for F solenoid coils			
	Operational voltage range DC	Part no.	Type
	12 ... 24 V	<b>19143</b>	<b>MF-LD-12-24DC</b>

Illuminating seal for V solenoid coils			
	Operational voltage range DC	Part no.	Type
	12 ... 24 V	<b>35558</b>	<b>MV-LD-12-24DC</b>