

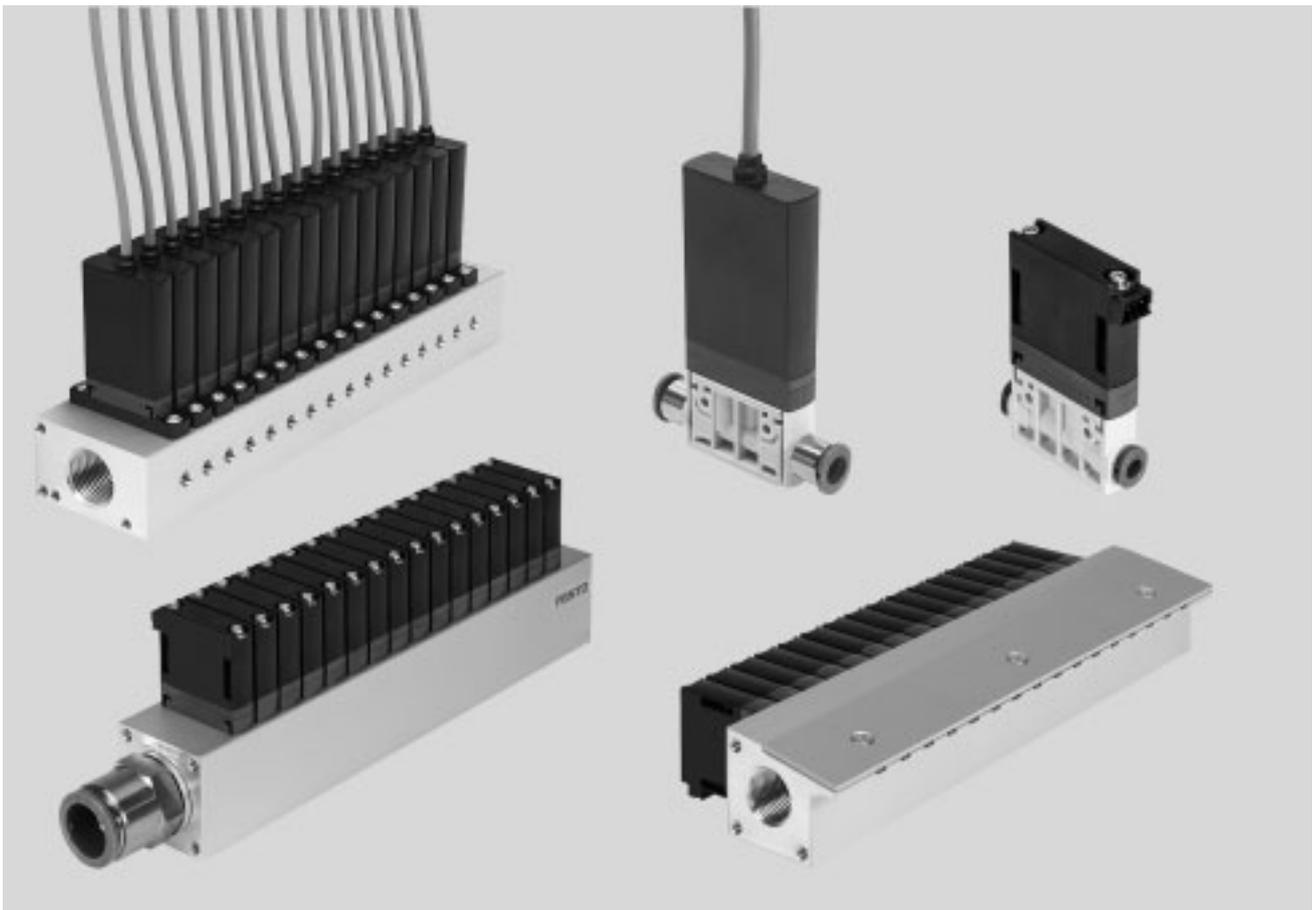
Solenoid valves MHJ, fast-switching valves



# Solenoid valves MHJ, fast-switching valves

Key features

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## Innovative

- Individual electrical connection via connecting cable and square plug sockets with integrated control electronics for MHJ9 or via moulded-in cable for MHJ10, control electronics are contained in the valve
- Manifold rail with air nozzle outlet for MHJ9
- Switching times of less than one millisecond
- Signal control range 3 ... 30 V DC

## Versatile

- Modular system offering a range of configuration options
- Identical basic valves for individual valve and manifold assembly
- Flexible air supply with air connection at both ends on the manifold rails
- Control of the MHJ9 valves without plug socket with cable MHJ9-KMH subject to consultation with Festo

## Reliable

- Reliable servicing thanks to valves that can be replaced quickly and easily
- No electrical plug connectors with MHJ10 thanks to integrated control electronics
- Up to 5 billion switching cycles

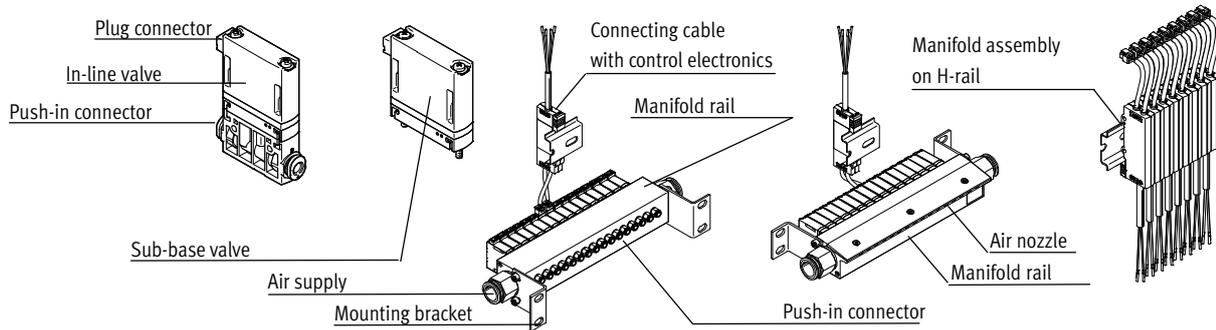
## Easy to install

- Solid wall mounting or H-rail mounting of the connecting cables with MHJ9
- Manifold rail for MHJ9 with connecting cable block on H-rail can be mounted directly in the application

# Solenoid valves MHJ, fast-switching valves

Key features

## MHJ9



### In-line valve

- Integrated push-in connector
- Electrical connection IP40
- Modular design

### Valve manifold with individual outputs

- Air supply at both ends
- Mounting bracket assembly in 4 directions
- Stable manifold rail

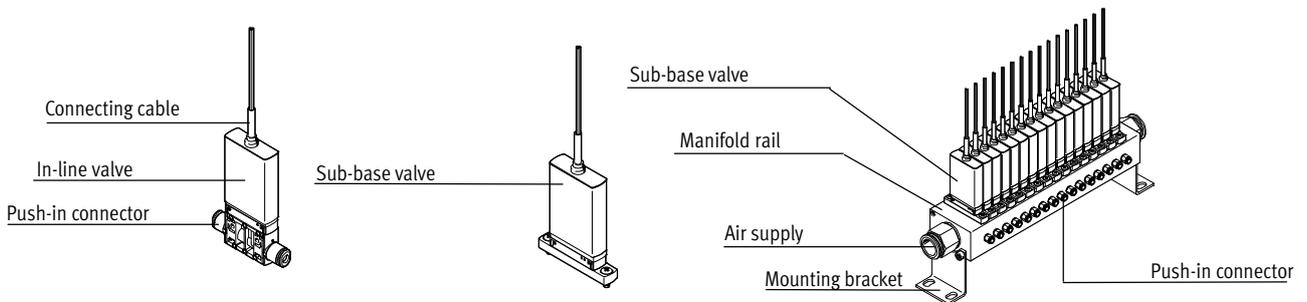
### Valve manifold with air nozzles

- Air supply at both ends
- Mounting bracket assembly in 2 directions
- Accessible air ducts

### Connecting cable with control electronics for two valves

- Individual mounting or on H-rail

## MHJ10



### In-line valve

- Integrated push-in connector
- Electrical connection with moulded-in connecting cable, IP65
- Modular design

### Valve manifold with individual outputs

- Air supply at both ends
- Stable manifold rail

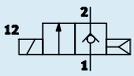
- Mounting bracket assembly in two directions

### Integrated control electronics

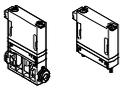
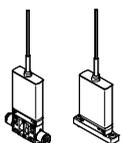
- Compact design
- Quick installation

# Solenoid valves MHJ, fast-switching valves

Product range overview

Function	Design	Operating voltage [V DC]	Type	Electrical connection	Switching time <sup>1)</sup>		→ Page/ Internet
					Off	On	
<b>2/2-way valve</b> 	<b>LF = Standard nominal flow rate 50 l/min</b>						
	In-line valve	12 ... 53	MHJ9	Plug connector	0.9	0.7	8
		24	MHJ10	With moulded-in cable	1	0.8	17
	Sub-base valve	12 ... 53	MHJ9	Plug connector	0.9	0.7	8
		24	MHJ10	With moulded-in cable	1	0.8	17
	<b>MF = Standard nominal flow rate 100 l/min</b>						
	In-line valve	12 ... 53	MHJ9	Plug connector	0.4	0.8	8
		24	MHJ10	With moulded-in cable	0.4	0.8	17
	Sub-base valve	12 ... 53	MHJ9	Plug connector	0.4	0.8	8
		24	MHJ10	With moulded-in cable	0.4	0.8	17
	<b>HF/LP = Standard nominal flow rate 160 l/min</b>						
	In-line valve	12 ... 53	MHJ9	Plug connector	0.4	1	8
		24	MHJ10	With moulded-in cable	0.5	1	17
	Sub-base valve	12 ... 53	MHJ9	Plug connector	0.4	1	8
		24	MHJ10	With moulded-in cable	0.5	1	17
	<b>HF = Standard nominal flow rate 160 l/min</b>						
	In-line valve	12 ... 53	MHJ9	Plug connector	0.5	1	8
		24	MHJ10	With moulded-in cable	0.6	1.2	17
	Sub-base valve	12 ... 53	MHJ9	Plug connector	0.5	1	8
		24	MHJ10	With moulded-in cable	0.6	1.2	17

1) Switching time at 24 V DC and 4 bar

Mounting options			
Design	In-line valve	Sub-base valve	
<b>MHJ9 with plug connector</b>			
	Direct mounting	■	-
	Manifold assembly	-	■
<b>MHJ10 with moulded-in cable</b>			
	Direct mounting	■	-
	Manifold assembly	-	■

# Solenoid valves MHJ, fast-switching valves

Type codes

MHJ 10 - S - 2,5 - QS-4 - MF

**Valve series**

MHJ	Fast-switching valves
-----	-----------------------

**Width**

9	9 mm
10	10 mm

**Control electronics**

-	Without integrated control electronics (only with MHJ9)
S	With integrated control electronics (only with MHJ10)

**Cable length for MHJ10**

0,35	0.35 m
2,5	2.5 m

**Push-in connector for in-line valves**

-	Sub-base valves
QS-4	Push-in connector for tubing O.D. 4 mm
QS-6	Push-in connector for tubing O.D. 6 mm

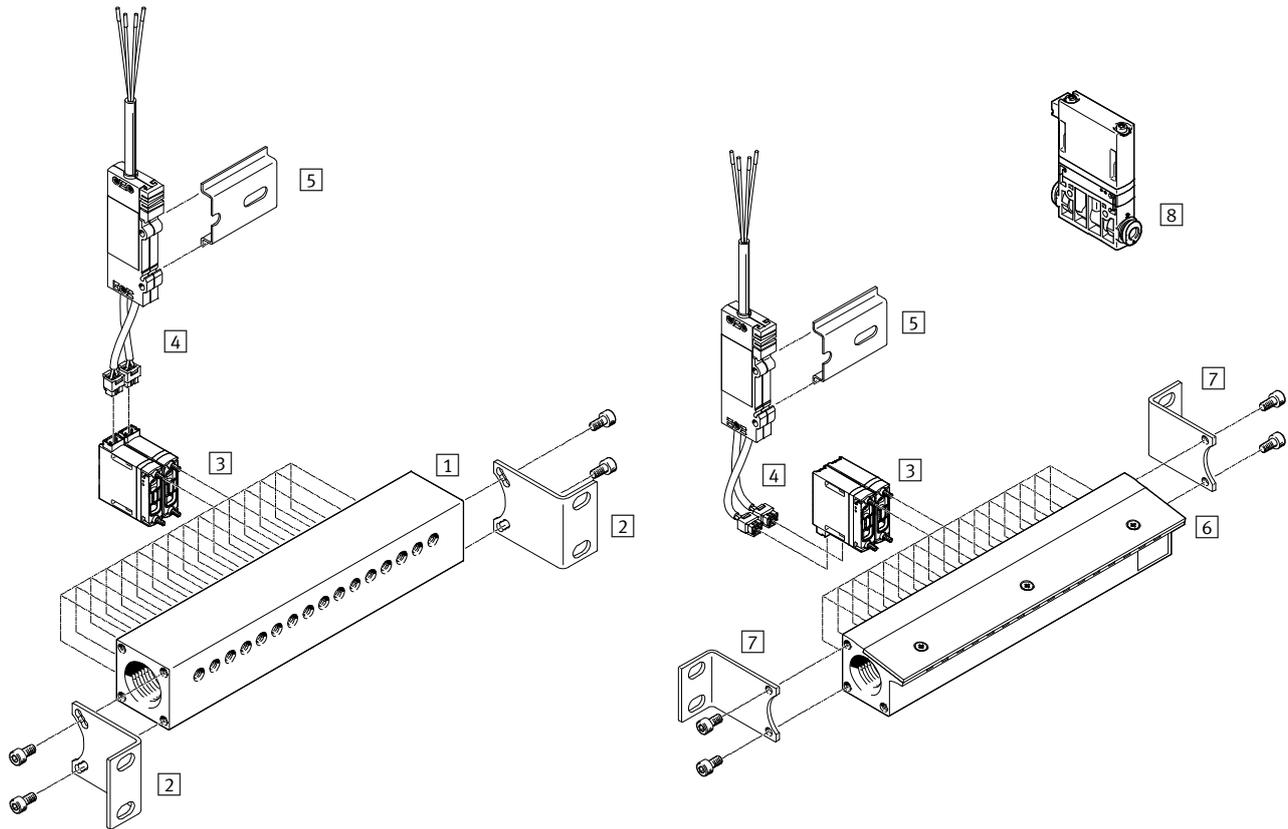
**Flow class**

LF	Low flow (50 l/min)
MF	Mid flow (100 l/min)
HF/LP	High flow/low pressure (160 l/min, 0.5... 4 bar)
HF	High flow (160 l/min)

# Solenoid valves MHJ9, fast-switching valves

Peripherals overview

## Valve manifold design



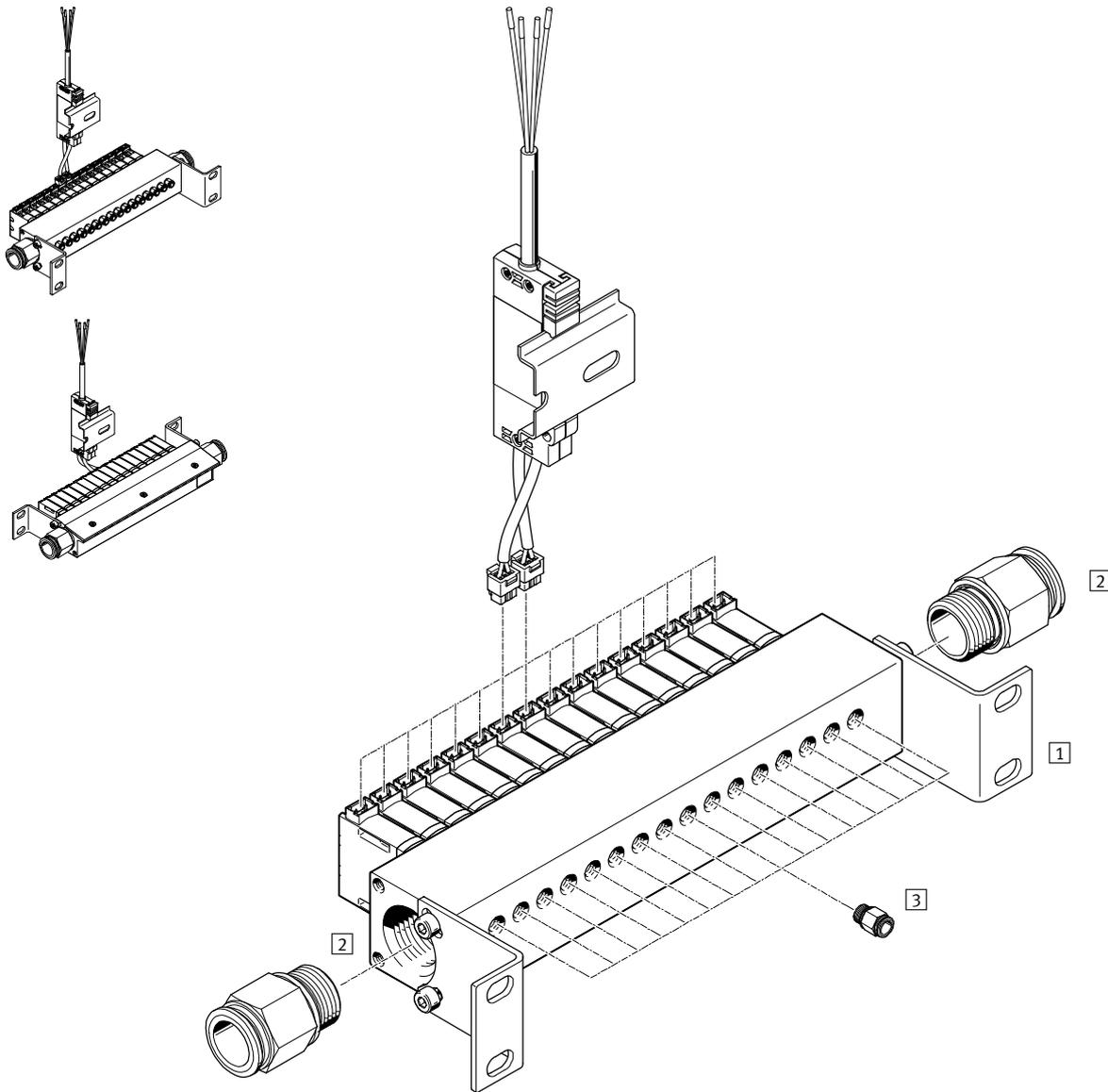
	Type	Brief description	→ Page/Internet
1	Manifold rail	MHJ9-P16 With 16 valve positions	24
2	Mounting kit	MHJ-HW1 Consisting of 2 mounting brackets and 4 socket head screws	24
3	Sub-base valve	MHJ9 2/2-way solenoid valve	23
4	Connecting cable	MHJ9-KMH With control electronics for 2 solenoid valves	23
5	H-rail	NRH-35-2000 2 m long	23
6	Manifold rail	MHJ9-PN16 With 16 valve positions	24
7	Mounting kit	MHJ-HW2 Consisting of 2 mounting brackets and 4 socket head screws	24
8	In-line valve	MHJ9 2/2-way solenoid valve	23

# Solenoid valves MHJ9, fast-switching valves

Peripherals overview

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## Valve manifold with accessories



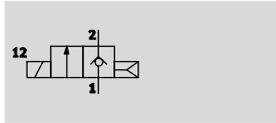
	Type	Brief description	→ Page/Internet
1	Manifold rail	MHJ9-P16 With mounting kit MHJ-HW1	24
2	Push-in fitting	QS For air supply port 1	24
3	Push-in fitting	QS For valve output 2	24

# Solenoid valves MHJ9, fast-switching valves

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Technical data

Function



-  - Width  
9 mm

-  - Temperature range  
-5 ... +60 °C



General technical data									
Type	In-line valve MHJ9-QS				Sub-base valve MHJ9				
	LF	MF	HF/LP	HF	LF	MF	HF/LP	HF	
Valve function	2/2-way valve, single solenoid, closed								
Design	Poppet valve without mechanical spring return								
Sealing principle	Hard								
Note on operation	Do not operate without flow								
Service life in billions of switching cycles <sup>1)</sup>	5	5	0.5	0.5	5	5	0.5	0.5	
Actuation type	Electrical								
Type of reset	Pneumatic spring								
Type of control	Direct								
Flow direction	Non-reversible								
Mounting position	Any								
Width [mm]	9 <sup>2)</sup>								
Grid dimension [mm]	9.5								
Standard nominal flow rate <sup>3)</sup> [l/min]	50	100	160	160	50	100	160	160	
C value [l/sbar]	0.2	0.4	0.66	0.66	0.2	0.4	0.66	0.66	
b value	0.5	0.38	0.36	0.36	0.5	0.38	0.36	0.36	
Type of mounting	In-line installation or via through-holes				On sub-base				
Pneumatic connection 1 and 2	QS4	QS4	QS6	QS6	Sub-base M7				
Product weight [g]	30				25				
Max. tightening torque of valve mounting [Nm]	-				0.28				

1) The long service life of the valves can only be achieved with the "hard" sealing principle; however, this results in minor leakage when the valve is closed.

2) Min. permitted grid dimension 9.5 mm

3) The specified flow rate refers to the valve without sub-base. The maximum flow rate that can be achieved may deviate from the specified value when the valve is mounted on a sub-base.

Operating and environmental conditions				
Type	LF	MF	HF/LP	HF
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on operating/pilot medium	Lubricated operation not possible			
Operating pressure [bar]	+0.5 ... +8	+0.5 ... +6	+0.5 ... +4	+0.5 ... +6
Ambient temperature [°C]	-5 ... +60			
With manifold assembly [°C]	Max. +45	Max. +45	Max. +45	-
Temperature of medium [°C]	-5 ... +60			
Restricted ambient and media temperature	As a function of switching frequency (see graph)			
Storage temperature [°C]	-20 ... +50			
Permissible solenoid surface temperature [°C]	+120			
Corrosion resistance class CRC <sup>1)</sup>	2			
Note on materials	RoHS compliant			

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

# Solenoid valves MHJ9, fast-switching valves

Technical data

Electrical data in combination with connecting cable MHJ9-KMH					
Type		LF	MF	HF/LP	HF
Operating voltage range <sup>1)</sup>	[V DC]	12 ... 53			
Note regarding operating voltage		Operation only with connecting cable MHJ9-KMH			
Coil resistance	[Ohm]	2.5			
Duty cycle <sup>2)</sup>	[%]	100	100	100	–
Operating conditions to DIN VDE 0580 <sup>2)</sup>	With individual valve	–	–	–	S3 50% 20 min
	With manifold assembly	–	–	–	S3 15% 20 min
Electrical connection		2-pin, plug connector KMH			
Degree of protection to EN 60529		IP40			

1) Any current limit must be set to at least 1.7 A for LF, MF and HF/LP valves and to at least 1.85 A for HF valves for the switching operation.

2) Air must flow through the valve continuously.



Note

The specified values only apply when using the connecting cable MHJ9-KMH.

Ask your technical consultant about other actuation options for the MHJ valves.

Switching times and frequencies						
Type		LF	MF	HF/LP	HF	
Maximum switching frequency	[Hz]	500	1000	500	500	
Tolerance for switching time	On	±15				
	Off	+15/-25				
Switching times at 12 V DC						
Pressure 4 bar	Switching time on	[ms]	1	1.1	1.3	1.4
	Switching time off	[ms]	0.9	0.4	0.5	0.6
Switching times at 24 V DC						
Pressure 0.5 bar	Switching time on	[ms]	0.7	0.7	0.8	0.9
	Switching time off	[ms]	0.9	0.5	0.5	0.7
Pressure 4 bar	Switching time on	[ms]	0.7	0.8	1	1
	Switching time off	[ms]	0.9	0.4	0.4	0.5
Pressure 6 bar	Switching time on	[ms]	–	0.9	–	1.3
	Switching time off	[ms]	–	0.4	–	0.5
Pressure 8 bar	Switching time on	[ms]	0.8	–	–	–
	Switching time off	[ms]	0.9	–	–	–
Switching times at 48 V DC						
Pressure 4 bar	Switching time on	[ms]	0.6	0.6	0.8	0.8
	Switching time off	[ms]	0.8	0.4	0.4	0.4



Note

The maximum switching frequency that can be achieved decreases as the temperature of the valve increases or as the operating and ambient temperature increases.

The ambient temperature must therefore be limited accordingly so that the maximum switching frequency can be reached.

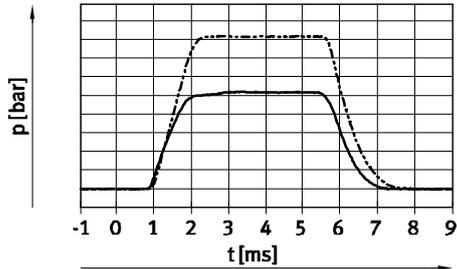
# Solenoid valves MHJ9, fast-switching valves

Technical data

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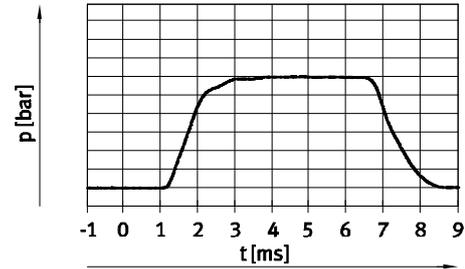
## Switching behaviour – Operating pressure

Type LF, MF and HF/LP



— 4 bar  
- - - 6 bar

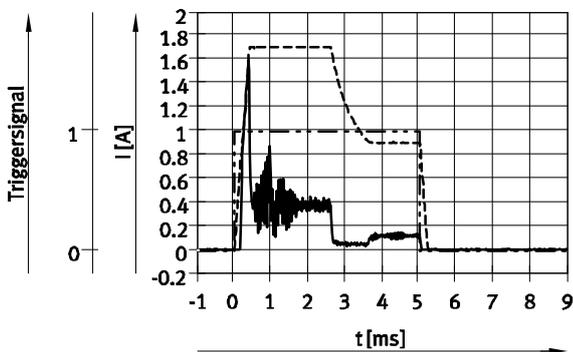
Type HF



— 4 bar

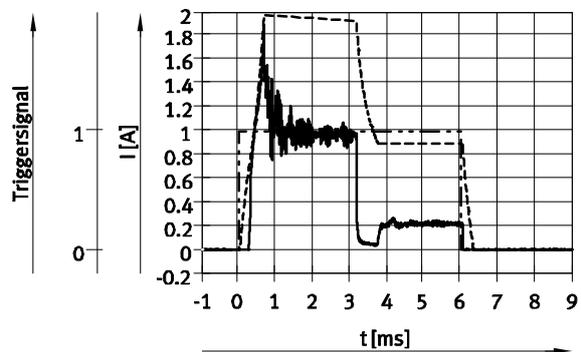
## Switching behaviour – Current/voltage curve

Type LF, MF and HF/LP



— Current in the supply line at 24 V  
- - - Coil current  
- · - · Trigger signal

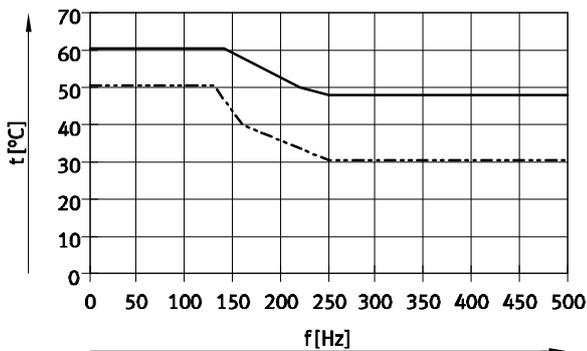
Type HF



— Current in the supply line at 24 V  
- - - Coil current  
- · - · Trigger signal

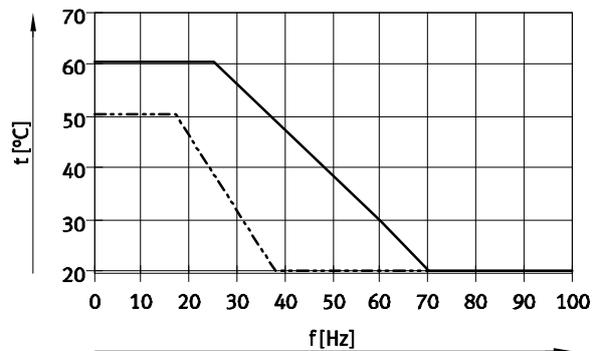
## Maximum permissible ambient temperature as a function of switching frequency

Type LF, MF and HF/LP



— Individual valve, 4 bar  
- - - Manifold assembly/sub-base valve, 4 bar

Type HF



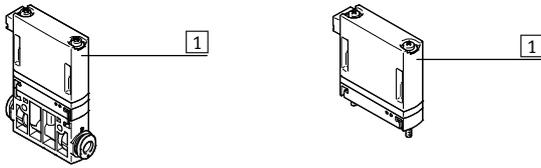
— Individual valve, 4 bar  
- - - Manifold assembly/sub-base valve, 4 bar

# Solenoid valves MHJ9, fast-switching valves

Technical data



## Materials

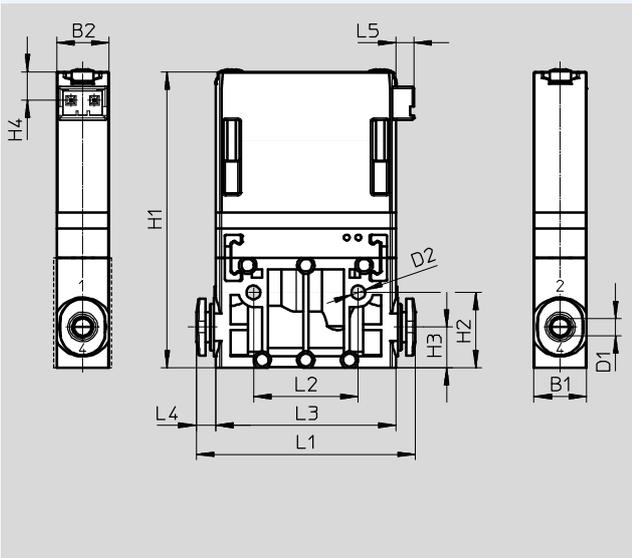


1	Housing	Reinforced PA
-	Seals	HNBR
-	Screws	Steel
-	Manifold rail	Anodised wrought aluminium alloy

## Dimensions

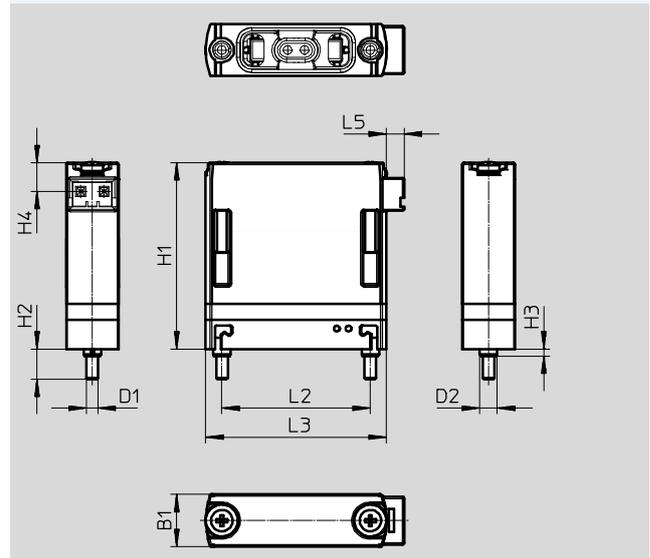
Download CAD data → [www.festo.com](http://www.festo.com)

### Semi in-line valve



Type	B1	B2	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4	L5
MHJ9-QS-4	9	9	4	2.4	51	13	7	5	38	18	32	3.2	3
MHJ9-QS-6	10	9	6						51			9.5	

### Sub-base valve



Type	B1	D1	D2	H1	H2	H3	H4	L2	L3	L5
MHJ9	9	M2	3	32	5.3	1.2	5	25.5	31	3

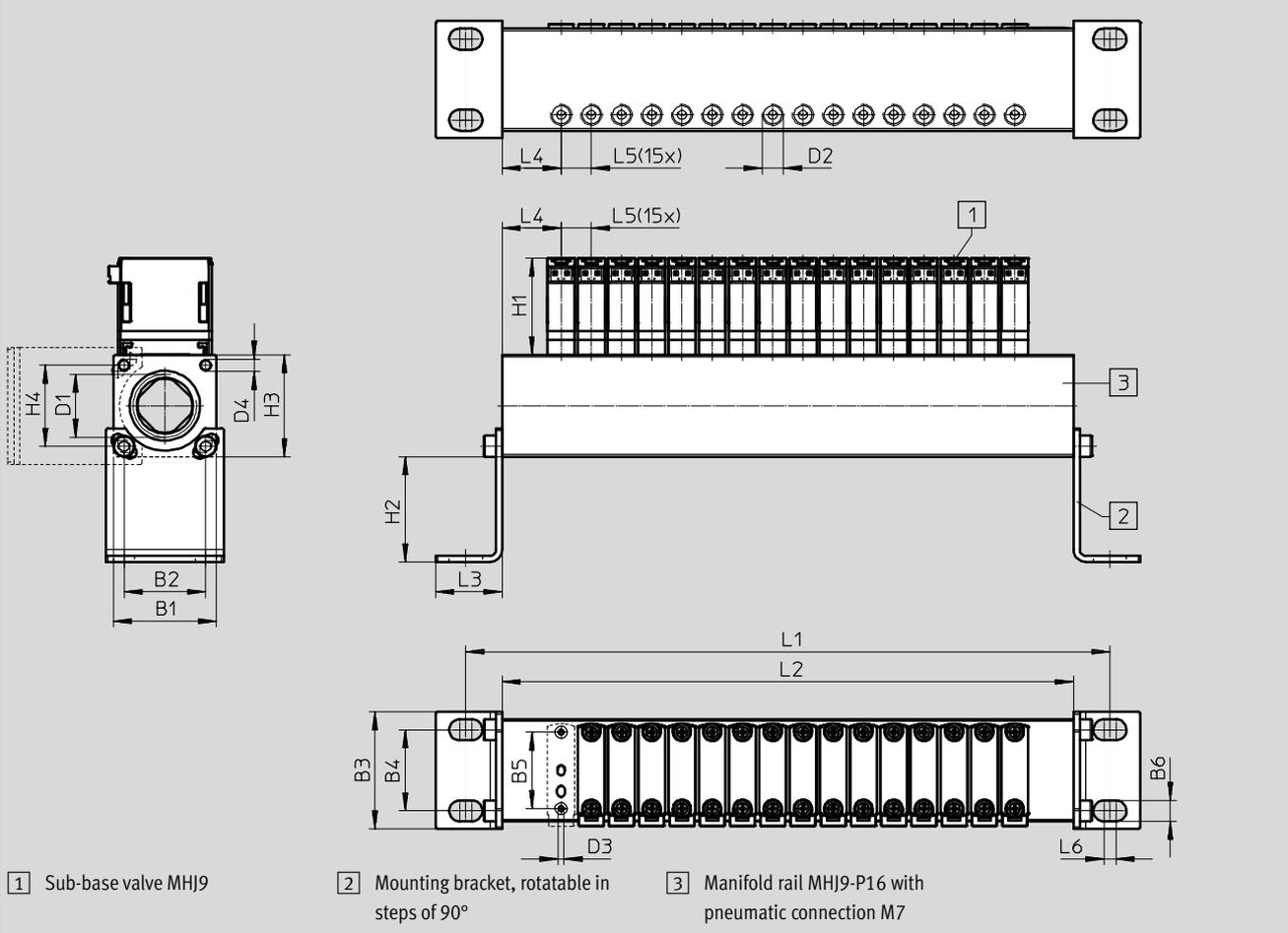
# Solenoid valves MHJ9, fast-switching valves

Technical data

## Dimensions

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

Manifold assembly on MHJ9-P16 (with pneumatic connection M7)



Type	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6
MHJ9-P16	34	27	39	27	26	7	G1/2	M7	M2	M4	32	35	34	27	213	189	22	20	10	4

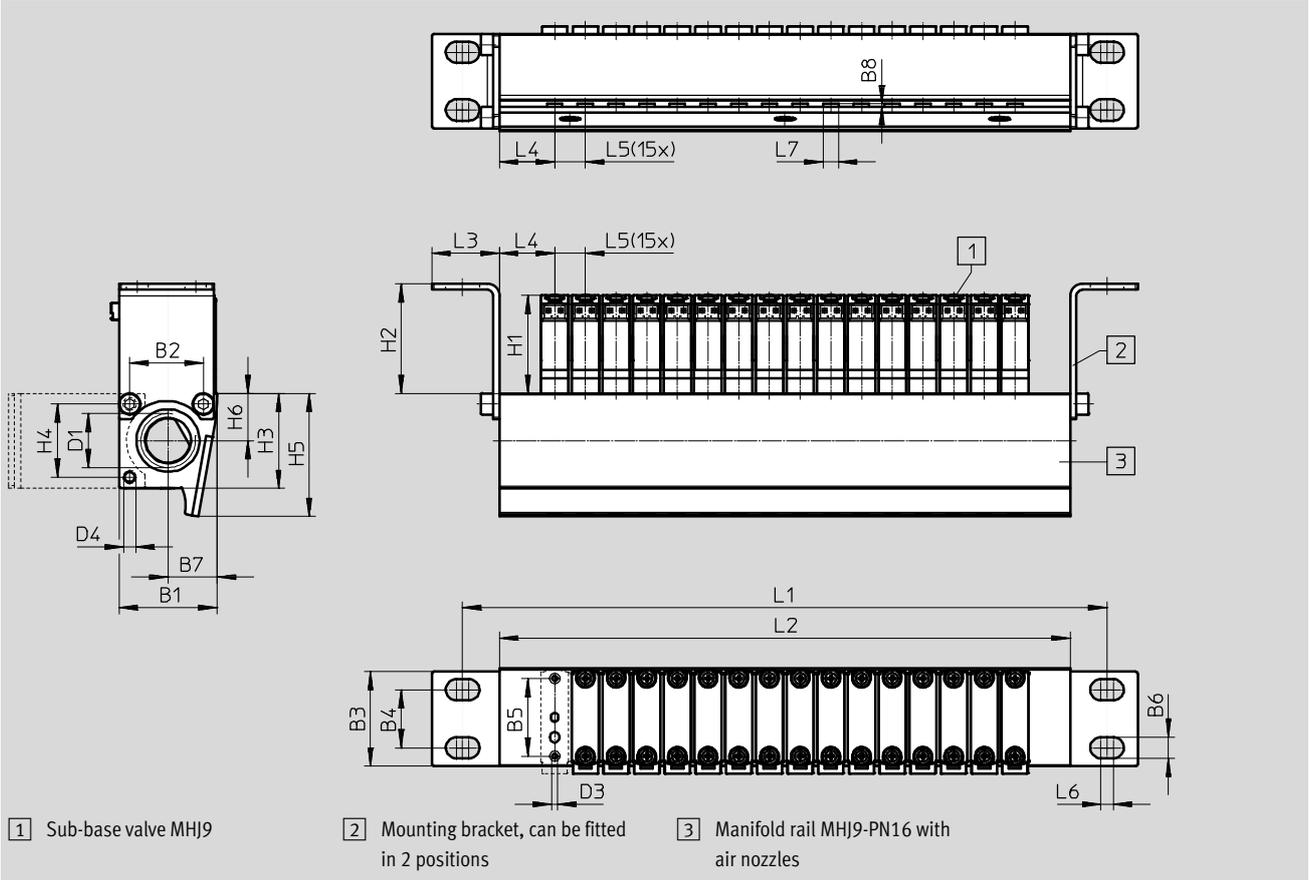
# Solenoid valves MHJ9, fast-switching valves

Technical data

**Dimensions**

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

Manifold assembly on MHJ9-PN16 (with air nozzles)

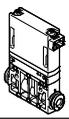


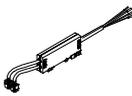
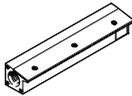
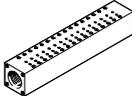
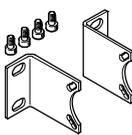
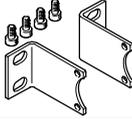
Type	B1	B2	B3	B4	B5	B6	B7	B8	D1	D3	D4	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6	L7
MHJ9-PN16	32	24	31	19	26	7	16	1	G3/8	M2	M4	32	36	31	24	40	16	210	186	22	18	10	4	5

# Solenoid valves MHJ9, fast-switching valves

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Technical data

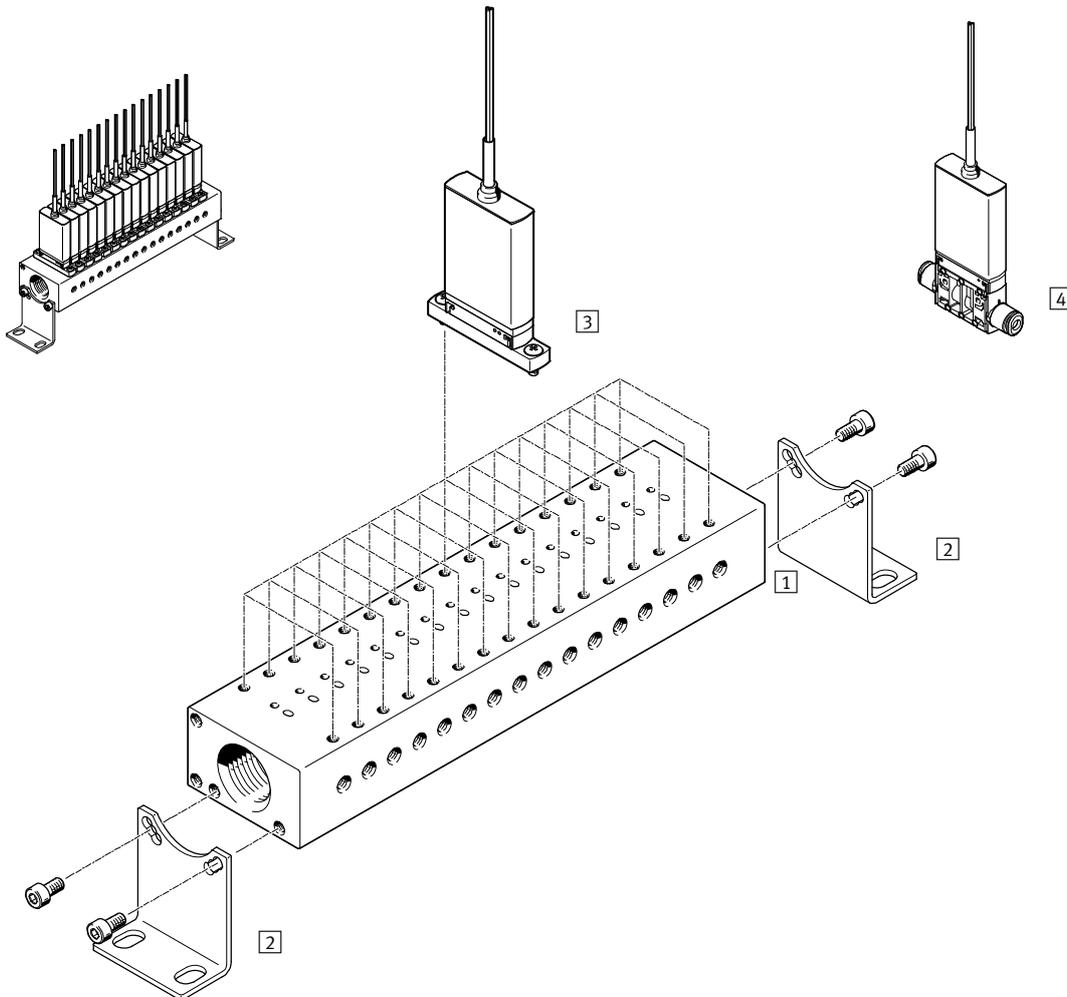
Ordering data					
	Description	Standard nominal flow rate	Operating pressure	Part No.	Type
In-line valve without connecting cable					
	2/2-way solenoid valve	50 l/min	+0.5 ... +8 bar	<b>572079</b>	<b>MHJ9-QS-4-LF</b>
		100 l/min	+0.5 ... +6 bar	<b>553118</b>	<b>MHJ9-QS-4-MF</b>
		160 l/min	+0.5 ... +4 bar	<b>567793</b>	<b>MHJ9-QS-6-HF/LP</b>
		160 l/min	+0.5 ... +6 bar	<b>567790</b>	<b>MHJ9-QS-6-HF</b>
Sub-base valve without connecting cable					
	2/2-way solenoid valve	50 l/min	+0.5 ... +8 bar	<b>572078</b>	<b>MHJ9-LF</b>
		100 l/min	+0.5 ... +6 bar	<b>553115</b>	<b>MHJ9-MF</b>
		160 l/min	+0.5 ... +4 bar	<b>567792</b>	<b>MHJ9-HF/LP</b>
		160 l/min	+0.5 ... +6 bar	<b>553117</b>	<b>MHJ9-HF</b>

Ordering data – Accessories					
	Description			Part No.	Type
Connecting cable with control electronics for 2 valves					
	Mounting on H-rail, for static applications	For LF, MF and HF/LP valves	0.5 m	<b>553121</b>	<b>MHJ9-KMH-0,5-MF</b>
			2.5 m	<b>565519</b>	<b>MHJ9-KMH-2,5-MF</b>
		For HF valves	0.5 m	<b>562170</b>	<b>MHJ9-KMH-0,5-HF</b>
			2.5 m	<b>567505</b>	<b>MHJ9-KMH-2,5-HF</b>
Manifold rail					
	For 16 valves MHJ9, without mounting bracket, with air nozzles			<b>553123</b>	<b>MHJ9-PN16</b>
	For 16 valves MHJ9, without mounting bracket, with pneumatic connection M7			<b>553125</b>	<b>MHJ9-P16</b>
Mounting kit					
	For manifold rail MHJ9-P16, consisting of 2 mounting brackets and 4 socket head screws M4x8 DIN912			<b>565455</b>	<b>MHJ-HW1</b>
	For manifold rail MHJ9-PN16, consisting of 2 mounting brackets and 4 socket head screws M4x8 DIN912			<b>565456</b>	<b>MHJ-HW2</b>
Push-in fitting for valve output, port 2					
	Connecting thread M7 for tubing O.D.	For manifold rail with LF or MF valves	4 mm (10 pieces)	<b>153319</b>	<b>QSM-M7-4-I</b>
		For manifold rail with HF or HF/LP valves	6 mm (10 pieces)	<b>153321</b>	<b>QSM-M7-6-I</b>
Push-in fitting for air supply, port 1					
	Connecting thread G1/2 for tubing O.D.		12 mm (1 piece)	<b>186104</b>	<b>QS-G1/2-12</b>
			16 mm (1 piece)	<b>186105</b>	<b>QS-G1/2-16</b>
	Connecting thread G3/8 for tubing O.D.		12 mm (10 pieces)	<b>186103</b>	<b>QS-G3/8-12</b>
			16 mm (10 pieces)	<b>186347</b>	<b>QS-G3/8-16</b>

# Solenoid valves MHJ10, fast-switching valves

Peripherals overview

## Individual valve, valve manifold design

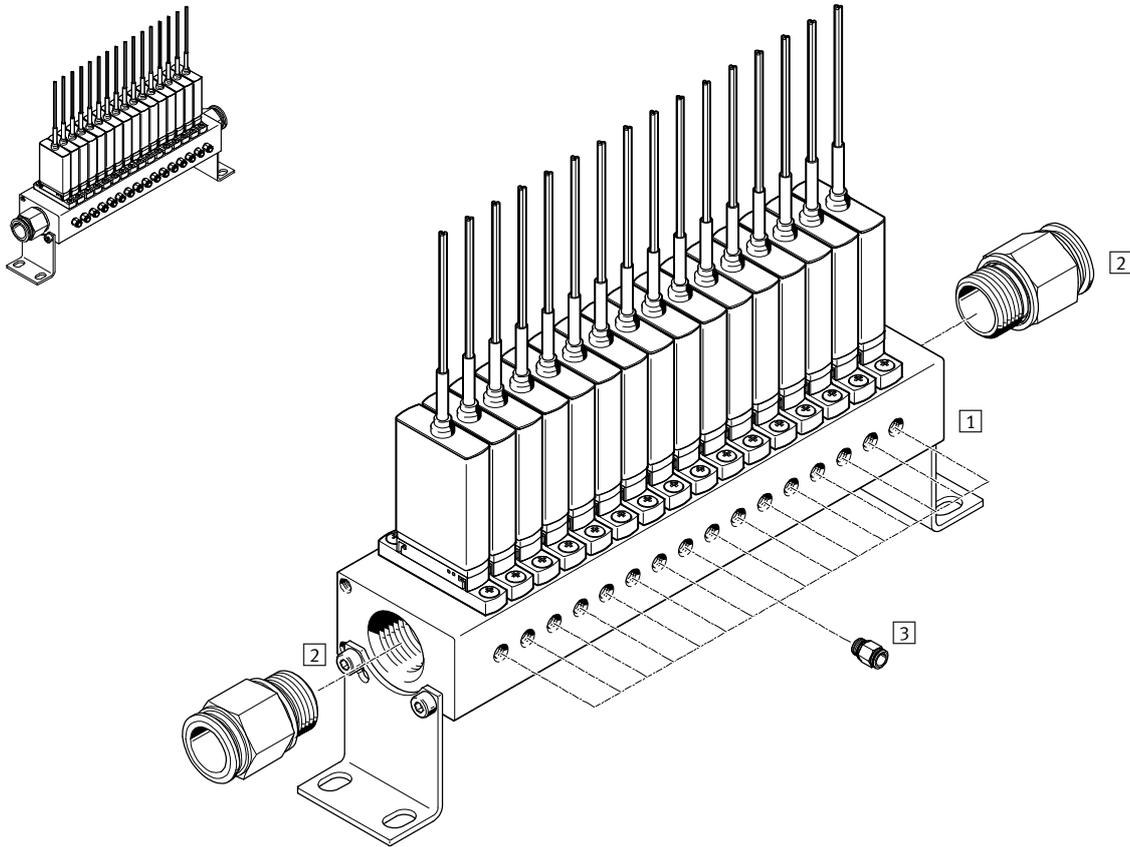


	Type	Brief description	→ Page/Internet
1	Manifold rail	MHJ10-P16 With 16 valve positions	24
2	Mounting kit	MHJ-HW1 Consisting of 2 mounting brackets and 4 socket head screws	24
3	Sub-base valve	MHJ10 2/2-way solenoid valve	23
4	In-line valve	MHJ10 2/2-way solenoid valve	23

# Solenoid valves MHJ10, fast-switching valves

Peripherals overview

## Valve manifold with accessories



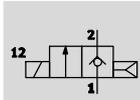
	Type	Brief description	→ Page/Internet
1	Manifold rail MHJ10-P16	With mounting kit MHJ-HW1	24
2	Push-in fitting QS	For air supply port 1	24
3	Push-in fitting QS	For valve output 2	24

# Solenoid valves MHJ10, fast-switching valves

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Technical data

Function



- - Width  
10 mm

- - Flow rate  
Max. 160 l/min

- - Voltage  
24 V DC



General technical data								
Type	In-line valve MHJ10-S...QS				Sub-base valve MHJ10-S			
	LF	MF	HF/LP	HF	LF	MF	HF/LP	HF
Valve function	2/2-way valve, single solenoid, closed							
Design	Poppet valve without mechanical spring return							
Sealing principle	Hard							
Note on operation	Do not operate without flow							
Service life in billions of switching cycles <sup>1)</sup>	5	5	0.5	0.5	5	5	0.5	0.5
Actuation type	Electrical							
Type of reset	Pneumatic spring							
Type of control	Direct							
Flow direction	Non-reversible							
Mounting position	Any							
Width [mm]	10 <sup>2)</sup>							
Grid dimension [mm]	10.5							
Standard nominal flow rate [l/min]	50	100	160	160	50	100	160	160
C value [l/sbar]	0.2	0.4	0.66	0.66	0.2	0.4	0.66	0.66
b value	0.5	0.38	0.36	0.36	0.5	0.38	0.36	0.36
Type of mounting	In-line installation or via through-holes				On sub-base			
Pneumatic connection 1 and 2	QS4	QS4	QS6	QS6	Sub-base M7			
Max. tightening torque for valve mounting [Nm]	-				0.7			

1) The long service life of the valves can only be achieved with the "hard" sealing principle; however, this results in minor leakage when the valve is closed.

2) Min. permitted grid dimension 10.5 mm

Operating and environmental conditions				
Type	LF	MF	HF/LP	HF
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on operating/pilot medium	Lubricated operation not possible			
Operating pressure [bar]	+0.5 ... +8	+0.5 ... +6	+0.5 ... +4	+0.5 ... +6
Ambient temperature [°C]	-5 ... +60			
With manifold assembly [°C]	Max. +45	Max. +45	Max. +45	-
Temperature of medium [°C]	-5 ... +60			
Restricted ambient and media temperature	As a function of switching frequency (see graph)			
Storage temperature [°C]	-20 ... +50			
Permissible solenoid surface temperature [°C]	+120			
Corrosion resistance class CRC <sup>1)</sup>	2			
CE marking (see declaration of conformity)	To EU EMC Directive <sup>2)</sup>			
Note on materials	RoHS compliant			

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

2) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary. Max. permissible cable length 2.5 m.

# Solenoid valves MHJ10, fast-switching valves

Technical data

Electrical data						
Type		LF	MF	HF/LP	HF	
Operating voltage <sup>1)</sup>	[V DC]	24 ±10% = 21.6 ... 26.4				
Control signal range	[V DC]	3 ... 30				
Power	Low-current phase	[W]	2	2	2	3.2
	High-current phase	[W]	7	7	7	14.5
Reverse polarity protection		For operating voltage				
Additional functions		Spark arresting				
		Reduction of holding current with energy recovery				
		Safety shut-off				
Degree of protection to EN 60529		IP65				
Duty cycle <sup>2)</sup>	[%]	100	100	100	–	
Operating conditions to DIN VDE 0580 <sup>2)</sup>	With individual valve	–	–	–	S3 50% 20 min	
	With manifold assembly	–	–	–	S3 15% 20 min	
Electrical connection		Cable, 3-wire				

1) Any current limit must be set to at least 1.7 A. for the switching operation.

2) Air must flow through the valve continuously.

Switching times and frequencies						
Type		LF	MF	HF/LP	HF	
Maximum switching frequency	[Hz]	500	1000	500	500	
Tolerance for switching time	On	[%]	±15			
	Off	[%]	+15/–25			
Switching times at 24 V DC						
Pressure 0.5 bar	Switching time on	[ms]	0.7	0.8	0.8	1
	Switching time off	[ms]	0.9	0.5	0.6	0.8
Pressure 4 bar	Switching time on	[ms]	0.8	0.8	1	1.2
	Switching time off	[ms]	1	0.4	0.5	0.6
Pressure 6 bar	Switching time on	[ms]	–	0.9	–	1.3
	Switching time off	[ms]	–	0.4	–	0.6
Pressure 8 bar	Switching time on	[ms]	0.9	–	–	–
	Switching time off	[ms]	0.9	–	–	–

 Note

The maximum switching frequency that can be achieved decreases as the temperature of the valve increases or as the operating and ambient temperature increases.

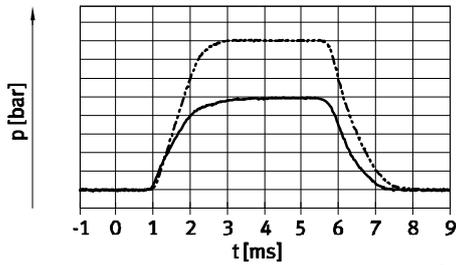
The ambient temperature must therefore be limited accordingly so that the maximum switching frequency can be reached.

# Solenoid valves MHJ10, fast-switching valves

Technical data

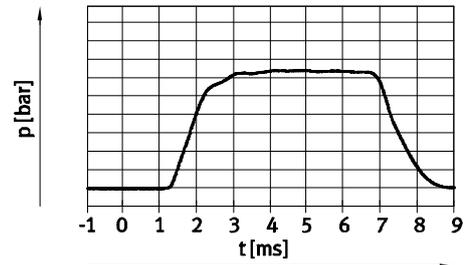
## Switching behaviour – Operating pressure

Type LF, MF and HF/LP



— 4 bar  
- - - 6 bar

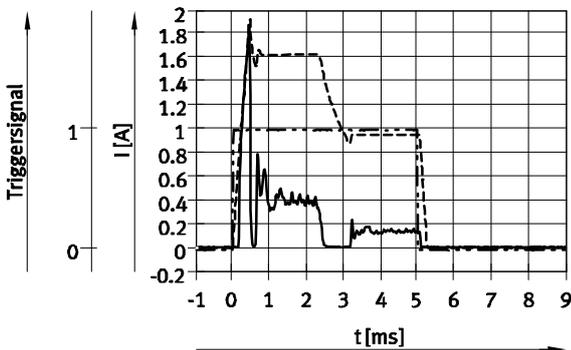
Type HF



— 4 bar

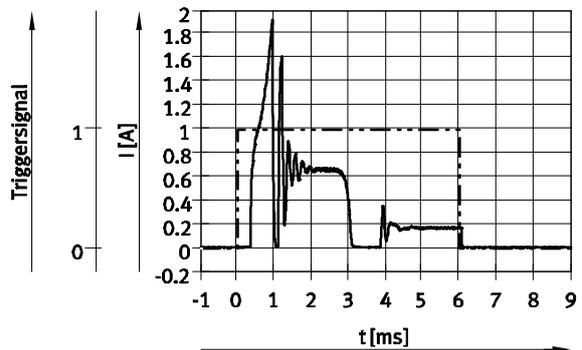
## Switching behaviour – Current/voltage curve

Type LF, MF and HF/LP



— Current in the supply line at 24 V  
- - - Coil current  
- · - · Trigger signal

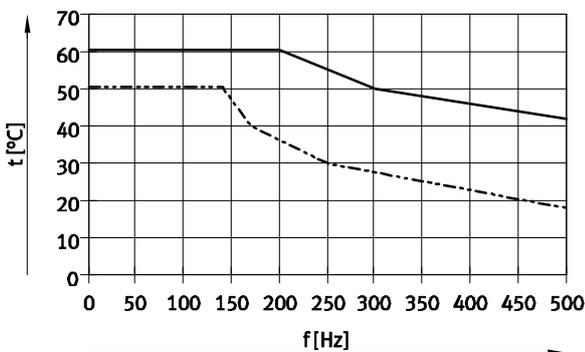
Type HF



— Current in the supply line at 24 V  
- - - Trigger signal

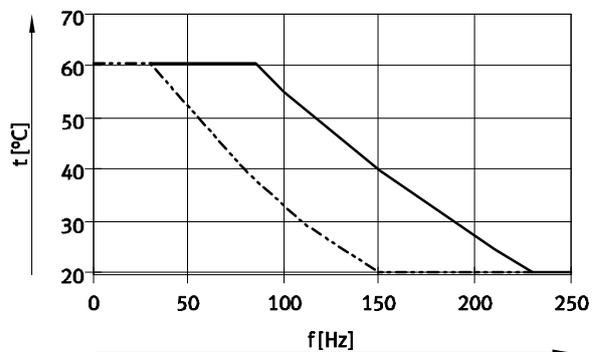
## Maximum permissible ambient temperature as a function of switching frequency

Type LF, MF and HF/LP



— Individual valve, 4 bar  
- - - Manifold assembly/sub-base valve, 4 bar

Type HF



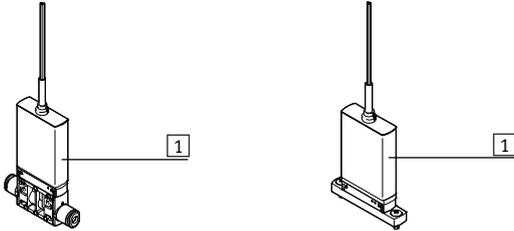
— Individual valve, 4 bar  
- - - Manifold assembly/sub-base valve, 4 bar

# Solenoid valves MHJ10, fast-switching valves

Technical data



## Materials

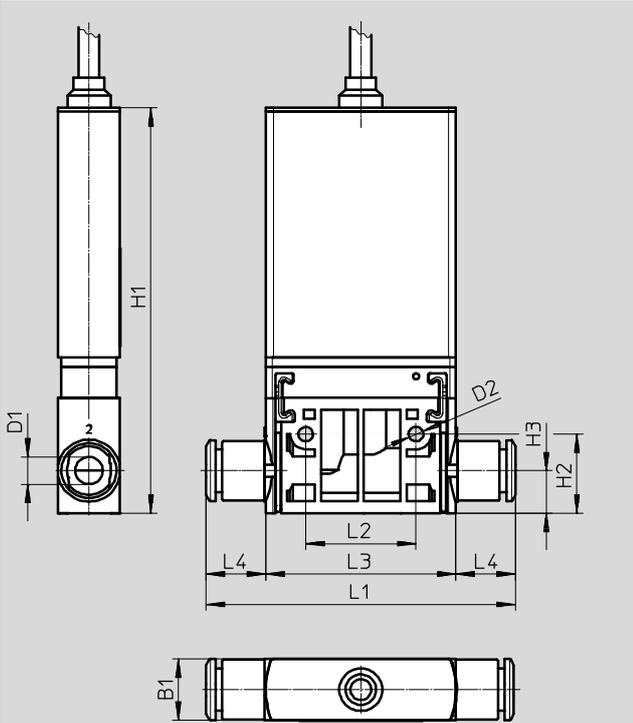


1	Housing	Reinforced PA Reinforced PPS
-	Seals	HNBR
-	Screws	Steel
-	Cable sheath	PUR
-	Manifold rail	Anodised wrought aluminium alloy

## Dimensions

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

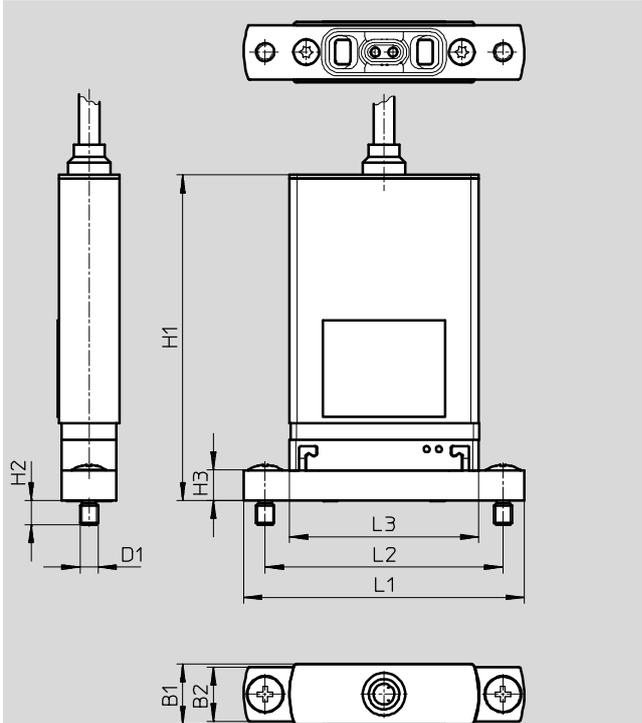
### Semi in-line valve



Wiring allocation:  
 BU = GND  
 BN = Operating voltage positive  
 BK = Trigger signal

Type	B1	D1	D2	H1	H2	H3	L1	L2	L3	L4
MHJ10-S...QS4	10	4	2.4	68	13	7	50.5	18	32	9.5
MHJ10-S...QS6		6								

### Sub-base valve



Wiring allocation:  
 BU = GND  
 BN = Operating voltage positive  
 BK = Trigger signal

Type	B1	B2	D1	H1	H2	H3	L1	L2	L3
MHJ10-S	10	9	M3	54	4	5	46	39	31

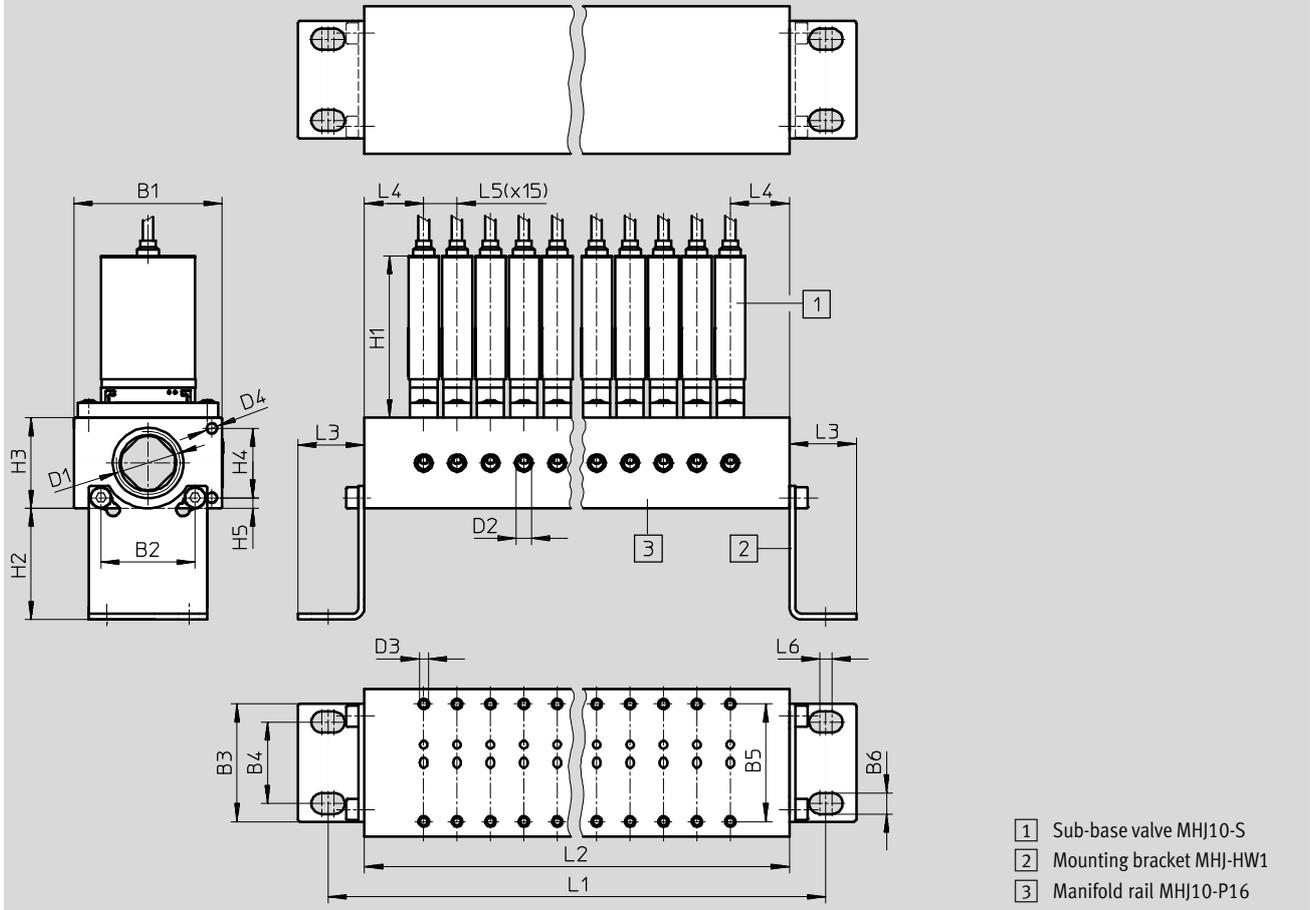
# Solenoid valves MHJ10, fast-switching valves

Technical data

## Dimensions

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

Manifold assembly

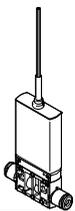
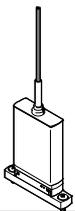


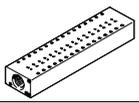
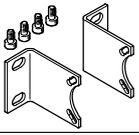
Type	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6
MHJ10-P16	49	31	39	27	39	7	G1/2	M7	M3	M4	54	37	30	23	3.5	228	204	22	20	11	4

# Solenoid valves MHJ10, fast-switching valves

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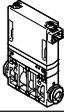
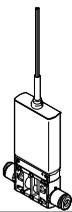
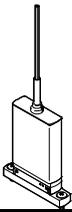
Technical data

Ordering data							
	Description	Standard nominal flow rate	Cable length	Product weight	Operating pressure	Part No.	Type
In-line valve with connecting cable							
	2/2-way solenoid valve	50 l/min	2.5 m	85 g	+0.5 ... +8 bar	<b>572081</b>	<b>MHJ10-S-2,5-QS-4-LF</b>
		100 l/min	0.35 m	50 g	+0.5 ... +6 bar	<b>557604</b>	<b>MHJ10-S-0,35-QS-4-MF</b>
			2.5 m	85 g	+0.5 ... +6 bar	<b>565515</b>	<b>MHJ10-S-2,5-QS-4-MF</b>
		160 l/min	2.5 m	85 g	+0.5 ... +6 bar	<b>567503</b>	<b>MHJ10-S-2,5-QS-6-HF</b>
+0.5 ... +4 bar	<b>567798</b>				<b>MHJ10-S-2,5-QS-6-HF/LP</b>		
Sub-base valve with connecting cable							
	2/2-way solenoid valve	50 l/min	2.5 m	75 g	+0.5 ... +8 bar	<b>572080</b>	<b>MHJ10-S-2,5-LF</b>
		100 l/min	0.35 m	40 g	+0.5 ... +6 bar	<b>557601</b>	<b>MHJ10-S-0,35-MF</b>
			2.5 m	75 g	+0.5 ... +6 bar	<b>565513</b>	<b>MHJ10-S-2,5-MF</b>
		160 l/min	2.5 m	75 g	+0.5 ... +6 bar	<b>567502</b>	<b>MHJ10-S-2,5-HF</b>
+0.5 ... +4 bar	<b>567796</b>				<b>MHJ10-S-2,5-HF/LP</b>		

Ordering data – Accessories							
	Description					Part No.	Type
Manifold rail							
	For 16 valves MHJ10, without mounting bracket, with pneumatic connection M7					<b>557608</b>	<b>MHJ10-P16</b>
Mounting kit							
	For manifold rail MHJ10-P16, consisting of 2 mounting brackets and 4 socket head screws M4x8 DIN912					<b>565455</b>	<b>MHJ-HW1</b>
Push-in fitting for valve output, port 2							
	Connecting thread M7 for tubing O.D.	For manifold rail with LF or MF valves	4 mm (10 pieces)	<b>153319</b>	<b>QSM-M7-4-I</b>		
		For manifold rail with HF or HF/LP valves	6 mm (10 pieces)	<b>153321</b>	<b>QSM-M7-6-I</b>		
Push-in fitting for air supply, port 1							
	Connecting thread G1/2 for tubing O.D.		12 mm (1 piece)	<b>186104</b>	<b>QS-G1/2-12</b>		
			16 mm (1 piece)	<b>186105</b>	<b>QS-G1/2-16</b>		
	Connecting thread G3/8 for tubing O.D.		12 mm (10 pieces)	<b>186103</b>	<b>QS-G3/8-12</b>		
			16 mm (10 pieces)	<b>186347</b>	<b>QS-G3/8-16</b>		

# Solenoid valves MHJ, fast-switching valves

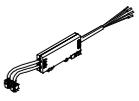
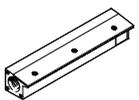
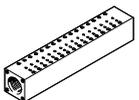
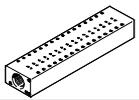
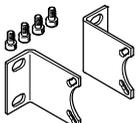
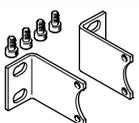
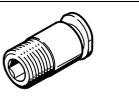
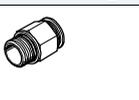
Accessories

Ordering data						
	Description	Standard nominal flow rate	Cable length	Operating pressure	Part No.	Type
<b>In-line valve without connecting cable</b>						
	2/2-way solenoid valve	50 l/min	–	+0.5 ... +8 bar	<b>572079</b>	<b>MHJ9-QS-4-LF</b>
		100 l/min	–	+0.5 ... +6 bar	<b>553118</b>	<b>MHJ9-QS-4-MF</b>
		160 l/min	–	+0.5 ... +4 bar	<b>567793</b>	<b>MHJ9-QS-6-HF/LP</b>
			–	+0.5 ... +6 bar	<b>567790</b>	<b>MHJ9-QS-6-HF</b>
<b>Sub-base valve without connecting cable</b>						
	2/2-way solenoid valve	50 l/min	–	+0.5 ... +8 bar	<b>572078</b>	<b>MHJ9-LF</b>
		100 l/min	–	+0.5 ... +6 bar	<b>553115</b>	<b>MHJ9-MF</b>
		160 l/min	–	+0.5 ... +4 bar	<b>567792</b>	<b>MHJ9-HF/LP</b>
			–	+0.5 ... +6 bar	<b>553117</b>	<b>MHJ9-HF</b>
<b>In-line valve with connecting cable</b>						
	2/2-way solenoid valve	50 l/min	2.5 m	+0.5 ... +8 bar	<b>572081</b>	<b>MHJ10-S-2,5-QS-4-LF</b>
			0.35 m	+0.5 ... +6 bar	<b>557604</b>	<b>MHJ10-S-0,35-QS-4-MF</b>
		2.5 m		+0.5 ... +6 bar	<b>565515</b>	<b>MHJ10-S-2,5-QS-4-MF</b>
		160 l/min	2.5 m	+0.5 ... +4 bar	<b>567798</b>	<b>MHJ10-S-2,5-QS-6-HF/LP</b>
				+0.5 ... +6 bar	<b>567503</b>	<b>MHJ10-S-2,5-QS-6-HF</b>
<b>Sub-base valve with connecting cable</b>						
	2/2-way solenoid valve	50 l/min	2.5 m	+0.5 ... +8 bar	<b>572080</b>	<b>MHJ10-S-2,5-LF</b>
			0.35 m	+0.5 ... +6 bar	<b>557601</b>	<b>MHJ10-S-0,35-MF</b>
		2.5 m		+0.5 ... +6 bar	<b>565513</b>	<b>MHJ10-S-2,5-MF</b>
		160 l/min	2.5 m	+0.5 ... +4 bar	<b>567796</b>	<b>MHJ10-S-2,5-HF/LP</b>
				+0.5 ... +6 bar	<b>567502</b>	<b>MHJ10-S-2,5-HF</b>

# Solenoid valves MHJ, fast-switching valves

Accessories

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Ordering data					
Description		Part No.	Type		
<b>Connecting cable</b>					
	With control electronics for 2 valves, mounting on H-rail, for static applications	For LF, MF and HF/LP valves	0.5 m	<b>553121</b>	<b>MHJ9-KMH-0,5-MF</b>
			2.5 m	<b>565519</b>	<b>MHJ9-KMH-2,5-MF</b>
		For HF valves	0.5 m	<b>562170</b>	<b>MHJ9-KMH-0,5-HF</b>
			2.5 m	<b>567505</b>	<b>MHJ9-KMH-2,5-HF</b>
<b>Manifold rail<sup>1)</sup></b>					
	For 16 valves MHJ9, without mounting bracket, with air nozzles			<b>553123</b>	<b>MHJ9-PN16</b>
	For 16 valves MHJ9, without mounting bracket, with pneumatic connection M7			<b>553125</b>	<b>MHJ9-P16</b>
	For 16 valves MHJ10, without mounting bracket, with pneumatic connection M7			<b>557608</b>	<b>MHJ10-P16</b>
<b>Mounting kit</b>					
	For manifold rail MHJ...-P16, consisting of 2 mounting brackets and 4 socket head screws M4x8 DIN912			<b>565455</b>	<b>MHJ-HW1</b>
	For manifold rail MHJ9-PN16, consisting of 2 mounting brackets and 4 socket head screws M4x8 DIN912			<b>565456</b>	<b>MHJ-HW2</b>
<b>Push-in fitting for valve output, port 2</b>					
	Connecting thread M7 for tubing O.D.	4 mm (10 pieces)	For manifold rail with LF or MF valves	<b>153319</b>	<b>QSM-M7-4-I</b>
		6 mm (10 pieces)	For manifold rail with HF or HF/LP valves	<b>153321</b>	<b>QSM-M7-6-I</b>
<b>Push-in fitting for air supply, port 1</b>					
	Connecting thread G1/2 for tubing O.D.	12 mm (1 piece)		<b>186104</b>	<b>QS-G1/2-12</b>
		16 mm (1 piece)		<b>186105</b>	<b>QS-G1/2-16</b>
	Connecting thread G3/8 for tubing O.D.	12 mm (10 pieces)		<b>186103</b>	<b>QS-G3/8-12</b>
		16 mm (10 pieces)		<b>186347</b>	<b>QS-G3/8-16</b>

1) Further versions/lengths available on request