



Solenoid valves MFH-B, Tiger 2000

FESTO

Technical data – 5/2-way valves

-  Flow rate
750 ... 2000 l/min

-  Voltage
12, 24, 42, 48 V DC
24, 42, 48, 110, 230,
240 V AC
Wearing parts kits
→ 16



General technical data							
Pneumatic connection	G1/8		G1/4		G3/8		
Reset method	Mechanical	Pneumatic	Mechanical	Pneumatic	Mechanical	Pneumatic	
Valve function	5/2-way, single solenoid						
Design	Poppet seat	Piston spool	Poppet seat	Piston spool			
Non-overlapping	No	Yes	No	Yes			
Sealing principle	Soft						
Actuation type	Electrical						
Control type	Pilot-actuated						
Pilot air supply	Internal or external						
Flow direction	Reversible or not reversible (see switching symbol)						
Exhaust air function	With flow control						
Manual override	Non-detenting						
Type of mounting	With through-hole						
Mounting position	Any						
Electrical connection	Via F solenoid coil, to be ordered separately						
b value	0.34	–	0.29	0.38	–	–	
c value	[l/s bar]	3	–	5.5	6.35	–	–
Nominal width	[mm]	5	8	7	10	12	12
Standard nominal flow rate	[l/min.]	750	1000	1300	1600	2000	2000
Grid dimension	[mm]	27		33		41	
Valve width	[mm]	26		32		40	
Product weight	[g]	220, 250 ¹⁾	280, 300 ¹⁾	300, 360 ¹⁾	380	630	630

1) ATEX valve

Safety data	
Note on forced checking procedure	Switching frequency at least once a week
Max. switching frequency	[Hz] 3
Max. positive test pulse with 0 signal	[µs] 2200
Max. negative test pulse with 1 signal	[µs] 3700

ATEX	
Type	MFH- ... -EX, JMFH- ... -EX
ATEX category gas	II 2G
Type of (ignition) protection for gas	c T4
ATEX category for dust	II 2D
Type of (ignition) protection for dust	c T130°C
Explosion-proof ambient temperature	[°C] –5 ≤ Ta ≤ +40
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)
Degree of protection	IP65 (in assembled state)

Solenoid valves MFH-B, Tiger 2000

FESTO

Technical data – 5/2-way valves

Operating and environmental conditions								
Pneumatic connection			G1/8		G1/4		G3/8	
Reset method			Mechanical	Pneumatic	Mechanical	Pneumatic	Mechanical	Pneumatic
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/pilot medium			Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Operating pressure	Internal pilot air supply	[bar]	2 ... 10	3 ... 10	2 ... 10	3 ... 10	2.5 ... 10	2 ... 10
	External pilot air supply	[bar]	-0.9 ... +10, 0 ... 10 ¹⁾	-0.9 ... +10	-0.9 ... +10, 0 ... 10 ¹⁾	-0.9 ... +10	-0.9 ... +10	-0.9 ... +10
Pilot pressure		[bar]	2 ... 10	3 ... 10	2 ... 10	3 ... 10	2.5 ... 10	2 ... 10
Storage temperature		[°C]	-40 ... +60					
Ambient temperature		[°C]	-5 ... +40					
Temperature of medium		[°C]	-10 ... +60					
		[°C]	-5 ... +40 (MFH- ... -EX)					

1) For non-reversible valves

Electrical data			
F solenoid coil			
Electrical connection of the solenoid coil			Plug vanes for plug sockets MSSD-F, KMF
Operating voltage	DC voltage	[V DC]	12, 24, 42, 48
	AC voltage	[V AC]	24, 42, 48, 110, 230, 240 (50 ... 60 Hz)
Coil characteristics	DC voltage	[W]	4.5
	AC voltage	[VA]	Pull: 7.5 Hold: 6
Degree of protection to EN 60 529			IP65 (in combination with plug socket)

Valve switching times [ms]							
Pneumatic connection		G1/8		G1/4		G3/8	
Reset method		Mechanical	Pneumatic	Mechanical	Pneumatic	Mechanical	Pneumatic
On		10	27	12	23	20	25, 27 ¹⁾
Off		30	22	36	42	56	50, 65 ¹⁾

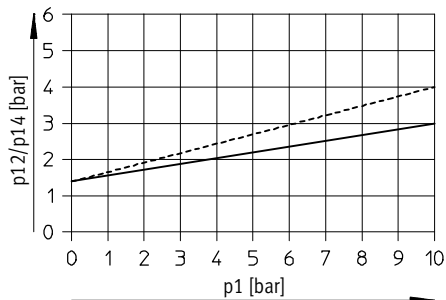
1) For reversible valves

Solenoid valves MFH-B, Tiger 2000

Technical data – 5/2-way valves

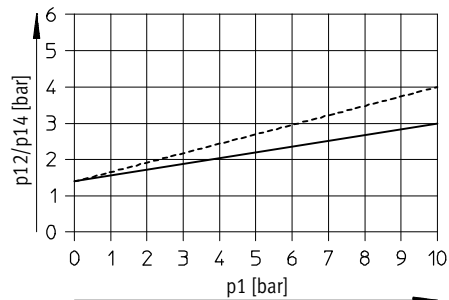
Minimum pilot pressure p_{12} , p_{14} as a function of operating pressure p_1 (external pilot air supply)

MFH-5-1/8-S-B



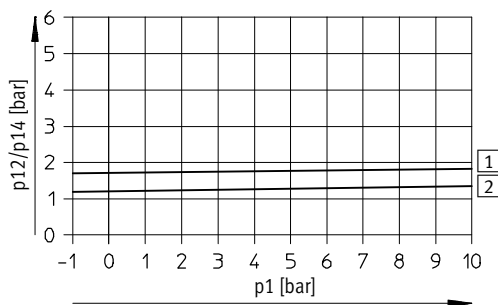
----- Exhausting, throttled
 ———— Exhausting, unthrottled

MFH-5-1/4-S-B



----- Exhausting, throttled
 ———— Exhausting, unthrottled

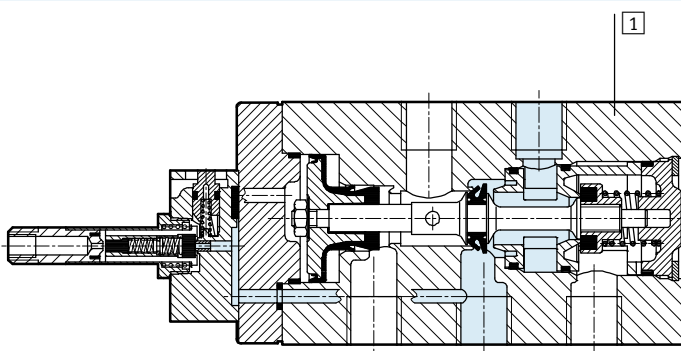
MFH-5-3/8-S-B



1 On
 2 Off

Materials

Sectional view



1	Housing	Die-cast aluminium
-	Seals	NBR, TPE-U(PU)
-	Note on materials	RoHS compliant

Solenoid valves MFH-B, Tiger 2000

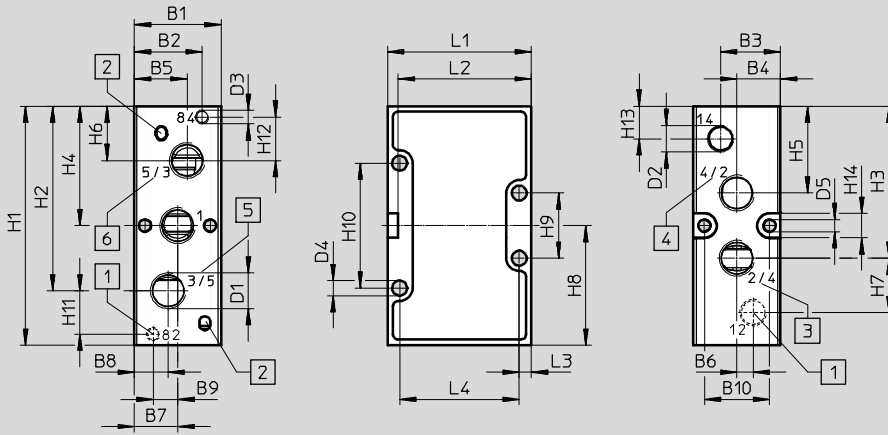
Technical data – 5/2-way valves



Dimensions – Pneumatic connection G¹/₈, G¹/₄

Download CAD data → www.festo.com

Basic valve



- 1 Connection 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- 2 Protection against rotation
- 3 2 in case of disc seat valve
4 in case of piston valve
- 4 4 in case of disc seat valve
2 in case of piston valve
- 5 3 in case of disc seat valve
5 in case of piston valve
- 6 5 in case of disc seat valve
3 in case of piston valve

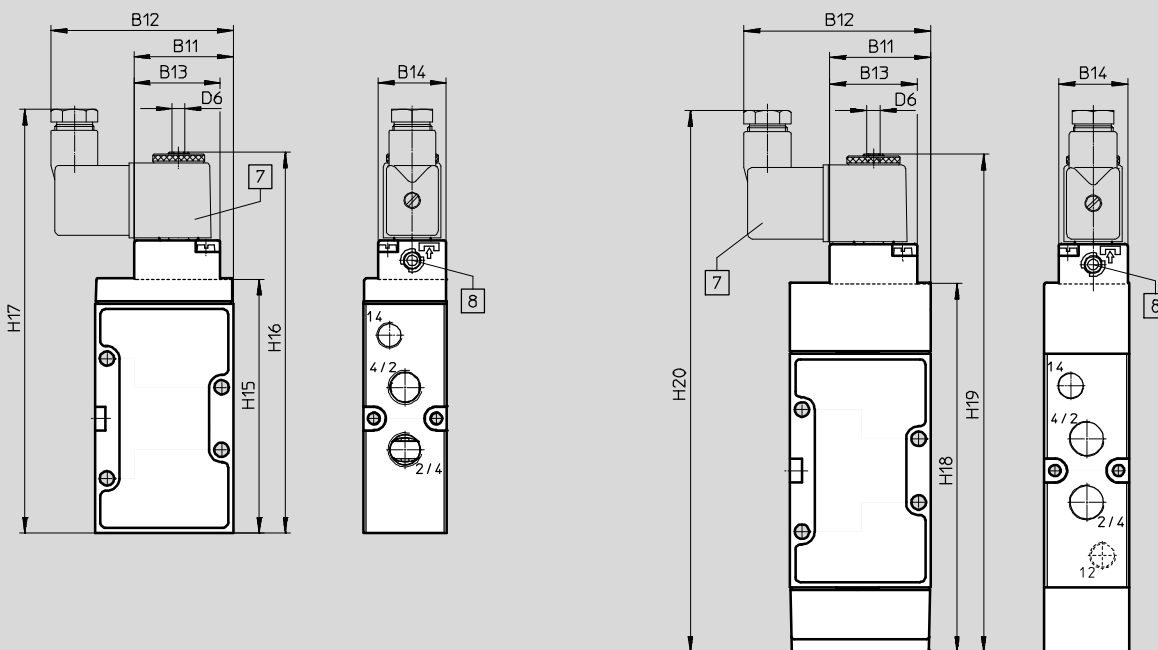
Pneumatic connection	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4	D5	H1	H2
G ¹ / ₈	26	16.5	18	13	16.5	5	13	9.5	8	19.5	G ¹ / ₈	G ¹ / ₈	M5	4.5	4.3	77	59.5
G ¹ / ₄	32	19.5	22	16	19.5	6	16	12.5	9	24	G ¹ / ₄			5.5	4.3	88	68

Pneumatic connection	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1	L2	L3	L4
G 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
G ¹ / ₄	56	44	32	20	20	44	22	48	16	16	12		53	49	4.5	44

Installation dimensions with F solenoid coil

Mechanical reset method

Pneumatic reset method



7 Solenoid coil can be rotated by 360°

8 Manual override can be turned by 180°

Type	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

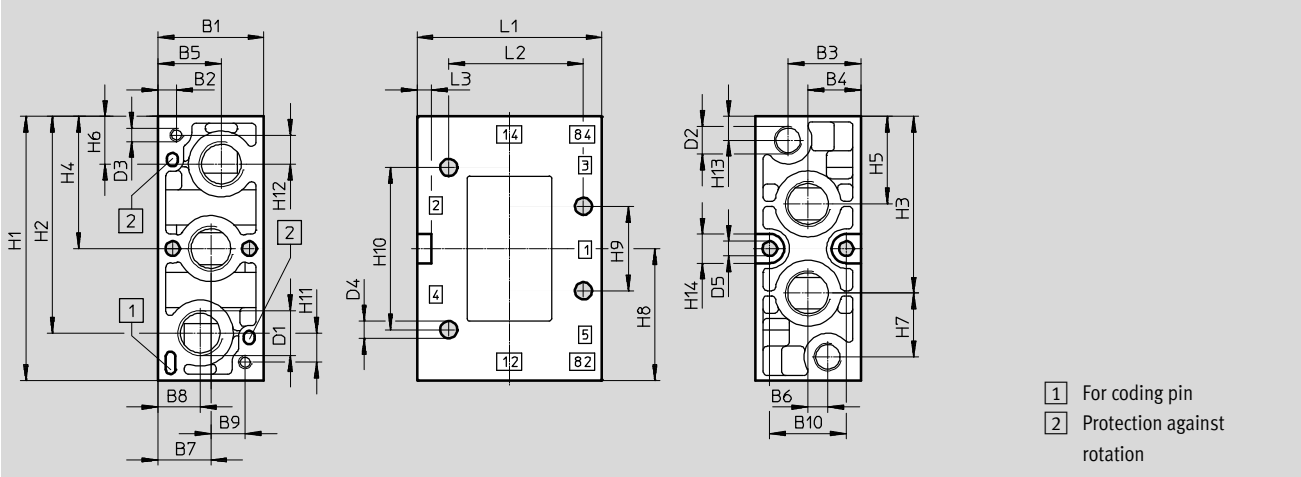
Solenoid valves MFH-B, Tiger 2000

Technical data – 5/2-way valves

Dimensions – Pneumatic connection G $\frac{3}{8}$

Download CAD data → www.festo.com

Basic valve

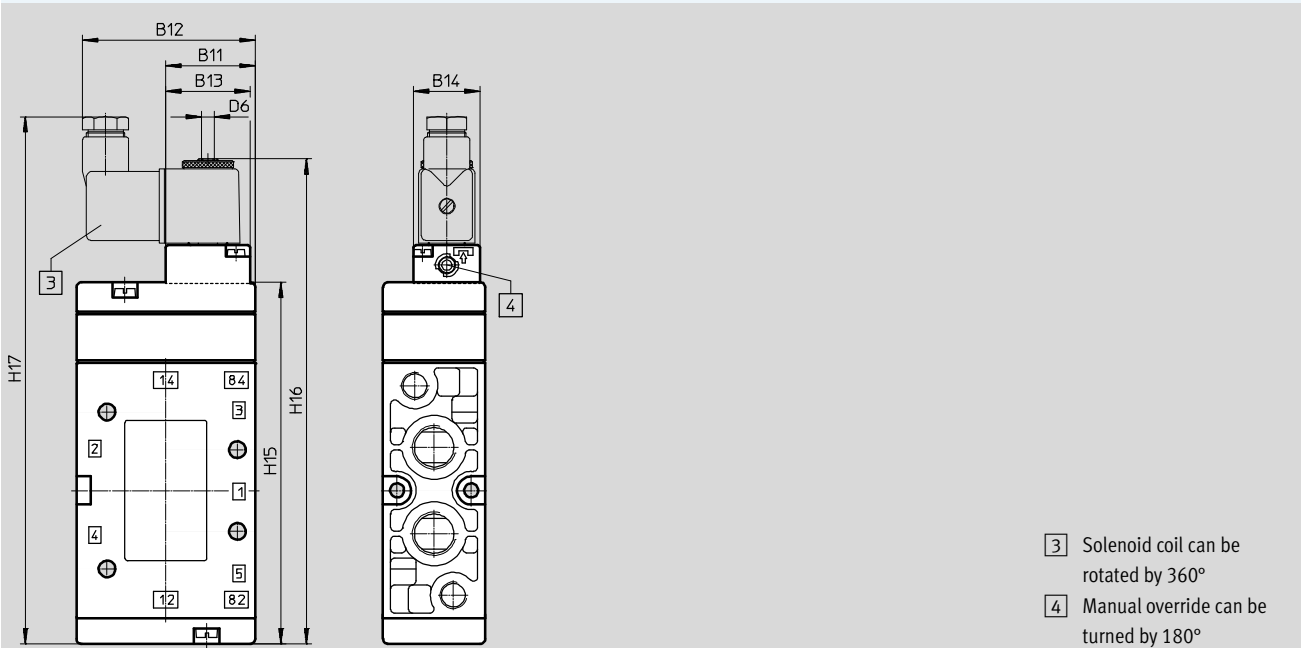


Pneumatic connection	B1 ±0.1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5
G $\frac{3}{8}$	40	13	27.5	20	24	7.6	20	16	13	29	G $\frac{3}{8}$	G $\frac{1}{8}$	M5	6.5	5.5

Pneumatic connection	H1 ±0.1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1 ±0.2	L2	L3
G $\frac{3}{8}$	100	82	66.9	50	33.1	18	24.1	50	32	61.4	11	11	9	11	70	51	5.5

Installation dimensions with F solenoid coil

Mechanical or pneumatic reset method



Type	B11	B12	B13	B14	D6	H15	H16	H17
MFH-5-3/8-	35	67.5	33	26	M5	141.5	190	206

Solenoid valves MFH-B, Tiger 2000

Technical data – 5/2-way valves




Ordering data					
Circuit symbol	Description of valve (without F solenoid coil ¹⁾)	Pneumatic connection	ATEX category	Part No.	Type
	Pneumatic reset method Non-reversible flow direction Internal pilot air supply	G1/8	–	30991	MFH-5-1/8-L-B
			ATEX category →11	535921	MFH-5-1/8-L-B-EX
		G1/4	–	31010	MFH-5-1/4-L-B
			ATEX category →11	535922	MFH-5-1/4-L-B-EX
		G3/8	–	14946	MFH-5-3/8-L-B
			ATEX category →11	535923	MFH-5-3/8-L-B-EX
	Pneumatic reset method Reversible flow direction External pilot air supply	G1/8	–	30992	MFH-5-1/8-L-S-B
			ATEX category →11	535927	MFH-5-1/8-L-S-B-EX
		G1/4	–	33185	MFH-5-1/4-L-S-B
			ATEX category →11	535928	MFH-5-1/4-L-S-B-EX
		G3/8	–	33181	MFH-5-3/8-L-S-B
			ATEX category →11	535929	MFH-5-3/8-L-S-B-EX
	Mechanical reset method Non-reversible flow direction Internal pilot air supply	G1/8	–	19758	MFH-5-1/8-B
			ATEX category →11	535918	MFH-5-1/8-B-EX
		G1/4	–	15901	MFH-5-1/4-B
			ATEX category →11	535919	MFH-5-1/4-B-EX
		G3/8	–	19705	MFH-5-3/8-B
			ATEX category →11	535920	MFH-5-3/8-B-EX
	Mechanical reset method Non-reversible flow direction External pilot air supply	G1/8	–	19759	MFH-5-1/8-S-B
			ATEX category →11	535924	MFH-5-1/8-S-B-EX
		G1/4	–	15902	MFH-5-1/4-S-B
			ATEX category →11	535925	MFH-5-1/4-S-B-EX
		G3/8	–	19706	MFH-5-3/8-S-B
			ATEX category →11	535926	MFH-5-3/8-S-B-EX


1) F solenoid coils → 69

Ordering data – Wearing parts kits		
Pneumatic connection	Part No.	Type
G1/8	125710	MFH-5-1/8-B
G1/4	115580	MFH-5-1/4-B
G3/8	115074	MFH-5-3/8-B

Solenoid valves JMFH-B, Tiger 2000

Technical data – 5/2-way valves, double solenoid valves

-  - Flow rate
1000 ... 2000 l/min

-  - Voltage
12, 24, 42, 48 V DC
24, 42, 48, 110, 230,
240 V AC



General technical data				
Pneumatic connection		G1/8	G1/4	G3/8
Valve function		5/2-way, double solenoid		
Design		Piston spool		
Non-overlapping		Yes		
Sealing principle		Soft		
Actuation type		Electrical		
Control type		Pilot-actuated		
Pilot air supply port		Internal or external		
Flow direction		Reversible or not reversible (see switching symbol)		
Exhaust air function		With flow control		
Manual override		Non-detenting		
Type of mounting		With through-hole		
Mounting position		Any		
Electrical connection		Via F solenoid coil, to be ordered separately		
b value		-	0.38	-
c value [l/s bar]		-	6.35	-
Nominal width [mm]		8	10	12
Standard nominal flow rate [l/min.]		1000	1600	2000
Grid dimension [mm]		27	33	41
Valve width [mm]		26	32	40
Product weight [g]		400, 440 ¹⁾	460	650

1) ATEX valve

Safety data				
Note on forced checking procedure		Switching frequency at least once a week		
Max. switching frequency [Hz]		3		
Max. positive test pulse with 0 signal [µs]		2200		
Max. negative test pulse with 1 signal [µs]		3700		

Solenoid valves JMFH-B, Tiger 2000

Technical data – 5/2-way valves, double solenoid valves

Operating and environmental conditions				
Pneumatic connection		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/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)		
Operating pressure	Internal pilot air supply	[bar]	2 ... 10	
	External pilot air supply	[bar]	-0.9 ... +10	
Pilot pressure		[bar]	2 ... 10	
Storage temperature		[°C]	-40 ... +60	
Ambient temperature		[°C]	-5 ... +40	
Temperature of medium		[°C]	-10 ... +60	
		[°C]	-5 ... +40 (JMFH- ... -EX)	

Electrical data			
F solenoid coil			
Electrical connection of the solenoid coil		Plug vanes for plug sockets MSSD-F, KMF	
Operating voltage	DC voltage	[V DC]	12, 24, 42, 48
	AC voltage	[V AC]	24, 42, 48, 110, 230, 240 (50 ... 60 Hz)
Coil characteristics	DC voltage	[W]	4.5
	AC voltage	[VA]	Pull: 7.5 Hold: 6
Degree of protection to EN 60 529		IP65 (in combination with plug socket)	

Valve switching times [ms]			
Pneumatic connection	G1/8	G1/4	G3/8
Changeover	12	14	12, 14 ¹⁾

1) For reversible valves

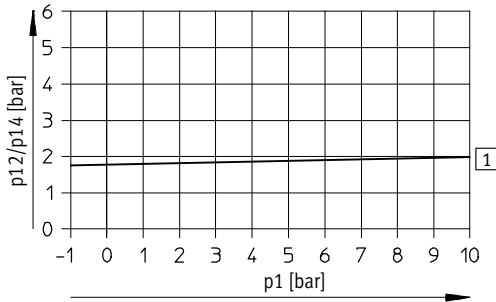


Solenoid valves JMFH-B, Tiger 2000

Technical data – 5/2-way valves, double solenoid valves

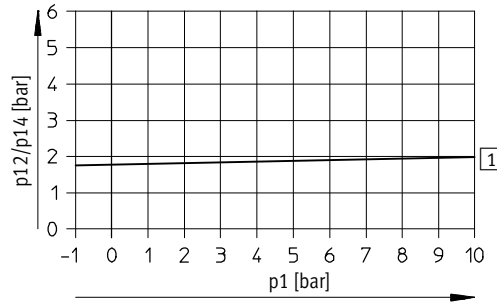
Minimal pilot pressure p_{12}/p_{14} as a function of operating pressure p_1 (external pilot air supply)

JMFH-5-1/8-S-B



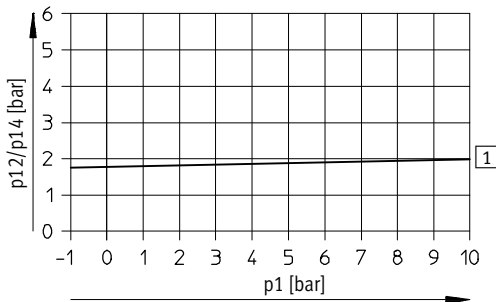
1 On

JMFH-5-1/4-S-B



1 On

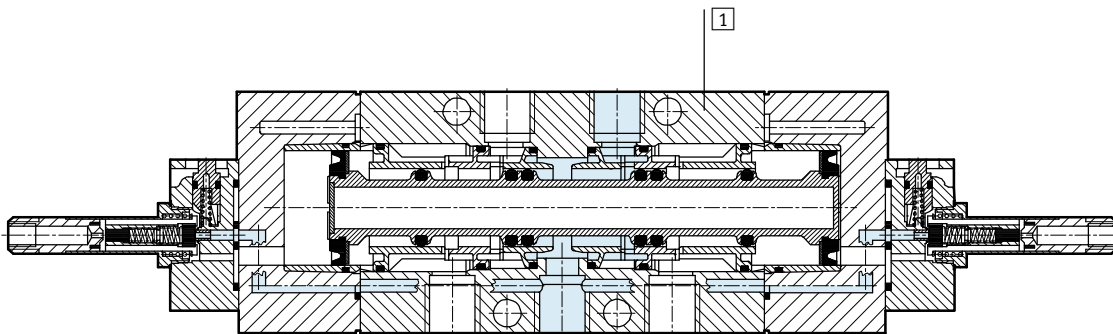
JMFH-5-3/8-S-B



1 On

Materials

Sectional view



1	Housing	Die-cast aluminium
-	Seals	NBR
	Note on materials	RoHS compliant

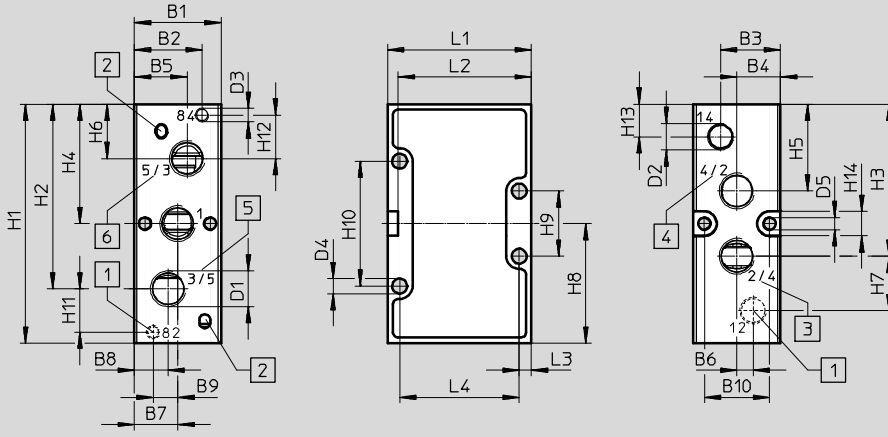
Solenoid valves JMFH-B, Tiger 2000

Technical data – 5/2-way valves, double solenoid valves

Dimensions – Pneumatic connection G¹/₈, G¹/₄

Download CAD data → www.festo.com

Basic valve



- 1 Connection 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- 2 Protection against rotation
- 3 2 in case of disc seat valve
4 in case of piston valve
- 4 4 in case of disc seat valve
2 in case of piston valve
- 5 3 in case of disc seat valve
5 in case of piston valve
- 6 5 in case of disc seat valve
3 in case of piston valve

Pneumatic connection	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4	D5	H1	H2
G 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
G ¹ / ₄	32	19.5	22	16	19.5	6	16	12.5	9	24	G1/4	G1/4		5.5	4.3	88	68

Pneumatic connection	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1	L2	L3	L4
G 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
G ¹ / ₄	56	44	32	20	20	44	22	48	16	16	12		53	49	4.5	44



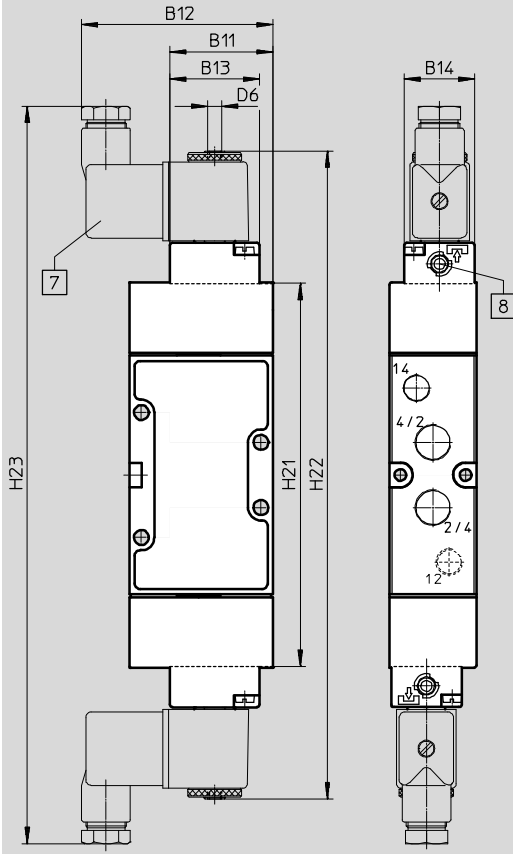
Solenoid valves JMFH-B, Tiger 2000

Technical data – 5/2-way valves, double solenoid valves

Dimensions – Pneumatic connection G¹/₈, G¹/₄

Download CAD data → www.festo.com

Installation dimensions with F solenoid coil, mechanical or pneumatic reset



- 7 Solenoid coil can be rotated by 360°
- 8 Manual override can be turned by 180°

Type	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

Solenoid valves JMFH-B, Tiger 2000

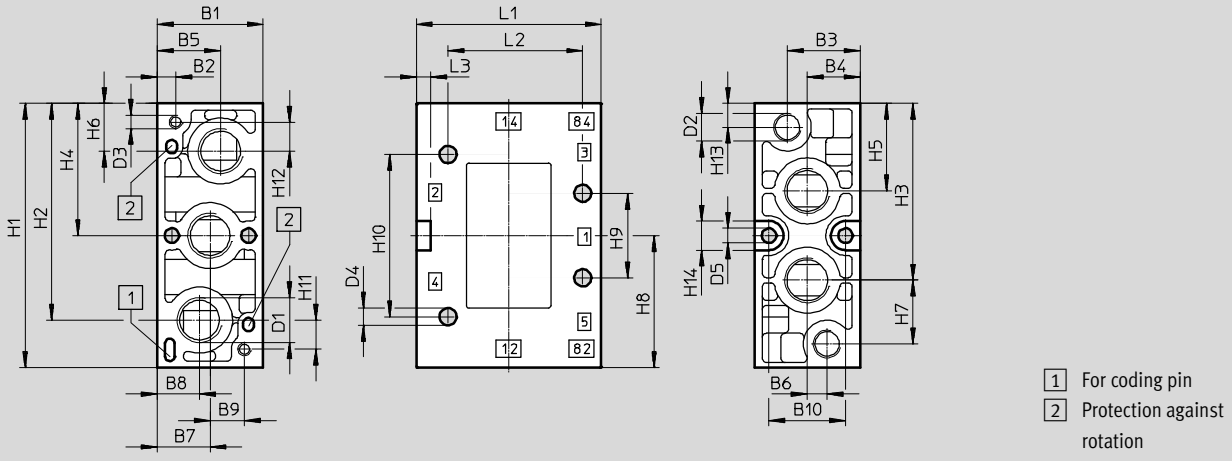
Technical data – 5/2-way valves, double solenoid valves



Dimensions – Pneumatic connection G³/₈

Download CAD data → www.festo.com

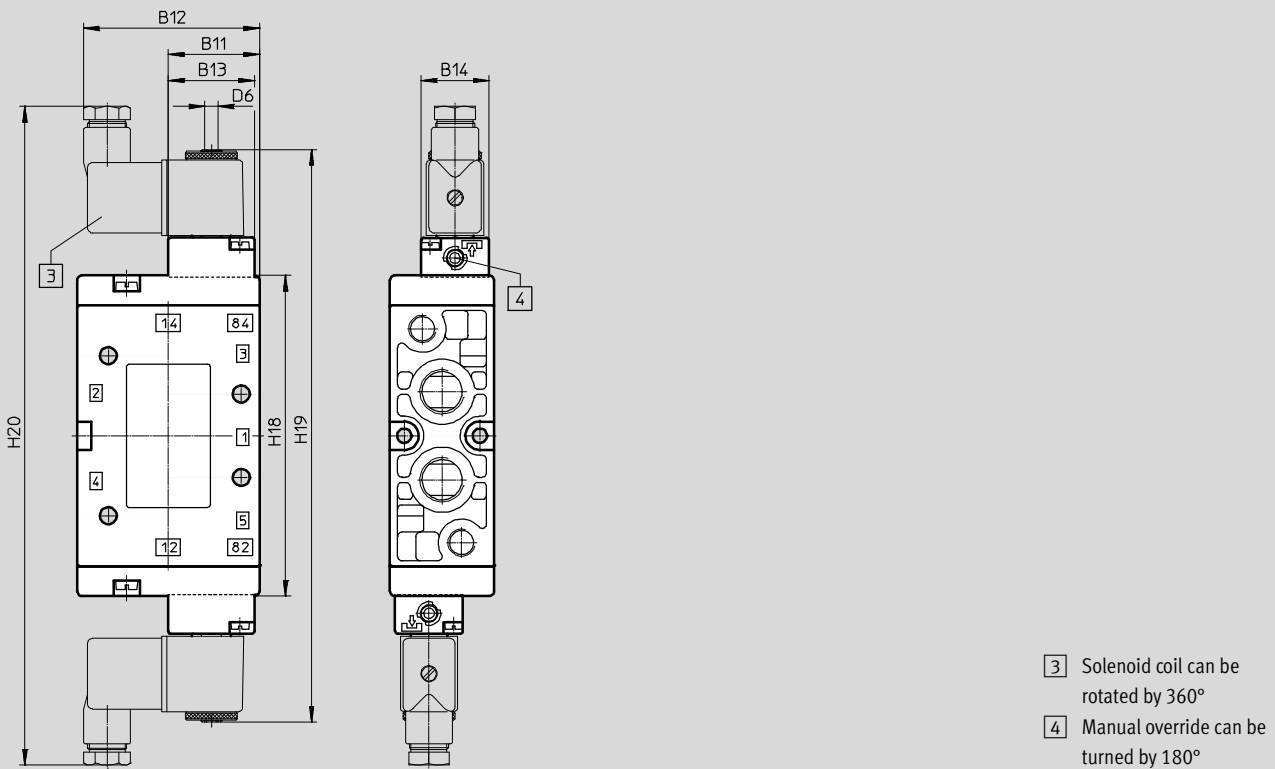
Basic valve



Pneumatic connection	B1 ±0.1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5
G ³ / ₈	40	13	27.5	20	24	7.6	20	16	13	29	G ³ / ₈	G ¹ / ₈	M5	6.5	5.5

Pneumatic connection	H1 ±0.1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1 ±0.2	L2	L3
G ³ / ₈	100	82	66.9	50	33.1	18	24.1	50	32	61.4	11	11	9	11	70	51	5.5

Installation dimensions with F solenoid coil, mechanical or pneumatic reset



Type	B11	B12	B13	B14	D6	H18	H19	H20
JMFH-5-3/8-	35	67.5	33	26	M5	123	220	253



Solenoid valves JMFH-B, Tiger 2000

Technical data – 5/2-way valves, double solenoid valves



Ordering data					
Circuit symbol	Description of valve (without F solenoid coil ¹⁾)	Pneumatic connection	ATEX category	Part No.	Type
	Non-reversible flow direction Internal pilot air supply	G1/8	–	30486	JMFH-5-1/8-B
			ATEX category →11	535930	JMFH-5-1/8-B-EX
		G1/4	–	19789	JMFH-5-1/4-B
			ATEX category →11	535931	JMFH-5-1/4-B-EX
		G3/8	–	19700	JMFH-5-3/8-B
			ATEX category →11	535932	JMFH-5-3/8-B-EX
	Reversible flow direction External pilot air supply	G1/8	–	30487	JMFH-5-1/8-S-B
			ATEX category →11	535933	JMFH-5-1/8-S-B-EX
		G1/4	–	19790	JMFH-5-1/4-S-B
			ATEX category →11	535934	JMFH-5-1/4-S-B-EX
		G3/8	–	19702	JMFH-5-3/8-S-B
			ATEX category →11	535935	JMFH-5-3/8-S-B-EX

1) F solenoid coils → 69

Solenoid valves MFH-B, Tiger 2000

Technical data – 5/3-way valves

FESTO

-  Flow rate
1000 ... 2600 l/min
-  Voltage
12, 24, 42, 48 V DC
24, 42, 48, 110, 230,
240 V AC



General technical data					
Pneumatic connection		G1/8	G1/4	G3/8	
Valve function		5/3-way, single solenoid			
Design		Piston spool			
Non-overlapping		Yes			
Sealing principle		Soft			
Actuation type		Electrical			
Reset method		Mechanical spring			
Control type		Pilot-actuated			
Pilot air supply		Internal or external			
Flow direction		Reversible or not reversible (see switching symbol)			
Exhaust function		No flow control	With flow control	With flow control	
Manual override		Non-detenting			
Type of mounting		With through-hole			
Mounting position		Any			
Electrical connection		Via F solenoid coil, to be ordered separately			
b value		-	0.38	-	
c value [l/s bar]		-	6.35	-	
Nominal width [mm]		8	10	12	
Nominal flow rate		Closed [l/min.]	1000	1600	2200
		Exhausted [l/min.]			2200
		Pressurised [l/min.]			2600
Grid dimension [mm]		27	33	41	
Valve width [mm]		26	32	40	
Product weight [g]		400, 440 ¹⁾	500	780, 1000 ¹⁾	

1) ATEX valve

Safety data	
Note on forced checking procedure	Switching frequency at least once a week
Max. switching frequency [Hz]	3
Max. positive test pulse with 0 signal [µs]	2200
Max. negative test pulse with 1 signal [µs]	3700

ATEX	
Type	MFH- ... -EX, JMFH- ... -EX
ATEX category gas	II 2G
Type of (ignition) protection for gas	c T4
ATEX category for dust	II 2D
Type of (ignition) protection for dust	c T130°C
Explosion-proof ambient temperature [°C]	-5 ≤ Ta ≤ +40
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)
Degree of protection	IP65 (in assembled state)



Solenoid valves MFH-B, Tiger 2000

Technical data – 5/3-way valves

Operating and environmental conditions						
Pneumatic connection		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/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)				
Operating pressure	Internal pilot air supply	[bar]	3 ... 10		3 ... 10	
	External pilot air supply	[bar]	-0.9 ... +10		-0.9 ... +10	
Pilot pressure		[bar]	3 ... 10		3 ... 10	
Storage temperature		[°C]	-40 ... +60			
Ambient temperature		[°C]	-5 ... +40			
Temperature of medium		[°C]	-10 ... +60			
		[°C]	-5 ... +40 (MFH- ... -EX)			

Electrical data						
F solenoid coil						
Electrical connection of the solenoid coil			Plug vanes for plug sockets MSSD-F, KMF			
Operating voltage	DC voltage	[V DC]	12, 24, 42, 48			
	AC voltage	[V AC]	24, 42, 48, 110, 230, 240 (50 ... 60 Hz)			
Coil characteristics	DC voltage	[W]	4.5			
	AC voltage	[VA]	Pull: 7.5 Hold: 6			
Protection class to EN 60 529			IP65 (in combination with plug socket)			

Valve switching times [ms]						
Pneumatic connection	G1/8		G1/4		G3/8	
	On	Off	On	Off	On	Off
Closed	25	30	20	22	24	80
Exhausted	25	30	24	36	32	85
Pressurised	25	30	24	30	30	82, 88 ¹⁾

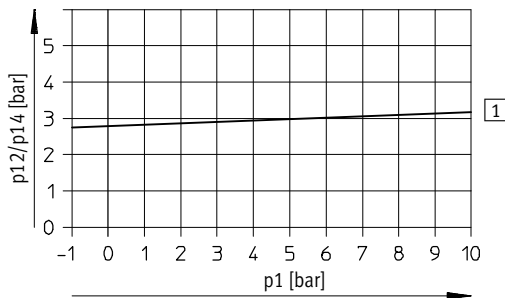
1) For valve MFH-5/3B-3/8-S-B and MFH-5/3B-3/8-S-B-EX

Solenoid valves MFH-B, Tiger 2000

Technical data – 5/3-way valves

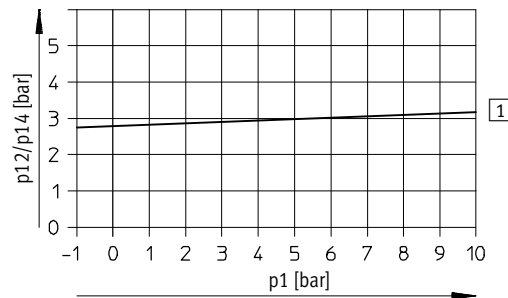
Minimal pilot pressure p_{12}/p_{14} as a function of operating pressure p_1 (external pilot air supply)

MFH-5/3...-1/8-S-B



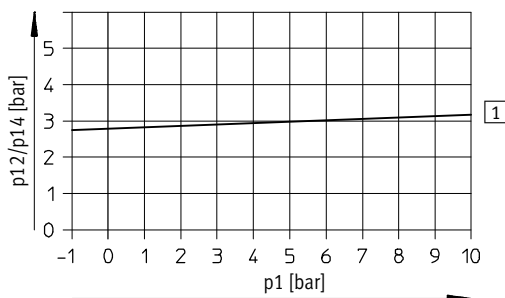
1 On

MFH-5/3...-1/4-S-B



1 On

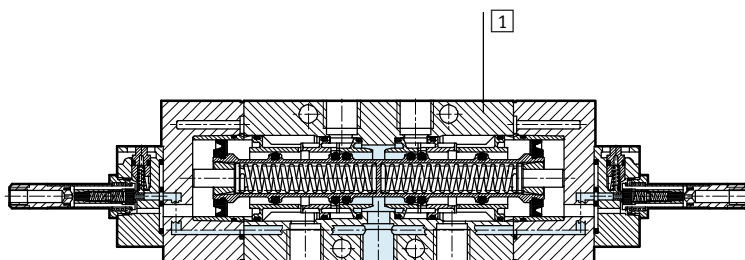
MFH-5/3...-3/8-S-B



1 On

Materials

Sectional view



1	Housing	Die-cast aluminium
-	Seals	NBR
-	Note on materials	RoHS compliant

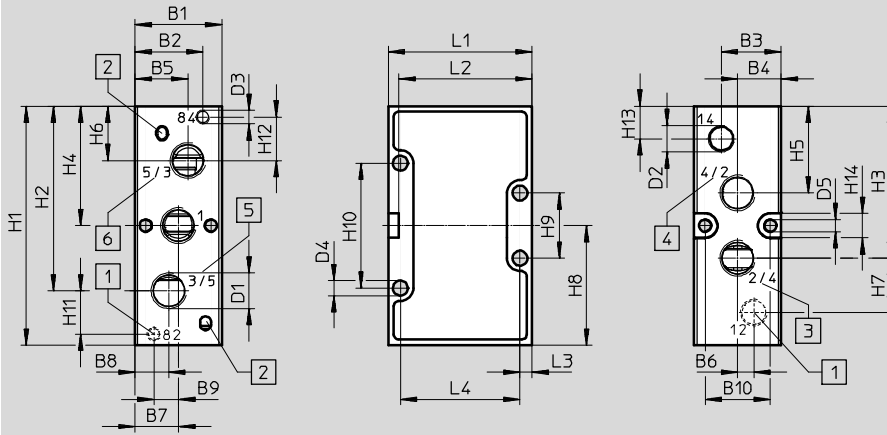
Solenoid valves MFH-B, Tiger 2000

Technical data – 5/3-way valves

Dimensions – Pneumatic connection G¹/₈, G¹/₄

Download CAD data → www.festo.com

Basic valve



- 1 Connection 12 and 82 are not available with MFH-5-...-B and MFH-5-...-S-B
- 2 Protection against rotation
- 3 2 in case of disc seat valve
4 in case of piston valve
- 4 4 in case of disc seat valve
2 in case of piston valve
- 5 3 in case of disc seat valve
5 in case of piston valve
- 6 5 in case of disc seat valve
3 in case of piston valve

Pneumatic connection	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4	D5	H1	H2
G 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
G ¹ / ₄	32	19.5	22	16	19.5	6	16	12.5	9	24	G1/4			5.5	4.3	88	68

Pneumatic connection	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1	L2	L3	L4
G 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
G ¹ / ₄	56	44	32	20	20	44	22	48	16	16	12		53	49	4.5	44

Solenoid valves MFH-B, Tiger 2000

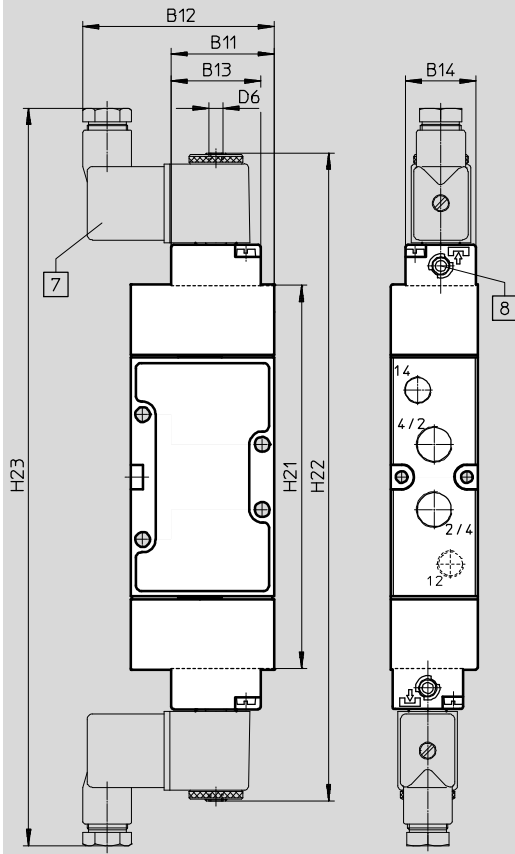
Technical data – 5/3-way valves



Dimensions – Pneumatic connection G¹/₈, G¹/₄

Download CAD data → www.festo.com

Installation dimensions with F solenoid coil, mechanical or pneumatic reset



- 7 Solenoid coil can be rotated by 360°
- 8 Manual override can be turned by 180°

Type	B11	B12	B13	B14	D6	H21	H22	H23
MFH-5-1/8-	36.8	67	33	26	M5	129	226.6	259.6
MFH-5-1/4-	38	70				141.5	239.1	272.1



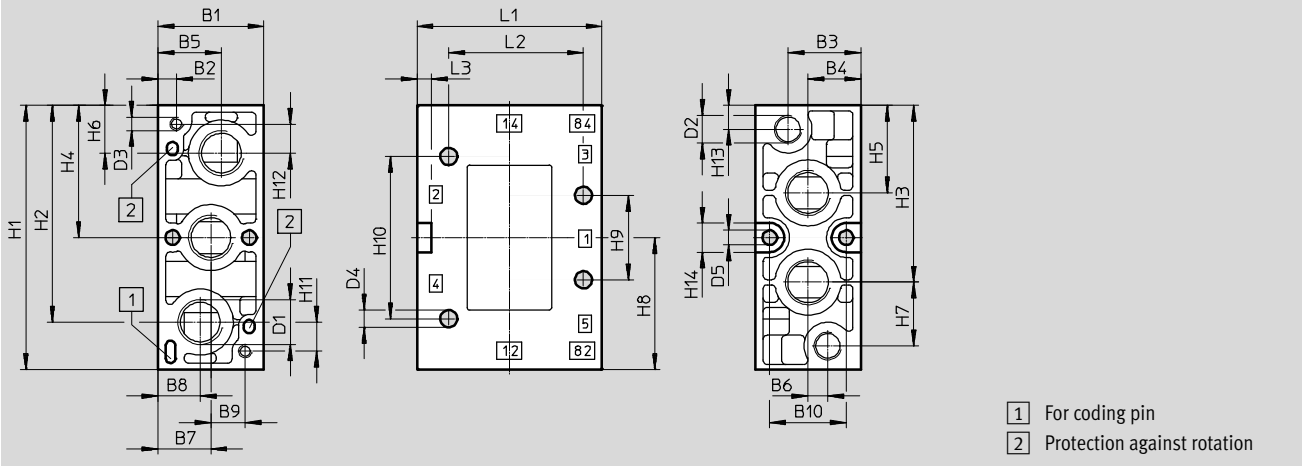
Solenoid valves MFH-B, Tiger 2000

Technical data – 5/3-way valves

Dimensions – Pneumatic connection G³/₈

Download CAD data → www.festo.com

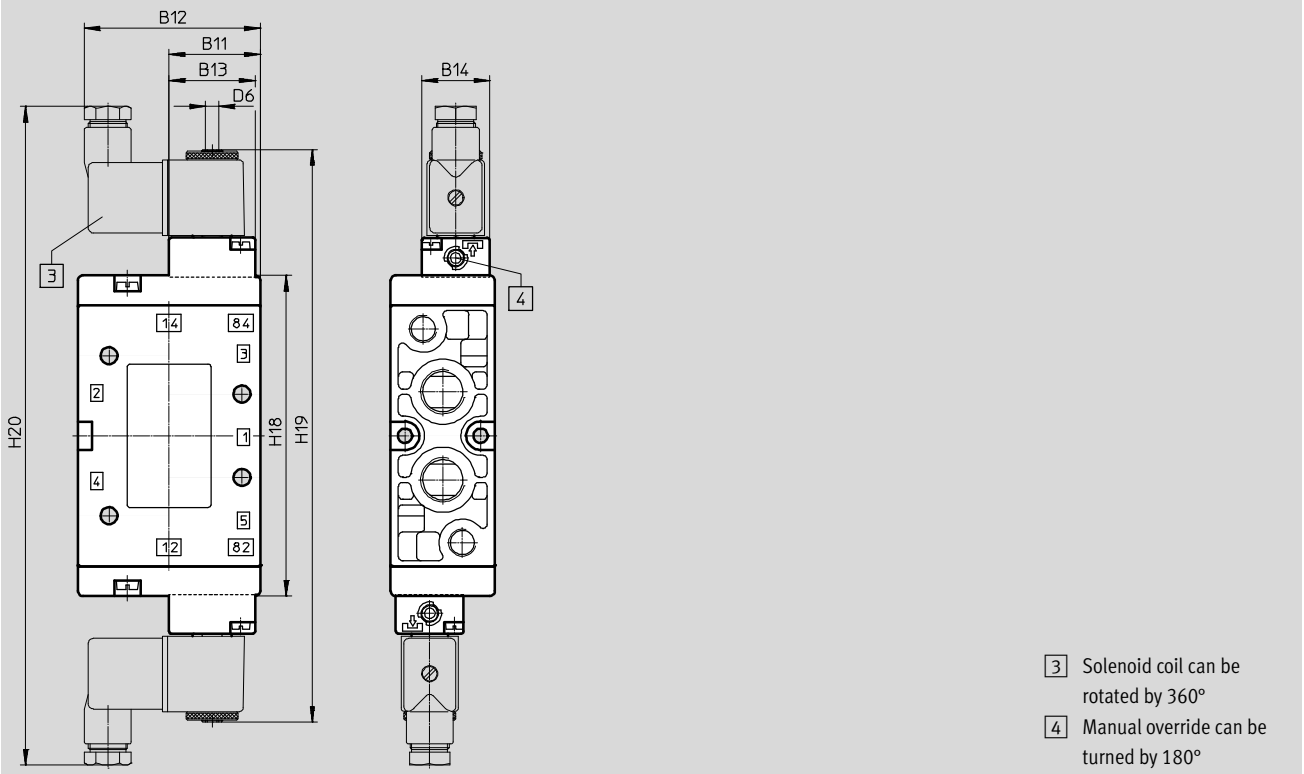
Basic valve



Pneumatic connection	B1 ±0.1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 ∅	D2 ∅	D3	D4 ∅	D5
G ³ / ₈	40	13	27.5	20	24	7.6	20	16	13	29	G ³ / ₈	G ¹ / ₈	M5	6.5	5.5

Pneumatic connection	H1 ±0.1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	L1 ±0.2	L2	L3
G ³ / ₈	100	82	66.9	50	33.1	18	24.1	50	32	61.4	11	11	9	11	70	51	5.5

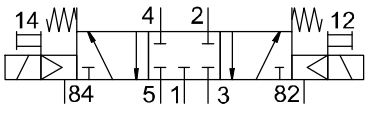
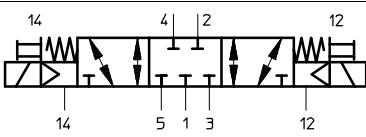
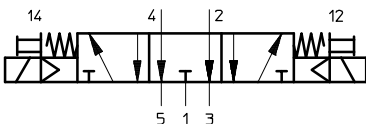
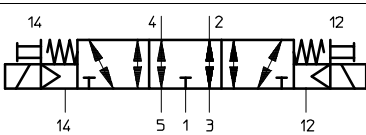
Installation dimensions with F solenoid coil, mechanical or pneumatic reset



Type	B11	B12	B13	B14	D6	H18	H19	H20
JMFH-5-3/8-	35	67.5	33	26	M5	123	220	253

Solenoid valves MFH-B, Tiger 2000

Technical data – 5/3-way valves

Ordering data					
Circuit symbol	Description of valve (without F solenoid coil ¹⁾)	Pneumatic connection	ATEX category	Part No.	Type
	Normally closed Internal pilot air supply	G1/8	–	30484	MFH-5/3G-1/8-B
			ATEX category →24	535936	MFH-5/3G-1/8-B-EX
		G1/4	–	19787	MFH-5/3G-1/4-B
			ATEX category →24	535937	MFH-5/3G-1/4-B-EX
		G3/8	–	19707	MFH-5/3G-3/8-B
			ATEX category →24	535938	MFH-5/3G-3/8-B-EX
	Normally closed External pilot air supply	G1/8	–	30993	MFH-5/3G-1/8-S-B
			ATEX category →24	535939	MFH-5/3G-1/8-S-B-EX
		G1/4	–	31001	MFH-5/3G-1/4-S-B
			ATEX category →24	535940	MFH-5/3G-1/4-S-B-EX
		G3/8	–	31317	MFH-5/3G-3/8-S-B
			ATEX category →24	535941	MFH-5/3G-3/8-S-B-EX
	Normally exhausted Internal pilot air supply	G1/8	–	30483	MFH-5/3E-1/8-B
			ATEX category →24	535942	MFH-5/3E-1/8-B-EX
		G1/4	–	19786	MFH-5/3E-1/4-B
			ATEX category →24	535943	MFH-5/3E-1/4-B-EX
		G3/8	–	19708	MFH-5/3E-3/8-B
			ATEX category →24	535944	MFH-5/3E-3/8-B-EX
	Normally exhausted External pilot air supply	G1/8	–	30994	MFH-5/3E-1/8-S-B
			ATEX category →24	535945	MFH-5/3E-1/8-S-B-EX
		G1/4	–	31002	MFH-5/3E-1/4-S-B
			ATEX category →24	535946	MFH-5/3E-1/4-S-B-EX
		G3/8	–	31318	MFH-5/3E-3/8-S-B
			ATEX category →24	535947	MFH-5/3E-3/8-S-B-EX

1) F solenoid coils → 69



Solenoid valves MFH-B, Tiger 2000

Technical data – 5/3-way valves

Ordering data					
Circuit symbol	Description of valve (without F solenoid coil ¹⁾)	Pneumatic connection	ATEX category	Part No.	Type
	Normally pressurised Internal pilot air supply	G1/8	–	30485	MFH-5/3B-1/8-B
			ATEX category →24	535948	MFH-5/3B-1/8-B-EX
		G1/4	–	19788	MFH-5/3B-1/4-B
			ATEX category →24	535949	MFH-5/3B-1/4-B-EX
		G3/8	–	19709	MFH-5/3B-3/8-B
			ATEX category →24	535950	MFH-5/3B-3/8-B-EX
	Normally pressurised External pilot air supply	G1/8	–	30995	MFH-5/3B-1/8-S-B
			ATEX category →24	535951	MFH-5/3B-1/8-S-B-EX
		G1/4	–	31003	MFH-5/3B-1/4-S-B
			ATEX category →24	535952	MFH-5/3B-1/4-S-B-EX
		G3/8	–	31319	MFH-5/3B-3/8-S-B
			ATEX category →24	535953	MFH-5/3B-3/8-S-B-EX

1) F solenoid coils → 69

Solenoid valves MVH-B, Tiger 2000

FESTO

Technical data – 5/2-way valves

Flow rate
750 ... 2000 l/min

Voltage
24 V DC

Wearing parts kits
→ 37



General technical data							
Pneumatic connection		G $\frac{1}{8}$		G $\frac{1}{4}$		G $\frac{3}{8}$	
Reset method		Mechanical	Pneumatic	Mechanical	Pneumatic	Mechanical	Pneumatic
Valve function		5/2-way, single solenoid					
Design		Poppet seat	Piston spool	Poppet seat	Piston spool	Piston spool	
Non-overlapping		No	Yes	No	Yes	Yes	
Sealing principle		Soft					
Actuation type		Electrical					
Control type		Pilot-actuated					
Pilot air supply		Internal or external					
Flow direction		Reversible or non-reversible (see switching symbol)					
Exhaust air function		With flow control					
Manual override		Non-detenting					
Mounting type		With through-hole					
Mounting position		Any					
b value		0.34	–	0.29	0.38	–	–
c value [l/s bar]		3	–	5.5	6.35	–	–
Nominal width [mm]		5	8	7	10	12	
Standard flow rate [l/min.]		750	1000	1300	1600	2000	
Grid dimension [mm]		27		33		41	
Valve width [mm]		26		32		40	
Product weight [g]		230	290	360	440	750	

Safety data	
Note on forced checking procedure	Switching frequency at least once a week
Max. switching frequency [Hz]	3
Max. positive test pulse with 0 signal [μ s]	2200
Max. negative test pulse with 1 signal [μ s]	3700

Operating and environmental conditions							
Pneumatic connection		G $\frac{1}{8}$		G $\frac{1}{4}$		G $\frac{3}{8}$	
Reset method		Mechanical	Pneumatic	Mechanical	Pneumatic	Mechanical	Pneumatic
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/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Operating pressure	Internal pilot air supply [bar]	2 ... 10	3 ... 10	2 ... 10	3 ... 10	2.5 ... 10	2 ... 10
	External pilot air supply [bar]	0 ... 10	–0.9 ... +10	0 ... 10	–0.9 ... +10	–0.9 ... +10	–0.9 ... +10
Pilot pressure [bar]		2 ... 10	3 ... 10	1.5 ... 10	3 ... 10	2.5 ... 10	2 ... 10
Storage temperature [°C]		–40 ... +60					
Ambient temperature [°C]		–5 ... +50					
Temperature of medium [°C]		–5 ... +50					

