

- Namur port pattern
- Simple flange mounting to actuators for process engineering
- Can be changed from 5/2 to 3/2-way function by exchanging the seal plate








Specified types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/en/ex

Solenoid valves, Namur

Product range overview

FESTO

Function	Version	Type	Nominal size [mm]	Standard nominal flow rate [l/min]	Pneumatic connection	Pressure range [bar]	Ambient temperature [°C]
5/2-way valves ¹⁾		NVF3-...-EX	7	900	G1/4	2 ... 10	-10 ... +60 ATEX: -5°C ≤ Ta ≤ +40°C ATEX: -5°C ≤ Ta ≤ +40°C
		NVF3-...-IA-EX	7	900	G1/4	2 ... 10	ATEX: -5°C ≤ Ta ≤ +40°C
		MFH	8	1,000	G1/4	2 ... 10	-10 ... +60
		MN1H	8	1,000	G1/4	2 ... 10	-10 ... +50
		MGTBH	8	1,000	G1/4	2 ... 8	-20 ... +60
		VSNB-...-A1 ²⁾	8	950	G1/4	2,5 ... 8	-10 ... +50
		VSNB-...-P2 ²⁾	8	950	G1/4	2,5 ... 8	-10 ... +50

1) Can be changed to 3/2-way function by exchanging the seal plate

Solenoid valves, Namur

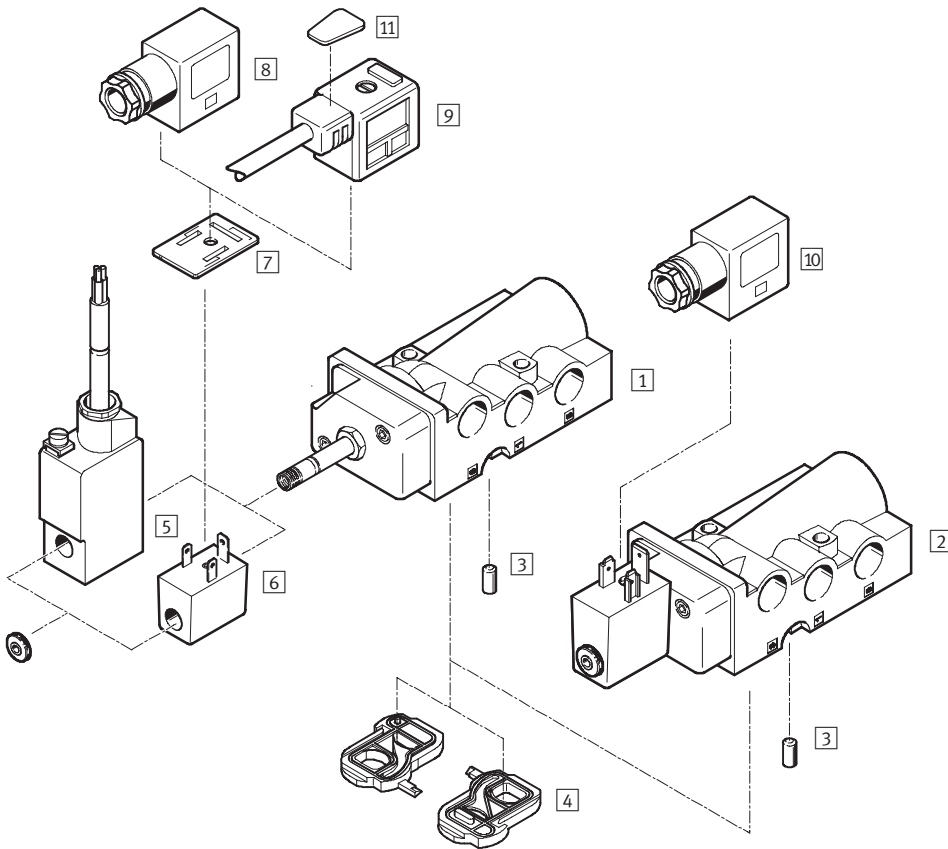
Product range overview

Type	Solenoid coil	Operating voltage range		Ignition protection type			→ Page/Internet
		[V DC]	[V AC]	nA = Non-sparking	m = Moulded encapsulation	ia = Intrinsically safe	
NVF3-...-EX	MSFG-...-OD ¹⁾ ; MSFW-...-OD ¹⁾	12, 24, 42, 48	24, 42, 48, 110, 230, 240	-	-	-	5
	MSFG-...-EX ¹⁾ ; MSFW-...-EX ¹⁾	24	24, 110, 230	■	-	-	
	MSFG-...-M-EX ¹⁾ ; MSFW-...-M-EX ¹⁾	24	24, 110, 230	-	■	-	
NVF3-...-IA-EX	Included in scope of delivery	24	-	-	-	■	
MFH	MSFG-...-OD ¹⁾ ; MSFW-...-OD ¹⁾	12, 24, 42, 48	24, 42, 48, 110, 230, 240	-	-	-	12
MN1H	MSFG-...-OD ¹⁾ ; MSFW-...-OD ¹⁾	24	110, 230	-	-	-	16
MGTBH	Included in scope of delivery	24	110, 230	-	-	-	20
VSNB- ... -A1	Included in scope of delivery	24	-	-	-	-	23
VSNB- ... -P2	MDH-...-PI ¹⁾	24	110, 230	-	-	-	

1) Solenoid coil must be ordered separately

Solenoid valves NVF3, Namur

Peripherals overview



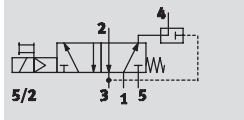
Solenoid valves and accessories		
	Brief description	→ Page/Internet
Solenoid valves		
1	NVF3-MOH-5/2K-1/4-EX	Solenoid valve for F solenoid coil
2	NVF3-MOH-5/2K-1/4-IA-EX	Solenoid valve mounted with intrinsically safe solenoid coil, ignition protection type ia = intrinsically safe
Accessories		
3	Coding pin	Included in scope of delivery
4	Seal plate	For changing the valve function, included in scope of delivery
5	Solenoid coil MSFG-...-M-EX and MSFW-...-M-EX	Ignition protection type m = moulded encapsulation
6	Solenoid coil MSFG-...-EX and MSFW-...-EX	Ignition protection type nA = non-sparking
7	Illuminating seal MF-LD	For indicating the switching status
8	Plug socket MSSD-F-M16	Insert can be repositioned by 180°. Ignition protection type nA = non-sparking for solenoid coil 6
9	Plug socket with cable KMF	Insert can be repositioned by 180°
10	Plug socket MSSD-V-M16	Insert can be repositioned by 180°. Ignition protection type ia = intrinsically safe for solenoid coil 2
11	Inscription labels KMC/F/V-BZ	For identifying the plug sockets

Solenoid valves NVF3, Namur

Technical data

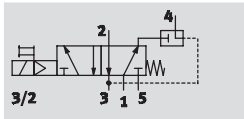
Function¹⁾


5/2-way valve





3/2-way valve

with exhaust air return



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

-  Pressure
2 ... 10 bar

-  Temperature range
-10 ... +60 °C
ATEX
-5 °C ≤ Ta ≤ +40 °C



¹⁾ Can be changed by exchanging the seal plate

General technical data			Solenoid valve with F coil of choice	Solenoid valve with mounted solenoid coil
Valve function	5/2-way or 3/2-way, single solenoid			
Design	Disk seat			
Sealing principle	Soft			
Type of actuation	Electrical			
Type of reset	Mechanical spring			
Type of control	Piloted			
Direction of flow	Non-reversible			
Exhaust function	Flow control			
Manual override	Detenting			
Type of mounting	Via through-holes			
Mounting position	Any			
Nominal size	[mm]	7		
Standard nominal flow rate	1 → 2, 2 → 3	[l/min]	900	
	Exhaust air return 2 → 4	[l/min]	150	
C value	[l/sbar]	4.2		
Pneumatic connection	1, 3, 5	G1/4		
	2, 4	Namur port pattern		
	Pilot exhaust port 84	M5		
Product weight	[g]	280	360	

Operating and environmental conditions			Solenoid valve with F coil of choice	Solenoid valve with mounted solenoid coil
Operating medium	Filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm			
Operating pressure range	[bar]	2 ... 10		
ATEX ambient temperature	-5 °C ≤ Ta ≤ +40 °C			
Temperature of medium	F coil	[°C]	-10 ... +60	
	F coil explosion-proof	[°C]	-5 ... +40	
ATEX symbol			II 2 G c T6 II 2 D c 40 °C	II 2 G c T6, II 2 D c 40 °C II 2 G EEx ia IIc T6, II 2 D Ex iaD IP65 T80 °C
	CE symbol			
	In accordance with EU explosion protection directive (ATEX)			
Corrosion resistance class CRC	1 ¹⁾			

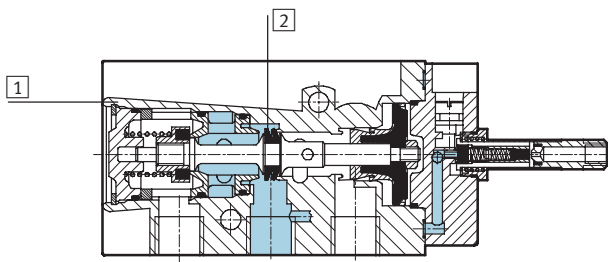
¹⁾ Corrosion resistance class 1 according to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Solenoid valves NVF3, Namur

Technical data

Electrical data		Solenoid valve with F coil of choice	Solenoid valve with mounted solenoid coil
Electrical connection		Plug, 3-pin, or cable, 3-wire	Cable, 3-wire
Operating voltage range	[V DC]	12, 24, 42, 48	24 ±10%
	[V AC]	24, 42, 48, 110, 230, 240 at 50 ... 60 Hz	–
Coil characteristics	[W]	–	0.8
Max. input power	[W]	–	1.46
Max. input voltage	[V]	–	48
Max. input current	[A]	–	0.487
Effective inductance		–	Negligibly low
Effective capacity		–	Negligibly low
Protection class to EN 60529		IP 65 with plug socket	IP 65 with plug socket
Response time on	[ms]	50	50
Response time off	[ms]	100	100

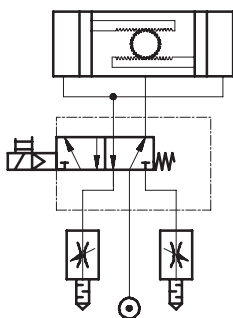
Materials



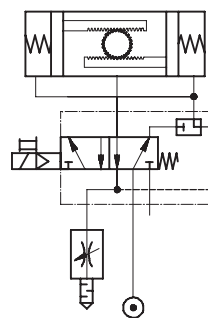
1	Housing	Die-cast aluminium, anodised
2	Seals	Polyamide
		Contains paint wetting impairment substances

Sample circuit

5/2-way valve



3/2-way valve with the option of exhaust air return



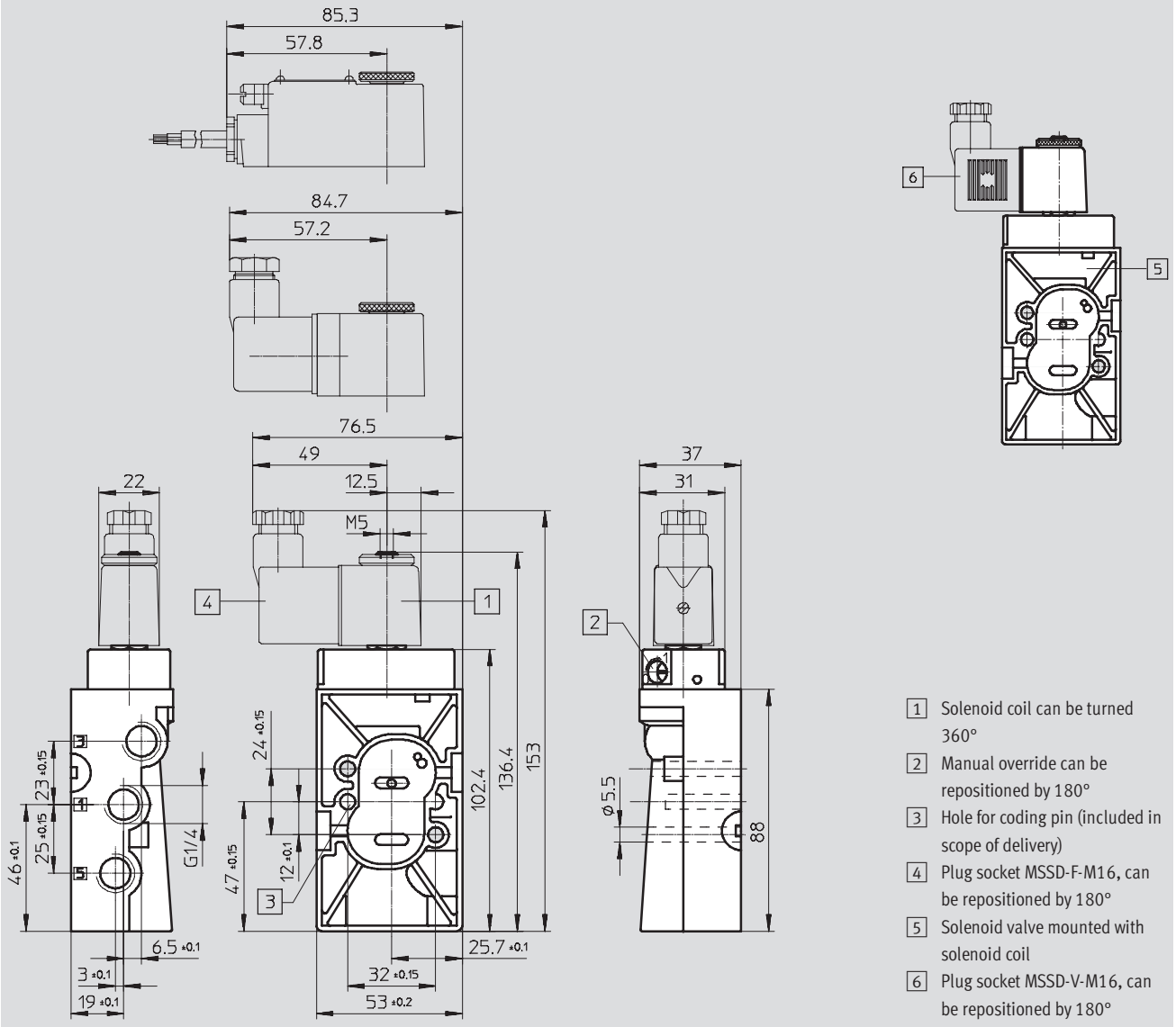
Solenoid valves NVF3, Namur

Technical data

FESTO

Dimensions

Download CAD data → www.festo.com



Ordering data – Valves

Solenoid valve without coil¹⁾

Part No. Type

535 987 NVF3-MOH-5/2-K-1/4-EX

Solenoid valve mounted with intrinsically safe solenoid coil

Part No. Type

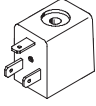


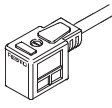

535 988 NVF3-MOH-5/2-K-1/4-IA-EX

¹⁾ Solenoid coil must be ordered separately → 8, explosion-proof solenoid coil → 9


Solenoid valves NVF3, Namur

Accessories

FESTO

Ordering data				
	Operating voltage	Cable length	Part No.	Type
Solenoid coil F without plug socket Technical data → Internet: msfg, msfw				
	12 V DC	–	34 410	MSFG-12DC-OD
	24 V DC	–	34 411	MSFG-24DC/42AC-OD
	42 V DC	–	34 413	MSFG-42DC-OD
	48 V DC	–	34 414	MSFG-48DC-OD
	24 V AC/50 ... 60 Hz	–	34 415	MSFW-24AC-OD
	42 V AC/50 ... 60 Hz	–	34 411	MSFG-24DC/42AC-OD
	48 V AC/50 ... 60 Hz	–	34 418	MSFW-48AC-OD
	110 V AC/50 ... 60 Hz	–	34 420	MSFW-110AC-OD
	230 V AC/50 ... 60 Hz	–	34 422	MSFW-230AC-OD
	240 V AC/50 ... 60 Hz	–	34 424	MSFW-240AC-OD
Plug socket for screw terminal connection Technical data → Internet: mssd				
	–	–	34 431	MSSD-F
	–	–	539 710	MSSD-F-M16
Plug socket for insulation displacement connection Technical data → Internet: mssd				
	–	–	192 746	MSSD-F-S-M16
Plug socket with cable Technical data → Internet: kmf-1				
	24 V DC	2.5 m	30 935	KMF-1-24DC-2,5-LED
	0 ... 240 V DC/AC		30 936	KMF-1-230AC-2,5
	24 V DC	5 m	30 937	KMF-1-24DC-5-LED
	0 ... 240 V DC/AC		30 938	KMF-1-230AC-5
Illuminating seal Technical data → Internet: mf-ld				
	12 ... 24 V DC/AC	–	19 143	MF-LD-12-24DC
	230 V DC/AC	–	19 144	MF-LD-230AC
Inscription label Technical data → Internet: kmc				
–	–	–	33 362	KMC/F/V-BZ-35X ¹⁾

1) Scope of delivery 35 pieces

 **Note**

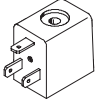

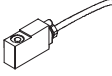



Valve/solenoid coil combinations made up of the basic valve NVF3-MOH-5/2-K-1/4-EX and the solenoid coil MSF...-OD must not be used in hazardous areas.

Only combinations with the approved solenoid coil MSF...-EX may be used here. → 9

Solenoid valves NVF3, Namur

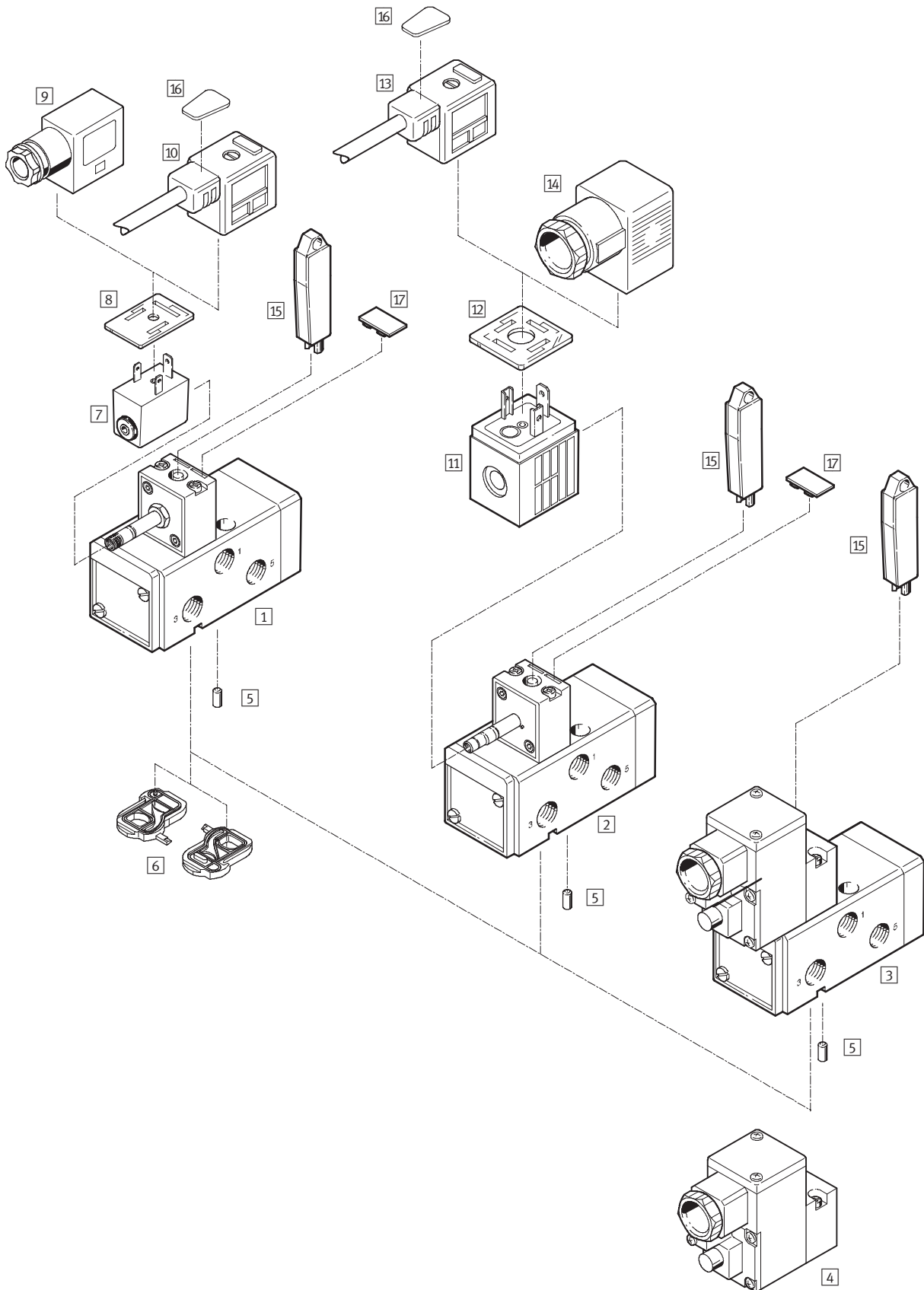
Accessories for ATEX environment

FESTO

Ordering data				
	Operating voltage	Cable length	Part No.	Type
Solenoid coil F for ignition protection type nA = non-sparking Technical data → Internet: msfg, msfw				
 	24 V DC	–	536 931	MSFG-24-EX
	24 V AC/50 ... 60 Hz	–	536 932	MSFW-24-50/60-EX
	110 V AC/50 ... 60 Hz	–	536 933	MSFW-110-50/60-EX
	230 V AC/50 ... 60 Hz	–	536 934	MSFW-230-50/60-EX
Solenoid coil F for ignition protection type m = moulded encapsulation, moulded-in cable Technical data → Internet: msfg, msfw				
 	24 V DC	1 m	535 619	MSFG-24DC-M-EX
	24 V DC	5 m	535 621	MSFG-24DC-K5-M-EX
	24 V AC/50 ... 60 Hz	1 m	535 623	MSFW-24AC-M-EX
	110 V AC/50 ... 60 Hz	1 m	535 622	MSFW-110AC-M-EX
	110 V AC/50 ... 60 Hz	5 m	535 624	MSFW-110AC-K5-M-EX
	230 V AC/50 ... 60 Hz	1 m	535 620	MSFW-230AC-M-EX
	230 V AC/50 ... 60 Hz	5 m	535 625	MSFW-230AC-K5-M-EX
	24 V DC	x m	538 215	MSFG-24DC-KX-M-EX
	24 V AC/50 ... 60 Hz	x m	538 218	MSFW-24AC-KX-M-EX
	110 V AC/50 ... 60 Hz	x m	538 217	MSFW-110AC-KX-M-EX
	230 V AC/50 ... 60 Hz	x m	538 216	MSFW-230AC-KX-M-EX
Plug socket with screw terminal connection for solenoid coil MSF...-EX, ignition protection type nA = non-sparking Technical data → Internet: mssd				
	–	–	539 710	MSSD-F-M16
Plug socket with screw terminal connection for solenoid valve NVF3-MOH-5/2-K-¼-IA-EX, ignition protection type ia = intrinsically safe Technical data → Internet: mssd				
	–	–	539 713	MSSD-V-M16

Solenoid valves MFH, MN1H, MGTBH, Namur

Peripherals overview



Solenoid valves MFH, MN1H, MGTBH, Namur

Peripherals overview

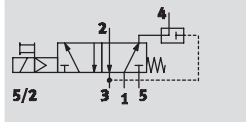
Solenoid valves and accessories		
	Brief description	→ Page/Internet
Solenoid valves		
1	MFH-5/2K-FR-NA	Basic valve with pilot control valve for F solenoid coil
2	MN1H-5/2K-FR-NA	Basic valve with pilot control valve for N1 solenoid coil
3	MGTBH-5/2K-FR-...-NA	Basic valve with pilot control valve, solenoid coil and socket
Pilot valve		
4	MGTBH-3/2-1.2-...	Pilot valve with solenoid coil and threaded connector
Accessories		
5	Coding pin	Included in scope of delivery
6	Seal plate	For changing the valve function, included in scope of delivery
7	Solenoid coil MSFG-...-OD / MSFW-...-OD	
8	Luminescent seal MF-LD	For indicating the switching status
9	Plug socket MSSD-F	Insert can be repositioned by 180°
10	Plug socket with cable KMF	Insert can be repositioned by 180°
11	Solenoid coil MSN1G / MSN1W	
12	Luminescent seal MC-LD	For indicating the switching status
13	Plug socket with cable KMC	
14	Plug socket MSSD-C	
15	Manual override tool AHB	
16	Inscription labels KMC/F/V-BZ	For identifying the plug sockets
17	Inscription labels IBS-9x17	For identifying the valves

Solenoid valves MFH, Namur

Technical data

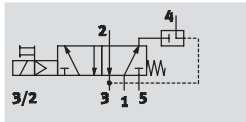
Function¹⁾


5/2-way valve




3/2-way valve

with exhaust air feedback



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

-  - Pressure
2 ... 10 bar

-  - Temperature range
-10 ... +60 °C



1) Can be changed by exchanging the seal plate

General technical data		
Valve function	5/2-way or 3/2-way, monostable	
Design	Piston slide	
Sealing principle	Soft	
Actuation type	Electrical	
Type of reset	Mechanical spring	
Type of control	Piloted	
Direction of flow	Reversible	
Exhaust function	Flow control	
Nominal size	8 mm	
Standard nominal flow rate	1 → 2, 1 → 4	1,000 l/min
	2 → 3, 4 → 5	1,100 l/min
	Exhaust air return 2 → 4	140 l/min
b value	0.25	
C value	3 l/sbar	
Pneumatic connection	1, 3, 5	G¼
	2, 4	Namur port pattern
Type of mounting	Via through holes	
Mounting position	Any	
Manual override	With accessory, detenting	

Operating and environmental conditions	
Operating medium	Filtered compressed air, lubricated or unlubricated, grade of filtration 40µm
Operating pressure range	2 ... 10 bar
Ambient temperature	-5°C ≤ Ta ≤ +40°C
Temperature of medium	-10 ... +60 °C
Corrosion resistance class CRC ¹⁾	3

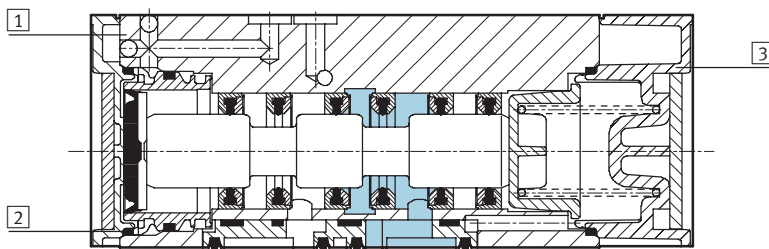
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Solenoid valves MFH, Namur

Technical data

Electrical data		
Electrical connection	Plug, square design to DIN EN 175 301-803	
Operating voltage range	D.C. voltage	12, 24, 42, 48 V DC $\pm 10\%$
	A.C. voltage	24, 42, 48, 110, 230, 240 V AC $\pm 10\%$ at 50 ... 60 Hz $\pm 5\%$
Coil characteristics	24 V DC: 2.5 W	
Protection class to EN 60 529	IP 65 with plug socket	
On	20 ms	
Off	90 ms	

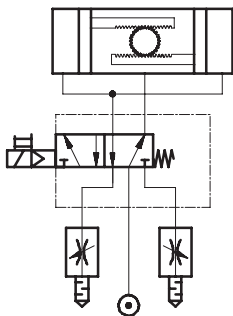
Materials



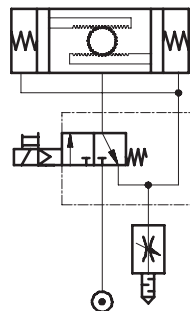
1	Housing	Aluminium die-cast, anodised
2	Seals	Nitrile rubber
3	Cover	Polyacetate

Connection examples

5/2-way valve



3/2-way valve with the option of exhaust air return



Solenoid valves MFH, Namur

Technical data

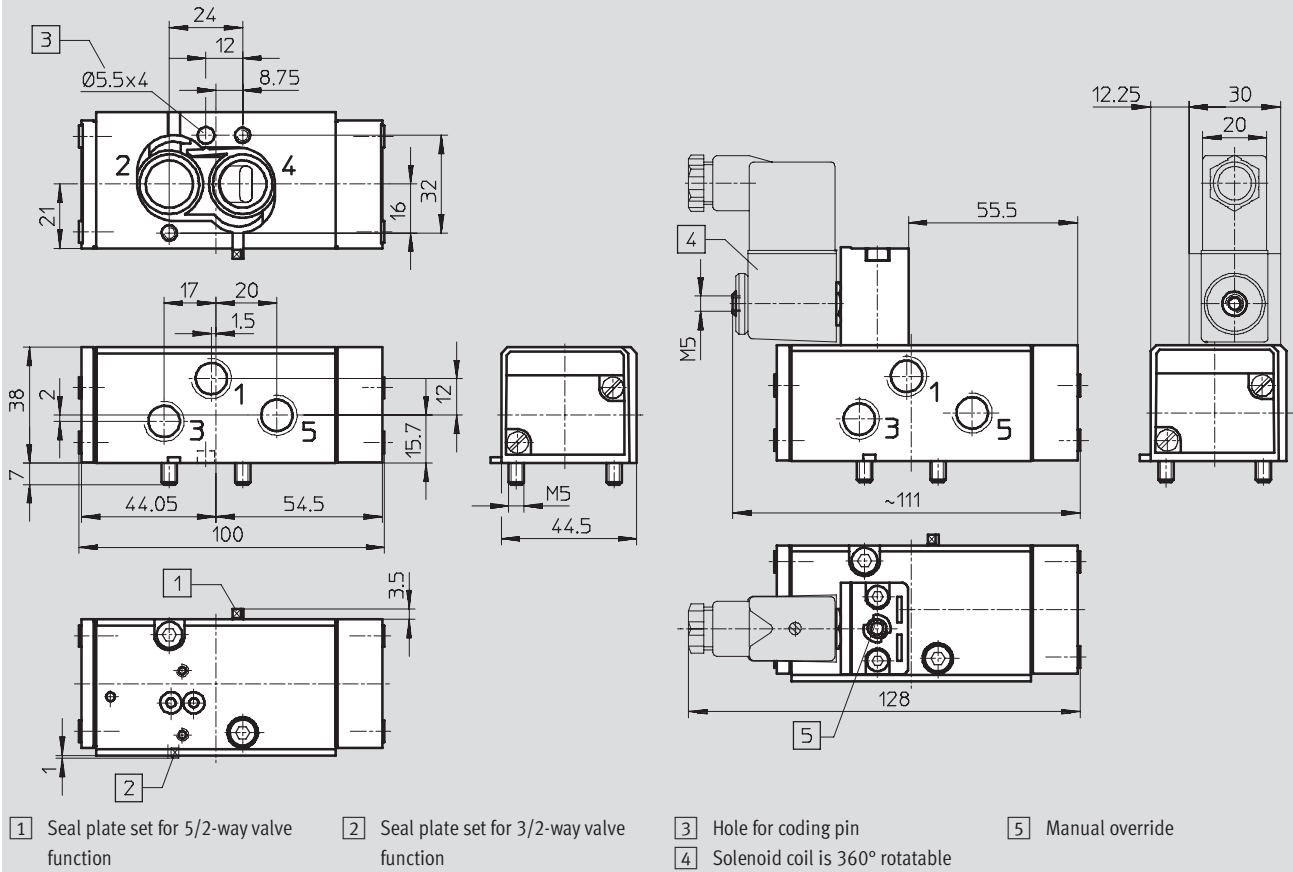
FESTO

Dimensions

Download CAD data → www.festo.com

Basic valve

Solenoid valve MFH



Ordering data – Valve

Solenoid valve without coil¹⁾

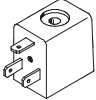

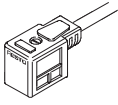
Part No. Type

183 973 MFH-5/2K-FR-NA

1) Solenoid coil must be ordered separately → 15

Solenoid valves MFH, Namur

Accessories

Ordering data				
	Operating voltage	Cable length	Part No.	Type
F solenoid coil without plug socket Technical data → Internet: msfg, msfw				
	12 V DC	–	34 410	MSFG-12DC-OD
	24 V DC	–	34 411	MSFG-24DC/42AC-OD
	42 V DC	–	34 413	MSFG-42DC-OD
	48 V DC	–	34 414	MSFG-48DC-OD
	24 V AC/50 ... 60 Hz	–	34 415	MSFW-24AC-OD
	42 V AC/50 ... 60 Hz	–	34 411	MSFG-24DC/42AC-OD
	48 V AC/50 ... 60 Hz	–	34 418	MSFW-48AC-OD
	110 V AC/50 ... 60 Hz	–	34 420	MSFW-110AC-OD
	230 V AC/50 ... 60 Hz	–	34 422	MSFW-230AC-OD
	240 V AC/50 ... 60 Hz	–	34 424	MSFW-240AC-OD
Luminescent seal Technical data → Internet: mf-ld				
	12 ... 24 V DC/AC	–	19 143	MF-LD-12-24DC
	230 V DC/AC	–	19 144	MF-LD-230AC
Plug sockets, plug sockets with cable Technical data → Internet: mssd, kmf-1				
	–	–	34 431	MSSD-F
	24 V DC	2.5 m	30 935	KMF-1-24DC-2,5-LED
	0 ... 240 V DC/AC		30 936	KMF-1-230AC-2,5
	24 V DC	5 m	30 937	KMF-1-24DC-5-LED
	0 ... 240 V DC/AC		30 938	KMF-1-230AC-5
	Plug socket with insulation displacement technology			
–	–	192 746	MSSD-F-S-M16	
Manual override tool Technical data → Internet: ahb				
–	–	157 651	AHB-MD/MF/MV	
Inscription label Technical data → Internet: kmc				
–	–	33 362	KMC/F/V-BZ-35X ¹⁾	

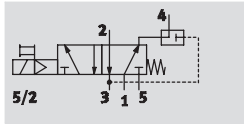
1) Scope of delivery 35 pieces

Solenoid valves MN1H, Namur

Technical data

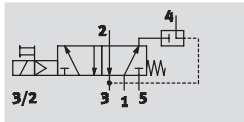
Function¹⁾


5/2-way valve




3/2-way valve

with exhaust air return



-  - Voltage
24 V DC
110, 230 V AC

-  - Pressure
2 ... 10 bar

-  - Temperature range
-10 ... +50 °C



1) Can be changed by exchanging the seal plate

General technical data		
Valve function	5/2-way or 3/2-way, monostable	
Design	Piston slide	
Sealing principle	Soft	
Actuation type	Electrical	
Type of reset	Mechanical spring	
Type of control	Piloted	
Direction of flow	Reversible	
Exhaust function	Flow control	
Nominal size	8 mm	
Standard nominal flow rate	1 → 2, 1 → 4	1,000 l/min
	2 → 3, 4 → 5	1,100 l/min
	Exhaust air return 2 → 4	140 l/min
b value	0.25	
C value	3 l/sbar	
Pneumatic connection	1, 3, 5	G¼
	2, 4	Namur port pattern
Type of mounting	Via through holes	
Mounting position	Any	
Manual override	With accessory, detenting	

Operating and environmental conditions	
Operating medium	Filtered compressed air, lubricated or unlubricated, grade of filtration 40µm
Operating pressure range	2 ... 10 bar
Ambient temperature	-10 ... +50 °C
Temperature of medium	-10 ... +50 °C
Corrosion resistance class CRC ¹⁾	3

1) Corrosion resistance class 2 according to Festo standard 940 070

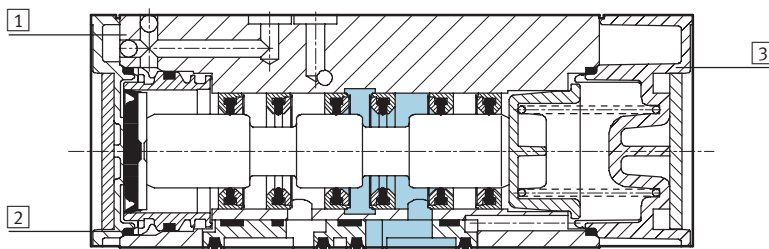
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Solenoid valves MN1H, Namur

Technical data

Electrical data		
Electrical connection	Plug, square design to DIN EN 175 301-803	
Operating voltage range	D.C. voltage	24 V DC $\pm 10\%$
	A.C. voltage	110, 230 V AC $\pm 10\%$ at 50 ... 60 Hz $\pm 5\%$
Coil characteristics	24 V DC: 2.5 W	
Protection class to EN 60 529	IP 65 with plug socket	
On	20 ms	
Off	90 ms	

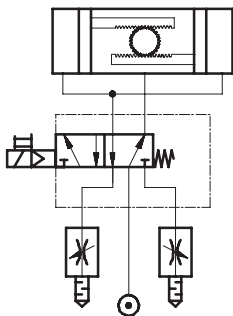
Materials



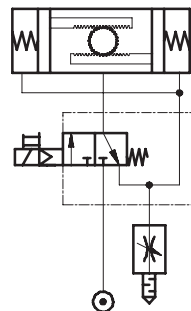
1	Housing	Aluminium die-cast, anodised
2	Seals	Nitrile rubber
3	Cover	Polyacetate

Connection examples

5/2-way valve



3/2-way valve with the option of exhaust air return



Solenoid valves MN1H, Namur

Technical data

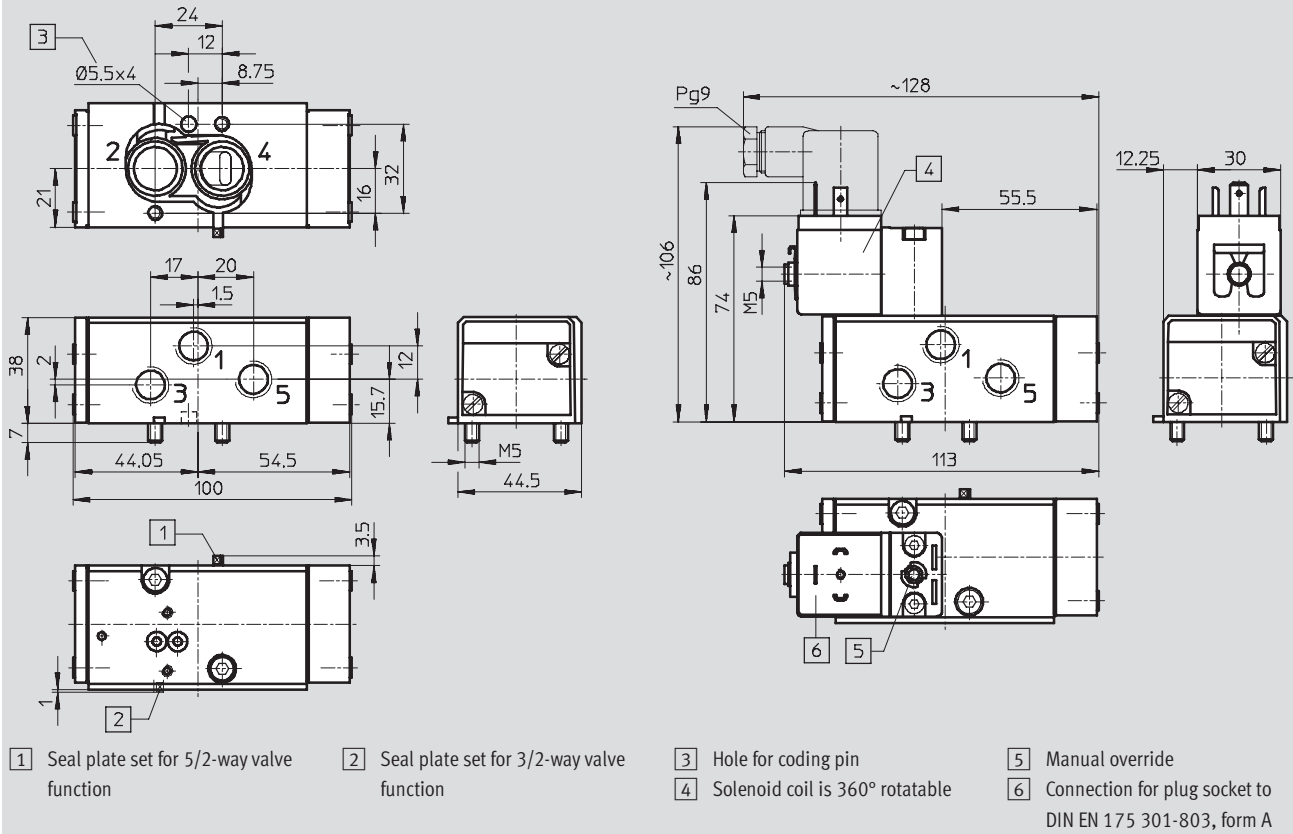
FESTO

Dimensions

Download CAD data → www.festo.com

Basic valve

Solenoid valve MN1H



Ordering data – Valve

Solenoid valve without coil¹⁾

Part No. Type




183 974 MN1H-5/2K-FR-NA

1) Solenoid coil must be ordered separately → 19

Solenoid valves MN1H, Namur

Accessories

FESTO

Ordering data				
	Operating voltage	Cable length	Part No.	Type
N1 solenoid coil without plug socket				Technical data → Internet: msn1g
	24 V DC	–	123 060	MSN1G-24DC-OD
	110 V AC/50 ... 60 Hz	–	123 061	MSN1W-110AC-OD
	230 V AC/50 ... 60 Hz	–	123 062	MSN1W-230AC-OD
Luminescent seal				Technical data → Internet: mc-ld
	12 ... 24 V DC/AC	–	19 145	MC-LD-12-24DC
	230 V DC/AC	–	19 146	MC-LD-230AC
Plug socket, plug socket with cable				Technical data → Internet: mssd, kmc
	–	–	34 583	MSSD-C
	24 V DC	2.5 m	30 931	KMC-1-24DC-2,5-LED
	0 ... 240 V DC/AC		30 932	KMC-1-230AC-2,5
	24 V DC	5 m	30 933	KMC-1-24DC-5-LED
	0 ... 240 V DC/AC		30 934	KMC-1-230AC-5
	Plug socket with insulation displacement technology			
–	–	192 748	MSSD-C-S-M16	
Manual override tool				Technical data → Internet: ahb
–	–	157 651	AHB-MD/MF/MV	
Inscription labels				Technical data → Internet: kmc, ibs
–	–	33 362	KMC/F/V-BZ-35X ¹⁾	
–	–	18 182	IBS-9x20 ²⁾	

1) Scope of delivery 35 pieces

2) Scope of delivery 20 pieces

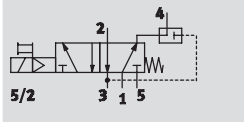
Solenoid valves MGTBH, Namur

Technical data

FESTO

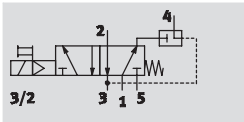
Function¹⁾


5/2-way valve



3/2-way valve

with exhaust air return



-  - Voltage
24 V DC
110, 230 V AC

-  - Pressure
2 ... 8 bar

-  - Temperature range
-20 ... +60 °C



1) Can be changed by exchanging the seal plate

General technical data		
Valve function	5/2-way or 3/2-way, monostable	
Design	Piston slide	
Sealing principle	Soft	
Actuation type	Electrical	
Type of reset	Mechanical spring	
Type of control	Piloted	
Direction of flow	Irreversible	
Exhaust function	Flow control	
Nominal size	8 mm	
Standard nominal flow rate	1 → 2, 1 → 4	1,000 l/min
	2 → 3, 4 → 5	1,100 l/min
	Exhaust air return 2 → 4	140 l/min
b value	0.25	
C value	4.3 l/sbar	
Pneumatic connection	1, 3, 5	G1/4
	2, 4	Namur port pattern
Type of mounting	Via through holes	
Mounting position	Any	
Manual override	With accessory, detenting	

Operating and environmental conditions	
Operating medium	Filtered compressed air, lubricated or unlubricated
Operating pressure range	2 ... 8 bar
Ambient temperature	-20 ... +60 °C
Temperature of medium	-20 ... +60 °C
Corrosion resistance class CRC ¹⁾	2

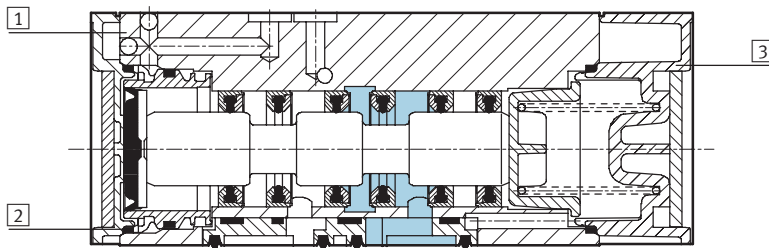
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Solenoid valves MGTBH, Namur

Technical data

Electrical data			
Electrical connection		Cable, 3-wire	
Operating voltage range	D.C. voltage	24 V DC $\pm 10\%$	
	A.C. voltage	110 V AC $\pm 10\%$ at 50 Hz $\pm 10\%$, 110 V AC $-10/+20\%$ at 60 Hz $\pm 10\%$ 230 V AC $\pm 10\%$ at 50 Hz $-13/+10\%$, 230 V AC $\pm 10\%$ at 60 Hz $-13/+17\%$	
Coil characteristics	D.C. voltage	24 V	2.5 W
	A.C. voltage	110 V, 230 V	Pull: 5 W Hold: 3.7 W
Protection class to EN 60 529		IP 65 with plug socket	
On		40 ms	
Off		100 ms	

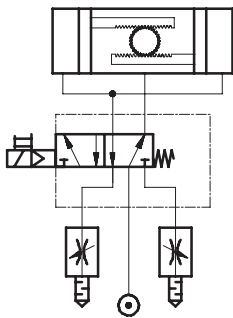
Materials



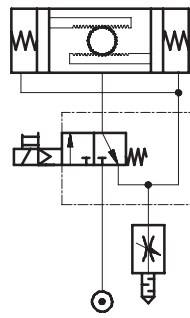
1	Housing	Aluminium die-cast, anodised
2	Seals	Nitrile rubber
3	Cover	Polyacetate

Connection examples

5/2-way valve



3/2-way valve with the option of exhaust air return



Solenoid valves MGTBH, Namur

Technical data

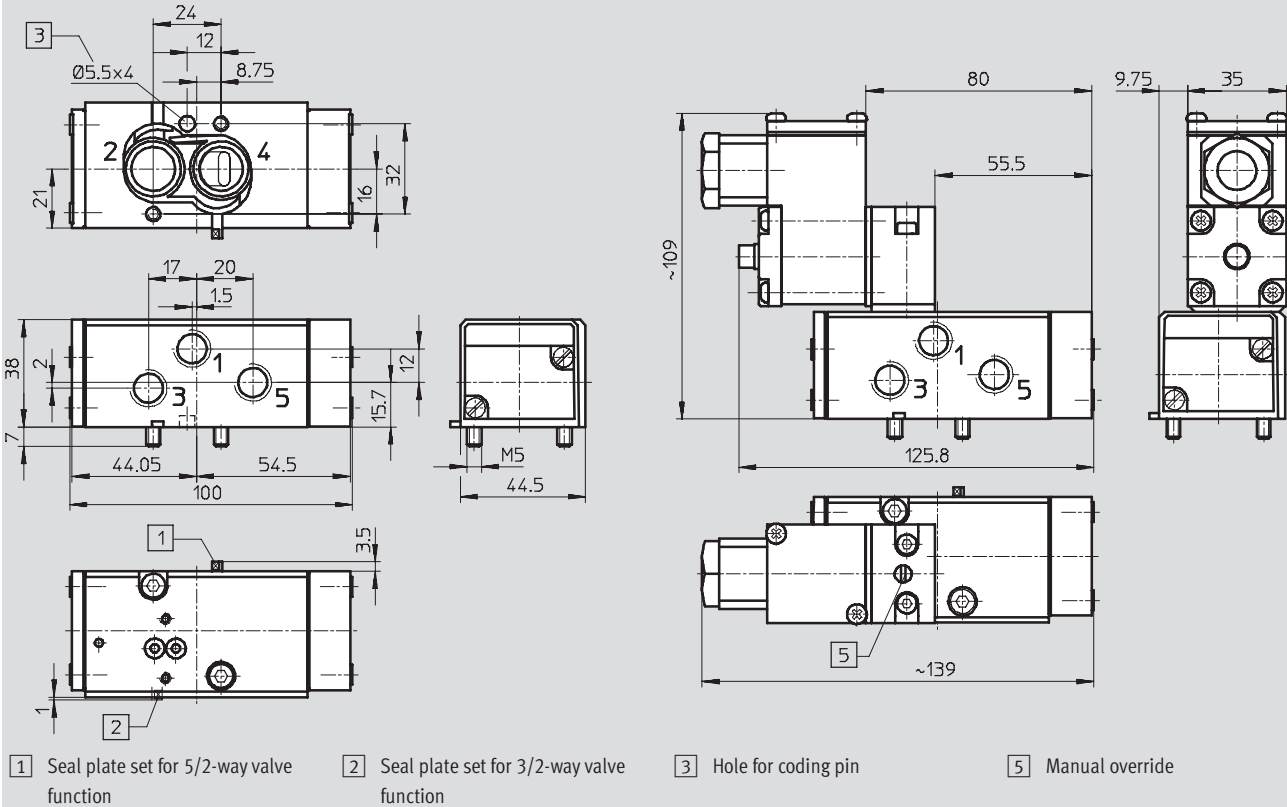
FESTO

Dimensions

Download CAD data → www.festo.com

Basic valve

Solenoid valve MGTBH




Ordering data – Valve

Solenoid valve with coil and plug socket¹⁾

Operating voltage	Part No.	Type
24 V DC	183 978	MGTBH-5/2K-FR-NA
110 V AC	188 400	MGTBH-5/2K-FR-110AC-NA
230 V AC	188 401	MGTBH-5/2K-FR-230AC-NA

1) Individual pilot control valve, with solenoid coil and plug socket → 22

Ordering data – Accessories

	Operating voltage	Cable length	Part No.	Type
Pilot valve Technical data → Internet: mgtbh				
	24 V DC	–	184 105	MGTBH-3/2-1,2-24DC
	110 V AC	–	185 246	MGTBH-3/2-1,2-110AC
	230 V AC	–	185 248	MGTBH-3/2-1,2-230AC
Manual override tool Technical data → Internet: ahb				
	–	–	157 651	AHB-MD/MF/MV
Inscription labels Technical data → Internet: ibs				
	–	–	18 182	IBS-9x20 ¹⁾

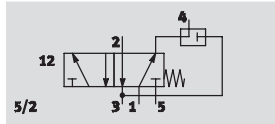
1) Scope of delivery 20 pieces

Solenoid valves VSNB, Namur

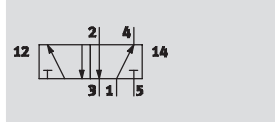
Technical data


Function


5/2-way valve, single solenoid¹⁾



double solenoid



-  Voltage
24 V DC
110, 230 V AC

-  Pressure
2.5 ... 8 bar

-  Temperature range
-10 ... +60 °C



1) Can be changed to 3/2-way valve by exchanging the seal plate

General technical data		Single solenoid valve with pilot valve	Double solenoid valve with pilot valves	Basic valve without pilot valve
Valve function		5/2- or 3/2-way		
Constructional design		Piston spool		
Sealing principle		Soft		
Actuation type		Electrical		-
Reset method		Mechanical spring, none (double solenoid)		
Control type		Piloted		-
Direction of flow		Non-reversible		
Exhaust function		Flow control		
Manual override		Pushing/detenting		-
Type of mounting		Via through-hole on sub-base		
Width	[mm]	44.5		
Mounting position		Any		
Nominal diameter	[mm]	8		
Standard nominal flow rate	1 → 2, 1 → 4 [l/min]	950		
Pneumatic connection	1, 3, 5	G1/4		
	2, 4	Sub-base (Namur port pattern)		
	12, 14	M5		
Product weight	[g]	510	665	350

Operating and environmental conditions	
Operating medium	Filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm
Operating pressure range	[bar] 2.5 ... 8
Ambient temperature	[°C] -10 ... +60
Temperature of medium (with coil MDH)	[°C] -10 ... +50
CE marking	In accordance with EU Low Voltage Directive
Corrosion resistance class CRC	2 ¹⁾

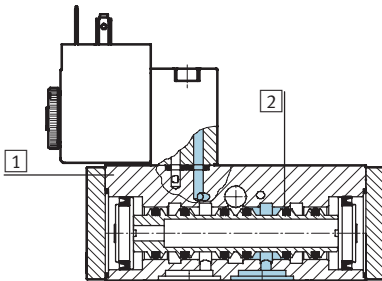
1) Corrosion resistance class 2 to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Solenoid valves VSNB, Namur

Technical data

Electrical data			
Electrical connection	Plug, square design, to DIN EN 175301-803, type A		
Operating voltage range	DC voltage	24 V $-15\%/+10\%$	
	AC voltage	110 V $-15\%/+10\%$, 230 V $-15\%/+10\%$	
Coil characteristics	DC voltage	24 V	2.1 W
	AC voltage	110 V, 230 V	Pull: 6.6 W Hold: 4 W
Protection class to EN 60529	IP65 with plug socket		
Response time on	30 ms		
Response time off	100 ms		
Changeover time	30 ms		

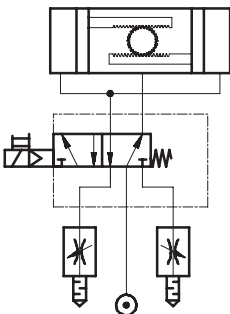
Materials



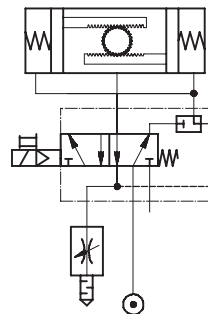
1	Housing	Wrought aluminium alloy, anodised
2	Seals	Nitrile rubber, hydrogenated nitrile rubber
-	Screws	High-alloy stainless steel
Note on materials		Contains paint wetting impairment substances

Sample circuits

5/2-way valve, single solenoid



3/2-way valve, single solenoid, with the option of exhaust air return



Solenoid valves VSNB, Namur

Technical data

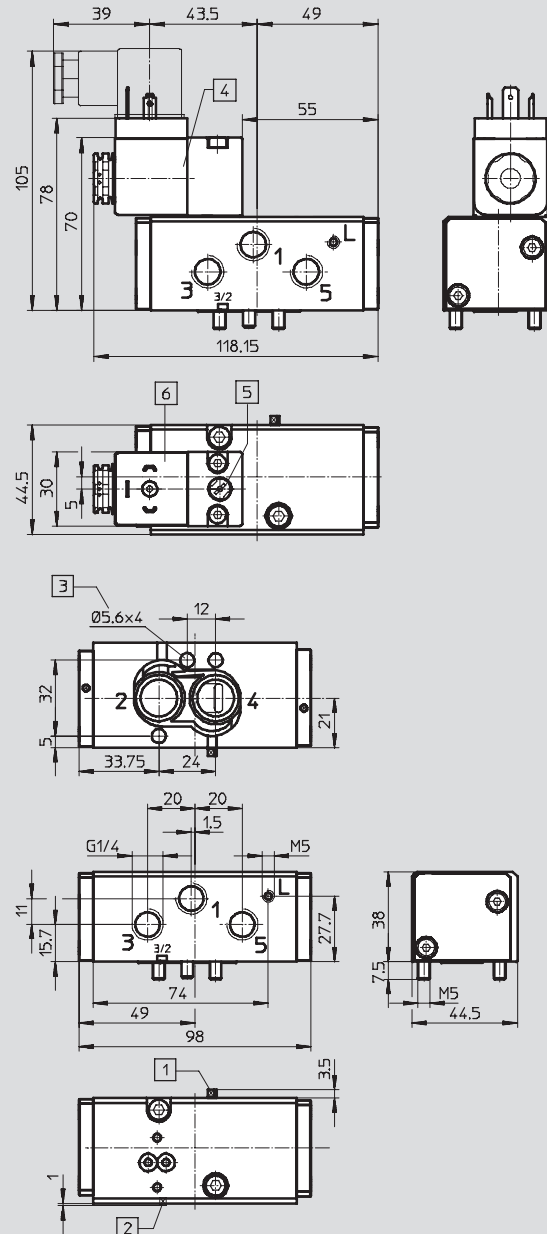
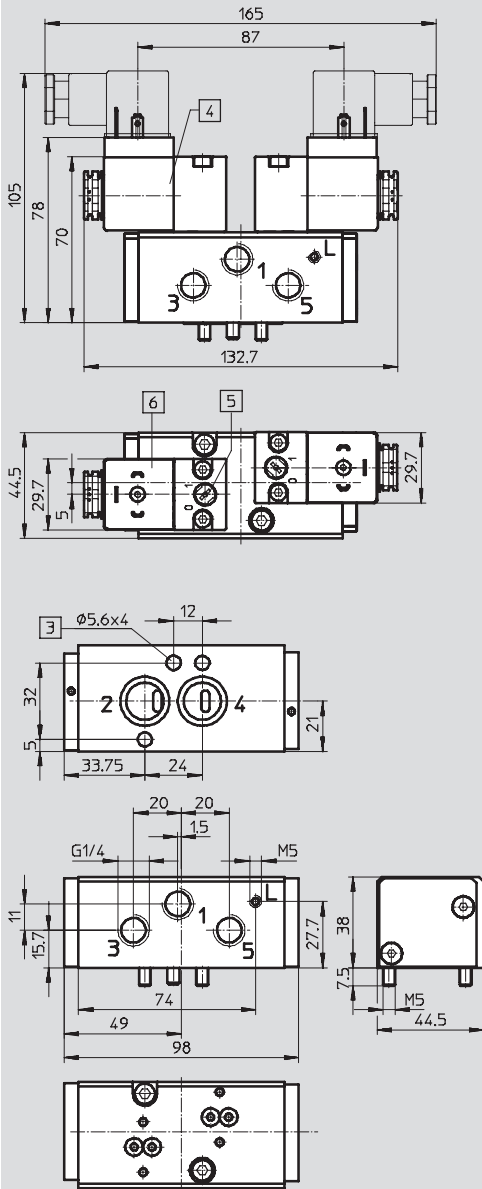
FESTO

Dimensions

Download CAD data → www.festo.com

Solenoid valve, double solenoid
Basic valve, double solenoid

Solenoid valve, single solenoid
Basic valve, single solenoid



1 Seal plate set to 5/2-way valve function

3 Hole for coding pin

4 Pilot valve

6 Plug socket connection pattern to EN 175301-803, type A

2 Seal plate set to 3/2-way valve function

5 Manual override

Solenoid valves VSNB, Namur

Technical data

Ordering data – Solenoid valves without pilot valve ¹⁾		
Description	Part No.	Type
5/2-way valve, single solenoid		
Can be changed to 3/2-way valve	547 017	VSNB-FC-M52-M-G14-P2
Cannot be changed to 3/2-way valve	547 021	VSNB-F-M52-M-G14-P2
5/2-way valve, double solenoid		
Cannot be changed to 3/2-way valve	547 022	VSNB-F-B52-M-G14-P2

1) Solenoid coil must be ordered separately → 27

Ordering data – Solenoid valves with pilot valve		
Description	Part No.	Type
5/2-way valve, single solenoid		
Can be changed to 3/2-way valve	547 026	VSNB-FC-M52-MH-G14-1A1
Cannot be changed to 3/2-way valve	547 028	VSNB-F-M52-MH-G14-1A1
5/2-way valve, double solenoid		
Cannot be changed to 3/2-way valve	547 029	VSNB-F-B52-H-G14-1A1

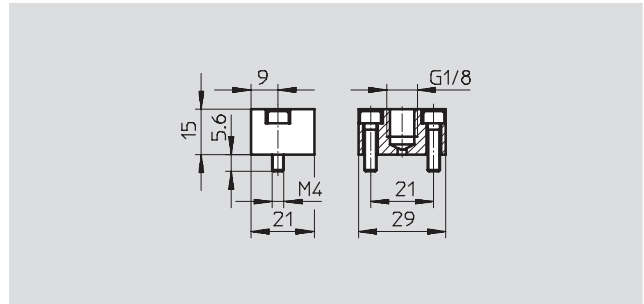
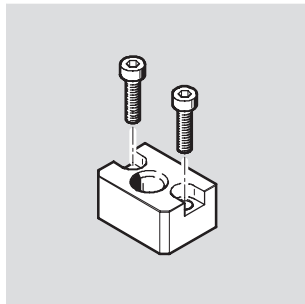
Solenoid valves VSNB, Namur

Accessories

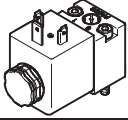
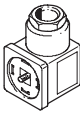
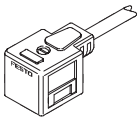



Control plate VAOP

Material:
Wrought aluminium alloy

Function:
The basic valve can be switched with a pneumatic signal via the control plate.



Ordering data			
	Weight [g]	Part No.	Type
For mounting on the basic valve	21	547 025	VAOP-C2-P2

Ordering data					
	Nominal operating voltage	Cable length	Signal status display	Part No.	Type
Pilot valve with solenoid coil					
	24 V DC	-	-	546 019	MDH-3/2-24VDC-PI
	110 V AC	-	-	546 020	MDH-3/2-110VAC-PI
	230 V AC	-	-	546 021	MDH-3/2-230VAC-PI
Plug socket Technical data → Internet: mssd					
	-	-	-	34 583	MSSD-C
Plug socket with cable Technical data → Internet: kmc					
	24 V DC	2,5 m	LED	30 931	KMC-1-24DC-2,5-LED
	24 V DC	5 m	LED	30 933	KMC-1-24DC-5-LED
	24 V DC	10 m	LED	193 459	KMC-1-24-10-LED
	Up to 230 A DC	2,5 m	-	30 932	KMC-1-230AC-2,5
	Up to 230 A DC	5 m	-	30 934	KMC-1-230AC-5
Illuminating seal					
	12 ... 24 V DC/AC	-	-	19 145	MC-LD-12-24DC
	230 V DC/AC	-	-	19 146	MC-LD-230AC
Push-in fitting QS → Internet: quick star					
	-	-	-		
Silencer U → Internet: u					
	-	-	-		