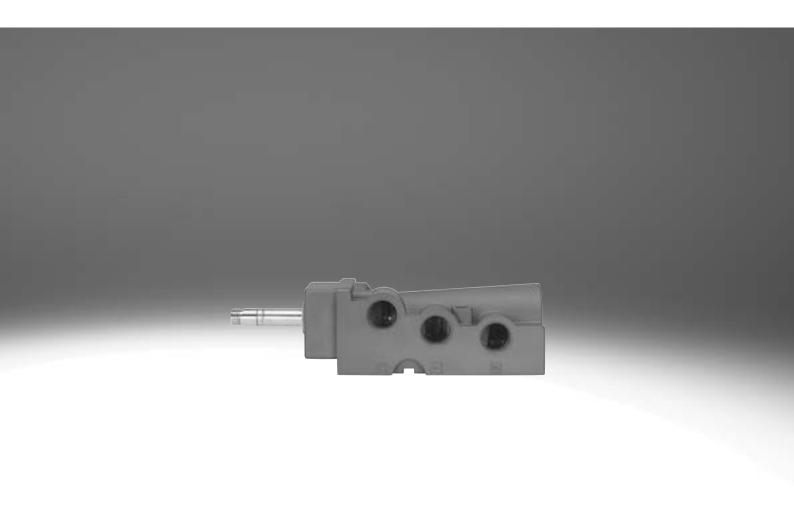
Solenoid valves, to NAMUR

FESTO



Solenoid valves, to NAMUR

Product range overview

Function	Design	Туре	Nominal width	Standard nominal flow rate [l/min]	Pneumatic connection	Operating pressure [bar]	Ambient temperature
5/2-way valves ¹⁾		NVF3EX	7	900	G 1/4	2 10	-5 +40 ATEX: -5°C .= Ta .= +40°C ATEX: -5°C .= Ta .= +40°C

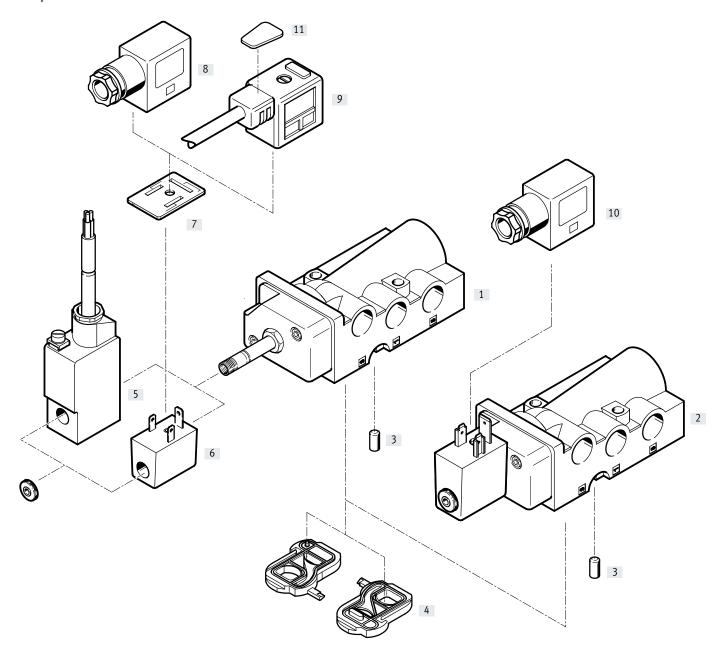
¹⁾ Can be converted to 3/2-way function by turning the sealing plate

Product range overview

Туре	Solenoid coil	Operating voltage range Type of ignition protection		→ Page			
		[V DC]	[V AC]	nA = Non- sparking	m = Encapsulation	ia = Intrinsically safe	
NVF3EX	MSFGOD ^{1);} MSFWOD ¹⁾	12, 24, 42, 48	24, 42, 48, 110, 230, 240	-	-	-	6
	MSFGEX ¹⁾ ; MSFWEX ¹⁾	24	24, 110, 230	•	-	-	
	MSFGM-EX ¹⁾ ; MSFWM-EX ¹⁾	24	24, 110, 230	-	•	-	

¹⁾ Solenoid coil must be ordered separately

Peripherals overview

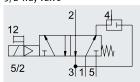


Peripherals overview

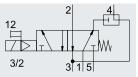
Sole	Solenoid valves and accessories				
		Brief description	→ Page		
Sole	noid valves				
[1]	NVF3-MOH-5/2K-1/4-EX	Solenoid valve for F solenoid coil	6		
[2]	NVF3-MOH-5/2K-1/4-IA-EX	Solenoid valve mounted with intrinsically safe solenoid coil,			
		ignition protection type ia = intrinsically safe			
Acce	ssories				
[3]	Coding pin	Included in the scope of delivery	-		
[4]	Sealing plate	For changing the valve function, included in the scope of delivery	-		
[5]	Solenoid coil MSFGM-EX	Ignition protection type m = encapsulation	10		
	and MSFWM-EX				
[6]	Solenoid coil MSFGEX	Ignition protection type nA = non-sparking			
	and MSFWEX				
[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 coils in position [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 in position [2]			
[11]	Inscription labels KMC/F/V-BZ	For identifying the plug sockets			

Data sheet

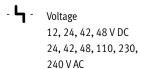
Function¹⁾ 5/2-way valve



3/2-way valve with exhaust return

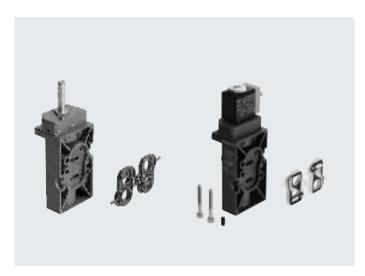


¹⁾ Can be changed by turning the sealing plate





- Temperature range -5 ... +40°C ATEX -5°C .= Ta .= +40°C



General technical da	ata				
			Solenoid valve with F coil of choice		
Valve function			5/2-way or 3/2-way, single solenoid		
Conforms to standard	d		VDI/VDE 3845 (NAMUR)		
Width		[mm]	53		
Design			Poppet seat		
Sealing principle			Soft		
Actuation type			Electrical		
Reset method			Mechanical spring		
Type of control			Piloted		
Flow direction			Not reversible		
Exhaust function			Can be throttled		
Manual override			Detenting, non-detenting		
Type of mounting			On manifold rail		
Mounting position			Any		
Non-overlapping			No		
Port for venting hole			Internal		
Nominal width		[mm]	7		
Overlap			Negative overlap		
Standard nominal	1→2,2→3	[l/min]	900		
flow rate	Exhaust return 2 → 4	[l/min]	150		
b value			0.33		
C value [l/sbar]		[l/sbar]	4.2		
Pneumatic	1, 3, 5		G 1/4		
connection	2, 4		Plug pattern as per NAMUR		
	Pilot exhaust port 84		M5		
Product weight		[g]	280		

Data sheet

Operating and environmental conditions		
		Solenoid valve with F coil of choice
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure	[bar]	210
Ambient temperature	[°C]	-5 +40
Temperature of medium	[°C]	-5 +40
ATEX category for gas		II 2G
Type of ignition protection for gas		Ex h IIC T6 Gb
ATEX category for dust		II 2D
Type of ignition protection for dust	[°C]	Ex h IIIC T70° C
Explosion-proof ambient temperature		-5°C <=Ta <=+40°C
Explosion protection certification outside t	he EU	-
		-
		-
		-
CE marking		To EU Explosion Protection Directive (ATEX)
Corrosion resistance class CRC ¹⁾		1

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

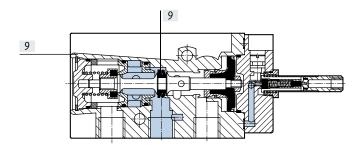
Low corrosion stress. Dry indoor application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Electrical data		
		Solenoid valve with F coil of choice
Electrical connection		Plug, 3-pin or cable, 3-wire
Operating voltage range	[V DC]	12, 24, 42, 48
	[V AC]	24, 42, 48, 110, 230, 240 at 50 60 Hz
Coil characteristics, 24 V DC	[W]	-
Max. input power	[W]	-
Max. input voltage	[V]	-
Max. input current	[A]	-
Effective inductance		-
Effective capacitance		-
Degree of protection to EN 60529		IP65 with plug socket
Switching time on	[ms]	50
Switching time off	[ms]	100

Solenoid valves NVF3, to NAMUR

Data sheet

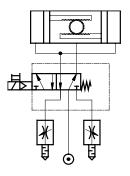
Materials



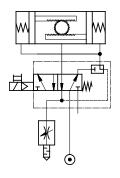
[1]	Housing	Die-cast aluminium, anodised
[2]	Seals	NBR
	-	Contains paint-wetting impairment
		substances

Sample circuit

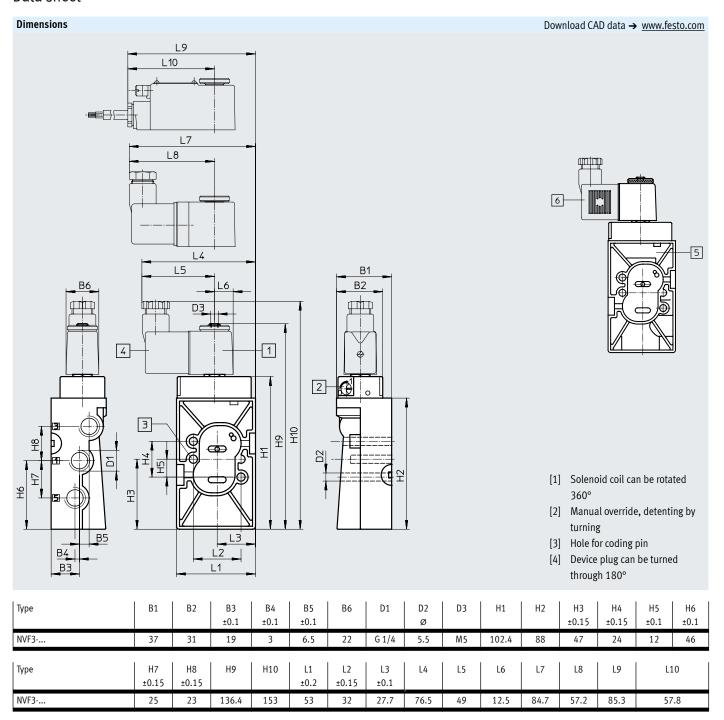
5/2-way valve



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



Data sheet



Ordering data – Valves					
		Part no.	Туре		
000	Solenoid valve without solenoid coil ¹⁾	535987	NVF3-MOH-5/2-K-1/4-Ex		

Solenoid coil must be ordered separately → 10
 Explosion-proof solenoid coil → 11

Solenoid valves NVF3, to NAMUR

Accessories

Ordering data				
	Operating voltage	Cable length	Part no.	Туре
Solenoid coil F wit	hout plug socket	Data sheets → Internet: msfg, msfw		
	12 V DC	-	34410	MSFG-12-OD
	24 V DC	-	34411	MSFG-24/42-50/60-OD
	42 V DC	-	34413	MSFG-42-OD
	24 V AC/50 60 Hz	-	34415	MSFW-24-50/60-OD
~	42 V AC/50 60 Hz	-	34411	MSFG-24/42-50/60-OD
	48 V AC/50 60 Hz	-	34418	MSFW-48-50/60-OD
	110 V AC/50 60 Hz	-	34420	MSFW-110-50/60-OD
	230 V AC/50 60 Hz	-	34422	MSFW-230-50/60-OD
	240 V AC/50 60 Hz	-	34424	MSFW-240-50/60-OD
Plug socket with s	crew terminal technology			Data sheets → Internet: mssc
a tag souther mitting	-		34431	MSSD-F
	_	_	539710	MSSD-F-M16
			337/10	M33D-1-M10
Plug socket with i	nsulation displacement connection	<u> </u>		Data sheets → Internet: mssc
C C C C C C C C C C C C C C C C C C C			192746	MSSD-F-S-M16
Plug socket with c	able		,	Data sheets → Internet: kmf-1
	24 V DC	2.5 m		KMF-1-24DC-2.5-LED
	0 240 V DC/AC		30936	KMF-1-230AC-2.5
	24 V DC	5 m	30937	KMF-1-24DC-5-LED
	0 240 V DC/AC		30938	KMF-1-230AC-5
Illuminating seal				Data sheets → Internet: mf-lo
<u> </u>	12 24 V DC/AC		19143	MF-LD-12-24DC
	230 V DC/AC	-	19144	MF-LD-230AC
nscription label	·	<u>, </u>		Data sheets → Internet: kmc/f/v
-	-	_	33362	KMC/F/V-BZ-35X ¹⁾
				,, =====

¹⁾ Pack of 35



Valve/solenoid coil combinations made up of basic valve NVF3-MOH-5/2-K-1/4-EX and solenoid coils MSF...-OD must not be used in potentially explosive areas. Only combinations with the approved solenoid coils MSF-...-EX may be used here.

→ 11

Accessories for ATEX environment

Ordering data				
	Operating voltage	Cable length	Part no.	Туре
Solenoid coil F for i	gnition protection type nA = non-sparking	Data sheets → Internet: msfw, msfg		
	24 V DC	_	536931	MSFG-24-EX
	24 V AC/50 60 Hz	-	536932	MSFW-24-50/60-EX
	110 V AC/50 60 Hz	-	536933	MSFW-110-50/60-EX
	230 V AC/50 60 Hz	-	536934	MSFW-230-50/60-EX
/ €\				
(x3)				
Solenoid coil F for i	gnition protection type mb			Data sheets → Internet: vacf
	≥ 24 V DC	1 m	8059804	VACF-B-K1-1-1-EX4-M
	24 V DC	5 m	8059805	VACF-B-K1-1-5-EX4-M
	24 V AC/50 60 Hz	1 m	8059808	VACF-B-K1-1A-1-EX4-M
	110 V AC/50 60 Hz	1 m	8059811	VACF-B-K1-16B-1-EX4-M
0	110 V AC/50 60 Hz	5 m	8059812	VACF-B-K1-16B-5-EX4-M
© ©	230 V AC/50 60 Hz	1 m	8059809	VACF-B-K1-3A-1-EX4-M
	230 V AC/50 60 Hz	5 m	8059810	VACF-B-K1-3A-5-EX4-M
	24 V DC	x m	8059807	VACF-B-K1-1-20-EX4-M
(Ex)				
Plug socket with so	rew terminal connection for solenoid valve NVF3-MOH-5/2-K-1/4-IA-EX, ign	nition protection type	e ia = intrinsically	Data sheets → Internet: mssd
safe				
	-	-	539713	MSSD-V-M16