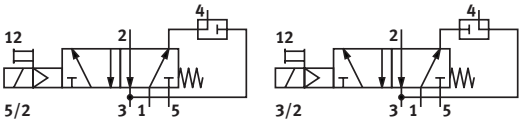
Standards-based NAMUR valve NVF3

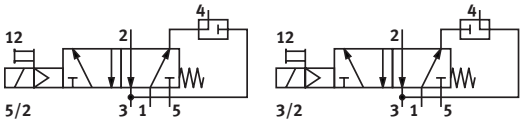
Characteristics

Valve function

[52] 5/2-way valve



[32] 3/2-way valve



With exhaust air recirculation
Convertible by replacing the sealing plate

Datasheet

General technical data	
Valve function	5/2 or 3/2 single solenoid
Conforms to standard	VDI/VDE 3845 (NAMUR)
Construction width	53 mm
Design	Poppet seat
Sealing principle	Soft
Type of actuation	Electrical
Type of reset	Mechanical spring
Type of piloting	Piloted
Flow direction	Non-reversible
Exhaust-air function	Can be throttled
Manual override	Detenting, Non-detenting
Type of mounting	On manifold rail
Mounting position	Any
Breather connection	Internal
Nominal size	7 mm
lap	Underlap
Standard nominal flow rate (standardised to DIN 1343)	900 l/min
b value	0.33
C value	4.2 l/sbar
Pneumatic connection, port 1	G1/4
Pneumatic connection, port 2	Connection pattern to NAMUR
Pneumatic connection, port 3	G1/4
Pneumatic connection, port 4	Connection pattern to NAMUR
Pneumatic connection, port 5	G1/4
Pilot exhaust port 84	M5
Product weight	280 g

Operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure	0.2 ... 1 MPa
Operating pressure	2 ... 10 bar
Operating pressure	29 ... 145 psi
Ambient temperature	-5 ... 40°C
Media temperature	-5 ... 40°C
ATEX category gas	II 2G
Explosion ignition protection type for gas	Ex h IIC T6 Gb
ATEX category dust	II 2D
Explosion ignition protection type for dust	Ex h IIIC T70°C Db
Explosion ambient temperature	-5°C <= Ta <= +40°C
Explosion protection certification outside the EU	EPL Db (GB), EPL Gb (GB)
CE mark (see declaration of conformity) [1]	To EU Explosion Protection Directive (ATEX)
UKCA marking (see declaration of conformity)[2]	To UK EX instructions
Corrosion resistance class CRC [3]	1 - Low corrosion stress

1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/... -> Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

2) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/... -> Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

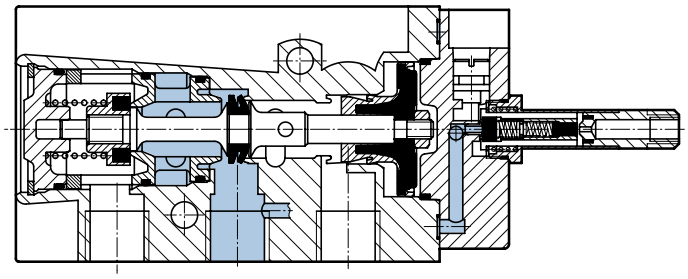
3) More information at www.festo.com/x/topic/kbk

Datasheet

Electrical data

Switching time on	50 ms
Switching time off	100 ms

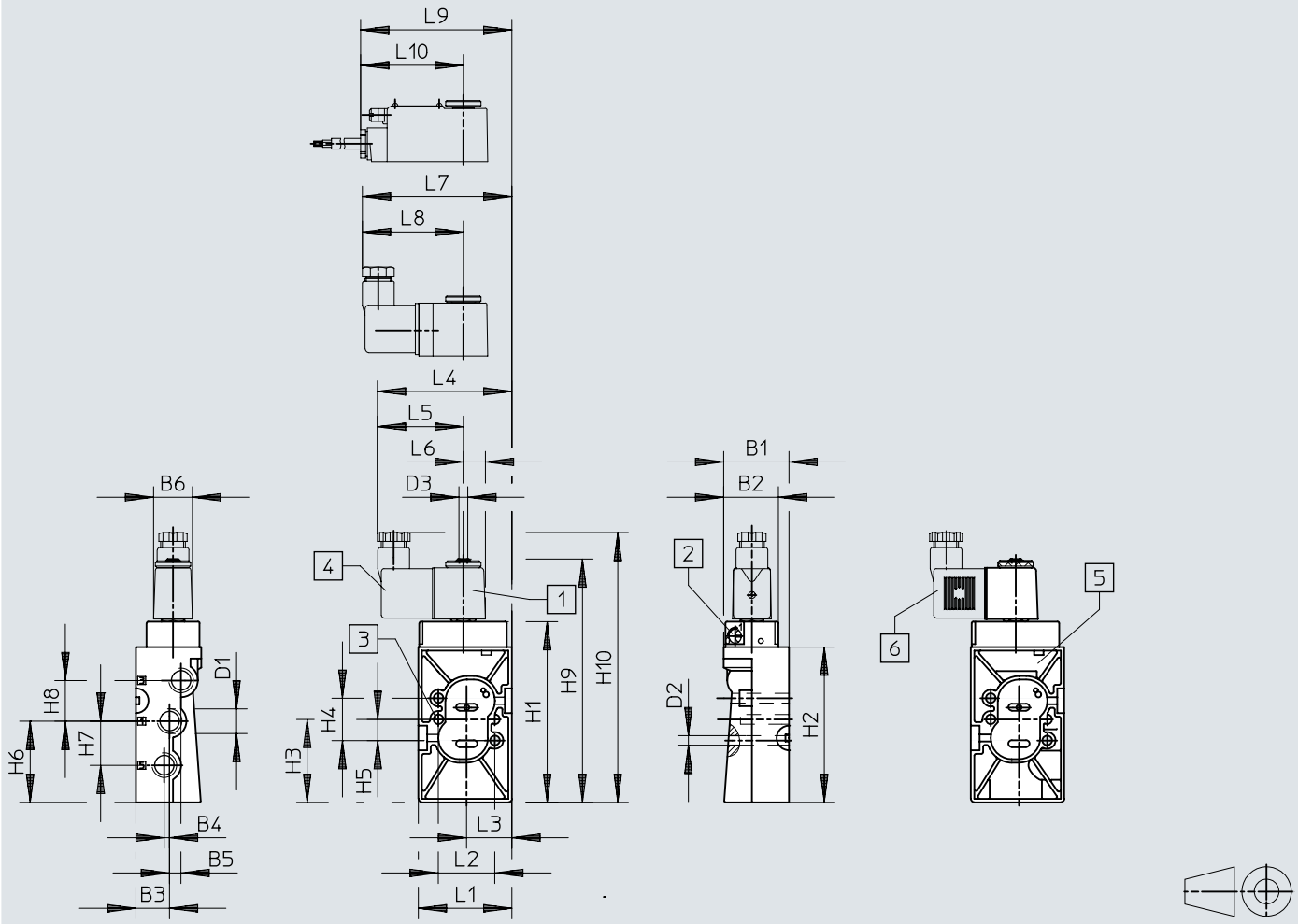
Materials



Material housing	Die-cast aluminium
Material seals	NBR

Dimensions

Dimensions – Solenoid valves Download CAD data www.festo.com



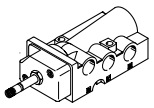
[1] Solenoid coil can be rotated 360°
[2] Manual override, detenting by turning
[3] Hole for coding pin
[4] Connection for power supply can be turned through 180°
[5] Valve and coil assembled for NVF3-MOH-...-IA-EX
[6] Connection for power supply can be turned through 180° MSSD-V-M16

	B1	B2	B3 ±0,1	B4 ±0,1	B5 ±0,1	B6	D1	D2 ø	D3	H1	H2	H3 ±0,15	H4 ±0,15	H5 ±0,1	H6 ±0,1
NVF3-...	37	31	19	3	6,5	22	G 1/4	5,5	M5	102,4	88	47	24	12	46

	H7 ±0,15	H8 ±0,15	H9	H10	L1 ±0,2	L2 ±0,15	L3 ±0,1	L4	L5	L6	L7	L8	L9	L10
NVF3-...	25	23	136,4	153	53	32	27,7	76,5	49	12,5	84,7	57,2	85,3	57,8

Ordering data

Solenoid valves without solenoid coil

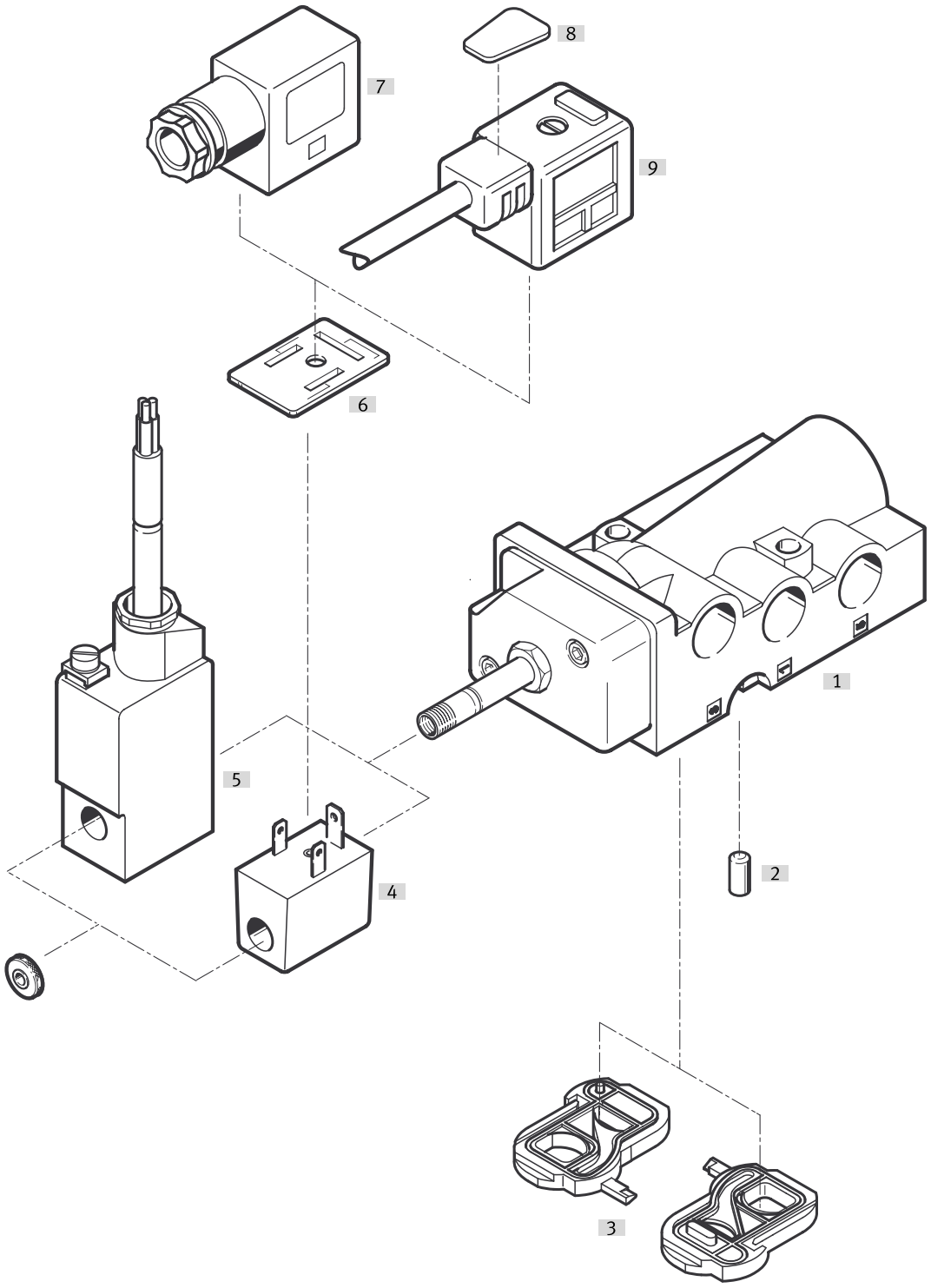


Short type code [1]	Part no.	Type
NVF3	**535987**	**NVF3-MOH-5/2-K-1/4-EX**

1) Solenoid coil must be ordered separately

Peripherals

Solenoid valves



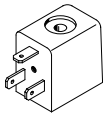
Accessories			→ Link
	Type/order code	Description	
[1]	NVF3-MOH-5/2-K-1/4-EX	Solenoid valve for solenoid coil F	
[2]	Coding pin	Included in the scope of delivery	🔗 –
[3]	Sealing plate	for changing the valve function, included in the scope of delivery	🔗 –
[4]	Solenoid coil MSFG-...-EX and MSFW-...-EX	Ignition protection type nA = non-sparking	10
[5]	Solenoid coil MSFG-...-M-EX and MSFW-...-M-EX	Ignition protection type m = encapsulation	10
[6]	Illuminating seal MF-LD	For indicating the switching status	9
[7]	Plug socket MSSD-F-M16	Can be repositioned around 180°. Type of protection nA = non-sparking	9
[8]	Labelling plates KMC/F/V-BZ	for labelling the sockets	9

Peripherals

Accessories			→ Link
	Type/order code	Description	
[9]	Socket outlet with cable KMF	Insert can be rotated 180°	9

Accessories

Solenoid coil F without plug socket



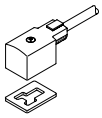
Characteristic coil data [1]	Part no.	Type
110 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	**34420**	**MSFW-110-50/60-OD**
12 V DC: 4.1 W	**34410**	**MSFG-12-OD**
230 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	**34422**	**MSFW-230-50/60-OD**
240 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	**34424**	**MSFW-240-50/60-OD**
24 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	**34415**	**MSFW-24-50/60-OD**
24 V DC: 4.5 W, 42 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	**34411**	**MSFG-24/42-50/60-OD**
42 V DC: 5.5 W	**34413**	**MSFG-42-OD**
48 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	**34418**	**MSFW-48-50/60-OD**

1) Valve-solenoid coil combinations that are assembled from the basic valve NVF3-MOH-5/2-K-1/4-EX and the solenoid coils MSF...-OD must not be used in potentially explosive atmospheres. Only combinations with the approved solenoid coils MSF-...-EX may be used here.

Plug socket with screw terminal technology

Electrical connection	Part no.	Type
3-pin, Angled socket, Square design MSF	**34431**	**MSSD-F**

Plug socket with cable



Nominal operating voltage DC	Cable length	Part no.	Type
	2.5 m	**30936**	**KMF-1-230AC-2.5**
	5 m	**30938**	**KMF-1-230AC-5**
24 V	2.5 m	**30935**	**KMF-1-24DC-2.5-LED**
	5 m	**30937**	**KMF-1-24DC-5-LED**

Illuminating seal

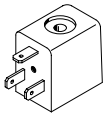
Operational voltage range DC	Part no.	Type
12 ... 24 V	**19143**	**MF-LD-12-24DC**

Inscription label

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

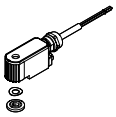
Accessories

Solenoid coil F for ignition protection type nA = non-sparking, for ATEX environment



Characteristic coil data	Part no.	Type
110 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	**536933**	**MSFW-110-50/60-EX**
230 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	**536934**	**MSFW-230-50/60-EX**
24 V AC: 50/60 Hz, pick-up power 9.0 VA, holding power 7.0 VA	**536932**	**MSFW-24-50/60-EX**
24 V DC: 4.5 W	**536931**	**MSFG-24-EX**

Solenoid coil F for type of protection mb, for ATEX environment



Characteristic coil data	Part no.	Type
110 V AC: 50/60 Hz, power 4.18 VA	**8059811**	**VACF-B-K1-16B-1-EX4-M**
	8059812	**VACF-B-K1-16B-5-EX4-M**
230 V AC: 50/60 Hz, power 5.0 VA	**8059810**	**VACF-B-K1-3A-5-EX4-M**
	8059809	**VACF-B-K1-3A-1-EX4-M**
24 V AC: 50/60 Hz, power 3.85 VA	**8059808**	**VACF-B-K1-1A-1-EX4-M**
24 V DC: 4.36 W	**8059804**	**VACF-B-K1-1-1-EX4-M**
	8059805	**VACF-B-K1-1-5-EX4-M**
	8059807	**VACF-B-K1-1-20-EX4-M**