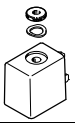
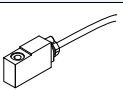




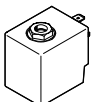



# Solenoid coils MSF/MSN1/MD-2/MH-2/VACS

Product range overview


Version	Type	For valve series											→ Page/ Internet
		MFH	MOFH	JMFH	JMFDH	NVF3	MUFH	MN1H	JMN1H	JMN1DH	VZWM-L	VUVS	
<b>F solenoid coil</b>													
	MSF	■	■	■	■	■	■	-	-	-	-	-	5
<b>F solenoid coil for explosive atmospheres (with ATEX certification)</b>													
	MSF...-EX	■	■	■	■	■	■	-	-	-	-	-	8
<b>N1 solenoid coil</b>													
	MSN1 <sup>1)</sup>	-	-	-	-	-	-	■	■	■	-	-	11
<b>H solenoid coil</b>													
	MH-2	-	-	-	-	-	-	-	-	-	■	-	15
<b>S solenoid coil</b>													
	VACS 	-	-	-	-	-	-	-	-	-	-	■	13
<b>D solenoid coil</b>													
	MD-2	-	-	-	-	-	-	-	-	-	■	-	15

1) Free of copper, PTFE and silicone

 **Note**  
ATEX certification is only effective in combination with other ATEX-certified components.  
→ [www.festo.com/en/ex](http://www.festo.com/en/ex)

## Solenoid coils MSF/MSN1/MD-2/MH-2/VACS

Selection aid

Solenoid valves and corresponding solenoid coils		Solenoid coil													
Valve series	Valve type	S	D	E	EB	F	H	N1	N2	V	Y	Z	ZB	ZC	
															
ISO 15407-1	MN2H, JMN2H, JMN2DH	-	-	-	-	-	-	-	■	-	-	-	-	-	
ISO 5599-1	MN1H, JMN1H, JMN1DH	-	-	-	-	-	-	■	-	-	-	-	-	-	
	MFH, JMFH, JMFDH	-	-	-	-	■	-	-	-	-	-	-	-	-	
	MDH, JMDH	-	■	-	-	-	-	-	-	-	-	-	-	-	
	MEBH, JMEBH, JMEBDH	-	-	-	■	-	-	-	-	-	-	-	-	-	
Namur	NVF3	-	-	-	-	■	-	-	-	-	-	-	-	-	
	MN1H	-	-	-	-	-	-	■	-	-	-	-	-	-	
Compact Performance	CPE10-M1BH, CPE14-M1BH	-	-	-	-	-	-	-	-	-	-	-	-	■	
	CPE18, CPE24	-	-	-	■	-	-	-	-	-	-	-	-	-	
Tiger 2000	MFH, JMFH	-	-	-	-	■	-	-	-	-	-	-	-	-	
	MVH, JMVH	-	-	-	-	-	-	-	-	■	-	-	-	-	
Tiger Classic	MFH, MOFH, JMFH, JMFDH	-	-	-	-	■	-	-	-	-	-	-	-	-	
Midi Pneumatic	MEBH, MOEBH, JMEBH	-	-	-	■	-	-	-	-	-	-	-	-	-	
	MEH, MOEH, JMEH	-	-	■	-	-	-	-	-	-	-	-	-	-	
Directly actuated solenoid valves	MZBH, MOZBH	-	-	-	-	-	-	-	-	-	-	-	■	-	
	MEBH, MOEBH	-	-	-	■	-	-	-	-	-	-	-	-	-	
	MVH, MOVH	-	-	-	-	-	-	-	-	■	-	-	-	-	
	MDH, MODH	-	■	-	-	-	-	-	-	-	-	-	-	-	
Miniature valves	MH1	-	-	-	-	-	-	-	-	-	-	-	-	■	
Fast-switching valves	MH2, MH3	-	-	-	-	-	-	-	-	-	-	-	-	■	
	MH4	-	-	-	■	-	-	-	-	-	-	-	-	-	
Smart Cubic	CPASC1	-	-	-	-	-	-	-	-	-	-	-	-	■	
VB series	VUVB	-	-	-	■	-	-	-	-	-	-	-	-	-	
VS series	VUVS	■	-	-	-	-	-	-	-	-	-	-	-	-	
Micro/Mini Pneumatic	MZH, MOZH, JMZH	-	-	-	-	-	-	-	-	-	-	■	-	-	
	MYH, MOYH, JMYH	-	-	-	-	-	-	-	-	-	■	-	-	-	
M5 Compact System	MUFH	-	-	-	-	■	-	-	-	-	-	-	-	-	
Process directional control valves	VZWM-L	-	■	-	-	-	■	-	-	-	-	-	-	-	

# Solenoid coils MSF/MSN1

Type code

## Solenoid coils MSF/MSN1

		MSFG	–	24DC	–	OD
<b>Type</b>						
MSFG	F solenoid coil, for DC voltage					
MSFW	F solenoid coil, for AC voltage					
MSN1G	N1 solenoid coil, for DC voltage					
MSN1W	N1 solenoid coil, for AC voltage					
<b>Operating voltage</b>						
12DC	12 V DC					
24 DC	24 V DC					
24AC/12DC	12 V DC/24 V AC					
24DC/42 AC	24 V DC/42 V AC					
42DC	42 V DC					
24AC	24 V AC					
48AC	48 V AC					
110AC	110 V AC					
230AC	230 V AC					
240AC	240 V AC					
<b>Scope of delivery</b>						
OD	Without plug socket					
DS	With plug connector, type A					

## Solenoid coils MSF, explosion-proof

		MSFG	–	24DC	–	K5	–	M	–	EX
<b>Type</b>										
MSFG	F solenoid coil, for DC voltage									
MSFW	F solenoid coil, for AC voltage									
<b>Operating voltage</b>										
24	24 V DC									
24DC	24 V DC									
24AC	24 V AC									
24-50/60	24 V AC, 50/60 Hz									
110AC	110 V AC									
110-50/60	110 V AC, 50/60 Hz									
230AC	230 V AC									
230-50/60	230 V AC, 50/60 Hz									
<b>Cable length</b>										
	1 m									
K5	5 m									
KX	On request									
<b>ATEX specification</b>										
	II 3 GD EEx nA II T130°C X									
M	II 2 GD EExm II T5									
<b>Explosion protection</b>										
EX	Explosion-proof to EN50028									

## Solenoid coils VACS

Type codes

### Solenoid coils VACS



		VACS	-	C	-	C1	-	5
<b>Type</b>								
VACS	Solenoid coil, type S							
<b>Solenoid coil type</b>								
C	Width 20 mm, for plunger tube 8 mm							
<b>Electrical connection</b>								
C1	Connection pattern type C, to EN 175301							
<b>Operating voltage</b>								
5	12 V DC							
1	24 V DC							
7	48 V DC							
1A	24 V AC, 50/60 Hz							
7A	48 V AC, 50/60 Hz							
16B	110/120 V AC, 50/60 Hz							
3W	230/240 V AC, 50/60 Hz							

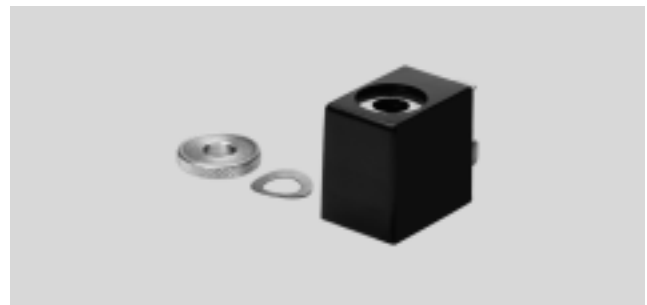
### Solenoid coils MD-2/MH-2

		MD-2	-	24VDC	-	PA
<b>Type</b>						
MD-2	Solenoid coil with knurled nut M8x0.75					
MH-2	Solenoid coil with lock nut (hex nut) G1½					
<b>Operating voltage</b>						
24VDC	24 V DC					
110VAC	110 V AC					
230VAC	230 V AC					
<b>Electrical connection</b>						
PA	Connection arrangement to EN 175301-803, type A					

# Solenoid coils MSF

## Technical data

-  Voltage  
12 ... 42 V DC  
24 ... 240 V AC
-  Temperature range  
-5 ... +40 °C
- In accordance with VDE regulation 0580, insulation class F
- Can be replaced without interrupting the pneumatic circuit
- Low power consumption and temperature rise



General technical data	
Type of mounting	Via knurled nut
Mounting position	Any (can be rotated 360° on the armature tube)
Max. tightening torque of plug socket [Nm]	0.4
Product weight [g]	55

Materials	
Solenoid coil	Duroplast, copper, steel
Note on materials	RoHS-compliant

Electrical data	
Electrical connection	3-pin Plug pins with connection pattern to Festo standard for MSSD-F
Min. pick-up time [ms]	10
Permissible voltage fluctuations [%]	±10
Duty cycle [%]	100
Switching position display	No
Degree of protection to EN 60529	IP65 with plug socket

Coil characteristics – Direct voltage			
Type	MSFG-12	MSFG-24/42	MSFG-42
Operating voltage [V DC]	12	24	42
Power	4.1 W	4.5 W	5.5 W

Coil characteristics – Alternating voltage						
Type	MSFW-24	MSFG-24/42	MSFW-48	MSFW-110	MSFW-230	MSFW-240
Operating voltage [V AC]	24	42	48	110	230	240
Pick-up power 50/60 Hz	9VA					
Holding power 50/60 Hz	7VA					
Permissible frequency fluctuations [%]	±5					
Power factor cosφ	0.7					

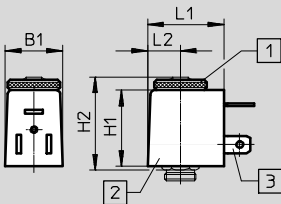
Operating and environmental conditions									
Type	MSFG-12	MSFG-42	MSFG-24/42	MSFW-24	MSFW-48	MSFW-110	MSFW-230	MSFW-240	
Ambient temperature [°C]	-5 ... +40								
CE marking (see declaration of conformity)	-						To EU Low Voltage Directive		

# Solenoid coils MSF


Data sheet

FESTO

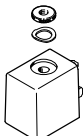
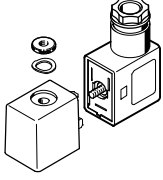

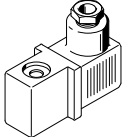
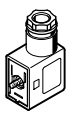

**Dimensions** Download CAD data → [www.festo.com](http://www.festo.com)



1 Retaining nut  
2 Solenoid coil  
 (can be rotated 360° on the armature tube)  
3 Plug pins for plug sockets  
 MSSD-F, KMF

 Note  
 Can only be used with aluminium valves with valve body dimensions ≥ 26 x 16 x 14 mm

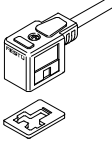


Type	B1	H1	H2	L1	L2
MSFG-...	22	29	33.8	29.5	12.5
MSFW-...					

Ordering data		Description	Part No.	Type
<b>Solenoid coil, plug pins with connection MSSD-F</b>				
	Without plug socket, with spring washer and knurled nut	12 V DC	<b>34410</b>	<b>MSFG-12DC-OD</b>
		24 V DC, 42 V AC	<b>34411</b>	<b>MSFG-24/42-50/60-OD</b>
		42 V DC	<b>34413</b>	<b>MSFG-42DC-OD</b>
		24 V AC	<b>34415</b>	<b>MSFW-24AC-OD</b>
		48 V AC	<b>34418</b>	<b>MSFW-48AC-OD</b>
		110 V AC	<b>34420</b>	<b>MSFW-110AC-OD</b>
		230 V AC	<b>34422</b>	<b>MSFW-230AC-OD</b>
		240 V AC	<b>34424</b>	<b>MSFW-240AC-OD</b>
	With plug socket, with spring washer and knurled nut	12 V DC	<b>4526</b>	<b>MSFG-12</b>
		24 V DC, 42 V AC	<b>4527</b>	<b>MSFG-24/42-50/60</b>
		24 V AC	<b>4534</b>	<b>MSFW-24-50/60</b>
		110 V AC	<b>6720</b>	<b>MSFW-110-50/60</b>
		120 V AC/60Hz		
		220/230 V AC 240V AC/60Hz	<b>4540</b>	<b>MSFW-230-50/60</b>
<b>Solenoid coil, plug connector to EN 175301-803, type A</b>				
	Without plug socket, with spring washer and knurled nut	24 V DC	<b>34412</b>	<b>MSFG-24/42-50/60-DS-OD</b>
		42 V AC 50/60Hz		
		230 V AC	<b>175118</b>	<b>MSFW-230-50/60-DS-OD</b>
	With plug socket, with spring washer and knurled nut, plug connector can be repositioned by 180°	24 V DC	<b>13264</b>	<b>MSFG-24/42-50/60-DS</b>
		42 V AC 50/60Hz		
		110 V AC	<b>13265</b>	<b>MSFW-110-50/60-DS</b>
230 V AC	<b>13266</b>	<b>MSFW-230-50/60-DS</b>		
<b>Plug socket</b>				
	Cable connection using clamping screws		<b>34431</b>	<b>MSSD-F</b>
	Cable connection using insulation displacement technology		<b>192746</b>	<b>MSSD-F-S-M16</b>

# Solenoid coils MSF

Data sheet



**FESTO**

Ordering data					
	Description	Part No.	Type		
Plug socket with cable					
	Operating voltage 24 V DC, switching status indication via LED	Cable length 2.5 m	<b>30935</b>	<b>KMF-1-24DC-2,5-LED</b>	
		Cable length 5 m	<b>30937</b>	<b>KMF-1-24DC-5-LED</b>	
		Cable length 10 m	<b>193458</b>	<b>KMF-1-24DC-10-LED</b>	
	Operating voltage up to 240 V	Cable length 2.5 m	<b>30936</b>	<b>KMF-1-230AC-2,5</b>	
		Cable length 5 m	<b>30938</b>	<b>KMF-1-230AC-5</b>	
Illuminating seal					
	Operating voltage 12 ... 24 V DC	<b>19143</b>	<b>MF-LD-12-24DC</b>		
	Operating voltage 230 V DC/V AC	<b>19144</b>	<b>MF-LD-230AC</b>		
Inscription label					
	Scope of delivery: 35 labels in frames	<b>33362</b>	<b>KMC/F/V-BZ-35X</b>		

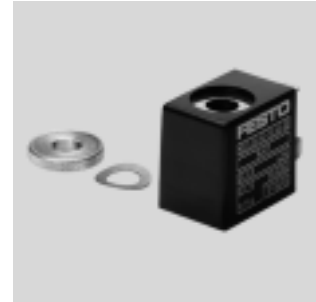
# Solenoid coils MSF...-EX

Technical data

FESTO

-  Voltage  
24 V DC  
24 ... 240 V AC
-  Temperature range  
-5 ... +40 °C

- In accordance with ATEX directive
- In accordance with VDE regulation 0580, insulation class F
- Cable or plug connection
- Can be replaced without interrupting the pneumatic circuit
- Manifold mounting permissible (minimum distance from coil to coil 5 mm)



General technical data		
Type	MSF...-M	MSF
Min. pick-up time	[ms]	10
Type of mounting	Via knurled nut	
Mounting position	Any (can be rotated 360° on the armature tube)	
Product weight	[g]	170
		55

Materials		
Type	MSF...-M	MSF
Solenoid coil	Steel, copper, aluminium, epoxy resin	Steel, copper, duroplast
Winding	Copper	Copper
Note on materials	RoHS-compliant	RoHS-compliant

Electrical data					
Type	MSFG-...-M-EX	MSFW-...-M-EX	MSFG-24-EX	MSFW-...-50/60-EX	
Electrical connection	-		3-pin		
	Cable		Plug pins with connection pattern to Festo standard for MSSD-F		
Conductor nominal cross section	[mm <sup>2</sup> ]	0.75	-		
Min. pick-up time	[ms]	10			
Permissible voltage fluctuations	[%]	±10			
Permissible frequency fluctuations	[%]	-	±5	-	±5
Duty cycle	[%]	100			
Power factor cosφ		-		0.7	
Switching position display		No			
Degree of protection to EN 60529		IP65 with plug socket			

Coil characteristics – Solenoid coils with connecting cable					
Type	MSFG-24DC-...-M-EX	MSFW-24AC-...-M-EX	MSFW-110AC-...-M-EX	MSFW-230AC-...-M-EX	
Nominal operating voltage	[V]	24 DC	24 AC	110 AC	230 V AC
Performance		4.3 W	4.4VA	4.4VA	4.2VA

Coil characteristics – Solenoid coils with plug pins					
Type	MSFG-24-EX	MSFW-24-50/60-EX	MSFW-110-50/60-EX	MSFW-230-50/60-EX	
Nominal operating voltage	[V]	24 DC	24 V AC	110 V AC	230 V AC
Performance		4.5 W	-	-	-
Pick-up power	50/60 Hz	-	9VA	9VA	9VA
Holding power	50/60 Hz	-	7VA	7VA	7VA



# Solenoid coils MSF...-EX

Data sheet

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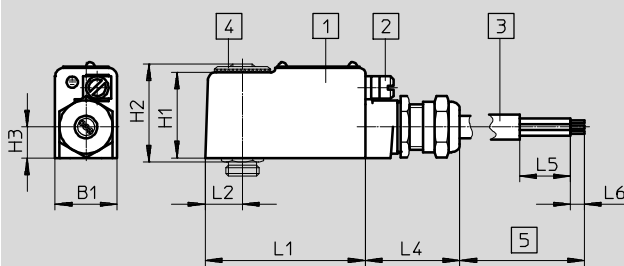
Operating and environmental conditions – Solenoid coils with connecting cable		
Type	MSFG-...-M-EX	MSFW-...-M-EX
Ambient temperature [°C]	-20 ... +40	-20 ... +40
ATEX category for gas	II 2G	II 2G
Explosion ignition protection type for gas	Ex mb II T5	Ex mb II T5
ATEX category for dust	II 2D	II 2D
Explosion ignition protection type for dust	Ex tD A21 IP65 T95°C	Ex tD A21 IP65 T95°C
Notified body for the quality inspection	0123	0123
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)	To EU Explosion Protection Directive (ATEX) To EU Low Voltage Directive

Operating and environmental conditions – Solenoid coils with plug pins		
Type	MSFG-24-EX, MSPW-24-50/60-EX	MSPW-110-50/60-EX, MSPW-230-50/60-EX
Ambient temperature [°C]	-5 ... +40	-5 ... +40
ATEX ambient temperature [°C]	$-5 \leq T_a \leq +40$	$-5 \leq T_a \leq +40$
ATEX specification	II 3 GD EEx nA II T130°C X	II 3 GD EEx nA II T130°C X
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)	To EU Explosion Protection Directive (ATEX) To EU Low Voltage Directive

## Dimensions

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

### MSF...-M-EX



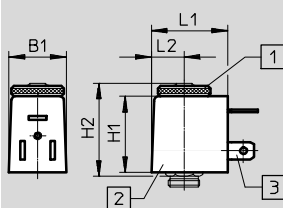
- 1 Solenoid coil
- 2 Protective earth connection
- 3 Heat-resistant rubber tubing,  $\varnothing 6.1 \dots 7.9 \text{ mm}$
- 4 Retaining nut (tightening torque 100 ... 150 Ncm)
- 5 Cable length

-  - Note

Can only be used with aluminium valves with valve body dimensions  $\geq 25 \times 25 \times 17 \text{ mm}$

Type	B1	H1	H2	H3	L1	L2	L4	L5	L6
MSFG-...-M-EX	22	30	35	11	57	13.3	33.6	50	10
MSFW-...-M-EX									

### MSF...-EX



- 1 Retaining nut (tightening torque 0.4 Nm)
- 2 Solenoid coil
- 3 Plug pins for plug sockets MSSD-F, KMF

-  - Note

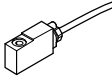
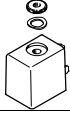

Can only be used with aluminium valves with valve body dimensions  $\geq 26 \times 16 \times 14 \text{ mm}$

Type	B1	H1	H2	L1	L2
MSFG-...-EX	22	29	33.8	29.5	12.5
MSFW-...-EX					

# Solenoid coils MSF...-EX



Data sheet

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Ordering data					
Description		Part No.	Type		
<b>Solenoid coil</b>					
	With connecting cable, explosion-proof, moulded-on cable, with spring washer and knurled nut	24 V DC	Cable length 1 m	<b>535619</b>	<b>MSFG-24DC-M-EX</b>
			Cable length 5 m	<b>535621</b>	<b>MSFG-24DC-K5-M-EX</b>
			Cable length on request	<b>538215</b>	<b>MSFG-24DC-KX-M-EX</b>
		24 V AC	Cable length 1 m	<b>535623</b>	<b>MSFW-24AC-M-EX</b>
			Cable length on request	<b>538216</b>	<b>MSFW-24AC-KX-M-EX</b>
		110 V AC	Cable length 1 m	<b>535622</b>	<b>MSFW-110AC-M-EX</b>
			Cable length 5 m	<b>535624</b>	<b>MSFW-110AC-K5-M-EX</b>
			Cable length on request	<b>538218</b>	<b>MSFW-110AC-KX-M-EX</b>
		230 V AC	Cable length 1 m	<b>535620</b>	<b>MSFW-230AC-M-EX</b>
			Cable length 5 m	<b>535625</b>	<b>MSFW-230AC-K5-M-EX</b>
			Cable length on request	<b>538217</b>	<b>MSFW-230AC-KX-M-EX</b>
			With plug pins, explosion-proof, without plug socket, with spring washer and knurled nut	24 V DC	<b>536931</b>
24 V AC	<b>536932</b>			<b>MSFW-24-50/60-EX</b>	
110 V AC	<b>536933</b>			<b>MSFW-110-50/60-EX</b>	
230 V AC	<b>536934</b>			<b>MSFW-230-50/60-EX</b>	
<b>Plug socket</b>					
	Cable connection using clamping screws	<b>34431</b>	<b>MSSD-F</b>		

# Solenoid coils MSN1

## Technical data

-  Voltage  
12 V DC  
24 V DC  
24 ... 230 V AC
-  Temperature range  
-10 ... +50 °C
- In accordance with VDE regulation 0580, insulation class F
- Can be replaced without interrupting the pneumatic circuit
- Connection pattern to EN 175301-803 type A
- Free of copper, PTFE and silicone



General technical data	
Type of mounting	Clamped using retaining clamp
Mounting position	Any (can be rotated 360° on the armature tube)
Product weight [g]	80

Materials	
Housing	PA
Pin contact	Steel
Winding	Copper
Note on materials	Free of copper and PTFE

Electrical data				
Type	MSN1G-24DC-OD	MSN1W-110AC-OD	MSN1W-230AC-OD	MSN1W-24AC/12DC
Electrical connection	Plug pins, 3-pin, with connection pattern to EN 175301-803 type A			
	-	-	-	Clip-on
Min. pick-up time [ms]	10			
Permissible voltage fluctuations [%]	-15 / +10	At 50 Hz: ±10 At 60 Hz: -10 ... +20	±10	At 50 Hz: ±10 At 60 Hz: -10 ... +20
Duty cycle [%]	100			
Degree of protection to EN 60529	IP65 with plug socket			

Coil characteristics – Direct voltage	
Type	MSN1G-24DC-OD
Operating voltage [V DC]	24
Power	2.5 W

Coil characteristics – Alternating voltage			
Type	MSN1W-24AC/12DC	MSN1W-110AC-OD	MSN1W-230AC-OD
Operating voltage [V AC]	24	110	230
Pick-up power	50 Hz	7.5 VA	
	60 Hz	5.0 VA	
Holding power	50 Hz	5.0 VA	
	60 Hz	3.7 VA	
Power factor cosφ	0.7		

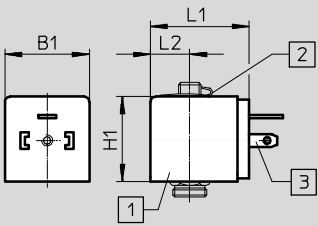
Operating and environmental conditions				
Type	MSN1G-24DC-OD	MSN1W-110AC-OD	MSN1W-230AC-OD	MSN1W-24AC/12DC
Ambient temperature [°C]	-10 ... +50			
Temperature of medium [°C]	-10 ... +50			
CE marking (see declaration of conformity)	-	To EU Low Voltage Directive		-
Certification	c UL us - Recognized (OL)	Germanischer Lloyd	Germanischer Lloyd	-

# Solenoid coils MSN1

Data sheet

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




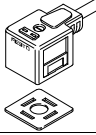




1 Solenoid coil  
 (can be rotated 360° on the armature tube)

2 Safety clip



3 Plug pins with connection pattern to EN 175301-803, type A

Type	B1	H1	L1	L2
MSN1...	30	30	35.5	14.5

Ordering data				
	Description		Part No.	Type
<b>Solenoid coil</b>				
	Without plug socket, with mounting clip, connection pattern to EN 175301-803 type A	24 V DC	<b>123060</b>	<b>MSN1G-24DC-OD</b>
		12 V DC, 24 V AC	<b>170152</b>	<b>MSN1W-24AC/12DC</b>
		110/120 V AC	<b>123061</b>	<b>MSN1W-110AC-OD</b>
		230 V AC	<b>123062</b>	<b>MSN1W-230AC-OD</b>
<b>Plug socket</b>				
	Cable connection using clamping screws		<b>34583</b>	<b>MSSD-C</b>
	Cable connection using insulation displacement technology		<b>192748</b>	<b>MSSD-C-S-M16</b>
<b>Plug socket with cable</b>				
	Operating voltage 24 V DC, switching status indication via LED	Cable length 2.5 m	<b>30931</b>	<b>KMC-1-24DC-2,5-LED</b>
		Cable length 5 m	<b>30933</b>	<b>KMC-1-24DC-5-LED</b>
		Cable length 10 m	<b>193459</b>	<b>KMC-1-24DC-10-LED</b>
	Operating voltage up to 240 V	Cable length 2.5 m	<b>30932</b>	<b>KMC-1-230AC-2,5</b>
		Cable length 5 m	<b>30934</b>	<b>KMC-1-230AC-5</b>
<b>Illuminating seal</b>				
	Operating voltage 12 ... 24 V DC		<b>19145</b>	<b>MC-LD-12-24DC</b>
	Operating voltage 230 V DC/V AC		<b>19146</b>	<b>MC-LD-230AC</b>
<b>Inscription label</b>				
	Scope of delivery: 35 labels in frames		<b>33362</b>	<b>KMC/F/V-BZ-35X</b>

## Solenoid coils VACS

### Technical data

-  Voltage  
12 ... 48 V DC  
24 ... 240 V AC
-  Temperature range  
-10 ... +50 °C
- In accordance with VDE regulation 0580, insulation class H
- Connection pattern to EN 175301-803 type C
- Can be replaced without interrupting the pneumatic circuit



### General technical data

Type of mounting	Via knurled nut
Mounting position	Any (can be rotated 360° on the armature tube)

### Materials

Housing seal set	Aluminium, HNBR
Solenoid coil	Copper, steel, thermoplastic
Winding	Copper
Note on materials	RoHS-compliant

### Electrical data

Electrical connection	Plug pins, 3-pin, with connection pattern to EN 175301-803 type C
Permissible voltage fluctuations [%]	-10 / +10
Duty cycle [%]	100
Degree of protection to EN 60529	IP65 with plug socket

### Coil characteristics – Direct voltage

Type	VACS-C-C1-5	VACS-C-C1-1	VACS-C-C1-7
Operating voltage [V DC]	12	24	48
Power	2.6 W	2.4 W	2.4 W

### Coil characteristics – Alternating voltage

Type	VACS-C-C1-1A	VACS-C-C1-7A	VACS-C-C1-16B	VACS-C-C1-3W
Operating voltage [V AC]	24	48	110/120	230/240
Pick-up power	50 Hz	2.5 VA	2.5 VA	3.0 VA
	60 Hz	2.3 VA	2.3 VA	2.7 VA
Holding power	50 Hz	1.8 VA	1.9 VA	2.3 VA
	60 Hz	1.6 VA	1.6 VA	2.0 VA

### Operating and environmental conditions

Ambient temperature [°C]	-10 ... +50
Corrosion resistance class CRC <sup>1)</sup>	2

1) Corrosion resistance class 2 according to Festo standard 940070

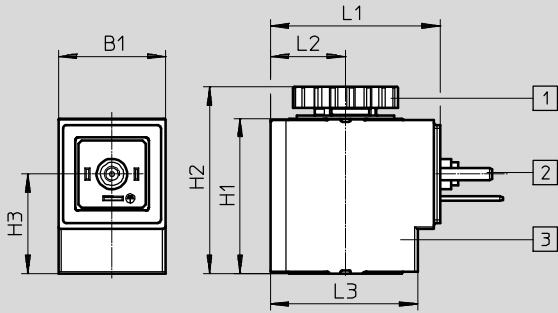
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

# Solenoid coils VACS

Technical data

## Dimensions



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- 1 Knurled nut (seal set for solenoid coil)
- 2 Plug pattern to EN 175301-803, type C
- 3 Solenoid coil (can be rotated 360° on the armature tube)



Type	B1	H1	H2	H3	L1	L2	L3
VACS-C-C1-...	17.6	25.4	30.6	16.3	27.8	12.3	24.1

## Ordering data

	Description	Part No.	Type
<b>Solenoid coil</b>			
	Without socket, attached using seal set, connection pattern to EN 175301-803 type C	12 V DC	<b>8025331</b> VACS-C-C1-5
		24 V DC	<b>8025330</b> VACS-C-C1-1
		48 V DC	<b>8025336</b> VACS-C-C1-7
		24 V AC	<b>8025335</b> VACS-C-C1-1A
		48 V AC	<b>8025337</b> VACS-C-C1-7A
		110/120 V AC	<b>8025334</b> VACS-C-C1-16B
		230/240 V AC	<b>8025338</b> VACS-C-C1-3W
<b>Seal set</b>			
	For solenoid coil VACS-C-C1-...	<b>2643771</b>	<b>VAMC-B10-C-B-S8</b>

# Solenoid coils MD-2/MH-2

## Technical data

-  Voltage  
24 V DC  
110, 230 V AC
-  Temperature range  
-20 ... +50 °C
- Can be replaced without interrupting the pneumatic circuit
- Connection pattern to EN 175301-803 type A



General technical data		
Type	MD-2	MH-2
Type of mounting	Via knurled nut	Via lock nut
Max. tightening torque of fitting [Nm]	0.5	2
Mounting position	any	
Product weight [g]	110	150

Materials		
Type	MD-2	MH-2
Solenoid coil	Duroplast, copper, steel	
Winding	Copper	
Note on materials	-	Contains PWIS (paint-wetting impairment substances)

Electrical data				
Type	MD-2-24VDC	MD-2-...110VAC	MH-2-24VDC	MH-2-...110VAC
Electrical connection	Plug pins with connection pattern to EN 175301-803, type A			
Min. pick-up time [ms]	-		12	
Permissible voltage fluctuations [%]	±10			
Duty cycle [%]	100			
Switching position display	No			
Degree of protection to EN 60529	IP65 with plug socket			

Coil characteristics – Direct voltage		
Type	MD-2-24VDC	MH-2-24VDC
Operating voltage [V DC]	24	24
Power	6.8 W	7.6 W

Coil characteristics – Alternating voltage				
Type	MD-2-110VAC	MD-2-230VAC	MH-2-110VAC	MH-2-230VAC
Operating voltage [V AC]	110	230	110	230
Power	-	-	14 VA	14 VA
Pick-up power 50/60 Hz	14.5 VA	14.5 VA	-	-
Holding power 50/60 Hz	10.5 VA	10.5 VA	-	-
Permissible frequency fluctuations [%]	±10			
Power factor cosφ	0.7			

Operating and environmental conditions				
Type	MD-2-24VDC	MD-2-...VAC	MH-2-24VDC	MH-2-...VAC
Ambient temperature [°C]	-20 ... +50			
CE marking (see declaration of conformity)	-	To EU Low Voltage Directive	-	To EU Low Voltage Directive

# Solenoid coils MD-2/MH-2

Data sheet

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

MD-2-...

1 Knurled nut M8x0.75      3 Solenoid coil  
 2 Plug pattern to EN 175301-803, type A

MH-2-...

1 Lock nut (hex nut) G1/8      3 Solenoid coil  
 2 Plug pattern to EN 175301-803, type A

Type	B1	H1	H2	H3	L1	L2	L3
MD-2-...	30	29.5	34.3	15.3	35.5	14.7	-
MH-2-...	35.8	42.1	45.9	27.6	45.5	18	39.8

Ordering data		Part No.	Type
<b>Solenoid coil</b>			
	MD coil, without plug socket, connection pattern to EN 175301-803 type A	24 V DC	<b>549903</b> MD-2-24VDC-PA
		110 V AC	<b>549904</b> MD-2-110VAC-PA
		230 V AC	<b>549905</b> MD-2-230VAC-PA
	MH coil, without plug socket, connection pattern to EN 175301-803 type A	24 V DC	<b>549906</b> MH-2-24VDC-PA
		110 V AC	<b>549907</b> MH-2-110VAC-PA
		230 V AC	<b>549908</b> MH-2-230VAC-PA
<b>Plug socket</b>			
	3-pin, square design MSF	<b>550067</b>	<b>MSSD-N</b>