

Basic valves VZWE, solenoid actuated



# Basic valves VZWE, solenoid actuated

Key features and product range overview



## Function

Basic valves VZWE are piloted 2/2-way valves. They generate pulses of compressed air using a suitable solenoid coil for mechanically cleaning filters and dust filter systems. The valves are actuated using short electrical pulses. These

pulses generate short pulses of compressed air at the output of the valve, which travel through the filter against the normal direction of flow of the filter system to release adhering particles from the filter.

## General information      Design      Advantages      Application

- - Connecting thread  
G $\frac{3}{4}$  ... G2 $\frac{1}{2}$
- - Flow rate Kv  
15 ... 210 m<sup>3</sup>/h

- 2/2-way NC valve with diaphragm

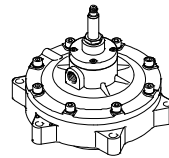
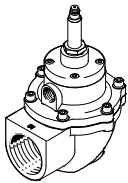
- High flow rates
- Fast opening and closing times
- Sturdy pilot system

- Used in various filter systems for cleaning the filter elements
- Product filter systems
- Supply air filter systems
- Exhaust air filter systems

## Variants

Angle valve, angle design

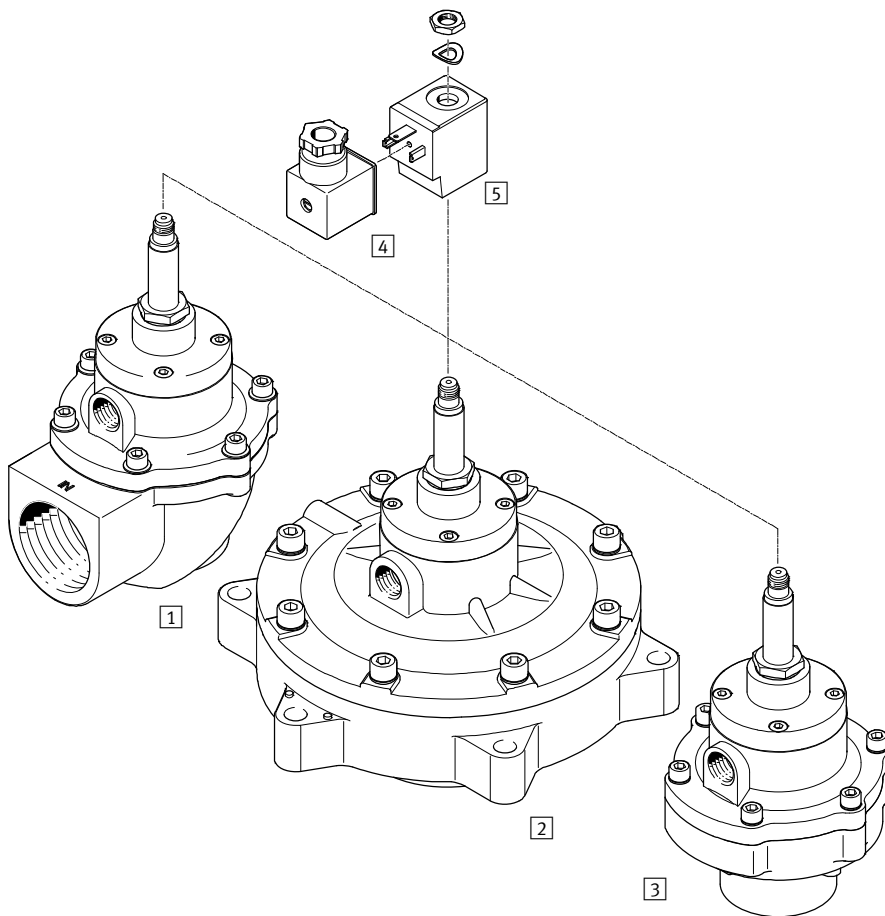
Flanged valve, straight design



Design	Type	Process valve connection	Nominal size DN	→ Page/Internet
<b>Angle valve, angle design</b>				
	VZWE-E-...	G $\frac{3}{4}$	20	5
		G1	25	
		G1 $\frac{1}{2}$	40	
		G2	50	
		G2 $\frac{1}{2}$	62	
<b>Flanged valve, straight design</b>				
	VZWE-F-...	G1	25	8
		G1 $\frac{1}{2}$	40	
		F600	50	
		F750	62	
		F890	76	

# Basic valves VZWE, solenoid actuated

Peripherals overview



Mounting components and accessories		
	Brief description	→ Page/Internet
1	Angle valve VZWE-E-...-M-...-H	5
2	Flanged valve VZWE-F-...-M-...-H	8
3	Angle valve VZWE-E-...-M-...-H	5
4	Plug socket MSSD-C	13
5	Solenoid coil VACN	13

# Basic valves VZWE, solenoid actuated

Type codes

VZWE - E - M22C - M - G2 - 500 - H

### Type

VZWE	Basic valves, solenoid actuated
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### Type of directional control valve

E	Angle valve (angle design)
F	Flanged valve (straight design)

### Valve function

M22C	2/2-way valve, single solenoid
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### Reset method for single solenoid valves

M	Mechanical spring
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### Process valve connection

#### Pipe thread to DIN ISO 228

G34	Thread G $\frac{3}{4}$
G1	Thread G1
G112	Thread G1 $\frac{1}{2}$
G2	Thread G2
G212	Thread G2 $\frac{1}{2}$

#### Flange diameter

F600	60 mm
F750	75 mm
F890	89 mm

### Nominal size

200	20 mm
250	25 mm
400	40 mm
500	50 mm
620	62 mm
760	76 mm

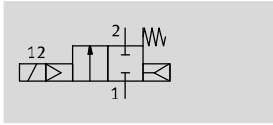
### Electrical connection

H	14 mm, with armature tube
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# Basic valves VZWE, solenoid actuated

Technical data – Angle valve

Function



- - Flow rate Kv  
15 ... 95 m<sup>3</sup>/h

- - Connecting thread  
G<sup>3</sup>/<sub>4</sub> ... G2<sup>1</sup>/<sub>2</sub>



General technical data						
Nominal size	[mm]	20	25	40	50	62
Valve function		2/2-way, single solenoid, closed				
Manual override		None				
Design		Diaphragm valve, angle design				
Reset method		Mechanical spring				
Type of control		Piloted				
Actuation type		Electric				
Type of mounting		Via thread, screwed in				
Mounting position		Any				
Direction of flow		Non-reversible				
Switching time on	[ms]	≤30				
Switching time off	[ms]	≤100				
Flow rate Kv	[m <sup>3</sup> /h]	15	22	48	78	95
Process valve connection 1		G <sup>3</sup> / <sub>4</sub>	G1	G1 <sup>1</sup> / <sub>2</sub>	G2	G2 <sup>1</sup> / <sub>2</sub>
Process valve connection 2		G <sup>3</sup> / <sub>4</sub>	G1	G1 <sup>1</sup> / <sub>2</sub>	G2	G2 <sup>1</sup> / <sub>2</sub>

Operating and environmental conditions	
Medium	Compressed air according to ISO 8573-1:2010 [7:4:4]
Note about the operating/pilot medium	Lubricated operation not possible
Medium pressure	[bar] 0.35 ... 8
Differential pressure	[bar] 0.35
Ambient temperature	[°C] -20 ... 60
Protection class	IP65
Corrosion resistance class CRC <sup>1)</sup>	3

1) Corrosion resistance class 3 according to Festo standard 940 070  
Components subject to high corrosion stress. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

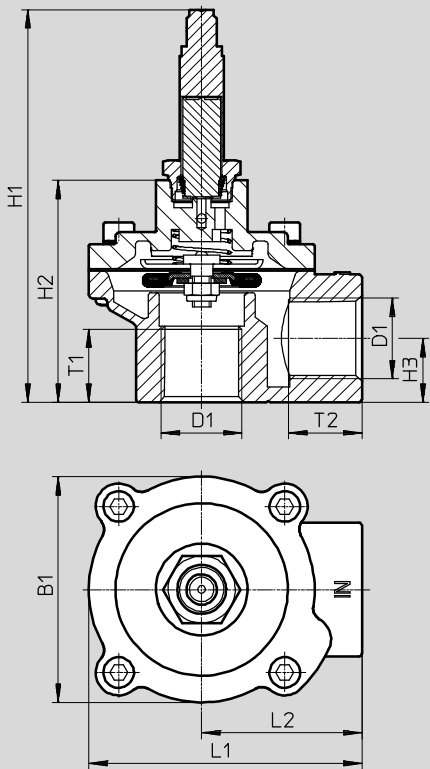
Materials		
Basic valves		Material number
1	Valve housing	Die-cast aluminium EN AC-47100D
2	Screws	High-alloy steel 1.4301
3	Armature tube	High-alloy steel -
-	Seal	Nitrile rubber -
-	Diaphragm	Nitrile rubber/polyamide -
-	Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant -

# Basic valves VZWE, solenoid actuated

Technical data – Angle valve

Dimensions

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



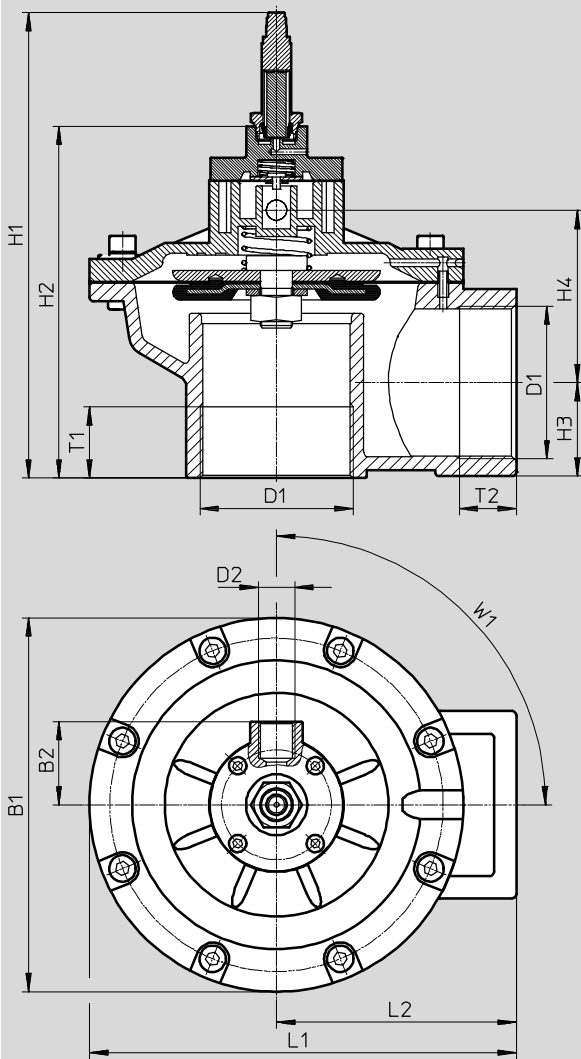
Type	B1	D1	H1	H2	H3	L1	L2	T1	T2
VZWE-E-M22C-M-G34-200-H	74	G3/4	128.8	72.8	21	89.5	52.5	24	24
VZWE-E-M22C-M-G1-250-H	74	G1	128.8	72.8	21	89.5	52.5	24	21.5

# Basic valves VZWE, solenoid actuated

Technical data – Angle valve

## Dimensions

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



Type	B1	B2	D1	D2	H1	H2	H3	H4	L1	L2	T1	T2	W1
VZWE-E-M22C-M-G112-400-H	112	39	G1½	G¾	187	131.5	31.5	59.8	124	74	34	34	0
VZWE-E-M22C-M-G2-500-H	184	41	G2	G¾	210	154	40	72.8	205	92	25	25	90
VZWE-E-M22C-M-G212-620-H	184	41	G2½	G¾	229	173	47	131.8	210	92	35	28	90

## Ordering data – Basic valves VZWE

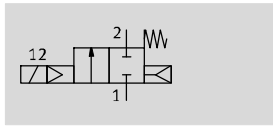
	Process valve connection	Weight [g]	Part No.	Type
	G¾	420	1794182	VZWE-E-M22C-M-G¾-200-H
	G1	420	1795142	VZWE-E-M22C-M-G1-250-H
	G1½	1,300	1239565	VZWE-E-M22C-M-G1½-400-H
	G2	2,800	1276955	VZWE-E-M22C-M-G2-500-H
	G2½	3,100	1281702	VZWE-E-M22C-M-G2½-620-H

# Basic valves VZWE, solenoid actuated

Technical data – Flanged valve

FESTO

Function



Flow rate Kv  
22 ... 210 m<sup>3</sup>/h

Connecting thread  
Ø 92 ... 162



General technical data						
Nominal size	[mm]	25	40	50	62	76
Valve function		2/2-way, single solenoid, closed				
Manual override		None				
Design		Diaphragm valve, straight design with flange				
Reset method		Mechanical spring				
Type of control		Piloted				
Actuation type		Electric				
Type of mounting		Via thread, screwed in				
Mounting position		Any				
Direction of flow		Non-reversible				
Switching time on	[ms]	≤30				
Switching time off	[ms]	≤100				
Flow rate	[m <sup>3</sup> /h]	22	48	78	95	210
Process valve connection 1	[mm]	G1	G1½	60	75	89
Process valve connection 2	[mm]	59	74	145.5	145.5	162

Operating and environmental conditions	
Medium	Compressed air according to ISO 8573-1:2010 [7:4:4]
Note about the operating/pilot medium	Lubricated operation not possible
Medium pressure	[bar] 0.35 ... 8
Differential pressure	[bar] 0.35
Ambient temperature	[°C] –20 ... 60
Protection class	IP65
Corrosion resistance class CRC <sup>1)</sup>	3

1) Corrosion resistance class 3 according to Festo standard 940 070  
Components subject to high corrosion stress. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

Materials		
Basic valves		Material number
1	Housing	Die-cast aluminium EN AC-47100D
2	Screws	High-alloy steel 1.4301
3	Armature tube	High-alloy steel –
–	Seal	Nitrile rubber –
–	Diaphragm	Nitrile rubber/polyamide –
–	Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant –

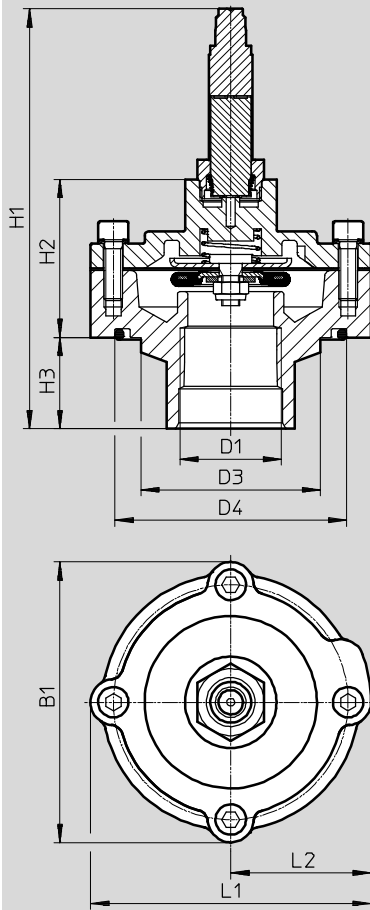


# Basic valves VZWE, solenoid actuated

Technical data – Flanged valve

Dimensions

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



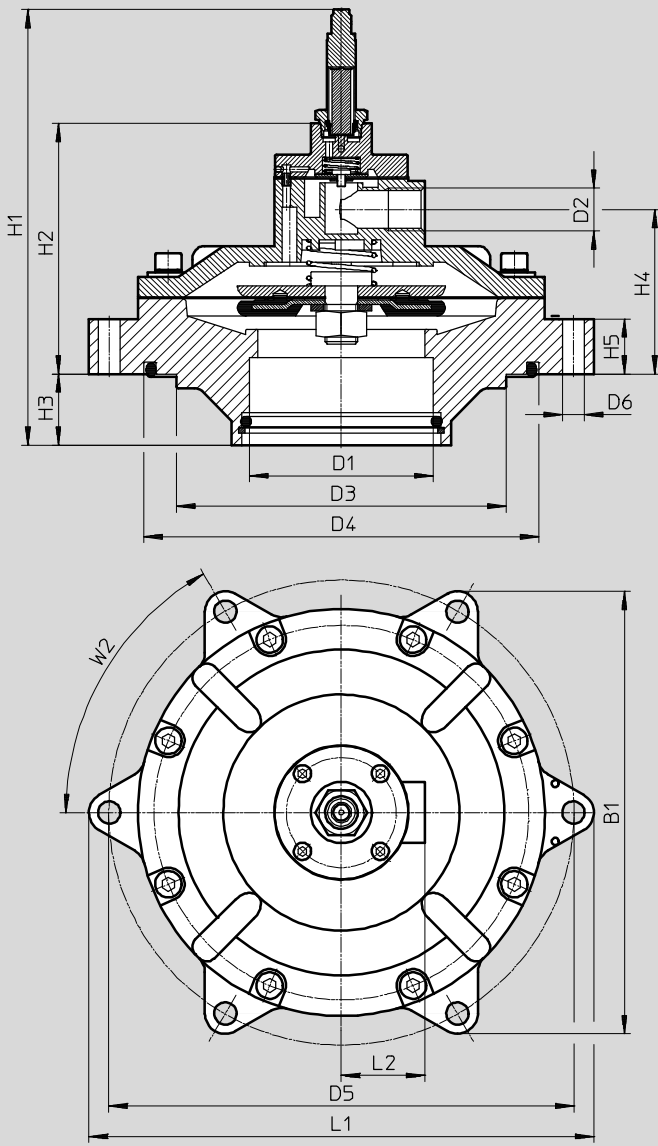
Type	B1	D1	D3 ∅	D4 ∅	H1	H2	H3	L1	L2
VZWE-F-M22C-M-G1-250-H	92	G1	59	76	137.8	51.8	30	92	46

# Basic valves VZWE, solenoid actuated

Technical data – Flanged valve

Dimensions

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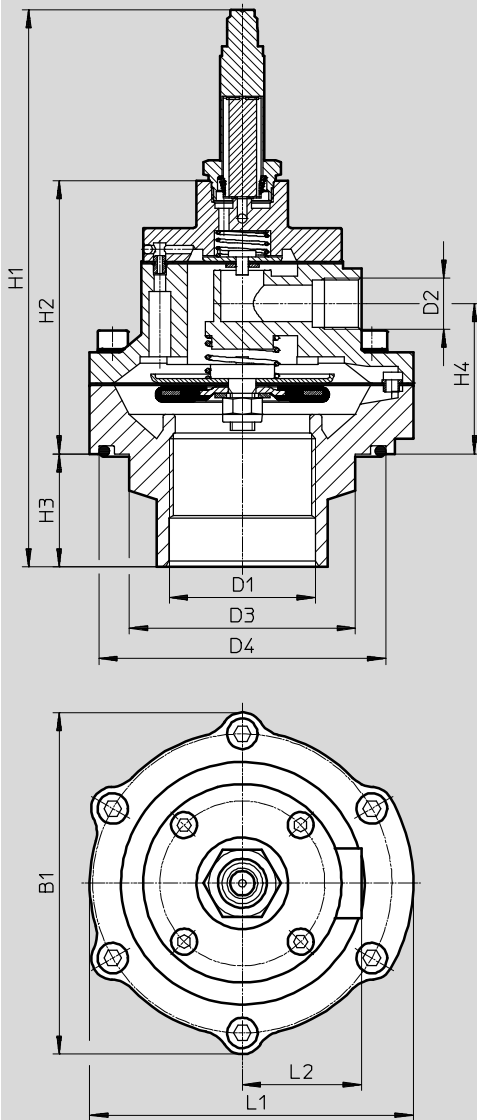
Type	B1	D1	D2	D3	D4	D5	D6	H1	H2	H3	H4	H5	L1	L2	W2
VZWE-F-M22C-M-F600-500-H	200	60	G3/8	145.5	174	208	11	205	114	35	72.8	27	228	41	60
VZWE-F-M22C-M-F750-620-H	200	75	G3/8	145.5	174	208	11	205	114	35	72.8	27	228	41	60
VZWE-F-M22C-M-F890-760-H	217	89	G1/2	162	194	228	11	214	123	35	80.8	27	248	41	60

# Basic valves VZWE, solenoid actuated

Technical data – Flanged valve


## Dimensions

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Type	B1	D1	D2	D3 Ø	D4 Ø	H1	H2	H3	H4	L1	L2
VZWE-F-M22C-M-G112-400-H	112	G1½	G¾	74	94	182.5	89.6	37	49.3	112	39



## Ordering data – Basic valves VZWE

	Process valve connection	Weight [g]	Part No.	Type
	G1	430	1795190	VZWE-F-M22C-M-G1-250-H
	G1½	950	1804475	VZWE-F-M22C-M-G112-400-H
	F600	3,300	1808248	VZWE-F-M22C-M-F600-500-H
	F750	3,100	1810664	VZWE-F-M22C-M-F750-620-H
	F890	3,600	1214036	VZWE-F-M22C-M-F890-760-H

# Solenoid coils VACN

Accessories

FESTO

-  Voltage  
24 V DC  
110, 230 V AC
-  Temperature range  
-20 ... +50 °C



General technical data		VACN-H1-A1-1	VACN-H1-A1-2A	VACN-H1-A1-3A
Mounting position		Any		
Switching position display		No		
Type of mounting		Via lock nut		
Electrical connection		Plug to DIN EN 175301-803, square design, type A		
Duty cycle	[%]	100		
Efficiency factor	cos(phi)	0.7		
Product weight	[g]	150		
Note on materials		Contains PWIS (paint-wetting impairment substances), RoHS-compliant		
Information on materials	Solenoid coil	Copper, steel, thermoplastic		
Coil characteristics	24 V DC [W]	11.9	-	-
	110 V AC, 60 Hz [VA]	-	18.5	-
	230 V AC, 60 Hz [VA]	-	-	18.8

Operating and environmental conditions		VACN-H1-A1-1	VACN-H1-A1-2A	VACN-H1-A1-3A
Protection class		IP65		
Permissible voltage fluctuations	[%]	-10 ... 10		
Permissible frequency fluctuations	[%]	-10 ... 10		
CE marking (see declaration of conformity)		-	To EU Low Voltage Directive	To EU Low Voltage Directive
Ambient temperature	[°C]	-20 ... 50		
Restricted ambient and media temperature	[°C]	-20 ... 60 (with restricted duty cycle)		

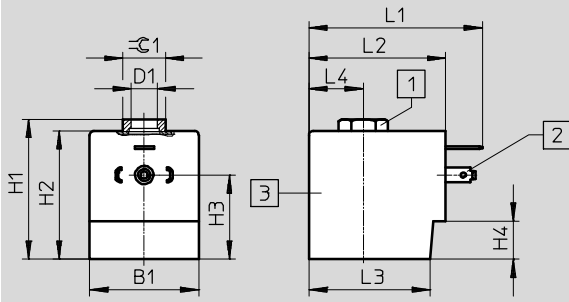
# Solenoid coils VACN

Accessories

FESTO

## Dimensions


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




- 1 Hex nut G $\frac{1}{8}$
- 2 Plug pattern to EN 175301-803, type A
- 3 Solenoid coil

Type	B1	D1	H1	H2	H3	H4	L1	L2	L3	L4	$\pm$ 1
	-0.2		+1 ... -0.5	+0.3				+0.2 ... -0.4			
VACN-H1-A1-1	35.8	G $\frac{1}{8}$	45.9	42.1	27.6	12.5	57	45	39.8	17.9	14
VACN-H1-A1-2A											
VACN-H1-A1-3A											

## Ordering data – Solenoid coils VACN

	Coil data	Part No.	Type
		24 V DC $\pm$ 10%, 11.9 W	<b>8022877</b>
	110 V AC $\pm$ 10%, 60 Hz, 18.5 VA	<b>8022878</b>	<b>VACN-H1-A1-2A</b>
	230 V AC $\pm$ 10%, 60 Hz, 18.8 VA	<b>8022879</b>	<b>VACN-H1-A1-3A</b>

## Ordering data – Plug socket MSSD

	Description	Cable connector	Part No.	Type
		Plug socket for valves with N1 solenoid coils, 3-pin	Pg9	<b>34583</b>