

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

-  - Connecting thread
G $\frac{3}{4}$... G2 $\frac{1}{2}$
-  - Flow rate Kv
15 ... 210 m³/h

Design

- 2/2-way NC valve with diaphragm

Advantages

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

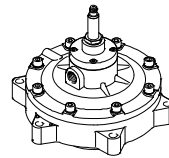
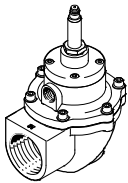
Application

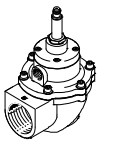
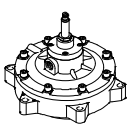
- Used in various filter systems for cleaning the filter elements
- Product filter systems
- Supply air filter systems
- Exhaust air filter systems

Variants

Angle valve, angle design

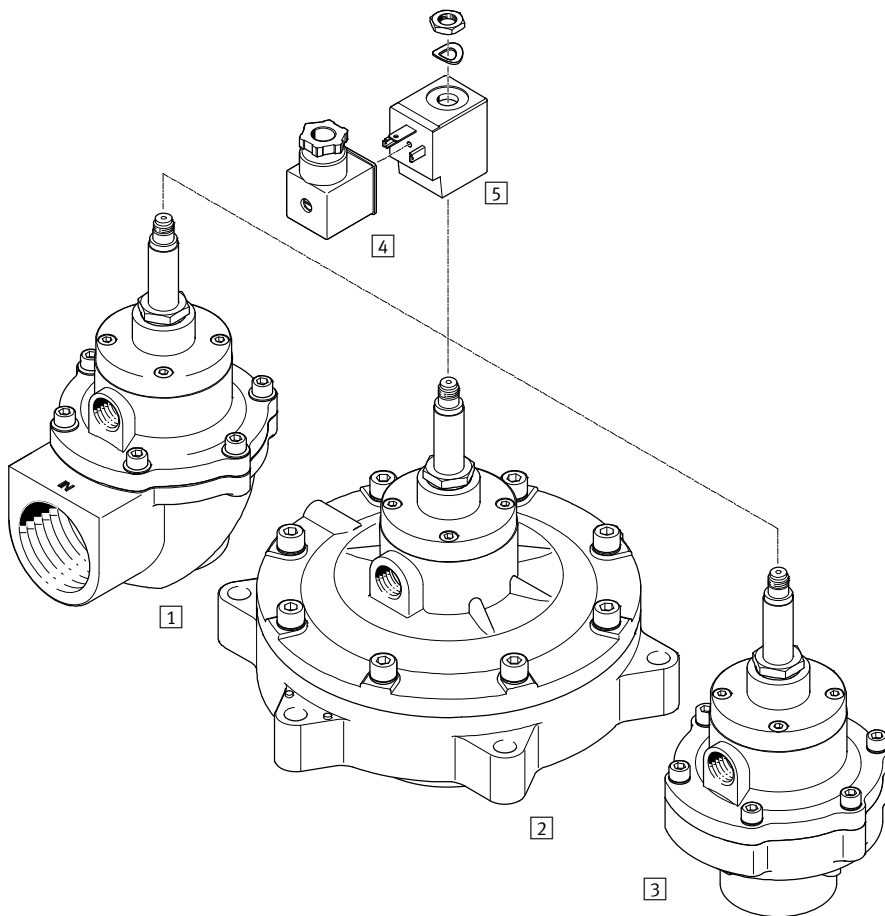
Flanged valve, straight design



| Design | Type | Process valve connection | Nominal size DN | → Page/Internet |
|---|------------|--------------------------|-----------------|-----------------|
| Angle valve, angle design | | | | |
|  | VZWE-E-... | G $\frac{3}{4}$ | 20 | 5 |
| | | G1 | 25 | |
| | | G1 $\frac{1}{2}$ | 40 | |
| | | G2 | 50 | |
| | | G2 $\frac{1}{2}$ | 62 | |
| Flanged valve, straight design | | | | |
|  | 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 | Angle design, 2/2-way valve, normally closed vzwe |
| 2 | Flanged valve VZWE-F-...-M-...-H | Straight design, 2/2-way valve, normally closed vzwe |
| 3 | Angle valve VZWE-E-...-M-...-H | Straight design, 2/2-way valve, normally closed vzwe |
| 4 | Plug socket MSSD-C | Plug socket for valves with N1 solenoid coils 13 |
| 5 | Solenoid coil VACN | With connection to EN 175301-803 vacn |

Basic valves VZWE, solenoid actuated

Type codes

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

Type

| | |
|------|---------------------------------|
| VZWE | Basic valves, solenoid actuated |
|------|---------------------------------|

Type of directional control valve

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

Valve function

| | |
|------|--------------------------------|
| M22C | 2/2-way valve, single solenoid |
|------|--------------------------------|

Reset method for single solenoid valves

| | |
|---|-------------------|
| M | Mechanical spring |
|---|-------------------|

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 |

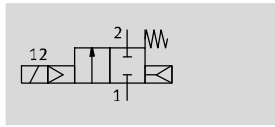
Electrical connection

| | |
|---|---------------------------|
| H | 14 mm, with armature tube |
|---|---------------------------|

Basic valves VZWE, solenoid actuated

Technical data – Angle valve

Function



- - Flow rate Kv
15 ... 95 m³/h

- - Connecting thread
G³/₄ ... G2¹/₂



| 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 ³ /h] | 15 | 22 | 48 | 78 | 95 |
| Process valve connection 1 | | G ³ / ₄ | G1 | G1 ¹ / ₂ | G2 | G2 ¹ / ₂ |
| Process valve connection 2 | | G ³ / ₄ | G1 | G1 ¹ / ₂ | G2 | G2 ¹ / ₂ |

| 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 ¹⁾ | 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.

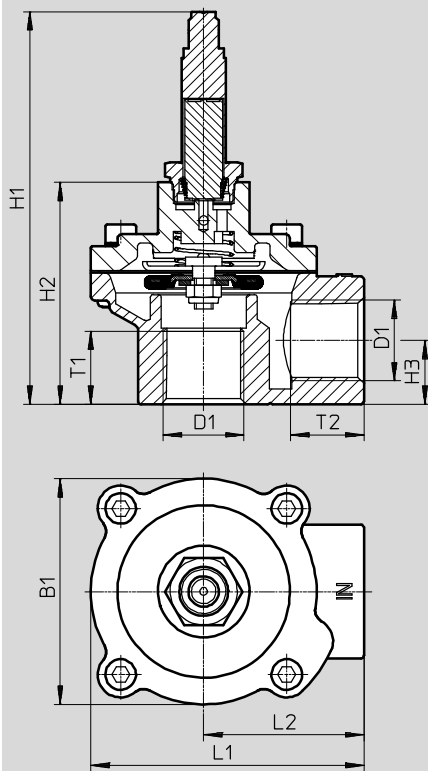
| Materials | | |
|--------------|-------------------|---|
| Basic valves | | Material number |
| 1 | Valve housing | Die-cast aluminium EN AC-47100D |
| 2 | Screws | High-alloy steel 1.4301 |
| 3 | Armature tube | High-alloy steel - |
| - | Seal | Nitrile rubber - |
| - | Diaphragm | Nitrile rubber/polyamide - |
| - | 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



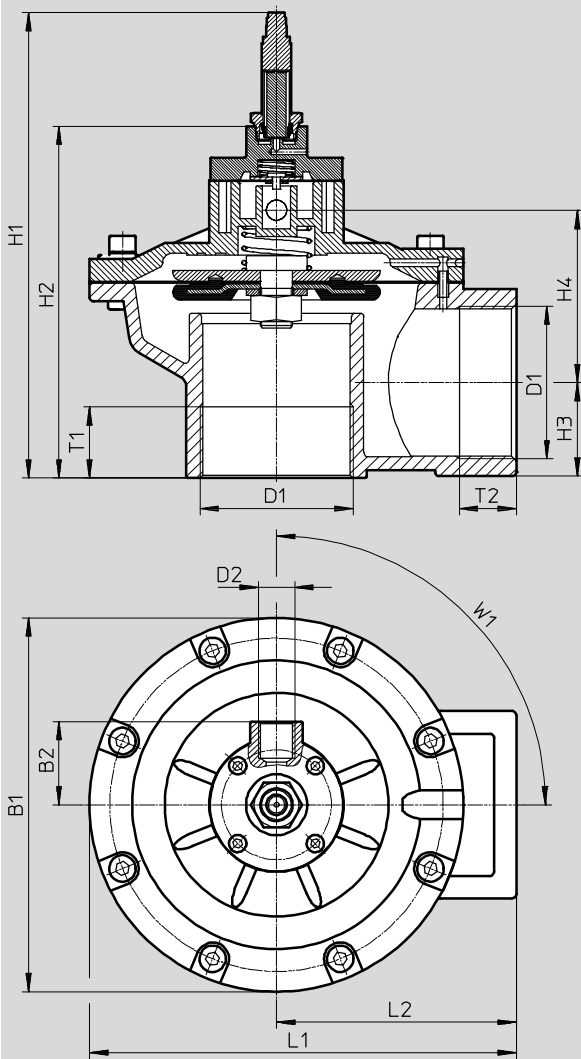
| Type | B1 | D1 | H1 | H2 | H3 | L1 | L2 | T1 | T2 |
|-------------------------|----|------|-------|------|----|------|------|----|------|
| VZWE-E-M22C-M-G34-200-H | 74 | G3/4 | 128.8 | 72.8 | 21 | 89.5 | 52.5 | 24 | 24 |
| VZWE-E-M22C-M-G1-250-H | 74 | G1 | 128.8 | 72.8 | 21 | 89.5 | 52.5 | 24 | 21.5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

Basic valves VZWE, solenoid actuated

Technical data – Angle valve

Dimensions

Download CAD data → www.festo.com



| 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

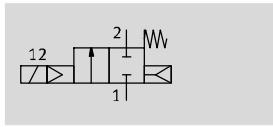
| | Process valve connection | Weight [g] | Part No. | Type |
|---|--------------------------|------------|----------|-------------------------|
|  | G¾ | 420 | 1794182 | VZWE-E-M22C-M-G¾-200-H |
| | G1 | 420 | 1795142 | VZWE-E-M22C-M-G1-250-H |
| | G1½ | 1,300 | 1239565 | VZWE-E-M22C-M-G1½-400-H |
| | 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 m³/h

-  - Connecting thread
∅ 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 ³ /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 ¹⁾ | 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.

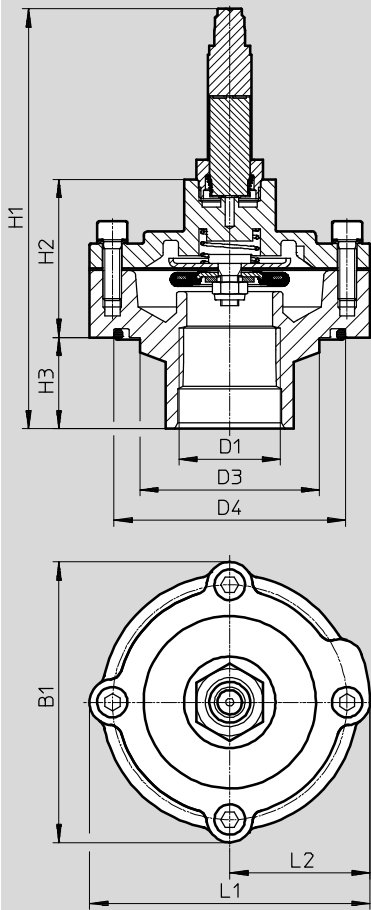
| Materials | | |
|--------------|-------------------|---|
| Basic valves | | Material number |
| 1 | Housing | Die-cast aluminium EN AC-47100D |
| 2 | Screws | High-alloy steel 1.4301 |
| 3 | Armature tube | High-alloy steel - |
| - | Seal | Nitrile rubber - |
| - | Diaphragm | Nitrile rubber/polyamide - |
| - | 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



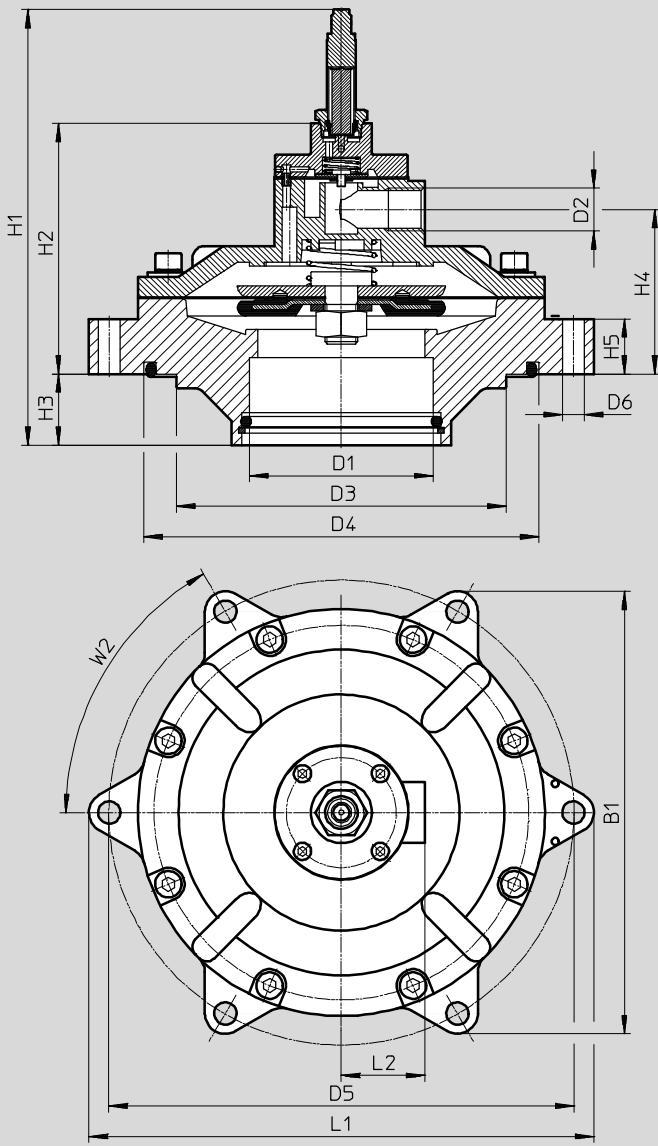
| Type | B1 | D1 | D3 Ø | D4 Ø | H1 | H2 | H3 | L1 | L2 |
|------------------------|----|----|---------|---------|-------|------|----|----|----|
| VZWE-F-M22C-M-G1-250-H | 92 | G1 | 59 | 76 | 137.8 | 51.8 | 30 | 92 | 46 |

Basic valves VZWE, solenoid actuated

Technical data – Flanged valve

Dimensions

Download CAD data → www.festo.com



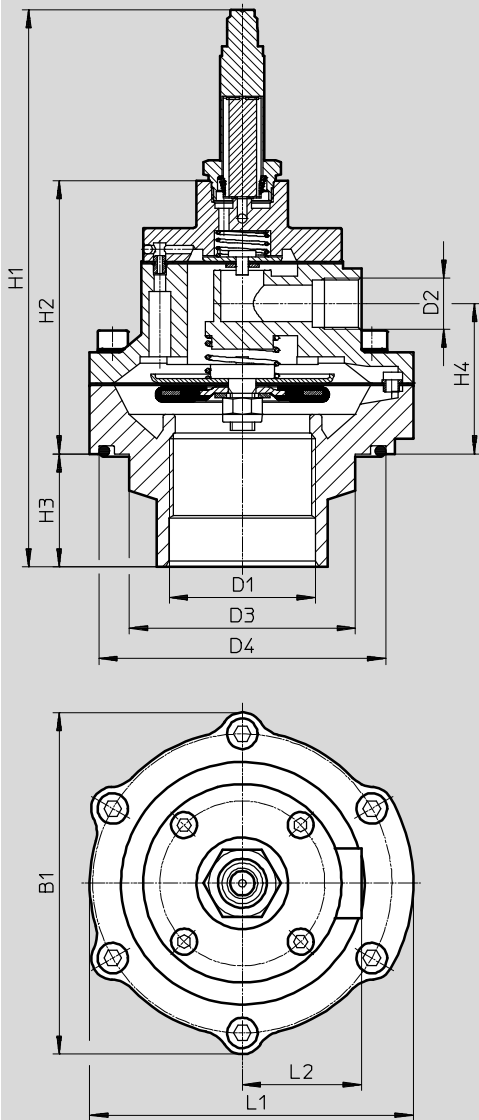
| Type | B1 | D1 | D2 | D3 | D4 | D5 | D6 | H1 | H2 | H3 | H4 | H5 | L1 | L2 | W2 |
|--------------------------|-----|----|------|-------|-----|-----|----|-----|-----|----|------|----|-----|----|----|
| VZWE-F-M22C-M-F600-500-H | 200 | 60 | G3/8 | 145.5 | 174 | 208 | 11 | 205 | 114 | 35 | 72.8 | 27 | 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

Download CAD data → www.festo.com



| 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) | | |

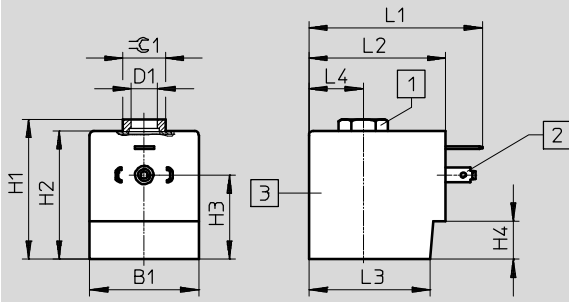
Solenoid coils VACN

Accessories

FESTO

Dimensions

Download CAD data → www.festo.com




- 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 | 8022877 |
| | 110 V AC \pm 10%, 60 Hz, 18.5 VA | 8022878 | VACN-H1-A1-2A |
| | 230 V AC \pm 10%, 60 Hz, 18.8 VA | 8022879 | VACN-H1-A1-3A |

Ordering data – Plug socket MSSD

| | Description | Cable connector | Part No. | Type |
|---|--|-----------------|----------|--------|
|  | Plug socket for valves with N1 solenoid coils, 3-pin | Pg9 | 34583 | MSSD-C |