

## Solenoid valves VZWD, directly actuated, NPT

**FESTO**



# Solenoid valves VZWD, directly actuated, NPT

Key features and overview

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## General

Directly actuated solenoid valves VZWD are mainly intended for applications with high pressure ranges and low flow rates. This type of valve switches the sealing

element directly via the solenoid system. The seal generally has to lift away from the seat against the effective operating pressure using just the drive. A closing spring

keeps the valve closed assisted by the pressure of the medium. The function is dependent on the seat size, the effective operating

pressure and the magnetic force. The difference with force pilot operated solenoid valves (VZWF) lies in the flow rate.

## General

-  - Connecting thread  
N $\frac{1}{4}$ , N $\frac{1}{8}$
-  - Flow rate Kv  
0.06 ... 0.4 m<sup>3</sup>/h

-  - Note

The valves are suitable for vacuum with Pabs > 100 mbar. Please ensure the direction of flow corresponds to the direction of the arrow.

## Areas of application

- Use in vacuum technology
- Venting gas and tank systems
- Safety shut-offs for burner controllers

## Design

- Design insensitive to slight contamination of the media

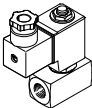
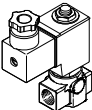
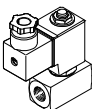
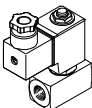
## Advantages

- Valves switch from 0 bar up to the max. operating pressure
- Excellent tightness

# Solenoid valves VZWD, directly actuated, NPT

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Key features and overview

| Version                                                                             | Type                                                                                | Process valve connection                                                          | Nominal size (DN) | Medium pressure <sup>1)</sup><br>[bar] | → Page/Internet |                   |   |          |    |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------|----------------------------------------|-----------------|-------------------|---|----------|----|
| Brass housing                                                                       |                                                                                     |                                                                                   |                   |                                        |                 |                   |   |          |    |
|    | VZWD-L-...                                                                          | NPT $\frac{1}{4}$                                                                 | 1                 | 0 ... 50                               | 5               |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 1.5               | 0 ... 30                               |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 2                 | 0 ... 15                               |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 2.5               | 0 ... 8                                |                 |                   |   |          |    |
|                                                                                     |                                                                                     | NPT $\frac{1}{8}$                                                                 | 1                 | 0 ... 50                               | 5               |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 1.5               | 0 ... 30                               |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 2                 | 0 ... 15                               |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   |                   |                                        |                 |                   |   |          |    |
|                                                                                     |                                                                                     | Brass housing                                                                     |                   |                                        |                 |                   |   |          |    |
|                                                                                     |                                                                                     |  | VZWD-L-...        | NPT $\frac{1}{4}$                      | 1               | 0 ... 90          | 8 |          |    |
| 1.5                                                                                 | 0 ... 85                                                                            |                                                                                   |                   |                                        |                 |                   |   |          |    |
| 2                                                                                   | 0 ... 40                                                                            |                                                                                   |                   |                                        |                 |                   |   |          |    |
| 2.5                                                                                 | 0 ... 22                                                                            |                                                                                   |                   |                                        |                 |                   |   |          |    |
| 3                                                                                   | 0 ... 15                                                                            |                                                                                   |                   |                                        |                 |                   |   |          |    |
| 4                                                                                   | 0 ... 8                                                                             |                                                                                   |                   |                                        |                 |                   |   |          |    |
| 5                                                                                   | 0 ... 5                                                                             |                                                                                   |                   |                                        |                 |                   |   |          |    |
| 6                                                                                   | 0 ... 4                                                                             |                                                                                   |                   |                                        |                 |                   |   |          |    |
| NPT $\frac{1}{8}$                                                                   | 1                                                                                   |                                                                                   |                   | 0 ... 90                               | 8               |                   |   |          |    |
|                                                                                     | 1.5                                                                                 |                                                                                   |                   | 0 ... 85                               |                 |                   |   |          |    |
|                                                                                     | 2                                                                                   |                                                                                   |                   | 0 ... 40                               |                 |                   |   |          |    |
|                                                                                     | 2.5                                                                                 |                                                                                   |                   | 0 ... 22                               |                 |                   |   |          |    |
|                                                                                     | 3                                                                                   |                                                                                   |                   | 0 ... 15                               |                 |                   |   |          |    |
|                                                                                     | 4                                                                                   |                                                                                   |                   | 0 ... 8                                |                 |                   |   |          |    |
|                                                                                     | 5                                                                                   |                                                                                   |                   | 0 ... 5                                |                 |                   |   |          |    |
|                                                                                     | 6                                                                                   |                                                                                   |                   | 0 ... 4                                |                 |                   |   |          |    |
|                                                                                     | Stainless steel housing                                                             |                                                                                   |                   |                                        |                 |                   |   |          |    |
|                                                                                     |  |                                                                                   |                   | VZWD-L-...-R1                          |                 | NPT $\frac{1}{4}$ | 1 | 0 ... 90 | 13 |
| 1.5                                                                                 |                                                                                     | 0 ... 85                                                                          |                   |                                        |                 |                   |   |          |    |
| 2                                                                                   |                                                                                     | 0 ... 40                                                                          |                   |                                        |                 |                   |   |          |    |
| 2.5                                                                                 |                                                                                     | 0 ... 22                                                                          |                   |                                        |                 |                   |   |          |    |
| 3                                                                                   |                                                                                     | 0 ... 15                                                                          |                   |                                        |                 |                   |   |          |    |
| 4                                                                                   |                                                                                     | 0 ... 8                                                                           |                   |                                        |                 |                   |   |          |    |
| 5                                                                                   |                                                                                     | 0 ... 5                                                                           |                   |                                        |                 |                   |   |          |    |
| 6                                                                                   |                                                                                     | 0 ... 4                                                                           |                   |                                        |                 |                   |   |          |    |
|  | VZWD-L-...-R1                                                                       | NPT $\frac{1}{8}$                                                                 | 1                 | 0 ... 90                               | 13              |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 1.5               | 0 ... 85                               |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 2                 | 0 ... 40                               |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 2.5               | 0 ... 22                               |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 3                 | 0 ... 15                               |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 4                 | 0 ... 8                                |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 5                 | 0 ... 5                                |                 |                   |   |          |    |
|                                                                                     |                                                                                     |                                                                                   | 6                 | 0 ... 4                                |                 |                   |   |          |    |

1) The valves are suitable for vacuum with Pabs > 100 mbar. Please ensure the direction of flow corresponds to the direction of the arrow.

# Solenoid valves VZWD, directly actuated, NPT

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Type codes

VZWD - L - M22C - M - N18 - 15 - V - 2AP4 - 40 - R1

## Type

|      |                                   |
|------|-----------------------------------|
| VZWD | Solenoid valve, directly actuated |
|------|-----------------------------------|

## Type of directional control valve

|   |               |
|---|---------------|
| L | In-line valve |
|---|---------------|

## Valve function

|      |                                                  |
|------|--------------------------------------------------|
| M22C | 2/2-way valve, normally closed, mechanical reset |
|------|--------------------------------------------------|

## Reset method

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

## Process valve connection

|     |                   |
|-----|-------------------|
| N18 | NPT $\frac{1}{8}$ |
| N14 | NPT $\frac{1}{4}$ |

## Nominal size (DN)

|    |        |
|----|--------|
| 10 | 1.0 mm |
| 15 | 1.5 mm |
| 20 | 2.0 mm |
| 25 | 2.5 mm |
| 30 | 3.0 mm |
| 40 | 4.0 mm |
| 50 | 5.0 mm |
| 60 | 6.0 mm |

## Sealing material

|   |     |
|---|-----|
| V | FPM |
|---|-----|

## Nominal operating voltage

|    |                   |
|----|-------------------|
| 1  | 24 V DC           |
| 2A | 110 V AC/50-60 Hz |
| 3A | 230 V AC/50-60 Hz |

## Electrical connection

|    |                    |
|----|--------------------|
| P4 | Plug socket, 3-pin |
|----|--------------------|

## Medium pressure

|    |             |
|----|-------------|
| 4  | Max. 4 bar  |
| 5  | Max. 5 bar  |
| 8  | Max. 8 bar  |
| 15 | Max. 15 bar |
| 22 | Max. 22 bar |
| 30 | Max. 30 bar |
| 40 | Max. 40 bar |
| 50 | Max. 50 bar |
| 85 | Max. 85 bar |
| 90 | Max. 90 bar |

## Corrosion protection

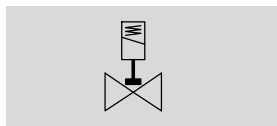
|    |                 |
|----|-----------------|
|    | Brass           |
| R1 | Stainless steel |

# Solenoid valves VZWD, directly actuated, NPT

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Technical data – Brass housing, nominal pressure PN 50

Function



Flow rate Kv  
0.06 ... 0.16 m³/h

Connecting thread  
N $\frac{1}{4}$ , N $\frac{1}{8}$



| General technical data |                                  |     |     |     |
|------------------------|----------------------------------|-----|-----|-----|
| Nominal size (DN)      | 1.0                              | 1.5 | 2.0 | 2.5 |
| Valve function         | 2/2-way, single solenoid, closed |     |     |     |
| Design                 | Directly actuated poppet valve   |     |     |     |
| Type of mounting       | In-line installation             |     |     |     |
| Actuation type         | Electric                         |     |     |     |
| Reset method           | Mechanical spring                |     |     |     |
| Direction of flow      | Non-reversible                   |     |     |     |
| Type of control        | Direct                           |     |     |     |
| Manual override        | None                             |     |     |     |
| Mounting position      | Any                              |     |     |     |
| Sealing principle      | Soft                             |     |     |     |
| Max. viscosity [mm²/s] | 22                               |     |     |     |
| Protection class       | IP65                             |     |     |     |

| Operating and environmental conditions       |                                                           |      |      |      |
|----------------------------------------------|-----------------------------------------------------------|------|------|------|
| Nominal size (DN)                            | 1.0                                                       | 1.5  | 2.0  | 2.5  |
| Standard nominal flow rate [l/min]           | 60                                                        | 95   | 140  | 170  |
| Flow rate Kv [m³/h]                          | 0.06                                                      | 0.09 | 0.13 | 0.16 |
| Process valve nominal pressure (PN)          | 50                                                        |      |      |      |
| Medium                                       | Compressed air in accordance with ISO 8573-1:2010 [7:4:4] |      |      |      |
|                                              | Inert gases                                               |      |      |      |
|                                              | Mineral oil                                               |      |      |      |
|                                              | Neutral liquids                                           |      |      |      |
|                                              | Water                                                     |      |      |      |
|                                              | Further media upon request                                |      |      |      |
| Differential pressure [bar]                  | 0                                                         |      |      |      |
| Ambient temperature [°C]                     | -10 ... +35 °C                                            |      |      |      |
| Temperature of medium [°C]                   | -10 ... +80 °C                                            |      |      |      |
| Leak rate to EN 12266-1                      | A                                                         |      |      |      |
| Corrosion resistance class CRC <sup>1)</sup> | 1                                                         |      |      |      |

1) Corrosion resistance class 1 according to Festo standard 940 070  
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

# Solenoid valves VZWD, directly actuated, NPT

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Technical data – Brass housing, nominal pressure PN 50

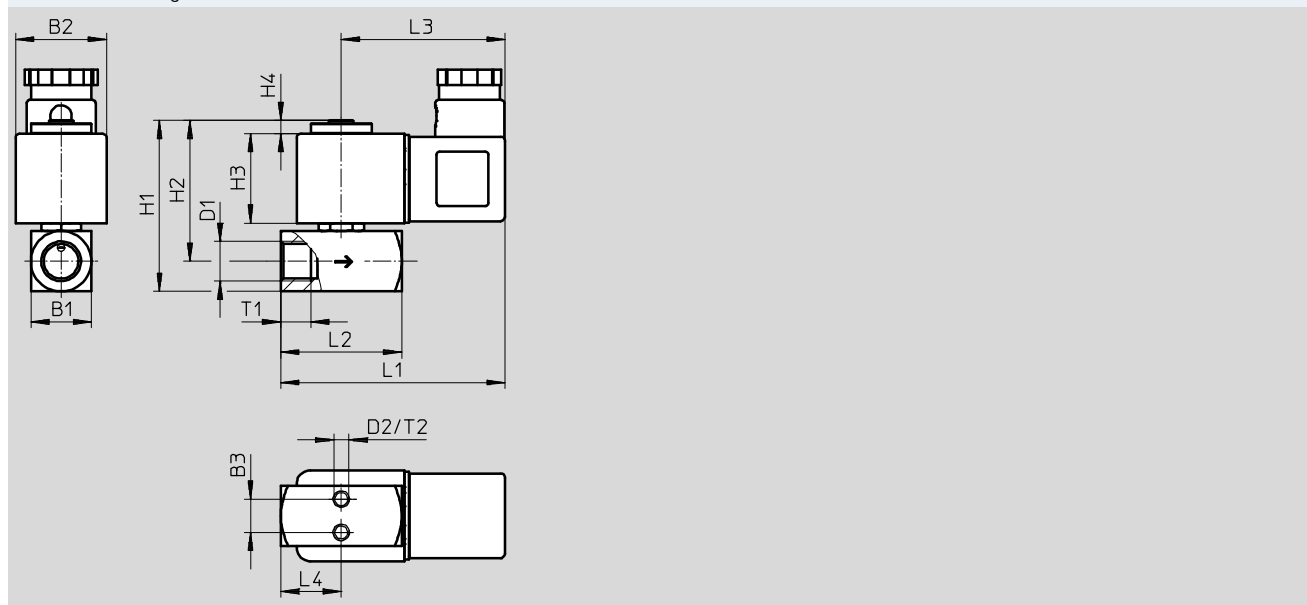
| Electrical data                  |                        |                                             |              |
|----------------------------------|------------------------|---------------------------------------------|--------------|
|                                  |                        | VZWD- ... 1                                 | VZWD- ... 2A |
|                                  |                        | VZWD- ... 3A                                |              |
| Electrical connection            |                        | Plug to EN 175301-803 type A, square design |              |
| CE marking                       |                        | –                                           | 73/23/EEC    |
| Insulation class                 |                        | H                                           | F            |
| Duty cycle                       |                        | [%]                                         | 100          |
| Permissible voltage fluctuations |                        | [%]                                         | ±10          |
| Coil characteristics             | Direct current DC      | [V]                                         | 24           |
|                                  | Alternating current AC | [V]                                         | –            |
|                                  |                        | [W]                                         | 6.8          |
|                                  | Pick-up power          | [VA]                                        | –            |
|                                  | Holding power          | [VA]                                        | 10.5         |
|                                  |                        | [Hz]                                        | –            |
|                                  | Switching time on      | [ms]                                        | 25           |
|                                  | Switching time off     | [ms]                                        | 10           |

| Materials           |                            |                                                                     |
|---------------------|----------------------------|---------------------------------------------------------------------|
| Solenoid valves     |                            | Material number                                                     |
| 1 Housing           | High-alloy stainless steel | 1.4305                                                              |
|                     | Brass                      | CW614N                                                              |
| 2 Seals             | FPM                        |                                                                     |
| – Note on materials |                            | Contains PWIS (paint-wetting impairment substances), RoHS-compliant |

## Dimensions

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

Milled brass housing

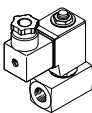


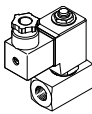
| Type                                              | B1 | B2 | B3 | D1                              | D2 | H1 | H2 | H3 | H4 | L1 | L2 | L3 | L4 | L5 | T1 | T2  |
|---------------------------------------------------|----|----|----|---------------------------------|----|----|----|----|----|----|----|----|----|----|----|-----|
| VZWD-...-N <sup>1</sup> / <sub>8</sub> -10-...-50 | 15 | 30 | 8  | NPT <sup>1</sup> / <sub>8</sub> | M3 | 52 | 44 | 30 | 5  | 70 | 32 | 54 | 16 | –  | 8  | 4.5 |
| VZWD-...-N <sup>1</sup> / <sub>8</sub> -15-...-30 |    |    |    |                                 |    |    |    |    |    |    |    |    |    |    |    |     |
| VZWD-...-N <sup>1</sup> / <sub>8</sub> -20-...-15 |    |    |    |                                 |    |    |    |    |    |    |    |    |    |    |    |     |
| VZWD-...-N <sup>1</sup> / <sub>4</sub> -10-...-50 | 20 | 30 | 11 | NPT <sup>1</sup> / <sub>4</sub> | M5 | 57 | 47 | 30 | 5  | 74 | 40 | 54 | 20 | –  | 10 | 5.5 |
| VZWD-...-N <sup>1</sup> / <sub>4</sub> -15-...-30 |    |    |    |                                 |    |    |    |    |    |    |    |    |    |    |    |     |
| VZWD-...-N <sup>1</sup> / <sub>4</sub> -20-...-15 |    |    |    |                                 |    |    |    |    |    |    |    |    |    |    |    |     |
| VZWD-...-N <sup>1</sup> / <sub>4</sub> -25-...-8  |    |    |    |                                 |    |    |    |    |    |    |    |    |    |    |    |     |

# Solenoid valves VZWD, directly actuated, NPT

**FESTO**

Technical data – Brass housing, nominal pressure PN 50

| Ordering data                                                                     |                               |              |                               |                |               |                                |
|-----------------------------------------------------------------------------------|-------------------------------|--------------|-------------------------------|----------------|---------------|--------------------------------|
|                                                                                   | Process valve connection      | Nominal size | Medium pressure <sup>1)</sup> | Product weight | Brass housing |                                |
|                                                                                   |                               | DN           | [bar]                         | [g]            | Part No.      | Type                           |
|  | N <sup>1</sup> / <sub>4</sub> | 1            | 0 ... 50                      | 350            | 1491945       | VZWD-L-M22C-M-N14-10-V-2AP4-50 |
|                                                                                   |                               |              |                               |                | 1492023       | VZWD-L-M22C-M-N14-10-V-3AP4-50 |
|                                                                                   |                               |              |                               |                | 1491867       | VZWD-L-M22C-M-N14-10-V-1P4-50  |
|                                                                                   |                               | 1.5          | 0 ... 30                      | 350            | 1491946       | VZWD-L-M22C-M-N14-15-V-2AP4-30 |
|                                                                                   |                               |              |                               |                | 1492024       | VZWD-L-M22C-M-N14-15-V-3AP4-30 |
|                                                                                   |                               |              |                               |                | 1491868       | VZWD-L-M22C-M-N14-15-V-1P4-30  |
|                                                                                   |                               | 2            | 0 ... 15                      | 350            | 1491947       | VZWD-L-M22C-M-N14-20-V-2AP4-15 |
|                                                                                   |                               |              |                               |                | 1492025       | VZWD-L-M22C-M-N14-20-V-3AP4-15 |
|                                                                                   |                               |              |                               |                | 1491869       | VZWD-L-M22C-M-N14-20-V-1P4-15  |
|                                                                                   |                               | 2.5          | 0 ... 8                       | 350            | 1491948       | VZWD-L-M22C-M-N14-25-V-2AP4-8  |
|                                                                                   |                               |              |                               |                | 1492026       | VZWD-L-M22C-M-N14-25-V-3AP4-8  |
|                                                                                   |                               |              |                               |                | 1491870       | VZWD-L-M22C-M-N14-25-V-1P4-8   |

| Ordering data                                                                       |                               |              |                               |                |               |                                |
|-------------------------------------------------------------------------------------|-------------------------------|--------------|-------------------------------|----------------|---------------|--------------------------------|
|                                                                                     | Process valve connection      | Nominal size | Medium pressure <sup>1)</sup> | Product weight | Brass housing |                                |
|                                                                                     |                               | DN           | [bar]                         | [g]            | Part No.      | Type                           |
|  | N <sup>1</sup> / <sub>8</sub> | 1            | 0 ... 50                      | 300            | 1491942       | VZWD-L-M22C-M-N18-10-V-2AP4-50 |
|                                                                                     |                               |              |                               |                | 1492020       | VZWD-L-M22C-M-N18-10-V-3AP4-50 |
|                                                                                     |                               |              |                               |                | 1491864       | VZWD-L-M22C-M-N18-10-V-1P4-50  |
|                                                                                     |                               | 1.5          | 0 ... 30                      | 300            | 1491943       | VZWD-L-M22C-M-N18-15-V-2AP4-30 |
|                                                                                     |                               |              |                               |                | 1492021       | VZWD-L-M22C-M-N18-15-V-3AP4-30 |
|                                                                                     |                               |              |                               |                | 1491865       | VZWD-L-M22C-M-N18-15-V-1P4-30  |
|                                                                                     |                               | 2            | 0 ... 15                      | 300            | 1491944       | VZWD-L-M22C-M-N18-20-V-2AP4-15 |
|                                                                                     |                               |              |                               |                | 1492022       | VZWD-L-M22C-M-N18-20-V-3AP4-15 |
|                                                                                     |                               |              |                               |                | 1491866       | VZWD-L-M22C-M-N18-20-V-1P4-15  |

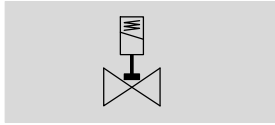
1) The valves are suitable for vacuum with Pabs > 100 mbar. Please ensure the direction of flow corresponds to the direction of the arrow.

# Solenoid valves VZWD, directly actuated, NPT

FESTO

Technical data – Brass housing, nominal pressure PN 100

Function



Flow rate Kv  
0.06 ... 0.4 m³/h

Nominal size (DN)  
1.0 ... 6.0 mm



Connecting thread  
N $\frac{1}{4}$ , N $\frac{1}{8}$



| General technical data |                                  |     |     |     |     |     |     |     |
|------------------------|----------------------------------|-----|-----|-----|-----|-----|-----|-----|
| Nominal size (DN)      | 1.0                              | 1.5 | 2.0 | 2.5 | 3.0 | 4.0 | 5.0 | 6.0 |
| Valve function         | 2/2-way, single solenoid, closed |     |     |     |     |     |     |     |
| Design                 | Directly actuated poppet valve   |     |     |     |     |     |     |     |
| Type of mounting       | In-line installation             |     |     |     |     |     |     |     |
| Actuation type         | Electric                         |     |     |     |     |     |     |     |
| Reset method           | Mechanical spring                |     |     |     |     |     |     |     |
| Direction of flow      | Non-reversible                   |     |     |     |     |     |     |     |
| Type of control        | Direct                           |     |     |     |     |     |     |     |
| Manual override        | None                             |     |     |     |     |     |     |     |
| Mounting position      | Any                              |     |     |     |     |     |     |     |
| Sealing principle      | Soft                             |     |     |     |     |     |     |     |
| Max. viscosity [mm²/s] | 22                               |     |     |     |     |     |     |     |
| Protection class       | IP65                             |     |     |     |     |     |     |     |

| Operating and environmental conditions       |                                                           |      |      |      |     |     |      |     |
|----------------------------------------------|-----------------------------------------------------------|------|------|------|-----|-----|------|-----|
| Nominal size (DN)                            | 1.0                                                       | 1.5  | 2.0  | 2.5  | 3.0 | 4.0 | 5.0  | 6.0 |
| Standard nominal flow rate [l/min]           | 60                                                        | 95   | 140  | 170  | 210 | 310 | 375  | 430 |
| Flow rate Kv [m³/h]                          | 0.06                                                      | 0.09 | 0.13 | 0.16 | 0.2 | 0.3 | 0.35 | 0.4 |
| Process valve nominal pressure (PN)          | 100                                                       |      |      |      |     |     |      |     |
| Differential pressure [bar]                  | 0                                                         |      |      |      |     |     |      |     |
| Medium                                       | Compressed air in accordance with ISO 8573-1:2010 [7:4:4] |      |      |      |     |     |      |     |
|                                              | Inert gases                                               |      |      |      |     |     |      |     |
|                                              | Mineral oil                                               |      |      |      |     |     |      |     |
|                                              | Neutral liquids                                           |      |      |      |     |     |      |     |
|                                              | Water                                                     |      |      |      |     |     |      |     |
|                                              | Further media upon request                                |      |      |      |     |     |      |     |
| Ambient temperature [°C]                     | −10 ... +35 °C                                            |      |      |      |     |     |      |     |
| Temperature of medium [°C]                   | −10 ... +80 °C                                            |      |      |      |     |     |      |     |
| Leak rate to EN 12266-1                      | A                                                         |      |      |      |     |     |      |     |
| Corrosion resistance class CRC <sup>1)</sup> | 1                                                         |      |      |      |     |     |      |     |

1) Corrosion resistance class 1 according to Festo standard 940 070

Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

# Solenoid valves VZWD, directly actuated, NPT



Technical data – Brass housing, nominal pressure PN 100

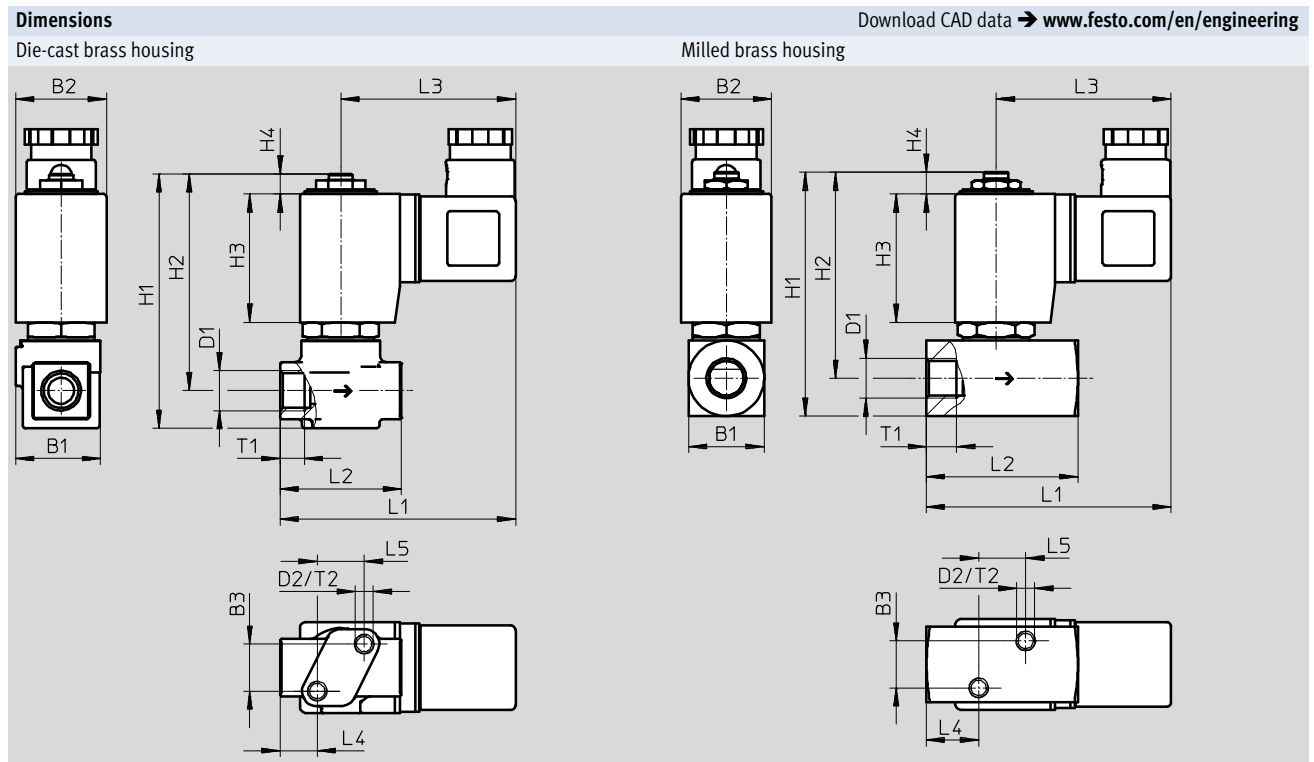
| Electrical data                  |                        |                                             |              |              |
|----------------------------------|------------------------|---------------------------------------------|--------------|--------------|
|                                  |                        | VZWD- ... 1                                 | VZWD- ... 2A | VZWD- ... 3A |
| Electrical connection            |                        | Plug to EN 175301-803 type A, square design |              |              |
| CE marking                       |                        | –                                           | 73/23/EEC    | 73/23/EEC    |
| Insulation class                 |                        | H                                           | F            | F            |
| Duty cycle                       |                        | [%]                                         | 100          |              |
| Permissible voltage fluctuations |                        | [%]                                         | ±10          |              |
| Coil characteristics             | Direct current DC      | [V]                                         | 24           | –            |
|                                  | Alternating current AC | [V]                                         | –            | 110          |
|                                  |                        | [W]                                         | 11           | –            |
|                                  | Pick-up power          | [VA]                                        | –            | 19           |
|                                  | Holding power          | [VA]                                        | –            | 16           |
|                                  |                        | [Hz]                                        | –            | 50, 60       |
|                                  | Switching time on      | [ms]                                        | 20           |              |
|                                  | Switching time off     | [ms]                                        | 18           |              |

| Materials           |                                                                     |                 |
|---------------------|---------------------------------------------------------------------|-----------------|
| Solenoid valves     |                                                                     | Material number |
| 1 Housing           | High-alloy stainless steel                                          | 1.4305          |
|                     | Brass                                                               | CW614N          |
| 2 Seals             | FPM                                                                 |                 |
| – Note on materials | Contains PWIS (paint-wetting impairment substances), RoHS-compliant |                 |

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FESTO

Technical data – Brass housing, nominal pressure PN 100

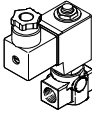


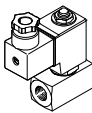
| Type                                | B1 | B2 | B3   | D1                | D2 | H1 | H2 | H3   | H4  | L1 | L2 | L3 | L4 | L5   | T1 | T2 |
|-------------------------------------|----|----|------|-------------------|----|----|----|------|-----|----|----|----|----|------|----|----|
| VZWD-...-N $\frac{1}{8}$ -10-...-90 | 28 | 30 | 15.5 | NPT $\frac{1}{8}$ | M6 | 84 | 72 | 42.5 | 6.5 | 78 | 40 | 58 | 12 | 15.5 | 8  | 6  |
| VZWD-...-N $\frac{1}{8}$ -15-...-85 |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{8}$ -20-...-40 |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{8}$ -25-...-22 |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{8}$ -30-...-15 |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{8}$ -40-...-8  | 28 | 30 | 15.5 | NPT $\frac{1}{4}$ | M6 | 84 | 72 | 42.5 | 6.5 | 78 | 40 | 58 | 12 | 15.5 | 10 | 6  |
| VZWD-...-N $\frac{1}{4}$ -10-...-90 |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{4}$ -15-...-85 |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{4}$ -20-...-40 |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{4}$ -25-...-22 |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{4}$ -30-...-15 | 25 | 30 | 15.5 | NPT $\frac{1}{8}$ | M6 | 81 | 68 | 42.5 | 7   | 78 | 40 | 58 | 12 | 15.5 | 8  | 6  |
| VZWD-...-N $\frac{1}{8}$ -50-...-5  |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{8}$ -60-...-4  |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{4}$ -50-...-5  |    |    |      | NPT $\frac{1}{4}$ | M6 | 81 | 68 | 42.5 | 7   | 85 | 50 | 58 | 17 | 15.5 | 10 | 6  |
| VZWD-...-N $\frac{1}{4}$ -60-...-4  |    |    |      |                   |    |    |    |      |     |    |    |    |    |      |    |    |

# Solenoid valves VZWD, directly actuated, NPT

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Technical data – Brass housing, nominal pressure PN 100

| Ordering data                                                                     |                          |                 |                                     |                    |                                        |
|-----------------------------------------------------------------------------------|--------------------------|-----------------|-------------------------------------|--------------------|----------------------------------------|
|                                                                                   | Process valve connection | Nominal size DN | Medium pressure <sup>1)</sup> [bar] | Product weight [g] | Brass housing                          |
|                                                                                   |                          |                 |                                     |                    | Part No. Type                          |
|  | NPT $\frac{1}{4}$        | 1               | 0 ... 90                            | 550                | 1491957 VZWD-L-M22C-M-N14-10-V-2AP4-90 |
|                                                                                   |                          |                 |                                     |                    | 1492040 VZWD-L-M22C-M-N14-10-V-3AP4-90 |
|                                                                                   |                          |                 |                                     |                    | 1491879 VZWD-L-M22C-M-N14-10-V-1P4-90  |
|                                                                                   |                          | 1.5             | 0 ... 85                            | 550                | 1491958 VZWD-L-M22C-M-N14-15-V-2AP4-85 |
|                                                                                   |                          |                 |                                     |                    | 1492041 VZWD-L-M22C-M-N14-15-V-3AP4-85 |
|                                                                                   |                          |                 |                                     |                    | 1491880 VZWD-L-M22C-M-N14-15-V-1P4-85  |
|                                                                                   |                          | 2               | 0 ... 40                            | 550                | 1491959 VZWD-L-M22C-M-N14-20-V-2AP4-40 |
|                                                                                   |                          |                 |                                     |                    | 1492042 VZWD-L-M22C-M-N14-20-V-3AP4-40 |
|                                                                                   |                          |                 |                                     |                    | 1491881 VZWD-L-M22C-M-N14-20-V-1P4-40  |
|                                                                                   |                          | 2.5             | 0 ... 22                            | 550                | 1491960 VZWD-L-M22C-M-N14-25-V-2AP4-22 |
|                                                                                   |                          |                 |                                     |                    | 1492043 VZWD-L-M22C-M-N14-25-V-3AP4-22 |
|                                                                                   |                          |                 |                                     |                    | 1491882 VZWD-L-M22C-M-N14-25-V-1P4-22  |
|                                                                                   |                          | 3               | 0 ... 15                            | 550                | 1491961 VZWD-L-M22C-M-N14-30-V-2AP4-15 |
|                                                                                   |                          |                 |                                     |                    | 1492044 VZWD-L-M22C-M-N14-30-V-3AP4-15 |
|                                                                                   |                          |                 |                                     |                    | 1491883 VZWD-L-M22C-M-N14-30-V-1P4-15  |
|                                                                                   |                          | 4               | 0 ... 8                             | 550                | 1491962 VZWD-L-M22C-M-N14-40-V-2AP4-8  |
|                                                                                   |                          |                 |                                     |                    | 1492045 VZWD-L-M22C-M-N14-40-V-3AP4-8  |
|                                                                                   |                          |                 |                                     |                    | 1491884 VZWD-L-M22C-M-N14-40-V-1P4-8   |

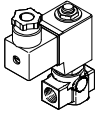
| Ordering data                                                                       |                          |                 |                                     |                    |                                       |
|-------------------------------------------------------------------------------------|--------------------------|-----------------|-------------------------------------|--------------------|---------------------------------------|
|                                                                                     | Process valve connection | Nominal size DN | Medium pressure <sup>1)</sup> [bar] | Product weight [g] | Brass housing                         |
|                                                                                     |                          |                 |                                     |                    | Part No. Type                         |
|  | NPT $\frac{1}{4}$        | 5               | 0 ... 5                             | 600                | 1491885 VZWD-L-M22C-M-N14-50-V-1P4-5  |
|                                                                                     |                          |                 |                                     |                    | 1491963 VZWD-L-M22C-M-N14-50-V-2AP4-5 |
|                                                                                     |                          |                 |                                     |                    | 1492046 VZWD-L-M22C-M-N14-50-V-3AP4-5 |
|                                                                                     |                          | 6               | 0 ... 4                             | 600                | 1491886 VZWD-L-M22C-M-N14-60-V-1P4-4  |
|                                                                                     |                          |                 |                                     |                    | 1491964 VZWD-L-M22C-M-N14-60-V-2AP4-4 |
|                                                                                     |                          |                 |                                     |                    | 1492047 VZWD-L-M22C-M-N14-60-V-3AP4-4 |

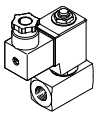
1) The valves are suitable for vacuum with Pabs > 100 mbar. Please ensure the direction of flow corresponds to the direction of the arrow.

# Solenoid valves VZWD, directly actuated, NPT

FESTO

Technical data – Brass housing, nominal pressure PN 100

| Ordering data                                                                     |                          |                 |                                     |                    |               |                                |
|-----------------------------------------------------------------------------------|--------------------------|-----------------|-------------------------------------|--------------------|---------------|--------------------------------|
|                                                                                   | Process valve connection | Nominal size DN | Medium pressure <sup>1)</sup> [bar] | Product weight [g] | Brass housing |                                |
|                                                                                   |                          |                 |                                     |                    | Part No.      | Type                           |
|  | NPT $\frac{1}{8}$        | 1               | 0 ... 90                            | 550                | 1491949       | VZWD-L-M22C-M-N18-10-V-2AP4-90 |
|                                                                                   |                          |                 |                                     |                    | 1492027       | VZWD-L-M22C-M-N18-10-V-3AP4-90 |
|                                                                                   |                          |                 |                                     |                    | 1491871       | VZWD-L-M22C-M-N18-10-V-1P4-90  |
|                                                                                   |                          | 1.5             | 0 ... 85                            | 550                | 1491950       | VZWD-L-M22C-M-N18-15-V-2AP4-85 |
|                                                                                   |                          |                 |                                     |                    | 1492028       | VZWD-L-M22C-M-N18-15-V-3AP4-85 |
|                                                                                   |                          |                 |                                     |                    | 1491872       | VZWD-L-M22C-M-N18-15-V-1P4-85  |
|                                                                                   |                          | 2               | 0 ... 40                            | 550                | 1491951       | VZWD-L-M22C-M-N18-20-V-2AP4-40 |
|                                                                                   |                          |                 |                                     |                    | 1492029       | VZWD-L-M22C-M-N18-20-V-3AP4-40 |
|                                                                                   |                          |                 |                                     |                    | 1491873       | VZWD-L-M22C-M-N18-20-V-1P4-40  |
|                                                                                   |                          | 2.5             | 0 ... 22                            | 550                | 1491952       | VZWD-L-M22C-M-N18-25-V-2AP4-22 |
|                                                                                   |                          |                 |                                     |                    | 1492030       | VZWD-L-M22C-M-N18-25-V-3AP4-22 |
|                                                                                   |                          |                 |                                     |                    | 1491874       | VZWD-L-M22C-M-N18-25-V-1P4-22  |
|                                                                                   |                          | 3               | 0 ... 15                            | 550                | 1491953       | VZWD-L-M22C-M-N18-30-V-2AP4-15 |
|                                                                                   |                          |                 |                                     |                    | 1492031       | VZWD-L-M22C-M-N18-30-V-3AP4-15 |
|                                                                                   |                          |                 |                                     |                    | 1491875       | VZWD-L-M22C-M-N18-30-V-1P4-15  |
|                                                                                   |                          | 4               | 0 ... 8                             | 550                | 1491954       | VZWD-L-M22C-M-N18-40-V-2AP4-8  |
|                                                                                   |                          |                 |                                     |                    | 1492032       | VZWD-L-M22C-M-N18-40-V-3AP4-8  |
|                                                                                   |                          |                 |                                     |                    | 1491876       | VZWD-L-M22C-M-N18-40-V-1P4-8   |

| Ordering data                                                                       |                          |                 |                                     |                    |               |                               |
|-------------------------------------------------------------------------------------|--------------------------|-----------------|-------------------------------------|--------------------|---------------|-------------------------------|
|                                                                                     | Process valve connection | Nominal size DN | Medium pressure <sup>1)</sup> [bar] | Product weight [g] | Brass housing |                               |
|                                                                                     |                          |                 |                                     |                    | Part No.      | Type                          |
|  | NPT $\frac{1}{8}$        | 5               | 0 ... 5                             | 600                | 1491877       | VZWD-L-M22C-M-N18-50-V-1P4-5  |
|                                                                                     |                          |                 |                                     |                    | 1491955       | VZWD-L-M22C-M-N18-50-V-2AP4-5 |
|                                                                                     |                          |                 |                                     |                    | 1492033       | VZWD-L-M22C-M-N18-50-V-3AP4-5 |
|                                                                                     |                          | 6               | 0 ... 4                             | 600                | 1491878       | VZWD-L-M22C-M-N18-60-V-1P4-4  |
|                                                                                     |                          |                 |                                     |                    | 1491956       | VZWD-L-M22C-M-N18-60-V-2AP4-4 |
|                                                                                     |                          |                 |                                     |                    | 1492034       | VZWD-L-M22C-M-N18-60-V-3AP4-4 |

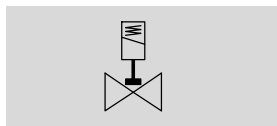
1) The valves are suitable for vacuum with Pabs > 100 mbar. Please ensure the direction of flow corresponds to the direction of the arrow.

# Solenoid valves VZWD, directly actuated, NPT

FESTO

Technical data – Stainless steel housing, nominal pressure PN 100

Function



Flow rate Kv  
0.06 ... 0.4 m<sup>3</sup>/h

Connecting thread  
N<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>8</sub>



| General technical data              |                                  |     |     |     |     |     |     |     |
|-------------------------------------|----------------------------------|-----|-----|-----|-----|-----|-----|-----|
| Nominal size (DN)                   | 1.0                              | 1.5 | 2.0 | 2.5 | 3.0 | 4.0 | 5.0 | 6.0 |
| Valve function                      | 2/2-way, single solenoid, closed |     |     |     |     |     |     |     |
| Design                              | Directly actuated poppet valve   |     |     |     |     |     |     |     |
| Type of mounting                    | In-line installation             |     |     |     |     |     |     |     |
| Actuation type                      | Electric                         |     |     |     |     |     |     |     |
| Reset method                        | Mechanical spring                |     |     |     |     |     |     |     |
| Type of control                     | Direct                           |     |     |     |     |     |     |     |
| Manual override                     | None                             |     |     |     |     |     |     |     |
| Mounting position                   | Any                              |     |     |     |     |     |     |     |
| Sealing principle                   | Soft                             |     |     |     |     |     |     |     |
| Direction of flow                   | Non-reversible                   |     |     |     |     |     |     |     |
| Max. viscosity [mm <sup>2</sup> /s] | 22                               |     |     |     |     |     |     |     |
| Protection class                    | IP65                             |     |     |     |     |     |     |     |

| Operating and environmental conditions       |                                                           |      |      |      |     |     |      |     |
|----------------------------------------------|-----------------------------------------------------------|------|------|------|-----|-----|------|-----|
| Nominal size (DN)                            | 1.0                                                       | 1.5  | 2.0  | 2.5  | 3.0 | 4.0 | 5.0  | 6.0 |
| Standard nominal flow rate [l/min]           | 60                                                        | 95   | 140  | 170  | 210 | 310 | 375  | 430 |
| Flow rate Kv [m <sup>3</sup> /h]             | 0.06                                                      | 0.09 | 0.13 | 0.16 | 0.2 | 0.3 | 0.35 | 0.4 |
| Process valve nominal pressure (PN)          | 100                                                       |      |      |      |     |     |      |     |
| Medium                                       | Compressed air in accordance with ISO 8573-1:2010 [7:4:4] |      |      |      |     |     |      |     |
|                                              | Inert gases                                               |      |      |      |     |     |      |     |
|                                              | Mineral oil                                               |      |      |      |     |     |      |     |
|                                              | Neutral liquids                                           |      |      |      |     |     |      |     |
|                                              | Water                                                     |      |      |      |     |     |      |     |
|                                              | Further media upon request                                |      |      |      |     |     |      |     |
| Differential pressure [bar]                  | 0                                                         |      |      |      |     |     |      |     |
| Ambient temperature [°C]                     | -10 ... +35 °C                                            |      |      |      |     |     |      |     |
| Temperature of medium [°C]                   | -10 ... +80 °C                                            |      |      |      |     |     |      |     |
| Leak rate to EN 12266-1                      | A                                                         |      |      |      |     |     |      |     |
| 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 decorative surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

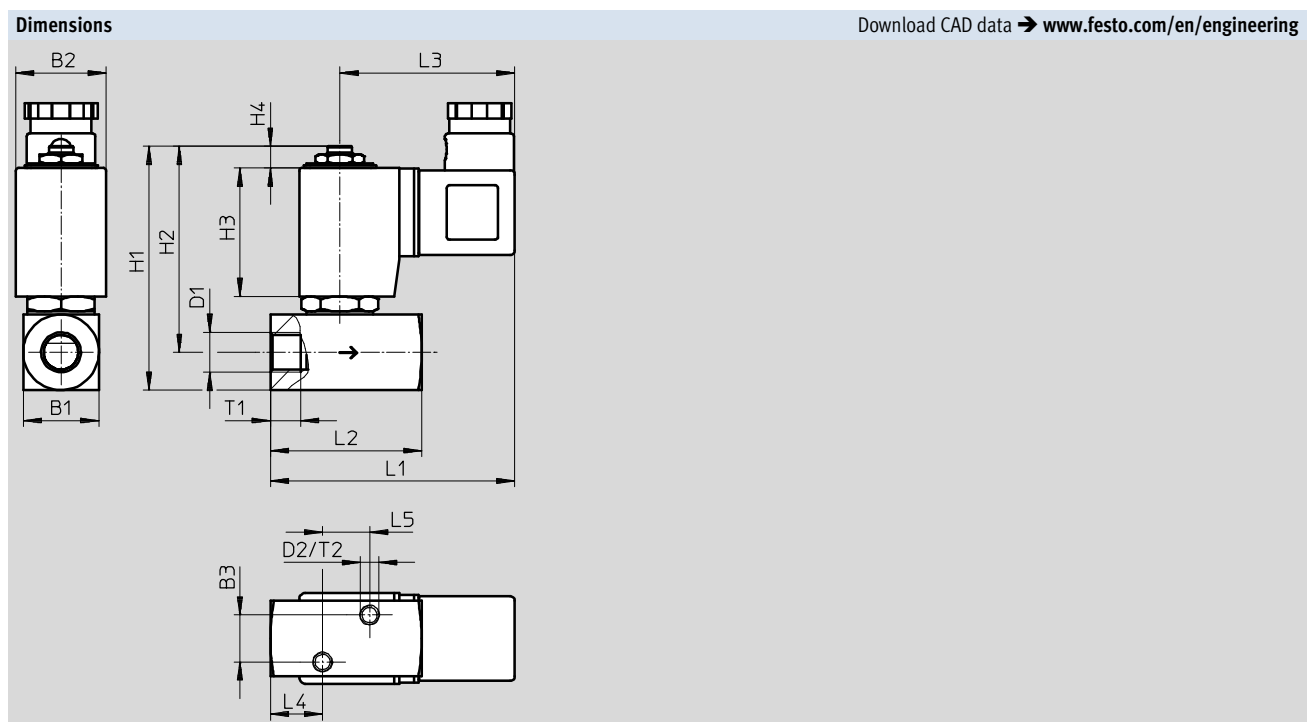
# Solenoid valves VZWD, directly actuated, NPT

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Technical data – Stainless steel housing, nominal pressure PN 100

| Electrical data                  |                        |                                             |              |
|----------------------------------|------------------------|---------------------------------------------|--------------|
|                                  |                        | VZWD- ... 1                                 | VZWD- ... 2A |
|                                  |                        | VZWD- ... 3A                                |              |
| Electrical connection            |                        | Plug to EN 175301-803 type A, square design |              |
| CE marking                       |                        | –                                           | 73/23/EEC    |
| Insulation class                 |                        | H                                           | F            |
| Duty cycle                       |                        | [%]                                         | 100          |
| Permissible voltage fluctuations |                        | [%]                                         | ±10          |
| Coil characteristics             | Direct current DC      | [V]                                         | 24           |
|                                  | Alternating current AC | [V]                                         | –            |
|                                  |                        | [W]                                         | 11           |
|                                  | Pick-up power          | [VA]                                        | –            |
|                                  | Holding power          | [VA]                                        | 10.5         |
|                                  |                        | [Hz]                                        | –            |
|                                  | Switching time on      | [ms]                                        | 20           |
|                                  | Switching time off     | [ms]                                        | 18           |

| Materials           |                            |                                                                     |
|---------------------|----------------------------|---------------------------------------------------------------------|
| Solenoid valves     |                            | Material number                                                     |
| 1 Housing           | High-alloy stainless steel | 1.4305                                                              |
| 2 Seals             | FPM                        |                                                                     |
| – Note on materials |                            | Contains PWIS (paint-wetting impairment substances), RoHS-compliant |

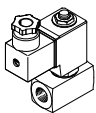


| Type                               | B1 | B2 | B3   | D1                | D2 | H1 | H2 | H3   | H4 | L1 | L2 | L3 | L4 | L5   | T1 | T2 |
|------------------------------------|----|----|------|-------------------|----|----|----|------|----|----|----|----|----|------|----|----|
| VZWD-...-N $\frac{1}{8}$ -50-...-5 | 25 | 30 | 15.5 | NPT $\frac{1}{8}$ | M6 | 81 | 68 | 42.5 | 7  | 78 | 40 | 58 | 12 | 15.5 | 8  | 6  |
| VZWD-...-N $\frac{1}{8}$ -60-...-4 |    |    |      |                   |    |    |    |      |    |    |    |    |    |      |    |    |
| VZWD-...-N $\frac{1}{4}$ -50-...-5 | 25 | 30 | 15.5 | NPT $\frac{1}{4}$ | M6 | 81 | 68 | 42.5 | 7  | 85 | 50 | 58 | 17 | 15.5 | 10 | 6  |
| VZWD-...-N $\frac{1}{4}$ -60-...-4 |    |    |      |                   |    |    |    |      |    |    |    |    |    |      |    |    |

# Solenoid valves VZWD, directly actuated, NPT

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Technical data – Stainless steel housing, nominal pressure PN 100

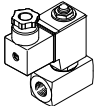
| Ordering data – Solenoid valve VZWD                                               |                          |              |                               |                |                                           |
|-----------------------------------------------------------------------------------|--------------------------|--------------|-------------------------------|----------------|-------------------------------------------|
|                                                                                   | Process valve connection | Nominal size | Medium pressure <sup>1)</sup> | Product weight | Stainless steel casting housing           |
|                                                                                   |                          | DN           | [bar]                         | [g]            | Part No. Type                             |
|  | NPT 1/4                  | 1            | 0 ... 90                      | 650            | 1491895 VZWD-L-M22C-M-N14-10-V-1P4-90-R1  |
|                                                                                   |                          |              |                               |                | 1491973 VZWD-L-M22C-M-N14-10-V-2AP4-90-R1 |
|                                                                                   |                          |              |                               |                | 1492090 VZWD-L-M22C-M-N14-10-V-3AP4-90-R1 |
|                                                                                   |                          | 1.5          | 0 ... 85                      | 650            | 1491896 VZWD-L-M22C-M-N14-15-V-1P4-85-R1  |
|                                                                                   |                          |              |                               |                | 1491974 VZWD-L-M22C-M-N14-15-V-2AP4-85-R1 |
|                                                                                   |                          |              |                               |                | 1492091 VZWD-L-M22C-M-N14-15-V-3AP4-85-R1 |
|                                                                                   |                          | 2            | 0 ... 40                      | 650            | 1491897 VZWD-L-M22C-M-N14-20-V-1P4-40-R1  |
|                                                                                   |                          |              |                               |                | 1491975 VZWD-L-M22C-M-N14-20-V-2AP4-40-R1 |
|                                                                                   |                          |              |                               |                | 1492092 VZWD-L-M22C-M-N14-20-V-3AP4-40-R1 |
|                                                                                   |                          | 2.5          | 0 ... 22                      | 650            | 1491898 VZWD-L-M22C-M-N14-25-V-1P4-22-R1  |
|                                                                                   |                          |              |                               |                | 1491976 VZWD-L-M22C-M-N14-25-V-2AP4-22-R1 |
|                                                                                   |                          |              |                               |                | 1492093 VZWD-L-M22C-M-N14-25-V-3AP4-22-R1 |
|                                                                                   |                          | 3            | 0 ... 15                      | 650            | 1491899 VZWD-L-M22C-M-N14-30-V-1P4-15-R1  |
|                                                                                   |                          |              |                               |                | 1491977 VZWD-L-M22C-M-N14-30-V-2AP4-15-R1 |
|                                                                                   |                          |              |                               |                | 1492094 VZWD-L-M22C-M-N14-30-V-3AP4-15-R1 |
|                                                                                   |                          | 4            | 0 ... 8                       | 650            | 1491900 VZWD-L-M22C-M-N14-40-V-1P4-8-R1   |
|                                                                                   |                          |              |                               |                | 1491978 VZWD-L-M22C-M-N14-40-V-2AP4-8-R1  |
|                                                                                   |                          |              |                               |                | 1492095 VZWD-L-M22C-M-N14-40-V-3AP4-8-R1  |
|                                                                                   |                          | 5            | 0 ... 5                       | 650            | 1491901 VZWD-L-M22C-M-N14-50-V-1P4-5-R1   |
|                                                                                   |                          |              |                               |                | 1491979 VZWD-L-M22C-M-N14-50-V-2AP4-5-R1  |
|                                                                                   |                          |              |                               |                | 1492096 VZWD-L-M22C-M-N14-50-V-3AP4-5-R1  |
|                                                                                   |                          | 6            | 0 ... 4                       | 650            | 1491902 VZWD-L-M22C-M-N14-60-V-1P4-4-R1   |
|                                                                                   |                          |              |                               |                | 1491980 VZWD-L-M22C-M-N14-60-V-2AP4-4-R1  |
|                                                                                   |                          |              |                               |                | 1492097 VZWD-L-M22C-M-N14-60-V-3AP4-4-R1  |

1) The valves are suitable for vacuum with Pabs > 100 mbar. Please ensure the direction of flow corresponds to the direction of the arrow.

# Solenoid valves VZWD, directly actuated, NPT

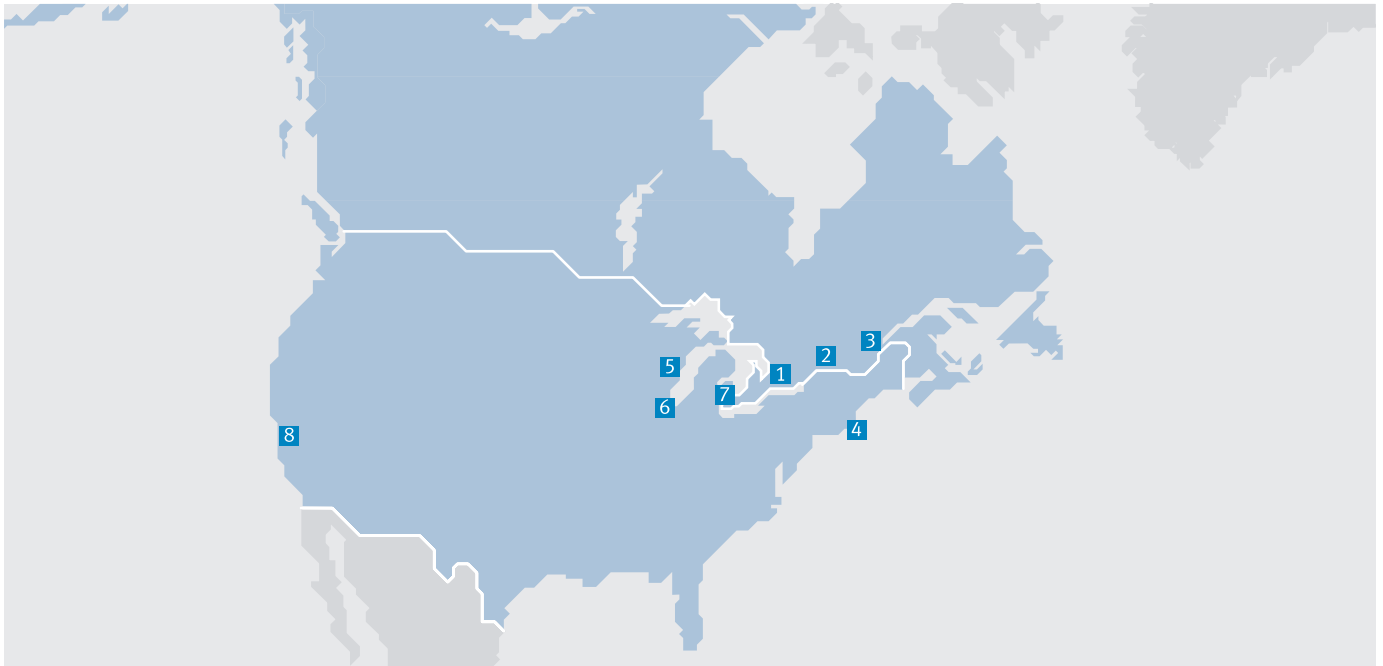
FESTO

Technical data – Stainless steel housing, nominal pressure PN 100

| Ordering data – Solenoid valve VZWD                                               |                          |              |                               |                |                                 |                                   |
|-----------------------------------------------------------------------------------|--------------------------|--------------|-------------------------------|----------------|---------------------------------|-----------------------------------|
|                                                                                   | Process valve connection | Nominal size | Medium pressure <sup>1)</sup> | Product weight | Stainless steel casting housing |                                   |
|                                                                                   |                          | DN           | [bar]                         | [g]            | Part No.                        | Type                              |
|  | NPT $\frac{1}{8}$        | 1            | 0 ... 90                      | 500            | 1491887                         | VZWD-L-M22C-M-N18-10-V-1P4-90-R1  |
|                                                                                   |                          |              |                               |                | 1491965                         | VZWD-L-M22C-M-N18-10-V-2AP4-90-R1 |
|                                                                                   |                          |              |                               |                | 1492048                         | VZWD-L-M22C-M-N18-10-V-3AP4-90-R1 |
|                                                                                   |                          | 1.5          | 0 ... 85                      | 500            | 1491888                         | VZWD-L-M22C-M-N18-15-V-1P4-85-R1  |
|                                                                                   |                          |              |                               |                | 1491966                         | VZWD-L-M22C-M-N18-15-V-2AP4-85-R1 |
|                                                                                   |                          |              |                               |                | 1492049                         | VZWD-L-M22C-M-N18-15-V-3AP4-85-R1 |
|                                                                                   |                          | 2            | 0 ... 40                      | 500            | 1491889                         | VZWD-L-M22C-M-N18-20-V-1P4-40-R1  |
|                                                                                   |                          |              |                               |                | 1491967                         | VZWD-L-M22C-M-N18-20-V-2AP4-40-R1 |
|                                                                                   |                          |              |                               |                | 1492050                         | VZWD-L-M22C-M-N18-20-V-3AP4-40-R1 |
|                                                                                   |                          | 2.5          | 0 ... 22                      | 500            | 1491890                         | VZWD-L-M22C-M-N18-25-V-1P4-22-R1  |
|                                                                                   |                          |              |                               |                | 1491968                         | VZWD-L-M22C-M-N18-25-V-2AP4-22-R1 |
|                                                                                   |                          |              |                               |                | 1492051                         | VZWD-L-M22C-M-N18-25-V-3AP4-22-R1 |
|                                                                                   |                          | 3            | 0 ... 15                      | 500            | 1491891                         | VZWD-L-M22C-M-N18-30-V-1P4-15-R1  |
|                                                                                   |                          |              |                               |                | 1491969                         | VZWD-L-M22C-M-N18-30-V-2AP4-15-R1 |
|                                                                                   |                          |              |                               |                | 1492052                         | VZWD-L-M22C-M-N18-30-V-3AP4-15-R1 |
|                                                                                   |                          | 4            | 0 ... 8                       | 500            | 1491892                         | VZWD-L-M22C-M-N18-40-V-1P4-8-R1   |
|                                                                                   |                          |              |                               |                | 1491970                         | VZWD-L-M22C-M-N18-40-V-2AP4-8-R1  |
|                                                                                   |                          |              |                               |                | 1492053                         | VZWD-L-M22C-M-N18-40-V-3AP4-8-R1  |
|                                                                                   |                          | 5            | 0 ... 5                       | 500            | 1491893                         | VZWD-L-M22C-M-N18-50-V-1P4-5-R1   |
|                                                                                   |                          |              |                               |                | 1491971                         | VZWD-L-M22C-M-N18-50-V-2AP4-5-R1  |
|                                                                                   |                          |              |                               |                | 1492054                         | VZWD-L-M22C-M-N18-50-V-3AP4-5-R1  |
|                                                                                   |                          | 6            | 0 ... 4                       | 500            | 1491894                         | VZWD-L-M22C-M-N18-60-V-1P4-4-R1   |
|                                                                                   |                          |              |                               |                | 1491972                         | VZWD-L-M22C-M-N18-60-V-2AP4-4-R1  |
|                                                                                   |                          |              |                               |                | 1492055                         | VZWD-L-M22C-M-N18-60-V-3AP4-4-R1  |

1) The valves are suitable for vacuum with Pabs > 100 mbar. Please ensure the direction of flow corresponds to the direction of the arrow.

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