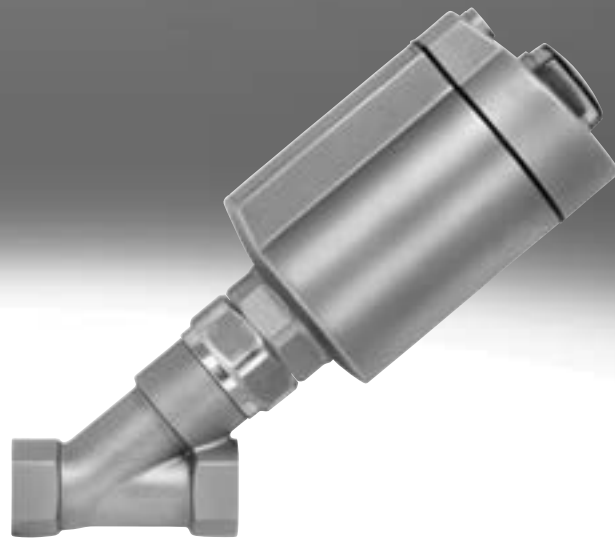


Angle seat valves VZXA

FESTO

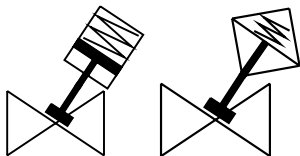


Key features

Function

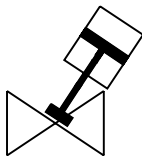
The angle seat valves VZXA are externally actuated valves which are controlled by a direct supply of compressed air and are used to shut off gaseous or liquid media in pipe systems. In the process, a spindle with a soft-sealing valve disc is raised and lowered using a pneumatic actuator. In all the versions mentioned below, the valve seat is slanted at an angle of approx. 40° in relation to the medium flow. The flow direction is determined by the design of the valve (angle seat fitting and actuator).

NC version (normally closed)



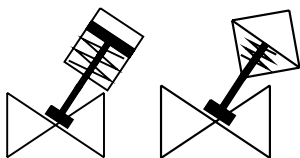
In the normal position, the valve is closed by springs. When the actuator is supplied with operating pressure, it raises the control piston and, at the same time, the valve disc too – this opens the valve.

DA version (double-acting)



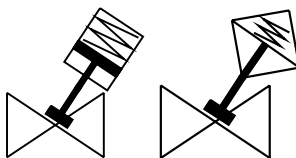
The control function is performed by alternate pneumatic actuation of the actuator chambers. Only available for the piston actuator.

NO version (normally open)



In the normal position, the valve is opened by a spring. When the actuator is supplied with operating pressure, it lowers the control piston and, at the same time, the valve disc too – this closes the valve.

NC version (normally closed) with reduced spring force



In the normal position the valve is closed by a spring (reduced spring force for low operating pressures). When the actuator is supplied with operating pressure, it raises the control piston and, at the same time, the valve disc too – this opens the valve.


Economical

- Modular design
- Hygienic design, insensitive to dirt
- Long service life
- Quick and easy maintenance
- High flow rates achievable

Flexible

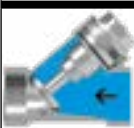

- Control of medium flows (gaseous and liquid) in closed and open circuits
- The angle seat valves VZXA are simple and sturdy and are thus perfectly suitable for almost all media with a viscosity of up to 600 mm²/s
- Angle seat valves VZXA made from stainless steel with PTFE seals have high chemical and thermal resistance
- Also suitable for vacuum applications
- Temperature of medium –30 ... +200°C

Design

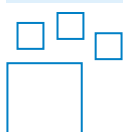
- G thread to DIN ISO 228-1 Parallel Whitworth pipe thread, non-metallic seal: must either be provided with an annular seal outside the thread or must be sealed by wrapping the thread with PTFE or hemp
- NPT thread to ANSI/ASME B 1.20.1 American tapered pipe thread with sealing material in the thread, female thread tapered, male thread tapered
- Rc thread to DIN 10226-2 Pipe thread for fittings sealing in the thread, female thread tapered, male thread tapered
- Connection sizes DN13 ... DN65 and 1/2" ... 2 1/2"
- Pressure of medium 0 ... 30 bar
- Operating pressure 0.5 ... 1 MPa, 72.5 ... 145 psi, 5 ... 10 bar
- Threaded collar connection
- ATEX
 - 
 - Piston actuator with low space requirement, can close against pressures up to 1 MPa/145 psi/10 bar, in actuator sizes 46 mm and 75 mm
 - Diaphragm actuator without stick-slip effect, ideal for high force requirements and control applications, in actuator size 90 mm
 - The interface screws between the valve body and the piston and diaphragm actuators are identical to spanner size 46



Product range overview

| Product range overview | | | |
|---|-----------|---|---|
| | Type | Control function | Flow direction |
|  | VZX-A-... | <ul style="list-style-type: none"> Closed via reduced spring force, NC | <ul style="list-style-type: none"> Over the valve seat For gaseous media, "closing in the direction of medium flow" is used |
|  | VZX-B-... | <ul style="list-style-type: none"> Closed via spring force, NC Opened via spring force, NO Double-acting, DA | <ul style="list-style-type: none"> Under the valve seat For gaseous and liquid media, "closing against the direction of medium flow" is used in order to prevent or reduce water hammer |

Ordering data – Product options

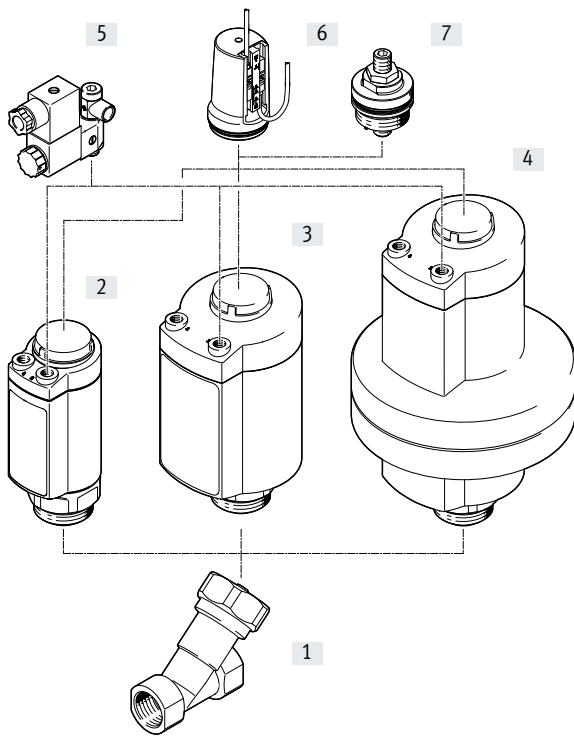


Configurable product
 This product and all its product options can be ordered using the configurator.

The configurator can be found under Products on the DVD or at
[→ www.festo.com/catalogue/...](http://www.festo.com/catalogue/...)

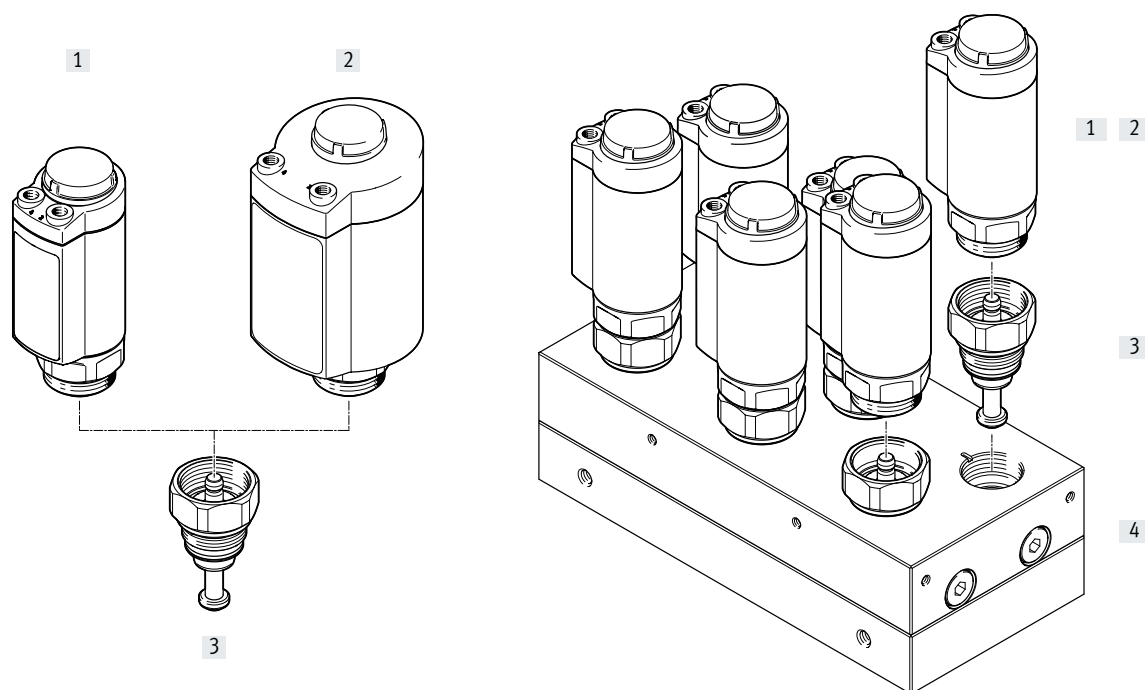
| | |
|----------|------|
| Part no. | Type |
| 3539410 | VZX |

Peripherals overview



| Designation | Description | → Page |
|---------------------------------|--|--------|
| Angle seat valve VZXA | | |
| [1] Valve body VZZA | <ul style="list-style-type: none"> • G thread to DIN ISO 228-1 • NPT thread to ANSI/ASME B 1.20.1 • Rc thread to DIN 10226-2 | - |
| [2] Piston actuator DFPK | <ul style="list-style-type: none"> • Actuator size 46 mm • Small footprint | 7 |
| [3] Piston actuator DFPK | <ul style="list-style-type: none"> • Actuator size 75 mm • Small footprint | 7 |
| [4] Diaphragm actuator DFPM | <ul style="list-style-type: none"> • Actuator size 90 mm • Without stick-slip effect, ideal for high force requirements and control applications | 13 |
| [5] Pilot valve VOFX | <ul style="list-style-type: none"> • Mounted directly on the actuator • Can be ordered separately as an accessory | 24 |
| [6] Position indicator SAMH | <ul style="list-style-type: none"> • Position indicator with two standard T-slots for mounting position sensors • Version with or without sensors • Can be ordered separately as an accessory | 27 |
| [7] Stroke reducing kit VAVA | <ul style="list-style-type: none"> • Piston rod stroke is reduced using a threaded pin or shock absorber • For angle seat valves VZXA with piston and diaphragm actuator • For piston actuators DFPK • Can be ordered separately as an accessory | 26 |

Peripherals overview



| Designation | Description | → Page |
|---|---|--------|
| Parts available to purchase separately for customised valve block solutions | | |
| [1] Piston actuator DFPK | <ul style="list-style-type: none"> • Actuator size 46 mm • Can be ordered separately as an accessory | 20 |
| [2] Piston actuator DFPK | <ul style="list-style-type: none"> • Actuator size 75 mm • Can be ordered separately as an accessory | 20 |
| [3] Cover kit VAVC | <ul style="list-style-type: none"> • Includes spindles and sealing components • Can be ordered separately as an accessory | 22 |
| [4] Manifold block | Requirements and dimensions for manufacturing → www.festo.com/catalogue/... → Support/Downloads | - |



Note

Possible combinations and characteristic values of the medium or operating pressures, see page → 9

Type codes

| | | |
|-------------|---------------|--|
| 001 | Series | |
| VZXA | Process valve | |

| | | |
|------------|--|--|
| 002 | Flow direction | |
| A | Above valve seat, for gaseous media | |
| B | Below valve seat, for gaseous and liquid media | |

| | | |
|------------|-------------------------|--|
| 003 | Cable connection | |
| T | Threaded collar | |

| | | |
|------------|----------------------------------|--|
| 004 | Connection standard | |
| S6 | G thread to DIN ISO 228 | |
| S7 | NPT thread to ANSI/ASME B 1.20.1 | |
| S13 | Rc thread to DIN 10226 | |

| | | |
|---------------|------------------------|--|
| 005 | Connection size | |
| 1/2" | 1/2" | |
| 3/4" | 3/4" | |
| 1" | 1" | |
| 1 1/4" | 1 1/4" | |
| 1 1/2" | 1 1/2" | |
| 2" | 2" | |
| 2 1/2" | 2 1/2" | |
| 13 | DN13 | |
| 20 | DN20 | |
| 25 | DN25 | |
| 32 | DN32 | |
| 40 | DN40 | |
| 50 | DN50 | |
| 65 | DN65 | |

| | | |
|------------|------------------------------|--|
| 006 | Temperature of medium | |
| M2 | -10 ... +180°C | |
| M3 | -10 ... +200°C | |

| | | |
|------------|--------------------------------|--|
| 007 | Valve housing material | |
| V13 | Stainless steel 1.4409 | |
| V14 | Stainless steel ASTM A351-CF3M | |

| | | |
|------------|---------------------------|--|
| 008 | Seat seal material | |
| T | PTFE | |
| TP | PTFE modified | |

| | | |
|-------------|------------------------|--|
| 009 | Medium pressure | |
| 4 | 0 ... 4 bar | |
| 4.4 | 0 ... 4.4 bar | |
| 4.8 | 0 ... 4.8 bar | |
| 5.6 | 0 ... 5.6 bar | |
| 5.8 | 0 ... 5.8 bar | |
| 6 | 0 ... 6 bar | |
| 6.2 | 0 ... 6.2 bar | |
| 6.8 | 0 ... 6.8 bar | |
| 7.5 | 0 ... 7.5 bar | |
| 8 | 0 ... 8 bar | |
| 8.3 | 0 ... 8.3 bar | |
| 9.3 | 0 ... 9.3 bar | |
| 10 | 0 ... 10 bar | |
| 11.5 | 0 ... 11.5 bar | |
| 12.2 | 0 ... 12.2 bar | |
| 12.8 | 0 ... 12.8 bar | |
| 13.5 | 0 ... 13.5 bar | |
| 14.5 | 0 ... 14.5 bar | |
| 15.5 | 0 ... 15.5 bar | |
| 16 | 0 ... 16 bar | |
| 23 | 0 ... 23 bar | |
| 25 | 0 ... 25 bar | |
| 30 | 0 ... 30 bar | |

| | | |
|------------|--------------------|--|
| 010 | Drive | |
| K | Piston drive | |
| M | Diaphragm actuator | |

| | | |
|------------|-------------------|--|
| 011 | Drive size | |
| 46 | 46 mm | |
| 75 | 75 mm | |
| 90 | 90 mm | |

| | | |
|------------|---------------|--|
| 012 | Stroke | |
| 17 | 17 | |
| 20 | 20 | |
| 26 | 26 | |

| | | |
|------------|--------------------------------------|--|
| 013 | Control function | |
| | Closed via spring force, N/C | |
| D | Double-acting | |
| S | Opened via spring force, N/O | |
| PR | Closed via reduced spring force, N/C | |

| | | |
|------------|-------------------------------|--|
| 014 | Drive housing material | |
| V4 | Stainless steel 1.4408 | |

| | | |
|------------|-------------------------|--|
| 015 | EU certification | |
| | None | |
| EX4 | II 2GD | |

Data sheet



- Poppet valve with piston actuator
- Line connection
1/2" ... 2", DN13 ... DN50
- Stroke
17 ... 20 mm


General technical data

| Line connection | | DN13, 1/2" | DN20, 3/4" | DN25, 1" | DN32, 1 1/4" | DN40, 1 1/2" | DN50, 2" |
|-----------------------|-----------------------------------|--|------------|----------|--------------|--------------|----------|
| Actuator | | D46 | D46 | D75 | D46 | D75 | D75 |
| Flow rate Kv | VZXA-A-... [m ₃ /h] | 6.6 | – | 14.5 | – | 21.5 | – |
| | VZXA-B-... [m ₃ /h] | 6 | 13.3 | 13.5 | 20.3 | 22.6 | 27.9 |
| Design | Poppet valve with piston actuator | | | | | | |
| Actuation type | Pneumatic | | | | | | |
| Type of mounting | In-line installation | | | | | | |
| Mounting position | Any | | | | | | |
| Valve function | 2/2 | | | | | | |
| Pneumatic connection | Female thread G1/8 | | | | | | |
| Direction of flow | Not reversible | | | | | | |
| Reset method | Mechanical spring | | | | | | |
| Type of control | Externally piloted | | | | | | |
| Position sensing | Via mechanical indicator | | | | | | |
| Control of the medium | On/off operation | | | | | | |
| Control function | VZXA-A-... | Closed via reduced spring force, NC | | | | | |
| | VZXA-B-... | Closed via spring force, NC | | | | | |
| Flow direction | VZXA-A-... | Over valve seat, for gaseous media | | | | | |
| | VZXA-B-... | Under valve seat, for gaseous and liquid media | | | | | |

Data sheet

| Operating and environmental conditions | | |
|--|--|-----------------------------------|
| Operating pressure ¹⁾ | [MPa] | 0.5 ... 1 |
| | [psi] | 72.5 ... 145 |
| | [bar] | 5 ... 10 |
| Ambient temperature | [°C] | 0 ... +60 |
| Temperature of medium ²⁾ | [°C] | -10 ... +180 |
| Storage temperature | [°C] | -10 ... +60 |
| CE marking (see declaration of conformity) ³⁾ | To EU Machinery Directive | |
| Certification | CRN | |
| Certificate issuing authority | CRNOC20829.5C | |
| Degree of protection | IP65 | |
| | IP67 | |
| Max. viscosity | [mm ² /s] | 600 |
| Medium | Vapour | |
| | Inert gases | |
| | Filtered compressed air, grade of filtration 200 µm | |
| | VZXA-B-... additionally | Mineral oil-based hydraulic fluid |
| | | Mineral oil |
| | Water | |
| | Neutral fluids | |
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] | |
| Safety Integrity Level (SIL) | SIL 2 | |
| PFH | 0.00000014 | |
| PFD | 0.000595 | |
| Certificate issuing authority | German Technical Control Board (TÜV) 968/V 1039.0 0/18 | |

- 1) See "Pressure of medium and operating pressure" table with corresponding control function
- 2) Temperature of medium -30 ... +200°C only in conjunction with modified PTFE seat seal (see modular product system)
- 3) Additional information: www.festo.com/sp → Certificates.

| ATEX ¹⁾ | |
|--------------------------------------|------------------------|
| ATEX category for gas | II 2G |
| Type of ignition protection for gas | c T6 ... T3 X |
| ATEX category for dust | II 2D |
| Type of ignition protection for dust | c T80°C ... T200°C X |
| Explosion-proof ambient temperature | [°C] 0 °C ≤ Ta ≤ +60°C |

1) Selected types → www.festo.com

| Materials | Material number | |
|-------------------|--|----------------|
| Piston rod | High-alloy stainless steel | |
| Cover | Stainless steel casting | |
| Seals | FPM | |
| Spindle seal | PTFE | |
| Seat seal | PTFE | |
| Drive housing | Stainless steel casting | 1.4408 |
| Valve housing | Stainless steel casting | 1.4409 |
| | | ASTM A351-CF3M |
| Note on materials | Contains paint-wetting impairment substances | |
| | RoHS-compliant | |

Data sheet

Pressure of medium and operating pressure for control function NC, VZXA-B (flow direction under the valve seat)

| Actuator size | Min. pressure of medium [bar] | | Max. pressure of medium [bar] | | Min. operating pressure [bar] | |
|---------------|-------------------------------|--------------------|-------------------------------|--------------------|-------------------------------|-------|
| | 46 mm | 75 mm | 46 mm | 75 mm | 46 mm | 75 mm |
| DN13, 1/2" | -0.9 ¹⁾ | - | 30 ¹⁾ | - | 4.8 | - |
| DN20, 3/4" | -0.9 ¹⁾ | -0.9 ¹⁾ | 12.8 ¹⁾ | 30 ¹⁾ | 4.8 | 4.6 |
| DN25, 1" | -0.9 ¹⁾ | -0.9 ¹⁾ | 8.3 ¹⁾ | 23 ¹⁾ | 4.8 | 4.6 |
| DN32, 1 1/4" | -0.9 ¹⁾ | -0.9 ¹⁾ | 4.4 ¹⁾ | 13.5 ¹⁾ | 4.8 | 4.6 |
| DN40, 1 1/2" | - | -0.9 ¹⁾ | - | 9.3 ¹⁾ | - | 4.6 |
| DN50, 2" | - | -0.9 ¹⁾ | - | 5.6 ¹⁾ | - | 4.6 |

1) Also suitable for vacuum applications

Pressure of medium and operating pressure for control function NC with reduced spring force, VZXA-B-...-PR (flow direction under the valve seat)

| Actuator size | Max. pressure of medium [bar] | | Min. operating pressure [bar] | |
|---------------|-------------------------------|-------|-------------------------------|-------|
| | 46 mm | 75 mm | 46 mm | 75 mm |
| DN13, 1/2" | 11.5 | - | 2.6 | - |
| DN20, 3/4" | 6 | 16 | 2.6 | 2.2 |
| DN25, 1" | - | 9.3 | - | 2.2 |
| DN32, 1 1/4" | - | 4.8 | - | 2.2 |
| DN40, 1 1/2" | - | 4 | - | 2.2 |

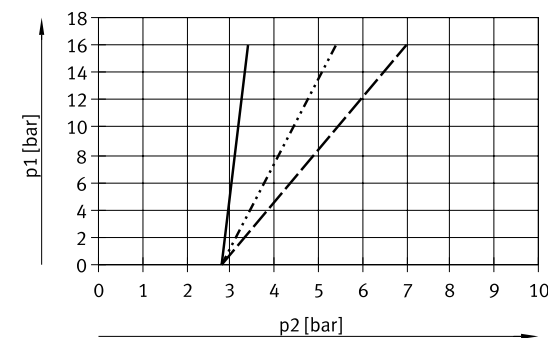
Pressure of medium and operating pressure for control function NO opened via spring force, VZXA-B-...-S (flow direction under the valve seat)

| Actuator size | Max. pressure of medium [bar] | | Min. operating pressure [bar] | |
|---------------|-------------------------------|-------|-------------------------------|-------|
| | 46 mm | 75 mm | 46 mm | 75 mm |
| DN13, 1/2" | 16 | - | 3.4 | - |
| DN20, 3/4" | 13.5 | 16 | 5 | 3.4 |
| DN25, 1" | 8.3 | 16 | 5 | 4 |
| DN32, 1 1/4" | - | 16 | - | 5 |
| DN40, 1 1/2" | - | 10 | - | 5 |
| DN50, 2" | - | 6.2 | - | 5 |

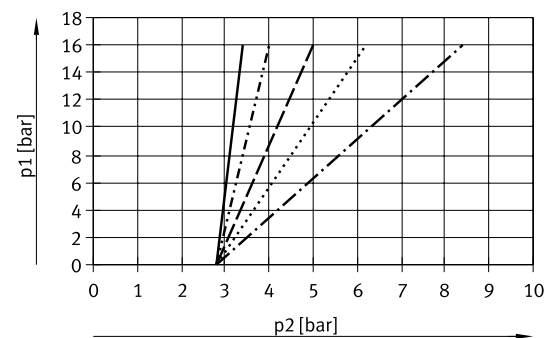
Pressure of medium p1 and operating pressure p2 for control function NO opened via spring force, VZXA-B-...-S (flow direction under the valve seat)

Piston actuator size 46 mm

Piston actuator size 75 mm



— DN13, 1/2"
 - - - - - DN20, 3/4"
 - - - - - DN25, 1"



— DN20, 3/4"
 - - - - - DN25, 1"
 - - - - - DN32, 1 1/4"
 DN40, 1 1/2"
 - . - . - . DN50, 2"

Data sheet

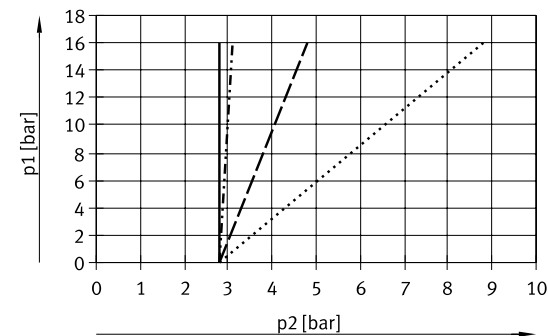
Pressure of medium and operating pressure for double-acting control function, VZXA-B-...-D (flow direction under the valve seat)

| Actuator size | Max. pressure of medium [bar] | | Min. operating pressure [bar] | |
|---------------|-------------------------------|-------|-------------------------------|-------|
| | 46 mm | 75 mm | 46 mm | 75 mm |
| DN13, 1/2" | 16 | – | 2.8 | – |
| DN20, 3/4" | 16 | 16 | 3.1 | 2.8 |
| DN25, 1" | 16 | 16 | 4.8 | 2.8 |
| DN32, 1 1/4" | 6 | 16 | 5 | 2.8 |
| DN40, 1 1/2" | – | 16 | – | 3.8 |
| DN50, 2" | – | 10 | – | 5 |

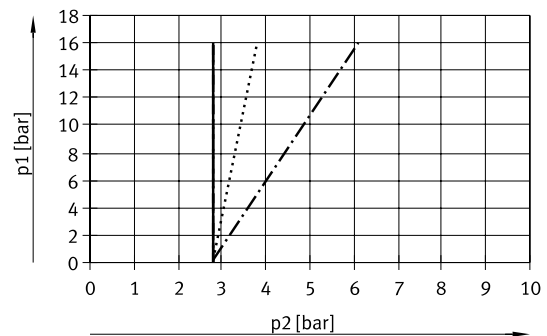
Pressure of medium p1 and operating pressure p2 for double-acting control function, VZXA-B-...-D (flow direction under the valve seat)

Piston actuator size 46 mm

Piston actuator size 75 mm



- DN13, 1/2"
- DN20, 3/4"
- DN25, 1"
- · - · DN32, 1 1/4"



- DN20, 3/4" and DN25, 1" and DN32, 1 1/4"
- DN40, 1 1/2"
- · - · DN50, 2"

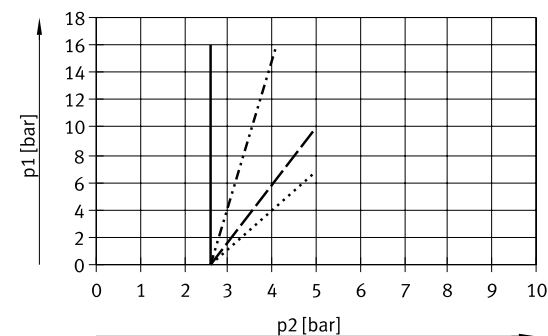
Pressure of medium and operating pressure for control function NC with reduced spring force, VZXA-A-...-PR (flow direction over the valve seat)

| Actuator size | Max. pressure of medium [bar] | | Min. operating pressure [bar] | |
|---------------|-------------------------------|-------|-------------------------------|-------|
| | 46 mm | 75 mm | 46 mm | 75 mm |
| DN13, 1/2" | 16 | – | 2.6 | – |
| DN20, 3/4" | 16 | 16 | 4.1 | 2.4 |
| DN25, 1" | 10 | 16 | 5 | 3.1 |
| DN32, 1 1/4" | 6.8 | 16 | 5 | 4.2 |
| DN40, 1 1/2" | – | 15.5 | – | 5 |
| DN50, 2" | – | 8 | – | 5 |

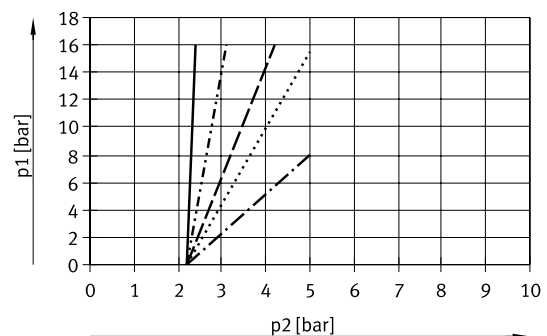
Pressure of medium p1 and operating pressure p2 for control function NC with reduced spring force, VZXA-A-...-PR (flow direction over the valve seat)

Piston actuator size 46 mm

Piston actuator size 75 mm



- DN13, 1/2"
- DN20, 3/4"
- DN25, 1"
- · - · DN32, 1 1/4"

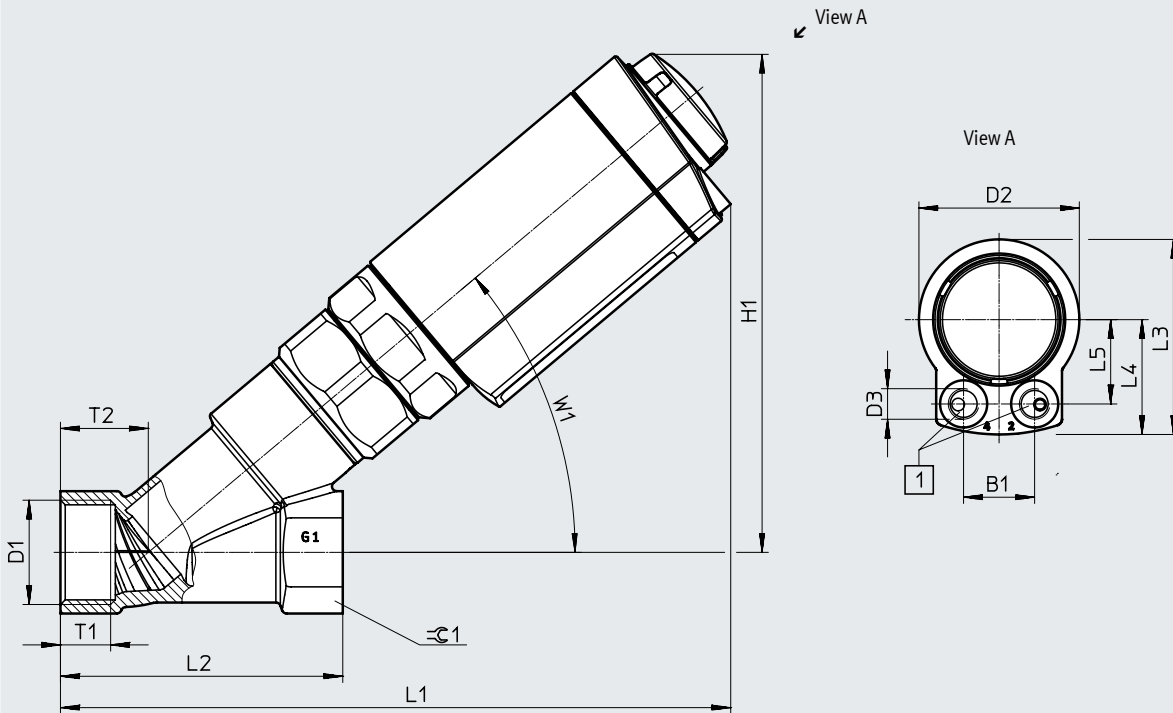


- DN20, 3/4"
- DN25, 1"
- DN32, 1 1/4"
- DN40, 1 1/2"
- · - · DN50, 2"

Data sheet

Dimensions

Download CAD data → www.festo.com



[1] Pneumatic connection

| Type | B1 | D1 | | | D2 ø | D3 | H1 | L1 | L2 |
|-----------------------------------|------|--------|-----------|---------|---------|------|-----|-----|-----|
| | | S6 | S7 | S13 | | | | | |
| VZXA-A-...13-...16-...46-17-... | 22.6 | G1/2 | 1/2 NPT | Rc1/2 | 51 | G1/8 | 159 | 202 | 65 |
| VZXA-A-...20-...16-...75-20-... | 41 | G3/4 | 3/4 NPT | Rc3/4 | 82.6 | | 187 | 234 | 75 |
| VZXA-A-...25-...16-...75-20-... | 41 | G1 | 1 NPT | Rc1 | 82.6 | | 192 | 244 | 90 |
| VZXA-B-...13-...30-...46-17-... | 22.6 | G1/2 | 1/2 NPT | Rc1/2 | 51 | | 159 | 202 | 65 |
| VZXA-B-...20-...12.8-...46-17-... | 22.6 | G3/4 | 3/4 NPT | Rc3/4 | 51 | | 158 | 203 | 75 |
| VZXA-B-...20-...30-...75-20-... | 41 | G3/4 | 3/4 NPT | Rc3/4 | 82.6 | | 187 | 234 | 75 |
| VZXA-B-...25-...8.3-...46-17-... | 22.6 | G1 | 1 NPT | Rc1 | 51 | | 164 | 214 | 90 |
| VZXA-B-...25-...23-...75-20-... | 41 | G1 | 1 NPT | Rc1 | 82.6 | | 192 | 244 | 90 |
| VZXA-B-...32-...4.4-...46-17-... | 22.6 | G1 1/4 | 1 1/4 NPT | Rc1 1/4 | 51 | | 168 | 218 | 110 |
| VZXA-B-...32-...13.5-...75-20-... | 41 | G1 1/4 | 1 1/4 NPT | Rc1 1/4 | 82.6 | | 198 | 248 | 110 |
| VZXA-B-...40-...9.3-...75-20-... | 41 | G1 1/2 | 1 1/2 NPT | Rc1 1/2 | 82.6 | | 216 | 270 | 120 |
| VZXA-B-...50-...5.6-...75-20-... | 41 | G2 | 2 NPT | Rc2 | 82.6 | | 215 | 286 | 150 |

| Type | L3 | L4 | L5 | T1 | | | T2 | W1 | ≈C1 |
|-----------------------------------|------|------|------|----|------|------|------|----|-----|
| | | | | S6 | S7 | S13 | | | |
| VZXA-A-...13-...16-...46-17-... | 62 | 36.5 | 26.8 | 14 | 13.7 | 13.2 | 21.5 | 40 | 25 |
| VZXA-A-...20-...16-...75-20-... | 94.4 | 53.1 | 41 | 16 | 14 | 14.5 | 24 | 40 | 32 |
| VZXA-A-...25-...16-...75-20-... | 94.4 | 53.1 | 41 | 16 | 16.8 | 16.8 | 28 | 40 | 41 |
| VZXA-B-...13-...30-...46-17-... | 62 | 36.5 | 26.8 | 14 | 13.7 | 13.2 | 21.5 | 40 | 25 |
| VZXA-B-...20-...12.8-...46-17-... | 62 | 36.5 | 26.8 | 16 | 14 | 14.5 | 24 | 40 | 32 |
| VZXA-B-...20-...30-...75-20-... | 94.4 | 53.1 | 41 | 16 | 14 | 14.5 | 24 | 40 | 32 |
| VZXA-B-...25-...8.3-...46-17-... | 62 | 36.5 | 26.8 | 16 | 16.8 | 16.8 | 28 | 40 | 41 |
| VZXA-B-...25-...23-...75-20-... | 94.4 | 53.1 | 41 | 16 | 16.8 | 16.8 | 28 | 40 | 41 |
| VZXA-B-...32-...4.4-...46-17-... | 62 | 36.5 | 26.8 | 20 | 17.3 | 19.1 | 36 | 42 | 50 |
| VZXA-B-...32-...13.5-...75-20-... | 94.4 | 53.1 | 41 | 20 | 17.3 | 19.1 | 36 | 42 | 50 |
| VZXA-B-...40-...9.3-...75-20-... | 94.4 | 53.1 | 41 | 22 | 17.3 | 19.1 | 38 | 42 | 55 |
| VZXA-B-...50-...5.6-...75-20-... | 94.4 | 53.1 | 41 | 24 | 17.6 | 23.4 | 43 | 40 | 65 |

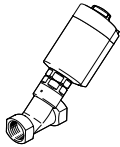
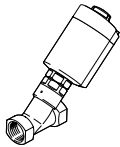
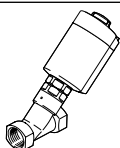
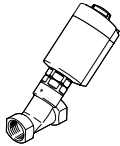
Angle seat valves VZXA with piston actuator

Data sheet

Ordering data

Key features:

- Control function closed via spring force, NC
- Without ATEX certification

| VZXA-A-..., flow direction over the valve seat | | Flow rate Kv [m ³ /h] | Pressure of medium [bar] | Weight [g] | Part no. | Type |
|--|------------------------|-------------------------------------|-----------------------------|----------------|--------------------------------------|---|
| G thread to DIN ISO 228-1 | | | | | | |
|  | DN13, 46 mm actuator | 6.6 | 0 ... 16 | 1775 | 8060513 | VZXA-A-TS6-13-M2-V13T-16-K-46-17-PR-V4 |
| | DN20, 75 mm actuator | 14.5 | | 3155 | 8060514 | VZXA-A-TS6-20-M2-V13T-16-K-75-20-PR-V4 |
| | DN25, 75 mm actuator | 21.5 | | 3395 | 8060515 | VZXA-A-TS6-25-M2-V13T-16-K-75-20-PR-V4 |
| NPT thread to ANSI/ASME B 1.20.1 | | | | | | |
|  | 1/2", 46 mm actuator | 6.6 | 0 ... 16 | 1775 | 8060520 | VZXA-A-TS7-1/2"-M2-V14T-16-K-46-17-PR-V4 |
| | 3/4", 75 mm actuator | 14.5 | | 3155 | 8060521 | VZXA-A-TS7-3/4"-M2-V14T-16-K-75-20-PR-V4 |
| | 1", 75 mm actuator | 21.5 | | 3395 | 8060522 | VZXA-A-TS7-1"-M2-V14T-16-K-75-20-PR-V4 |
| VZXA-B-..., flow direction under the valve seat | | Flow rate Kv [m ³ /h] | Pressure of medium [bar] | Weight [g] | Part no. | Type |
| G thread to DIN ISO 228-1 | | | | | | |
|  | DN13, 46 mm actuator | 6 | 0 ... 30 | 1830 | 8060527 | VZXA-B-TS6-13-M2-V13T-30-K-46-17-V4 |
| | DN20, 46 mm actuator | 13.3 | 0 ... 12.8 | 1910 | 8060528 | VZXA-B-TS6-20-M2-V13T-12.8-K-46-17-V4 |
| | DN20, 75 mm actuator | 13.5 | 0 ... 30 | 3360 | 8060529 | VZXA-B-TS6-20-M2-V13T-30-K-75-20-V4 |
| | DN25, 46 mm actuator | 20.3 | 0 ... 8.3 | 2150 | 8060530 | VZXA-B-TS6-25-M2-V13T-8.3-K-46-17-V4 |
| | DN25, 75 mm actuator | 22.6 | 0 ... 23 | 3600 | 8060531 | VZXA-B-TS6-25-M2-V13T-23-K-75-20-V4 |
| | DN32, 46 mm actuator | 27.9 | 0 ... 4.4 | 2480 | 8060533 | VZXA-B-TS6-32-M2-V13T-4.4-K-46-17-V4 |
| | DN32, 75 mm actuator | 30.3 | 0 ... 13.5 | 3930 | 8060534 | VZXA-B-TS6-32-M2-V13T-13.5-K-75-20-V4 |
| | DN40, 75 mm actuator | 41.4 | 0 ... 9.3 | 4610 | 8060536 | VZXA-B-TS6-40-M2-V13T-9.3-K-75-20-V4 |
| DN50, 75 mm actuator | 50.1 | 0 ... 5.6 | 5430 | 8060538 | VZXA-B-TS6-50-M2-V13T-5.6-K-75-20-V4 | |
| NPT thread to ANSI/ASME B 1.20.1 | | | | | | |
|  | 1/2", 46 mm actuator | 6 | 0 ... 30 | 1830 | 8060541 | VZXA-B-TS7-1/2"-M2-V14T-30-K-46-17-V4 |
| | 3/4", 46 mm actuator | 13.3 | 0 ... 12.8 | 1910 | 8060542 | VZXA-B-TS7-3/4"-M2-V14T-12.8-K-46-17-V4 |
| | 3/4", 75 mm actuator | 13.5 | 0 ... 30 | 3360 | 8060543 | VZXA-B-TS7-3/4"-M2-V14T-30-K-75-20-V4 |
| | 1", 46 mm actuator | 20.3 | 0 ... 8.3 | 2150 | 8060544 | VZXA-B-TS7-1"-M2-V14T-8.3-K-46-17-V4 |
| | 1", 75 mm actuator | 22.6 | 0 ... 23 | 3600 | 8060545 | VZXA-B-TS7-1"-M2-V14T-23-K-75-20-V4 |
| | 1 1/4", 46 mm actuator | 27.9 | 0 ... 4.4 | 2480 | 8060547 | VZXA-B-TS7-1 1/4"-M2-V14T-4.4-K-46-17-V4 |
| | 1 1/4", 75 mm actuator | 30.3 | 0 ... 13.5 | 3930 | 8060548 | VZXA-B-TS7-1 1/4"-M2-V14T-13.5-K-75-20-V4 |
| | 1 1/2", 75 mm actuator | 41.4 | 0 ... 9.3 | 4610 | 8060550 | VZXA-B-TS7-1 1/2"-M2-V14T-9.3-K-75-20-V4 |
| | 2", 75 mm actuator | 50.1 | 0 ... 5.6 | 5430 | 8060552 | VZXA-B-TS7-2"-M2-V14T-5.6-K-75-20-V4 |

Data sheet



- Poppet valve with diaphragm actuator
- Line connection
1/2" ... 2 1/2", DN13 ... DN65
- Stroke
26 mm



| General technical data | | DN25, 1" | DN32, 1 1/4" | DN40, 1 1/2" | DN50, 2" | DN65, 2 1/2" |
|------------------------|--------------------------------------|--|-------------------------------------|--------------|----------|--------------|
| Line connection | | | | | | |
| Actuator size | [mm] | 90 | | | | |
| Stroke | [mm] | 26 | | | | |
| Flow rate Kv | VZXA-A-... [m ³ /h] | – | 35.4 | 47.4 | 68.5 | 77.4 |
| | VZXA-B-... [m ³ /h] | 23.6 | 33.1 | 49 | 60.4 | 77.9 |
| Design | Poppet valve with diaphragm actuator | | | | | |
| Actuation type | Pneumatic | | | | | |
| Type of mounting | In-line installation | | | | | |
| Mounting position | Any | | | | | |
| Valve function | 2/2 | | | | | |
| Pneumatic connection | Female thread G1/8 | | | | | |
| Direction of flow | Not reversible | | | | | |
| Reset method | Mechanical spring | | | | | |
| Type of control | Externally piloted | | | | | |
| Position sensing | Via mechanical indicator | | | | | |
| Control of the medium | On/off operation | | | | | |
| Control function | VZXA-A-... | – | Closed via reduced spring force, NC | | | |
| | VZXA-B-... | Closed via spring force, NC | | | | |
| Flow direction | VZXA-A-... | – | Over valve seat, for gaseous media | | | |
| | VZXA-B-... | Under valve seat, for gaseous and liquid media | | | | |

Data sheet

| Operating and environmental conditions | | |
|--|--|--------------|
| Operating pressure ¹⁾ | [MPa] | 0.5 ... 1 |
| | [psi] | 72.5 ... 145 |
| | [bar] | 5 ... 10 |
| Ambient temperature | [°C] | 0 ... +60 |
| Temperature of medium ²⁾ | [°C] | -10 ... +180 |
| Storage temperature | [°C] | -10 ... +60 |
| CE marking (see declaration of conformity) ³⁾ | To EU Machinery Directive | |
| Certification | CRN | |
| Certificate issuing authority | CRNOC20829.5C | |
| Degree of protection | IP65 | |
| | IP67 | |
| Max. viscosity | [mm ² /s] | 600 |
| Medium VZXA-B-... additionally | Vapour | |
| | Inert gases | |
| | Filtered compressed air, grade of filtration 200 µm | |
| | Mineral oil-based hydraulic fluid | |
| | Mineral oil | |
| | Water | |
| | Neutral fluids | |
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] | |
| Safety Integrity Level (SIL) | SIL 2 | |
| PFH | 0.00000014 | |
| PFD | 0.000595 | |
| Certificate issuing authority | German Technical Control Board (TÜV) 968/V 1039.0 0/18 | |

- 1) See "Pressure of medium and operating pressure" table with corresponding control function
 2) Temperature of medium -30 ... +200°C only in conjunction with modified PTFE seat seal (see modular product system)
 3) Additional information: www.festo.com/sp → Certificates.

| ATEX ¹⁾ | |
|--------------------------------------|------------------------|
| ATEX category for gas | II 2G |
| Type of ignition protection for gas | c T6 ... T3 X |
| ATEX category for dust | II 2D |
| Type of ignition protection for dust | c T80°C ... T200°C X |
| Explosion-proof ambient temperature | [°C] 0 °C ≤ Ta ≤ +60°C |

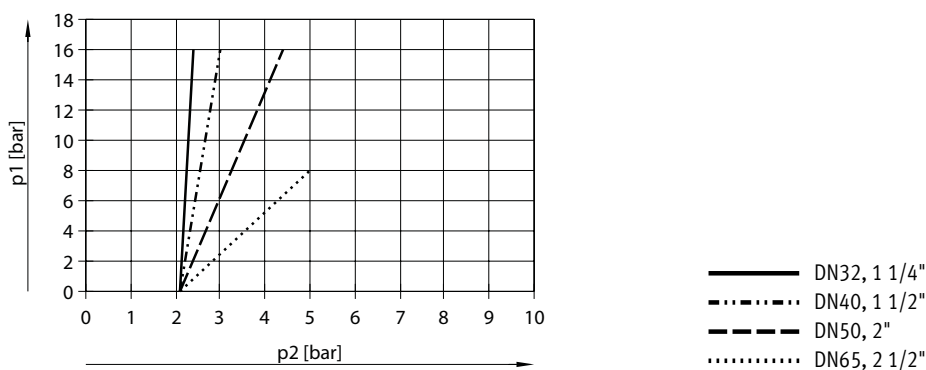
- 1) Selected types → www.festo.com

Data sheet

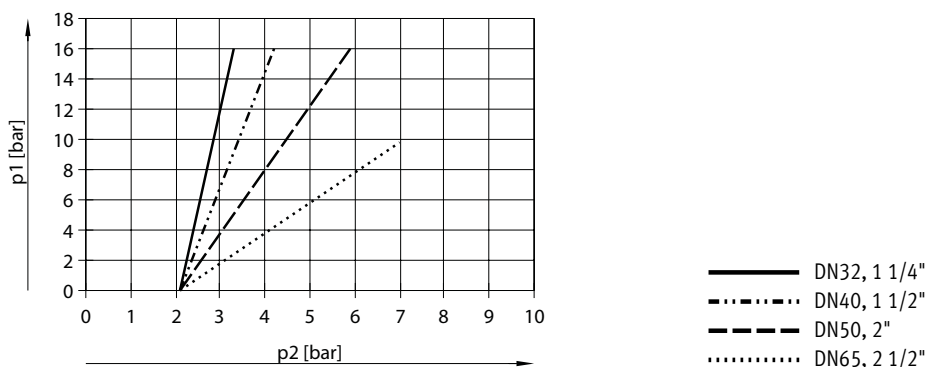
| Materials | | Material number |
|-------------------|--|-----------------|
| Piston rod | High-alloy stainless steel | |
| Cover | Stainless steel casting | |
| Seals | NBR | |
| Spindle seal | PTFE | |
| Seat seal | PTFE | |
| Drive housing | Stainless steel casting | 1.4408 |
| Valve housing | Stainless steel casting | 1.4409 |
| | | ASTM A351-CF3M |
| Note on materials | Contains paint-wetting impairment substances | |
| | RoHS-compliant | |

| Permissible operating pressure as a function of pressure of medium for control function NC, VZXA-B-... | | |
|--|-------------------------------|-------------------------------|
| | Min. operating pressure [bar] | Max. pressure of medium [bar] |
| Actuator size | 90 mm | |
| DN25, 1" | 5 | 30 |
| DN32, 1 1/4" | 5 | 25 |
| DN40, 1 1/2" | 5 | 16 |
| DN50, 2" | 5 | 10 |
| DN65, 2 1/2" | 5 | 5.6 |

Pressure of medium p1 and operating pressure p2 for control function NC with reduced spring force, VZXA-A-...-PR (flow direction over the valve seat)
Diaphragm actuator size 90 mm



Pressure of medium p1 and operating pressure p2 for control function NO opened via spring force, VZXA-B-...-S (flow direction under the valve seat)
Diaphragm actuator size 90 mm

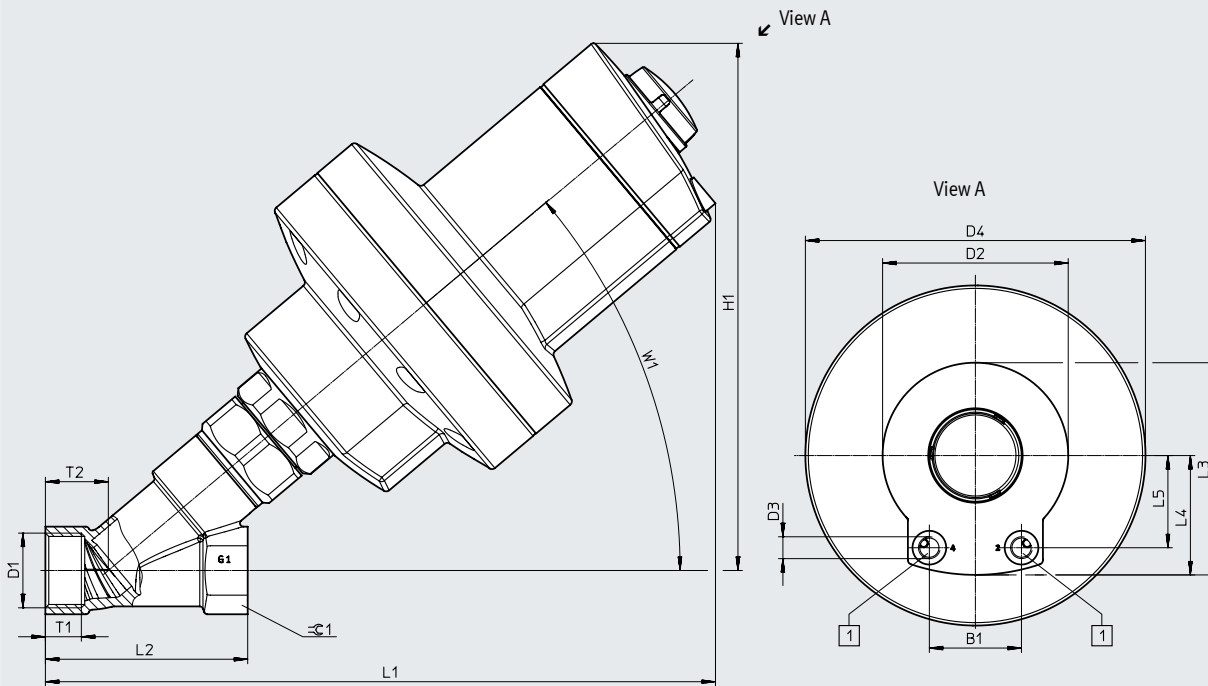


Data sheet

Dimensions

Download CAD data → www.festo.com

Size 90 mm



[1] Pneumatic connection

| Type | B1 | D1 | | | D2 ∅ | D3 | D4 ∅ | H1 | L1 | L2 |
|---------------------------------|----|--------|-----------|---------|---------|------|---------|-----|-----|-----|
| | | S6 | S7 | S13 | | | | | | |
| VZXA-A-...-32-...-16-...-PR-... | 41 | G1 1/4 | 1 1/4 NPT | Rc1 1/4 | 82.6 | G1/8 | 151.3 | 245 | 300 | 110 |
| VZXA-A-...-40-...-16-...-PR-... | 41 | G1 1/2 | 1 1/2 NPT | Rc1 1/2 | 82.6 | G1/8 | 151.3 | 263 | 322 | 120 |
| VZXA-A-...-50-...-16-...-PR-... | 41 | G2 | 2 NPT | Rc2 | 82.6 | G1/8 | 151.3 | 260 | 340 | 150 |
| VZXA-A-...-65-...-8-...-PR-... | 41 | G2 1/2 | 2 1/2 NPT | Rc2 1/2 | 82.6 | G1/8 | 151.3 | 273 | 366 | 190 |
| VZXA-B-...-25-...-30-... | 41 | G1 | 1 NPT | Rc1 | 82.6 | G1/8 | 151.3 | 238 | 298 | 90 |
| VZXA-B-...-32-...-25-... | 41 | G1 1/4 | 1 1/4 NPT | Rc1 1/4 | 82.6 | G1/8 | 151.3 | 245 | 300 | 110 |
| VZXA-B-...-40-...-16-... | 41 | G1 1/2 | 1 1/2 NPT | Rc1 1/2 | 82.6 | G1/8 | 151.3 | 263 | 322 | 120 |
| VZXA-B-...-50-...-10-... | 41 | G2 | 2 NPT | Rc2 | 82.6 | G1/8 | 151.3 | 260 | 340 | 150 |
| VZXA-B-...-65-...-5.6-... | 41 | G2 1/2 | 2 1/2 NPT | Rc2 1/2 | 82.6 | G1/8 | 151.3 | 273 | 366 | 190 |

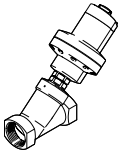
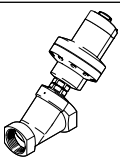
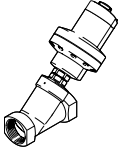
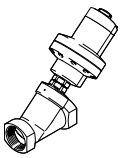
| Type | L3 | L4 | L5 | T1 | | | T2 | W1 | ≈G1 |
|---------------------------------|------|------|------|----|------|------|----|----|-----|
| | | | | S6 | S7 | S13 | | | |
| VZXA-A-...-32-...-16-...-PR-... | 94.4 | 53.1 | 12.1 | 20 | 17.3 | 19.1 | 36 | 42 | 50 |
| VZXA-A-...-40-...-16-...-PR-... | 94.4 | 53.1 | 12.1 | 22 | 17.3 | 19.1 | 38 | 42 | 55 |
| VZXA-A-...-50-...-16-...-PR-... | 94.4 | 53.1 | 12.1 | 24 | 17.6 | 23.4 | 43 | 40 | 65 |
| VZXA-A-...-65-...-8-...-PR-... | 94.4 | 53.1 | 12.1 | 27 | 24 | 27 | 53 | 40 | 85 |
| VZXA-B-...-25-...-30-... | 94.4 | 53.1 | 12.1 | 16 | 16.8 | 16.8 | 28 | 40 | 41 |
| VZXA-B-...-32-...-25-... | 94.4 | 53.1 | 12.1 | 20 | 17.3 | 19.1 | 36 | 42 | 50 |
| VZXA-B-...-40-...-16-... | 94.4 | 53.1 | 12.1 | 22 | 17.3 | 19.1 | 38 | 42 | 55 |
| VZXA-B-...-50-...-10-... | 94.4 | 53.1 | 12.1 | 24 | 17.6 | 23.4 | 43 | 40 | 65 |
| VZXA-B-...-65-...-5.6-... | 94.4 | 53.1 | 12.1 | 27 | 24 | 27 | 53 | 40 | 85 |

Data sheet

Ordering data

Key features:

- Control function closed via spring force, NC
- Without ATEX certification

| VZXA-A-..., flow direction over the valve seat | | Flow rate Kv [m ³ /h] | Pressure of medium [bar] | Weight [g] | Part no. | Type |
|---|------------------------|-------------------------------------|--------------------------------|---------------|----------------|--|
| G thread to DIN ISO 228-1 | | | | | | |
|  | DN32, 90 mm actuator | 35.4 | 0 ... 16 | 6595 | 8060516 | VZXA-A-TS6-32-M2-V13T-16-M-90-26-PR-V4 |
| | DN40, 90 mm actuator | 47.4 | 0 ... 16 | 7275 | 8060517 | VZXA-A-TS6-40-M2-V13T-16-M-90-26-PR-V4 |
| | DN50, 90 mm actuator | 68.5 | 0 ... 16 | 8095 | 8060518 | VZXA-A-TS6-50-M2-V13T-16-M-90-26-PR-V4 |
| | DN65, 90 mm actuator | 77.4 | 0 ... 8 | 10185 | 8060519 | VZXA-A-TS6-65-M2-V13T-8-M-90-26-PR-V4 |
| NPT thread to ANSI/ASME B 1.20.1 | | | | | | |
|  | 1 1/4", 90 mm actuator | 35.4 | 0 ... 16 | 6595 | 8060523 | VZXA-A-TS7-1 1/4"-M2-V14T-16-M-90-26-PR-V4 |
| | 1 1/2", 90 mm actuator | 47.4 | 0 ... 16 | 7275 | 8060524 | VZXA-A-TS7-1 1/2"-M2-V14T-16-M-90-26-PR-V4 |
| | 2", 90 mm actuator | 68.5 | 0 ... 16 | 8095 | 8060525 | VZXA-A-TS7-2"-M2-V14T-16-M-90-26-PR-V4 |
| | 2 1/2", 90 mm actuator | 77.4 | 0 ... 8 | 10185 | 8060526 | VZXA-A-TS7-2 1/2"-M2-V14T-8-M-90-26-PR-V4 |
| VZXA-B-..., flow direction under the valve seat | | | | | | |
| | | Flow rate Kv [m ³ /h] | Pressure of medium [bar] | Weight [g] | Part no. | Type |
| G thread to DIN ISO 228-1 | | | | | | |
|  | DN25, 90 mm actuator | 23.6 | 0 ... 30 | 6780 | 8060532 | VZXA-B-TS6-25-M2-V13T-30-M-90-26-V4 |
| | DN32, 90 mm actuator | 33.1 | 0 ... 25 | 7110 | 8060535 | VZXA-B-TS6-32-M2-V13T-25-M-90-26-V4 |
| | DN40, 90 mm actuator | 49 | 0 ... 16 | 7790 | 8060537 | VZXA-B-TS6-40-M2-V13T-16-M-90-26-V4 |
| | DN50, 90 mm actuator | 60.4 | 0 ... 10 | 8610 | 8060539 | VZXA-B-TS6-50-M2-V13T-10-M-90-26-V4 |
| | DN65, 90 mm actuator | 77.9 | 0 ... 5.6 | 10700 | 8060540 | VZXA-B-TS6-65-M2-V13T-5.6-M-90-26-V4 |
| NPT thread to ANSI/ASME B 1.20.1 | | | | | | |
|  | 1", 90 mm actuator | 23.6 | 0 ... 30 | 6780 | 8060546 | VZXA-B-TS7-1"-M2-V14T-30-M-90-26-V4 |
| | 1 1/4", 90 mm actuator | 33.1 | 0 ... 25 | 7110 | 8060549 | VZXA-B-TS7-1 1/4"-M2-V14T-25-M-90-26-V4 |
| | 1 1/2", 90 mm actuator | 49 | 0 ... 16 | 7790 | 8060551 | VZXA-B-TS7-1 1/2"-M2-V14T-16-M-90-26-V4 |
| | 2", 90 mm actuator | 60.4 | 0 ... 10 | 8610 | 8060553 | VZXA-B-TS7-2"-M2-V14T-10-M-90-26-V4 |
| | 2 1/2", 90 mm actuator | 77.9 | 0 ... 5.6 | 10700 | 8060554 | VZXA-B-TS7-2 1/2"-M2-V14T-5.6-M-90-26-V4 |

Ordering data – Modular product system

| Ordering table | | Conditions | Code | Enter code |
|-----------------------------|--|----------------|----------------|------------|
| VZXA-... | | | | |
| Module no. | 3539410 | | | |
| Product type | VZXA | | VZXA | VZXA |
| Flow direction | Over valve seat, for gaseous media | | -A | |
| | Under valve seat, for gaseous and liquid media | | -B | |
| Control of the medium | On/off operation | | | |
| Line connection | Threaded collar | | -T | -T |
| Connection standard | DIN ISO 228-1 | | S6 | |
| | ANSI/ASME B 1.20.1 | | S7 | |
| | DIN 10226-2 | | S13 | |
| Connection size | DN13 | [4] | -13 | |
| | DN20 | [4] | -20 | |
| | DN25 | [4] | -25 | |
| | DN32 | [4] | -32 | |
| | DN40 | [4] | -40 | |
| | DN50 | [4] | -50 | |
| | DN65 | [4] | -65 | |
| | 1/2" | [1] | -1/2" | |
| | 3/4" | [1] | -3/4" | |
| | 1" | [1] | -1" | |
| | 1 1/4" | [1] | -1 1/4" | |
| | 1 1/2" | [1] | -1 1/2" | |
| | 2" | [1] | -2" | |
| 2 1/2" | [1] | -2 1/2" | | |
| Temperature of medium [°C] | -10 ... +180 | | -M2 | |
| | -30 ... +200 | | -M3 | |
| Angle seat housing material | Stainless steel 1.4409 | [2] | -V13 | |
| | Stainless steel ASTM A351-CF3M | [3] | -V14 | |
| Seat seal material | PTFE | | T | |
| | PTFE modified | [5] | TP | |

- [1] 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2"
- [2] V13
- [3] V14
- [4] DN13, DN20, DN25, DN32, DN40, DN50, DN65
- [5] TP

- Not with connection standard S6, S13
- Not with imperial connection size
- Not with metric connection size
- Not with connection standard S7
- Only with temperature of medium M3

Ordering data – Modular product system

| Ordering table | | Conditions | Code | Enter code | |
|---------------------------|----------|-------------------------------------|-----------------|------------|-----|
| VZXA-... | | | | | |
| Pressure of medium | [bar] | 0 ... 4 | [6] | -4 | |
| | [bar] | 0 ... 4.4 | [6] | -4.4 | |
| | [bar] | 0 ... 4.8 | [6] | -4.8 | |
| | [bar] | 0 ... 5.6 | [6] | -5.6 | |
| | [bar] | 0 ... 5.8 | [6] | -5.8 | |
| | [bar] | 0 ... 6 | [6] | -6 | |
| | [bar] | 0 ... 6.2 | [6] | -6.2 | |
| | [bar] | 0 ... 6.8 | [7] | -6.8 | |
| | [bar] | 0 ... 7.5 | [6] | -7.5 | |
| | [bar] | 0 ... 8 | [7] | -8 | |
| | [bar] | 0 ... 8.3 | [6] | -8.3 | |
| | [bar] | 0 ... 9.3 | [6] | -9.3 | |
| | [bar] | 0 ... 10 | [6] | -10 | |
| | [bar] | 0 ... 11.5 | [6] | -11.5 | |
| | [bar] | 0 ... 12.2 | [6] | -12.2 | |
| | [bar] | 0 ... 12.8 | [6] | -12.8 | |
| | [bar] | 0 ... 13.5 | [6] | -13.5 | |
| | [bar] | 0 ... 14.5 | [6] | -14.5 | |
| | [bar] | 0 ... 15.5 | [7] | -15.5 | |
| | Actuator | | Piston actuator | | |
| | | Diaphragm actuator | | -M | |
| Actuator size | [mm] | 46 | [14] | -46 | |
| | [mm] | 75 | [14] | -75 | |
| | [mm] | 90 | [15] | -90 | |
| Stroke | [mm] | 17 | [10] | -17 | |
| | [mm] | 20 | [11] | -20 | |
| | [mm] | 26 | [12] | -26 | |
| Control function | | Closed via spring force, NC | | | |
| | | Double-acting | [14] | -D | |
| | | Opened via spring force, NO | | -S | |
| | | Closed via reduced spring force, NC | [13] | -PR | |
| Position sensing | | Via mechanical indicator | | | |
| Actuator housing material | | Stainless steel 1.4408 | | -V4 | -V4 |
| EU certification | | None | | | |
| | | II 2GD | | -EX4 | |

[6] 4 ... 6.2, 7.5, 8.3, 9.3, 11.5 ... 14.5, 23 ... 30

[7] 6.8, 8, 15.5

[8] 18, 20, 23, 25

[9] 30

[10] Stroke 17

[11] Stroke 20

[12] Stroke 26

[13] Control function PR

[14] Control function D, S

[15] Size 90

Not in conjunction with flow direction A

Not in conjunction with flow direction B

Not with connection size DN65, 2 1/2", DN50, 2", DN40, 1 1/2" or flow direction A

Not with connection size DN65, 2 1/2", DN50, 2" DN40, 1 1/2", DN32, 1 1/4" or flow direction A

Only with actuator K and size 46

Only with actuator K and size 75

Only with actuator M

Must be in conjunction with flow direction A

Must be in conjunction with flow direction B

Not with actuator K

Accessories

Piston actuator DFPK

- Actuator sizes
46 mm with 17 mm stroke
75 mm with 20 mm stroke



| General technical data | |
|------------------------|-------------------------------------|
| Size of valve actuator | 46 |
| | 75 |
| Stroke [mm] | 17 |
| | 20 |
| Mounting position | Any |
| Position sensing | Via mechanical indicator |
| Control function | Closed via spring force, NC |
| | Closed via reduced spring force, NC |
| | Opened via spring force, NO |
| | Double-acting |
| Pneumatic connection | Female thread G1/8 |

| Operating and environmental conditions | |
|--|---|
| Operating pressure | [MPa] 0.5 ... 1 |
| | [psi] 72.5 ... 145 |
| | [bar] 5 ... 10 |
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] |
| Ambient temperature [°C] | 0 ... 60 |
| Storage temperature [°C] | -10 ... +60 |
| Degree of protection | IP65 |
| | IP67 |

| ATEX | |
|--|------------------------------|
| ATEX category for gas | II 2G |
| Type of ignition protection for gas | Ex h IIC T6...T4 Gb |
| ATEX category for dust | II 2D |
| Type of ignition protection for dust | Ex h IIIC T80°C...T1 20°C Db |
| Explosion-proof ambient temperature [°C] | 0°C ≤ Ta ≤ +60°C |

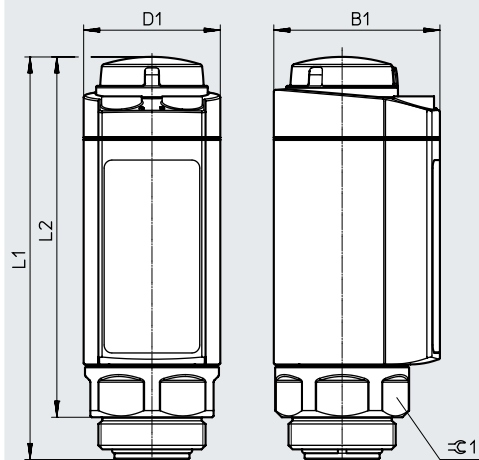
| Materials | Material number |
|-------------------|--|
| Housing | Stainless steel casting 1.4408 |
| Piston rod | High-alloy stainless steel |
| Cover | Stainless steel casting |
| Seals | FPM |
| Note on materials | Contains paint-wetting impairment substances |
| | RoHS-compliant |

Note
Possible combinations and characteristic values of the medium or operating pressures, see page → 9

Accessories

Dimensions

Download CAD data → www.festo.com



| | B1 | D1 ∅ | L1 | L2 | ⊕C1 |
|------------------|------|---------|-------|-------|-----|
| DFPK-46-17-V4 | 62 | 51 | 150.3 | 134.5 | 46 |
| DFPK-46-17-PR-V4 | | | | | |
| DFPK-46-17-S-V4 | | | | | |
| DFPK-46-17-D-V4 | | | | | |
| DFPK-75-20-V4 | 94.4 | 82.5 | 181 | 165.2 | |
| DFPK-75-20-PR-V4 | | | | | |
| DFPK-75-20-S-V4 | | | | | |
| DFPK-75-20-D-V4 | | | | | |

Ordering data

| | Control function | Product weight [g] | Part no. | Type |
|--|-------------------------------------|-----------------------|----------|------------------|
| | Closed via spring force, NC | 1298 | 8083959 | DFPK-46-17-V4 |
| | Closed via reduced spring force, NC | 1243 | 8083960 | DFPK-46-17-PR-V4 |
| | Opened via spring force, NO | 1243 | 8083961 | DFPK-46-17-S-V4 |
| | Double-acting | 1210 | 8083962 | DFPK-46-17-D-V4 |
| | Closed by spring force, NC | 2746 | 8083963 | DFPK-75-20-V4 |
| | Closed by reduced spring force, NC | 2539 | 8083964 | DFPK-75-20-PR-V4 |
| | Opened by spring force, NO | 2539 | 8083965 | DFPK-75-20-S-V4 |
| | Double-acting | 2412 | 8083966 | DFPK-75-20-D-V4 |

Note

The cover kit VAVC can be combined with the piston actuator DFPK to form a valve block solution. In this case, the cover kits are installed together with the actuators in a valve block.

The valve block acts as a valve housing and must be manufactured individually. Requirements and dimensions for manufacturing can be found at → www.festo.com/sp (Expert knowledge)

Accessories

Cover kit VAVC


- Nominal width DN 13 ... 50
- For piston actuators DFPK



| General technical data | |
|------------------------|-----|
| Nominal width DN | 13 |
| | 20 |
| | 25 |
| | 32 |
| | 40 |
| | 50 |
| Mounting position | Any |

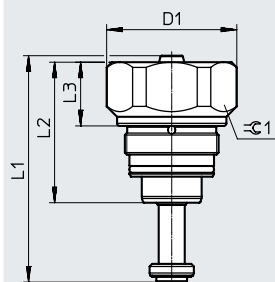
| Operating and environmental conditions | |
|--|--|
| Medium | Vapour |
| | Mineral oil-based hydraulic fluid |
| | Inert gases |
| | Mineral oil |
| | Water |
| | Filtered compressed air, grade of filtration 200 µm |
| Note on the medium | Gaseous media are only permitted with inflow over the valve seat |
| Temperature of medium [°C] | -30 ... +200 |
| Ambient temperature [°C] | 0 ... 60 |
| Storage temperature [°C] | -10 ... +60 |

| Materials | |
|-------------------|--|
| Cover | High-alloy stainless steel |
| Spindle seal | PTFE |
| Seat seal | PTFE, modified |
| Note on materials | Contains paint-wetting impairment substances |
| | RoHS-compliant |

 **Note**
Possible combinations and characteristic values of the medium or operating pressures, see page → 9

Accessories

Dimensions

Download CAD data → www.festo.com

| | D1 ∅ | L1 | L2 | L3 | ≡C1 |
|--------------------|---------|-------|------|------|-----|
| VAVC-F12-SCC-13-TP | 50 | 87 | 54 | 24.5 | 46 |
| VAVC-F12-SCC-20-TP | | 85.6 | | | |
| VAVC-F12-SCC-25-TP | | 94.4 | | | |
| VAVC-F12-SCC-32-TP | | 94.4 | | 17 | |
| VAVC-F12-SCC-40-TP | 55 | 121.5 | 80.1 | 32.2 | |
| VAVC-F12-SCC-50-TP | 67.5 | 129.7 | 85.9 | 21.5 | |

Ordering data

| | Nominal width DN | Product weight [g] | Part no. | Type |
|--|------------------|-----------------------|----------|--------------------|
| | 13 | 358 | 8084035 | VAVC-F12-SCC-13-TP |
| | 20 | 363 | 8084036 | VAVC-F12-SCC-20-TP |
| | 25 | 385 | 8084042 | VAVC-F12-SCC-25-TP |
| | 32 | 424 | 8084034 | VAVC-F12-SCC-32-TP |
| | 40 | 846 | 8084032 | VAVC-F12-SCC-40-TP |
| | 50 | 1180 | 8084045 | VAVC-F12-SCC-50-TP |

Note

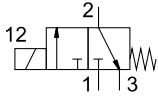
The cover kit VAVC can be combined with the piston actuator DFPK to form a valve block solution. In this case, the cover kits are installed together with the actuators in a valve block.

The valve block acts as a valve housing and must be manufactured individually. Requirements and dimensions for manufacturing can be found at

→ www.festo.com/catalogue/... → Support/Downloads

Accessories

Pilot valve VOFX



General technical data

| | | |
|----------------------------------|------|---|
| Width | [mm] | 22 |
| Nominal width DN | [mm] | 1.3 |
| Valve function | | 3/2-way, closed, single solenoid |
| Actuation type | | Electrical |
| Design | | Directly actuated poppet valve |
| Exhaust air function | | Can be throttled |
| Reset method | | Mechanical spring |
| Sealing principle | | Soft |
| Mounting position | | Any |
| Manual override | | Detenting |
| Type of control | | Direct |
| Pilot air supply | | Internal |
| Direction of flow | | Not reversible |
| Pneumatic connection 1 | | G1/8 |
| Pneumatic connection 2 | | G1/8 |
| Pneumatic connection 3 | | M5 |
| Electrical connection | | 3-pin Type B Plug To EN 175301-803 |
| Switching time off | [ms] | 46 |
| Switching time on | [ms] | 31 |
| Duty cycle | [%] | 100 |
| Characteristic coil data | | 24 V DC: 3.0 W |
| Permissible voltage fluctuations | [%] | +/- 10 |
| Product weight | [g] | 160 |

Operating and environmental conditions

| | | |
|--|---------|---|
| Operating pressure | [bar] | -0.9 ... 8 |
| Ambient temperature | [°C] | -10 ... +50 |
| Temperature of medium | [°C] | -10 ... +50 |
| Operating medium | | Compressed air to ISO 8573-1:2010 [7:4:4] |
| Degree of protection | | IP65 |
| Standard nominal flow rate qnN | [l/min] | 50 |
| Corrosion resistance class CRC ¹⁾ | | 2 |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

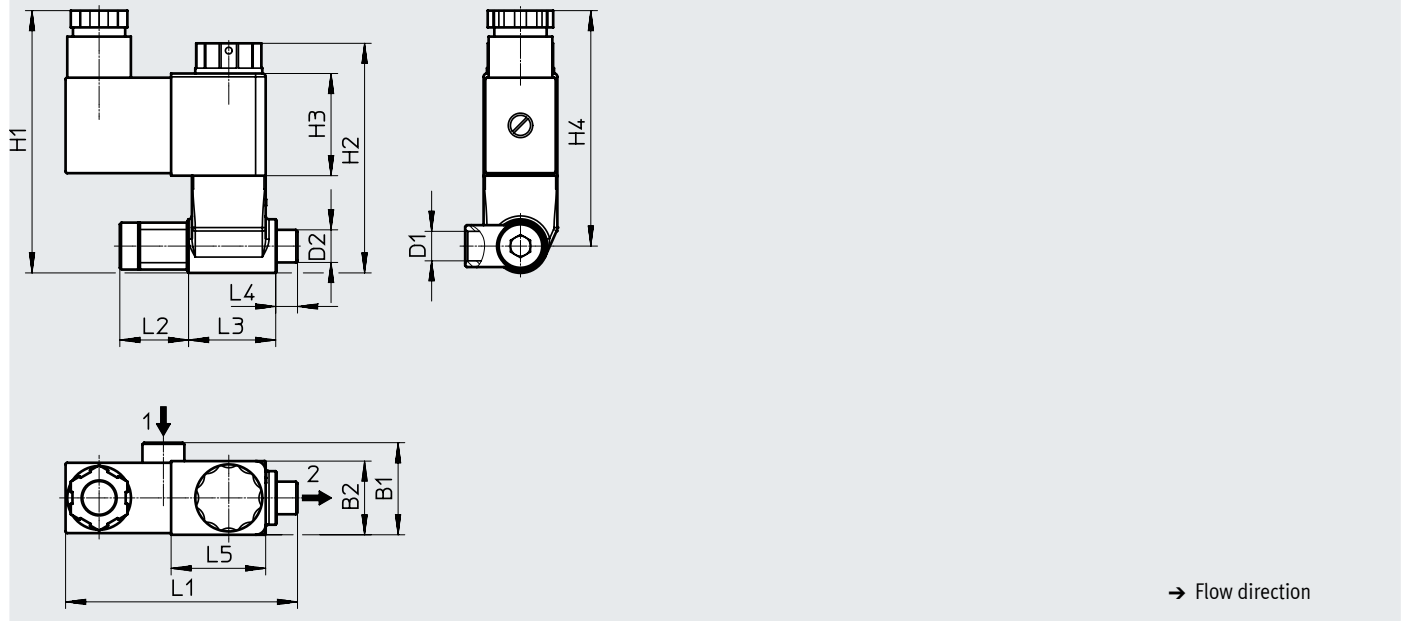
Materials

| | | |
|-------------------|--|--|
| Seals | | NBR |
| Housing | | PA |
| Note on materials | | Contains paint-wetting impairment substances RoHS-compliant |

Accessories

Dimensions

Download CAD data → www.festo.com



| | B1 | B2 | D1 | D2 | H1 | H2 | H3 | H4 | L1 | L2 | L3 | L4 | L5 |
|------|------|----|------|------|-------|------|------|-------|------|------|----|-----|------|
| VOFX | 27.5 | 22 | G1/8 | G1/8 | ~78.3 | 68.5 | 30.5 | ~70.3 | 69.2 | 20.5 | 26 | 6.5 | 28.2 |

Ordering data

| | Description | Part no. | Type |
|--|-------------|---|---|
| | |  | Pilot valve, 3/2-way, closed, single solenoid |

Angle seat valves VZXA

Accessories

Stroke reducing kit VAVA

- Opening stroke of the piston rod is reduced using a threaded pin or shock absorber
- For angle seat valves VZXA with piston and diaphragm actuator
- For piston actuators DFPK



| General technical data | | VAVA-F12-H-H1 | VAVA-F12-H-H6 |
|-------------------------|---|---------------|---|
| Design | Opening stroke limitation | | Opening stroke limitation with cushioning |
| Application information | The SIL certification for the entire product is invalidated when used with angle seat valve VZXA. | | |
| Mounting position | Any | | |
| Product weight | 253 g | | 249 g |

| Operating and environmental conditions | | VAVA-F12-H-H1 | VAVA-F12-H-H6 |
|--|--|---------------|---------------|
| Ambient temperature [°C] | | -50 ... +100 | -10 ... +80 |
| Storage temperature [°C] | | -10 ... +60 | |
| Degree of protection | | IP6X | |
| Corrosion resistance class CRC ¹⁾ | | 3 | 2 |

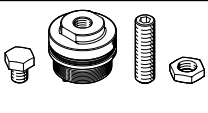
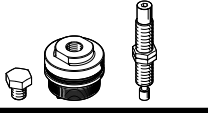
1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Corrosion resistance class CRC 3 to Festo standard FN 940070

High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

| Materials | |
|-------------------|----------------------------|
| Seals | EPDM |
| Nut | High-alloy stainless steel |
| Screws | High-alloy stainless steel |
| Shock absorber | High-alloy steel |
| Connector | High-alloy stainless steel |
| Note on materials | RoHS-compliant |

| Ordering data | | | |
|--|--|----------|---------------|
| | Description | Part no. | Type |
|  | Opening stroke limitation | 8089993 | VAVA-F12-H-H1 |
| | <ul style="list-style-type: none"> • Stop with adjustable¹⁾ threaded pin • Only for flow under the seat | | |
|  | | 8107369 | VAVA-F12-H-H6 |
| | <ul style="list-style-type: none"> • Stop with adjustable¹⁾ shock absorber | | |

1) Special-purpose tool not required

Accessories

Position indicator SAMH

- Position indicator with two standard T-slots for mounting position sensors
- Version without sensors
- Version with sensors

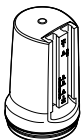
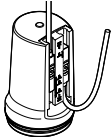


| General technical data | | | |
|-------------------------|---|--|--|
| SAMH-F12-... | ...-MK | ...-MK-A1 | ...-MK-A2 |
| Design | Without sensors | 2 proximity switches with explosion protection | 2 proximity switches with explosion protection and high level of IP protection |
| Mounting position | Any | | |
| Application information | The SIL certification for the entire product is invalidated when used with angle seat valve VZXA. | | |
| Product weight [g] | 118 | 136 | 151 |

| Operating and environmental conditions | | | |
|--|--------------|--------------|--------------|
| Ambient temperature [°C] | -20 ... 60°C | -20 ... 60°C | -20 ... 60°C |
| Storage temperature [°C] | -10 ... 60°C | -10 ... 60°C | -10 ... 60°C |
| Degree of protection | IP65 IP67 | | |
| Corrosion resistance class (CRC) | 2 | | |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

| Materials | |
|-------------------|--|
| Housing material | Aluminium Reinforced PA |
| Material: Seals | EPDM |
| Note on materials | RoHS-compliant Contains paint-wetting impairment substances |

| Ordering data | | | | | |
|---|--|-------------------------------|---------------------------|----------|----------------|
| | Description | | | Part no. | Type |
| | | Part no. 574342 | Part no. 574383 | | |
| | | SMT-8M-A-PS-24V-E-0.3-M8D-EX2 | CRSMT-8M-PS-24V-K-0.3-M8D | | |
| Position indicator | | | | | |
|  | • Without sensors | - | - | 8092711 | SAMH-F12-MK |
|  | • With 2 sensors with explosion protection ¹⁾ | ■ | - | 8092712 | SAMH-F12-MK-A1 |
| | • With 2 sensors with explosion protection and a high level of IP protection ¹⁾ | - | ■ | 8101084 | SAMH-F12-MK-A2 |

1) Included in the scope of delivery