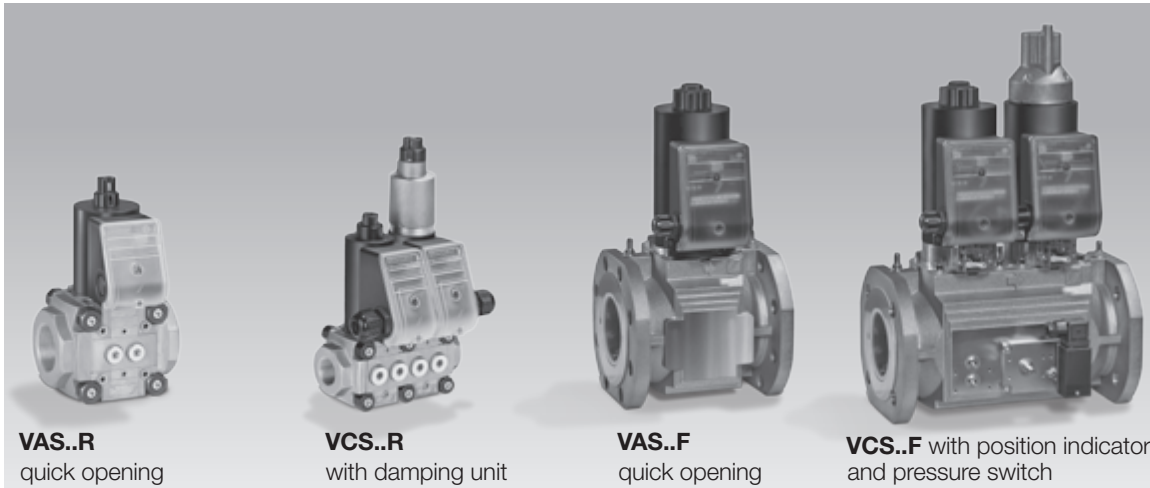


valvario®

Solenoid valves for gas VAS, Double solenoid valves VCS

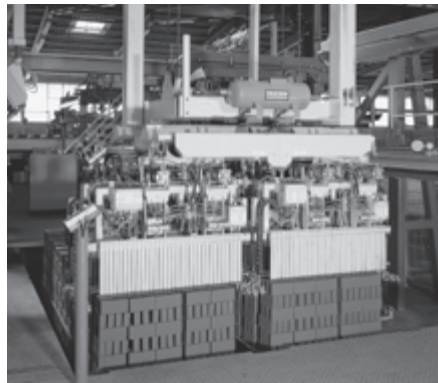
- // A further development of the solenoid valves for gas VG and VS
- // Suitable for a max. inlet pressure of 500 mbar (7 psig)
- // Easy installation into a system
- // Compact design saves space
- // No extra valve required owing to integrated flow adjustment
- // Check indication by blue LED
- // Position indicator with integral visual indicator
- // Suitable for intermittent operation
- // Higher flow rates with the same nominal size
- // EC type-tested and certified
- // VAS/VCS 1–3: FM and CSA approved



The modular design principle allows the individual components of the VAS, VCS Series to be easily assembled: e.g. quick opening, slow opening, with position indicator and visual indicator, slow opening with attached pressure switch.

Application

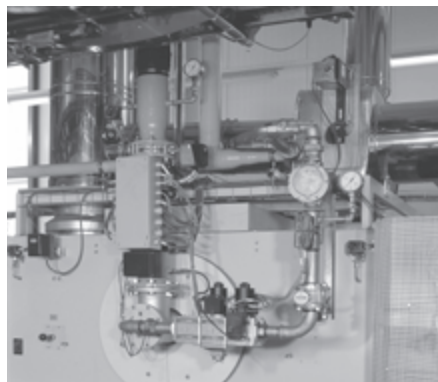
Solenoid valves for gas VAS and double solenoid valves VCS for safeguarding and controlling the air and gas supply to gas burners and gas appliances. For use in gas control and safety systems in all sectors of the iron, steel, glass and ceramics industries, also in commercial heat generation, such as the packaging, paper and foodstuffs industries.



Ceramics industry

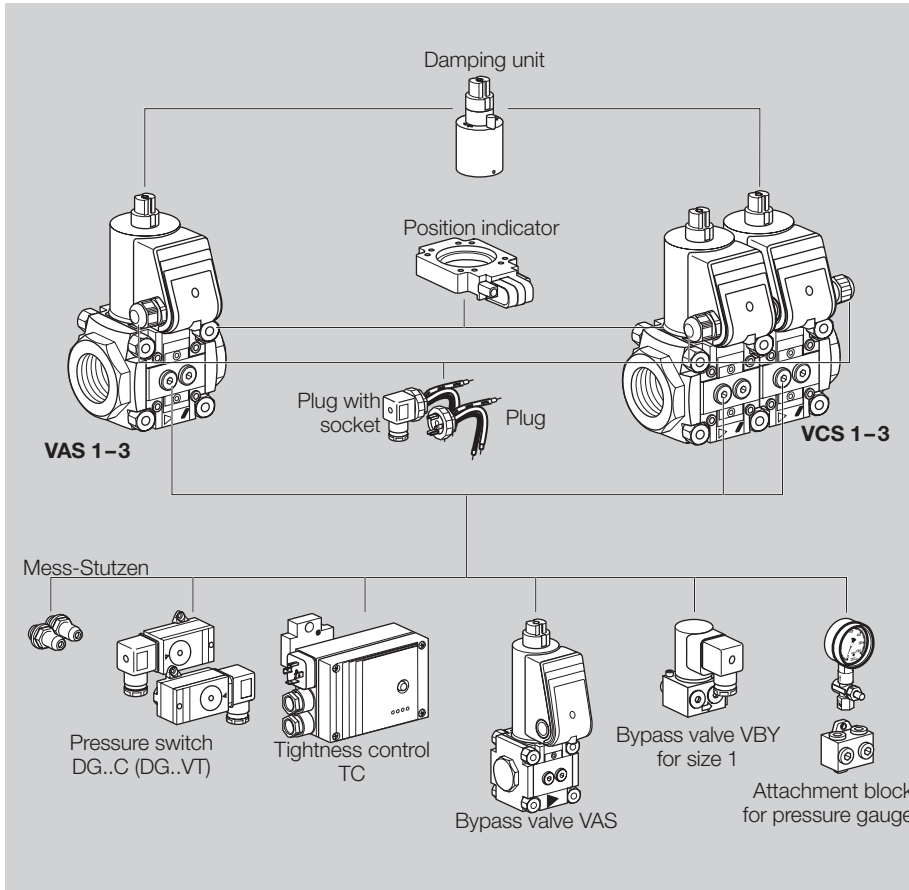


*Aluminium industry:
curing oven for
wheel rims*



*Foodstuffs industry:
baking oven*

Application examples

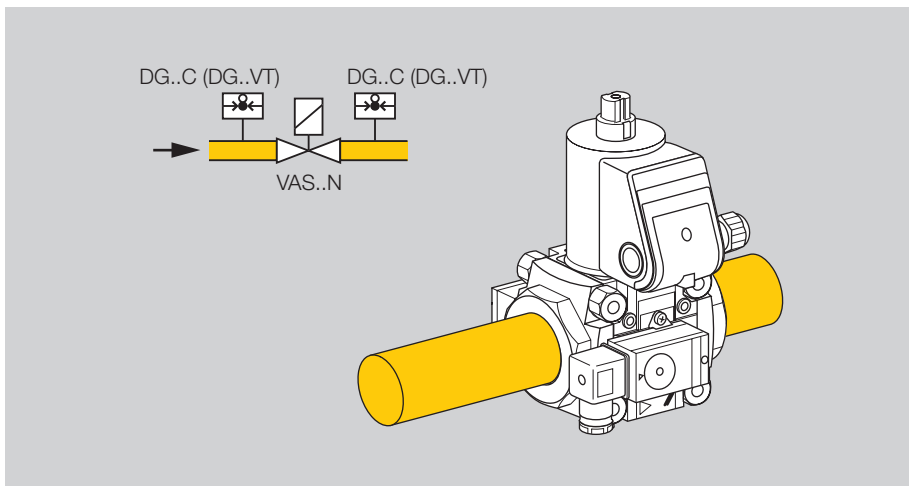


**Solenoid valve for gas VAS 1-3,
Double solenoid valve VCS 1-3**

With threaded flange for pipe connections from DN 10 to 65.

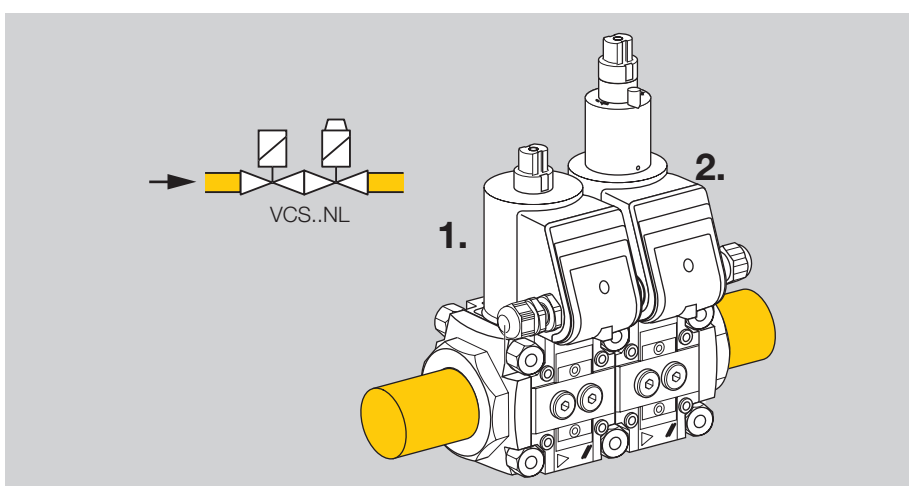
Modularly expandable with:

- Damping unit
- Position indicator
- Plug (with or without socket)
- Pressure test points
- Pressure switch DG..C (DG..VT) for inlet and/or outlet pressure
- Tightness control TC
- Bypass/pilot gas valve
- Attachment block for the connection of a pressure gauge, for example.



Gas solenoid valve with inlet and outlet pressure switch

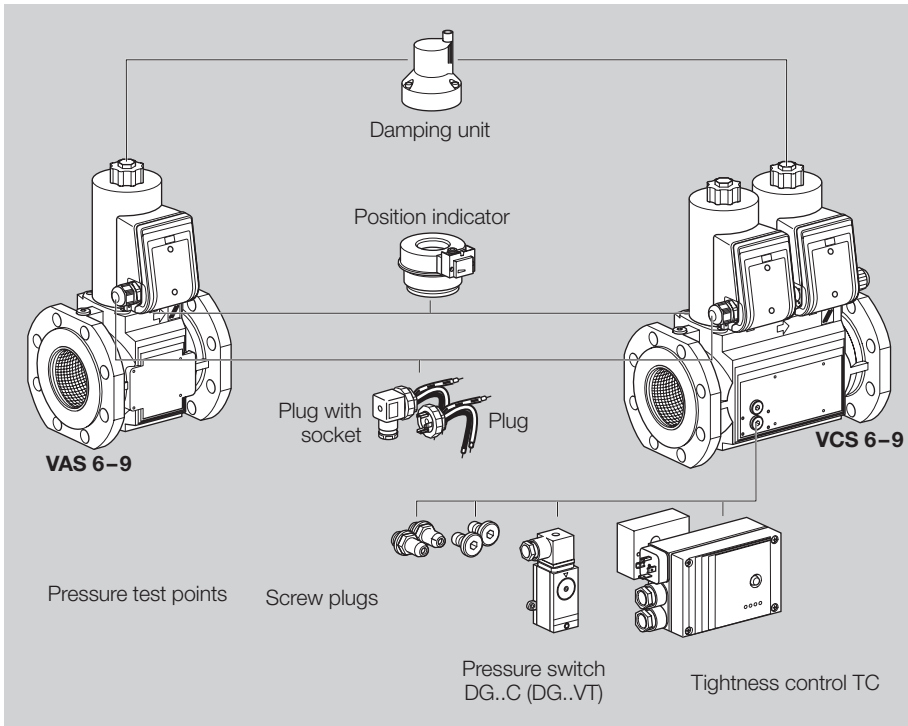
VAS..N, quick opening, pressure switch DG..C (DG..VT) for inlet pressure p_e and outlet pressure p_a



Double solenoid valve VCS with damping unit

VCS..NL,

1st valve: quick opening, quick closing, with flow adjustment,
2nd valve: slow opening, quick closing.



**Solenoid valve for gas VAS 6-9,
Double solenoid valve VCS 6-9**

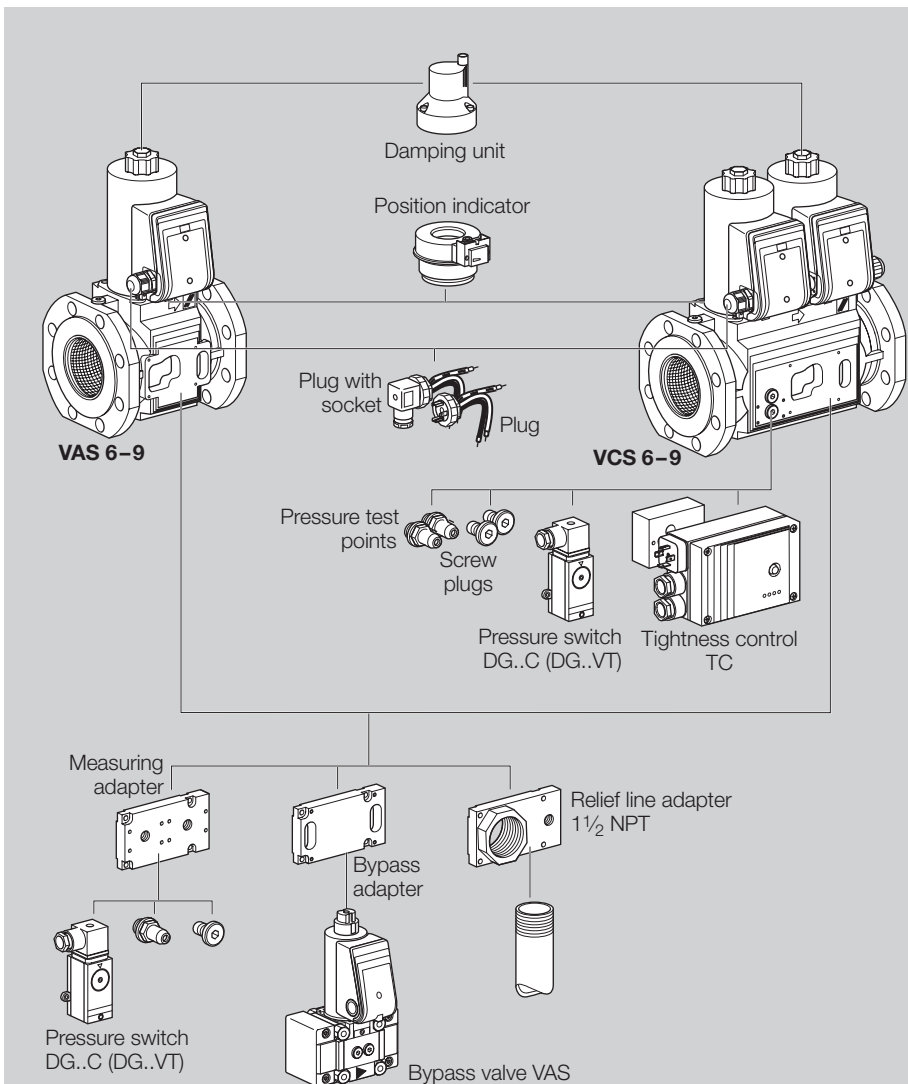
Gas solenoid valve and double solenoid valve with flanged connection (ISO or ANSI) for pipe connections from DN 65 to 125.

Modularly expandable with:

- Damping unit
- Position indicator
- Plug
- Plug with socket

VCS 6-9 with two threaded connections for:

- Screw plugs
- Pressure test points
- Pressure switch DG..C (DG..VT) for inlet/ interspace pressure
- Tightness control TC



**Solenoid valve for gas VAS 6-9,
Double solenoid valve VCS 6-9 with
connection for adapter plates**

Gas solenoid valve and double solenoid valve with flanged connection (ISO or ANSI) for pipe connections from DN 65 to 125.

Modularly expandable with:

- Damping unit
- Position indicator
- Plug
- Plug with socket

With adapter plates, expandable with:

- Pressure switch DG..C (DG..VT)
VAS 6-9: for inlet/outlet pressure
VCS 6-9: for interspace/outlet pressure
- Pressure test points
- Screw plug
- Bypass or pilot gas valve VAS

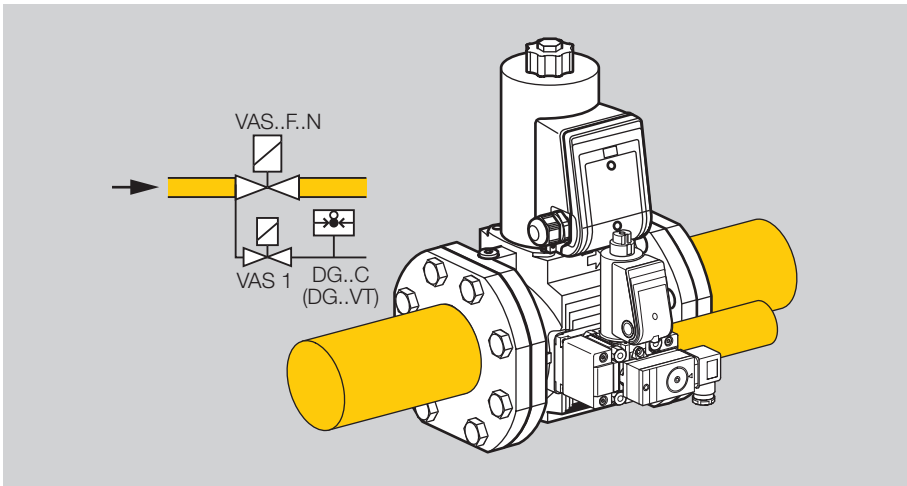
VCS 6-9

With two threaded connections for:

- Screw plugs
- Pressure test points
- Pressure switch for inlet/interspace pressure
- Tightness control TC

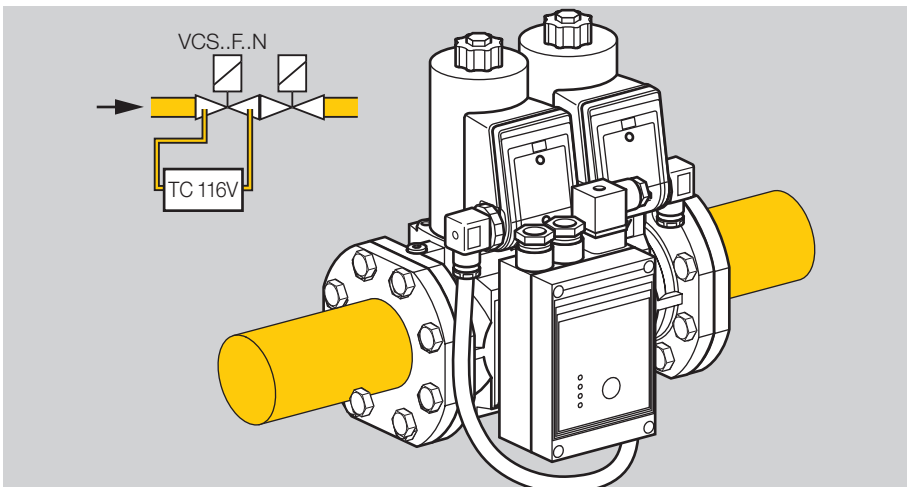
VCS 6-9T

Expandable with relief line adapter (1 1/2 NPT thread) for relief line.



Gas solenoid valve with pilot gas valve and pressure switch

VAS..F..N: quick opening, quick closing,
VAS 1 as pilot gas valve with pressure switch
DG..C (DG..VT).



Double solenoid valve with tightness control

VCS..F..N: quick opening, quick closing
valves,
tightness control TC 116V.

Replacement possibilities

| Solenoid valve for gas VG is to be replaced by VAS | | | | |
|--|--------|---|---|------|
| Type | | Solenoid valve for gas | Solenoid valve for gas | Type |
| VG | | Solenoid valve for gas | Solenoid valve for gas | VAS |
| 10/15 | DN 10 | internal 15 mm (0.59") | Size 1 DN 10 | 110 |
| 15 | DN 15 | | Size 1 DN 15 | 115 |
| 15/12 | DN 15 | internal 12 mm (0.47") | – | – |
| 20 | DN 20 | | Size 1 DN 20 | 120 |
| 25 | DN 25 | | Size 1 DN 25 | 125 |
| 25/15 | DN 25 | internal 15 mm (0.59") | – | – |
| 40/32 | DN 40 | internal 32 mm (1.26") | Size 2 DN 40 | 240 |
| 40 | DN 40 | | Size 2 DN 40 | 240 |
| 40/33 | DN 40 | internal 33 mm (1.30") | – | – |
| 50 | DN 50 | | Size 3 DN 50 | 350 |
| 50/39 | DN 50 | internal 39 mm (1.54") | – | – |
| 50/65 | DN 50 | internal 65 mm (2.59") | Size 3 DN 50 | 350 |
| 65 | DN 65 | | Size 3 DN 65 | 365 |
| 65 | DN 65 | | Size 6 DN 65 | 665 |
| 65/49 | DN 65 | internal 49 mm (1.93") | – | – |
| 80 | DN 80 | | Size 7 DN 80 | 780 |
| 100 | DN 100 | | Size 8 DN 100 | 8100 |
| T | | T-product | T-product | T |
| R | | Rp internal thread | Rp internal thread | R |
| N | | NPT internal thread | NPT internal thread | N |
| F | | ISO flange | ISO flange | |
| A | | ANSI flange | ANSI flange | |
| 02 | | p _e max.: 200 mbar (2 psig) | p _e max.: 500 mbar (7 psig) | ● |
| 03 | | 360 mbar (5 psig) | 500 mbar (7 psig) | ● |
| 10 | | 1000 mbar (14.5 psig) | – | – |
| 18 | | 1800 mbar (26.1 psig) | – | – |
| N | | Quick opening | Quick opening | /N |
| L | | Slow opening | Slow opening | /L |
| K | | Mains voltage: 24 V DC | Mains voltage: 24 V DC | K |
| Q | | 120 V AC | 120 V AC | Q |
| T | | 220/240 V AC | 230 V AC | W |
| 3 | | Electrical connection via terminals | Electrical connection via terminals | 3 |
| 6 | | Electrical connection via socket | Electrical connection via socket | ○ |
| 9 | | Metal terminal connection box | Electrical connection via terminals | 3 |
| 1 | | Screw plug at the inlet | Screw plug at the inlet and outlet | ● |
| 3 | | Screw plug at the inlet and outlet | Screw plug at the inlet and outlet | ● |
| 4 | | Pressure test point at the inlet | Pressure test point at the inlet and outlet* | ○ |
| 6 | | Pressure test point at the inlet and outlet | Pressure test point at the inlet and outlet* | ○ |
| D | | Flow adjustment | Flow adjustment | ● |
| S | | Position indicator | Position indicator with visual indicator** | S |
| G | | Position indicator for 24 V | Position indicator for 24 V with visual indicator** | G |
| OCS | | Valve stem overtravel switch | Position indicator with visual indicator** | S |
| CPS | | Position indicator | Position indicator with visual indicator** | S |
| VI | | Visual indicator | Position indicator with visual indicator** | S |
| M | | Suitable for biologically produced methane | Suitable for biologically produced methane | ● |
| V | | Viton valve disc seal | Viton valve disc seal | – |

VG 25R02NT31DM

Example

Example

VAS 125R/NW

● = standard, ○ = available

* Pressure test points may be attached at the left and/or right-hand side.

** Position indicator with visual indicator can be attached at the left- or right-hand side.

MODULINE solenoid valves for gas VS is to be replaced by VAS

| Type | Flange | Solenoid valve for gas | | Flange | Type |
|---|--------|--|---|---------------------------------|------|
| VS | | Solenoid valve for gas | Solenoid valve for gas | | VAS |
| 115 125 | 3/8" | Size 115 Size 125 | Size 1 | DN 10 | 110 |
| 115 125 | 1/2" | Size 115 Size 125 | Size 1 | DN 15 | 115 |
| 115 125 | 3/4" | Size 115 Size 125 | Size 1 | DN 20 | 120 |
| 115 125 | 1" | Size 115 Size 125 | Size 1 | DN 25 | 125 |
| 230 240 | 1" | Size 232 Size 240 | Size 2 | DN 25 | 225 |
| 232 240 | 1 1/2" | Size 232 Size 240 | Size 2 | DN 40 | 240 |
| 350 | 1 1/2" | Size 350 | Size 3 | DN 40 | 340 |
| 350 | 2" | Size 350 | Size 3 | DN 50 | 350 |
| ML | | MODULINE + connection flanges Rp internal thread | Rp internal thread | | R |
| TML | | MODULINE + connection flanges NPT internal thread | NPT internal thread | | N |
| 02 | | p _{e max.} 200 mbar (2 psig) | p _{e max.} 500 mbar (7 psig) | | ● |
| 03 | | p _{e max.} 360 mbar (3 psig) | p _{e max.} 500 mbar (7 psig) | | ● |
| N | | Quick opening | Quick opening | | /N |
| L | | Slow opening | Slow opening | | /L |
| D | | Flow adjustment | Flow adjustment | | ● |
| K | | Mains voltage: 24 V DC | Mains voltage: 24 V DC | | K |
| Q | | 120 V AC | 120 V AC | | Q |
| T | | 220/240 V AC | 230 V AC | | W |
| 3 | | Electrical connection via terminals | Electrical connection via terminals | | 3 |
| 6 | | Electrical connection via socket | Electrical connection via socket | | ○ |
| 9 | | Metal terminal connection box | Electrical connection via terminals | | 3 |
| ● | | Pressure test point at the inlet | Pressure test point at the inlet and outlet | | ○ |
| S | | Position indicator | Position indicator | | S |
| G | | Position indicator for 24 V | Position indicator for 24 V | | G |
| M | | non-ferrous metals | non-ferrous metals | | ● |
| V | | Viton valve disc seal | - | | - |
| VS 240ML02LT3 with Rp 1 1/2 connection flanges | | Example | Example | VAS 240R/LW with test points | |

● = standard, ○ = available

Selection

Solenoid valve for gas VAS

| Type | T | - | -0 | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | /- | /-0 | /10 | /15 | /20 | /25 | /32 | /40 | /50 | /65 | /80 | /100 | /125 |
|-------|-----------------------|---|----|----|----|----|----|----|----|----|----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| VAS 1 | <input type="radio"/> | ● | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | ● | ● | ● | | | | | | | |
| VAS 2 | <input type="radio"/> | ● | | | | | ● | ● | ● | ● | | | | | ● | | | | ● | ● | ● | ● | | | | | |
| VAS 3 | <input type="radio"/> | ● | | | | | | | ● | ● | ● | | | | ● | | | | | | | ● | ● | | | | |
| VAS 6 | <input type="radio"/> | | | | | | | | | | ● | | | | | | | | | | | | ● | | | | |
| VAS 7 | <input type="radio"/> | | | | | | | | | | | ● | | | | | | | | | | | | | ● | | |
| VAS 8 | <input type="radio"/> | | | | | | | | | | | | ● | | | | | | | | | | | | | ● | |
| VAS 9 | <input type="radio"/> | | | | | | | | | | | | | ● | | | | | | | | | | | | | ● |

T-Product = T

Inlet flange nominal size
No inlet flange = -
Blind flange = -0

Outlet flange nominal size
No outlet flange = -
Blind flange = /0
Specification may be omitted if outlet = inlet

Cont.

| Type | R | N | F | A | 05 ³⁾ | N | L | K | Q | W | A | S ¹⁾ | G ¹⁾ | R ¹⁾ | L ¹⁾ | 3 ³⁾ | | | P ³⁾ | M ³⁾ | |
|-------|---|---|---|---|------------------|---|---|---|---|---|---|-----------------|-----------------|-----------------|-----------------|-----------------|---|---|-----------------|-----------------|---|
| VAS 1 | ● | ○ | | | ● | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | | | |
| VAS 2 | ● | ○ | | | ● | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | | | |
| VAS 3 | ● | ○ | | | ● | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | | | |
| VAS 6 | | | ● | ○ | ● | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | ● | ● | ● |
| VAS 7 | | | ● | ○ | ● | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | ● | ● | ● |
| VAS 8 | | | ● | ○ | ● | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | ● | ● | ● |
| VAS 9 | | | ● | ○ | ● | ● | | | | | ● | ○ | ○ | ○ | | ● | ○ | ○ | ● | ● | ● |

Rp internal thread = R
NPT internal thread = N
ISO flange = F
ANSI flange = A

Max. inlet pressure
p_e max. 500 mbar = 05³⁾

Quick opening, quick closing = N
Slow opening, quick closing = L

Mains voltage: 24 V DC = K
120 V AC; 50/60 Hz = Q
230 V AC; 50/60 Hz = W
120-230 V AC; 50/60 Hz = A

Position indicator with visual indicator = S¹⁾
Position indicator with visual indicator and gold contacts = G¹⁾

Viewing side: right = R¹⁾
left = L¹⁾

Electrical connection:
M20 cable gland = 3³⁾
Plug with socket
Plug without socket

Measuring connection at the top: 2 screw plugs at the inlet and outlet = P³⁾
2 pressure test points at the inlet and outlet = M³⁾

Cont.

| Type | /P ³⁾ | /M ³⁾ | /1 ³⁾ | /2 ³⁾ | /3 ³⁾ | /4 ³⁾ | /I ⁴⁾ | /R ⁴⁾ | /H ⁴⁾ | /B ⁴⁾ | /Z ⁴⁾ | V | E | /- ³⁾ | P ³⁾ | M ³⁾ | 1 ³⁾ | 2 ³⁾ | 3 ³⁾ | 4 ³⁾ | - ³⁾ | |
|-------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|---|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---|
| VAS 1 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VAS 2 | ○ | ○ | ○ | ○ | ○ | ○ | | | | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VAS 3 | ○ | ○ | ○ | ○ | ○ | ○ | | | | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VAS 6 | ○ | ○ | ○ | ○ | ○ | ○ | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VAS 7 | ○ | ○ | ○ | ○ | ○ | ○ | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VAS 8 | ○ | ○ | ○ | ○ | ○ | ○ | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VAS 9 | ○ | ○ | ○ | ○ | ○ | ○ | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Accessories, right, inlet:

- Screw plugs = /P³⁾
- Pressure test point for inlet pressure p_e = /M³⁾
- Gas pressure switch: DG../VC (DG../VT) 17 = /1³⁾
 DG../VC (DG../VT) 40 = /2³⁾
 DG../VC (DG../VT) 110 = /3³⁾
 DG../VC (DG../VT) 300 = /4³⁾
- Bypass valve VBY, fitted = /I⁴⁾
- Pilot gas valve VBY, fitted = /R⁴⁾
- Main valve attachment side = /H¹⁾
- Bypass valve VAS 1, fitted = /B⁴⁾
- Pilot gas valve VAS 1, fitted = /Z⁴⁾
- Prepared for breather line NPT 1 1/2" = V
 Rp 1" = E
 None = /-³⁾

Accessories, right, outlet:

- Screw plug = P³⁾
- Pressure test point for outlet pressure p_a = M³⁾
- Gas pressure switch: DG../VC (DG../VT) 17 = 1³⁾
 DG../VC (DG../VT) 40 = 2³⁾
 DG../VC (DG../VT) 110 = 3³⁾
 DG../VC (DG../VT) 300 = 4³⁾
- None = -³⁾

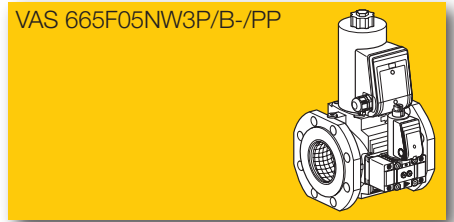
Accessories on left-hand side equivalent to those on right-hand side ²⁾

- 1) VAS 1-3: Position indicator and bypass valve cannot be fitted together on one side.
- 2) The "accessories on the left-hand side" have the same type code as the "accessories on the right-hand side" (see order example: 1 screw plug each at the inlet and outlet on the left-hand side = /PP).
- 3) The specifications are only included in the type designation for VAS 6-9.
- 4) VAS 1-3: Position indicator and bypass valve cannot be fitted together on one side.
 The "accessories on the left-hand side" have the same type code as the "accessories on the right-hand side" (see order example: 1 screw plug each at the inlet and outlet on the left-hand side = /PP).

Order example

VAS 665F05NW3P/B-/PP

- = standard
- = available



Double solenoid valve VCS

| Type | T | - | -0 | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | /- | /-0 | /10 | /15 | /20 | /25 | /32 | /40 | /50 | /65 | /80 | /100 | /125 | | |
|--|---|---|----|----|----|----|----|----|----|----|----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|--|--|
| VCS 1 | ○ | ● | ● | ● | ● | ● | ● | | | | | | | | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| VCS 2 | ○ | ● | | | | | ● | ● | ● | ● | | | | | ● | | | | ● | ● | ● | ● | ● | | | | | | |
| VCS 3 | ○ | ● | | | | | | | | ● | ● | | | | ● | | | | | | | ● | ● | ● | | | | | |
| VCS 6 | ○ | | | | | | | | | | ● | | | | | | | | | | | | ● | | | | | | |
| VCS 7 | ○ | | | | | | | | | | | ● | | | | | | | | | | | | | ● | | | | |
| VCS 8 | ○ | | | | | | | | | | | | ● | | | | | | | | | | | | | ● | | | |
| VCS 9 | ○ | | | | | | | | | | | | | ● | | | | | | | | | | | | | ● | | |
| T-Product = T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inlet flange nominal size | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No inlet flange = - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blind flange = -0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Outlet flange nominal size | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No outlet flange = - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blind flange = /0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Specification may be omitted if outlet = inlet | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Cont.

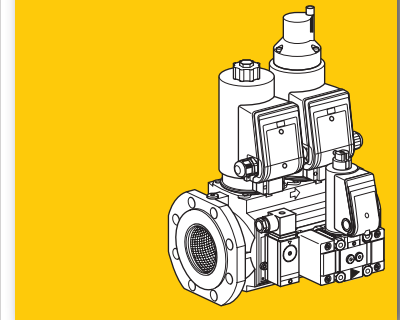
| Type | R | N | F | A | 05 ³⁾ | N | L | N | L | K | Q | W | A | S ¹⁾ | G ¹⁾ | R ¹⁾ | L ¹⁾ | 3 ³⁾ | P ³⁾ | M ³⁾ | | |
|--|---|---|-----------------|-----------------|------------------|---|---|---|---|---|---|---|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---|---|
| VCS 1 | ● | ○ | | | ● | ● | ● | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | | |
| VCS 2 | ● | ○ | ○ ²⁾ | ○ ²⁾ | ● | ● | ● | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | | |
| VCS 3 | ● | ○ | ○ ²⁾ | ○ ²⁾ | ● | ● | ● | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | | |
| VCS 6 | | | ● | ○ | ● | ● | | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | ● | ● |
| VCS 7 | | | ● | ○ | ● | ● | | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | ● | ● |
| VCS 8 | | | ● | ○ | ● | ● | | ● | ● | ● | ● | ● | | ○ | ○ | ○ | ○ | ● | ○ | ○ | ● | ● |
| VCS 9 | | | ● | ○ | ● | ● | | ● | | | | | ● | ○ | ○ | ○ | | ● | ○ | ○ | ● | ● |
| Rp internal thread = R | | | | | | | | | | | | | | | | | | | | | | |
| NPT internal thread = N | | | | | | | | | | | | | | | | | | | | | | |
| ISO flange = F | | | | | | | | | | | | | | | | | | | | | | |
| ANSI flange = A | | | | | | | | | | | | | | | | | | | | | | |
| Max. inlet pressure p _e max. | | | | | | | | | | | | | | | | | | | | | | |
| 500 mbar = 05 ³⁾ | | | | | | | | | | | | | | | | | | | | | | |
| 1st valve quick opening, quick closing = N | | | | | | | | | | | | | | | | | | | | | | |
| 1st valve slow opening, quick closing = L | | | | | | | | | | | | | | | | | | | | | | |
| 2nd valve quick opening, quick closing = N | | | | | | | | | | | | | | | | | | | | | | |
| 2nd valve slow opening, quick closing = L | | | | | | | | | | | | | | | | | | | | | | |
| Mains voltage: 24 V DC = K | | | | | | | | | | | | | | | | | | | | | | |
| 120 V AC; 50/60 Hz = Q | | | | | | | | | | | | | | | | | | | | | | |
| 230 V AC; 50/60 Hz = W | | | | | | | | | | | | | | | | | | | | | | |
| 120-230 V AC; 50/60 Hz = A | | | | | | | | | | | | | | | | | | | | | | |
| Position indicator with visual indicator = S ¹⁾ | | | | | | | | | | | | | | | | | | | | | | |
| Position indicator with visual indicator and gold contacts = G ¹⁾ | | | | | | | | | | | | | | | | | | | | | | |
| Viewing side: right = R ¹⁾ | | | | | | | | | | | | | | | | | | | | | | |
| left = L ¹⁾ | | | | | | | | | | | | | | | | | | | | | | |
| Electrical connection: | | | | | | | | | | | | | | | | | | | | | | |
| M20 cable gland = 3 ³⁾ | | | | | | | | | | | | | | | | | | | | | | |
| Plug with socket | | | | | | | | | | | | | | | | | | | | | | |
| Plug without socket | | | | | | | | | | | | | | | | | | | | | | |
| Measuring connections at the top of the inlet/outlet flange: Screw plugs = P ³⁾ | | | | | | | | | | | | | | | | | | | | | | |
| Pressure test points = M ³⁾ | | | | | | | | | | | | | | | | | | | | | | |

| Cont. | | | | | | | | | | | | | | | | | | | | |
|--|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|---|
| Type | /P1) | /M1) | /1 1) | /2 1) | /3 1) | /4 1) | /1 5) | /R 5) | /H 1) | /B 5) | /Z 5) | /- 1) | P 1) | M 1) | 1 1) | 2 1) | 3 1) | 4 1) | - 1) | |
| VCS 1 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 2 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 3 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 6 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 7 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 8 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 9 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Accessories, right, inlet: | | | | | | | | | | | | | | | | | | | | |
| Screw plugs = /P1) | | | | | | | | | | | | | | | | | | | | |
| Pressure test point p _e = /M1) | | | | | | | | | | | | | | | | | | | | |
| Gas pressure switch: DG 17/VC (DG 17/VT) = /1 1) | | | | | | | | | | | | | | | | | | | | |
| DG 40/VC (DG 40/VT) = /2 1) | | | | | | | | | | | | | | | | | | | | |
| DG 110/VC (DG 110/VT) = /3 1) | | | | | | | | | | | | | | | | | | | | |
| DG 300/VC (DG 300/VT) = /4 1) | | | | | | | | | | | | | | | | | | | | |
| Bypass valve VBY, fitted = /1 5) | | | | | | | | | | | | | | | | | | | | |
| Pilot gas valve VBY, fitted = /R 5) | | | | | | | | | | | | | | | | | | | | |
| Main valve attachment side = /H 1) | | | | | | | | | | | | | | | | | | | | |
| Bypass valve VAS 1, fitted = /B 5) | | | | | | | | | | | | | | | | | | | | |
| Pilot gas valve VAS 1, fitted = /Z 1) | | | | | | | | | | | | | | | | | | | | |
| None = /- 1) | | | | | | | | | | | | | | | | | | | | |
| Accessories, right, interspace 1: | | | | | | | | | | | | | | | | | | | | |
| Screw plug = P 1) | | | | | | | | | | | | | | | | | | | | |
| Pressure test point p _a = M 1) | | | | | | | | | | | | | | | | | | | | |
| Gas pressure switch: DG 17/VC (DG 17/VT) = 1 1) | | | | | | | | | | | | | | | | | | | | |
| DG 40/VC (DG 40/VT) = 2 1) | | | | | | | | | | | | | | | | | | | | |
| DG 110/VC (DG 110/VT) = 3 1) | | | | | | | | | | | | | | | | | | | | |
| DG 300/VC (DG 300/VT) = 4 1) | | | | | | | | | | | | | | | | | | | | |
| None = - 1) | | | | | | | | | | | | | | | | | | | | |

| Cont. | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---|---|-----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|---|---|
| Type | P ¹⁾ | M ¹⁾ | 1 ¹⁾ | 2 ¹⁾ | 3 ¹⁾ | 4 ¹⁾ | I ⁵⁾ | R ⁵⁾ | H ¹⁾ | B ⁵⁾ | Z ⁵⁾ | V | E | -1) | P ¹⁾ | M ¹⁾ | 1 ¹⁾ | 2 ¹⁾ | 3 ¹⁾ | 4 ¹⁾ | -1) | | |
| VCS 1 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 2 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 3 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 6 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 7 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 8 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| VCS 9 | ○ | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Accessories, right, interspace 2: | | | | | | | | | | | | | | | | | | | | | | | |
| Screw plugs = P ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Pressure test point for inlet pressure p _e = M ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Gas pressure switch: DG 17/VC (DG 17/VT) = 1 ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| DG 40/VC (DG 40/VT) = 2 ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| DG 110/VC (DG 110/VT) = 3 ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| DG 300/VD (DG 300/VT) = 4 ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Bypass valve VBY, fitted = I ⁵⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Pilot gas valve VBY, fitted = R ⁵⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Main valve attachment side = H ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Bypass valve VAS 1, fitted = B ⁵⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Pilot gas valve VAS 1, fitted = Z ⁵⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Prepared for breather line NPT 1½" = V | | | | | | | | | | | | | | | | | | | | | | | |
| Rp 1" = E | | | | | | | | | | | | | | | | | | | | | | | |
| None = -1) | | | | | | | | | | | | | | | | | | | | | | | |
| Accessories, right, outlet: | | | | | | | | | | | | | | | | | | | | | | | |
| Screw plug = P ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Pressure test point p _a = M ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| Gas pressure switch: DG../VC (DG../VT) 17 = 1 ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| DG../VC (DG../VT) 40 = 2 ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| DG../VC (DG../VT) 110 = 3 ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| DG../VD (DG../VT) 300 = 4 ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | |
| None = -1) | | | | | | | | | | | | | | | | | | | | | | | |
| Accessories on left-hand side equivalent to those on right-hand side ⁴⁾ | | | | | | | | | | | | | | | | | | | | | | | |

Order example

VCS 665F05NLWSR3P/1PB-/PPPP



● = standard
○ = available

- 1) VCS 1–3: Position indicator and bypass valve cannot be fitted together on one side.
- 2) Available for inlet/outlet flange nominal sizes DN 40 and DN 50.
- 3) The specifications are only included in the type designation for VAS 6–9.
- 4) The “accessories on the left-hand side” have the same type code as the “accessories on the right-hand side” (see order example: 1 screw plug each at the inlet, interspace 1, interspace 2 and outlet on the left-hand side = /PPPP).
- 5) VCS 1–3: Position indicator and bypass valve cannot be fitted together on one side. The specifications are only included in the type designation for VAS 6–9.

Technical data

Types of gas: Natural gas, LPG (gaseous), biologically produced methane (max. 0.1 %-by-vol. H₂S) or air; other gases on request.

The gas must be dry in all temperature conditions and must not condense.

Max. inlet pressure p_e : 500 mbar (7 psig), VAS 1–3T:

FM approved (valve remains closed): 700 mbar (10 psig), CSA approved: 350 mbar (5 psig).

Flow adjustment limits the maximum flow volume between 20 and 100%. On VAS 1–3, the setting can be monitored on an indicator.

Adjustment of the start gas rate: 0 to 70%.

Opening times:

VAS../N quick opening: ≤ 1 s;

VAS../L slow opening: up to 30 s.

Closing time:

VAS../N, VAS../L quick closing: < 1 s.

Ambient temperature: $-20 - +60^\circ\text{C}$ ($-4 - +140^\circ\text{F}$),

no condensation permitted,

Storage temperature: $0 - 60^\circ\text{C}$ ($32 - 140^\circ\text{F}$).

Safety valve:

Class A Group 2 pursuant to EN 13611 and EN 161,

Factory Mutual Research Class: 7410 and 7411,

ANSI Z21.21 and CSA 6.5.

Mains voltage:

230 V AC, $+10/-15\%$, 50/60 Hz;

120 V AC, $+10/-15\%$, 50/60 Hz;

24 V DC, $\pm 20\%$.

VAS/VCS 9:

120–230 V~, $+10/-15\%$, 50/60 Hz.

Cable gland: M20 x 1.5

Electrical connection: max. 2.5 mm² (AWG 12) or plug with socket to EN 175301-803.

Power consumption:

| Type | 24 V= [W] | 120 V~ [W] | 230 V~ [W] |
|-------|--------------|---------------|---------------|
| VAS 1 | 29 | 30 | 30 |
| VAS 2 | 46 | 54 | 53 |
| VAS 3 | 58 | 63 | 63 |
| VAS 6 | 70 | 63 | 63 |
| VAS 7 | 75 | 90 | 83 |
| VAS 8 | 99 | 117 | 113 |
| VAS 9 | – | 200 (15*) | 200 (15*) |
| VCS 1 | 58 | 60 | 60 |
| VCS 2 | 92 | 108 | 106 |
| VCS 3 | 116 | 126 | 126 |
| VCS 6 | 140 | 126 | 126 |
| VCS 7 | 150 | 180 | 166 |
| VCS 8 | 198 | 234 | 226 |
| VCS 9 | – | 400 (30*) | 400 (30*) |

* After opening.

Enclosure: IP 65.

Duty cycle: 100%.

Power factor of the solenoid coil: $\cos \varphi = 1$.

Switching frequency:

VAS../N: Arbitrary,

VAS../L: There must be a period of 20 seconds between switching off and on again so that the damping is fully effective.

Valve housing: Aluminium,

Valve seal: NBR.

Connection flanges:

VAS/VCS 1-3 with internal thread:

Rp pursuant to ISO 7-1, NPT pursuant to ANSI/ASME

VAS/VCS 6-9 with ISO flange pursuant to ISO 7005, with ANSI flange pursuant to ASA.

Position indicator contact rating:

VAS../S:

125–250 V AC, 50/60 Hz,

max. 3 A (resistive load);

VAS../G:

125–250 V AC, 50/60 Hz,

max. 0.1 A (resistive load);

12–48 V AC, 50/60 Hz,

max. 0.1 A (resistive load).

Switching frequency: 5x per minute.

| switching current [A] | switching cycles | |
|-----------------------|--------------------|----------------------|
| | $\cos \varphi = 1$ | $\cos \varphi = 0,6$ |
| 0.1 | 500,000 | 500,000 |
| 0.5 | 300,000 | 250,000 |
| 1 | 200,000 | 100,000 |
| 3 | 100,000 | – |

VAS/VCS 9

Switching frequency: 1x per minute.

Max. temperature of solenoid coil:

$+20^\circ\text{C}$ ($+68^\circ\text{F}$) above ambient temperature.

Current consumption at 20°C (68°F):

Pick-up current: 1.8 A

Holding current: 0.3 A.



Certification
EC type-tested and certified
pursuant to

- Gas Appliances Directive (90/396/EEC) in conjunction with EN 161, EN 13611 and EN 126
- Machinery Directive (98/37/EC),
- Low Voltage Directive (73/23/EEC) in conjunction with the relevant standards,
- EMC Directive (89/336/EEC) in conjunction with EN 55014.

FM approved
VAS 1-3, VCS 1-3:

Factory Mutual Research Class: 7410 and 7411 Safety overpressure slam shut valves. Designed for applications pursuant to NFPA 85 and NFPA 86.

VAS 6-9, VCS 6-9:
In preparation.

CSA approved
VAS 1-3, VCS 1-3:
Canadian Standard Association – ANSI Z21.21 and CSA 6.5

VAS 6-9, VCS 6-9:
In preparation.

UL approval
In preparation.

Maintenance cycles
At least once per annum, at least twice per annum for biologically produced methane.

Detailed information on this product

www.docuthek.com

Contact www.kromschroeder.com →Sales

We reserve the right to make technical changes designed to improve our products without prior notice.

Kromschroder uses environment-friendly production methods. Please send away for our Environment Report.

Elster Kromschroder GmbH
Postfach 2809
D-49018 Osnabrück
Tel. +49 (0)541 1214-0
Fax +49 (0)541 1214-370
info@kromschroeder.com
www.kromschroeder.de