

Valves and butterfly valves

Product brochure · GB
3 Edition 03.11



valv^{ario}®

VAS



VCS



Solenoid valves for gas VAS, double solenoid valves VCS

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.

For gas and air

Size: 1 to 9

DN: 10 to 125

Connection: thread or flange

Max. inlet pressure p_u :
500 mbar (197" WC)

Quick opening, quick closing or
slow opening, quick closing

Mains voltage:

24 V DC, 100 V AC, 120 V AC, 200 V AC or
230 V AC

Electrical connection:

Terminals or plug with socket

The following versions are available:

Valves with position indicator and visual
indicator

Valves with fitted bypass or pilot gas valve

Valves with fitted tightness control TC

Valves with fitted pressure switches

DG../VC

Double solenoid valves with relief line
adapter

Pressure regulator with solenoid valve VAD, VAG, VAV

Pressure regulator VAD, air/gas ratio control VAG and variable air/gas ratio control VAV incorporating servo technology for shut-off and precise control of the 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 domestic or commercial heat generation, such as the packaging, paper and foodstuffs industries.

VAD

Constant pressure governor, Class A, with high control accuracy. Pressure preset via setpoint spring.

VAG

Air/gas ratio control, Class A, for maintaining a constant gas/air pressure ratio for modulating or stage-controlled burners. Pressure preset by the air control line.

The VAG..N is used as a zero governor for gas engines and Venturi mixers.

VAV

Variable air/gas ratio control, Class A, for maintaining a constant gas/air pressure ratio for modulating-controlled burners. Pressure preset by the air control line. The ratio of gas pressure to air pressure remains constant. It can be set from 0.6:1 to 3:1.

Pressure fluctuations in the combustion chamber can be compensated via the combustion chamber control pressure p_c .

For gas and air

Size: 1 to 9

DN: 15 to 50

Connection: thread or flange

Max. inlet pressure p_u :
500 mbar (197" WC)

Quick opening, quick closing or
slow opening, quick closing

Mains voltage:

24 V DC, 100 V AC, 120 V AC, 200 V AC or
230 V AC

Electrical connection:

Terminals or plug with socket

The following versions are available:

Valves with position indicator and visual
indicator

Valves with fitted bypass or pilot gas valve

Valves with fitted tightness control TC

Valves with fitted pressure switches

DG../VC

Double solenoid valves with relief line
adapter



VAD, VAG, VAV





Solenoid valves for gas VGP

Gas solenoid valves VGP for safeguarding and controlling the air and gas supply to gas burners and gas appliances. For use in gas control and safety systems in industrial and commercial heat generation, such as the foodstuffs and ceramics industries.

For gas and air

DN: 10 to 25

Connection: thread

Max. inlet pressure p_u :
150 or 200 mbar (59.1" or 78.7" WC)

Quick opening, quick closing

Mains voltage:
120 V AC or 230 V AC

Electrical connection:
Rectifier adapter with standard socket



Solenoid valves for gas VG

Solenoid valves for gas VG for the protection, regulation and control of the air and gas supply to gas burners and gas devices.

For gas and air

DN: 6 to 65

Connection: double-cone olive, thread or flange

Max. inlet pressure p_u : 100, 200, 360, 500, 1000 or 1800 mbar

Quick opening, quick closing or
slow opening, quick closing

Mains voltage:
24 V DC, 120 V AC or 220/240 V AC

Electrical connection:
Terminals or standard plug with socket

The following versions are available:

Low-noise valves

Valves with flow adjustment

Valves for biologically produced methane

Valves with Viton valve disc seal

Valves for contaminated gases



Magnetic relief valve VAN

The magnetic relief valve VAN is designed to monitor gas valves for tightness used in conjunction with a visual discharge unit. It enables the purging of excess or leakage gas. The magnetic relief valve VAN is open when it is de-energized.

For gas and air

Size: 1 to 2

DN: 10 to 50

Connection: thread

Max. inlet pressure p_u : 500 mbar (197" WC)

Quick opening, quick closing

Mains voltage:
24 V DC, 100 V AC, 120 V AC, 200 V AC or
230 V AC

Electrical connection: terminals

The following versions are available:
valves with proof of closure switch and
visual position indicator

valves with fitted pressure switches
DG../VC





VK



Motorised valve for gas VK

For safeguarding, controlling and regulating the gas and air flow to gas burners and devices, including two-step operation.

The VK..X version is recommended for hazardous areas zone 1 and 2, e.g. in paint factories, paint shops, refineries, chemical plants, sewage treatment plants, waste dumps (landfill sites) and gas/oil delivery lines etc.

For gas and air

VK..Z for two-step operation

VK..G with GGG 40 housing for steam boilers, open air or landfill systems

VK..H with stronger drives for higher pressures

VK..X explosion-proof design for zone 1 and 2 hazardous areas

DN: 40 to 250

Connection: thread or flange

Max. inlet pressure p_u : 230 mbar to max. 8 bar

Mains voltage: 100 V AC to 220/240 V AC

AlSi or GGG 40 housing

Electrical connection: terminals or standard plug with socket

The following versions are available:

Valves with flow adjustment

Valves with position indicator

Valves with holding relay for manual restart

Valves with Viton valve disc seal

Solenoid valves for air VR

Solenoid valves for air for staged control of industrial burners in cold-air operating mode.

DN: 25 to 65

Connection: thread or flange

Max. inlet pressure p_u : 150 mbar

Quick opening, quick closing,
slow opening, quick closing or
slow opening, slow closing

Mains voltage: 24 V DC, 120 V AC or
220/240 V AC

Electrical connection: terminals or standard plug with socket

With flow adjustment

The following versions are available:

Valves with position indicator

Valves with bypass orifice



VR



Butterfly valves BVHM and solenoid actuator MB 7

The solenoid actuator MB 7 serves as a drive for the butterfly valve BVHM. The unit made up of solenoid actuator MB 7 and butterfly valve BVHM can be used for staged control of industrial installations in cold- or hot-air operating mode.

Solenoid actuator MB 7 indicates the position of the valve disc. The air volumes for low and high fire can be adjusted independently.

Due to the large number of operating cycles of solenoid actuator MB 7, the butterfly valve BVHM is suitable for intermittent operation.

DN: 40 to 100

For fitting between two flanges

Max. inlet pressure p_u : 150 mbar

Quick opening, quick closing,
slow opening, quick closing or
slow opening, slow closing

Mains voltage: 24 V DC, 120 V AC or
220/240 V AC

Electrical connection: terminals or standard plug with socket



MB 7 + BVHM





BVG, BVA



BVGH, BVHS



Butterfly valves BVG, BVA, BVH, BVHS

The butterfly valves BVG, BVA, BVH and BVHS are designed to adjust volumes of gas, cold and hot air and flue gas on various appliances and flue gas lines. They are designed for control ratios up to 1:10, and with the mounted actuator IC 20 or IC 40 they are suitable for regulating flow rates for modulating or stage-controlled combustion processes.

BVG, BVA

Butterfly valves with reduced nominal diameter (reduced by one or two nominal sizes) can be used to achieve higher control accuracy. This will mean that complex reducing fittings will no longer be required. Flow rates can be set and fixed using a lever, for example to limit the high-fire rate on the burner. A scale indicates the set angle of opening.

BVH

The butterfly valve BVH is used for processes that require the very precise adjustment of the flow rate or low leakage. In conjunction with the stop bar, the valve disc ensures very low leakage rates.

Using a spiral spring which compensates for the play in combination with the actuator IC 40 it is possible to move the valve disc to the required angle with almost zero hysteresis.

BVHS

The butterfly valve BVHS with safety closing function is used with the actuator IC 40S in systems where it is important that in the event of a mains voltage failure the valve closes preventing air streaming into the furnace without being under control.

BVG for gas, DN: 40 to 150

BVA for air, DN: 40 to 150

BVH, BVHS for hot air and flue gas up to 450°C, DN: 40 to 100

For fitting between two flanges

Max. inlet pressure p_{u1} :

BVG, BVA: 500 mbar

BVH, BVHS: 150 mbar

Actuators IC 20, IC 40

The actuators IC 20 and IC 40 are designed for all applications that require precise, controlled rotary movement between 0° and 90°. They can be mounted directly onto the butterfly valves BVG, BVA or BVH in order to control the gas and air flow rates on gas burners. They are designed for control ratios up to 1:10.

An optional integrated feedback potentiometer offers the option of monitoring the current position of the actuator. This scan function can be used in automation processes.

IC 20

IC 20 is used for basic applications. It is controlled by a continuous signal or three-point step signal. The automatic/manual mode changeover and the position indicator that can be read externally assist in the setting of the infinitely adjustable switching cams upon commissioning. This enables precise settings even in the low-fire rate range.

IC 40

The IC 40 offers additional functions. It can be used in continuously-controlled burners and in step-by-step-controlled burners.

Settings on the actuator IC 40 can be made using a PC with the parameterisation software BCSOFT. All the relevant settings for the process are made using the software via an optical interface. Various operating modes, which may be modified, are stored in the unit. In addition the control type (two-point signal, three-point step signal or continuous control), running times, adjustment angles and intermediate positions can be programmed.

The actuator can also be controlled "by hand" using the software.

Once set, all the parameters can be saved on the PC and copied from there into other actuators, thus saving time during the commissioning process.

Service technicians can call up statistical data using BCSOFT, such as hours of operation, actuating cycles and an error history. Some values can also be set to zero, for example to record data over a specific period of time.

Running times:

IC 20: 7.5 to 60 s

IC 40: can be programmed, 4.5 to 51 s

Mains voltage: 120 to 230 V AC

Torque: 2.5 and 3 Nm

Controlled by

IC 20: three-point step signal

IC 20..E: continuous signal

IC 40: three-point step, two-point, PLC or continuous signal



IC 20, IC 40





DKR



DKR..H



Butterfly valve DKR

Butterfly valve DKR is designed to adjust volumes of hot air and flue gas on various appliances and flue gas lines. It is designed for control ratios up to 1:10, and with the mounted gear motor GT 50 it is suitable for regulating flow rates for modulating or stage-controlled combustion processes.

On butterfly valve DKR..H, flow rates can be set and fixed using a lever, for example to limit the high-fire rate on the burner. A scale indicates the set angle of opening.

DKR for air and flue gas

DN: 15 to 500

For fitting between two flanges

Max. inlet pressure p_u : 300 mbar

With manual adjustment or with free shaft end for mounting a gear motor GT 50

Max. medium temperature: 60 to 650°C

With disc clearance or with stop bar

Gear motor GT 50

Gear motor GT 50 is mounted directly onto a butterfly valve, for example, DKR, in order to control the gas and air flow rates on gas burners. It is designed for applications that require precise, controlled rotary movement between 0° and 90° or 0° and 160°.

There are two possible ways of checking the current position of the actuator – either using an optional feedback potentiometer or an optional current sensor. These scan functions can be used in automation processes.

The GT 50 is controlled by a continuous signal or three-point step signal. The automatic/manual mode changeover and the position indicator that can be read externally assist in the setting of the infinitely adjustable switching cams upon commissioning. This enables precise settings even in the low-fire rate range.

Gear motor GT 50..U is available with reversed direction of rotation for butterfly valves with stop bars, e.g. DKR..A.

Running times: 3.7 to 120 s/90°

Mains voltage: 24 V AC, 110/120 V AC or 220/240 V AC,

Torque: 3.7 to 20 Nm

Controlled by three-point step signal, continuous signal or two-point signal



GT 50





LFC + IC 20



Linear flow control LFC

The linear flow control LFC is designed to adjust just volumes of gas and cold air on various appliances. It is designed for control ratios up to 1:25, and with the mounted actuator IC 20 or IC 40 it is suitable for regulating flow rates for modulating or stage-controlled combustion processes.

Size: 1 to 2

DN: 10 to 40

Connection: MODULINE system

Max. inlet pressure p_{U1} : 500 mbar

Mains voltage: 24 V AC, 110/120 V AC or 220/240 V AC

Controlled by three-point step signal, continuous signal or two-point signal

The following versions are available:

Linear flow controls with potentiometer for position feedback

Linear flow controls with automatic/manual mode changeover

Linear flow controls suitable for biologically produced methane

Control valves RV, control valves with solenoid valve RVS

Control valve RV / RVS is used for controlling the flow rate in modulating-controlled combustion processes requiring a large control ratio.

Fields of application include thermal incineration, the ceramics industry or also O_2 control on gas engines in combined heating and power stations. The valve adjusts the burner capacity precisely.

It is controlled by a three-point step controller or, in the case of the RV..E, by a continuous signal (e.g. 4 to 20 mA). This version features an electronic positioning control which ensures high control accuracy.

The RVS also integrates a solenoid valve so that the gas is safeguarded and controlled without additional pressure loss.

Size: 2 to 3

DN: 25 to 100

Valve seat: A to Z

Connection: MODULINE system or flange

Max. inlet pressure p_{U1} : 150, 200, 360, 500, 1000 mbar

Mains voltage: 24 V AC, 110/120 V AC or 220/240 V AC

Input signal: continuous or three-point step

The following versions are available:

Valves for biologically produced methane

Valves with Viton valve disc seal



RV

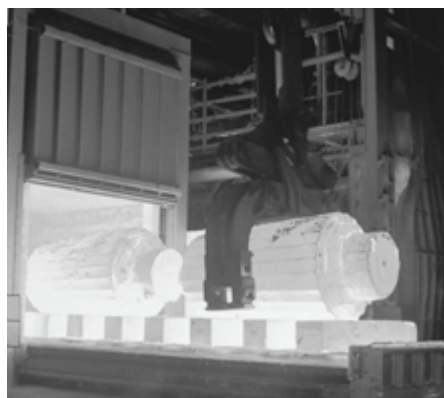


RVS



Type	Type of gas									Type of regulation						Mains voltage			Max. inlet pressure p _u [mbar]
	Natural gas	LPG	Air	Hot air	Biogas	Contaminated gas				Closed when de-energised	Open when de-energised	DN				One-stage	Two-stage	Modulating	
VAS	●	●	●		●		●		10–125	●			○			●	●	●	500
VAD	●	●	●		●		●		15 à 65	●					●	●	●	●	500
VAG	●	●	●		●		●		15–65	●					●	●	●	●	500
VAV	●	●	●		●		●		15–65	●					●	●	●	●	500
VGP	●	●	●		●		●		10–25	●						●	●		100–200
VG	●	●	●		● ¹⁾		●		6–15	●						●	●	●	100–500
VG..DMVZ	●	●	●		●	●	●		10–65	●			○			●	●		200–360
VG high-pressure	●	●	●				●		10–50	●						●	●		1000–1800
VAN	●	●	●		●			●	10–50	●						●	●	●	500
VK	●	●	●		○	○	●		40–250	●	●		●			●	●		230–8000
VR			●				●		25–65	●			○	○		●	●	●	500
BVHM + MB7			●	●			●		40–100	●			○	○		●	●	●	150
BVG + IC	●	●	●						40–150	●	●	●				●	●		500
BVA + IC			●						40–150	●	●	●				●	●		500
BVH + IC			●	●			○		40–100	●	●	●				●	●		150
DKR + GT 50			●	●					15–500	●	●	●				●	●	●	300
RVS	●	●	●		○		●		25–50			●				●	●	●	100–1000
RV	●	●	●		○				25–100			●				●	●	●	100–1000
LFC	●	●	●		●				25–40		●	●				●	●	●	500

● = standard, ○ = available; ¹⁾without double-cone olive



Furnace in the steel industry



Elster Kromschroder valves in the ceramic industry



elster
Kromschroder

Detailed information on this product



http://docuthek.kromschroeder.com/doclib/main.php?language=1&folderid=203&by_class=6

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Solenoid valves for gas VAS, Double solenoid valves VCS

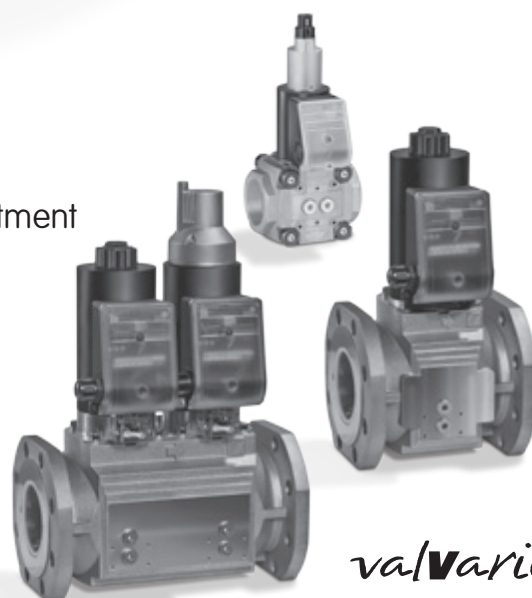
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**krom
schroder**



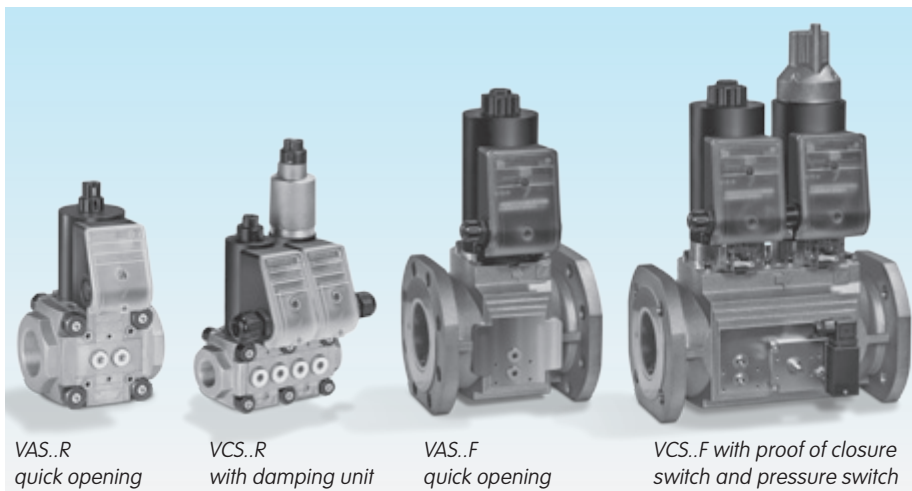
- Safety shut-off valves for gas
- Suitable for a max. inlet pressure of 500 mbar (500 hPa/7 psig)
- Easy installation into a system
- Compact design saves space
- No extra valve required owing to integrated flow adjustment
- Check indication by blue LED
- Proof of closure switch with integral visual position indicator
- Suitable for high-duty cycling
- EC type-tested and certified
- FM, ANSI/CSA and AGA approved, UL listed
- Certified pursuant to GOST-TR
- VAS 1: certified for systems up to SIL 3 and PL e



valVario®



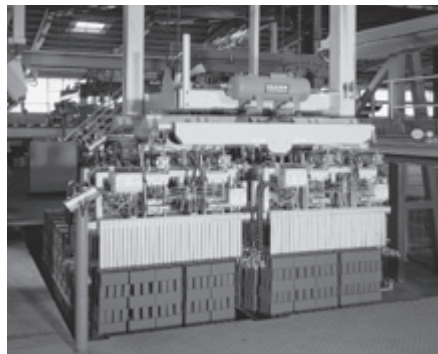
elster
Kromschroder



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

Application

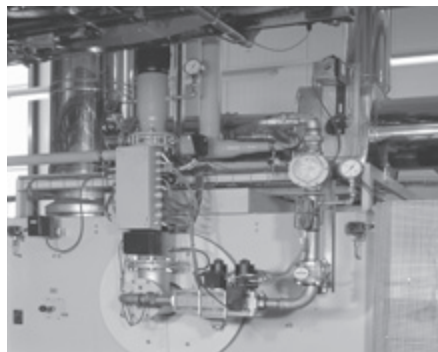
Solenoid valves for gas VAS and double solenoid valves VCS for safeguarding and controlling the air and gas supply to gas burners and gas appliances. For use in gas control and safety systems in all sectors of the iron, steel, glass and ceramics industries, also in commercial heat generation, such as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



Ceramics industry

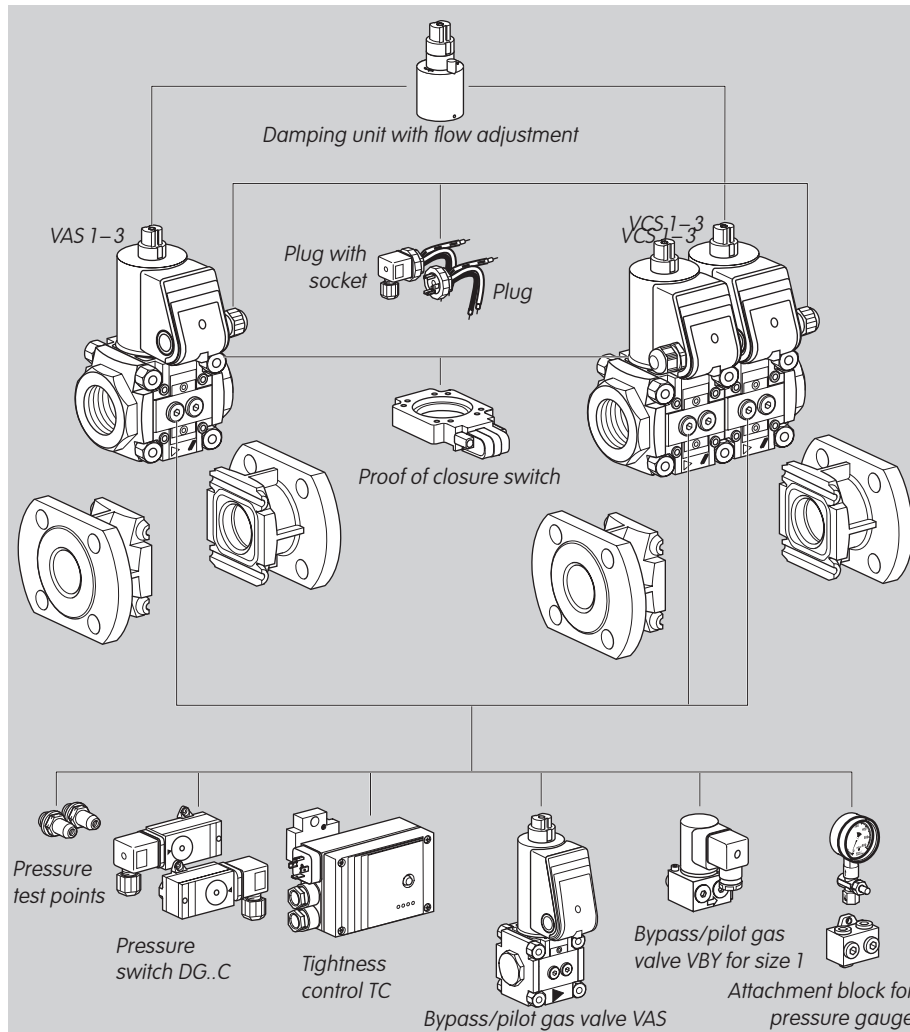


Aluminium industry:
curing oven for
wheel rims



Foodstuffs industry:
baking oven

Examples of application

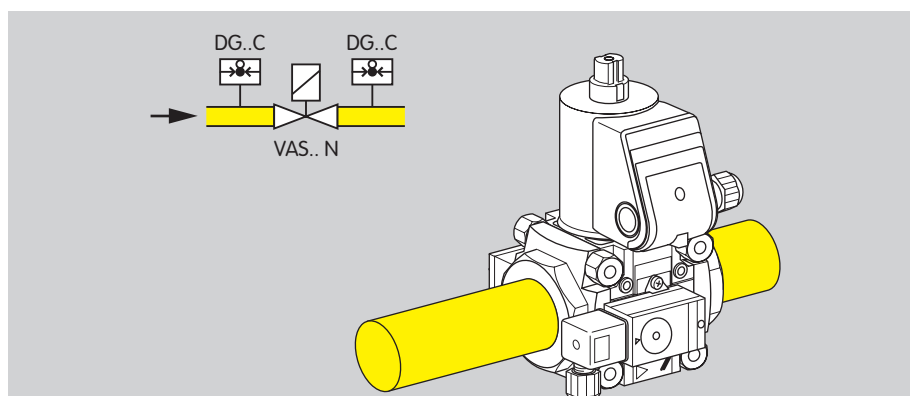


Solenoid valve for gas VAS 1-3, Double solenoid valve VCS 1-3

Threaded flange for pipe connections from DN 10 to 65,
flanged connection for sizes 2 and 3 for
pipe connections DN 40 and 50.

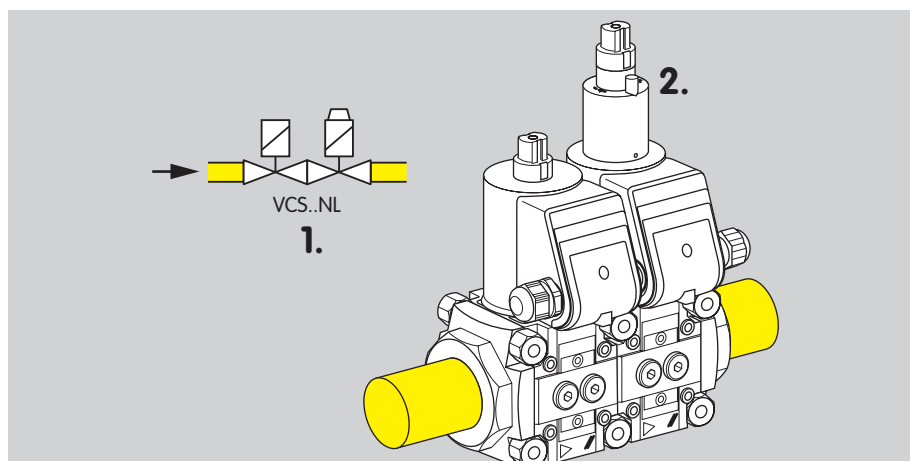
Modularly configurable with:

- Damping unit
- Proof of closure switch
- Plug (with or without socket)
- Pressure test points
- Pressure switch DG..C 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 for inlet pressure p_u
and outlet pressure p_d

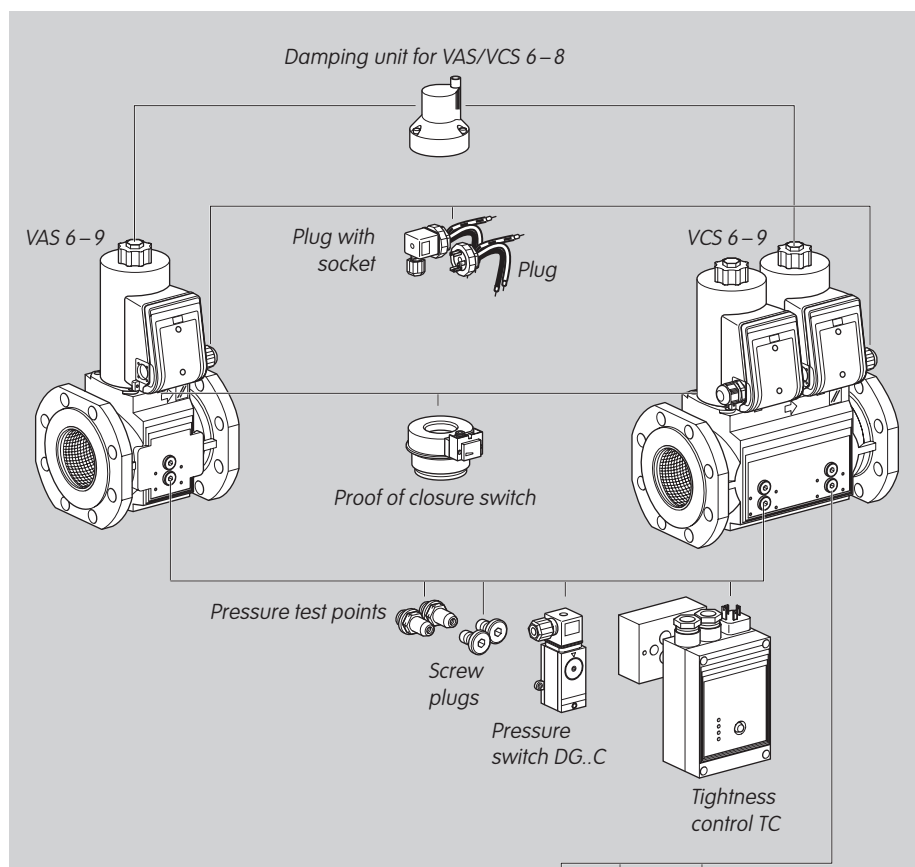


Double solenoid valve VCS with damping unit

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

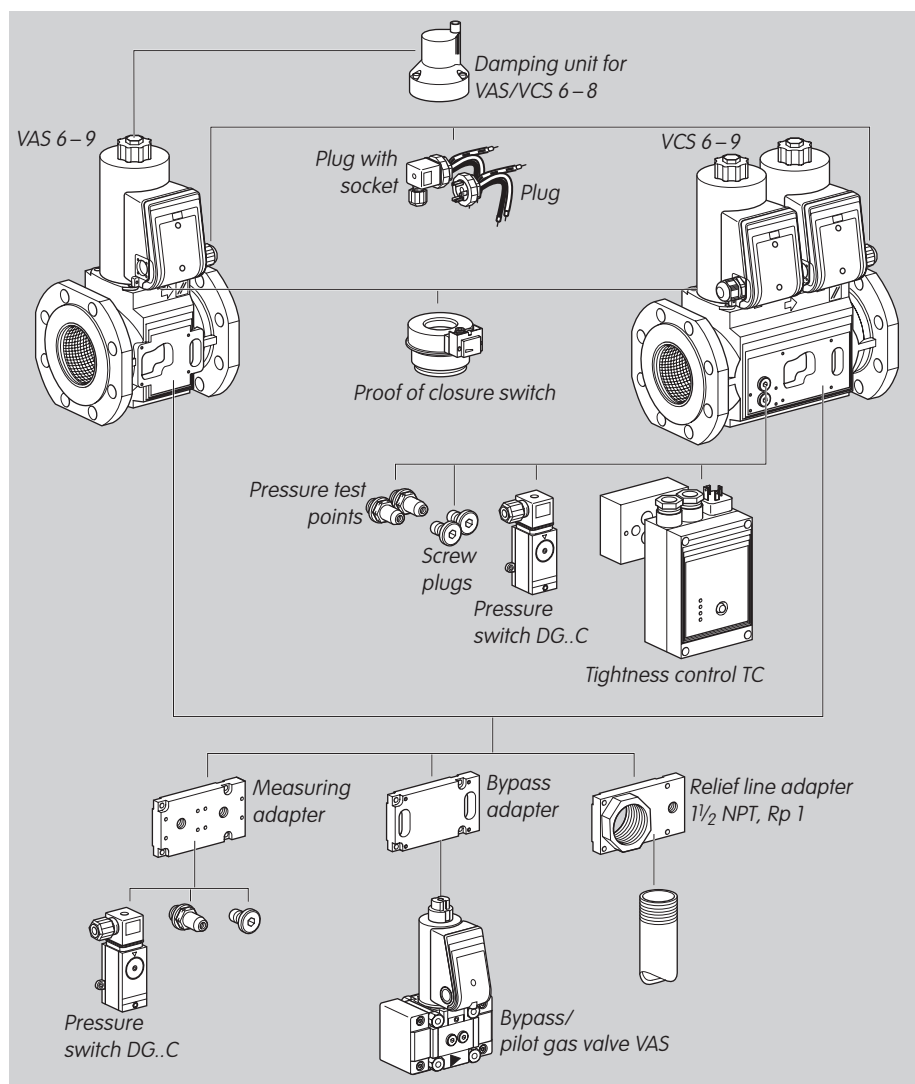
Gas solenoid valve and double solenoid valve with flanged connection (ISO or ANSI) for pipe connections from DN 65 to 125.

Modularly configurable with:

- Damping unit for VAS/VCS 6-8
- Proof of closure switch
- Plug
- Plug with socket

VCS 6-9 with threaded connections for:

- Screw plugs
- Pressure test points
- Pressure switch DG..C for inlet/inter-space 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 configurable with:

- Damping unit for VAS/VCS 6-8
- Proof of closure switch
- Plug
- Plug with socket

With adapter plates, expandable with:

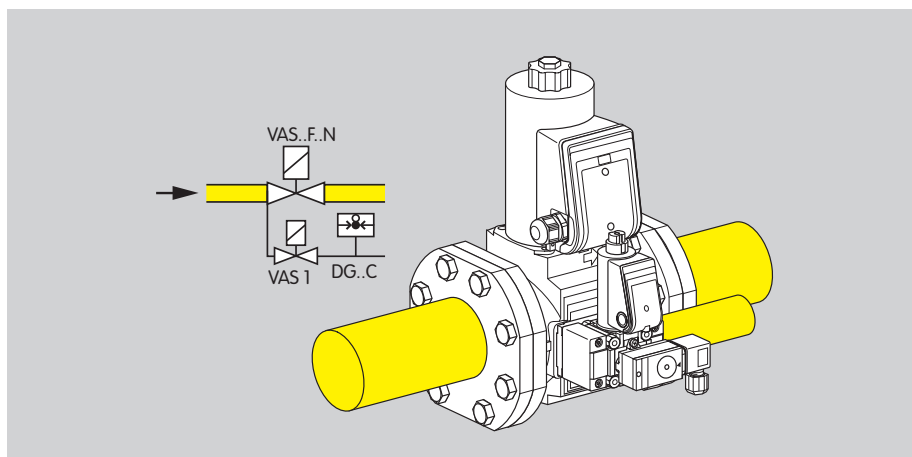
- Pressure switch DG..C
VAS 6-9: for inlet/outlet pressure
VCS 6-9: for interspace/outlet pressure
- Pressure test points
- Screw plug
- Bypass or pilot gas valve VAS

VCS 6-9

With two threaded connections for:

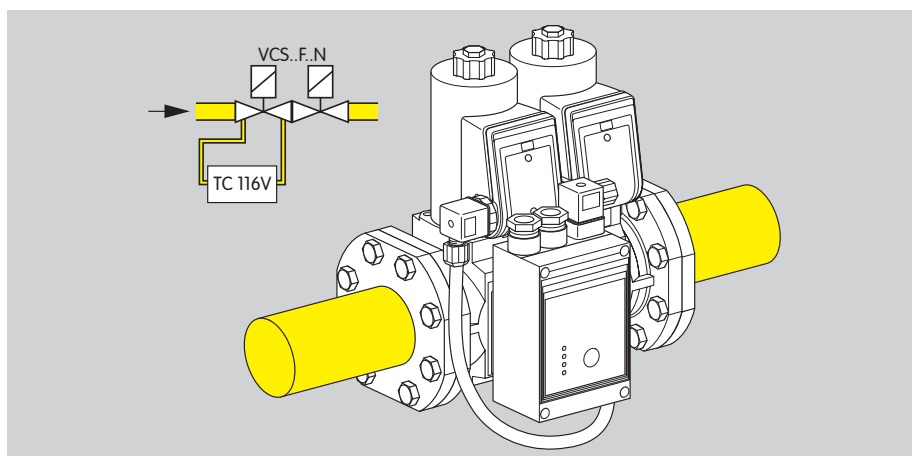
- Screw plugs
- Pressure test points
- Pressure switch DG..C for inlet/inter-space pressure
- Tightness control TC

Expandable with relief line adapter (1½ NPT, Rp 1) for relief line.



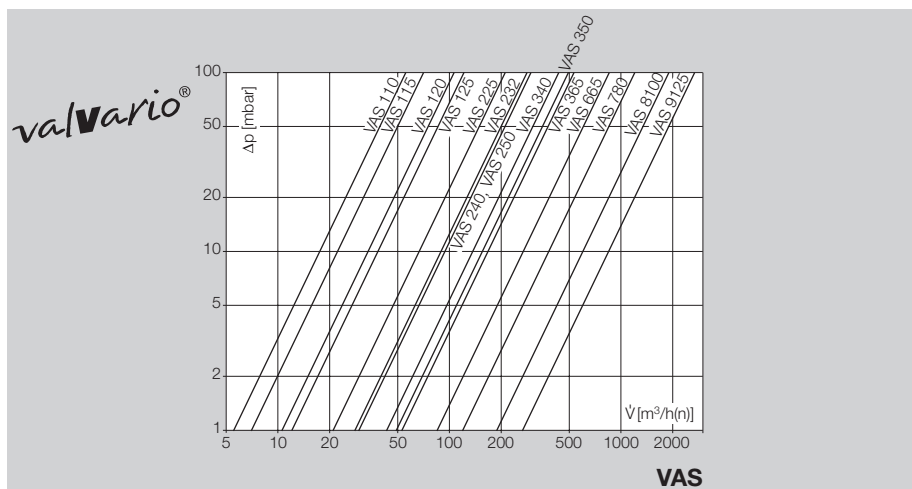
Gas solenoid valve with pilot gas valve and pressure switch

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



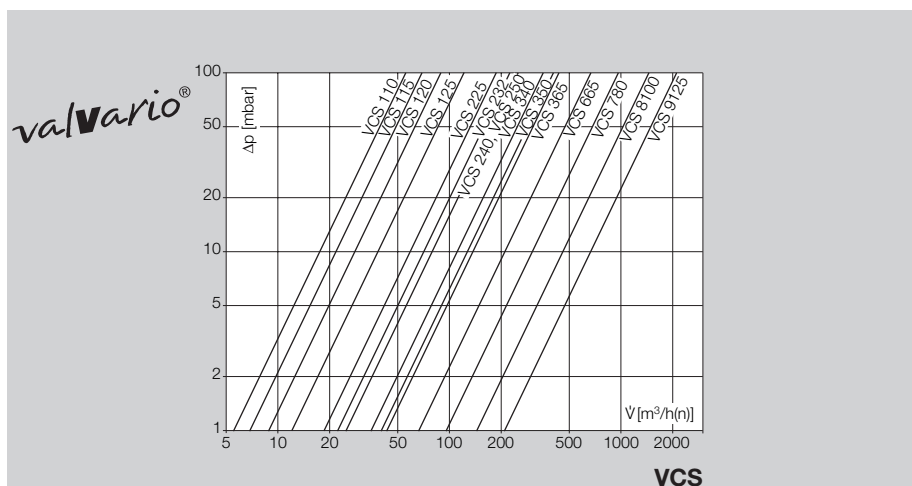
Double solenoid valve with tightness control

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



Flow rate VAS

Gas type: natural gas



Flow rate VCS

Gas type: natural gas

Replacement possibilities

Solenoid valve for gas VG is to be replaced by VAS.

Type code VAS 1–3

Code	Description
VAS	Gas solenoid valve
1–3	Size
T	T-product
–	Without inlet and outlet flange
–0	Blind flange
10, 15, 20, 25, 32, 40, 50, 65	Nominal inlet and outlet diameter
R	Rp internal thread
N	NPT internal thread
F	ISO flange
/N	Quick opening, quick closing
/L	Slow opening, quick closing
K	Mains voltage 24 V DC
P	Mains voltage 100 V AC; 50/60 Hz
Q	Mains voltage 120 V AC; 50/60 Hz
Y	Mains voltage 200 V AC; 50/60 Hz
W	Mains voltage 230 V AC; 50/60 Hz
S	Proof of closure switch with visual position indicator
G	Proof of closure switch for 24 V with visual position indicator
R	Viewed from the right (in the direction of flow)
L	Viewed from the left (in the direction of flow)

Type code VAS 6–9

Code	Description
VAS	Gas solenoid valve
6–9	Size
T	T-product
65, 80, 100, 125	Nominal inlet flange diameter
F	ISO flange
A	ANSI flange
05	Max. inlet pressure $p_{U \max}$ 500 mbar (500 hPa/7 psig)
/N	Quick opening, quick closing
/L	Slow opening, quick closing
K	Mains voltage 24 V DC
Q	Mains voltage 120 V AC; 50/60 Hz
W	Mains voltage 230 V AC; 50/60 Hz
A	Mains voltage 120–230 V AC; 50/60 Hz
S	Proof of closure switch with visual position indicator
G	Proof of closure switch for 24 V with visual position indicator
R	Viewed from the right (in the direction of flow)
L	Viewed from the left (in the direction of flow)
3	Electrical connection: M20 cable gland
P	2 screw plugs, at the top, at the inlet and outlet
M	2 pressure test points, at the top, at the inlet and outlet
Accessories, right, inlet	
/P	Screw plug
/M	Pressure test point for inlet pressure p_U
/1	Gas pressure switch DG 17VC
/2	Gas pressure switch DG 40VC
/3	Gas pressure switch DG 110VC
/4	Gas pressure switch DG 300VC
/B	Bypass valve VAS 1, fitted
/Z	Pilot gas valve VAS 1, fitted
/V	Prepared for breather line 1½ NPT
/E	Prepared for breather line Rp 1
Accessories, right, outlet	
P	Screw plug
M	Pressure test point for outlet pressure p_d
1	Gas pressure switch DG 17VC
2	Gas pressure switch DG 40VC
3	Gas pressure switch DG 110VC
4	Gas pressure switch DG 300VC
–	No accessories
Accessories, left, inlet	
/P	Screw plug
/M	Pressure test point for inlet pressure p_U
/1	Gas pressure switch DG 17VC
/2	Gas pressure switch DG 40VC
/3	Gas pressure switch DG 110VC
/4	Gas pressure switch DG 300VC
/B	Bypass valve VAS 1, fitted
/Z	Pilot gas valve VAS 1, fitted
/V	Prepared for breather line 1½ NPT
/E	Prepared for breather line Rp 1
Accessories, left, outlet	
P	Screw plug
M	Pressure test point for outlet pressure p_d
1	Gas pressure switch DG 17VC
2	Gas pressure switch DG 40VC
3	Gas pressure switch DG 110VC
4	Gas pressure switch DG 300VC
–	No accessories

Type code VCS 1–3

Code	Description
VCS	Gas solenoid valve
1–3	Size
T	T-product
–	Without inlet and outlet flange
10, 15, 20, 25, 32, 40, 50, 65	Nominal inlet and outlet diameter
R	Rp internal thread
N	NPT internal thread
F	ISO flange
N	1 st valve quick opening, quick closing
L	1 st valve slow opening, quick closing
N	2 nd valve quick opening, quick closing
L	2 nd valve slow opening, quick closing
K	Mains voltage 24 V DC
P	Mains voltage 100 V AC; 50/60 Hz
Q	Mains voltage 120 V AC; 50/60 Hz
Y	Mains voltage 200 V AC; 50/60 Hz
W	Mains voltage 230 V AC; 50/60 Hz
S	Proof of closure switch with visual position indicator
G	Proof of closure switch for 24 V with visual position indicator
R	Viewed from the right (in the direction of flow)
L	Viewed from the left (in the direction of flow)

Type code VCS 6–9

Code	Description
VCS	Gas solenoid valve
6–9	Size
T	T-product
65, 80, 100, 125	Nominal inlet flange diameter
F	ISO flange
A	ANSI flange
05	Max. inlet pressure $p_{e\max}$ 500 mbar (500 hPa/7 psig)
N	1 st valve quick opening, quick closing
L	1 st valve slow opening, quick closing
N	2 nd valve quick opening, quick closing
L	2 nd valve slow opening, quick closing
K	Mains voltage 24 V DC
Q	Mains voltage 120 V AC~; 50/60 Hz
W	Mains voltage 230 V AC~; 50/60 Hz
A	Mains voltage 120–230 V AC~; 50/60 Hz
S	Proof of closure switch with visual position indicator
G	Proof of closure switch for 24 V with visual position indicator
R	Viewed from the right (in the direction of flow)
L	Viewed from the left (in the direction of flow)
3	Electrical connection: M20 cable gland
P	2 screw plugs, at the top, at the inlet and outlet
M	2 pressure test points, at the top, at the inlet and outlet

Accessories, right, inlet

/P	Screw plug
/M	Pressure test point for inlet pressure p_u
/1	Gas pressure switch DG 17VC
/2	Gas pressure switch DG 40VC
/3	Gas pressure switch DG 110VC
/4	Gas pressure switch DG 300VC

Accessories, right, interspace 1

P	Screw plug
M	Test point for interspace pressure p_z
1	Gas pressure switch DG 17VC
2	Gas pressure switch DG 40VC
3	Gas pressure switch DG 110VC
4	Gas pressure switch DG 300VC

Accessories, right, interspace 2

P	Screw plug
M	Test point for interspace pressure p_z
1	Gas pressure switch DG 17VC
2	Gas pressure switch DG 40VC
3	Gas pressure switch DG 110VC
4	Gas pressure switch DG 300VC
B	Bypass valve VAS 1, fitted
Z	Pilot gas valve VAS 1, fitted
V	Prepared for breather line 1½ NPT
E	Prepared for breather line Rp 1
–	No accessories

Accessories, right, outlet

P	Screw plug
M	Pressure test point for outlet pressure p_d
1	Gas pressure switch DG 17VC
2	Gas pressure switch DG 40VC
3	Gas pressure switch DG 110VC
4	Gas pressure switch DG 300VC
–	No accessories

The same accessories can be selected for the left- or right-hand side.

Technical data

Gas types: natural gas, LPG (gaseous), biologically produced methane (max. 0.1 %-by-vol. H₂S) or clean air; other gases on request. The gas must be dry in all temperature conditions and must not contain condensate.

CE and FM approved, UL listed, max. inlet pressure p_U : 500 mbar (500 hPa/7 psig).

FM approved, non operational pressure: 700 mbar (700 hPa/10 psig).

ANSI/CSA approved: 350 mbar (350 hPa/5 psig).

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

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

Opening times:
VAS../N quick opening: ≤ 1 s;
VAS../L slow opening: up to 10 s.

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

Ambient temperature:
-20 to +60°C (-4 to +140°F),
no condensation permitted.

Storage temperature:
-20 to +40 °C (-4 to +104°F),
no condensation permitted.

Safety valve:
Class A Group 2 pursuant to EN 13611 and EN 161,
Factory Mutual (FM) Research Class: 7410 and 7411,
ANSI Z21.21 and CSA 6.5.

Mains voltage:
230 V AC, +10/-15%, 50/60 Hz,
200 V AC, +10/-15%, 50/60 Hz,
120 V AC, +10/-15%, 50/60 Hz,
100 V AC, +10/-15%, 50/60 Hz,
24 V DC, $\pm 20\%$.

Cable gland: M20 x 1.5.

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

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) PN 16,
with ANSI flange pursuant to ASA.

VAS/VCS 9

Mains voltage:
120–230 V AC, +10/-15%, 50/60 Hz.

Switching frequency: max. 1 x per minute.

Max. temperature of solenoid coil:
+20°C (+68°F) above ambient temperature.

Current consumption at 20°C (68°F):
pick-up current: 1.8 A,
holding current: 0.3 A.

Maintenance cycles

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

If the flow rate drops, clean the strainer!

Detailed information on this product

www.docuthek.com → Elster Kromschroeder

Search term: VAS, VCS

Kind of document: Technical information

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