



Valves and butterfly valves



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_i} : 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:

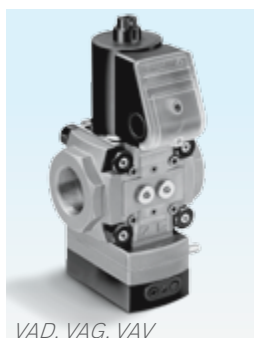
Valves with proof of closure switch and visual position indicator

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 regulators with solenoid valve VAD, VAG, VAV, VAH

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-controlled 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.

VAH

Flow rate regulator VAH is used for maintaining a constant gas/air ratio for modulating-controlled and stage-controlled burners. The gas flow rate is controlled proportionally to the air flow rate.

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_F .

For gas and air

Size: 1 to 3

DN: 15 to 50

Connection: thread or flange

Max. inlet pressure p_{U_i} : 500 mbar (197" WC)

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





VGP

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



VG 6 – 15/10

Solenoid valves for gas VG

Gas solenoid valves VG for safeguarding, regulating and controlling the air and gas supply to gas burners and gas appliances.

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



VG

Magnetic relief valves 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 position indicator and visual indicator

Valves with fitted pressure switches

DG../VC



VAN



VK

Motorized valves for gas VK

For safeguarding, controlling and regulating the gas and air supply to gas burners and gas appliances, including two-stage operation.

The VK..X version is recommended for Zone 1 and 2 hazardous areas 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-stage 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 in 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



VR

Solenoid valves for air VR

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 bypass orifice



MB 7 + BVHM

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





BVG, BVA

Butterfly valves BVG, BVGF, BVA, BVAF, 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-controlled or stage-controlled combustion processes.



BVH, BVHS

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.

BVGF, BVAF

Butterfly valves BVGF and BVAF work clearance-free.

In case of change of direction, the butterfly valve adjusts to the setpoint without delay. The butterfly valve thus reaches the required position more quickly.



BV..F



IC 50

Actuator IC 50

Actuators IC 50 are designed for all applications that require precise, controlled rotary movement between 0° and 90°. This also applies for applications with high torques of up to 30 Nm.

The combination of actuator IC 50 and butterfly valve DKR is designed to adjust volumes of hot air and flue gas on various appliances and flue gas lines.

In addition to setting the Min. and Max. positions using infinitely adjustable switching cams, three floating limit switches mean that additional switching positions such as for ignition and high-fire rate positions can be set.

A standard Service switch allows the device to be switched from Automatic to Manual mode and a position indicator drastically simplifies the commissioning procedure.

The direction of rotation of the valve disc can be switched.

IC 50

An integrated feedback potentiometer offers the option of monitoring the current position of the

BVH

Butterfly valve BVH is used for processes that require 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_{ij} :

BVG, BVA: 500 mbar

BVH, BVHS: 150 mbar



valve disc. This checking function can be used in automation processes.

IC 50..E

In the case of continuous control, the minimum and maximum adjustment angles can be adapted to the input signal manually or automatically using the keys. The continuous signal offers the option of monitoring the current position of the actuator.

The behaviour of the actuator, e.g. if the input signal falls below the minimum limit in the event of cable discontinuity, can be set using DIP switches.

Running time: 3.7 to 60 s/90°

Mains voltage:

24 V AC, 120 V AC or 230 V AC

Torque: 7 to 30 Nm

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





IC 20, IC 40

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 checking 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 for continuously controlled burners and on stage-controlled burners.

Settings on the actuator IC 40 can be made using a PC with the parameterization 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 a fault 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, continuous signal or two-point signal.

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

CE



DKR

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 actuator IC it is suitable for regulating flow rates for modulating-controlled 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..H

For air and flue gas

DN: 15 to 500

For fitting between two flanges

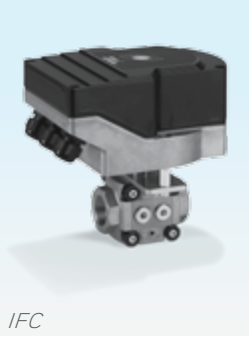
Max. inlet pressure p_U : 300 mbar

With manual adjustment or with free shaft end for mounting an actuator IC GT 50

Max. medium temperature: 60 to 650°C

With disc clearance or with stop bar

CE



IFC

Linear flow control with actuator IFC

The linear flow control is designed to adjust 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-controlled or stage-controlled combustion processes.

Size: 1

DN: 10 to 25

Connection: thread

Max. inlet pressure p_U : 500 mbar

Mains voltage: 120 V AC or 230 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



RV

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_U : 150, 200, 360, 500, 1000 mbar

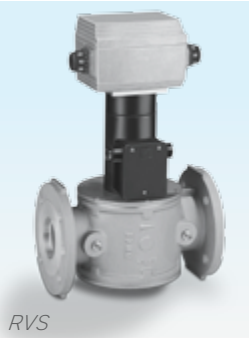
Mains voltage: 24 V AC, 110/120 V AC or 220/240 V AC

Input signal: continuous or three-point step

The following versions are available:

Valves for biologically produced methane

Valves with Viton valve disc seal



RVS

Type	Type of gas								DN	Type of control					Mains voltage			Max. inlet pressure p ₀ [mbar]	
	Natural gas	LPG	Air	Hot air	Biologically produced methane	Contaminated gas	Closed when de-energized	Open when de-energized		One-stage	Two-stage	Modulating	Slow opening	Slow closing	Pressure control	230 V	120 V		24 V
VAS	●	●	●		●		●		10 - 125	●			○			●	●	●	500
VAD	●	●	●		●		●		15 - 50	●					●	●	●	500	
VAG	●	●	●		●		●		15 - 50	●					●	●	●	500	
VAV	●	●	●		●		●		15 - 50	●					●	●	●	500	
VAH	●	●	●		●		●		15 - 50	●					●	●	●	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	
IFC	●	●	●		●				25 - 40		●	●			●	●	●	500	

● = standard, ○ = available; ¹⁾ no double-cone olive



Furnace in the steel industry



Elster Kromschroder valves in the ceramics industry

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