



## **Butterfly valves BVG, BVA, BV..F, BVH, BVHR, BVHS, BVHM Butterfly valves with actuator IBG, IBA, IB..F, IBH, IBHR, IBHS**

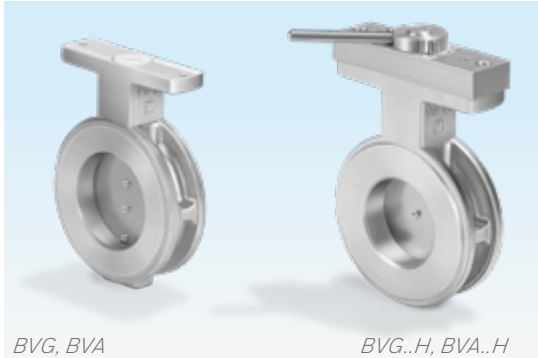
- For gas, air, hot air and flue gas
- Low leakage rate and pressure loss
- High control accuracy
- BVG, BVGF, BVA, BVAF, IBG, IBGF, IBA or IBAF with reduced nominal diameters
- Butterfly valves available with mounted actuator
- Suitable for intermittent operation
- BVGF, BVAF, IBGF, IBAF work clearance-free
- Low-maintenance operation
- BVHR can be used in temperatures of up to 550°C

## Application

The butterfly valves 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 they are suitable for regulating flow rates for modulating-controlled or stage-controlled combustion processes.

### BVG, BVA

BVG for gas, BVA for air. These butterfly valves BVG..H, BVA..H can also be supplied with manual adjustment.



Butterfly valves BVG, BVGF, BVA and BVAF 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.

Various adapter sets with square shaft, free shaft end or lever are available as accessories. 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.

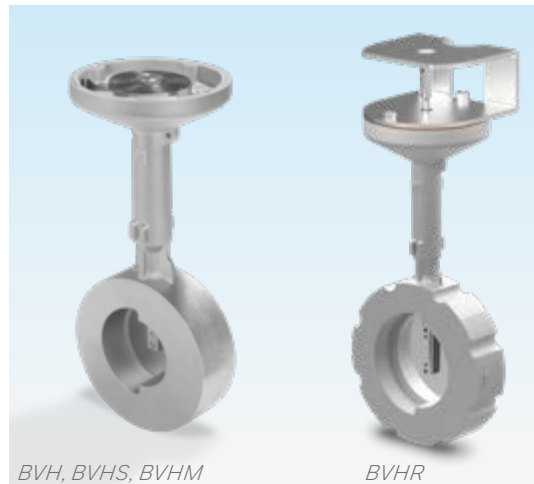


### BVH, BVHR, BVHS, BVHM

Butterfly valve for hot air and flue gas.

The butterfly valve BVH, BVHR, BVHS 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.

In order to maximize the service life of the butterfly valve, the safety closing function should be used only for the scheduled closing function and not for controlled shut-down or for intermittent switching of the burner.

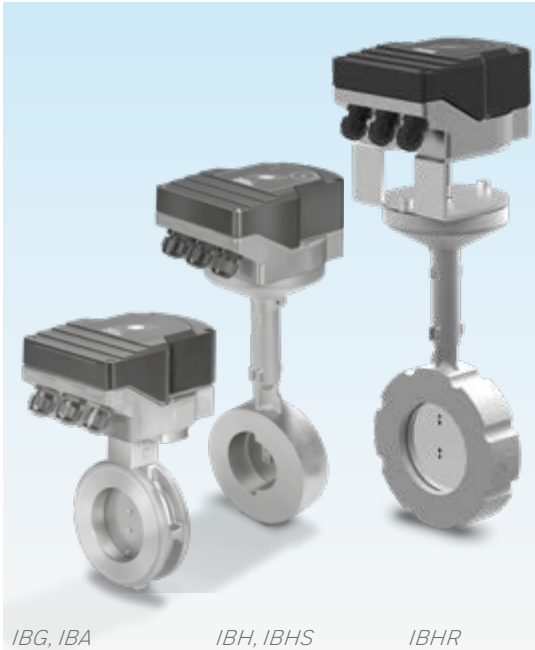
## BVH, BVHR

Butterfly valve BVH is suitable for applications up to 450°C. The BVHR can be used at a medium temperature of up to 550°C.

## BVHM

Butterfly valve BVHM is used in intermittent mode. Solenoid actuator MB 7 is available as an actuator for the BVHM.

## IBG, IBGF, IBA, IBAF, IBH, IBHR, IBHS



Butterfly valves BVG, BVGF, BVA, BVAF, BVH, BVHR or BVHS and actuator IC 20 or 40 can be delivered ready assembled as butterfly valves with actuator IBG, IBGF, IBA, IBAF, IBH, IBHR or IBHS.

## BVHM with MB 7



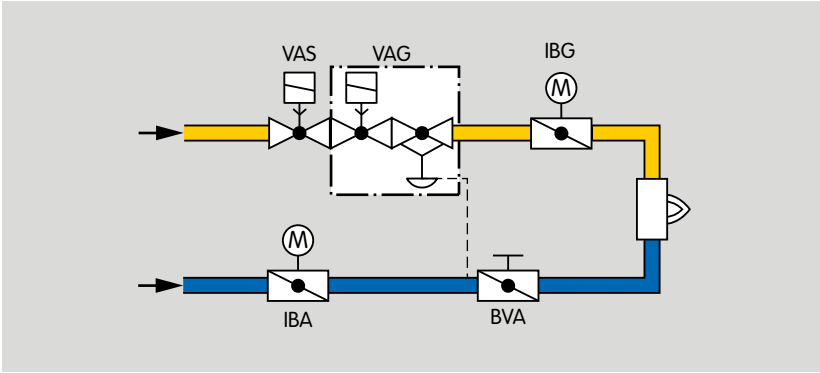
Solenoid actuator MB 7 and butterfly valve BVHM are used in intermittent mode.

The low- and high-fire rates can be adjusted independently of each other.

For detailed information on solenoid actuator MB 7, see [www.docuthek.com](http://www.docuthek.com), Technical Information bulletin MB 7.

## Examples of application

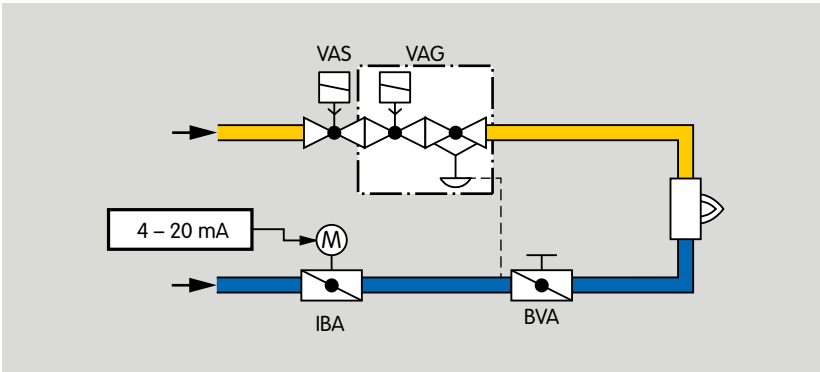
### IBG, IBGF, lambda correction



If the burner is to be operated with excess gas or air for reasons of process operation, the butterfly valve with actuator IBG can be used to correct the lambda value.

The butterfly valve BVA with manual adjustment is used to adjust the high-fire rate.

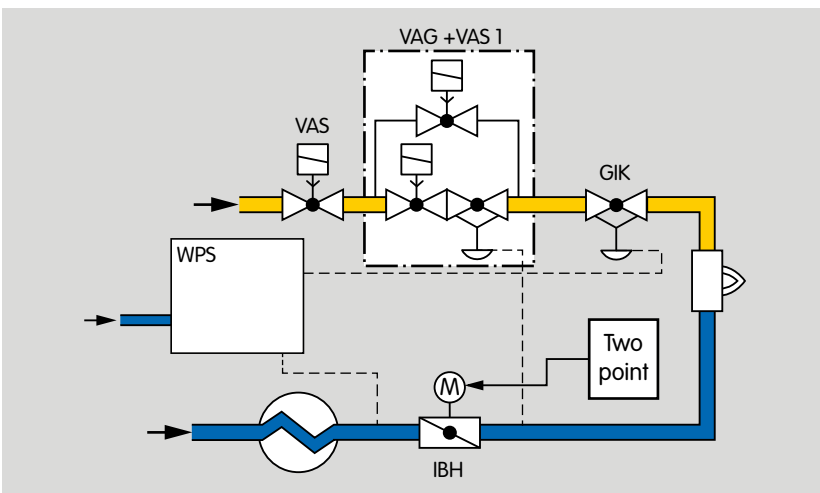
### IBA, IBAF, adjusting the burner capacity



In pneumatic ratio control systems, the butterfly valve with mounted actuator IBA determines the air volume for the required burner capacity.

The butterfly valve BVA with manual adjustment is used to adjust the high-fire rate.

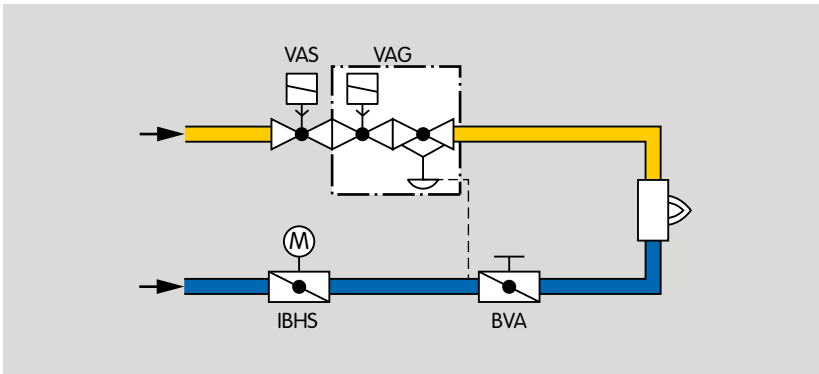
### IBH, IBHR, hot air compensation



The butterfly valve with actuator IBH is used on burners that are operated with preheated combustion air at temperatures of up to 450°C (840°F).

Butterfly valve BVHR is available for medium temperatures of up to 550°C (1020°F).

## IBHS, safety closing function in the event of a mains voltage failure

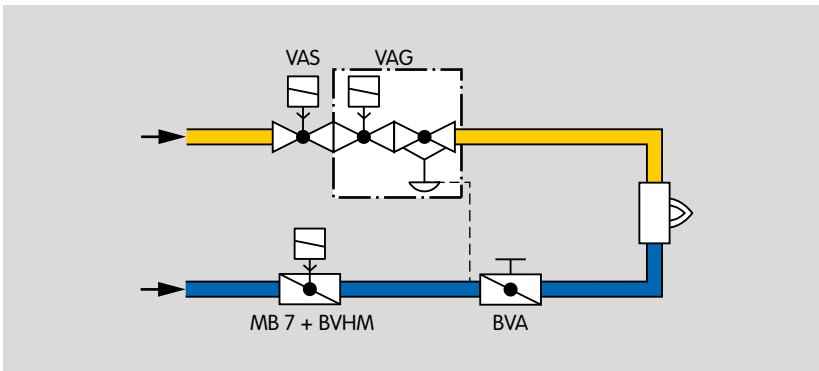


The safety closing function ensures that in the event of a mains voltage failure air cannot stream into the furnace without being under control.

The butterfly valve with actuator IBHS is used in the air circuit.

The butterfly valve BVA with manual adjustment is used to adjust the high-fire rate.

## BVHM in intermittent mode



Solenoid actuator MB 7 and butterfly valve BVHM are used for intermittent switching of the burner.

The MB 7 is equipped with a flow rate adjustment device. The low- and high-fire rates are thus adjusted independently of each other.

Depending on the setting, the required leakage rate can be used as the low-fire rate. The BVHM allows an important reduction in the oxygen level of the furnace atmosphere in oxygen-critical applications such as on forging furnaces. This allows suppression of undesirable scale formation on the material to be treated.

## Type code

### BVG, BVGF, BVA, BVAF, BVH, BVHR, BVHS, BVHM

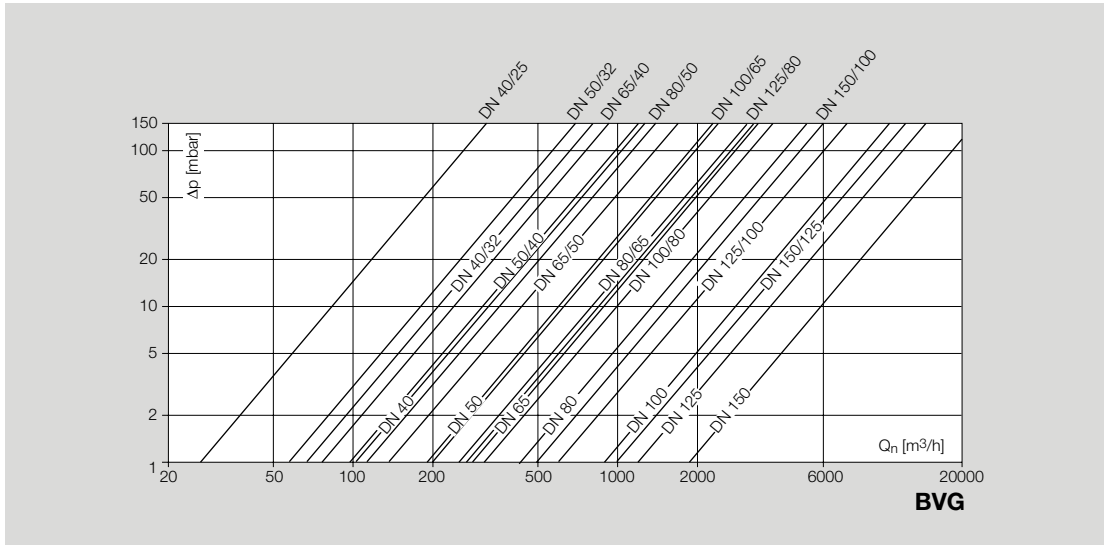
Code	Description
BVG	Butterfly valve for gas
BVGF	Clearance-free butterfly valve for gas
BVA	Butterfly valve for air
BVAF	Clearance-free butterfly valve for air
BVH	Butterfly valve for hot air and flue gas up to 450°C
BVHR	Butterfly valve for hot air and flue gas up to 550°C
BVHS	Butterfly valve for hot air and flue gas up to 450°C with safety closing function (only in conjunction with actuator IC 40S)
BVHM	Butterfly valve for hot air and flue gas up to 450°C (only in conjunction with solenoid actuator MB 7)
DN 40 – 150	Nominal size DN
DN/25 – 125	Reduced to nominal size DN
Z	For fitting between two flanges to EN 1092
W	For fitting between two ANSI flanges
01	Max. inlet pressure $p_{u \max.}$ :
05	150 mbar (2.18 psig)
	500 mbar (7.25 psig)
A	With stop bar
H	With manual adjustment
F	With free shaft end
V	With square shaft

### IBG, IBGF, IBA, IBAF, IBH, IBHR, IBHS

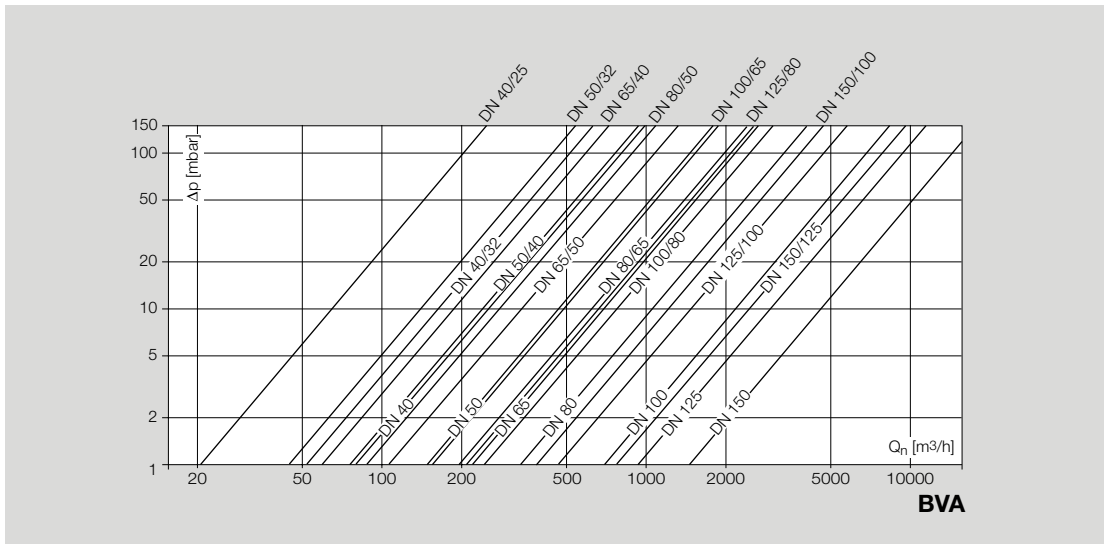
Code	Description
IBG	Butterfly valve for gas with actuator
IBGF	Clearance-free butterfly valve for gas with actuator
IBA	Butterfly valve for air with actuator
IBAF	Clearance-free butterfly valve for air with actuator
IBH	Butterfly valve for hot air and flue gas up to 450°C with actuator
IBHR	Butterfly valve for hot air and flue gas up to 550°C with actuator
IBHS	Butterfly valve for hot air and flue gas up to 450°C with safety closing function in conjunction with actuator IC 40S
40 – 150	Nominal size DN
/25 – 125	Reduced to nominal size DN
Z	For fitting between two flanges to EN 1092
W	For fitting between two ANSI flanges
01	Max. inlet pressure $p_{u \max.}$ :
05	150 mbar (2.18 psig)
	500 mbar (7.25 psig)
A	With stop bar
/20	Actuator IC 20
/40	Actuator IC 40
-07	Running time (at 50 Hz):
-15	7.5 s
-30	15 s
-60	30 s
	60 s
W	Mains voltage:
Q	230 V AC, -15/+10%, 50/60 Hz
A	120 V AC, -15/+10%, 50/60 Hz
	120 – 230 V AC, ±10%, 50/60 Hz
2	Torque:
3	2.5 Nm
	3 Nm
E	Continuous control
T	Three-point step control
A	4 – 20 mA analogue input and digital inputs
D	Digital inputs
R10	0 – 1000 $\Omega$ feedback potentiometer

## Flow rate

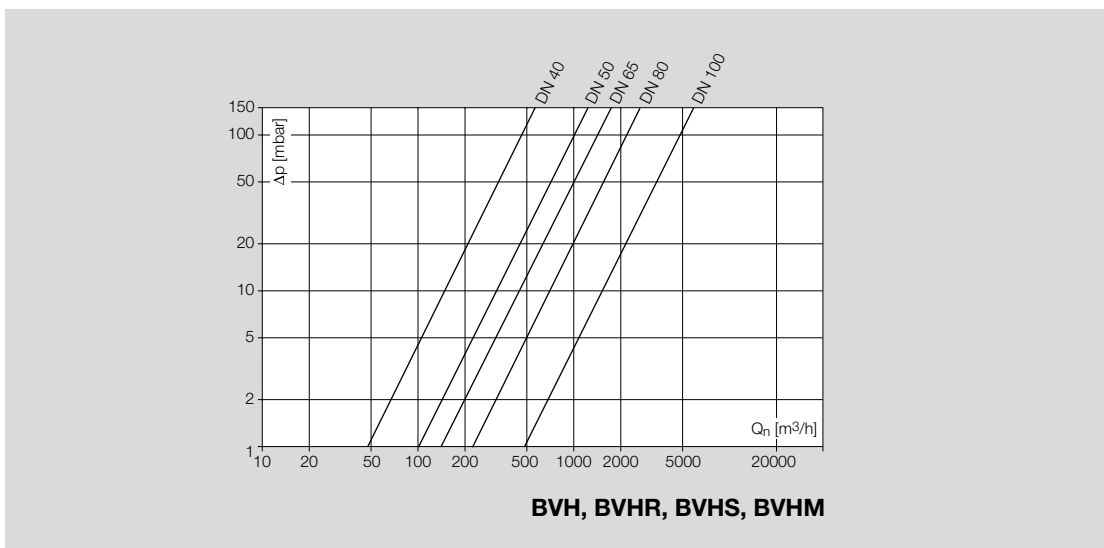
### Butterfly valves for gas BVG, BVGF



### Butterfly valves for air BVA, BVAF



### Butterfly valves for air and flue gas BVH, BVHR, BVHS, BVHM



## Technical data

### BVG, BVGF, BVA, BVAF

Gas type:

BVG, BVGF: natural gas, town gas, LPG, biogas (max. 0.1 %-by-vol. H<sub>2</sub>S) and other non-aggressive fuel gases.

BVA, BVAF: air.

The gas must be dry in all conditions and must not contain condensate.

Housing material: AlSi,  
valve disc: aluminium,  
drive shaft: stainless steel,  
seals: HNBR.

DN: 40 to 150, reduction by 2 nominal sizes is possible.

Inlet pressure  $p_u$ : max. 500 mbar (7.25 psi).

Ambient temperature:

-20 to +60°C (-4 to +140°F).

Medium temperature:

-20 to +60°C (-4 to +140°F).

Storage temperature:

-20 to +40°C (-4 to +104°F).

### BVH, BVHR, BVHM, BVHS

Gas type: air and flue gas.

DN: 40 to 100.

Housing material: GGG,  
valve disc: stainless steel,  
drive shaft: stainless steel.

Inlet pressure  $p_u$ : max. 150 mbar (2.18 psig).

Pressure differential between inlet pressure  $p_u$  and outlet pressure  $p_d$ : max. 150 mbar (2.18 psig).

Ambient temperature:

-20 to +60°C (-4 to +140°F).

Medium temperature:

BVH: -20 to +450°C (-4 to +840°F),

BVHR: -20 to +550°C (-4 to +1020°F).

Storage temperature:

-20 to +40°C (-4 to +104°F).

## Maintenance cycles

### Butterfly valves

The butterfly valves BVG, BVGF, BVA, BVAF, BVH, BVHR, BVHM and BVHS require little maintenance.

We recommend a function check once a year.

BVG, BVGF: check for external tightness once a year. If operated with biogas, a tightness test and function check must be carried out every six months.

### Technical Information bulletin for this product

[www.docuthek.com](http://www.docuthek.com)

Search term:

### Contact

[www.kromschroeder.com](http://www.kromschroeder.com) → Process Heat → Sales

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