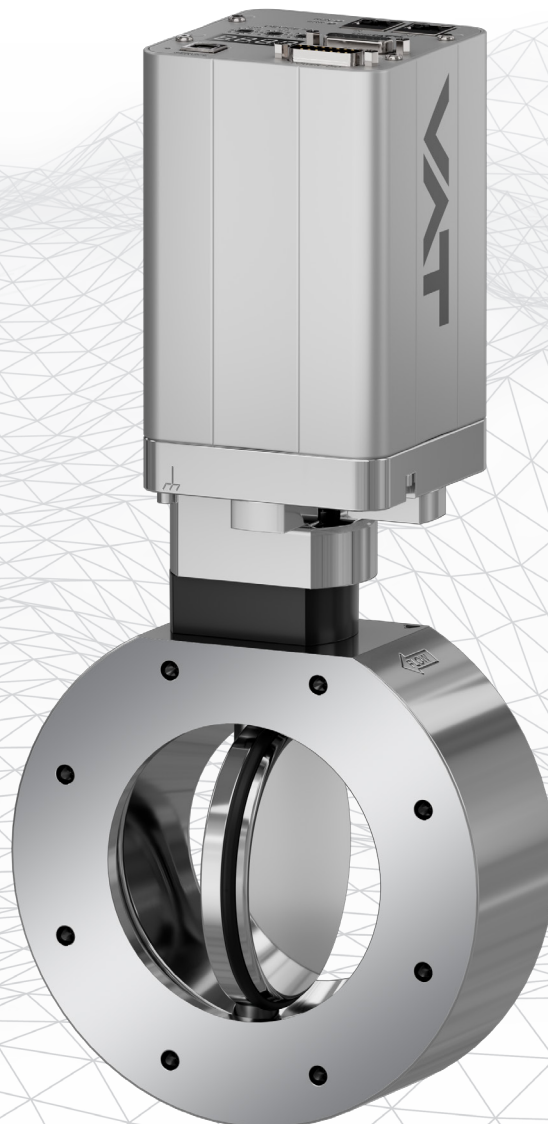


# 61.7 HV Butterfly Control Valve – Outstanding Controllability with Exceptionally Low Conductance

VACUUM VALVE SOLUTIONS



# 61.7 HV Butterfly Control Valve – Benchmark for Pressure Control Over Exceptionally Large Pressure Ranges

Based on the newest controller technology from VAT the 61.7 HV Butterfly Control Valve delivers outstanding pressure control performance over an exceptionally large pressure range. Starting at virtually zero conductance the valve can reach full conductance in 0.5 seconds. The fast acting, precise controller allows very fine pressure control over the full operating range. The pressure control functionality is based on the proven VAT design principles which uses the valve plate as a throttling element to vary the conductance of the valve opening.

The 61.7 HV Butterfly Control Valve, in combination with external pressure sensors, controls the exact pressure in a vacuum chamber. For this, the VAT controller uses the set pressure set by the host system and the measured pressure in the chamber to vary the position of the valve plate until the set pressure is reached.

The 61.7 HV Butterfly Control Valve is not designed to be an isolation valve however it does have the capability to function with zero conductance. This is achieved by the

elastomer on the plate touching the valve body in the zero conductance position. This nominal compression of the elastomer however is not effective in creating a hermetic seal.

When the valve is opened from the zero conductance point a very even increase in conductance without spikes in pressure is achieved. VAT's proprietary design ensure evenly distributed compression of the plate seal against the valve body which then enables a smooth ramp-up in the conductance profile. In this regard, the 61.7 HV Butterfly Control Valve is especially well suited for applications that require high pressure and low volume flow operating environments.

The 61.7 HV Butterfly Control Valve has a temperature operating range of up to 150 °C and is therefore ideal for hot processes that, for example, aim to avoid condensation in gas flow by increasing the process temperature.



61.7 HV Butterfly Control Valve with exceptional low controllable conductance

Already installed in thousands of demanding applications under various process conditions, the design concept of the 61 series and in particular the 61.7 series has proven its outstanding reliability. With its robust design as well as reduced and easy maintenance, the 61.7 series convinces in all aspects.

The 61.7 HV Butterfly Control Valve is available in several design options in body material, surface treatments, elastomer materials, flange connections, and throttling elements as well as customized control algorithms (i.e. adaptive, fix PI down-stream/soft-pump). The various design options allow an easy integration of the 61.7 series in different applications as well as retrofit in existing systems.

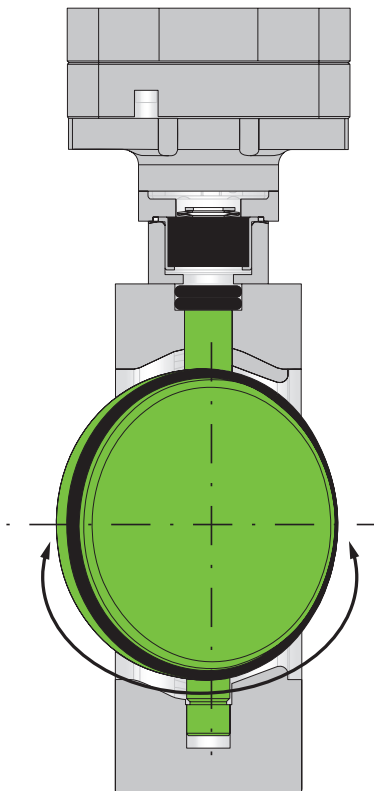
**Features:**

- Exceptionally low controllable conductance – down to zero l/s
- Exceptional pressure control performance and range
- Very fast operation
- Especially suited for high pressure / low flow environments
- Increased temperature rating: 150 °C

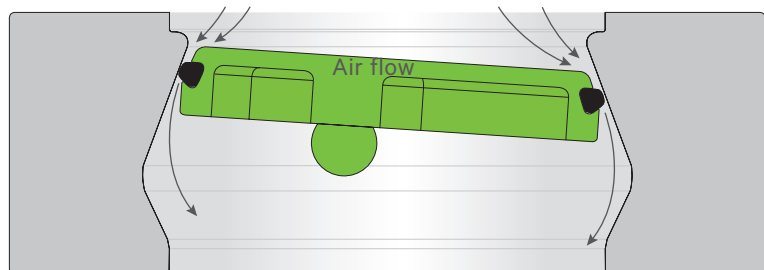
**Benefits:**

- Better process controllability
- High uptime / unrestricted performance
- Low cost of operation

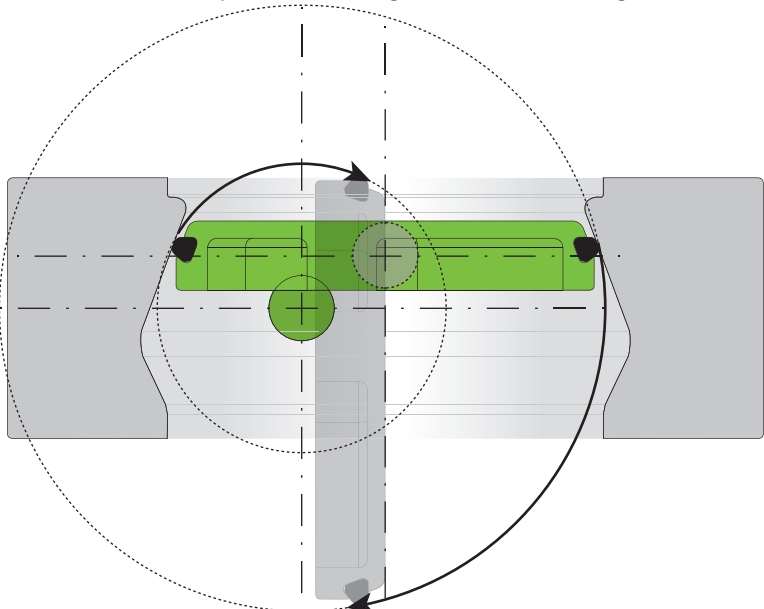
Exceptional fine control based on IC2 technology



Close to zero conductance through plate seal



Minimized stress on plate seal through double offset design



**TECHNICAL DATA**

Sizes		DN 40 mm (1½"), DN 50 mm (2"), DN 63 mm (2½"), DN 80 mm (3"), DN 100 mm (4")
Actuator		integrated controller with stepper motor, field oriented control (foc)
Body material		hard anodized aluminum or stainless steel
Standard flanges		ISO-KF, ISO-F
Leak rate: valve body <sup>1)</sup>	hard anodized aluminum stainless steel	< 1 × 10 <sup>-5</sup> mbar ls <sup>-1</sup> < 1 × 10 <sup>-9</sup> mbar ls <sup>-1</sup>
Pressure range <sup>1)</sup>	hard anodized aluminum stainless steel	< 1 × 10 <sup>-6</sup> mbar to 1.2 bar (abs) < 1 × 10 <sup>-8</sup> mbar to 1.2 bar (abs)
Cycles until first service	pressure control	2 million
Temperature	valve body	≤ 150 °C
Material	valve body / gate valve body, shaft	EN AW-6082 (3.2315) AISI 316L (1.4404 or 1.4435)
Seal	gate feedthrough	FKM FKM
Feedthrough		rotary feedthrough
Mounting position		valve seat towards chamber

<sup>1)</sup> Unheated on delivery.

**OPTIONS, CUSTOMIZED SOLUTIONS****VALVE**

Customer specific flanges

Alternative body sizes

Alternative sealing materials

**CONTROLLER**

Calculates required gate position to achieve setpoint pressure

Sensor Power Supply Option

Power Failure Option

<sup>3)</sup> CanOpen/EtherCAT CiA-402 Drive Profile (position, velocity, torque, homing...)

- ETG.5003 Semiconductor Device Profile
- ETG.5003.1 – Common Device Profile (CDP)
- ETG.5003.0002 – Firmware Update over EtherCAT
- ETG.5003.3030 – Process Control Valve Profile

For further information on the preset profiles please refer to  
[www.vatvalve.com/page/controller-interface-options-mechtronic-vacuum-controll-valves](http://www.vatvalve.com/page/controller-interface-options-mechtronic-vacuum-controll-valves)

**CONTROLLER-MODES**

Adaptive, fix PI down-stream/soft-pump

**CONTROLLER INTERFACES**

Logic (analog/digital)    RS232 + AO    RS485 + AO

DeviceNet®    EtherCAT<sup>3)</sup>    CC-Link

Profibus    Ethernet    Position Only

**VAT Vakuumventile AG**

Seelistrasse 1

9469 Haag

SWITZERLAND

T +41 81 771 61 61

CH@vatvalve.com

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