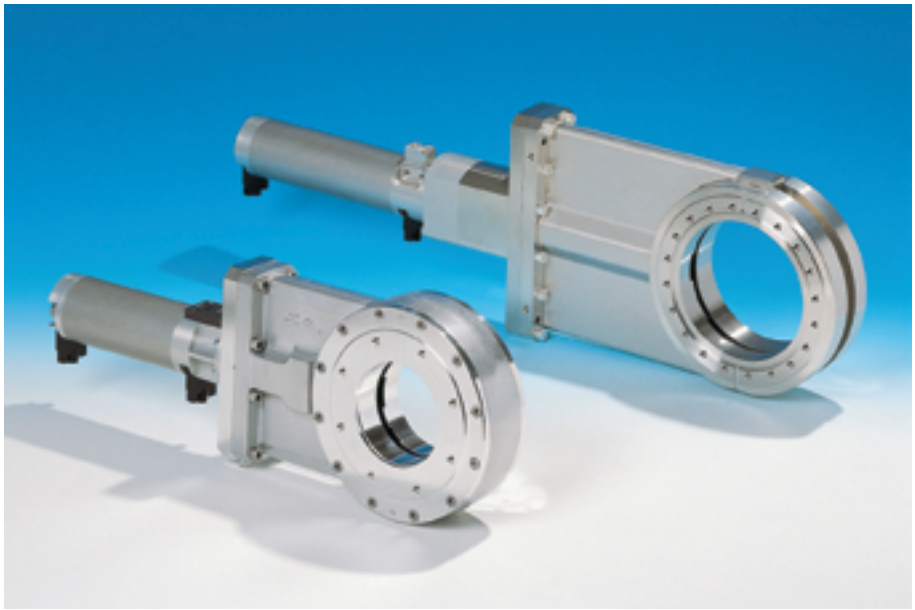
Low particle gate valve

VAT Series 15

For vacuum systems requiring extremely low particle count and low shock

High cycle life

Design variations:
depending on specification of system – vacuum, HV, UHV



Body material

aluminum or stainless steel

Nominal diameters

DN 63 - 160 (2½" - 6") aluminum
DN 63 - 250 (2½" - 10") stainless steel

Actuator

Double acting pneumatic cylinder

Flanges

ISO-F, JIS, ASA-LP (aluminum body)
CF-F, ISO-F (stainless steel body)

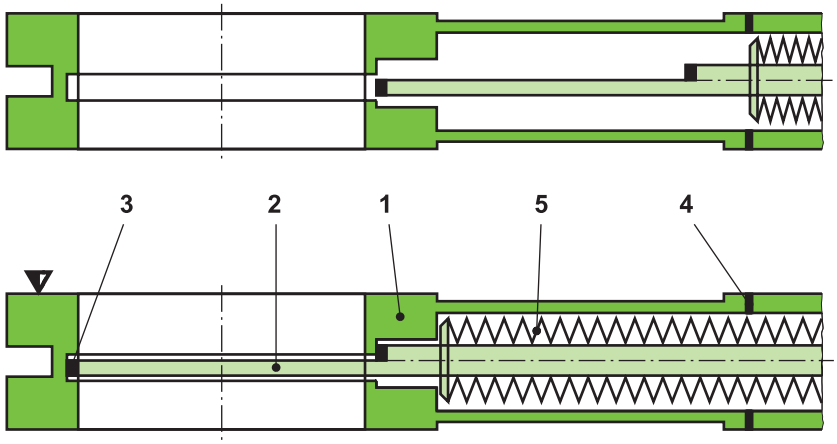
Options

Actuator:

- Solenoid
- Position indicator

Valve:

- Aluminum: hard anodized
- Sealing material: Chemraz, EPDM, FPM
- Flange: customer specified
- Customer specified solutions



1 valve body
2 MONOVAT gate
3 vulcanized seal
4 bonnet seal
5 bellows
▼ valve seat side

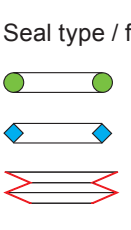
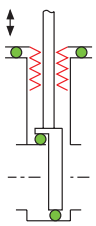
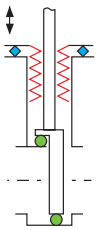
Features

Guidance of the gate outside the vacuum

Vulcanized seal on valve gate (see glossary)

Small flange-to-flange dimension

Technical data

Vacuum level	Vacuum	HV	UHV
Series	15.0	15.1	15.2
Seal type / feedthrough			
FKM (VITON)			
metal			
bellows			
Body material	aluminum	aluminum	stainless steel
Gate seal	FKM (VITON)	FKM (VITON)	FKM (VITON)
Bonnet seal	FKM (VITON)	FKM (VITON)	metal
Feedthrough	shaft feedthrough	bellows	bellows
Temperature [1]			
- Valve open	≤ 150°C	≤ 150°C	≤ 250°C
- Valve closed	≤ 150°C	≤ 150°C	≤ 200°C
Cycle life	500 000	500 000	500 000
Leak rate	mbar $l s^{-1}$	mbar $l s^{-1}$	mbar $l s^{-1}$
- Body	$< 1 \cdot 10^{-9}$	$< 1 \cdot 10^{-9}$	$< 5 \cdot 10^{-10}$
- Valve seat	$< 1 \cdot 10^{-9}$	$< 1 \cdot 10^{-9}$	$< 1 \cdot 10^{-9}$
Pressure range	$1 \cdot 10^{-7}$ mbar to 1 bar (abs)	$1 \cdot 10^{-8}$ mbar to 1 bar (abs)	$1 \cdot 10^{-10}$ mbar to 1 bar (abs)
Differential pressure at opening	≤ 30 mbar [2]	≤ 30 mbar [2]	≤ 30 mbar [2]

[1] Maximum values: depending on operating conditions and sealing materials

[2] at 1 bar increased particle generation and reduced cycle life