

**VVT**

**VVT**

# VAT

## High performance, Vacuum valves.

We help you providing quality, high performance and efficient component for your processes.

VAT is the leading global developer, manufacturer and supplier of high-performance high-end vacuum valves, multi-valve modules, edge-welded bellows and related value-added services. The Group, headquartered in Haag, Switzerland, employs approximately 1,200 people worldwide. VAT has a global manufacturing footprint with production facilities in Haag,

Switzerland, Penang, Malaysia, and Arad, Romania, as well as a facility in Xinwu, Taiwan, serving local customers.

VAT's products and services are mainly used in semiconductor, display and solar panel manufacturing as well as in a wide range of industry and research applications. The business offering is structured into the three segments Valves, Global Services and Industry.

## Vacuum Angle Inline/ Cylinder Valves.

### Vacuum valves.

Universal vacuum valves for pumping systems, process or venting applications. Ideal for vacuum isolation or control in demanding installation situations. With VAT bellows, suitable for UHV.



We offer CLIENT-FOCUSED solutions, with a technical support and service background.



# Vacuum valves

VAT vacuum valves – high-performance components for vacuum-assisted processes with special requirements on precision, durability and ultra-clean vacuum.

## Technology decides.

In order to permanently guarantee an optimal vacuum isolation or control function, VAT vacuum valves use different vacuum valve technologies developed by VAT. These patented technologies ensure, in addition to a particle-preventing function, precise operation over a high number of closing and control cycles.

VAT vacuum gate valves, vacuum angle valves for a wide range of applications as well as butterfly vacuum valves, pendulum vacuum valves or all-metal vacuum valves therefore set the standard for vacuum valve solutions in all areas.

- Vacuum Control Valves
- **Vacuum Isolation Valves**
- Vacuum Gate Valves
- **Vacuum Angle / Inline / Cylinder Valves**
- Vacuum Butterfly Valves
- **Vacuum Pendulum Valves**
- Pressure Relief / Venting Valves
- **Gas Dosing Valves**
- 3 Position Vacuum Valves
- **Vacuum Check Valves**
- Fast Closing / Beam Stopper Valves
- **Vacuum All-Metal Valves**
- Vacuum Transfer Valves
- **Vacuum Transfer Doors**
- Vacuum Multi-Valve Units

## What are high-performance vacuum valves?

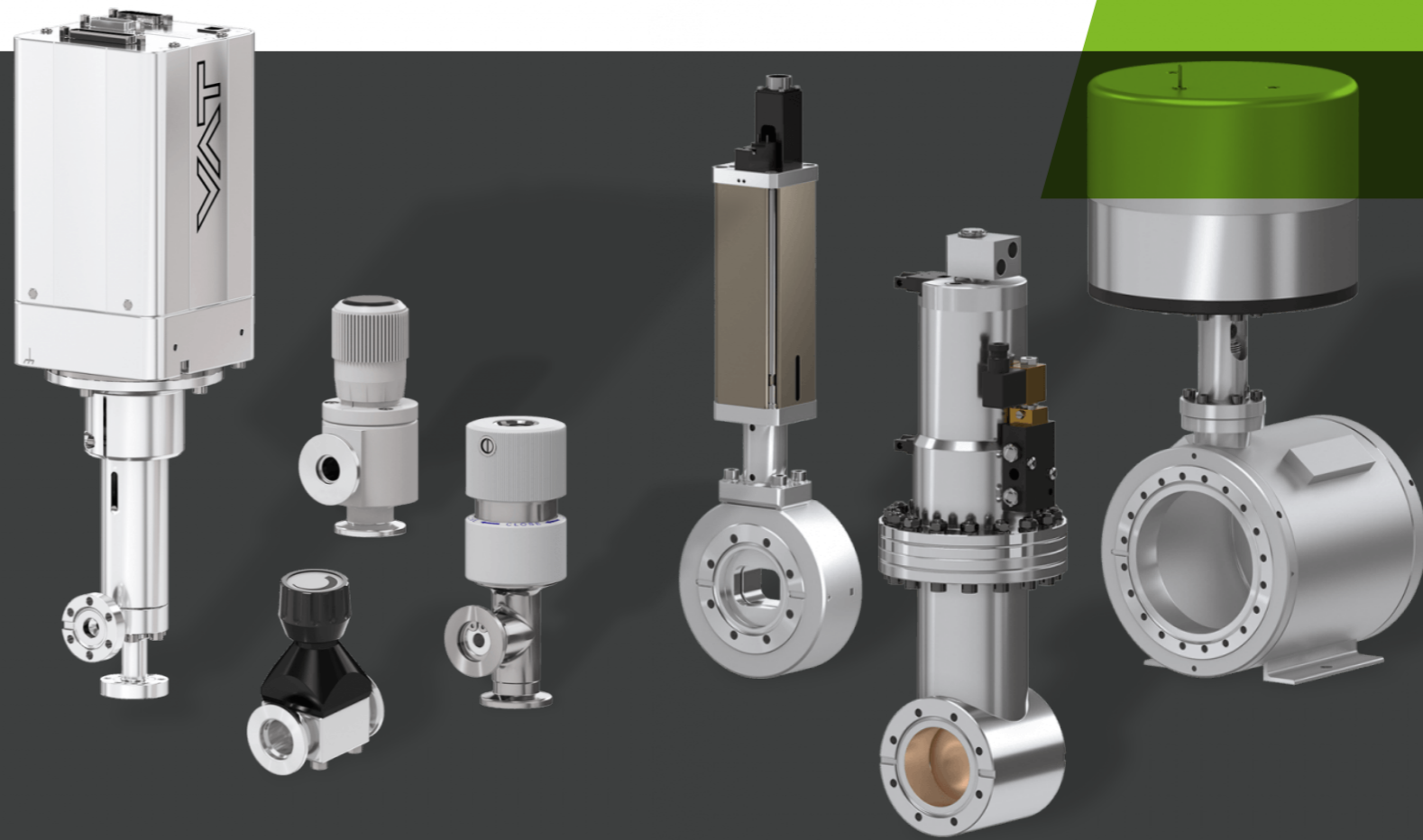
Certain vacuum processes place particularly high demands on the purity as well as the chemical and physical stability of the process environment. This applies, for example, to almost all areas of semiconductor production as well as to many research facilities where vacuum systems are used. In the field of elementary research, the ability to deal with extreme conditions such as very high or low temperatures, strong radiation and extremely

high vacuum (XHV) with pressures up to 10–15 mbar – the limits of what is currently technically feasible and measurable – are often added to these requirements.

## Vacuum valves in these applications differ from standard vacuum valves in the following respects:

- Minimized Particle Emission.
- Minimized Motion Pulses.
- Neutral Chemical and Physical Behavior.
- Precisely Reproducible Behavior.

**Challenge us, we are looking forward to offer you an optimal solution as well.**



# Vacuum Angle

## Inline/ Cylinder Valves.

Vacuum valves.



**21.4**  $1 \times 10^{-8}$  mbar to bar (abs)

**FV Mini Angle / Inline Valve.**  
Uncompromised Reliability for Sealing or Venting Without Compressed Air.



**24.4**  $1 \times 10^{-7}$  mbar to bar (abs)

**FV Mini Angle.**  
Uncompromised Reliability for Large Volume Flows.



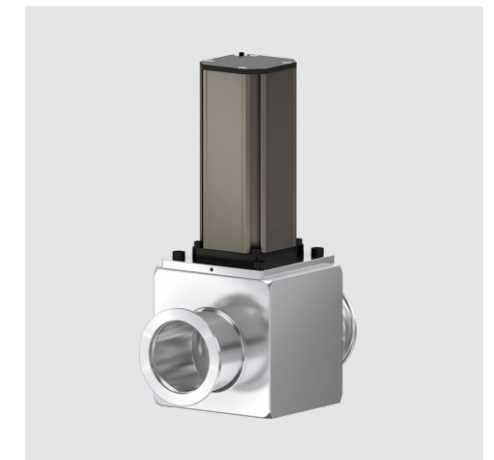
**24.5**  $1 \times 10^{-7}$  mbar to 5 bar (abs)

**FV Inline Valve.**  
Uncompromised Reliability for Large Volume Flows.



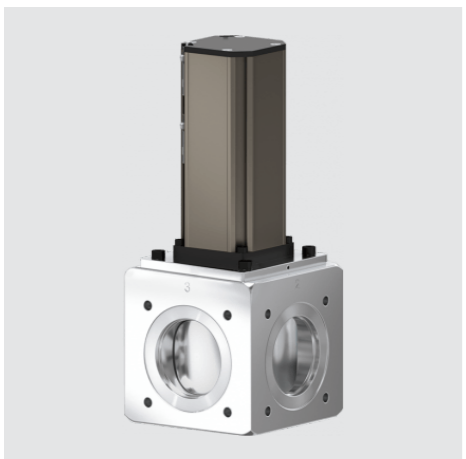
**25.0**  $1 \times 10^{-8}$  mbar to 3 bar (abs)

**HV Cylinder Valve (Angle Version).**  
Maximum Conductance for Harsh Process Environments.



**25.1**  $1 \times 10^{-8}$  mbar to 3 bar (abs)

**HV Cylinder Valve (Inline Version)**  
Maximum Conductance for Harsh Process Environments.



**25.2**  $1 \times 10^{-8}$  mbar to 3 bar (abs)

**HV Cylinder Valve (3/2 Way Version)**  
Maximum Conductance for Harsh Process Environments.



**26.4**  $1 \times 10^{-8}$  mbar to 2 bar (abs)

**HV Angle Valve**  
Uncompromised Flexibility and Reliability.



**26.5**  $1 \times 10^{-8}$  mbar to 5 bar (abs)

**HV Inline Valve**  
Uncompromised Reliability.



**28.4**  $5 \times 10^{-10}$  mbar to 5 bar (abs)

**UHV Angle Valve**  
Outstandingly Low Outgassing Performance



**29.0**  $1 \times 10^{-8}$  mbar to 1.2 bar (abs)

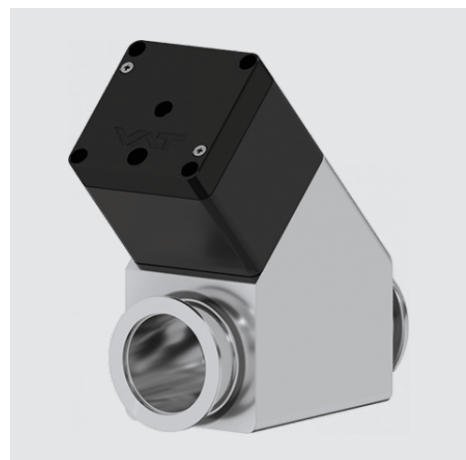
**HV Angle Valve with Soft-Pump Function**  
Pumping, Venting Without Turbulence or Pressure Pulses (DN 25 - 80)



# Vacuum Angle

Inline/ Cylinder Valves.

Vacuum valves.



**21.4**  $1 \times 10^{-8}$  mbar to bar (abs)

**FV Mini Angle / Inline Valve.**

Uncompromised Reliability for Sealing or Venting Without Compressed Air.



**29.2**  $1 \times 10^{-7}$  mbar to 2 bar (abs)

**HV Angle Valve with Soft-Pump Function.**

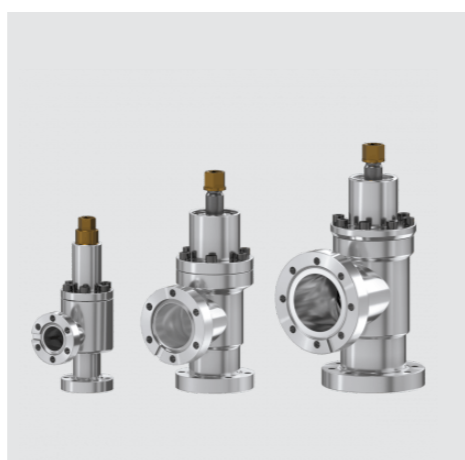
Avoids Turbulence or Condensation, Large Conductance Spectrum (DN 100 - 160).



**59.0** UHV to bar (abs)

**UHV All-Metal Variable Leak Valve.**

For Extreme UHV Requirements.



**54.1** XHV to 2 bar (abs)

**UHV/XHV All-Metal Angle Valve - Easy Close.**

For Extreme UHV Requirements.

## VACUUM VALVE FINDER

# Thousands of Vacuum Valve Solutions! Find the Solution You Need!

**Vacuum Gate Valves** – Usually ideal for isolation or simpler control applications. Very narrow installation depth, maximum conductance (minimum flow resistance) but space required for the travel space of the gate. These can also take the form of vacuum slit valves, vacuum transfer valves or vacuum doors through which products are introduced into vacuum process chambers.

**Vacuum Angle Valves** – Universal general purpose vacuum valves. Very compact size, usually very modular in terms of seal, actuator and sensor. Average conductance, very easy maintenance. Very good and, if necessary, very precise controllability.

**Vacuum Butterfly Valves** – Primarily for control applications. Very narrow installation depth, good conductance, fast and precise controllability.

**Vacuum Pendulum Valves** – Very narrow installation depth and compact size, combined with very precise control behavior, very good insulation capacity and very high conductance.

**Symmetrical Flow Vacuum Control Valves** – Special type, optimized for a very homogeneous flow behavior from the first opening to the complete valve opening. Gas Dosing Valves or Leak Valves – Especially for very fine dosing of, for example, process gases at low volume flows.

**Pressure Relief Valves or Venting Valves** – Safety valves that allow controlled – usually complete – ventilation of vacuum systems and prevent defined pressure conditions from being exceeded.

**Vacuum Check Valves** – Passive, volume flow and differential pressure operated valves. Usually used to protect vacuum systems from backflow contamination. Used, for example, between vacuum backing pumps and vacuum systems.

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