



LEYCON Valves

The maximum-quality
valve program



The LEYCON Valve Program

Exceptional quality and extended service life

The LEYCON valve program

Leybold vacuum valves are a byword for exceptional quality.

Our LEYCON valves have a proven track record in both research and industry, ensuring reliability and dependability across all processes. See for yourself how our flexible solutions can meet and exceed your requirements.

With over 50 years' experience in the field, Leybold is a guarantee of long service life and trouble-free operation.

Trust in the quality and reliability of our vacuum systems and see how much time and money you will save. Leybold valves will surpass your expectations.

All valve types are available in a range of variants pertaining to casing material and drive type. In the case of drive types, a distinction is made between manual, pneumatic and magnetic drives.

The product range

The LEYCON valve program includes

- Micro valves (small valves), bellows-sealed
- Right-angle and straight-through valves, bellows-sealed, with nominal diameters DN 16 to DN 50 with ISO-KF flanges
- Right-angle valves, bellows-sealed, with nominal diameters DN 63 to DN 250 with ISO-K flanges.
- Gate valves in ISO-KF, ISO-F and ISO-CF variants
- SECUVAC valves, safety valves in DN 16 ISO KF to DN 100 ISO K
- Special valves for specific applications

User benefits

- Compact, lightweight construction
- Integral leak rate $< 10^{-8}$ mbar l/s
- Extremely low vibration levels
- Lubricant-free wetted area due to FPM sealing
- Operating range up to 2000 mbar
- Very high conductance
- Principal dimensions are compatible with Leybold flange components of the same nominal diameter
- Reliable operation in any orientation
- Valves can be operated at various supply voltages
- Optical and electrical position indicators are integrated in many valve variants
- Pilot valve available for many variants



The right valve for your application



SECUVAC safety valves have been specially designed for connecting to rotating vacuum pumps without a built-in inlet valve.

Safety Valves

SECUVAC

- SECUVAC safety valves (DN 16 ISO-KF to DN 100 ISO-KF) with electromagnetic drive 24 V DC, 100-115 V AC, 200-230 V AC

Shut-off valve between backing pump and vacuum chamber to prevent ventilation if a power failure occurs.

User Benefits

- Rapid closure high-vacuum shut-off valve
- Can be used as a venting valve
- Closes immediately in the case of a power failure
- Can only be opened once the intake line has been evacuated
- No „air swallowing“

UHV Valves

- All-metal angle valves, rotatable, with manual drive. Available in flange sizes DN 16 CF, DN 40 CF and DN 63 CF
- Dosing valves with stainless steel housing. DN 16 CF / DN 40 CF (inlet/outlet)

Our UHV all metal angle valves are the reliable solution for all applications in ultra-high vacuum. The innovative design and rotatable CF flanges allow a convenient handling and an easy installation.

The reliability of the valve is achieved by the use of optimal sealing materials. The silver-coated sealing with its very long service life is maintenance-free at more than 1000 cycles. A mechanical stop prevents the valve from too much torque that might cause damages to the sealing. Also the mechanical stop indicates when the valve is fully closed.

For operating the valve a plastic hand wheel and a metal T-handle are available. The advantage of the T-handle is that it is suited for heating processes and does not need to be removed.

User Benefits

- Very reliable sealing
- Maintenance-free for over 1000 cycles
- Very easy to use, mechanical stop
- prevents from over torque
- T-handle available for bake out processes
- Coated spindle, no lubrication necessary
- Very high lifetime due to the coated metal sealing

LEYCON Valves

Bellows-sealed, with various drive types

ISO-KF right-angle and straight-through valves



Drive types

- n Manual
- n Pneumatic
- n Electropneumatic
- n Electromagnetic (right-angle valves only)

Casing material

- n Aluminum construction
- n Stainless steel construction

Valves from the ISO-KF range are especially suited to high-vacuum applications such as pump systems, semiconductor technology and research systems. Their rugged and intelligent valve design guarantees a high degree of impermeability and particulate resistance.

User Benefits

Manual

- Simple operability with low physical effort
- Allows reduced plant ventilation in a targeted manner
- Suitable for use as a coarse variable leak valve for manual flow control
- Space-saving: compact size thanks to efficient construction
- Maximum flexibility: any orientation is possible

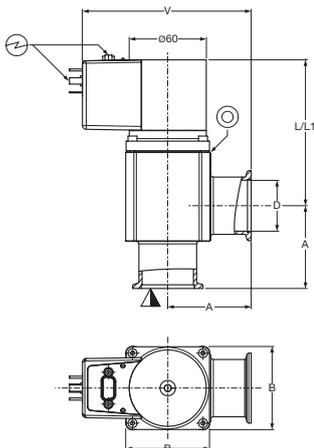
Electropneumatic

- Time-saving installation thanks to standards-compliant electrical and compressed air connections
- Low noise and low vibration when opening and closing
- High process efficiency thanks to very short opening and closing times
- High degree of safety thanks to a normally closed design
- Maximum flexibility: any orientation and flow direction is possible
- Optical position indicator for straightforward process monitoring

Electromagnetic

- Ideal for remote control on vacuum units
- Convenient process monitoring through an LED position indicator for valve open, valve closed and valve error states
- High process efficiency thanks to very short opening and closing times
- High degree of safety thanks to a normally closed design
- Maximum flexibility: any orientation and flow direction is possible
- Low operating temperature

Right-angle and straight-through valves up to DN 50 ISO-KF



Connection pictogram

- ⊙ Safety cap
- ▼ Valve seat side
- ⚡ Electrical connection
- ⊕ Position indicator connection
- ↻ Flow direction
- ⊙ Leak detection port
- ⊕ Position indicator

Dimensions table

DN	ISO-KF	16	25	40
A	mm	170.9	193.0	246.0
B	mm	51.4	64.9	92.9
C	mm	40	50	65
D	mm	96.0	112.7	139.0
E	mm	86.0	97.3	119.5
F	mm	59	70	90
G	mm	10.0	15.4	19.5

Dimensional drawing (mm) shows stainless steel right-angle valve, DN ISO-KF, with electromagnetic drive, as an example. For detailed information on the complete valves product range please refer to our general catalog.

ISO-K right-angle valves



Drive types

- n Manual
- n Electropneumatic

Casing material

- n Aluminum construction
- n Stainless steel construction

The new ISO-K range offers reliable valves of the very highest quality. Due to their modular construction, these valves are very easy to maintain and can be adapted to changing requirements almost at will.

User Benefits

- Designed for universal deployment with high dependability
- Ideally suited to processes with high gas throughput
- Long service life thanks to a rugged and intelligent valve design
- Simple and convenient operation
- Valves from the ISO-K range are also available in a soft-start variant. Further details available on request.

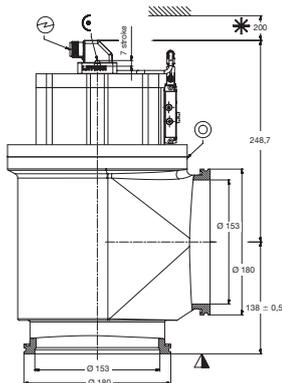
Manual

- Maximum flexibility: any orientation and flow direction is possible
- Simple operation thanks to a smooth-running manual drive
- Also suitable for use as a coarse variable leak valve for flow control
- Modular construction ensures straightforward maintenance and ease of cleaning
- Mechanical position indicator for continuous status monitoring
- Resistant to magnetic radiation and strong vibrations

Electropneumatic

- Very short opening and closing times due to efficient solenoids (available for various different supply voltages)
- Modular construction ensures straightforward maintenance and ease of cleaning
- Mechanical position indicator for continuous status monitoring
- Resistant to magnetic radiation and strong vibrations

Right-angle valves up to DN 160 ISO-K



Connection pictogram

- ⚡ Electrical connection
- ⊕ Position indicator connection
- ⊖ Position indicator connection

Dimensions table

DN	ISO-K	63	100	160
A	mm	197	282	366
B	mm	123	170	221
C	mm	189.5	208	264
D	mm	88	108	138
E	mm	41.2	14	14
⊕	mm	6	6	6

Dimensional drawing (mm) shows right-angle valve, DN ISO-K, with electropneumatic drive as an example. For detailed information on the complete valves product range please refer to our general catalog.

LEYCON Valves

A comprehensive product program



Leybold offers a range of special valves for the most varied of applications.

Small Micro Valves

The “micro” range of valves is the space-saving and efficient solution in a compact size.

Various optional connecting adapters guarantee the highest degree of flexibility during system integration.

User Benefits

- Compact construction
- High conductance at the molecular level
- Long service life at > 2 million switching cycles
- High switching frequency
- Protection class IP 65
- High flexibility of installation

Drive types

- Pneumatic
- Electropneumatic
- Electromagnetic

Casing types

- Right-angle valve
- Straight-through valve (electromagnetic only)

Accessories

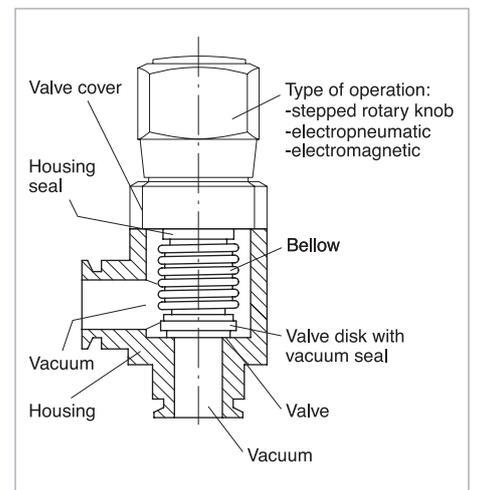
- Adapter (DN 10 ISO-KF flange, 1/4" pipe, 6 mm pipe)

Special Valves

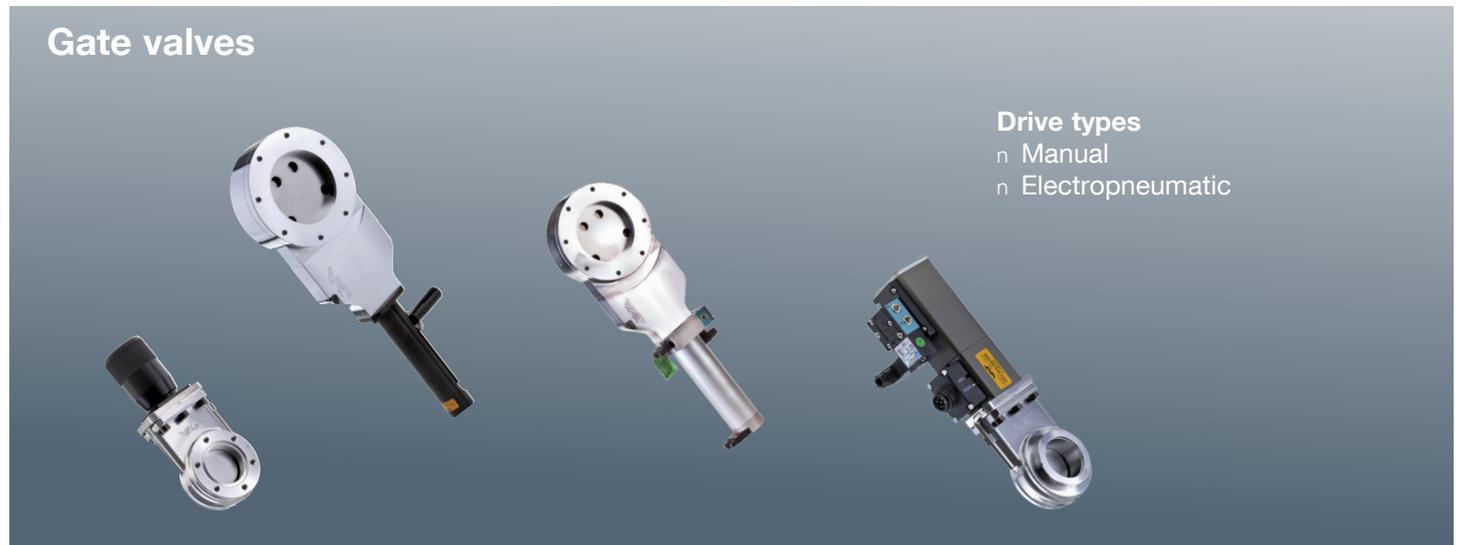
- Pressure relief valves DN 16 ISO-KF
- Power failure venting valves DN 10 ISO-KF
- Coarse variable leak valves with or without isolation valve DN 10/16 ISO-KF
- Venting valves DN 10 ISO-KF
- Vacuum locks (DN 16 to DN 40 ISO-KF)
- Sealing valves (DN 16 to DN 40 ISO-KF)
- Ball valves (DN 16 to DN 40 ISO-KF)
- UHV valves (DN 16 to 63 CF)
- Purge gas and venting valves for turbomolecular pumps

For detailed information on our range of special valves please refer to our general catalogue.

Typical construction of a vacuum valve



Compact Design and Maximum Safety for your process



Gate valves are available in aluminum or stainless steel, with ISO-KF, CF and ISO-F flanges.

Gate Valves

Type	Drive type	Flange sizes	Material
HV gate valves	Manual	DN 63 ISO-F to DN 160 ISO-F	Aluminum
	Flange sizes	DN 63 ISO-F to DN 250 ISO-F	Aluminum
Miniature HV gate valves	Manual	DN 16, DN 25, DN 40 ISO-KF	Aluminum
	Electropneumatic (24 V DC)	DN 40 ISO-KF	Stainless steel
UHV gate valves	Manual	DN 63 ISO-CF to DN 200 ISO-CF	Stainless steel
	Electropneumatic (24 V DC or 230 V AC)	DN 100 ISO-F to DN 250 ISO-F and DN 63 ISO-CF to DN 200 ISO-CF	Stainless steel
Miniature UHV gate valves	Manual	DN 40 ISO-CF	Stainless steel
	Electropneumatic (24 V DC or 230 V AC)	DN 40 ISO-CF	Stainless steel

User Benefits

Gate valves	Manual	Electropneumatic
Cost-effective gates for industrial applications	3	
Compact and light	3	3
Bellows-sealed design	3	3
Minimal locking impact and wear	3	
Mechanical position indicator	3	3
Vibration-free actuation	3	3
Bakeable UHV gate valves	3	3

LEYCON Valves

Proven in all applications



The demands placed on our valves are as varied as their potential applications.

LEYCON valves meet those requirements, for example in the following fields

- Coating technology
 - Short switching cycles (e.g. 1.5 s)
 - Very high number of opening and closing cycles (e.g. more than 10 million cycles)
- Analytical technology
 - High conductance
 - Low integral leak rate ($< 10^{-9}$ mbar l/s)
- Lamp and tube manufacture
 - Temperature resistance
 - Max. ambient temperature 80 °C
- Accelerator technology
 - Materials are radiation, temperature and corrosion resistant
- Metallurgy and furnace manufacture
 - Rugged and resilient with regard to impurities
- Chemistry
 - Selectable wetted casing materials

Other application areas include:

- Semiconductor engineering
- Quality control while a process is running
- Refrigeration and air conditioning
- Materials research
- Research and development from the lab to big science
- High-vacuum systems

 **Leybold**

Pioneering products. Passionately applied.