oerlikon
leybold vacuum

Right-Angle and Straight-Through Valves

The cost-effective switching millionaires

Technical Information 176.30.02

Pneumatically operated valves

Oerlikon Leybold Vacuum valves offer a reliable solution for almost all vacuum engineering applications.
The well-proven line of valves has been further enhanced:

- The manually operated KF valves now have a newly developed rotary knob which allows a soft start in four increments as well as opening through a 130 degree turn.
- We are now offering the pneumatically actuated valves as ready to use integrated products.
  You have a choice of models with a pilot valve and different voltage ratings and models without a pilot valve.

All valves are equipped with two independent electric position indicators and an optical position indicator.

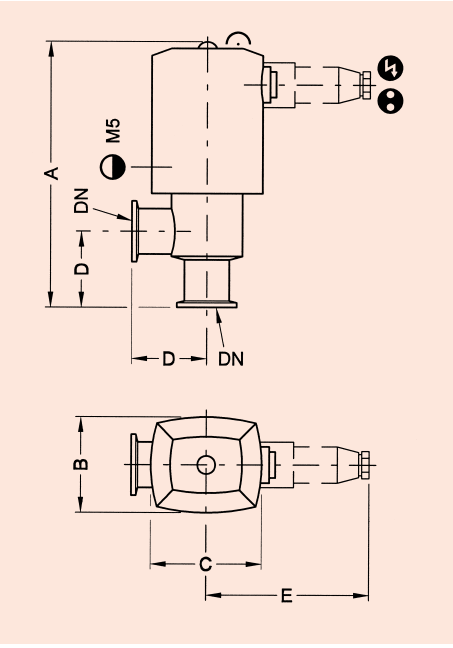
Application

These valves are used in many different areas, for example:

- Coating systems
- Analytical
- Semiconductor production
- Quality control on running processes
- Metallurgy and furnaces
- Lamps and tubes manufacture
- Cooling and air-conditioning units
- Materials research
- Accelerator systems
- Chemistry

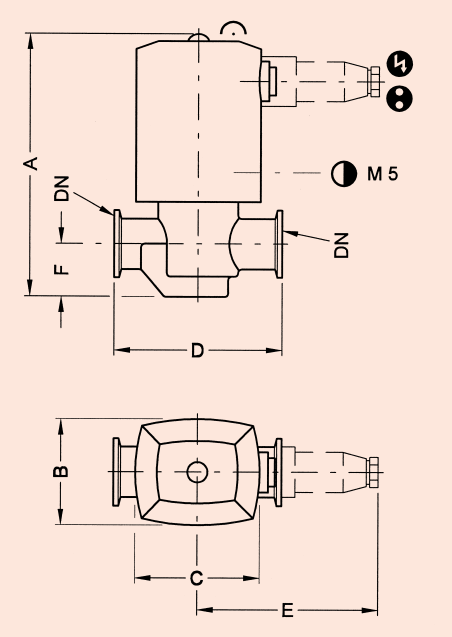
Benefits

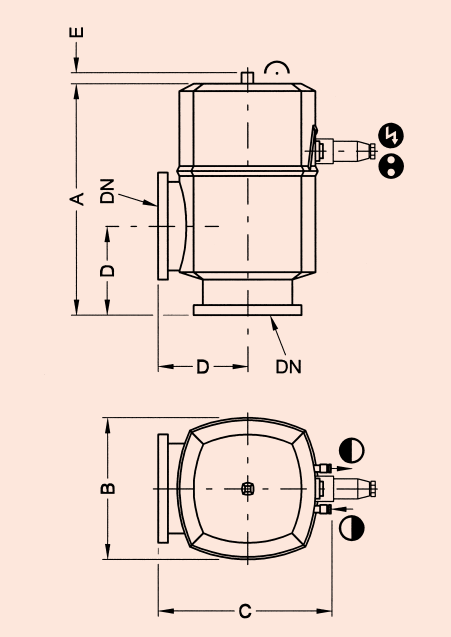
- Above average service life
- Extremely low self-generated vibration levels
- High safety standard – all valves close assisted by a spring
- Integrated optical and electric position indicators
- Very high conductance
- Reliable operation in any orientation
- Compact design, low weight
- Area in contact with the medium is free of lubricants
- Rugged and insensitive to contamination
- High integral leaktightness
- Choice of two materials for the housing: Aluminum or stainless steel
- Rapid opening KF manually operated valves in well graded conductance increments
- Ergonomically designed rotary knobs for the KF manually operated valves
- Smooth manual actuation – effortless vacuum-tight closing
- The electric and pneumatic connections may be turned together with the plastic housing in increments of 90 degrees.



Right-angle KF valves

DN	A	B	C	D	E
DN 16 KF	154	51	60	40	100
DN 25 KF	176	63	74	50	108
DN 40 KF	196.5	83	98	65	120





Straight-Through KF valves

DN	A	B	C	D	E	F
DN 16 KF	139.3	51	60	80	100	22
DN 25 KF	157.4	63	74	100	108	31.5
DN 40 KF	177	83	98	130	120	45.5

Right-angle ISO-K

DN	A	B	C	D	E
DN 63 ISO-K	250	130	168	88	14
DN 100 ISO-K	282	170	208	108	14
DN 160 ISO-K	380	221	264	138	14

◑ Compressed air connection
ϟ Electrical connection
◠ Optical position indicator

Technical Data

Service life, cycles	Million
Conductance for molecular flow	l/s
Leak rate	mbar·l·s^{-1}
Pressure, abs., min./max.	mbar/bar
Differential pressure, closing and opening direction	bar
Opening against differential pressure	bar
Degassing temperature at housing	°C
Degassing temp., drive, pilot valve	°C
Seal	
Closing time	ms
Opening time	ms
Position indicator, rating	VAC/A VDC/A
Compressed air, overpressure	bar
Compressed air volume	cm^3
Compressed air connection	mm
Weight with pilot valve	kg

Ordering information

Valve without pilot valve	
Valve with pilot valve • 24 VDC • 24 VAC • 100 – 115 VAC • 200 – 240 VAC	
Spare parts	Seal kit Bellows kit

Pneumatically operated valves

Right-angle valve **DN 16 KF** Aluminum housing	Right-angle valve **DN 16 KF** Stainless steel housing	Straight-through valve **DN 16 KF** Stainless steel housing	Right-angle valve **DN 25 KF** Aluminum housing	Right-angle valve **DN 25 KF** Stainless steel housing	Straight-through valve **DN 25 KF** Stainless steel housing	Right-angle valve **DN 40 KF** Aluminum housing	Right-angle valve **DN 40 KF** Stainless steel housing	Straight-through valve **DN 40 KF** Stainless steel housing	Right-angle valve **DN 63 ISO-K** Aluminum housing	Right-angle valve **DN 63 ISO-K** Stainless steel housing	Right-angle valve **DN 100 ISO-K** Aluminum housing	Right-angle valve **DN 100 ISO-K** Stainless steel housing	Right-angle valve **DN 160 ISO-K** Aluminum housing
10	10	10	10	10	10	10	10	10	1.5	1.5	1.5	1.5	1.5
4.5	4.5	2.5	16.0	16.0	8.0	40.0	40.0	20.0	140	140	330	330	800
$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$
10^{-8}/1.5	10^{-8}/1.5	10^{-8}/1.5	10^{-8}/1.5	10^{-8}/1.5	10^{-8}/1.5	10^{-8}/1.5	10^{-8}/1.5	10^{-8}/1.5	10^{-8}/4	10^{-8}/4	10^{-8}/4	10^{-8}/4	10^{-8}/4
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80	150	150	80	150	150	80	150	150	150	150	150	150	150
50	50	50	50	50	50	50	50	50	60	60	60	60	60
FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM
200	200	200	290	290	290	500	500	500	250	250	300	300	550
100	100	100	110	110	110	250	250	250	300	300	450	450	450
250/0.125	250/0.125	250/0.125	250/0.125	250/0.125	250/0.125	250/0.125	250/0.125	250/0.125	250/0.125	250/0.125	250/0.125	250/0.125	250/0.125
50/0.25	50/0.25	50/0.25	50/0.25	50/0.25	50/0.25	50/0.25	50/0.25	50/0.25	50/0.25	50/0.25	50/0.25	50/0.25	50/0.25
3 – 7	3 – 7	3 – 7	3 – 7	3 – 7	3 – 7	3 – 7	3 – 7	3 – 7	4– 8	4 – 8	4 – 8	4 – 8	4 – 8
5.5	5.5	5.5	12.1	12.1	12.1	26.2	26.2	26.2	75	75	195	195	570
4 / 6	4 / 6	4 / 6	4 / 6	4 / 6	4 / 6	4 / 6	4 / 6	4 / 6	6	6	6	6	6
0.3	0.4	0.54	0.44	0.75	0.73	0.9	1.6	1.5	4.0	6.8	6.7	11.7	11.4
287 15	288 15	289 15	287 16	288 16	289 16	287 17	288 17	289 17	107 90	107 93	107 91	107 94	107 92
287 45	288 45	289 45	287 46	288 46	289 46	287 47	288 47	289 47	108 00	108 10	108 01	108 11	108 02
287 28	288 28	289 28	287 29	288 29	289 29	287 30	288 30	289 30	108 03	108 13	108 04	108 14	108 05
287 55	288 55	289 55	287 56	288 56	289 56	287 57	288 57	289 57	108 20	108 30	108 21	108 31	108 22
287 75	288 35	289 35	287 76	288 36	289 36	287 77	288 37	289 37	108 25	108 35	108 26	108 36	108 27
215 025	215 025	215 025	215 075	215 075	215 075	215 125	215 125	215 125	215 251	215 251	215 271	215 271	215 291
215 027	215 027	215 027	215 077	215 077	215 077	215 127	215 127	215 127	215 253	215 253	215 273	215 273	215 293

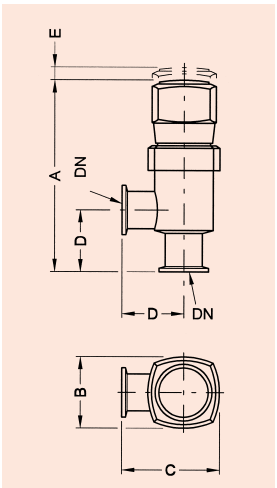
Manually operated valves

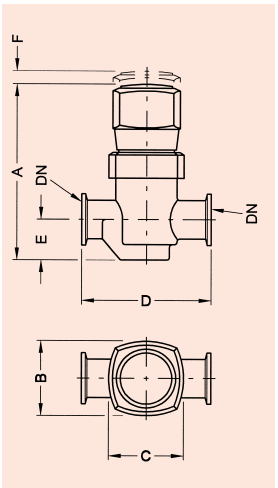
Right-angle valve KF

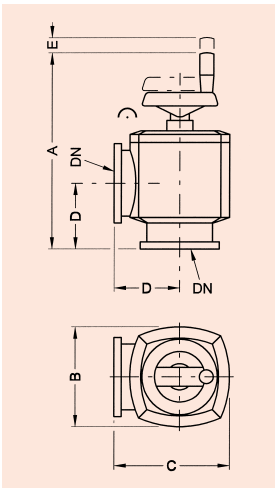
DN	A	B	C	D	E
DN 16 KF	118.3	44	62	40	5
DN 25 KF	154.5	58	79	50	10
DN 40 KF	173.8	82	106	65	12

Right-angle valve ISO-K

DN	A	B	C	D	E
DN 63 ISO-K	266	124	150	88	20
DN 100 ISO-K	345	164	190	108	25







Straight-through valve KF

DN	A	B	C	D	E	F
DN 16 ISO-KF	100.3	44	44	80	22	5
DN 25 ISO-KF	136	58	58	100	31.5	10
DN 40 ISO-KF	154.3	82	82	130	45.5	12

Manually operated valves

Technical Data

	Right-angle valve **DN 16 KF** Aluminum housing	Right-angle valve **DN 16 KF** Stainless steel housing	Straight-through valve **DN 16 KF** Stainless steel housing	Right-angle valve **DN 25 KF** Aluminum housing	Right-angle valve **DN 25 KF** Stainless steel housing	Straight-through valve **DN 25 KF** Stainless steel housing	Right-angle valve **DN 40 KF** Aluminum housing	Right-angle valve **DN 40 KF** Stainless steel housing	Straight-through valve **DN 40 KF** Stainless steel housing	Right-angle valve **DN 63 ISO-K** Aluminum housing	Right-angle valve **DN 63 ISO-K** Stainless steel housing	Right-angle valve **DN 100 ISO-K** Aluminum housing	Right-angle valve **DN 100 ISO-K** Stainless steel housing
Service life, cycles Million	10	10	10	10	10	10	10	10	10	1.5	1.5	1.5	1.5
Conductance for molecular flow l/s	4.5	4.5	2.5	16.0	16.0	8.0	40.0	40.0	20.0	140	140	330	330
Leak rate mbar·l·s^{-1}	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$	$1 \cdot 10^{-9}$
Pressure, abs., min. mbar	10^{-8}	10^{-8}	10^{-8}	10^{-8}	10^{-8}	10^{-8}	10^{-8}	10^{-8}	10^{-8}	10^{-8}	10^{-8}	10^{-8}	10^{-8}
Pressure, abs. max. bar	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	4	4	4	4
Differential pressure closing/opening dir. bar	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Opening against differential pressure bar	2	2	2	2	2	2	2	2	2	1.5	1.5	1.5	1.5
Degassing temperature													
Housing °C	80	150	150	80	150	150	80	150	150	150	150	150	150
Drive, pilot valve °C	50	50	50	50	50	50	50	50	50	60	60	60	60
Seal	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM	FPM
Weight kg	0.3	0.4	0.55	0.43	0.75	1.35	0.48	0.85	1.4	3.6	6.5	6.1	11.1

Ordering Information

Valve	285 30	286 30	286 00	285 31	286 31	286 01	285 32	286 32	286 02	107 80	107 83	107 81	107 84
Spare parts Seal kit	215 025	215 025	215 025	215 075	215 075	215 075	215 125	215 125	215 125	215 251	215 251	215 271	215 271
Bellows set	–	–	–	–	–	–	–	–	–	215 254	215 254	215 274	215 274
Drive, complete	215 042	215 042	215 042	215 092	215 092	215 092	215 142	215 142	215 142	–	–	–	–

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