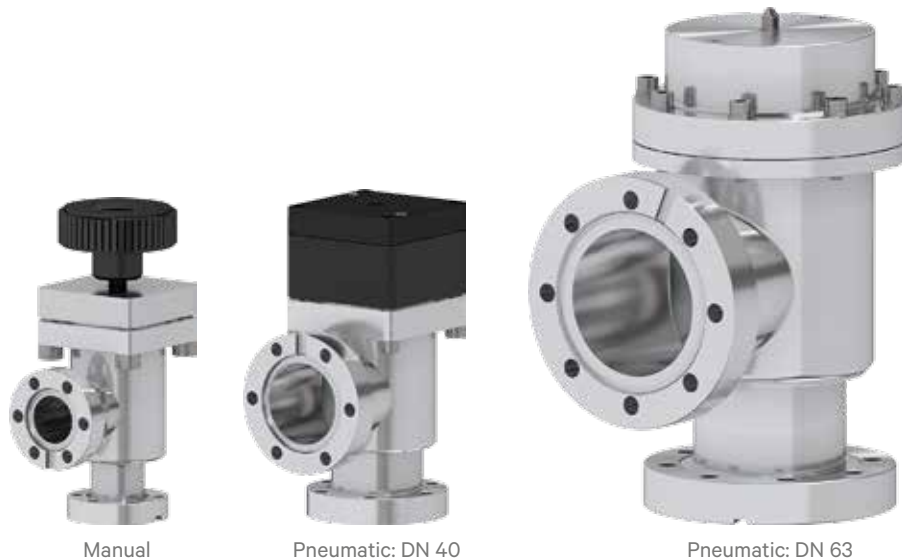


UHV ANGLE VALVE, SERIES 28.4

For pumping and venting of UHV systems when an extremely low outgassing rate is important.



Extremely low outgassing rate

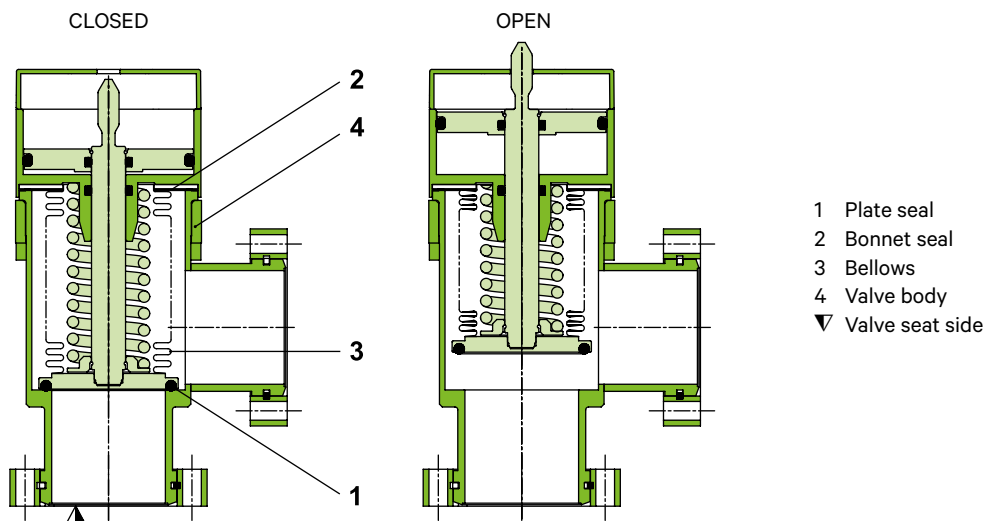
Resistant against high differential pressure

Stationary rotatable CF flange

MAIN FEATURES

Sizes	DN 16 – 63 mm ($\frac{5}{8}$ " – 2½")
Actuators	manual: with removable handwheel pneumatic: single acting with closing spring (NC)
Body material	stainless steel
Feedthrough	bellows
Standard flanges	CF-R

FUNCTIONAL PRINCIPLE



TECHNICAL DATA

Leak rate	Valve body Valve seat	$< 5 \cdot 10^{-10}$ mbar ls ⁻¹ $< 1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range		$5 \cdot 10^{-10}$ mbar to 5 bar (abs)
Differential pressure on the plate	In opening direction In closing direction	≤ 2 bar ≤ 5 bar
Differential pressure at opening		≤ 1 bar
Cycles until first service		3 million
Temperature ¹⁾	Valve body Manual actuator Pneumatic actuator Solenoid valve & position indicator	≤ 150 °C ≤ 120 °C ≤ 150 °C ≤ 80 °C
Material	Valve body DN 16, 40 DN 63 Plate Bellows	AISI 304 (1.4301) AISI 316L (1.4404, 1.4435) AISI 316L (1.4404, 1.4435) AISI 316L (1.4404, 1.4435)
Seal	Bonnet Plate	metal FKM (Viton®)
Feedthrough		bellows
Mounting position		any
Solenoid valve		24 V DC (others on request)
Position indicator: contact rating	Voltage Current	5 – 50 V AC / DC 5 – 100 mA
Valve position indication		visual (mechanical)

¹⁾ Maximum values: depending on operating conditions and sealing materials.

				with manual actuator			with pneumatic actuator, single acting with closing spring (NC)						
DN (nominal I. D.)		CF-R flange	Conductance (molecular flow)	Turns per stroke	Weight		Compressed air min. – max. overpressure		Volume of pneumatic actuator		Closing time	Weight	
mm	inch		ls ⁻¹	n	kg	lbs	bar	psi	l	ft ³	s	kg	lbs
16	5/8	1 1/3	5	3.6	0.30	0.70	4 – 8	58 – 116	0.004	0.0001	0.10	0.40	0.90
40	1 1/2	2 3/4	45	4.5	1.50	3.30	4 – 8	58 – 116	0.035	0.0012	0.55	1.60	3.50
63	2 1/2	4 1/2	160	6.6	5.30	11.70	4 – 8	58 – 116	0.112	0.0040	0.70	6.00	13.20

OPTIONS, CUSTOMIZED SOLUTIONS

ACTUATOR

- Other solenoid valve voltage (standard 24VDC)
- Manual actuator bakeable to 200 °C
- Pneumatic actuator bakeable to 150 °C
- Bakeable position indicator: actuator bakeable to 120 °C or 150 °C

VALVE

- Customer specified flanges
- ISO-KF, ISO-K flanges
- Other sealing materials
- Customer specified bodies

SPARE PARTS

We can offer a wide variety of spare parts. Please contact us for details and an offer.

Thank you for specifying the fabrication number of the valve indicated on the identification tag when asking for spare parts.

ACCESSORIES

Flange connections for installation of the valve: see series 33

ORDERING INFORMATION FOR STANDARD VALVES

Valve with manual actuator
removable handwheel

DN		Ordering numbers
mm	inch	
16	¾"	CF-R 28424-GE01
40	1½"	28432-GE01
63	2½"	28436-GE01

Valve with pneumatic actuator
single acting with closing spring (NC)
without solenoid valve
without position indicator

DN		Ordering numbers
mm	inch	
16	¾"	CF-R 28424-GE11
40	1½"	28432-GE11
63	2½"	28436-GE11

without solenoid valve, with position indicator: 284...-GE21

with solenoid valve, without position indicator: 284...-GE31 (specify control voltage)

with solenoid valve, with position indicator: 284...-GE41 (specify control voltage)

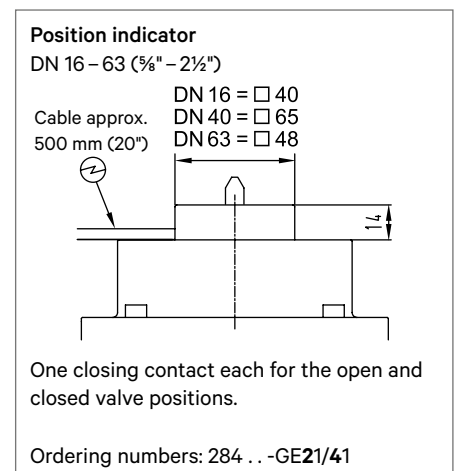
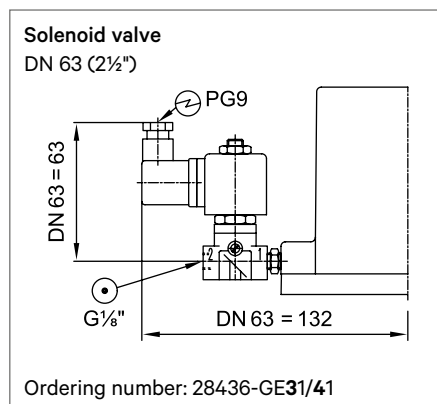
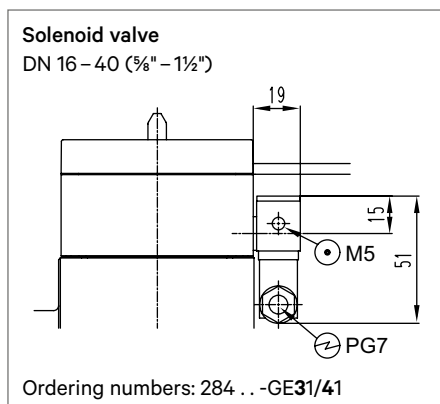
ORDERING INFORMATION FOR VALVES WITH OPTIONS

Basic ordering number plus «-X»: -X to be specified

Example: 28432-GE41-X, X = position indicator bakeable to 200 °C

SOLENOID VALVES

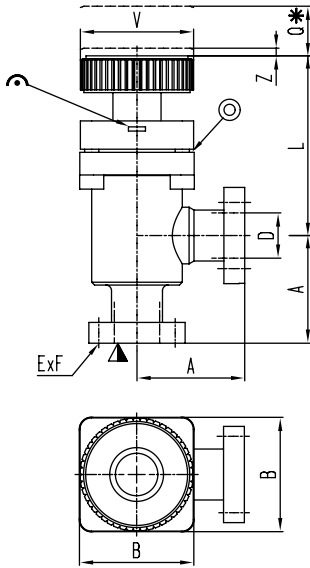
POSITION INDICATOR



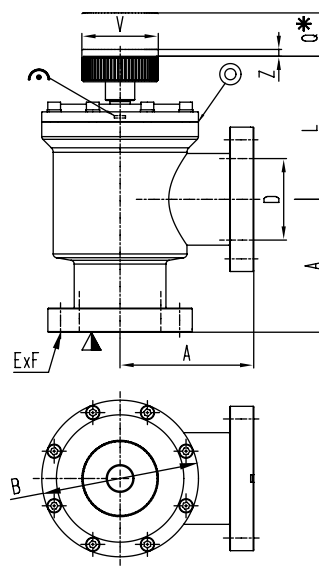
- ⊙ Compressed air connection
- ⊕ Electrical connection

DIMENSIONS

Valve with manual actuator
DN 16 – 40 (5/8" – 1½") CF-R

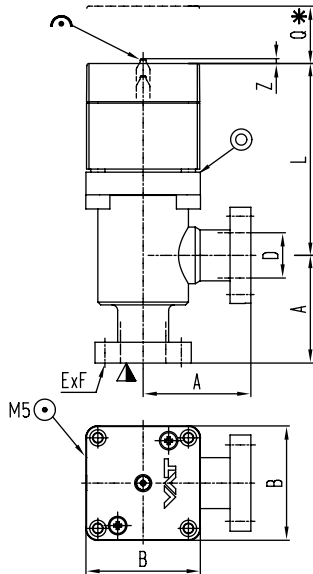


Valve with manual actuator
DN 63 (2½") CF-R

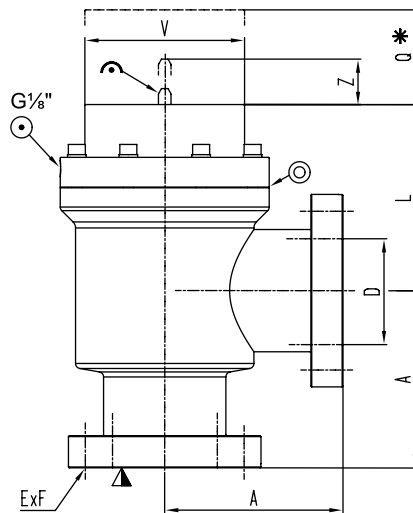


DN	mm	16	40	63
inch		5/8	1½	2½
A	mm	38	63	105
inch		1.50	2.48	4.13
B	mm	40	65	123
inch		1.57	2.56	4.84
D	mm	16	40	64
inch		0.63	1.57	2.52
E × F		6 × 4.30 6 × 0.17	6 × 6.60 6 × 0.26	8 × 8.40 8 × 0.33
L	mm	67.30	97.40	111.70
inch		2.65	3.83	4.40
Q	mm	45	73.50	105
inch		1.77	2.89	4.13
V	mm	40	60	60
inch		1.57	2.36	2.36
Z	mm	3.60	7.90	13.40
inch		0.14	0.31	0.53

Valve with pneumatic actuator, single acting with closing spring (NC)
DN 16 – 40 (5/8" – 1½") CF-R



Valve with pneumatic actuator, single acting with closing spring (NC)
DN 63 (2½") CF-R



DN	mm	16	40	63
inch		5/8	1½	2½
A	mm	38	63	105
inch		1.50	2.48	4.13
B	mm	40	65	-
inch		1.57	2.56	-
D	mm	16	40	64
inch		0.63	1.57	2.52
E × F		6 × 4.30 6 × 0.17	6 × 6.60 6 × 0.26	8 × 8.40 8 × 0.33
L	mm	67.80	90.80	109.60
inch		2.67	3.57	4.31
Q	mm	45	71	105
inch		1.77	2.80	4.13
V	mm	-	-	94
inch		-	-	3.70
Z	mm	2	9.50	31.40
inch		0.08	0.37	1.24

- ▼ Valve seat side
- * Required for dismantling
- ⊙ Compressed air connection
- ⌒ Mechanical position indication
- ⊙ Leak detection hole