

«EASY CLOSE» ALL-METAL ANGLE VALVE, SERIES 54.1

For vacuum processes with extreme UHV requirements.



Sealing surfaces are only elastically deformed

Convenient operation with a standard hexagon wrench – no torque wrench required

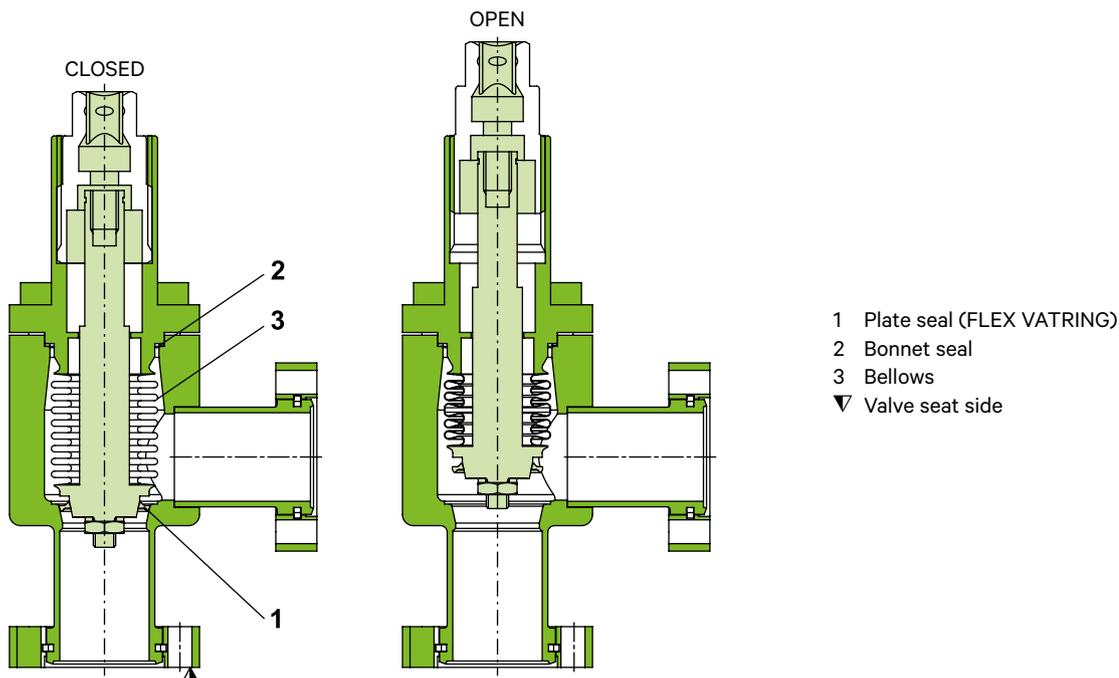
High conductance

FLEX VATRING exchangeable twice

MAIN FEATURES

Sizes	DN 16 – 63 mm (5/8" – 2½")
Actuator	manual: hexagon head
Body material	stainless steel
Standard flanges	CF-R
Sealing technology	FLEX VATRING (see glossary)

FUNCTIONAL PRINCIPLE



TECHNICAL DATA

Leak rate	Valve body, valve seat	$<1 \cdot 10^{-10}$ mbar ls ⁻¹
Pressure range		XHV to 2 bar (abs)
Differential pressure on the plate		≤ 2 bar
Differential pressure at opening		≤ 1 bar ¹⁾
Lifetime		≥ 1000 cycles
Bake-out temperature ²⁾	In open and closed position	≤ 300 °C
Heating and cooling rate		≤ 60 °C h ⁻¹
Material	Valve body, mechanism, bellows	AISI 316L (1.4404, 1.4435)
Seal	Bonnet, plate	metal
Feedthrough		bellows
Mounting position		any
Valve position indication		visual (mechanical)
Conductance (molecular flow)	DN 16	5 ls ⁻¹
	DN 40	50 ls ⁻¹
	DN 63	105 ls ⁻¹
Closing force		closes at a mechanical stop
Weight	DN 16	0.4 kg / 0.9 lbs
	DN 40	1.9 kg / 4.2 lbs
	DN 63	5.9 kg / 13 lbs

¹⁾ > 1 bar with reduced number of cycles.

²⁾ Maximum values: depending on operating conditions and sealing materials.

SPARE PARTS

Service kit: see next page

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
- Handwheel: see ordering information on next page
- T-bar tool: see ordering information on next page
- Service kits: see ordering information on next page

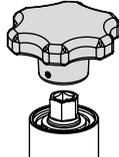
ORDERING INFORMATION

Valve with manual actuator
hexagon head

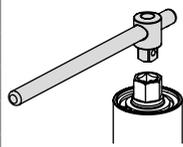
DN		Ordering numbers
mm	inch	
16	5/8	54124-GE02
40	1 1/2	54132-GE02
63	2 1/2	54136-GE02

Accessories

Handwheel

DN		Ordering numbers	 To put on the hexagon head for convenient operation of the valve.
mm	inch		
16	5/8	240039	
40	1 1/2	531966	
63	2 1/2	not available	

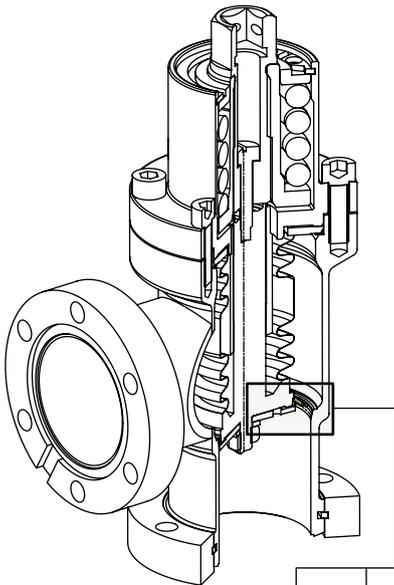
T-bar tool

DN		Ordering numbers	 To put on the hexagon head for convenient operation of the valve.
mm	inch		
16	5/8	312699	
40	1 1/2	530026	
63	2 1/2	312731	

Service kits

DN		Ordering numbers	
mm	inch	Service kit 1	Service kit 2
16	5/8	529581	529582
40	1 1/2	530022	530023
63	2 1/2	530024	530025

The service kits allow to exchange the FLEX VATRING without remachining the sealing surface on the valve seat. The FLEX VATRING may be replaced up to two times. The service kit 1 is for the first, the service kit 2 for the second exchange.

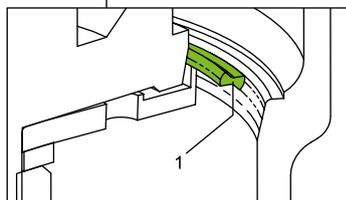


Easy replacement of FLEX VATRING

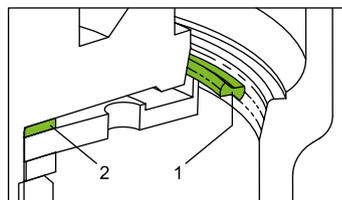
In case of a seat seal leak caused by environmental influences, the FLEX VATRING seal can be replaced twice without the need for re-machining the valve seat.

Three seal rings of different diameters enable leak tight sealing on three different levels of pre-prepared sealing surface provided in the valve body. If there is damage on one level, the replacement seal ring, of a different diameter, will seal at the next level.

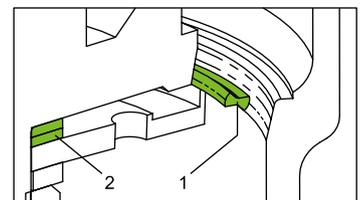
VAT offers a range of service kits, and the seal exchange can easily be carried out by the user.



Initial sealing system
(maximum diameter of FLEX
VATRING seal)

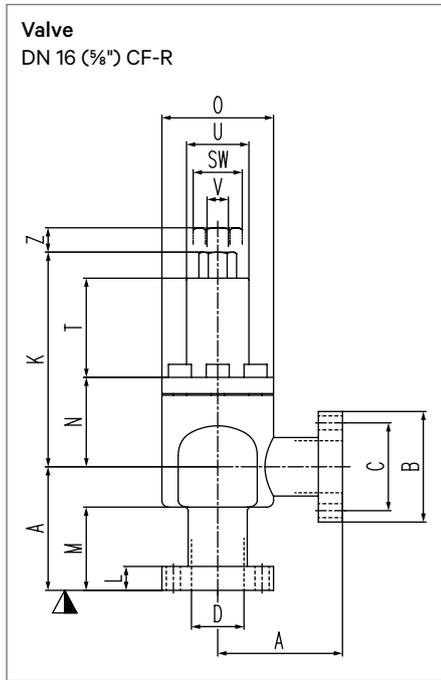


Sealing system after installation of
the first service kit
(medium diameter of FLEX VATRING
seal)

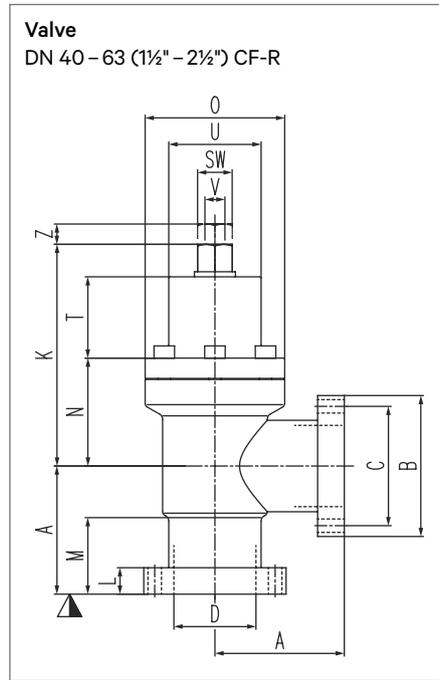


Sealing system after installation of
the second service kit
(minimum diameter of FLEX
VATRING seal)

MAIN DIMENSIONS

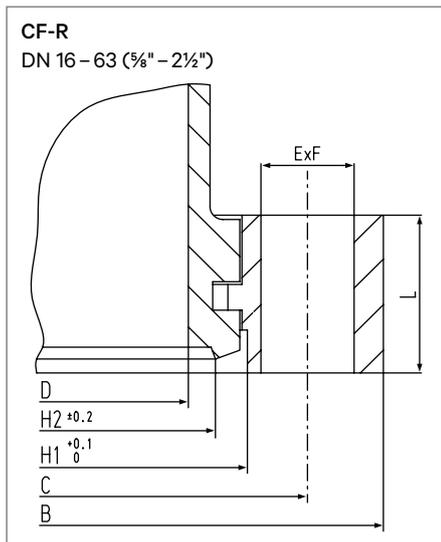


▼ Valve seat side



DN	mm	16	40	63
	inch	5/8	1½	2½
A	mm	38	63	105
	inch	1.50	2.48	4.13
B	mm	34	69.35	113.35
	inch	1.34	2.73	4.46
C	mm	27	58.70	92.10
	inch	1.06	2.31	3.63
D	mm	16	40	64
	inch	0.63	1.57	2.52
K	mm	66	109.10	141.50
	inch	2.60	4.30	5.57
L	mm	7.35	13	18.90
	inch	0.29	0.51	0.74
M	mm	25.60	37.60	56.60
	inch	1.01	1.48	2.23
N	mm	27.50	53.10	74
	inch	1.08	2.09	2.91
O	mm	34	68	94
	inch	1.34	2.68	3.70
SW	mm	10	17	22
	inch	0.39	0.67	0.87
T	mm	30.50	40	51.50
	inch	1.20	1.57	2.03
U	mm	19	45	54
	inch	0.75	1.77	2.13
V	mm	6.35	9.53	12.70
	inch	0.25	0.38	0.50
Z	mm	8.50	20	20
	inch	0.33	0.79	0.79

FLANGE DIMENSIONS



DN	mm	16	40	63
	inch	5/8	1½	2½
B	mm	34	69.35	113.35
	inch	1.34	2.73	4.46
C	mm	27	58.70	92.10
	inch	1.06	2.31	3.63
D	mm	16	40	64
	inch	0.63	1.57	2.52
E x F	mm	6 x 4.30	6 x 6.60	8 x 8.40
	inch	6 x 0.17	6 x 0.26	8 x 0.33
H1	mm	21.40	48.30	82.50
	inch	0.84	1.90	3.25
H2	mm	18.50	42	77.40
	inch	0.73	1.65	3.05
L	mm	7.35	13	18.90
	inch	0.29	0.51	0.74