

HV GATE VALVE, SERIES 11.0

General purpose valve for isolation in high vacuum systems. Especially suited to pump isolation.



Good value bellows sealed valve

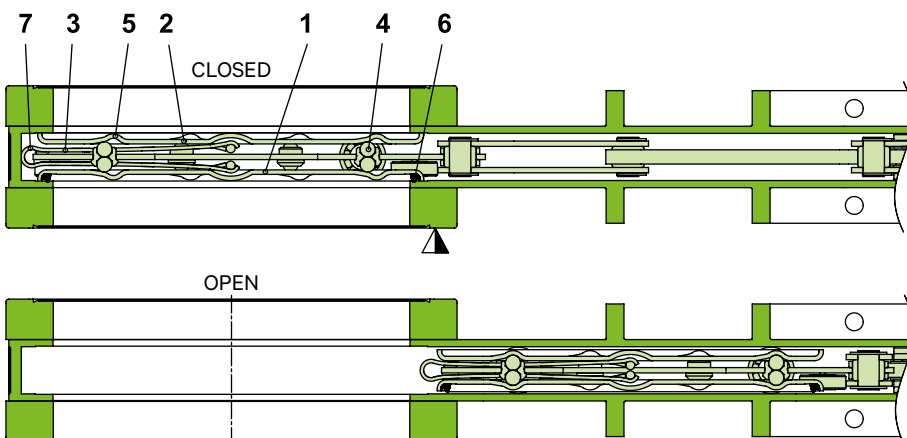
DN 63 – 200 with vulcanized gate seal
(see glossary)

High life cycle

MAIN FEATURES

Sizes	DN 63 – 320 mm (2½" – 12")
Actuators	manual with crank handle pneumatic: double acting 3-position pneumatic: double acting
Body material	stainless steel
Feedthrough	bellows
Standard flanges	ISO-F, CF-F, ASA-LP, JIS
Sealing technology	VATLOCK (see glossary)

FUNCTIONAL PRINCIPLE



- 1 Gate
 - 2 Counter-plate
 - 3 Leaf springs
 - 4 Ball pairs
 - 5 Ball detents
 - 6 Gate seal
 - 7 Spring stop
- ▼ Valve seat side

TECHNICAL DATA

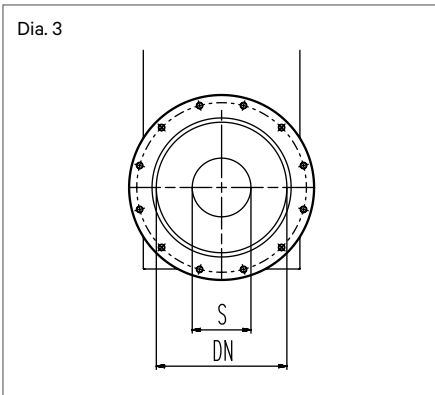
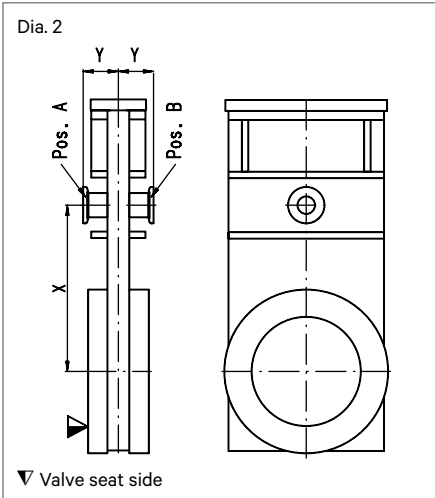
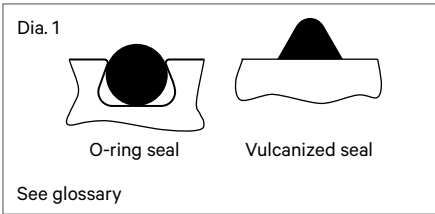
Leak rate	Valve body, valve seat	$<1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range	DN 63–200	$1 \cdot 10^{-8}$ mbar to 1.6 bar (abs)
	DN 250–320	$1 \cdot 10^{-8}$ mbar to 1.2 bar (abs)
Differential pressure on the gate	DN 63–200	≤ 1.6 bar
	DN 250–320	≤ 1.2 bar
Differential pressure at opening		≤ 30 mbar
Cycles until first service		200 000
Temperature ¹⁾	Valve body	≤ 150 °C
	Manual and pneumatic actuator	≤ 80 °C
	Solenoid valve	≤ 50 °C
	Position indicator	≤ 50 °C
Heating and cooling rate		≤ 50 °C h ⁻¹
Material	Valve body	AISI 304 (1.4301)
	Mechanism DN 63–200 DN 250–320	AISI 316L (1.4404)
		AISI 304 (1.4301)
	Bellows	AISI 633 (AM350)
Seal	Bonnet, gate	FKM (Viton®)
Feedthrough		bellows
Mounting position		any
Solenoid valve		24 V DC, 5.4 W (others on request)
Position indicator: contact rating	Voltage	≤ 50 V AC/DC
	Current	≤ 1.2 A
Valve position indication		visual (mechanical)

DN (nominal I. D.)			Valve with manual actuator			Valve with pneumatic actuator ²⁾						
						Turns per stroke	Weight		Compressed air min. – max. overpressure		Volume of pneumatic actuator	
mm	inch	ls ⁻¹	n	kg	lbs		bar	psi	l	ft ³	s	kg
63	2½	600	10	9	20	4–7	58–102	0.08	0.0028	1	9	20
80	3	765	10	9	20	4–7	58–102	0.08	0.0028	1	9	20
100	4	1740	13	11	24	4–7	58–102	0.11	0.0038	1.20	12	26
160	6	5880	17	16	35	4–7	58–102	0.14	0.0049	1.50	17	37
200	8	12200	17	29	64	4–7	58–102	0.25	0.0087	2	29	64
250	10	21690	40	51	112	5–7	73–102	0.35	0.0122	4	52	115
320	12	29130	45	89	196	5–7	73–102	0.48	0.0167	5	91	200

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

²⁾ Technical data for valve with 3-position pneumatic actuator on request.

OPTIONS, CUSTOMIZED SOLUTIONS



ACTUATOR

- Solenoid valve for impulse actuation:
last valve position is maintained at power failure
- Solenoid valve separate, for external mounting
- Other solenoid valve voltage (standard 24VDC)
- Manual emergency operation on solenoid valve lockable
- Double position indicator (2 switches each for the positions «open» and «closed»)
- Position indicator with change-over contact

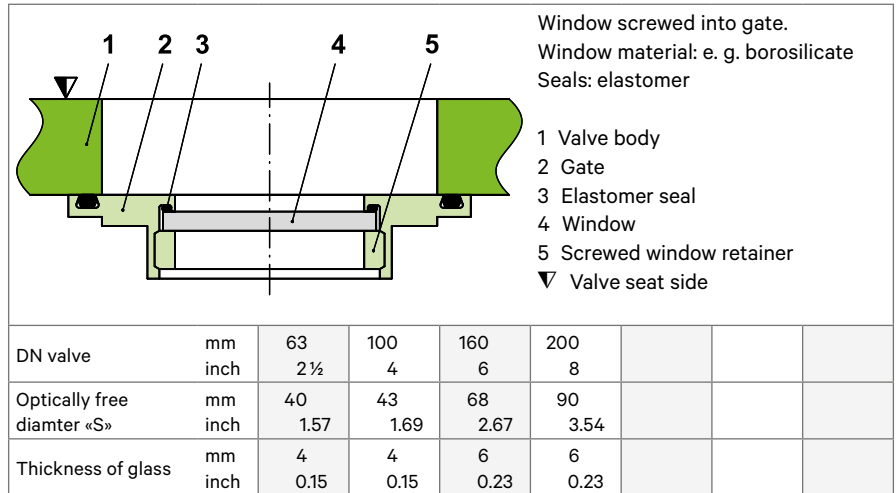
VALVE

- Customer specified flanges with/without watercooling
- Other sealing materials
- O-ring seal in gate (Dia. 1) with DN 63, 100, 160, 200 instead of the vulcanized seal
- Ports for roughing (by-pass), venting or for gauges (Dia. 2): possible positions A and B

DN valve	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
Recommended port ISO-KF		40	40	40	40	40	40	40
X	mm inch	110 4.33	110 4.33	120 4.72	205 8.07	260 10.24	335 13.19	415 16.34
Y	mm inch	44 1.73	64 2.52	64 2.52	64 2.52	68 2.68	62 2.44	72 2.83

Other ports on request

- Special gate for the installation of various foils
- Window in gate (Dia. 3) with DN 63, 100, 160, 200



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 32 and 33
- Heater

ORDERING INFORMATION FOR STANDARD VALVES

Valve with manual actuator crank handle

DN		Ordering numbers				
mm	inch	ISO-F	CF-F metric threads	CF-F UNF threads	ASA-LP	JIS
63	2 ½	11036-PE01	11036-CE01	11036-UE01	11036-TE01	11036-JE01
80	3	11038-PE01	11038-CE01	11038-UE01	11038-TE01	11038-JE01
100	4	11040-PE01	11040-CE01	11040-UE01	11040-TE01	11040-JE01
160	6	11044-PE01	11044-CE01	11044-UE01	11044-TE01	11044-JE01
200	8	11046-PE01	11046-CE01	11046-UE01	11046-TE01	11046-JE01
250	10	11048-PE01	11048-CE01	11048-UE01	11048-TE01	11048-JE01
320	12	11050-PE01	on request	on request	11050-TE01	11050-JE01

with position indicator: 110 . . . E08

Valve with pneumatic actuator double acting with solenoid valve with position indicator

DN		Ordering numbers (specify control voltage)				
mm	inch	ISO-F	CF-F metric threads	CF-F UNF threads	ASA-LP	JIS
63	2 ½	11036-PE44	11036-CE44	11036-UE44	11036-TE44	11036-JE44
80	3	11038-PE44	11038-CE44	11038-UE44	11038-TE44	11038-JE44
100	4	11040-PE44	11040-CE44	11040-UE44	11040-TE44	11040-JE44
160	6	11044-PE44	11044-CE44	11044-UE44	11044-TE44	11044-JE44
200	8	11046-PE44	11046-CE44	11046-UE44	11046-TE44	11046-JE44
250	10	11048-PE44	11048-CE44	11048-UE44	11048-TE44	11048-JE44
320	12	11050-PE44	on request	on request	11050-TE44	11050-JE44

without solenoid valve, without position indicator: 110 . . . E14

without solenoid valve, with position indicator: 110 . . . E24

with solenoid valve, without position indicator: 110 . . . E34 (specify control voltage)

Valve with 3-position pneumatic actuator double acting with solenoid valve with position indicator

DN		Ordering numbers (specify control voltage)				
mm	inch	ISO-F	CF-F metric threads	CF-F UNF threads	ASA-LP	JIS
63	2 ½	11036-PE48	11036-CE48	11036-UE48	11036-TE48	11036-JE48
80	3	11038-PE48	11038-CE48	11038-UE48	11038-TE48	11038-JE48
100	4	11040-PE48	11040-CE48	11040-UE48	11040-TE48	11040-JE48
160	6	11044-PE48	11044-CE48	11044-UE48	11044-TE48	11044-JE48
200	8	11046-PE48	11046-CE48	11046-UE48	11046-TE48	11046-JE48
250	10	11048-PE48	11048-CE48	11048-UE48	11048-TE48	11048-JE48
320	12	11050-PE48	on request	on request	11050-TE48	11050-JE48

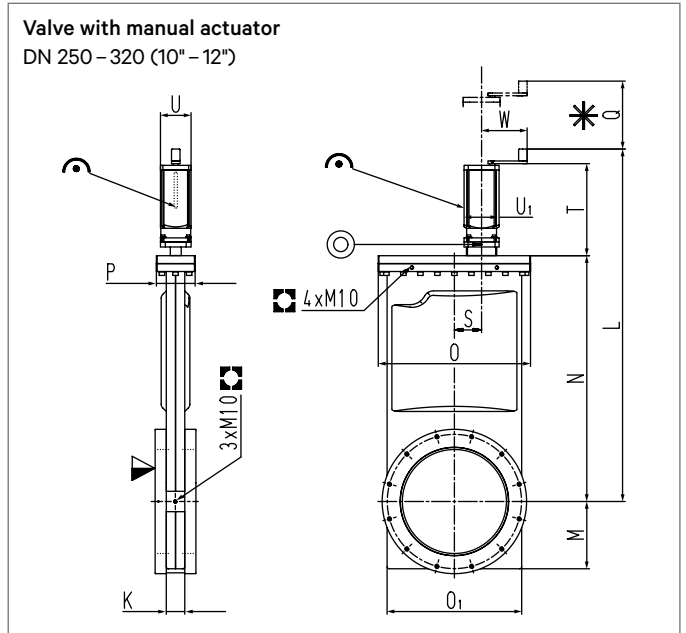
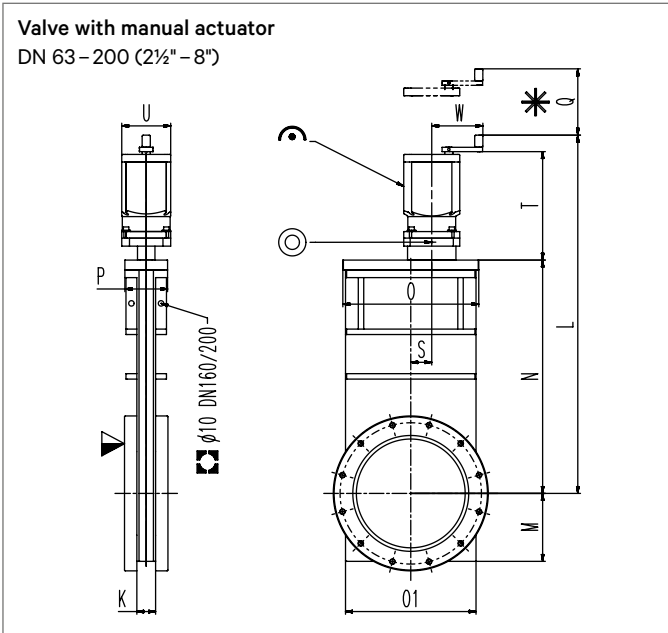
without solenoid valve, with position indicator: 110 . . . E28

ORDERING INFORMATION FOR VALVES WITH OPTIONS

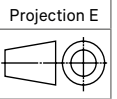
Basic ordering number plus «-X»: -X to be specified

Example: 11040-CE44-X, X = port ISO-KF 40 in position A

MAIN DIMENSIONS



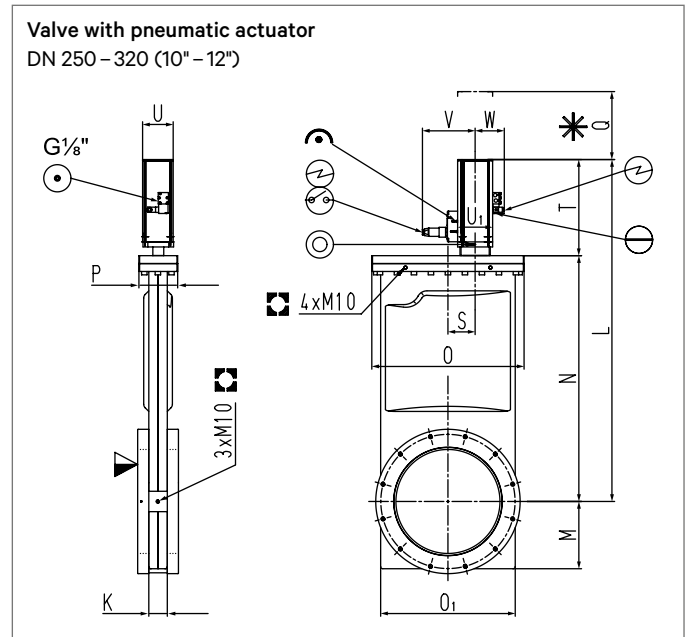
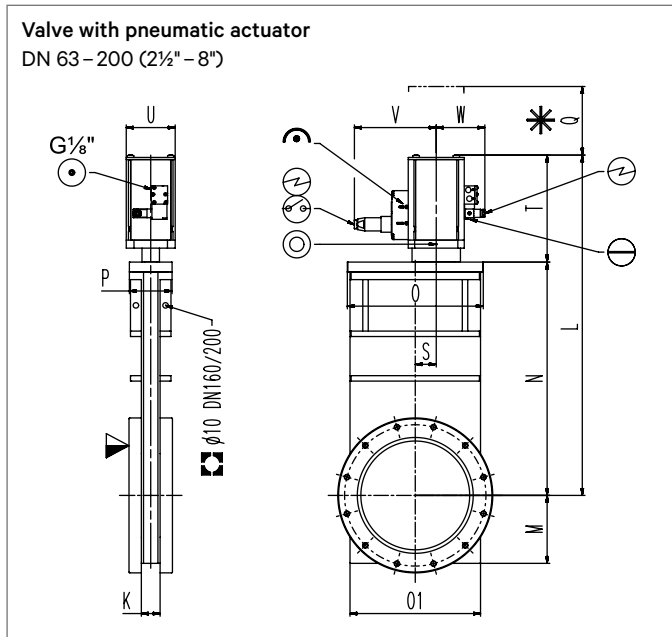
- ▼ Valve seat side
- * Required for dismantling
- ⤴ Mechanical position indication
- ⊙ Leak detection hole
- ▣ For attachment



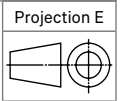
DN	mm	63	80	100	160	200	250	320
	inch	2½	3	4	6	8	10	12
K	mm	27	27	27	27	34.50	41	54
	inch	1.06	1.06	1.06	1.06	1.36	1.61	2.13
L	mm	406	421	461	551	660	841	1038
	inch	15.98	16.57	18.15	21.69	25.98	33.11	40.87
M	mm	57	57	73	99	125	160	198
	inch	2.24	2.24	2.87	3.90	4.92	6.30	7.80
N	mm	191	205	246	336	430	559	724
	inch	7.52	8.07	9.68	13.23	16.93	22.01	28.50
O	mm	115	115	145	200	250	344	448
	inch	4.53	4.53	5.71	7.87	9.84	13.54	17.64
O1	mm	112	112	143	192	240	321	396
	inch	4.41	4.41	5.63	7.56	9.45	12.64	15.59
P	mm	70	70	70	70	80	80	114
	inch	2.76	2.76	2.76	2.76	3.15	3.15	4.49
Q	mm	180	180	220	290	350	450	560
	inch	7.09	7.09	8.66	11.42	13.78	17.72	22.05
S	mm	11	11	9	25	38.50	65	80
	inch	0.43	0.43	0.35	0.98	1.52	2.56	3.15
T	mm	185	185	185	185	195	239	271
	inch	7.28	7.28	7.28	7.28	7.68	9.41	10.67
U	mm	70	70	70	70	90	90	90
	inch	2.76	2.76	2.76	2.76	3.54	3.54	3.54
U1	mm	83	83	83	83	103	103	103
	inch	3.27	3.27	3.27	3.27	4.06	4.06	4.06
W	mm	76	76	76	76	94	134	134
	inch	2.99	2.99	2.99	2.99	3.70	5.28	5.28

Flange dimensions: see pages 58 – 59

MAIN DIMENSIONS



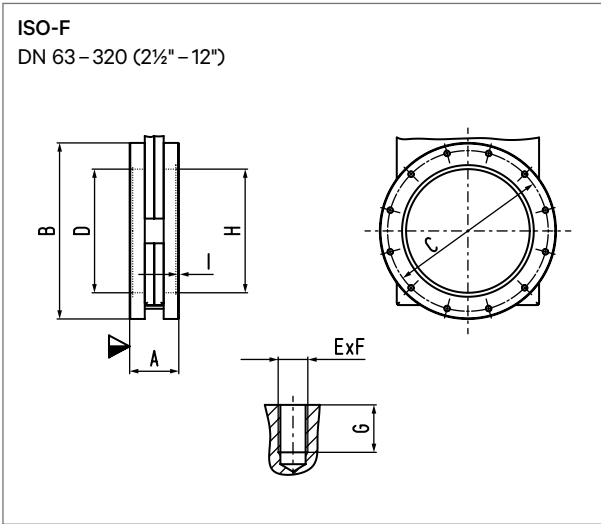
- ▼ Valve seat side
- * Required for dismantling
- ⊕ Compressed air connection
- ⊖ Electrical connection
- ↻ Mechanical position indication
- ⊙ Position indicator
- ⊗ Leak detection hole
- ⊖ Emergency operation
- ⊠ For attachment



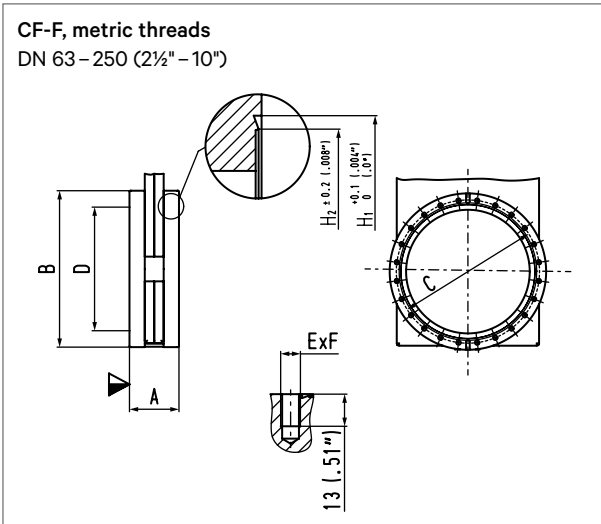
DN	mm	63	80	100	160	200	250	320
	inch	2½	3	4	6	8	10	12
K	mm	27	27	27	27	34.50	41	54
	inch	1.06	1.06	1.06	1.06	1.36	1.61	2.13
L	mm	342	358	414	521	626	796	1010
	inch	13.46	14.07	16.30	20.51	24.65	31.34	39.76
M	mm	57	57	73	99	120	161	198
	inch	2.24	2.24	2.87	3.90	4.73	6.34	7.80
N	mm	191	205	246	336	429	558	723
	inch	7.52	8.07	9.68	13.23	16.89	21.97	28.46
O	mm	115	115	145	200	250	344	448
	inch	4.53	4.53	5.71	7.87	9.84	13.54	17.64
O1	mm	112	112	143	192	230	321	396
	inch	4.41	4.41	5.63	7.56	9.06	12.64	15.59
P	mm	70	70	70	70	80	80	114
	inch	2.76	2.76	2.76	2.76	3.15	3.15	4.49
Q	mm	180	180	220	290	350	450	560
	inch	7.09	7.09	8.66	11.42	13.78	17.72	22.05
S	mm	11	11	9	25	38.50	65	80
	inch	0.43	0.43	0.35	0.98	1.52	2.44	3.15
T	mm	151	151	168	185	197	238	287
	inch	5.94	5.94	6.61	7.28	7.76	9.37	11.30
U	mm	70	70	70	70	90	90	90
	inch	2.76	2.76	2.76	2.76	3.54	3.54	3.54
U1	mm	83	83	83	83	103	103	103
	inch	3.27	3.27	3.27	3.27	4.06	4.06	4.06
V	mm	145	145	145	145	150	150	150
	inch	5.71	5.71	5.71	5.71	5.91	5.91	5.91
W	mm	80	80	80	80	89	89	89
	inch	3.15	3.15	3.15	3.15	3.50	3.50	3.50

Flange dimensions: see pages 58 – 59

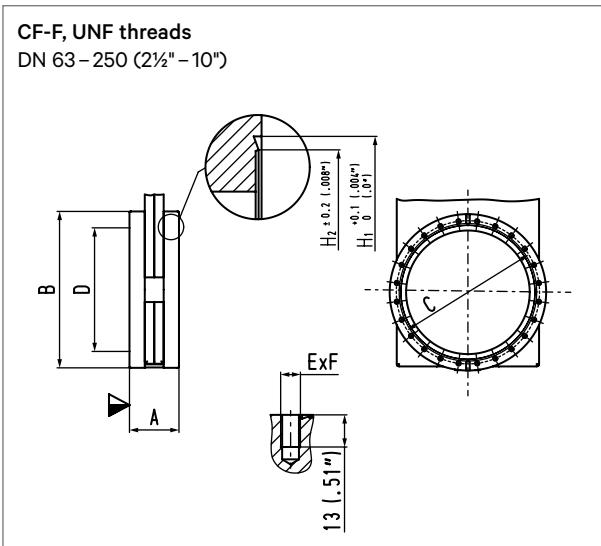
FLANGE DIMENSIONS



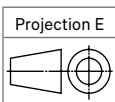
DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	120 4.72
B	mm inch	130 5.12	145 5.71	165 6.50	225 8.86	285 11.22	350 13.78	425 16.73
C	mm inch	110 4.33	125 4.92	145 5.71	200 7.87	260 10.24	310 12.20	395 15.55
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	261 10.28	306 12.05
E × F		4 × M8	8 × M8	8 × M8	8 × M10	12 × M10	12 × M10	12 × M12
G	mm inch	13 0.51	13 0.51	13 0.51	13 0.51	15 0.59	15 0.59	18 0.71
H	mm inch	-	83 3.27	102 4.02	153 6.02	213 8.39	-	318 12.52
I	mm inch	-	3 0.12	3 0.12	5 0.20	5 0.20	-	5 0.20



DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	
O.D.	inch	4½	4¾	6	8	10	12	
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	
B	mm inch	113.50 4.47	117.50 4.63	151.60 5.97	202.40 7.97	253.20 9.97	350 13.78	
C	mm inch	92.10 3.63	102.40 4.03	130.20 5.13	181 7.13	231.80 9.13	284 11.18	
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	254 10.00	
E × F		8 × M8	10 × M8	16 × M8	20 × M8	24 × M8	32 × M8	
H1	mm inch	82.50 3.25	91.65 3.61	120.70 4.75	171.45 6.75	222.40 8.76	273.15 10.75	
H2	mm inch	77.40 3.05	86.30 3.40	115.50 4.55	166 6.54	217 8.54	267 10.51	



DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 ¹⁾ 10	250 ²⁾ 10
O.D.	mm inch	4½	4¾	6	8	10	12 ¹⁾	13¼ ²⁾
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	100 3.94
B	mm inch	113.50 4.47	117.50 4.63	151.60 5.97	202.40 7.97	253.20 9.97	350 13.78	350 13.78
C	mm inch	92.10 3.63	102.40 4.03	130.20 5.13	181 7.13	231.80 9.13	284 11.18	306.30 12.06
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	254 10.00	254 10.00
E × F		8 × 5/16" 24 UNF	10 × 5/16" 24 UNF	16 × 5/16" 24 UNF	20 × 5/16" 24 UNF	24 × 5/16" 24 UNF	32 × 5/16" 24 UNF	30 × 3/8" 24 UNF
H1	mm inch	82.50 3.25	91.65 3.61	120.70 4.75	171.45 6.75	222.40 8.76	273.15 10.75	294.64 11.60
H2	mm inch	77.40 3.05	86.30 3.40	115.50 4.55	166 6.54	217 8.54	267 10.51	288.30 11.35



▽ Valve seat side

¹⁾ VAT standard O.D. 12"

²⁾ Option O.D. 13¼": Ordering No. 11048-UE44-X, X = O.D. 13¼"

FLANGE DIMENSIONS

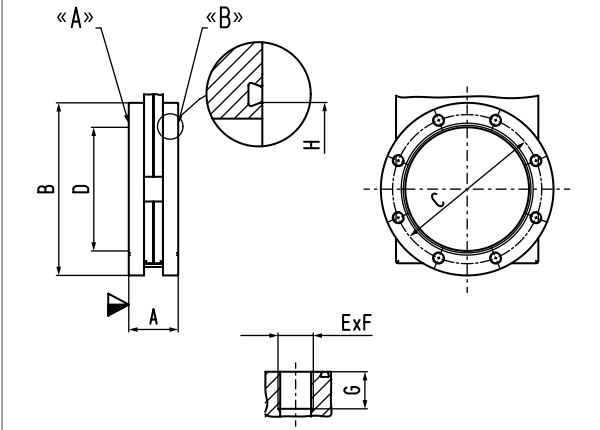
ASA-LP

DN 63 – 320 (2½" – 12")

with or without O-ring groove

For orders with O-ring groove specify:

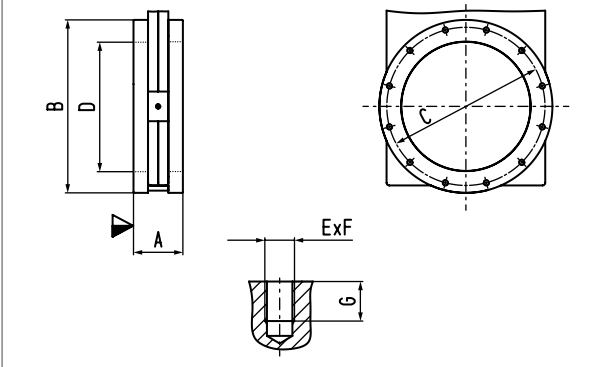
«A», «B» or «A + B»



DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
ASA-LP		2	–	3	4	6	8	10
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	120 4.72
B	mm inch	152.40 6.00	177.80 7.00	190.50 7.50	225 8.86	279.40 11.00	350 13.78	425 16.73
C	mm inch	120.70 4.75	139.70 5.50	152.40 6.00	190.50 7.50	241.30 9.50	298.50 11.75	362 14.25
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	254 10.00	300 11.81
E × F		4 × ¾" 16 UNC	4 × ¾" 16 UNC	8 × ¾" 16 UNC	8 × ¾" 16 UNC	8 × ¾" 10 UNC	8 × ¾" 10 UNC	12 × ¾" 10 UNC
G	mm inch	15 0.59	15 0.59	15 0.59	15 0.59	19 0.75	19 0.75	19 0.75
H	mm inch	88.90 3.50	88.90 3.50	120.65 4.75	158.75 6.25	206.40 8.13	266.70 10.50	317.50 12.50
O-ring I.D. × D	mm inch	88.49 × 3.53 3.48 × .139	88.49 × 3.53 3.48 × .139	120.24 × 3.53 4.73 × .139	158.34 × 3.53 6.23 × .139	202.79 × 3.53 7.98 × .139	266.29 × 3.53 10.48 × .139	316.87 × 7.00 12.47 × .275

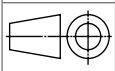
JIS B 2290: 1998 / ISO 1609

DN 65 – 300 (2½" – 12")



DN	mm inch	65 2½	80 3	100 4	150 6	200 8	250 10	300 12
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	120 4.72
B	mm inch	136 5.35	165 6.50	185 7.28	235 9.25	300 11.81	350 13.78	425 16.73
C	mm inch	120 4.72	135 5.31	160 6.30	210 8.27	270 10.63	320 12.60	370 14.57
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	261 10.28	306 12.05
E × F		4 × M10	8 × M10	8 × M10	8 × M10	8 × M12	12 × M12	12 × M12
G	mm inch	13 0.51	13 0.51	13 0.51	13 0.51	15 0.59	15 0.59	16 0.63

Projection E



▽ Valve seat side