

Main applications

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



Ordering information

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)

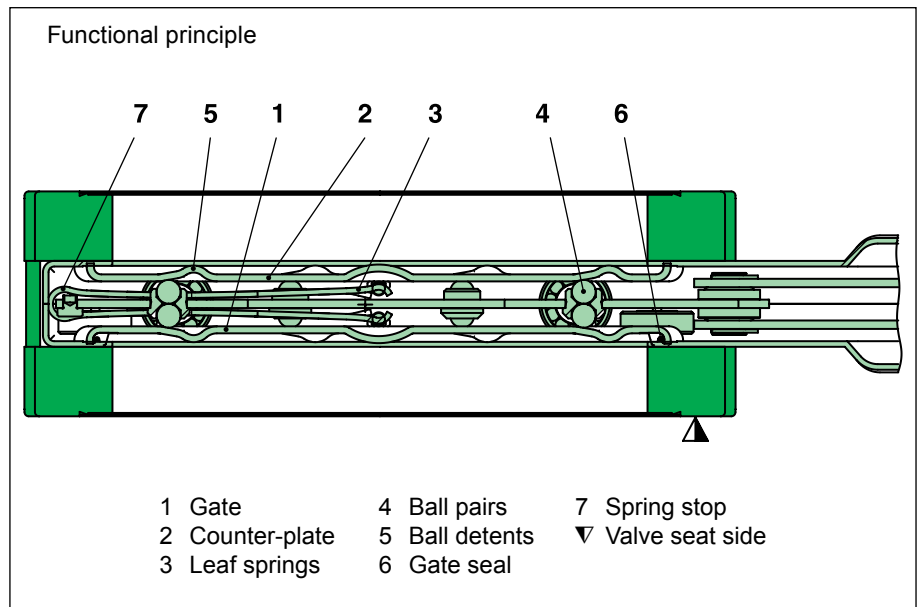
Further ordering information on next page →

Features

Body material: stainless steel

Low-cost bellows sealed valve

DN 63–200 with vulcanized seal
(no dead volumes at the gate seal):
see glossary



Technical data

Leak rate: valve body, valve seat	$1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range	
– DN 63–200	1 · 10 ⁻⁸ mbar to 1.6 bar (abs)
– DN 250–320	1 · 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

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

Further technical data on next page →

Continued Ordering information

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

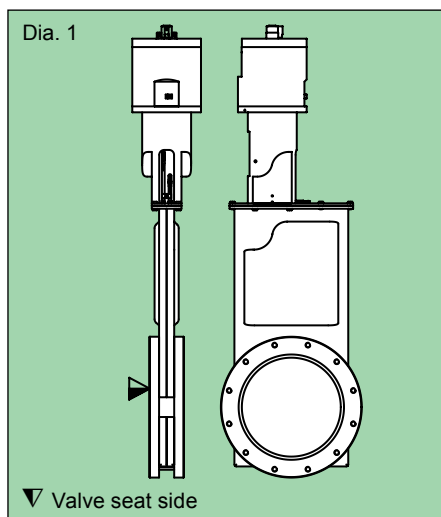
without solenoid valve, with position indicator: 110 . . . E28

Continued Technical data

Heating and cooling rate	≤ 50 °C h ⁻¹
Material	
– Valve body	AISI 304 (1.4301)
– Mechanism DN 63–200	AISI 316L (1.4404)
DN 250–320	AISI 304 (1.4301)
– Bellows	AISI 633 (AM350)
Seal: bonnet, gate	FKM (Viton®)
Feedthrough	bellows
Mounting position	any
Solenoid valve	24 VDC, 5.4 W (others on request)
Position indicator: contact rating	
– Voltage	10–30 VDC
– Current	max. 200 mA
Valve position indication	LED

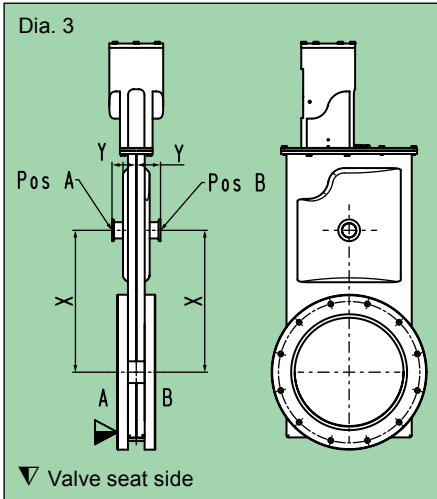
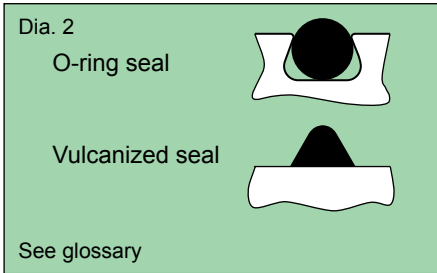
DN (nominal I. D.)		Standard flanges	Conductance (molecular flow) (depending on A-dimension and flange type)	Turns per stroke	Valve with manual actuator		Valve with pneumatic actuator						
					Weight		Compressed air min. – max. overpressure		Volume of pneu- matic actuator		Closing or opening time	Weight	
mm	inch		ls ⁻¹	n	kg	lbs	bar	psi	l	ft ³	s	kg	lbs
63	2 ½	Sse pages 50–51	600	10	7	16	4–7	58–102	0.096	0.0034	1	7	16
80	3		765	10	8	18	4–7	58–102	0.096	0.0034	1	8	18
100	4		1740	14	10	22	4–7	58–102	0.127	0.0045	1.5	10.5	23
160	6		5880	17	12	27	4–7	58–102	0.150	0.0053	2.5	13.5	30
200	8		13940	17	21	47	4–7	58–102	0.260	0.0092	3.5	21	47
250	10		27110	24	45	100	5–7	73–102	0.350	0.0124	4.5	39	86
320	12		34955	32	70	155	5–7	73–102	0.460	0.0162	5.5	70	155

Options



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: 24 VDC)
- Manual emergency operation on solenoid valve lockable
- 3-position pneumatic actuator for throttling (Dia. 1):
ordering information on page 45, technical data on request



Valve

- Customer specified flanges with/without watercooling
- Other sealing materials
- O-ring seal in gate (Dia. 2) with DN 63, 100, 160, 200 (standard: vulcanized seal)
- Ports for roughing (by-pass), venting or for gauges (Dia. 3), possible in positions A and B

DN valve	mm inch	63 2 ½	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	150 5.91	205 8.07	260 10.24	335 13.19	415 16.34
Y	mm inch	20 0.79	20 0.79	20 0.79	20 0.79	20 0.79	20 0.79	20 0.79
Other ports on request								

- Window in gate with DN 63, 100, 160, 200 (Dia. 4): screwed, window material: e. g. borosilicate, elastomer seal

Dia. 4

1 Valve body
2 Gate
3 Elastomer seal
4 Window
5 Screwed window retainer

▽ Valve seat side

DN valve	mm inch	63 2 ½	100 4	160 6	200 8
Optically free diameter «S»	mm inch	40 1.57	43 1.69	68 2.67	90 3.54
Thickness of glass	mm inch	4 0.15	4 0.15	6 0.23	6 0.23

Ordering information for options:

Ordering No. of valve-X (e. g. 11040-CE44-X, X = port ISO-KF 40 in position A)

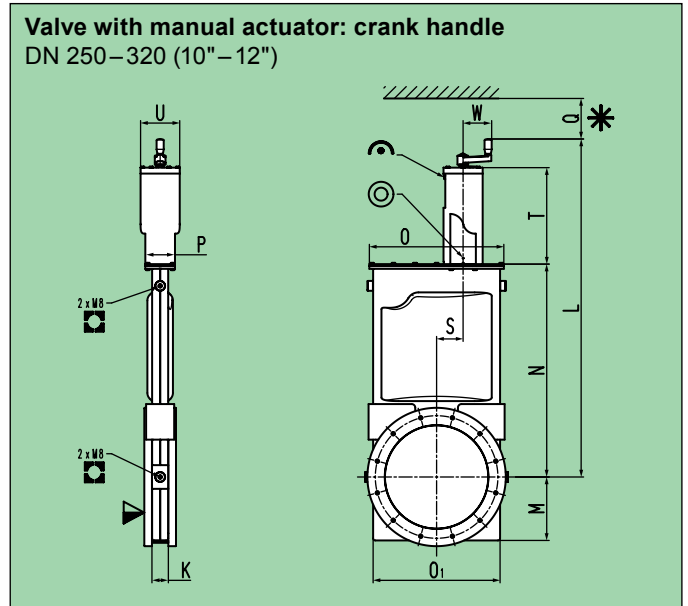
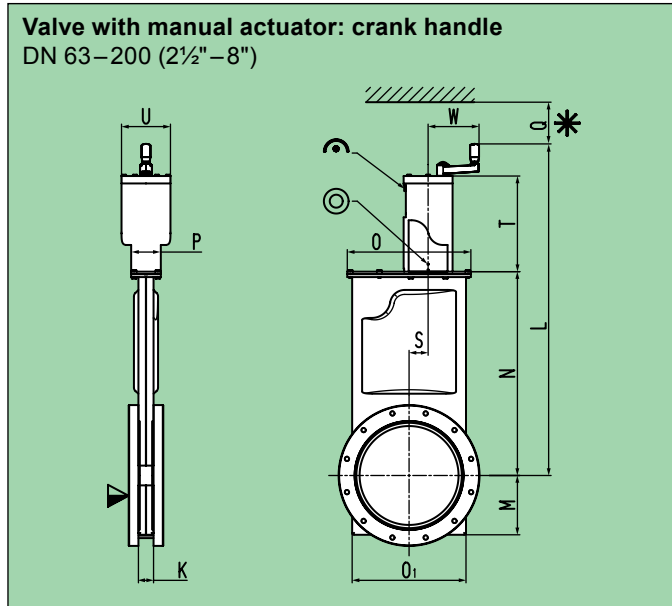
Spare parts

- **Seals**
on request (specify fabrication number of valve)

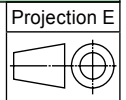
Accessories

- **Heater**
on request (specify fabrication number of valve)
- **Flange connections**
for installation of the valve: see series 32 and 33

Main dimensions



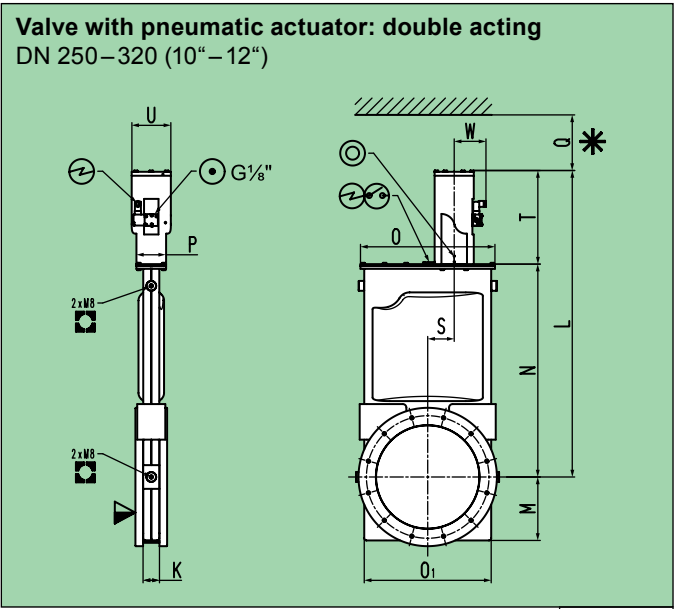
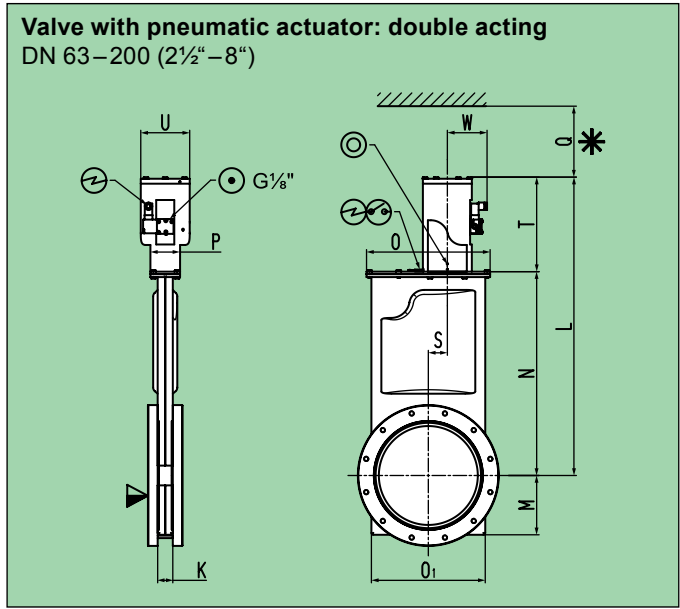
- ▽ Valve seat side
- * Required for dismantling
- ⌒ Mechanical position indication
- ⊙ Leak detection hole
- For attachment



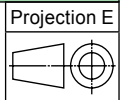
Flange dimensions: see pages 50–51

DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
K	mm inch	25.55 1.01	25.55 1.01	25.55 1.01	25.55 1.01	31 1.22	41 1.61	54 2.13
L	mm inch	390.60 15.38	390.60 15.38	472.60 18.61	601.40 23.68	684.60 26.95	855 33.66	1074.60 42.31
M	mm inch	53 2.09	53 2.09	69 2.72	94.50 3.72	120 4.72	161 6.34	198 7.80
N	mm inch	179 7.05	179 7.05	238 9.37	328.40 12.93	412.50 16.24	538.50 21.20	701 27.60
O	mm inch	124.60 4.91	124.60 4.91	155 6.10	205 8.07	250 9.84	340 13.39	420 16.54
O1	mm inch	104.60 4.12	104.60 4.12	134.60 5.30	184.80 7.28	230 9.06	321 12.64	396 15.59
P	mm inch	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	75 2.95	90 3.54
Q	mm inch	150 5.91	150 5.91	190 7.48	270 10.63	350 13.78	400 15.75	550 21.65
S	mm inch	11 0.43	11 0.43	9 0.35	25 0.98	38.50 1.52	67 2.64	80 3.15
T	mm inch	156.40 6.16	156.40 6.16	179.20 7.06	203.20 8.00	202.40 7.97	246.80 9.72	303.90 11.96
U	mm inch	89 3.50	89 3.50	89 3.50	89 3.50	99 3.90	99 3.90	99 3.90
W	mm inch	76.50 3.01	76.50 3.01	76.50 3.01	92.50 3.64	103 4.06	73 2.87	73 2.87

Main dimensions



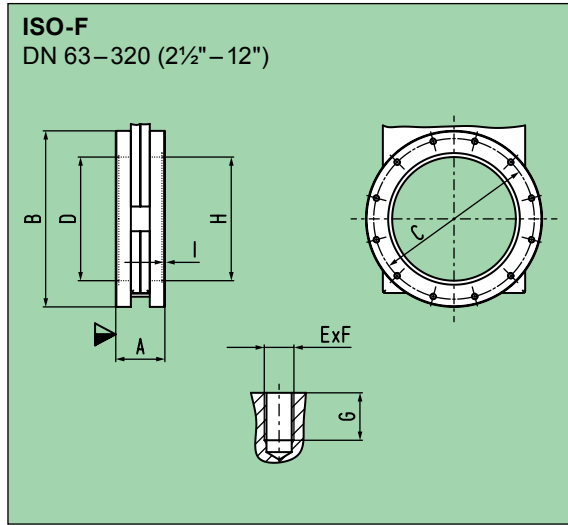
- ▽ Valve seat side
- * Required for dismantling
- ⊙ Compressed air connection
- ⊕ Electrical connection
- ⊗ Position indicator
- ⊙ Leak detection hole
- For attachment



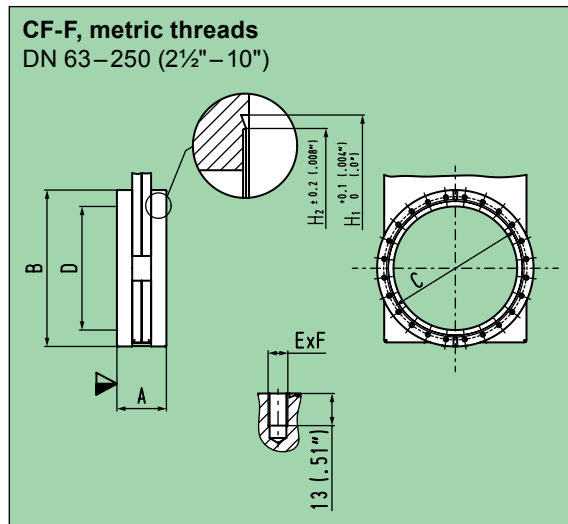
Flange dimensions: see pages 50–51

DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
K	mm inch	25.55 1.01	25.55 1.01	25.55 1.01	25.55 1.01	31 1.22	41 1.61	54 2.13
L	mm inch	329.80 12.98	329.80 12.98	409 16.10	523 20.59	607.90 23.93	778.30 30.64	998 39.29
M	mm inch	53 2.09	53 2.09	69 2.72	94.50 3.72	120 4.72	161 6.34	198 7.80
N	mm inch	183 7.20	183 7.20	238.3 9.38	328.40 12.93	412.50 16.24	538.50 21.20	701 27.60
O	mm inch	124.60 4.91	124.60 4.91	155 6.10	205 8.07	250 9.84	340 13.39	420 16.54
O1	mm inch	104.60 4.12	104.60 4.12	134.60 5.30	184.80 7.28	230 9.06	321 12.64	396 15.59
P	mm inch	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	75 2.95	90 3.54
Q	mm inch	150 5.91	150 5.91	190 7.48	270 10.63	350 13.78	400 15.75	550 21.65
S	mm inch	11 0.43	11 0.43	9 0.35	25 0.98	38.50 1.52	67 2.64	80 3.15
T	mm inch	146.80 5.78	146.80 5.78	170.80 6.72	194.30 7.65	195.40 7.69	239.80 9.44	297 11.69
U	mm inch	89 3.50	89 3.50	89 3.50	89 3.50	99 3.90	99 3.90	99 3.90
W	mm inch	78.90 3.11	78.90 3.11	78.90 3.11	78.90 3.11	83.90 3.30	83.90 3.30	83.90 3.30

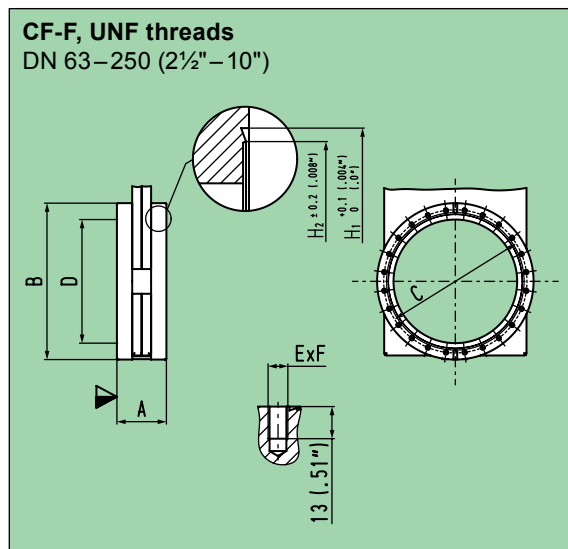
Flange dimensions



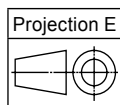
DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94
B	mm inch	130 5.12	145 5.71	165 6.50	225 8.86	285 11.22	350 13.78	425 16.73
C	mm inch	110 4.33	125 4.92	145 5.71	200 7.87	260 10.24	310 12.20	395 15.55
D	mm inch	70 2.76	76 2.99	100 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	4⅝	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 ¹⁾ 10
O. D.	inch	4½	4⅝	6	8	10	12	13¼
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⁾ O. D. 12" VAT standard, O. D. 13¼" option

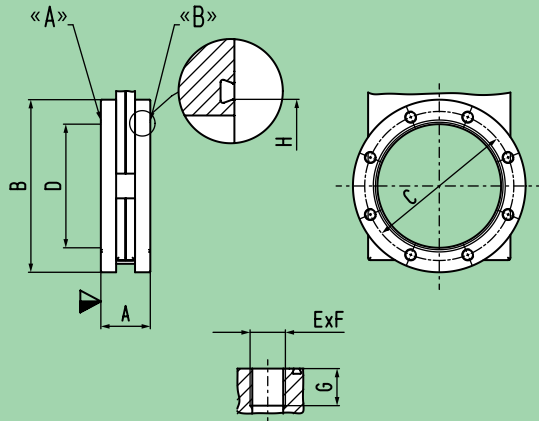
Ordering information for option: O. D. 13¼"
Ordering No. of valve-X (e. g. 11048-UE44-X, X = O. D. 13¼")

Flange dimensions

ASA-LP

DN 63–320 (2½"–12")
with or without O-ring groove

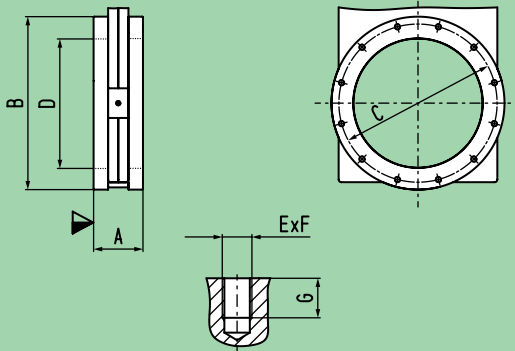
For orders with O-ring groove specify:
«A», «B» or «A+B»



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 × ⅜" 16 UNC	4 × ⅜" 16 UNC	8 × ⅜" 16 UNC	8 × ⅜" 16 UNC	8 × ¼" 10 UNC	8 × ¼" 10 UNC	12 × ¼" 10 UNC
G	mm inch	13 0.51	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

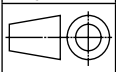
JIS B 2290: 1998 / ISO 1609

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	70 2.76	80 3.15	100 3.94
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