Main applications

Isolation valve for extremely particle and shock sensitive vacuum systems

Ordering information

Series 15.0
Vacuum valve with pneumatic actuator
double acting
with solenoid valve
with position indicator

DN		Ordering numbers (specify control voltage)		
mm	inch	ISO-F	ASA-LP	JIS
63	2½	15036-PA44	15036-TA44	15036-JA44
100	4	15040-PA44	15040-TA44	15040-JA44
160	6	15044-PA44	15044-TA44	15044-JA44

without solenoid valve, without position indicator: 150 . . - . A**1**4
without solenoid valve, with position indicator: 150 . . - . A**2**4
with solenoid valve, without position indicator: 150 . . - . A**3**4 (specify control voltage)

Series 15.1
HV valve with pneumatic actuator
double acting
with solenoid valve
with position indicator

DN		Ordering numbers (specify control voltage)		
mm	inch	ISO-F	ASA-LP	JIS
63	2½	15136-PA44	15136-TA44	15136-JA44
100	4	15140-PA44	15140-TA44	15140-JA44
160	6	15144-PA44	15144-TA44	15144-JA44

without solenoid valve, without position indicator: 151 . . - . A**1**4
without solenoid valve, with position indicator: 151 . . - . A**2**4
with solenoid valve, without position indicator: 151 . . - . A**3**4 (specify control voltage)

Series 15.2
UHV 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	2½	15236-PE44	15236-CE44	15236-UE44	15236-TE44	15236-JE44
100	4	15240-PE44	15240-CE44	15240-UE44	15240-TE44	15240-JE44
160	6	15244-PE44	15244-CE44	15244-UE44	15244-TE44	15244-JE44
200	8	15246-PE44	15246-CE44	15246-UE44	15246-TE44	15246-JE44
250	10	15248-PE44	15248-CE44	15248-UE44	15248-TE44	15248-JE44

without solenoid valve, without position indicator: 152 . . - . E**1**4
without solenoid valve, with position indicator: 152 . . - . E**2**4
with solenoid valve, without position indicator: 152 . . - . E**3**4 (specify control voltage)

Features

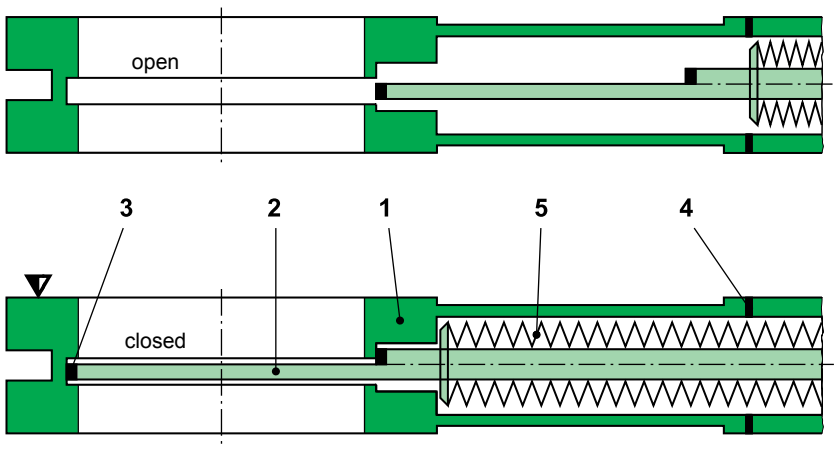
Body material:
Series 15.0, 15.1: aluminum
Series 15.2: stainless steel

Long lifetime

Very small installation dimension

Vulcanized seal (no dead volumes at the gate seal): see glossary

Functional principle



1 Valve body
2 Gate
3 Gate seal
4 Bonnet seal
5 Bellows
▽ Valve seat side

Technical data

Leak rate	
– Valve body	
- Series 15.0, 15.1	$<1\cdot10^{-9}$ mbar ls^{-1}
- Series 15.2	$<5\cdot10^{-10}$ mbar ls^{-1}
– Valve seat	$<1\cdot10^{-9}$ mbar ls^{-1}
Pressure range	
– Series 15.0	$1\cdot10^{-7}$ mbar to 1 bar (abs)
– Series 15.1	$1\cdot10^{-8}$ mbar to 1 bar (abs)
– Series 15.2	$1\cdot10^{-10}$ mbar to 1 bar (abs)
Differential pressure on the gate	≤1.2 bar
Differential pressure at opening	≤30 mbar
Cycles until first service [1]	500000
Temperature [2]	
– Valve body	
- Series 15.0, 15.1	≤120 °C [3]
- Series 15.2 DN 63–200	≤250 °C open / ≤200 °C closed
- Series 15.2 DN 250	≤120 °C [3]
– Actuator	
- Series 15.0, 15.1	≤100 °C
- Series 15.2 DN 63–160	≤200 °C
- Series 15.2 DN 200–250	≤100 °C [3]
– Solenoid valve	≤ 50 °C
– Position indicator	≤ 80 °C
Heating and cooling rate	
– Series 15.0, 15.1	≤30 °C h^{-1}
– Series 15.2	≤50 °C h^{-1}

[1] Higher number of cycles on request

[2] Maximum values: depending on operating conditions and sealing materials

[3] Higher temperatures on request

Further technical data on next page

Continued Technical data

Material
- Valve body
  - Series 15.0, 15.1: EN AW-6082 (3.2315)
  - Series 15.2: AISI 304 (1.4301)
- Gate
  - Series 15.0, 15.1: EN AW-6082 (3.2315)
  - Series 15.2 DN 63–200: AISI 304 (1.4301)
  - Series 15.2 DN 250: EN AW-6082 (3.2315)
- Bellows: AISI 633 (AM350)

Seal
- Bonnet
  - Series 15.0, 15.1: FKM (Viton®)
  - Series 15.2: metal
- Gate: FKM (Viton®)

Feedthrough
- Series 15.0: shaft feedthrough
- Series 15.1, 15.2: bellows

Mounting position: any

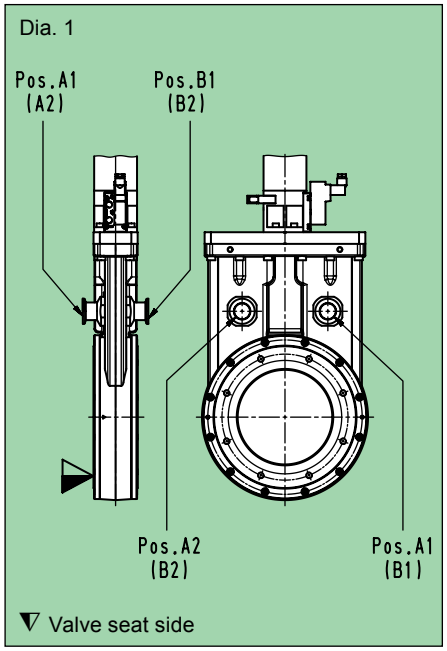
Solenoid valve: 24 V DC, 5.4 W (others on request)

Position indicator: contact rating
- Voltage: ≤ 250 V AC ≤ 50 V DC
- Current: ≤ 2 A ≤ 1.2 A

Valve position indication: visual (mechanical)

DN (nominal I.D.)		Standard flanges	Conductance (molecular flow) (depending on A-dimension and flange type)		Compressed air min. – max. overpressure		Volume of pneumatic actuator		Closing or opening time		Weight					
			15.0 15.1	15.2					15.0 15.1	15.2	15.0		15.1		15.2	
mm	inch		ls^{-1}	ls^{-1}	bar	psi	l	ft^3	s	s	kg	lbs	kg	lbs	kg	lbs
63	2 ½	See pages 78 – 79	480	480	4 – 7	58 – 102	0.22	0.008	1.5	1.5	6.9	15.1	7.7	16.9	7.8	17.2
100	4		1700	1700	4 – 7	58 – 102	0.32	0.011	2.8	2.8	8.6	19	10.2	22.5	11.6	25.6
160	6		6000	6000	4 – 7	58 – 102	0.46	0.016	3.1	3.1	11.8	26	14	30.9	17	37.5
200	8		–	12000	4 – 7	58 – 102	1.08	0.038	–	6	–	–	–	–	34.2	75.4
250	10		–	19400	5 – 7	73 – 102	2.10	0.074	–	7	–	–	–	–	60	132.3

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 V DC)

– Double position indicator
(2 switches each for the positions «open» and «closed»)

– Bakeable position indicator: bakeable to max. 140 °C

Valve

– Customer specified flanges

– Other sealing materials

– Ports for roughing (by-pass), venting or for gauges (Dia. 1),
possible in positions A1, A2, B1 and B2

– Special gate for the installation of various windows and foils

Ordering information for options:
Ordering No. of valve-X (e. g. 15246-CE44-X, X = port CF-F 40 in position A1)

Spare parts

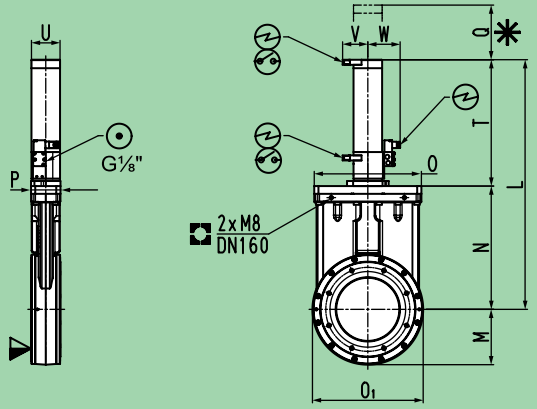
– **Seals**
on request (specify fabrication number of valve)

Accessories

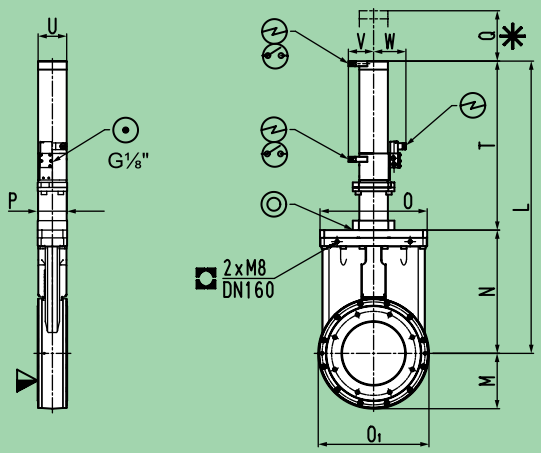
– **Flange connections**
for installation of the valve: see series 32 and 33

Main dimensions

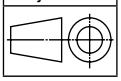
Series 15.0
Vacuum valve with pneumatic actuator: double acting
DN 63–160 (2½"–6")



Series 15.1
HV valve with pneumatic actuator: double acting
DN 63–160 (2½"–6")



Projection E



- Valve seat side
- Required for dismantling
- Compressed air connection
- Electrical connection
- Position indicator
- Leak detection hole
- For attachment

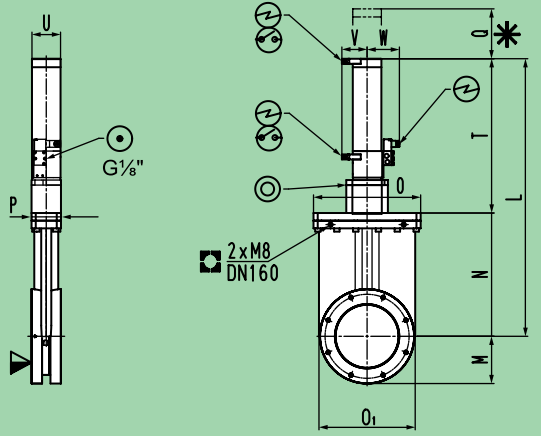
Flange dimensions: see pages 78–79

DN	mm / inch	63 / 2½	100 / 4	160 / 6
L	mm	385	472	595
	inch	15.16	18.58	23.43
M	mm	87	107	132
	inch	3.43	4.21	5.20
N	mm	169	221	294
	inch	6.65	8.70	11.57
O	mm	155	195	255
	inch	6.10	7.68	10.04
O1	mm	174	214	264
	inch	6.85	8.43	10.39
P	mm	70	70	70
	inch	2.76	2.76	2.76
Q	mm	110	145	195
	inch	4.33	5.71	7.68
T	mm	216	251	301
	inch	8.50	9.88	11.85
U	mm	68	68	68
	inch	2.68	2.68	2.68
V	mm	60	60	60
	inch	2.36	2.36	2.36
W	mm	75	75	75
	inch	2.95	2.95	2.95

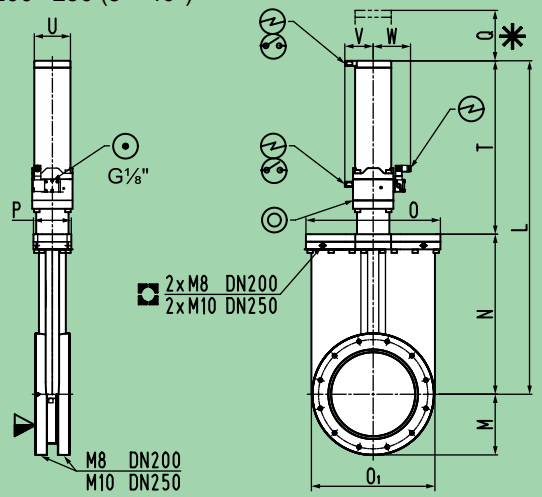
DN	mm / inch	63 / 2½	100 / 4	160 / 6
L	mm	443	553	700
	inch	17.44	21.77	27.56
M	mm	87	107	132
	inch	3.43	4.21	5.20
N	mm	169	221	294
	inch	6.65	8.70	11.57
O	mm	155	195	255
	inch	6.10	7.68	10.04
O1	mm	174	214	264
	inch	6.85	8.43	10.39
P	mm	70	70	70
	inch	2.76	2.76	2.76
Q	mm	110	145	195
	inch	4.33	5.71	7.68
T	mm	274	332	406
	inch	10.79	13.07	15.98
U	mm	68	68	68
	inch	2.68	2.68	2.68
V	mm	60	60	60
	inch	2.36	2.36	2.36
W	mm	75	75	75
	inch	2.95	2.95	2.95

Main dimensions

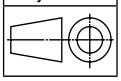
Series 15.2
UHV valve with pneumatic actuator: double acting
DN 63–160 (2½"–6")



Series 15.2
UHV valve with pneumatic actuator: double acting
DN 200–250 (8"–10")



Projection E



▼ Valve seat side
✳ Required for dismantling
⊙ Compressed air connection
⊖ Electrical connection
◔ Position indicator
◎ Leak detection hole
◘ For attachment

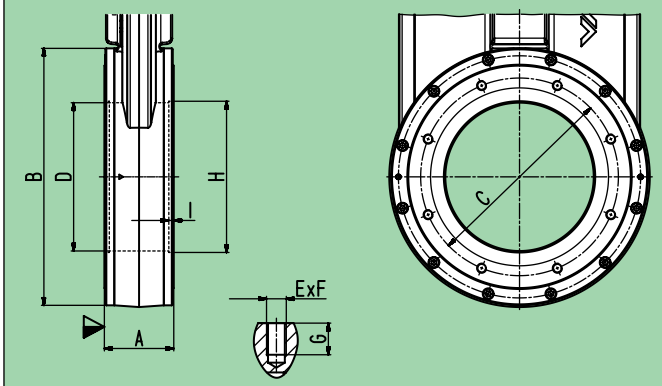
Flange dimensions: see pages 78–79

DN	mm / inch	63 / 2½	100 / 4	160 / 6
L	mm	415	517	661
	inch	16.34	20.35	26.02
M	mm	67.50	87.50	112.50
	inch	2.66	3.44	4.43
N	mm	169	221	294
	inch	6.65	8.70	11.57
O	mm	155	195	255
	inch	6.10	7.68	10.04
O1	mm	139	179	229
	inch	5.47	7.05	9.02
P	mm	70	70	70
	inch	2.76	2.76	2.76
Q	mm	110	145	195
	inch	4.33	5.71	7.68
T	mm	246	296	367
	inch	9.69	11.65	14.45
U	mm	68	68	68
	inch	2.68	2.68	2.68
V	mm	60	60	60
	inch	2.36	2.36	2.36
W	mm	75	75	75
	inch	2.95	2.95	2.95

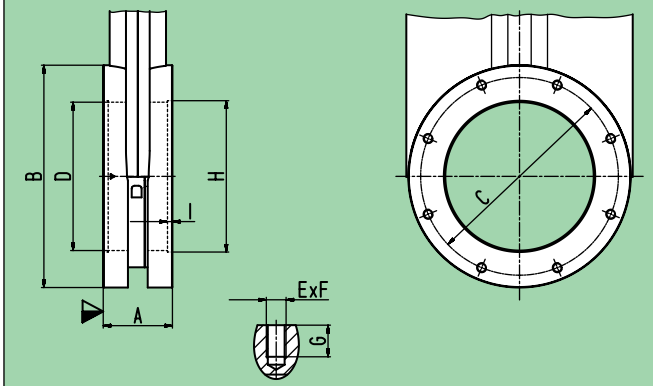
DN	mm / inch	200 / 8	250 / 10	
L	mm	795	943	
	inch	31.30	37.13	
M	mm	144.50	176.50	
	inch	5.69	6.95	
N	mm	382	482	
	inch	15.04	18.98	
O	mm	320	391	
	inch	12.60	15.39	
O1	mm	294	360	
	inch	11.57	14.17	
P	mm	96	99	
	inch	3.78	3.90	
Q	mm	255	330	
	inch	10.04	12.99	
T	mm	413	461	
	inch	16.26	18.15	
U	mm	86	106	
	inch	3.39	4.17	
V	mm	67	75	
	inch	2.64	2.95	
W	mm	90	93.50	
	inch	3.54	3.68	

Flange dimensions

ISO-F
Series 15.0, 15.1: DN 63–160 (2½"–6")



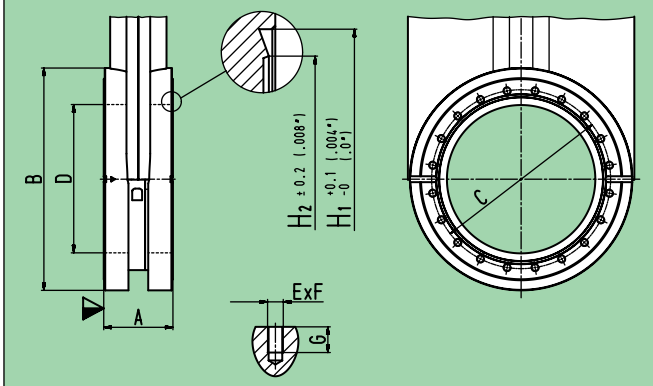
Series 15.2: DN 63–250 (2½"–10")



DN		63	100	160	200	250
	inch	2½	4	6	8	10
A	mm	70	70	70	80	100
	inch	2.76	2.76	2.76	3.15	3.94
B [1]	mm	170	210	260	–	–
	inch	6.69	8.27	10.24		
B [2]	mm	135	175	225	290	354
	inch	5.31	6.89	8.86	11.42	13.94
C	mm	110	145	200	260	310
	inch	4.33	5.71	7.87	10.24	12.20
D	mm	65	100	150	200	250
	inch	2.56	3.94	5.91	7.87	9.84
E × F		4 × M8	8 × M8	8 × M10	12 × M10	12 × M10
G	mm	12	12	15	15	15
	inch	0.47	0.47	0.59	0.59	0.59
H	mm	70	102	153	213	261
	inch	2.76	4.02	6.02	8.39	10.28
I	mm	5	5	5	5	5
	inch	0.20	0.20	0.20	0.20	0.20

[1] Series 15.0, 15.1
[2] Series 15.2

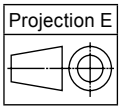
CF-F
Series 15.2: DN 63–250 (2½"–10")



DN		63	100	160	200	250
	inch	2½	4	6	8	10
O.D.	inch	4½	6	8	10	12
A	mm	70	70	70	80	100
	inch	2.76	2.76	2.76	3.15	3.94
B	mm	135	175	225	290	354
	inch	5.31	6.89	8.86	11.42	13.94
C	mm	92.10	130.30	181	231.80	284
	inch	3.63	5.13	7.13	9.13	11.18
D	mm	65	100	150	200	250
	inch	2.56	3.94	5.91	7.87	9.84
E × F [1]		8 × M8	16 × M8	20 × M8	24 × M8	32 × M8
E × F [2]		8 × 5/16" 24 UNF	16 × 5/16" 24 UNF	20 × 5/16" 24 UNF	24 × 5/16" 24 UNF	32 × 5/16" 24 UNF
G	mm	12	12	12	12	12
	inch	0.47	0.47	0.47	0.47	0.47
H1	mm	82.50	120.65	171.45	222.30	273.15
	inch	3.25	4.75	6.75	8.75	10.75
H2	mm	77.40	115.50	166	217	267
	inch	3.05	4.55	6.54	8.54	10.51

[1] Metric threads
[2] UNF threads

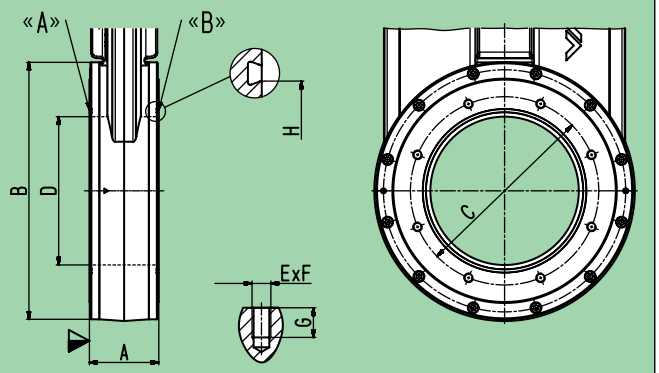
Projection E



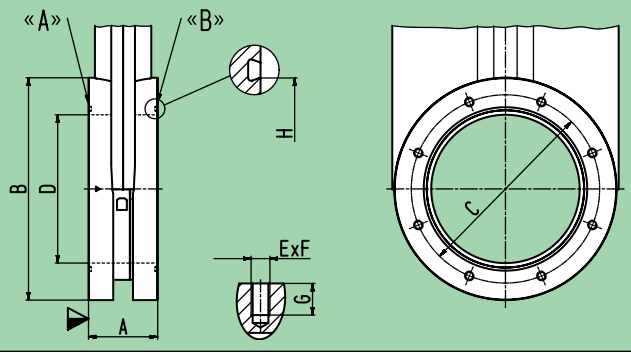
Valve seat side

Flange dimensions

ASA-LP *)
Series 15.0, 15.1: DN 63–160 (2½"–6")



Series 15.2: DN 63–250 (2½"–10")



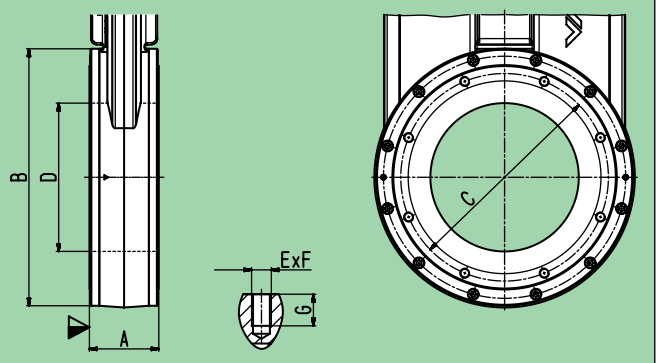
*) **ASA-LP**
with or without O-ring groove

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

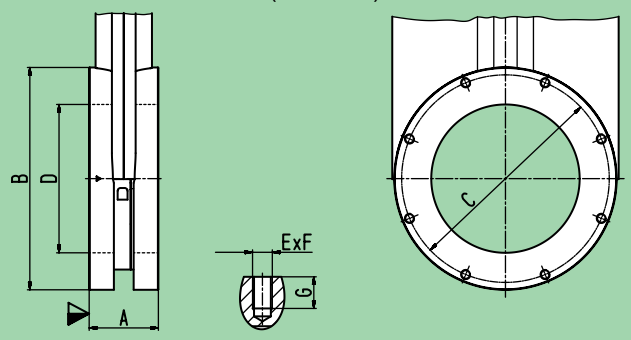
DN	mm / inch	63 / 2½	100 / 4	160 / 6	200 / 8	250 / 10
ASA-LP		2	3	4	6	8
A	mm	70	70	70	80	100
	inch	2.76	2.76	2.76	3.15	3.94
B [1]	mm	170	210	260	–	–
	inch	6.69	8.27	10.24		
B [2]	mm	135	175	225	290	354
	inch	5.31	6.89	8.86	11.41	13.94
C	mm	120.70	152.40	190.50	241.30	298.50
	inch	4.75	6.00	7.50	9.50	11.75
D	mm	65	100	150	200	250
	inch	2.56	3.94	5.91	7.87	9.84
E × F		4 × ⅜" 16 UNC	4 × ⅜" 16 UNC	8 × ⅜" 16 UNC	8 × ¾" 10 UNC	8 × ¾" 10 UNC
G	mm	15	15	15	19	19
	inch	0.59	0.59	0.59	0.75	0.75
H	mm	88.90	120.65	158.75	206.40	266.70
	inch	3.50	4.75	6.25	8.13	10.50
O-ring I.D. × d	mm	88.49 × 3.53	120.24 × 3.53	158.34 × 3.53	202.79 × 3.53	266.29 × 3.53
	inch	3.48 × 0.139	4.73 × 0.139	6.23 × 0.139	7.98 × .139	10.48 × .139

[1] Series 15.0, 15.1
[2] Series 15.2

JIS B 2290: 1998 / ISO 1609
Series 15.0, 15.1: DN 65–150 (2½"–6")



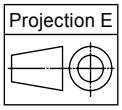
Series 15.2: DN 65–250 (2½"–10")



DN	mm / inch	65 / 2½	100 / 4	150 / 6	200 / 8	250 / 10
A	mm	70	70	70	80	100
	inch	2.76	2.76	2.76	3.15	3.94
B [1]	mm	170	210	260	–	–
	inch	6.69	8.27	10.24	–	–
B [2]	mm	135	175	225	290	354
	inch	5.31	6.89	8.86	11.42	13.94
C	mm	120	160	210	270	320
	inch	4.72	6.30	8.27	10.63	12.60
D	mm	65	100	150	200	250
	inch	2.56	3.94	5.91	7.87	9.84
E × F		4 × M10	8 × M10	8 × M10	8 × M12	12 × M12
G [1]	mm	12	12	15	–	–
	inch	0.47	0.47	0.59	–	–
G [2]	mm	15	15	15	16	16
	inch	0.59	0.59	0.59	0.63	0.63

[1] Series 15.0, 15.1
[2] Series 15.2

Projection E



▽ Valve seat side