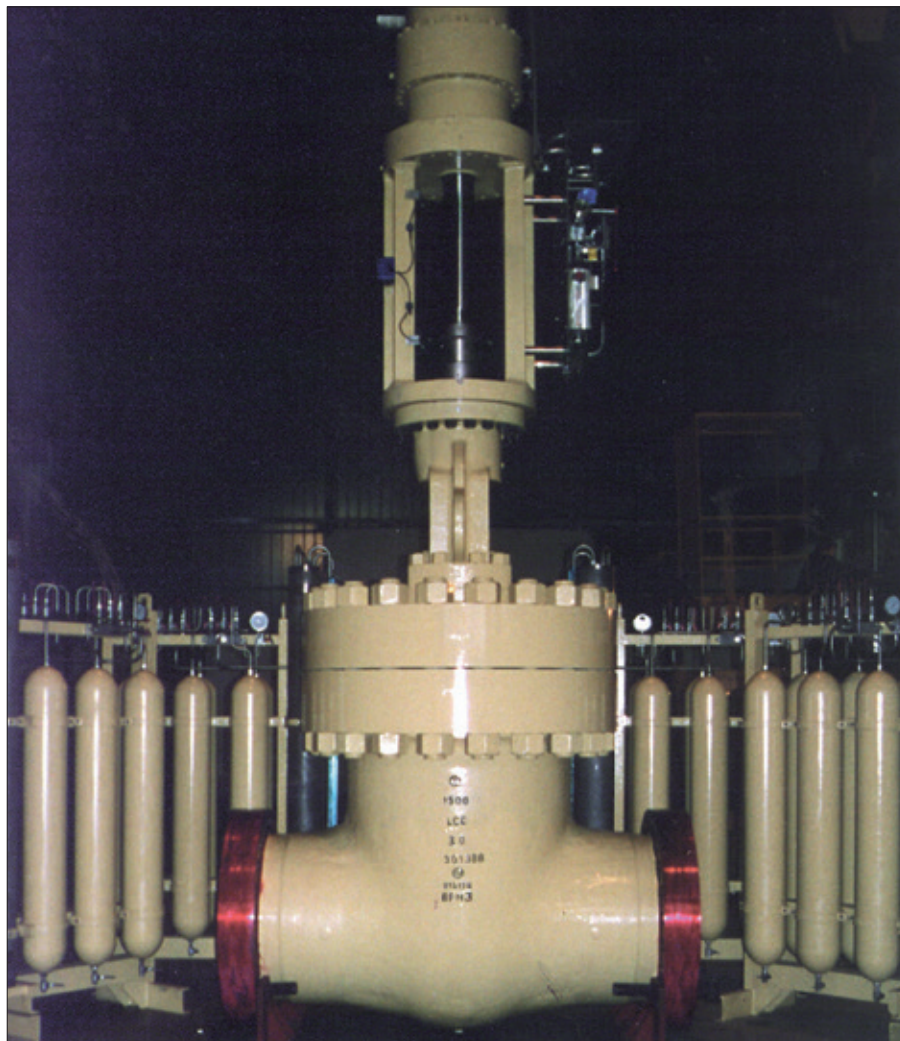


RAIMONDI

The bolted bonnet configuration achieves simultaneously the best performance and the highest safety.

Features

- A rugged body and bonnet design in accordance with API 600, ASME B16.34 and BS 1414. Tight shutoff performance is always guaranteed by API 598 testing.
- High C_v values, minimum turbulence and resistance to flow.
- Valve bodies are produced in various materials and suit NACE requirements.
- Flexible wedges as standard.
- Seat rings are standard available as threaded or welded-in type. Above 24" seats are seal welded as standard.
- Body bonnet gaskets are available as flat, spiral wound and ring joint types, in relation to pressure class.
- Flanged, butt weld or special connections can be manufactured.



Technical data

Pressure ratings	: from ASME# 150 to 2500
Body materials	: carbon, alloy and stainless steels, duplex steels, special alloys
Temperature (°C)	: -60 to + 650
Sizes (mm)	: from 50 to 1500

Connection standards

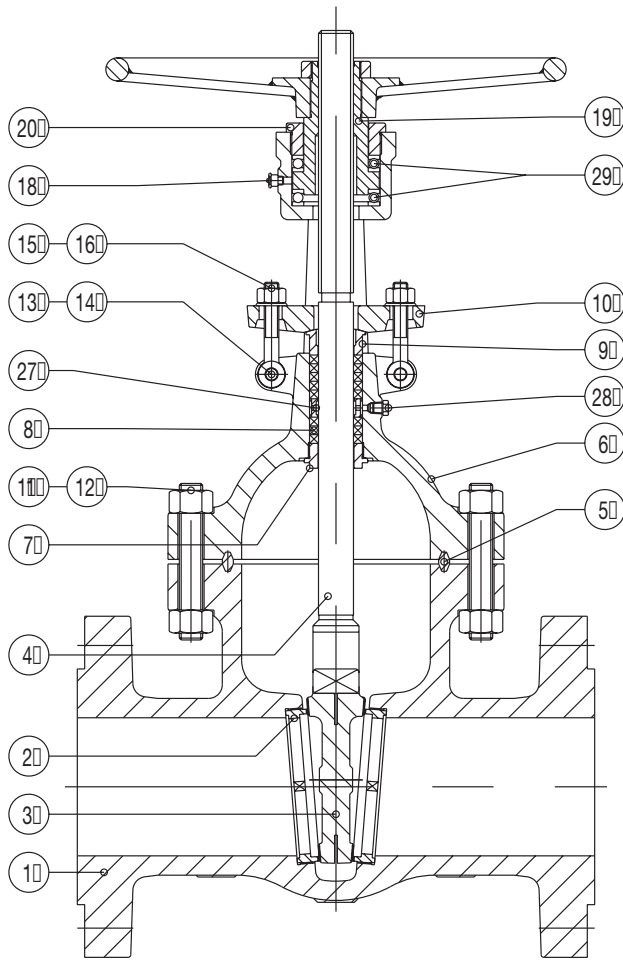
Flanges	: ASME B16.5 and B16.47, API 605, MSS-SP 44
Buttweld	: ASME B16.25

General application

The valves are typically suitable for any on-off services. These valves are used in: Oil and Gas refining/processing, Chemical and Petrochemical applications, Onshore and Offshore plants, Gas transportation and storage. The Power industry is one of the major markets for Raimondi and large numbers of valves have been installed worldwide.

Gate Valves

bolted bonnet configuration



Notes

1. Other materials are available on request. Please consult Supplier.
2. The item 5 (gasket) is supplied in different versions.
Cl. 150: flat gasket in reinforced graphite.
Cl. 300: spiral wound gasket in 316/graphite.
All remaining classes: RTJ in the materials indicated in the B.O.M.
3. The sectional drawing here represented refers to Cl. 600 and larger.
4. Upon request only.

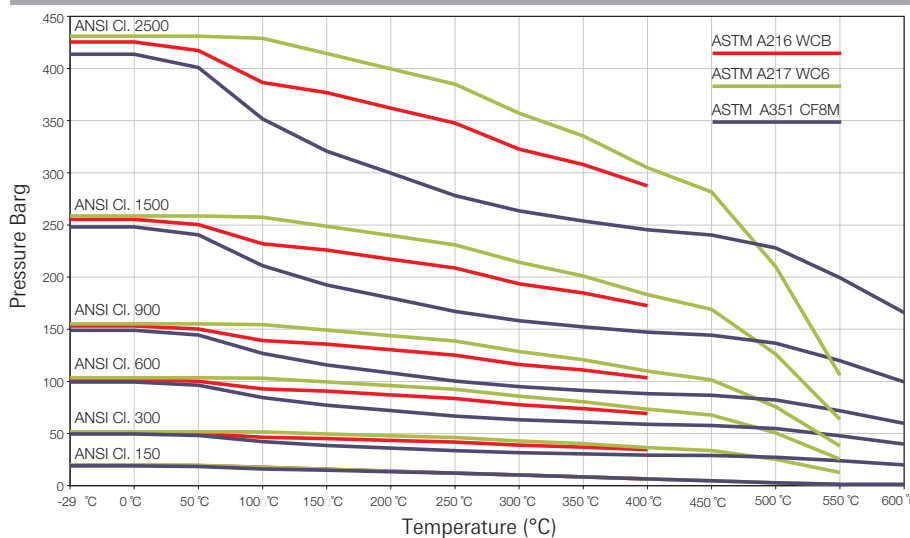
Material selection

Item	Description	Body in WCB	Body in WC6	Body in CF8M
1	Body	A216 WCB	A217 WC6	A351 CF8M
2	Seat Ring	A105 + AWS ER 430	A182 F22 + AWS ER 430	A182 F316
3	Gate	A216 WCB + AWS ER 430	A217 WC6 + AWS ER 430	A351 CF8M
4	Stem	A182 F6a	A182 F6a	A182 F316
5	Gasket	Soft Iron	A182 F5	A182 F316
6	Bonnet	A216 WCB	A217 WC6	A351 CF8M
7	Backseat	A182 F6a	A182 F6a	A182 F316
8	Packing	Flexible graphite inner rings and suitable anti-extrusion rings		
9	Gland	A182 F6a	A182 F6a	A182 F316
10	Gland Flange	A105 or A516 gr. 70	A105 or A516 gr. 70	A182 F316 or A240 Tp. 316
11	Body - Bonnet Bolt	A193 B7	A193 B16	A193 B8M
12	Body - Bonnet Nut	A194 2H	A194 4	A194 8
13	Lug Bolt	A193 B7	A193 B7	A193 B8
14	Lug Nut	A194 2H	A194 2H	A194 8
15	Gland Bolt	A193 B7	A193 B7	A193 B8
16	Gland Nut	A194 2H	A194 2H	A194 8
18	Lubricator	Steel	Steel	Steel
19	Yoke Sleeve	A763 gr. A	A763 gr. A	A763 gr. A
20	Yoke Nut Bushing	A105	A105	A105
27	Lantern (4)	A182 F6a	A182 F6a	A182 F316
28	Drain Plug (4)	Steel	Steel	Stainless Steel
29	Bearings	Steel	Steel	Steel

Notes

All Raimondi valves are rated fully in accordance with ASME B16.34. The table here represented indicates the pressure/temperature rating values as per ASME B16.34-1996.

Pressure/temperature ratings in Barg/Psig (ASME B16.34)



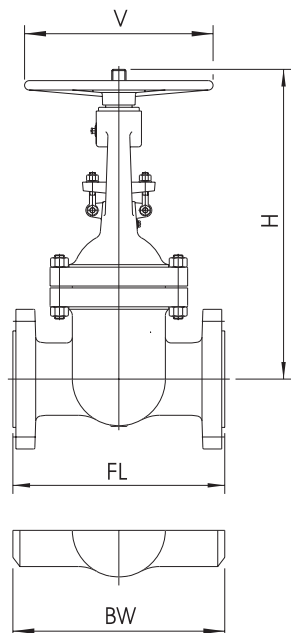
Trim

Trim No	Nominal Trim Symbol	Seal surfaces	Material Type				Small internal parts	Service
			Disc/Wedge surfaces	Stem Hinge pin	Backseat			
1	CR13	13% Cr	13% Cr	13% Cr	13% Cr	13% Cr	General erosive or non-corrosive service between -100°C and 400°C	
2	18-8	304	304	304	304	304	For moderate pressure in non-erosive. Corrosive service between -265°C and 320°C	
3	25-20	310	310	310	310	310	For moderate pressure in corrosive or non corrosive service. Between -265°C and 450°C	
4	SH	Hard 13% Cr	Hard 13% Cr	13% Cr	13% Cr	13% Cr	As trim No 1 but for medium pressure	
5	HF	Co-Cr A	Co-Cr A	13% Cr	13% Cr	13% Cr	High pressure slightly erosive and corrosive service between -265°C and 650°C	
5A	HFNi	Ni-Cr	Ni-Cr	13% Cr	13% Cr	13% Cr	As trim No 5 where Co is not allowed	
6	CR13 Ni-Cu	Ni-Cu	13% Cr	13% Cr	13% Cr	13% Cr	As trim No 1	
7	CR13 SH	Hard 13% Cr	13% Cr	13% Cr	13% Cr	13% Cr	As trim No 1 but for moderate pressure	
8	CR13 HF	Co-Cr A	13% Cr	13% Cr	13% Cr	13% Cr	As trim No 5 for moderate pressure	
8A	CR13 HFNi	Ni-Cr	13% Cr	13% Cr	13% Cr	13% Cr	As trim No 5A for moderate pressure	
9	Ni-Cu	Ni-Cu	Ni-Cu	Ni-Cu	Ni-Cu	Ni-Cu	Very corrosive fluids. Erosive-corrosive service between -240°C and 480°C	
10	18-8SMO	316	316	316	316	316	As trim No 2	
11	Ni-Cu HF	Co-Cr A	Ni-Cu	Ni-Cu	Ni-Cu	Ni-Cu	As trim No 9 but for medium pressure	
12	18-8SMO HF	Co-Cr A	316	316	316	316	As trim No 10 but for medium pressure	
13	Alloy 20	19Cr-29Ni	19Cr-29Ni	19Cr-29Ni	19Cr-29Ni	19Cr-29Ni	Very corrosive service. For moderate pressure between -45°C and 320°C	
14	Alloy 20 HF	Co-Cr A	19Cr-29Ni	19Cr-29Ni	19Cr-29Ni	19Cr-29Ni	As trim No 13 but for medium pressure	

Co-Cr A is equivalent to Stellite 6

Gate Valves

bolted bonnet configuration



Notes

1. All dimensions are in mm.
2. Gate valves in sizes and classes larger than mentioned here are available. Please consult supplier for more information.
3. Dim. H corresponds to the height of valve in open position.
4. BGO stands for "Bevel Gear Operator".
5. W1 corresponds to weight in kilos for flanged body style. For sizes larger than 24", weight depends on flange standards.
6. W2 corresponds to weight in kilos for welding body style.

ASME class 150 (Fig. 3005)

Size mm inch	FL	BW	H	V	W1	W2
50 2	178	216	395	200	18	15
65 2½	191	242	475	250	25	23
80 3	203	283	520	250	35	30
100 4	229	305	650	250	50	40
125 5	254	381	740	300	70	60
150 6	267	403	830	300	80	70
200 8	292	419	1065	400	135	120
250 10	330	457	1260	450	185	165
300 12	356	502	1475	500	280	255
350 14	381	572	1640	575	395	350
400 16	407	610	1960	BGO	530	500
450 18	432	660	2130	BGO	670	650
500 20	457	711	2460	BGO	775	750
550 22	-	762	2600	BGO	-	950
600 24	508	813	2755	BGO	1150	1010
650 26	559	559	2935	BGO	*	1400
700 28	610	610	3135	BGO	*	1500
750 30	610	610	3400	BGO	*	1770
800 32	660	660	3480	BGO	*	2050
850 34	711	711	3950	BGO	*	2410
900 36	711	711	4055	BGO	*	2940
950 38	-	-	-	BGO	*	-
1000 40	762	762	4355	BGO	*	3710
1050 42	813	813	4700	BGO	*	4200
1100 44	-	-	-	BGO	*	-
1150 46	-	-	-	BGO	*	-
1200 48	914	914	5090	BGO	*	5600

ASME class 300 (Fig. 3010)

FL	BW	H	V	W1	W2
216	216	415	200	25	20
242	242	490	250	33	28
283	283	540	250	50	40
305	305	675	300	80	60
381	381	830	400	120	105
403	403	920	400	140	115
419	419	1140	450	230	170
457	457	1320	575	315	260
502	502	1580	BGO	505	425
762	762	1920	BGO	765	650
838	838	2085	BGO	1005	870
914	914	2460	BGO	1205	1090
991	991	2635	BGO	1685	1545
-	1093	2760	BGO	-	1740
1143	1143	2895	BGO	2400	2085
1245	1245	3100	BGO	*	2540
1346	1346	3290	BGO	*	2980
1397	1397	3520	BGO	*	3675
1524	1524	3700	BGO	*	4100
1626	1626	3950	BGO	*	5440
1727	1727	4205	BGO	*	6320
-	-	-	BGO	*	-
1930	1930	4530	BGO	*	8400
1981	1981	4685	BGO	*	9450
-	-	-	BGO	*	-
-	-	-	BGO	*	-
2235	2235	5195	BGO	*	12150

ASME class 600 (Fig. 3011)

FL	BW	H	V	W1	W2
292	292	455	250	33	25
330	330	570	250	55	45
356	356	610	300	60	55
432	432	715	350	115	90
508	508	870	450	155	120
559	559	995	500	245	180
660	660	1215	575	420	355
788	788	1510	750	725	590
838	838	1720	750	945	820
889	889	1970	BGO	1210	1150
991	991	2040	BGO	1765	1550
1092	1092	2120	BGO	1970	1750
1194	1194	2185	BGO	2420	2075
-	1296	2570	BGO	-	2835
1397	1397	2715	BGO	3720	3400
1448	1448	2960	BGO	*	4200
1549	1549	3260	BGO	*	5000
1651	1651	3550	BGO	*	5800
1778	1778	3700	BGO	*	6770
1930	1930	3845	BGO	*	7740
2083	2083	3990	BGO	*	8700
-	-	-	BGO	*	-
2286	2286	4490	BGO	*	11750
2438	2438	4735	BGO	*	13250
-	-	-	BGO	*	-
-	-	-	BGO	*	-
2540	2540	4900	BGO	*	17400

ASME class 900 (Fig. 3012)

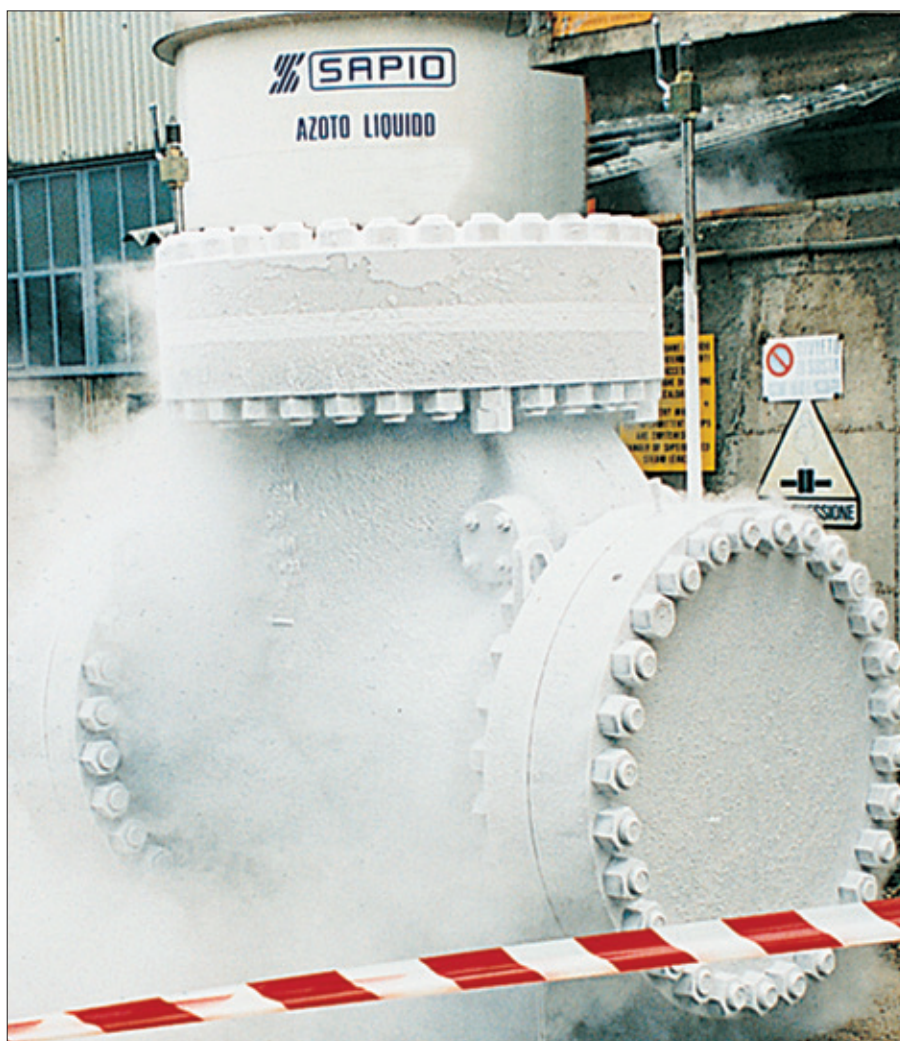
Size mm inch	FL	BW	H	V	W1	W2
50 2	-	-	-	-	-	-
65 2½	-	-	-	-	-	-
80 3	381	381	650	400	130	110
100 4	458	458	780	500	210	180
125 5	-	-	-	-	-	-
150 6	610	610	1055	575	380	295
200 8	737	737	1295	750	635	515
250 10	838	838	1520	750	1035	870
300 12	965	965	1740	BGO	1395	1180
350 14	1029	1029	1910	BGO	1780	1565
400 16	1130	1130	1950	BGO	2165	1915
450 18	1219	1219	2150	BGO	3200	2340
500 20	1321	1321	2345	BGO	3540	2740
550 22	-	-	-	BGO	-	-
600 24	1550	1550	2880	BGO	5760	4810

ASME class 1500 (Fig. 3013)

FL	BW	H	V	W1	W2
368	368	570	350	70	60
419	419	665	350	135	110
470	470	740	500	160	125
546	546	790	575	265	215
-	-	-	-	-	-
705	705	1170	650	560	500
832	832	1380	750	1040	820
991	991	1510	900	1650	1370
1130	1130	1820	BGO	2485	2050
1257	1257	1980	BGO	3100	2650
1384	1384	2100	BGO	3705	3050
1537	1537	2300	BGO	5085	4150
1664	1664	2580	BGO	6400	5100
-	-	-	BGO	-	-
1943	1943	2850	BGO	10300	8670

ASME class 2500 (Fig. 3014)

FL	BW	H	V	W1	W2
451	451	590	400	150	115
508	508	685	400	230	170
578	578	720	500	260	200
673	673	865	575	400	330
-	-	-	-	-	-
914	914	1140	750	930	680
1022	1022	1270	900	1505	1150
1270	1270	1560	BGO	2800	2100
1422	1422	1660	BGO	3480	2600
-	-	-	BGO	-	-
-	-	-	BGO	-	-
-	-	-	BGO	-	-
-	-	-	BGO	-	-
-	-	-	BGO	-	-



Features

- The range of cryogenic valves is designed in accordance with the requirements of API 600, ASME B16.34 and BS 6364.
- Extended bonnet design to prevent ice presence in the packing area.
- The body cavity pressure is equalized to the up-stream pressure by means of a bleed hole present in the gate.
- Valve body materials are carefully selected to face the severe conditions of extremely low temperatures: CF8M, CF8 and other very low temperature steels on request.
- In-house testing in accordance with BS 6364 and with the severe requirements of all major oil and gas cryogenic test procedures.
- Double flanged or other special end connections are manufactured.
- Seats are welded in.

Technical data

Pressure ratings	: from ASME# 150 to 900
Body materials	: CF8M, CF8, and other low temperature steels
Temperature (°C)	: down to -254
Sizes (mm)	: 50 to 600 and larger

General application

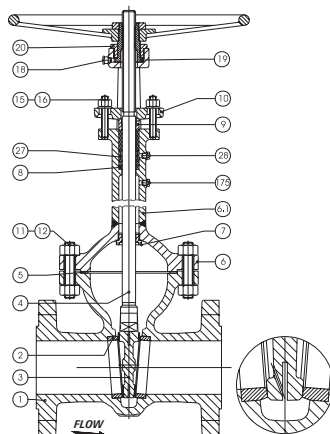
The Raimondi cryogenic valves are widely installed on applications involving media at extremely low temperatures, such as the production, storage and transportation of liquefied natural gas, hydrogen, oxygen, etc.

Connection standards

Flanges	: ASME B16.5
Buttweld	: ASME B16.25

Gate Valves

cryogenic configuration



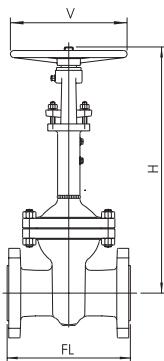
Material selection

Item	Description	Body in CF8	Body in CF8M
1	Body	A351 CF8	A351 CF8M
2	Seat Ring	A182 F316 + Stellite	A182 F316 + Stellite
3	Gate	A351 CF8 + Stellite	A351 CF8M + Stellite
4	Stem	A182 F304	A182 F316
5	Gasket	Spiral wound 316/Graphite	Spiral wound 316/Graphite
6	Bonnet	A351 CF8	A351 CF8M
6.1	Extension Bonnet	A182 F304	A182 F316
7	Backseat	A182 F304	A182 F316
8	Packing	Flexible graphite inner rings and suitable anti-extrusion rings	
9	Gland	A182 F304	A182 F316
10	Gland Flange	A182 F316 or A240 Tp. 316	A182 F316 or A240 Tp. 316
11	Body - Bonnet Bolt	A320 B8	A320 B8M
12	Body - Bonnet Nut	A194 8	A194 8
15	Gland Bolt	A193 B8	A193 B8
16	Gland Nut	A194 8	A194 8
18	Lubricator	Steel	Steel
19	Yoke Sleeve	A763 gr. A	A763 gr. A
20	Yoke Nut Bushing	A105	A105
27	Lantern (*)	A182 F304	A182 F316
28	Drain Plug (*)	Stainless Steel	Stainless Steel
175	Relief plug	Stainless Steel	Stainless Steel

Note (*): upon request only.

Notes

- All dimensions are in mm.
- Gate Cryogenic valves in sizes and classes larger than mentioned here are available. Please consult supplier for more information.
- Dim. H corresponds to the height of valve in open position.
- BGO stands for "Bevel Gear Operator".
- "W" corresponds to weight in kilos (flanged body style).



ASME class 150 (Fig. 3005)						ASME class 300 (Fig. 3010)				ASME class 600 (Fig. 3011)				ASME class 900 (Fig. 3012)			
mm	Size inch	FL	H	V	W	FL	H	V	W	FL	H	V	W	FL	H	V	W
50	2	178	895	400	22	216	915	400	28	292	955	500	42	-	-	-	-
65	2 1/2	191	925	400	33	242	940	400	40	-	-	-	-	-	-	-	-
80	3	203	1020	400	40	283	1040	500	55	356	1110	600	70	381	700	700	140
100	4	229	1150	500	60	305	1175	600	85	432	1215	700	130	458	820	800	225
125	5	-	-	-	-	-	-	-	-	-	-	BGO	-	-	-	BGO	-
150	6	267	1280	600	90	403	1370	700	150	559	1445	BGO	270	610	1545	BGO	405
200	8	292	1565	700	145	419	1640	800	240	660	1765	BGO	480	737	1795	BGO	685
250	10	330	1760	800	205	457	1820	BGO	335	788	2150	BGO	790	838	2020	BGO	1100
300	12	356	1975	BGO	305	502	2130	BGO	525	838	2345	BGO	1025	965	2240	BGO	1475
350	14	381	2375	BGO	445	762	2470	BGO	790	889	2565	BGO	1290	1029	2510	BGO	1860
400	16	407	2510	BGO	560	838	2635	BGO	1035	991	2820	BGO	1850	1130	2550	BGO	2250
450	18	432	2730	BGO	705	914	3010	BGO	1240	1092	2840	BGO	2080	1219	2850	BGO	3310
500	20	457	3060	BGO	805	991	3185	BGO	1720	1194	3115	BGO	2590	1321	3045	BGO	3710
550	22	-	-	BGO	-	-	-	BGO	-	-	-	BGO	-	-	-	BGO	-
600	24	508	3355	BGO	1185	1143	3495	BGO	2440	1397	3575	BGO	3865	1550	3630	BGO	5900