UTVC™

USMANI

TUBES & VALVES CO. PVT. LTD

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SSI NSIC

Certified

Max Certifications
ISO 9001:2015

True Definition of Safety & Reliability

Manufacturers of Industrial Valves

TM

True Definition Of Safety & Reliability

USMANI TUBES & VALVES CO. PVT. LTD. is an **ISO 9001 : 2008** Certified Company. We manufacture Industrial valves, having our factory at Thane (India) and operating since year 2000. Owned and run by engineering professional with previous senior cadre working experience in various reputed industries.

Our **UTVC** brand of valves are being supplied to many government and private companies in all over India and Abroad for their Air, Water, Steam, Oil & Gas, Fly Ash, Pulp, Acids, Slurry, Power Generation, Chemical & Petrochemicals Services, Fertilizer, Refineries, Foods & Cement Industries.

Our **UTVC** brand of valves carrying Guarantee of 12 months for manufacturing defects & faulty workmanship. We provide Test certificate along with the supplies.

OUR PRODUCTS TYPES:

- ☐ Teflon seated Ball Valves , Metal seated Ball Valves, Jacketed Ball Valve
- ☐ Forged Steel & Cast Steel Gate, Globe, & Check Valves
- ☐ 'Y' Type Angle valves & 'Y' Type Strainer & Basket Type Strainers
- ☐ Wafer Type Butterfly Valves, Wafer type Slam & Non Slam Check Valve
- ☐ Flush Bottom valves , 2 & 3 Way Control Globe Valve
- ☐ Plug & Ball type Non-Return Valve & Taper type lubricated Plug Valves
- ☐ Flow Indicator Sight Glass, Angle & Pop type Safety relief valves

MATERIAL OF CONSTRUCTION

Cast Iron Cast carbon Steel (WCB, LCB), **Forge carbon Steel** (A105, F304, F316)
Cast Stainless Steel (CF8M, CF3M) **Forged Stainless Steel** (F304, F316, F304L)

PRESSURE CLASS & END CONNECTION

Flanged DIN standard ANSI-150#, 300#, 600#,
Screwed / Socket Welded ANSI #800,#1500, #2500, **Butt Weld**- ANSI #600,
SIZE :- ¼ " NB To 20" NB

We now request you to kindly registered our name as one of your supplier for valve and please forward your valuable enquiries. If you need more details, we shall be please to provide the same. Assuring you for best attention always.

I. A. Khan
Managing Director
UTVC

HIGH PERFORMANCE BUTTERFLY VALVE

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Standard Product Range

Valve Type	ANSI Class	Design Standard	Size
Gate	150	API 600/BS 1414	2" NB TO 42" N B
	300		2" NB TO 24" NB
	600		2" NB TO 24" NB
	900		2" NB TO 20" NB
	1500		2" NB TO 16" NB
	2500		2" NB TO 10" NB
Globe	150	BS 1873	2" NB TO 24" NB
	300		2" NB TO 20" NB
	600		2" NB TO 12" NB
	900		2" NB TO 12" NB
	1500		2" NB TO 8" NB
	2500		2" NB TO 6" NB
Swing Check	150	BS 1868 / API 6D	2" NB TO 30" NB
	300		2" NB TO 20" NB
	600		2" NB TO 16" NB
	900		2" NB TO 16" NB
	1500		2" NB TO 12" NB
	2500		2" NB TO 8" NB
Lift Check	150	BS 5352	1/2" NB TO 1.1/2" NB
	300		
	600		
Conduit Gate	150	API 6D	2" NB TO 36" NB
	300		2" NB TO 24" NB
	600		2" NB TO 22" NB
Ball	150	BS 5351 /API 6D	1.5" NB TO 24" NB
	300		1.5" NB TO 16" NB
	600		1.5" NB TO 8" NB
	800		1.5" NB TO 2" NB
Forged Steel Gate	800	API 602 / BS 5352 / ASME B16.34	1/4" NB TO 2" NB
	1500		1/4" NB TO 1 1/2" NB
	2500		
Forged Steel Globe	800	BS 5352 / ASME B16.34	1/4" NB TO 1 1/2" NB
	1500		
	2500		
Forged Steel Lift Check	800	BS 5352 / ASME B16.34	1/4" NB TO 1 1/2" NB
	1500		
	2500		

Note : Applicable standards are referred where size range exceeds design standard

Valve Shell Materials

Besides is Standard material ASTM A 216 (WCB) / A 105, UTVC cast steel, Forged steel & Alloy Valves are optionally available with the materials listed below.

ASTM Cast	ASTM Forged	Material Designation	Working Temperature °F/°C ASME B16.34
A216 WCB	A105	Carbon Steel	800 / 875 Maximum
A217 WC1	A182 F1	C-0.5 Mo	875
A217 WC6	A182 F11	1.25 Cr-1 Mo	1100/593 Maximum
A217 WC9	A182 F22	2.25 Cr-1 Mo	
A217 C5	A182 F5	5 Cr-0.5 Mo	1200 / 649 Maxi mum
A217 C12	A182 F9	9 Cr-1Mo	
A352 LCB	A350 LF2	Carbon Steel	-50 / -46 Minimum
A3512 LCC	-	Carbon Steel	
A352 LC1	-	C-0.5 Mo	-75 / -59 Minimum
A352 LC2	-	2.5 Ni	-100 / -73 Minimum
A352 LC3	-	3.5 Ni	-150 / -101 Minimum
A351 CF8M	A182 F316	13 Cr, 9Ni	1500 / 816 Maximum
A351 CF8	A182 F304	18 Cr, 8Ni	1500 / 816 Maximum
A351 CF3M	A182 F316L	16Cr-12Ni-2Mo	850 / 454 Maximum
A351 CF3	A182 F304L	18 Cr,8 Ni	800 / 427 Maximum
A351 CN7M		29Ni-20.5Cr-3.5Cu-2.5Mo	300 / 149 Maximum

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General Design Specification

Items	American Std.	British Std.
Shell wall thickness and general valve design specifications, Cast steel, Forged steel	API 600 / API 6D / API 602 / ASME B 16.34	BS 1414 (Gate Valve) BS 1873 (Globe Valve) BS 1868 (Check Valve) BS 5352
Pressure-temperature rating	ASME B16.34 / API 602 / API 6D	BS 1560 / BS 5352
Face-to-Face dimension Flanged End End-to-End dimension Butt Weld End @	ASME B16.10 / API 6D	BS 2080
End Flange dimensions Gasket contact facing	ANSI B16.5*	BS 3293 / BS 1560
Welding end dimension Butt Weld	ANSI B16.25	BS 1414 (Gate Valve) BS 1873 (Globe Valve) BS 1868 (Check Valve)
Welding end dimension Socket Weld	ANSI B16.11	
Radiograph and NDT requirements	ASME B 16.34	
Inspection and Testing Standard	API 598 / API 6D	BS 6755

MSS SP-44 for 22 and API 605 for 26" large, for end flange dimensions.
@ End to End Butt Weld and Socket Weld and for forged steel valves as per manufacture standard

Valve Trim

API 600 and BS 1414 / 1873 / 1868 specify the following valve components parts as the valve trim

Description	Gate Valve	Globe Valve	Check Valve
Wedge / Disc seat surface	O	O	O
Body seat surface	O	O	O
Bonnet bush (Backseat)	O	O	---
Stem	O	O	---
Others	Internal small parts	Plug Nut	Hinge pin

Trim Material

API 600 Trim Number	Symbol	Wedge / Disc Surface	Seat Surface	Stem Material
1	1	13% Cr.	13% Cr.	ASTM A276 – T410
2	2	18% Cr. 8% Ni	18% Cr. 8% Ni	ASTM A276 – T304
5	5	Stellite	Stellite	ASTM A276 – T410
8	8	13% Cr.	Stellite	ASTM A276 – T410
9	9	Monel	Monel	Ni Cu Alloy Monel
10	10	18% Cr. 8% Ni	18% Cr. 8% Ni	ASTM A276 – T316
12	12	18% Cr. 8% Ni	Stellite	ASTM A276 – T316
13	13	Alloy 20 19% Cr.29% Ni	Alloy 20 19% Cr.29% Ni	ASTM B473
16	16	Stellite	Stellite	ASTM A276 – T316

Gland Packing Materials

Graphite asbestos with sacrificial inhibitor and inconel wire reinforcement is the standard gland packing material for UTVC cast and Forged steel valves. However various special Gland Packing material shall be used Depending on service conditions.

Packing Material	Service Conditions *F / *C
Inconel wire Graphite Asbestos	1200 / 649 high pressure
PTFE impregnated asbestos	450 / 232 corrosion resistant
Virgin PTFE	450 / 232 corrosion resistant
Graphite asbestos	650 / 343 medium pressure
Grafoil	1500 / 816 corrosion resistant
Gore – Tex	(-400 -520) / (-240 + 270) corrosion resistant
Inconel wire Graphite Non Asbestos	1200 / 649 high pressure

Gasket Material	ANSI Class						
	150	300	600	800	900	1500	2500
Corrugated metal	●	O					
OCT Ring metal			O	O	●	●	●
Compressed asbestos	O						
Spiral wound metal, asbestos filler	O	●	●	●			
Spiral wound metal Grafoil filler	O	O	O	O			
Spiral wound metal PTFE filler		O	O	O			
Seal Ring (Pr. Seal Bonnet)					●	●	●
Virgin PTFE	O	O					
Glass filled PTFE	O	O					

● Niton Standard O Option

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Pressure Temperature Ratings

ASME B 16.34
Maximum Allowable Non-Shock Pressure, psig / kg / cm2 g.

Service Temperature		Class 150					Class 300					Class 600				
F	C	WCB (a)	WC1 (b)(c.)	WC6 (c.)	WC9 (c.)	C5 (c.)	WCB (a)	WC1 (b)(c.)	WC6 (c.)	WC9 (c.)	C5 (c.)	WCB (a)	WC1 (b)(c.)	WC6 (c.)	WC9 (c.)	C5 (c.)
-20 to	-29 to															
100	38	285	265	290	290	290	740	695	750	750	750	1480	1390	1500	1500	1500
200	93	260	260	260	260	260	675	680	750	750	745	1350	1360	1500	1500	1490
300	149	230	230	230	230	230	655	655	720	730	715	1315	1305	1445	1455	1430
400	204	200	200	200	200	200	635	640	695	705	705	1270	1280	1385	1410	1410
500	260	170	170	170	170	170	600	620	665	665	665	1200	1245	1330	1330	1330
600	316	140	140	140	140	140	550	605	605	605	605	1095	1210	1210	1210	1210
650	343	125	125	125	125	125	535	590	590	590	590	1075	1175	1175	1175	1175
700	371	110	110	110	110	110	535	570	570	570	570	1065	1135	1135	1135	1135
750	399	95	95	95	95	95	505	530	530	530	530	1010	1065	1065	1065	1055
800	427	80	80	80	80	80	410	510	510	510	510	825	1015	1015	1015	1015
850	454	65	65	65	65	65	270	485	485	485	485	535	975	975	975	965
900	482	50	50	50	50	50	170	450	450	450	370	345	900	900	900	740
950	510	35	35	35	35	35	105	280	320	375	275	205	560	640	755	550
1000	538	20	20	20	20	20	50	165	215	260	200	105	330	430	520	400
1050	566			20*	20*	20*			145	175	145			290	350	290
1100	593			20*	20*	20*			95	110	100			190	220	200
1150	621					20*					60					125
1200	649					15*					35					70
Hydrostatic Shell Test pressure		450 31.5	425 29	450 31.5			1125 79	1075 75	1150 805			2250 157.5	2100 147	275 154		
Valve Closure Test Pressure	Fluid	315 22.00	300 21.00	320 22.5			825 58	770 54	830 58			1630 114	1535 107	1655 116		
	AIR	100 / 7					100 / 7					100 / 7				

Service Temperature		Class 900					Class 1500					Class 2500				
F	C	WCB (a)	WC1 (b)(c.)	WC6 (c.)	WC9 (c.)	C5 (c.)	WCB (a)	WC1 (b)(c.)	WC6 (c.)	WC9 (c.)	C5 (c.)	WCB (a)	WC1 (b)(c.)	WC6 (c.)	WC9 (c.)	C5 (c.)
-20 to	-29 to															
100	38	2220	2085	2250	2250	2250	3705	3470	3750	3750	3750	6170	5785	6250	6250	6250
200	93	2025	2035	2250	2250	2235	3375	3395	3750	3750	3725	5625	5660	6250	6250	6205
300	149	1970	1955	2165	2185	2150	3280	3260	3610	3640	3580	5470	5435	6015	6070	5965
400	204	1900	1920	2080	2115	2115	3170	3200	3465	3530	3530	5280	5330	5775	5880	5880
500	260	1795	1865	1995	1995	1995	2995	3105	3425	3325	3325	4990	5180	5540	5540	5540
600	316	1640	1815	1815	1815	1815	2735	3025	3025	3025	3025	4560	5040	5040	5040	5040
650	343	1610	1765	1765	1765	1765	2685	2940	2940	2940	2940	4475	4905	4905	4905	4905
700	371	1600	1705	1705	1705	1705	2665	2840	2840	2840	2840	4440	4730	4730	4730	4730
750	399	1510	1595	1595	1595	1585	2520	2660	2660	2660	2640	4200	4430	4430	4430	4400
800	427	1235	1525	1525	1525	1525	2060	2540	240	2540	2540	3430	4230	4230	4230	4230
850	454	805	1460	1460	1460	1450	1340	2435	2435	2435	2415	2230	4060	4060	4060	4030
900	482	515	1350	1350	1350	1110	860	2245	2245	2245	1850	1430	3745	3745	3745	3085
950	510	310	845	955	1130	825	515	1405	1595	1885	1370	860	2345	2645	3145	2285
1000	538	155	495	650	780	959	260	825	1080	1305	995	430	1370	1800	2170	1655
1050	566			430	525	430			720	875	720			1200	1455	1200
1100	593			290	330	300			480	550	495			800	915	830
1150	621				205	185					310					515
1200	649				125	105					170					285
Hydrostatic Shell Test pressure		3350 235	3150 220.5	3375 236.5			5575 390	5525 387	5650 390			9275 650	8700 609	9375 656		
Valve Closure Test Pressure	Fluid	2445 171	2295 160.5	2475 173			4080 286	3817 267	4130 280			6780 475	6365 445	6875 481		
	AIR	100 / 7					100 / 7					100 / 7				

Notes:
(a) --- Permissible, but not recommended for prolonged usage above 800 F. Upon prolonged exposure to temperature above 800° F, the carbide phase of carbon steel may be converted to graphite.
(b) --- Permissible, but not recommended for prolonged usage above 850° F.
(c) --- Use normalized and tempered material only.
* For welding end valves only. Flanged end ratings terminate at 1,000° F.

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Pressure Temperature Ratings

ASME B 16.34
Maximum Allowable Non Shock Pressure, psig / kg / cm2 g.

Service Temperature		Class 150				Class 300				Class 600			
F	C	CF8		CF8M		CF8		CF8M		CF8		CF8M	
-20 to	-29 to	psig	kgf /cm2	Psig	Kgf/cm2	psig	Kgf/cm2	psig	Kgf/cm2	psig	kgf/ m2	psig	kgf / cm2
100	38	275	19.2	275	19.2	720	50.4	720	50.4	1440	100.8	1440	100.8
200	93	230	16.1	235	16.45	620	42	620	43.4	1200	84	1240	86.8
300	149	205	14.3	215	15.05	560	37.8	560	39.2	1080	75.6	1120	78.4
400	204	190	13.3	195	13.65	495	34.7	515	36.05	995	69.65	1025	71.75
500	260	170	11.9	170	11.9	465	32.55	480	33.6	930	65.1	955	66.85
600	316	140	9.8	140	9.8	435	30.45	450	31.5	875	61.25	900	63
650	343	125	8.75	125	8.75	430	30.1	445	31.15	860	60.2	890	62.3
700	371	110	7.7	110	7.7	425	29.75	430	30.1	850	59.5	870	60.9
750	399	95	6.65	95	6.65	415	29.05	425	29.75	830	58.1	855	59.85
800	427	80	5.6	80	5.6	405	28.35	420	29.4	805	56.35	845	59.15
850	454	65	4.55	65	4.55	395	27.65	420	29.4	790	55.3	835	58.45
900	482	50	3.5	50	3.5	390	27.3	415	29.05	780	54.6	830	58.1
950	510	35	2.45	35	2.45	380	26.6	385	26.95	765	35.55	775	54.25
1000	538	20	1.4	20	1.4	320	22.4	350	24.5	640	44.8	700	49.0
1050	566	20*	1.4	20*	1.4	310	21.7	345	24.15	615	43.05	685	47.95
1100	593	20*	1.4	20*	1.4	255	17.85	203	21.35	515	36.05	610	42.7
1150	621	20*	1.4	20*	1.4	200	14	235	16.45	400	28	475	33.25
1200	649	20*	1.4	20*	1.4	155	10.85	185	12.95	310	21.7	370	25.9
1250	677	20*	1.4	20*	1.4	115	8.05	145	10.15	225	15.75	295	20.65
1300	704	20*	1.4	20*	1.4	85	6.0	115	8.05	170	11.9	235	16.45
1350	732	20*	1.4	20*	1.4	60	4.2	95	6.65	125	8.75	190	13.3
1400	760	20*	1.4	20*	1.4	50	3.5	75	5.25	95	6.65	150	10.5
1450	788	15*	1.4	20*	1.4	35	2.5	60	4.2	70	4.9	115	8.05
1500	816	10*	0.7	15*	1.4	25	1.75	40	2.8	55	3.85	85	5.95
Hydrostatic Shell Test pressure		425 / 30				1100 / 78				2175 / 153			
Valve Closure Test Pressure	Hydro-static	305 / 22				795 / 56				1585 / 115			
	AIR	100 / 7				100 / 7				100 / 7			

Service Temperature		Class 150				Class 300			
F	C	CF8		CF8M		CF8		CF8M	
-20 to	-29 to	psig	kgf /cm2	psig	kgf/cm2	psig	kf/cm2	psig	kgf/cm2
100	38	2160	151.2	2160	151.2	3600	252	3600	252
200	93	1800	126	1860	130.2	3000	210	3095	216.65
300	149	1620	113.4	1680`	117.6	2700	189	2795	195.65
400	204	1490	104.3	1540	107.8	2485	174.0	2570	179.9
500	260	1395	97.5	1435	100.4	2330	163.1	2390	167.3
600	316	1310	91.7	1355	94.85	2185	152.95	2255	157.85
650	343	1290	90.3	1330	93.1	2150	150.5	2220	155.4
700	371	1275	89.25	1305	91.4	2125	148.75	2170	151.9
750	399	1245	87.2	1280	89.6	2075	145.25	2135	149.45
800	427	1210	84.7	1265	88.55	2015	141.05	2110	147.7
850	454	1190	83.3	1255	87.85	1980	138.6	2090	146.3
900	482	1165	81.55	1245	87.2	1945	136.15	2075	145.25
950	510	1145	80.15	1160	81.2	1910	133.7	1930	135.1
1000	538	965	67.55	1050	73.5	1605	112.35	1750	122.5
1050	566	925	64.8	1030	72.1	1545	108.15	1720	120.4
1100	593	770	53.9	915	64.05	1285	89.95	1525	106.75
1150	621	595	41.65	710	49.7	995	69.65	1185	82.95
1200	649	465	32.55	555	38.85	770	53.9	925	64.75
1250	677	340	23.8	440	30.8	565	39.55	735	51.5
1300	704	255	17.85	350	24.5	430	30.1	585	40.95
1350	732	185	13.0	290	20.3	310	21.7	480	33.6
1400	760	145	10.15	225	15.75	240	16.8		26.6
14500	788	105	7.35	175	12.25	170	11.9		20.3
1500	816	80	5.6	125	8.75	135	9.45		14.35
Hydrostatic Shell Test pressure		3250 / 230				5400 / 380			
Valve Closure Tests	Hydro-static	2380 / 170				3960 / 280			
	AIR	100 / 7				100 / 7			

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ASTM Materials

ASTM Code	Chemical Compositions %										Mechanical			
	C	Mn	P	S	Si	Cr	Mo	Ni	Cu	V	Tensile Mpa	Yield Mpa	% Elongation	% Reduct Area
	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Min	Min	Min	Min
A216 WCB	0.30	1.00	0.040	0.045	0.60	0.50	0.20	0.50	0.30	0.03	485	250	22	35
A216 WCC	0.25	1.20	0.040	0.045	0.60	0.50	0.20	0.50	0.30	0.03	485	250	22	35
A217 WC1	0.25	0.80	0.040	0.045	0.60		0.65		0.50		450	240	24	35
A217 WC5	0.05 0.20	0.40 0.70	0.040	0.045	0.60	0.50 0.90	0.90 1.20	0.60 1.00	0.50	0.10 Tu	485 to 655	275	20	35
A217 WC6	0.20	0.80	0.040	0.045	0.60	1.50	0.65		0.50		485	275	20	35
A217 WC9	0.18	0.70	0.040	0.045	0.60	2.75	1.20		0.50		485	275	20	35
A217 C5	0.20	0.70	0.040	0.045	0.75	6.50	0.65		0.50		620	415	18	35
A217 CA15	0.15	1.00	0.040	0.040	1.50	14.00	0.50	1.00			620	450	18	30
A351CF8	0.08	1.50	0.040	0.040	2.00	21.00	0.50	11.00			485	205	35	
A351CF8M	0.08	1.50	0.040	0.040	1.50	21.00	3.00	12.00			485	205	30	
A351CF3	0.03	1.50	0.040	0.040	2.00	21.00	0.50	12.00			485	205	35	
A351CF3M	0.03	1.50	0.040	0.040	1.50	21.00	3.00	13.00			485	205	30	
A351CN7M	0.07	1.50	0.040	0.040	1.50	22.00	3.00	30.50	4.00		425	170	35	
A352LCB	0.30	1.00	0.040	0.045	0.60	0.50	0.20	0.50	0.30	0.03	450	240	24	35
A352LCC	0.25	1.20	0.040	0.045	0.60	0.50	0.20	0.50	0.30	0.03	485	275	22	35
A105	0.35	1.05	0.035	0.040	0.35	0.30	0.12	0.40	0.40	0.05	485	250	30	30
A182F304	0.08	2.00	0.040	0.030	1.00	20.00		11.00			515	205	30	50
A182D316	0.08	2.00	0.040	0.030	1.00	18.00	3.00	14.00			515	205	30	50
A182F304L	0.04	2.00	0.040	0.030	1.00	20.00		13.00			485	170	30	50
A182F5	0.15	0.30 0.60	0.030	0.030	0.500	4.00 6.00	0.44 0.65	0.50			485	275	20	35
A182F11CI1	0.05 0.15	0.30 0.61	0.030	0.030	0.50 1.00	1.00 1.50	0.44 0.65				415	205	20	45
A182F11CI2	0.10	0.30	0.040	0.040	0.50	1.00	0.44				485	276	20	30
A182F11CI3	0.20	0.80	0.040	0.040	1.00	1.50	0.65				515	310	20	30
A182F22CI1	0.05 0.15	0.30 0.60	0.040	0.040	0.50	2.00 2.50	0.87 1.13				415	205	20	35
A182F22CI2	0.15 0.16	0.30 0.61	0.040	0.040	0.50	2.00 2.51	0.87 1.14				515	310	20	30
A350LF2	0.03	0.60 1.35	0.035	0.040	0.15 0.30	0.30	0.12	0.40	0.40	0.02 0.03	485 to 655	250	30	197
A276410	0.15	1.00	0.040	0.030	1.00	11.5 13.5					690	550	15	45
A276420	0.15	1.00	0.040	0.030	1.00	14.00								
A193B7	0.49	1.10	0.035	0.040	0.35	1.20	0.25				860	720	16	50
A193B7M	0.49	1.10	0.035	0.040	0.35	1.20	0.25				690	550	18	50
A193B8	0.08	2.00	0.045	0.030	1.00	20.00		10.50			515	205	30	50
A193 B8M	0.08	2.00	0.045	0.030	1.00	18.00	3.00	14.00			515	205	30	50
A194 2H	0.40	1.00	0.040	0.050	0.40									
A194 2HM	0.40	1.00	0.040	0.050	0.40									
A320 L7	0.48	1.00	0.035	0.040	0.35	1.10	0.25				860	725	16	50
A320 L7M	0.48	1.00	0.035	0.040	0.35	1.10	0.25				690	550	18	50
A194 8	0.08	2.00	0.045	0.030	1.00	20.00		10.50						

USMANI VALVES

MATERIAL CODES

CHROME-MOLY ALLOYS

Pipe	Valves	Flanges	Weld Fittings	Screwed and Socket Fittings
A-335 P-1	A-217 WC-6	A-182 F-1	A-234 WP-1	A-182 F-1
A-335 P-12	A-217 WC-6	A-182 F-12	A-234 WP-12	A-182 F-12
A-335 P-11	A-182 F11/A-217 WC-6	A-182 F-11	A-234 WP-11	A-182 F-11
A-335 P-22	A-182 F-22/A-217 WC-9	A-182 F-22	A-234 WP-22	A-182 F-22
A-335 P-5	A-182 F-5/A-217 WC-5	A-182 F-5	A-234 WP-5	A-182 F-5
A-335 P-7	A-182 F-7/A-217 WC-12	A-182 F-7	A-234 WP-7	A-182 F-7
A-335 P-9	A-182 F-9/A-217 WC-12	A-182 F-9	A-234 WP-9	A-182 F-9
A-268 T-410	A-182 F-6/A-351 CA-15	A-182 F-6	A-234 WP-410	A-182 F-6

CARBON STEELS

Pipe	Valves	Flanges	Weld Fittings	Screwed and Socket Fittings
A-53	A-105 A-216 WCB	A-105, A-181 Grade 2	A-234 WPB	A-105, A-181 Grade 2
A-106B	A-105 A-216 WCB	A-105 A-181 Grade 2	A-234 WPB	A-105 Grade 2 A-181 Grade 2

LOW-TEMPERATURE STEELS

Pipe	Valves	Flanges	Weld Fittings	Screwed and Socket Fittings
A-333 Grade	A-105 A-216 WCB	A-105, A-181 Grade 2	A-234 WPB	A-105, A-181 Grade 2
A-106B	A-105 A-216 WCB	A-105 A-181 Grade 2	A-234 WPB	A-105 Grade 2 A-181 Grade 2

STAINLESS STEELS

Pipe	Valves	Flanges	Weld Fittings	Screwed and Socket Fittings
A-312 T304	A-182 F-304/A-351 CF8	A-182 F-304	A-403 WP-304	A-182 F-304
A-312 304L	A-182 F-304L/A-296 CF3	A-182 F-304L	A-403 WP-304L	A-182 F-304L
A-312 T316	A-182 F-316/A-351 CF8M	A-182 F-316	A-403 WP-316	A-182 F-316
A-312 316L	A-182 F-316L/A-296 CF3M	A-182 F-316L	A-403 WP-316L	A-182 F-316L
A-312 321	A-182 F-321/A-351 CF8C	A-182 F-321	A-403 WP-321	A-182 F-321
A-312 347	A-182 F/347/A-351 CF8CMO	A-182 F-347	A-403 WP-347	A-182 F-347

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MATERIAL MARKINGS

304SS	347SS	HASTELLOY A	3% NICKEL CAST IRON
304	347		
CF8	CF8	HAST A	3NI
1885	CF82B	HA	CIA
L22	188SCB	HAA	NCI*
D2	188CB	A	
33 (JB)	D2CB		
8 ◊ (LAD)	**410SS**	**HATELLOY B**	**NI RSIST CAST IRON**
S (ALOYCO)	CR13		
D (CONTRO)	11 13	HAST	NR
F8	F6	HB	NR2
KA2S	EXELLOY (CRANE)	HAB	CAUSUL*
304LSS	CA 15	N7M	
CF3	**FERRALIUM**	N12M	**SPECIAL**
188S ELC	CD4M	N2	
D2L	CD4MCU	DC2	A-264-SMO
DF8L	DURCOMET 100	B ◊ (LADISH)	
188 ELC	38 (JB)	NiMO	**LOW TEMP STEELS**
316SS	**ALUMINUM**	CW12M	
316	AL		LCB (CAST CARBON)
CF8M	44 (JB)	**HASTELLOY C**	LC1 (CAST 1/2% MOLY)
188SMO	ALUM		LC2 (CAST 2 1/2% NICKEL)
188M	**MONEL 400**	HAST C	LC3 (CAST 3 1/2% NICKEL)
188MO	M35	HC	LF1 (FORGED CARBON)
L22XM	M35W	HAC	LF2 (FORGED CARBON)
D4	DM	CW7M	LF3 (FORGED 3 1/2 NICKEL)
CF7M	M	CW12M	
8M ◊ (LAD)	MNL	N3	**CARBON STEEL**
36 (JB)	MONL	DC3	
6 (HMC)	MLCB	C ◊ (LAD)	WCB (LAST)
0 (ALOYCO)	MON	73 (JB)	A 105 (FORGED)
C (CONTRO)	ML	NIMOCR	22 (JB)
KA2SMO	EM		DS
317SS	NICU	**HASTELLOY D**	CS
CG8M	QQN-177 (LAD)		
316LSS	COMPE (LAD)	HAST D	**11/4% CR 1/2% MOLY**
316L	K (TRIM)	HD	
CF3M	71 (JB)	HAD	WC6 (CAST)
188SMO ELC	Mo (HMC)		F11 (FORGED
D4L	**NICKEL 200**	**TITANIUM**	
6L (HMC)	NI		**2 1/4% CR 1/2% MOLY**
L22XMELC	DNI	TI	
ALLOY 20	CZ100	T ◊ (LAD)	WC9 (CAST)
A20 J20	78 (JB)	TI ◊ (LAD)	F22 (FORGED)
CN7M FA20	CZ100S		
D20	LNI	**DUCTILE IRON**	**5% CR 1/2% MOLY**
DRUIMET 20			
CN7MTB	**INCONEL 600**	DI	C5 (CAST)
35 (JB)	INC	DCI	F5 (FORGED)
A2 (HMC)	CY40	21 (JB)	F5A (FORGED)
20 ◊ (LAD)	DIN		

*The information contained herein is general in nature. Reference should be made to the manufacturing catalog for individual manufacturer markings.

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USMANI VALVES

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USMANI VALVES

Details about Item Coding Structure

Our item code of 11 digits, each digit have contained some important, the following are the step by step explanation of each digit

I	II	III	IV	Verbally	VI	VII	VIII

[I] Type of Valves 1 Digit		[II] Class of Valves 1 Digit		[III] Body Materials 2 Digit			
1	GATE VALVE	0	125 CLASS	01	WCB	02	A105
2	GLOBE VALVE	1	150 CLASS	03	CF8	04	CF8M
3	SWING CHECK VALVE	2	300 CLASS	05	LCB	06	WC6
4	LIFT CHECK VALVE	3	400 CLASS	07	WC9	08	A182 F304
5	BALL VALVE	4	600 CLASS	09	F316	10	CF3
6	FLUSH BOTTOM VALVE	5	800 CLASS	11	CF3M	12	C5
7	NEEDLE VALVE	6	900 CLASS	13	ALLOY-20	14	HASTEALLOY-B
8	THROUGH CONDUIT GATE	7	1500 CLASS	15	HASTEALLOY-C	16	CAST IRON
9	PARALLEL SLIDE GATE	8	2500 CLASS	17	C.S. BARSTOCK	18	S.S.304
				19	S.S.316	20	WC1
				21	F304L	22	F316L
				23	C12	24	CF8C
				25	CN7M	26	CF10
				27	LC3	28	MONEL
				29	CD4M-CU	30	F5
				31	F9	32	F11
				33	WC5	34	F22
				35	F321	36	A350 LF2

[IV] Trim Material 2 Digits		[V] Wedge / Disc / Ball 1 Digit		[VI] End Connections 1 Digit	
01	13% CR SS	1	SOLID WEDGE	1	FLANGED END B 16.5
02	C.S 13% CR. FACIG	2	FLEXIBLE WEDGE	2	FLANGED END DIN
03	S.S.304	3	PLUG TYPE DISC	3	BUTT WELD END
04	S.S.316	4	REGULATING PLUG / PARABOLIC PLUG	4	SOCKET WELD END
05	S.S.410	5	FULL BORE ONE PIECE	5	SCREWED END BSP
06	S.S.304L	6	REGULAR BORE ONE PEACE	6	SCREWED END NPT
07	S,S,316L	7	THREE PIECE FULL BORE	7	FLANGED END RING TYPE JOINT B 16.5
08	ALLOY-20	8	THREE PIECE REGULAR BORE	8	FLANGED END BS 10
09	BRONZE	9	TWO PIECE	9	FE B 16.5 FLANGES WELDED THEREON
10	S.S.304 TI			0	FE B 16.5 FLAT FACE
11	S.S.316 TI				
12	HASTELLOY-B				
13	HASTELLOY-C				
14	S.S.321				
15	S.S.304 H				
16	MONEL				

[VII] 2 Digits Default Valve is always 01

[VIII] Special Requirement 1 Digit (Alpha Numeric)

A	ACTUATOR	B	BY PASS	C	CHAIN WHELL OPERATED
D	DEEP STUFFING BOX	E	EXTENSION SPINDLE	F	STELLITED SEAT AND DISK
G	GEAR OPERATED	H	HYDRAULIC CYLINDER	I	I.B.R.
J	JACKETED	K	GRAFOIL GLAND PACKING	L	GLAND SEALING
M	DRAIN PLUG AS PER MSS-SP-54	N	FIRE SAFE DESIGN	O	OTHERS
P	PNEUMATIC CYLINDER	R	RADIOGRAPHY	S	STELLITED SEAT
T	OPEN INTO TANK	V	OPEN INTO VALVE	W	STELLITED WEDGE
X	STELLITED PLUG	Y	STELLITED SEAT & WEDGE	Z	STELLITED SEAT AND PLUG
1	OPEN INTO TANK WITH STELLITED SEAT			2	OPEN INTO TANK WITH STELLITED SEAT AND PLUG
3	OPEN INTO VALVE WITH STELLITED SEAT			4	OPEN INTO VALVE WITH STELLITED SEAT AND PLUG
5	REDUCE BORE			6	STELLITED SEAT WITH MOTOR OPERATED MOUNTING
				7	EXTENDED BONNET

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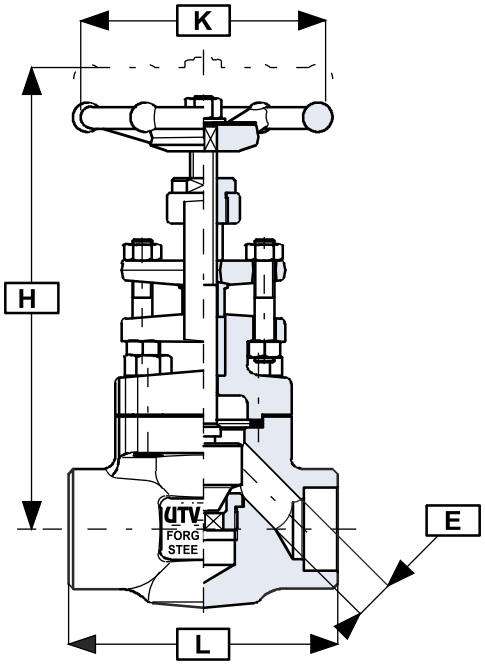
GLOBE VALVE CLASS 800/600 FORGED STEEL SCREW / SOCKET WELD / BUTT WELD

FORGED GLOBE VALVES



Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

800 p.s.i. @ 850°F
1975 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 3000 p.s.i.
Seat - 2175 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	BS 5352
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	BS 6755 (Pt.1)

Connections

SW	Socket weld
TS	SW/NPT
TH	Threaded NPT
SE	SW (in)/NPT
SU	SW (out)/NPT
B4	Butt weld 40
B8	Butt weld 80

REDUCED BORE

			1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
L	(mm/in)		**80** 3,15	**90** 3,54	**110** 4,33	**127** 5,00	**155** 6,10	**170** 6,69
H	(mm/in)		**152** 5,98	**159** 6,26	**182** 7,17	**214** 8,43	**283** 11,14	**306** 12,05
K	(mm/in)		**90** 3,54	**90** 3,54	**100** 3,94	**120** 4,72	**140** 5,51	**140** 5,51
E	(mm/in)		**9** 0,35	**12,5** 0,49	**17,5** 0,69	**22,5** 0,89	**28**(4) 1,10	**32**(5) 1,26
Wt.	(kg/lb)		**1,7** 3,7	**2** 4,4	**3,2** 7,0	**5,3** 11,7	**7,8** 17,2	**10,6** 23,3
Catal. no.								

FULL BORE

		1/4"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
L	(mm/in)	**80** 3,15	**80** 3,15	**90** 3,54	**110** 4,33	**127** 5,00	**155** 6,10	**170** 6,69	**210** 8,27
H	(mm/in)	**150** 5,91	**152** 5,98	**159** 6,26	**182** 7,17	**214** 8,43	**283** 11,14	**306** 12,05	**327** 12,87
K	(mm/in)	**90** 3,54	**90** 3,54	**90** 3,54	**100** 3,94	**120** 4,72	**140** 5,51	**140** 5,51	**200** 7,87
E	(mm/in)	**6** 0,24	**9** 0,35	**12,5** 0,49	**17,5** 0,69	**22,5** 0,89	**28**(4) 1,10	**32**(5) 1,26	**40**(6) 1,57
Wt.	(kg/lb)	**1,8** 4,0	**1,8** 4,0	**2,1** 4,6	**3,3** 7,3	**5,4** 11,9	**7,9** 17,4	**10,7** 23,5	**16** 35,2
Catal. no.									

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FORGED GATE VALVES

GATE VALVE CLASS 800/600 FORGED STEEL SCREW / SOCKET WELD / BUTT WELD

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

800 p.s.i. @ 850°F
1975 p.s.i. @ 100°F

Test pressure (ASTM A105)

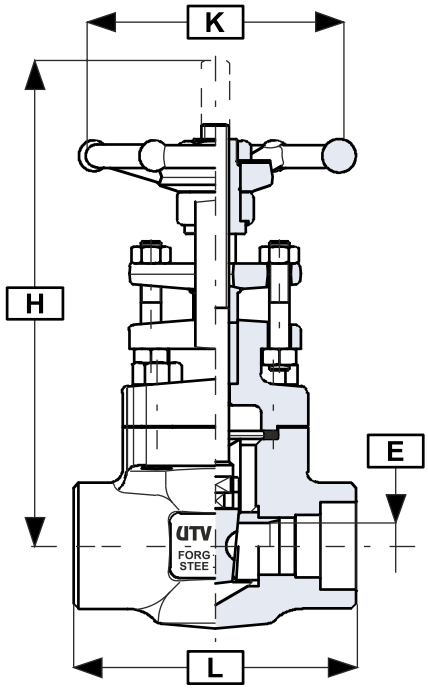
Hydraulic:*(minimum)*
Body - 3000 p.s.i.
Seat - 2175 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	API 602, BS 5352
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	API 598-BS 6755 (Pt.1)

Connections

SW	Socket weld
TH	Threaded NPT
TS	Sw/NPT
SE	Sw(e)/NPT
SU	Sw(u)/NPT
B4	Butt weld 40
B8	Butt weld 80



CONVENTIONAL BORE

			1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
L (mm/in)			**80** 3,15	**90** 3,54	**110** 4,33	**127** 5,00	**127** 5,00	**130** 5,12
H (mm/in)			**145** 5,70	**156** 6,14	**186** 7,32	**216** 8,50	**255** 10,04	**273** 10,75
K (mm/in)			**90** 3,54	**90** 3,54	**100** 3,94	**120** 4,72	**140** 5,51	**140** 5,51
E (mm/in)			**10** 0,39	**14** 0,55	**18** 0,71	**24** 0,95	**31** 1,22	**36,5** 1,44
Wt. (kg/lb)			**1,7** 3,74	**2,1** 4,62	**3,3** 7,3	**5,2** 11,4	**7,0** 15,4	**9,1** 20,0
Catal. no.								

FULL BORE

	1/4"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
L (mm/in)	**80** 3,15	**80** 3,15	**90** 3,54	**110** 4,33	**127** 5,00	**127** 5,00	**130** 5,12	**150** 5,91
H (mm/in)	**143** 5,63	**145** 5,71	**156** 6,14	**186** 7,32	**216** 8,50	**255** 10,04	**273** 10,75	**334** 13,15
K (mm/in)	**90** 3,54	**90** 3,54	**90** 3,54	**100** 3,94	**120** 4,72	**140** 5,51	**140** 5,51	**200** 7,87
E (mm/in)	**8,5** 0,33	**10** 0,39	**14** 0,55	**18** 0,71	**24** 0,94	**31** 1,22	**36,5** 1,44	**48** 1,89
Wt. (kg/lb)	**1,8** 4,0	**1,8** 4,0	**2,2** 4,8	**3,4** 7,5	**5,3** 11,7	**7,1** 15,6	**9,2** 20,2	**14,2** 31,2
Catal. no.								

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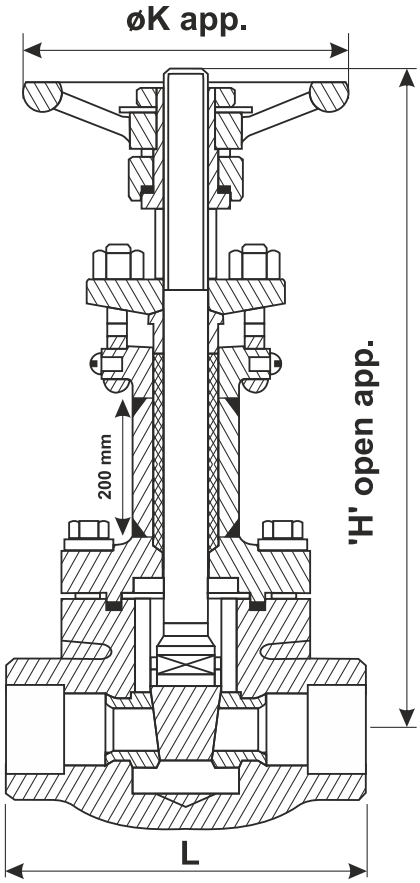
UTVC™

GATE VALVE EXTENDED BONNET CLASS 800
SCREW / SOCKET WELD / BUTT WELD API 602

FORGED GATE VALVES

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	A 105	F 304	F 316
2.	Bonnet	A 105	F 304	F 316
3.	Wedge	13%Cr	T304	T316
4.	Seat	13%Cr	T304	T316
5.	Spindle	T410	T304	T316
6.	Gland Bush	T410	T304	T316
7.	Gland Flange	A 105	F 304	
8.	Yoke Nut	ASTM A 439 Gr.D2/ AL- BRONZE		
9.	Hand Wheel	CAST STEEL		
10.	Hand Wheel Nut	Gr. 2H		
11.	Collar Bolt/ Stud & Nut	B7/ 2H	B8/ 8 OR B7/ 2H	
12.	Eye Bolt & Nut	B7/ 2H	B8 / 8	
13.	Gasket	SPW S.S 304/316 WITH CAF/GRAFOIL		
14.	Gland Packing	GRAPHITE ASBESTOS INHIB. & INCONEL WIRE REIN.		
15.	Screw / Rivet & Washer	STEEL		
16.	Bearing Washer	HARDENED STEEL	T304	T316
17.	Name Plate	ALUMINUM /SS		



EX. B. FIG:U-FGT 1080 CLASS 800

DIMENSION TABLE - 800 CLASS - REDUCED BORE

Valve Size in mm	0.25 08	0.37 10	0.5 15	0.75 20	1 25	1.5 40	2 50
L	3.3 85	3.3 85	3.3 85	3.5 90	4 103	5 128	5.6 142
'H' app	165	165	165	175	215	270	285
ØK app	95	95	95	95	105	150	150
ØP	6.4	6.4	9.5	12.7	17.5	28.6	36.5
Wt. kg app	2.0	2.0	2.0	2.5	3.5	7.5	9.0

REF STANDARDS

MFG. AND DESIGN :BS 5352/API 602
FACE TO FACE : MG STD. / ASME B16.34
INSPECTION AND TESTING:AP1 598/BS 6755

TESTING DETAIL # 800

Hydrotest {KG/CM^2}	
Shell	141 K.g.
Seat and Back Seat	210 K.g.
Seat Air Test :	7 K.g.

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FORGED GATE VALVES

GATE VALVE EXTENDED BONNET CLASS 150
FORGED STEEL BOLTED BONNET FLANGED END RF

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

150 p.s.i. @ 550°F
285 p.s.i. @ 100°F

Test pressure (ASTM A105)

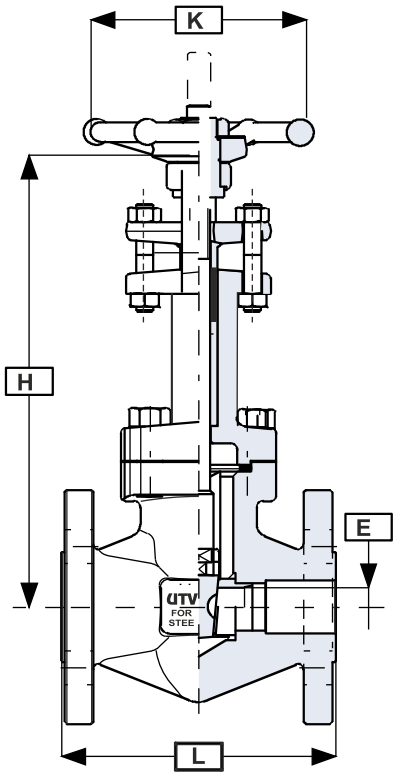
Hydraulic: *(minimum)*
Body - 450 p.s.i.
Seat - 325 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	API 602, BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	API 598-BS 6755 (Pt.1)

Connections

RF Raised face (std.)
FF Flat finish



CONVENTIONAL BORE

			½"	3/4"	1"		1.1/2"	2"
L (mm/in)			107,9 4,25	117,5 4,63	127,0 5,00		165,1 6,50	177,8 7,00
H (mm/in)			279 11,05	286 11,32	308 12,19		355 14,04	373 14,75
K (mm/in)			90 3,54	90 3,54	100 3,94		140 5,51	140 5,51
E (mm/in)			10 0,39	14 0,55	18 0,71		31 1,22	36,5 1,44

FULL BORE

			½"	3/4"	1"		1.1/2"	2"
L (mm/in)			107,9 4,25	117,5 4,63	127,0 5,00		165,1 6,50	177,8 7,00
H (mm/in)			283 11,20	291 11,52	316 12,50		373 14,75	414 16,36
K (mm/in)			90 3,54	90 3,54	100 3,94		140 5,51	200 7,87
E (mm/in)			14 0,55	18 0,71	24 0,94		36,5 1,44	48 1,89

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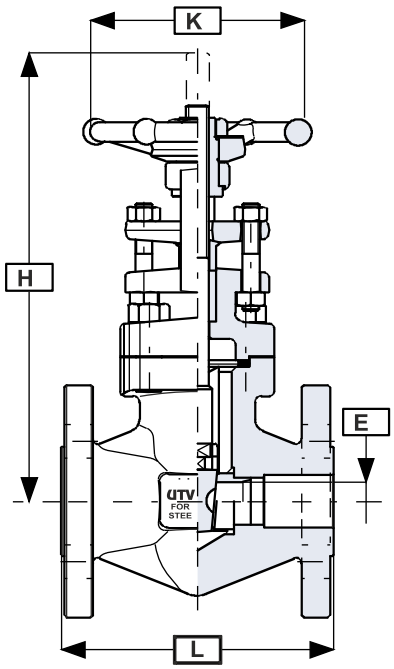
GATE VALVE CLASS 150 FORGED STEEL BOLTED BONNET FLANGED END RF

FORGED GATE VALVES



Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

150 p.s.i. @ 550°F
285 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 450 p.s.i.
Seat - 325 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	API 602, BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	API 598-BS 6755 (Pt.1)

Connections

RF Raised face (std.)
FF Flat finish

CONVENTIONAL BORE

	1/2"	3/4"	1"	1.1/2"	2"
L (mm/in)	107,9 4,25	117,5 4,63	127,0 5,00	165,1 6,50	177,8 7,00
H (mm/in)	179 7,05	186 7,32	208 8,19	255 10,04	273 10,75
K (mm/in)	90 3,54	90 3,54	100 3,94	140 5,51	140 5,51
E (mm/in)	10 0,39	14 0,55	18 0,71	31 1,22	36,5 1,44
Wt. (kg/lb)	3,2 7,0	4,1 9,0	5,8 12,8	10 22,0	13,1 28,8
Catal. no.					

FULL BORE

	1/2"	3/4"	1"	1.1/2"	2"
L (mm/in)	107,9 4,25	117,5 4,63	127,0 5,00	165,1 6,50	177,8 7,00
H (mm/in)	183 7,20	191 7,52	216 8,50	273 10,75	314 12,36
K (mm/in)	90 3,54	90 3,54	100 3,94	140 5,51	200 7,87
E (mm/in)	14 0,55	18 0,71	24 0,94	36,5 1,44	48 1,89
Wt. (kg/lb)	3,1 6,8	4 8,8	5,7 12,5	12,6 27,7	15,8 34,8
Catal. no.					

FORGED GATE VALVES

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GATE VALVE CLASS 300 FORGED STEEL BOLTED BONNET FLANGED END RF/RJ

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

300 p.s.i. @ 850°F
740 p.s.i. @ 100°F

Test pressure (ASTM A105)

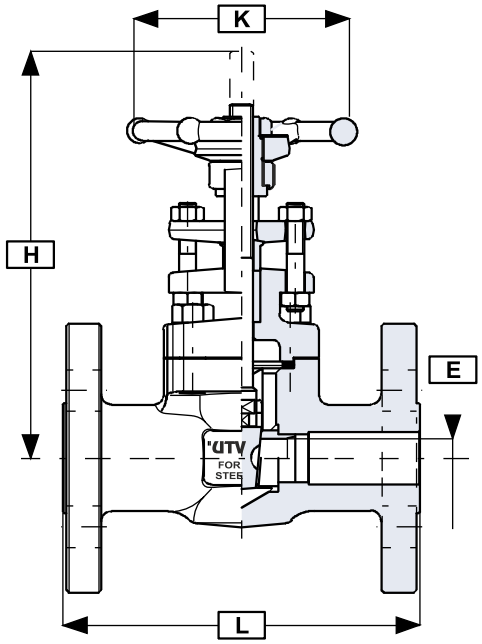
Hydraulic:*(minimum)*
Body - 1125 p.s.i.
Seat - 825 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	API 602, BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	API 598-BS 6755 (Pt.1)

Connections

RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		



CONVENTIONAL BORE

	1/2"	3/4"	1"	1.1/2"	2"
L (mm/in)	**139,7** 5,50	**152,4** 6,00	**165,1** 6,50	**190,5** 7,50	**215,9** 8,50
H (mm/in)	**145** 5,71	**156** 6,14	**186** 7,32	**255** 10,04	**273** 10,75
K (mm/in)	**90** 3,54	**90** 3,54	**100** 3,94	**140** 5,51	**140** 5,51
E (mm/in)	**10** 0,39	**14** 0,55	**18** 0,71	**31** 1,22	**36,5** 1,44
Wt. (kg/lb)	**3,8** 8,4	**5,4** 11,9	**6,5** 14,3	**13,1** 28,8	**17,3** 38,1
Catal. no.					

FULL BORE

	1/2"	3/4"	1"	1.1/2"	2"
L (mm/in)	**139,7** 5,50	**152,4** 6,00	**165,1** 6,5	**190,5** 7,50	**215,9** 8,50
H (mm/in)	**193** 7,60	**190** 7,48	**216** 8,50	**273** 10,75	**314** 12,36
K (mm/in)	**90** 3,54	**100** 3,94	**120** 4,72	**140** 5,51	**200** 7,87
E (mm/in)	**14** 0,55	**18** 0,71	**24** 0,94	**36,5** 1,44	**48** 1,89
Wt. (kg/lb)	**4,5** 9,9	**6,0** 13,2	**7,6** 16,7	**14,0** 32,6	**18,8** 41,4
Catal. no.					

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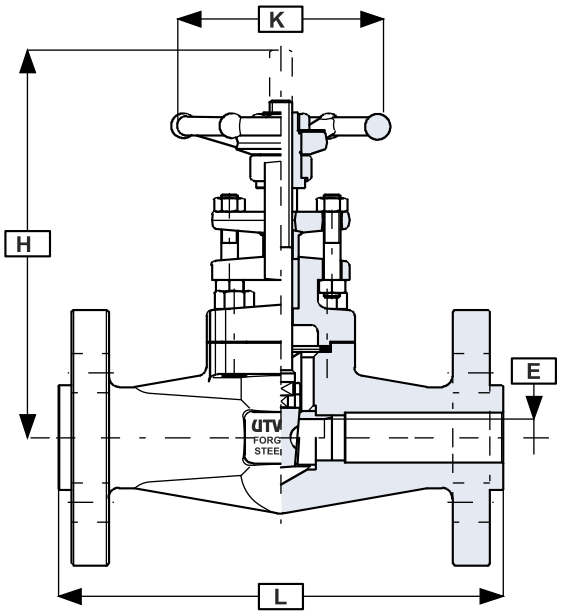
GATE VALVE CLASS 600
FORGED STEEL FLANGED END RF / RJ



Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22,
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

600 p.s.i. @ 850°F
1480 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 2225 p.s.i.
Seat - 1650 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	API 602, BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	API 598-BS 6755 (Pt.1)

Connections

RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small grove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		

CONVENTIONAL BORE

			1/2"		3/4"		1"			1.1/2"		2"	
L (mm/in)			**165,1**	6,50	**190,5**	7,50	**215,9**	8,50		**241,3**	9,50	**292,1**	11,50
H (mm/in)			**145**	5,71	**156**	6,14	**186**	7,32		**255**	10,04	**273**	10,75
K (mm/in)			**90**	3,54	**90**	3,54	**100**	3,94		**140**	5,51	**140**	5,51
E (mm/in)			**10**	0,39	**14**	0,55	**18**	0,71		**31**	1,22	**36,5**	1,44
Wt. (kg/lb)			**3,5**	7,7	**5,8**	12,8	**7,4**	16,3		**14,3**	31,5	**18,8**	41,4
Catal. no.													

FULL BORE

			1/2"		3/4"		1"			1.1/2"		2"	
L (mm/in)			**165,1**	6,50	**190,5**	7,50	**215,9**	8,50		**241,3**	9,50	**292,1**	11,50
H (mm/in)			**176**	6,93	**206**	8,11	**216**	8,50		**255**	10,04	**334**	13,15
K (mm/in)			**90**	3,54	**100**	3,94	**120**	4,72		**140**	5,51	**200**	7,87
E (mm/in)			**14**	0,55	**18**	0,71	**24**	0,94		**34**	1,34	**48**	1,89
Wt. (kg/lb)			**3,9**	8,6	**7,0**	15,4	**10,3**	22,7		**16,5**	36,3	**25,0**	55,0
Catal. no.													

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FORGED GATE VALVES

GATE VALVE CLASS 1500 FORGED STEEL BOLTED BONNET FLANGED END RF/RJ

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H

Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

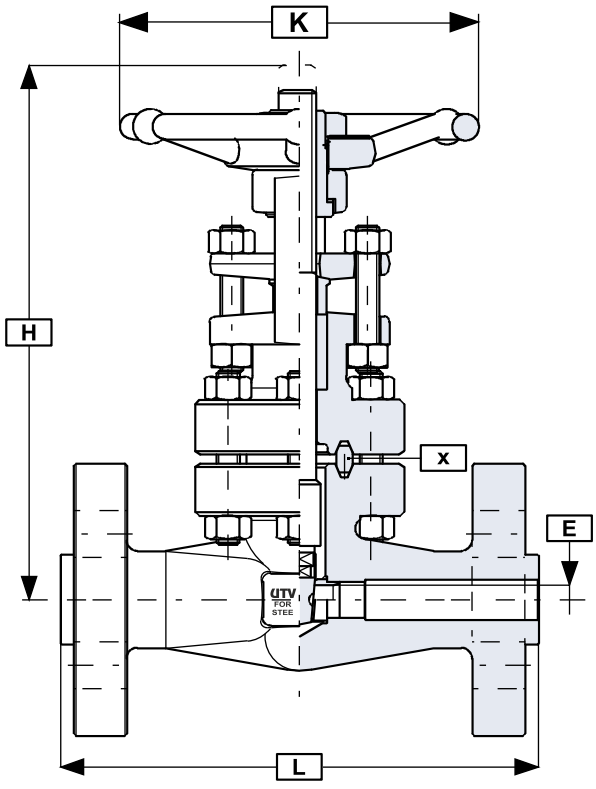
Hydraulic: *(minimum)*
Body - 5575 p.s.i.
Seat - 4100 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	BS 6755 (Pt.1)

Connections

RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		



STANDARD BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**215,9** 8,50	**228,6** 9,00	**254,0** 10,00		**304,8** 12,00	**368,3** 14,50
H (mm/in)			**212** 8,35	**256** 10,08	**272** 10,71		**411** 16,18	**422** 16,61
K (mm/in)			**120** 4,72	**175** 6,89	**175** 6,89		**260** 10,24	**260** 10,24
E (mm/in)			**11,5** 0,45	**15** 0,59	**19,5** 0,77		**32** 1,26	**40** 1,57
Wt.(kg/lb)			**9,7** 21,3	**15,5** 34,1	**17,5** 38,5		**38,5** 84,7	**56,0** 123,2
Catal. no.								

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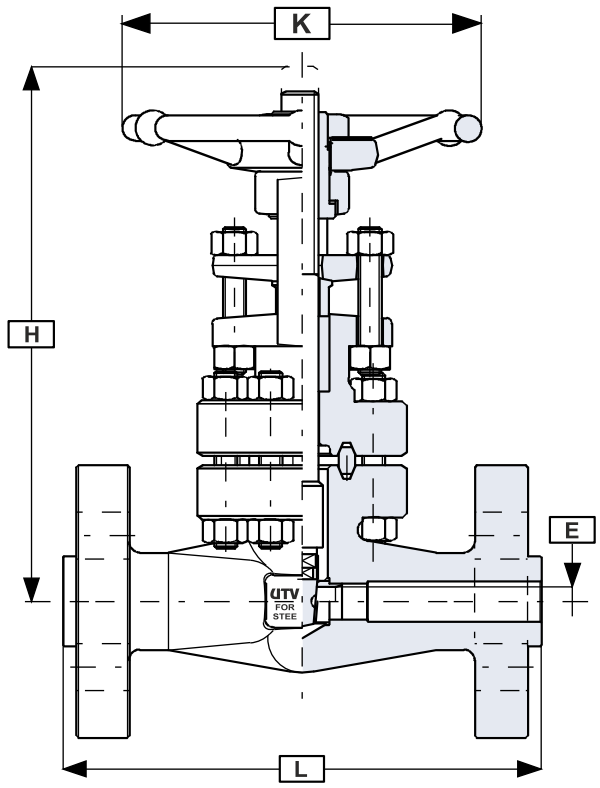
GATE VALVE CLASS 2500 FORGED STEEL BOLTED BONNET FLANGE D END RF/RJ

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H



Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 9275 p.s.i.
Seat - 6800 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	*founded on* ASME B16.34
Flanged	ASME B16.5, ASME B16.10
Test	API 598-ASME B16.34

Connections

RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small male	**LT**	Large tongue
SM	Small male		
ST	Small tongue		

STANDARD BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**263,5** 10,37	**273,0** 10,75	**308,0** 12,13		**384,2** 15,13	**450,8** 17,75
H (mm/in)			**212** 8,35	**256** 10,08	**272** 10,71		**411** 16,18	**422** 16,61
K (mm/in)			**140** 5,51	**200** 7,87	**200** 7,87		**260** 10,24	**350** 13,77
E (mm/in)			**10** 0,39	**14** 0,55	**18** 0,71		**31** 12,21	**36,5** 1,44
Wt.(kg/lb)			**9,9** 21,8	**15,8** 34,8	**17,9** 39,4		**39,1** 86,3	**56,8** 125,0
Catal.no.								

FORGED GATE VALVES

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FORGED GATE VALVES

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GATE VALVE FORGED STEEL WELDED BONNET
CLASS 1500 / 2500 SW/NPT/BW

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

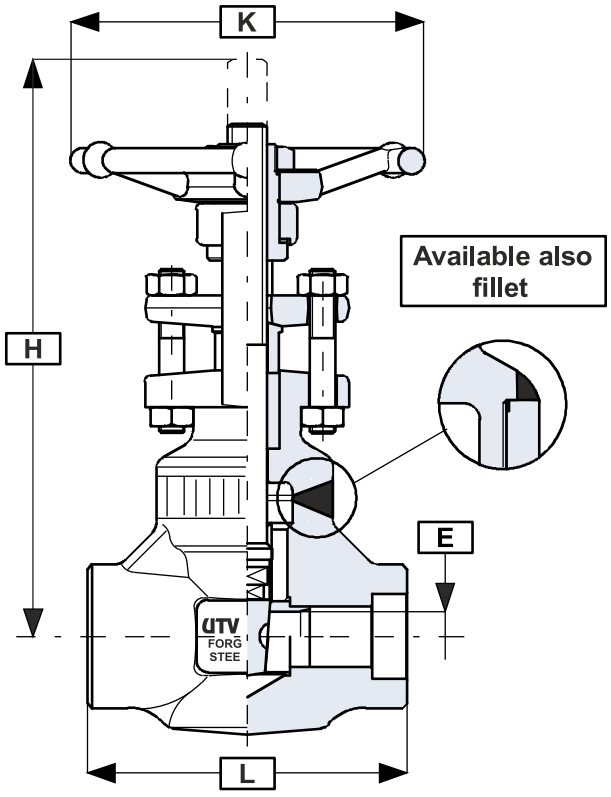
Hydraulic: *(minimum)*
Body - 5575 p.s.i.
Seat - 4100 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	BS 5352
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	BS 6755 (Pt.1)

Connections

SW	Socket weld	**B8**	Butt weld 80
TH	threaded NPT		
TS	Sw/NPT		
SE	Sw(e)/NPT		
SU	Sw(u)/NPT		
B6	Butt weld 160		



STANDARD BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**90** 3,54	**110** 4,33	**127** 5,00		**130** 5,12	**150** 5,90
H (mm/in)			**175** 6,88	**217** 8,54	**234** 9,54		**295** 11,61	**375** 14,76
K (mm/in)			**120** 4,72	**175** 6,89	**175** 6,89		**200** 7,87	**260** 10,24
E (mm/in)			**11,5** 0,45	**15** 0,59	**19,5** 0,77		**32** 1,26	**40** 1,57
Wt.(kg/lb)			**2,0** 4,4	**3,2** 7,0	**4,9** 10,8		**8,5** 18,7	**15** 33
Catal.no.								

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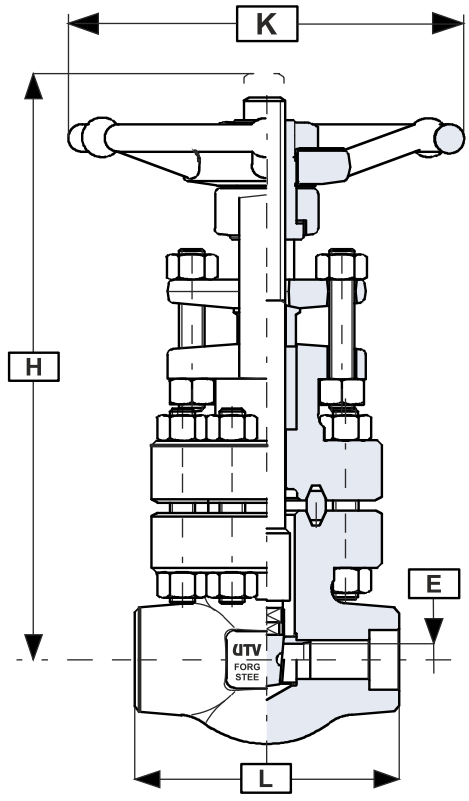
GATE VALVE FORGED STEEL CLASS 1500/2500
BOLTED BONNET SE / SW / BW

FORGED GATE VALVES

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22,
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil



Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 9275 p.s.i.
Seat - 6800 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	*founded on* ASME B16.34
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	API 598-ASME B16.34

Connections

SW	Socket weld
TH	Threaded NPT
TS	Sw/NPT
SE	Sw(e)/NPT
SU	Sw8u)/NPT
B6	Butt weld 160

STANDARD BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**110** 4,33	**115** 4,53	**130** 5,12		**210** 8,27	**240** 9,45
H (mm/in)			**212** 8,35	**256** 10,08	**272** 10,71		**411** 16,18	**422** 16,61
K (mm/in)			**140** 5,51	**200** 7,87	**200** 7,87		**260** 10,24	**350** 13,77
E (mm/in)			**10** 0,48	**14** 0,55	**18** 0,71		**31** 1,22	**36,5** 1,44
Wt.(kg/lb)			**6,1** 13,4	**8,7** 19,1	**10,2** 22,4		**27,4** 60,3	**36,2** 79,6
Catal.no.								

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FORGED GLOBE VALVES

GLOBE VALVE WELDED BONNET FORGED STEEL CLASS 1500 / 2500

Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 5575 p.s.i.
Seat - 4100 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	BS 5352
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	BS 6755 (Pt.1)

Connections

SW	Socket weld	**B8**	Butt weld 80
TH	threaded NPT		
TS	Sw/NPT		
SE	Sw(e)/NPT		
SU	Sw(u)/NPT		
B6	Butt weld 160		

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

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GLOBE & NEEDLE TYPE VALVE CLASS 150
FORGED STEEL FLANGED END RF

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

150 p.s.i. @ 550°F
285 p.s.i. @ 100°F

Test pressure (ASTM A105)

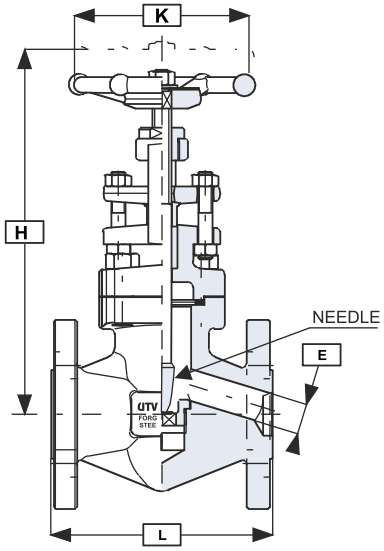
Hydraulic: *(minimum)*
Body - 450 p.s.i.
Seat - 325 p.s.i.
Air under water:
Seat - 85 p.s.i.

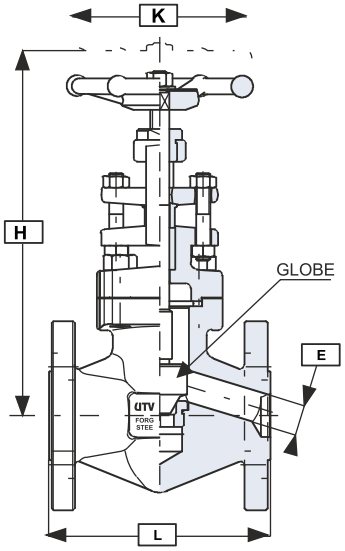
Standards

Construction	BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	BS 6755 (Pt.1)

Connections

RF Raised face (std.)
FF Flat finish





REDUCED BORE

		1/4"	1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)		107,9 4,25	107,9 4,25	117,5 4,63	127,0 5,00		165,1 6,50	203,2 8,00
H (mm/in)		186 7,32	186 7,32	189 7,44	203 7,99		283 11,14	314 12,36
K (mm/in)		90 3,54	90 3,54	90 3,54	100 3,94		140 5,51	140 5,51
E (mm/in)		9 0,35	9 0,35	12,5 0,49	17,5 0,69		28(4) 1,10	32(5) 1,26
Wt.(kg/lb)		3,1 6,8	3,1 6,8	4 8,8	5,7 12,5		10,6 23,3	15,4 33,9
Catal.no.								

FULL BORE

		1/4"	1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)		107,94,25	107,94,25	117,5 4,63	127,0 5,00		165, 1 6,50	203,2 8,00
H (mm/in)		1887,40	1887,40	192 7,56	207 8,15		283 11,14	314 12,36
K (mm/in)		903,54	903,54	100 3,94	120 4,72		140 5,51	200 7,87
E (mm/in)		12,50,49	12,50,49	17,5 0,69	22,5 0,89		32 1,26	38 1,57
Wt.(kg/lb)		3 6,6	3 6,6	3,9 8,6	5,6 12,3		10,6 23,3	15,8 34,8
Catal.no.								

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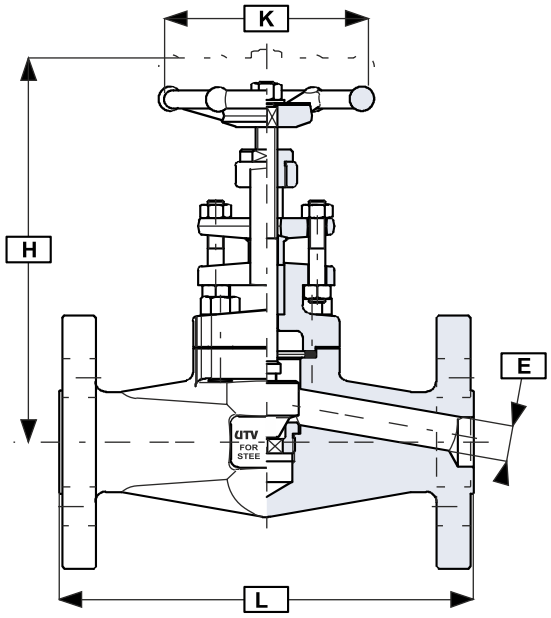
GLOBE VALVE CLASS 300 FORGED STEEL BOLTED BONNET FLANGED END RF/RJ

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H



Ratings (ASTM A105)

300 p.s.i. @ 850°F
740 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic *(minimum)*
Body - 1125 p.s.i.
Seat - 825 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	BS 6755 (Pt.1)

Connections

RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		

REDUCED BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**152,4** 5,98	**177,8** 7,00	**203,2** 8,00		**228,6** 9,00	**266,7** 10,50
H (mm/in)			**152** 5,98	**159** 6,26	**182** 7,17		**283** 11,14	**306** 12,05
K (mm/in)			**90** 3,54	**90** 3,54	**100** 3,94		**140** 5,51	**140** 5,51
E (mm/in)			**9** 0,35	**12,5** 0,49	**17,5** 0,69		**28**(4) 1,10	**32**(5) 1,26
Wt. (kg/lb)			**3,4** 7,5	**4,8** 10,6	**7,0** 15,4		**14,2** 31,2	**17,4** 38,3
Catal. no.								

FULL BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**152,4** 5,98	**177,8** 7,00	**203,2** 8,00		**228,6** 9,00	**266,7** 10,50
H (mm/in)			**152** 5,98	**159** 6,26	**182** 7,17		**283** 11,14	**306** 12,05
K (mm/in)			**90** 3,54	**100** 3,94	**120** 4,72		**140** 5,51	**200** 7,87
E (mm/in)			**13** 0,51	**17,5** 0,69	**22,5** 0,89		**34** 1,34	**45** 1,77
Wt. (kg/lb)			**3,4** 7,5	**4,8** 10,6	**7,0** 15,4		**14,2** 31,2	**17,4** 38,3
Catal. no.								

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FORGED GLOBE VALVES

GLOBE VALVE CLASS 600 FORGED STEEL FLANGE END RF / RJ

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H

Ratings (ASTM A105)

600 p.s.i. @ 850°F
1480 p.s.i. @ 100°F

Test pressure (ASTM A105)

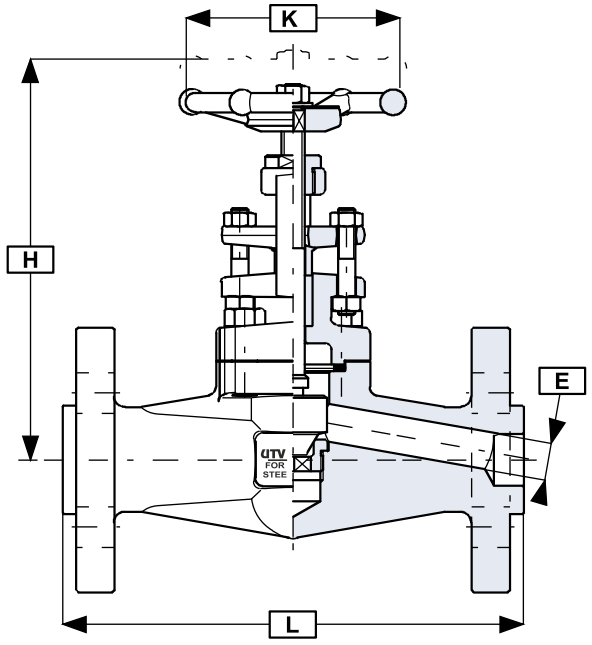
Hydraulic: *(minimum)*
Body - 2225 p.s.i.
Seat - 1650 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	BS 6755 (Pt.1)

Connections

RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		



REDUCED BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**165,1** 6,50	**190,5** 7,50	**215,9** 8,50		**241,3** 9,50	**292,1** 11,50
H (mm/in)			**152** 5,98	**159** 6,26	**182** 7,17		**283** 11,14	**306** 12,05
K (mm/in)			**90** 3,54	**90** 3,54	**100** 3,94		**140** 5,51	**140** 5,51
E (mm/in)			**9** 0,35	**12,5** 0,49	**17,5** 0,69		**28**(4) 1,10	**32**(5) 1,26
Wt.(kg/lb)			**3,6** 7,9	**5,1** 11,2	**7,8** 17,2		**14,2** 31,2	**19,4** 42,7
Catal.no.								

FULL BORE

			1/2"	3/4"	1"		1.1/2"	2"
Ff (mm/in)			**165,1** 6,50	**190,5** 7,50	**215,9** 8,50		**241,3** 9,50	**292,1** 11,50
Ha (mm/in)			**159** 6,26	**182** 7,17	**214** 8,43		**306** 12,05	**327** 12,87
Vl (mm/in)			**90** 3,54	**100** 3,94	**120** 4,72		**140** 5,51	**200** 7,87
Pf (mm/in)			**12** 0,47	**17,5** 0,69	**22,5** 0,89		**34** 1,34	**45** 1,77
Wt.(kg/lb)			**3,8** 8,4	**6,8** 15,0	**10,3** 22,7		**17,8** 39,2	**26,8** 59,0
Catal.no.								

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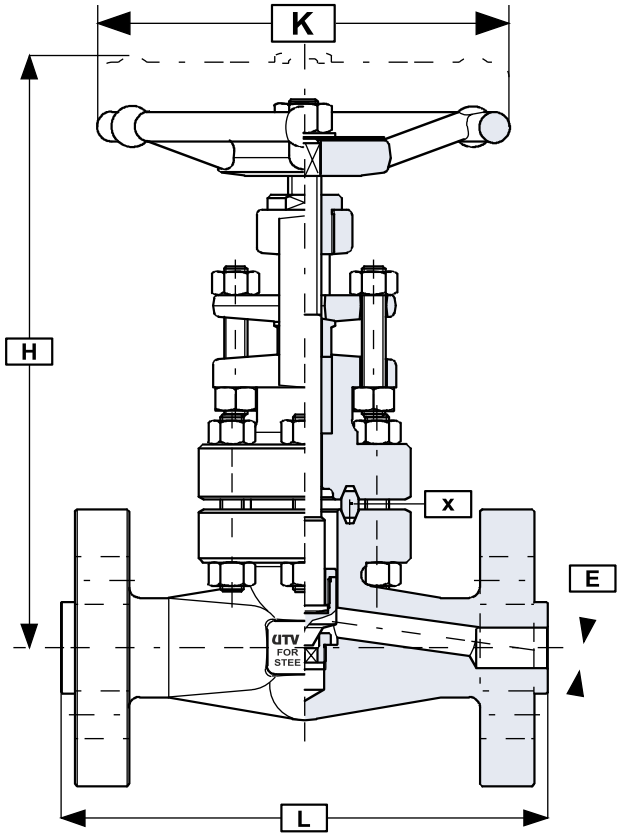
GLOBE VALVE CLASS 1500 FORGED STEEL BOLTED BONNET FLANGED END RF/RJ

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H



Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic *(minimum)*
Body - 5575 p.s.i.
Seat - 4100 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	BS 6755 (Pt.1)

Connections

RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		

STANDARD BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**215,9** 8,49	**228,6** 9,00	**254,0** 10,00		**304,8** 12,00	**368,3** 14,50
H (mm/in)			**218** 8,58	**274** 10,79	**286** 11,26		**427** 16,81	**433** 17,05
K (mm/in)			**120** 4,72	**175** 6,89	**175** 6,89		**260** 10,24	**260** 10,24
E (mm/in)			**11** 0,43	**14,5** 0,57	**19** 0,75		**31** 1,22	**37,5** 1,48
Wt.(kg/lb)			**9,4** 20,7	**15,2** 33,44	**17,3** 38,1		**37,9** 83,4	**55,2** 121,4
Catal.no.								

FORGED GLOBE VALVES

FORGED GLOBE VALVES

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GLOBE VALVE CLASS 2500 FORGED STEEL BOLTED BONNET FLANGED END RJ/RF

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

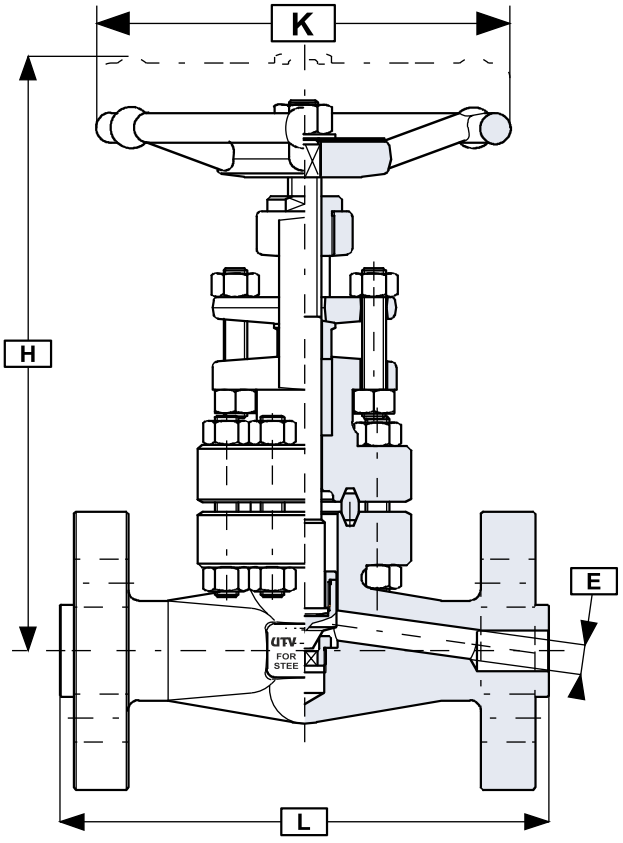
Hydraulic: *(minimum)*
Body - 9275 p.s.i.
Seat - 6800 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	*founded on* ASME B16.34
Flanged	ASME B16.5, ASME B16.10
Test	API 598-ASME B16.34

Connections

RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		



STANDARD BORE								
			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			263,5 10,37	273,0 10,75	308,0 12,13		384,2 15,13	450,8 17,15
H (mm/in)			218 8,58	274 10,79	286 11,26		427 16,81	433 17,05
K (mm/in)			140 5,51	200 7,87	200 7,87		260 10,24	350 13,77
E (mm/in)			10 0,39	13 0,51	18 0,71		25 0,98	34 1,33
Wt.(kg/lb)			9,6 21,1	15,4 33,9	17,4 38,3		38,5 84,7	55,9 123,0
Catal.no.								

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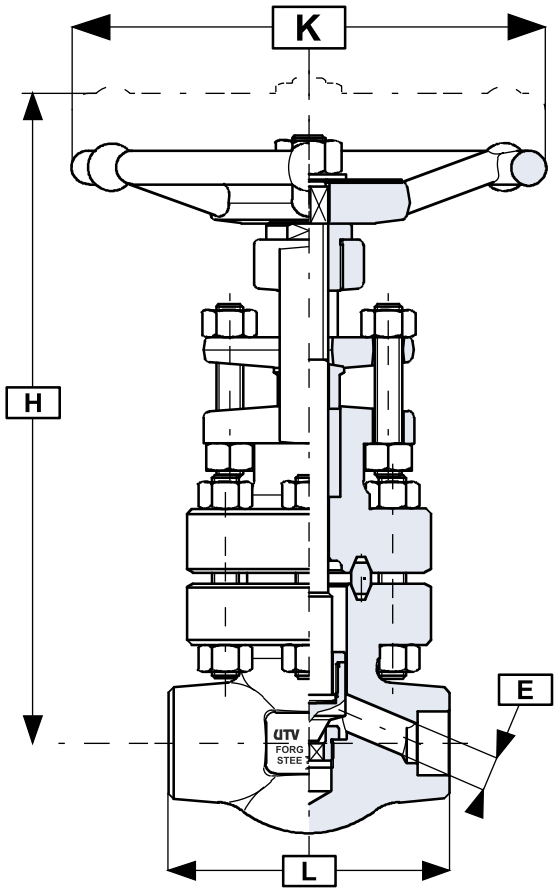
GLOBE VALVE FORGED STEEL BOLTED BONNET CLASS 1500 SW/NPT/BW

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H



Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic *(minimum)*
Body - 5575 p.s.i.
Seat - 4100 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	BS 5352
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	BS 6755 (Pt.1)

Connections

SW	Socket weld
TH	Threaded NPT
TS	Sw/NPT
SE	Sw (in)/NPT
SU	Sw (out)/NPT
B6	Butt weld 160
B8	Butt weld 80

STANDARD BORE

			1/2"	3/4"	1"	1.1/2"	2"
L (mm/in)			110 4,33	115 4,53	130 5,12	210 8,27	240 9,45
H (mm/in)			218 8,58	274 10,79	286 11,26	427 16,8	433 17,05
K (mm/in)			120 4,72	175 6,89	175 6,89	260 10,24	260 10,24
E (mm/in)			11 0,43	14,5 0,57	19 0,75	31 1,22	37,5 1,48
Wt.(kg/lb)			5,6 12,3	8,0 17,6	9,3 20,5	26,2 57,6	34,5 75,9
Catal.no.							

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FORGED GLOBE VALVES

GLOBE VALVE FORGED STEEL BOLTED BONNET
CLASS 2500 SW/NPT/BW

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Wedge	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

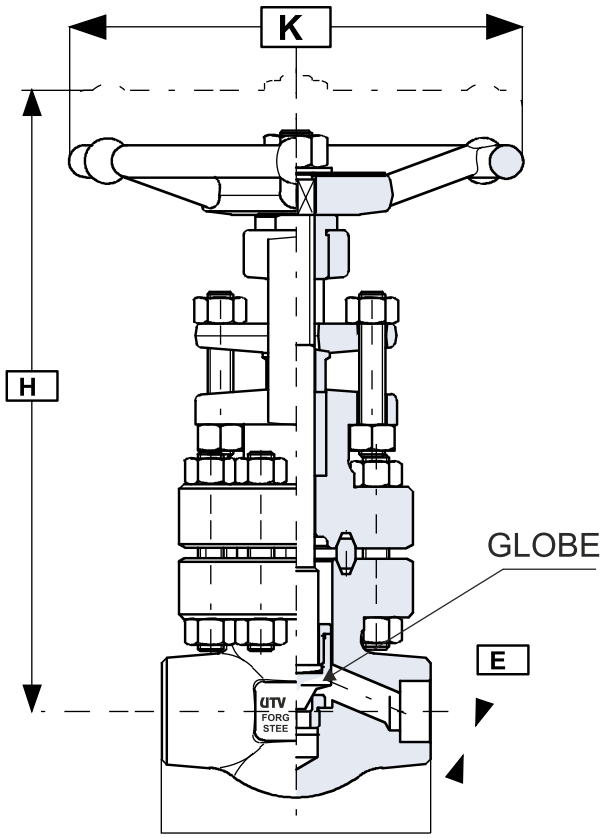
Hydraulic: *(minimum)*
Body -9275 p.s.i.
Seat - 6800 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	founded on ASME B16.34
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	API 598-ASME B16.34

Connections

SW	Socket weld
TH	Threaded NPT
TS	*Sw/NPT*
SE	Sw(in)/NPT
SU	Sw(out)/NPT
B4	Butt weld 160



STANDARD BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**110** 4,33	**115** 4,52	**130** 5,12		**210** 8,27	**240** 9,45
H (mm/in)			**218** 8,58	**260** 10,24	**268** 10,55		**427** 16,81	**433** 17,05
K (mm/in)			**140** 5,51	**200** 7,87	**200** 7,87		**260** 10,24	**350** 13,77
E (mm/in)			**10** 0,39	**13** 0,51	**18** 0,71		**25** 0,98	**34** 1,33
Wt. (kg/lb)			**5,8** 13,0	**8,3** 18,3	**9,7** 21,3		**26,8** 59,0	**35,3** 77,7
Catal. no.								

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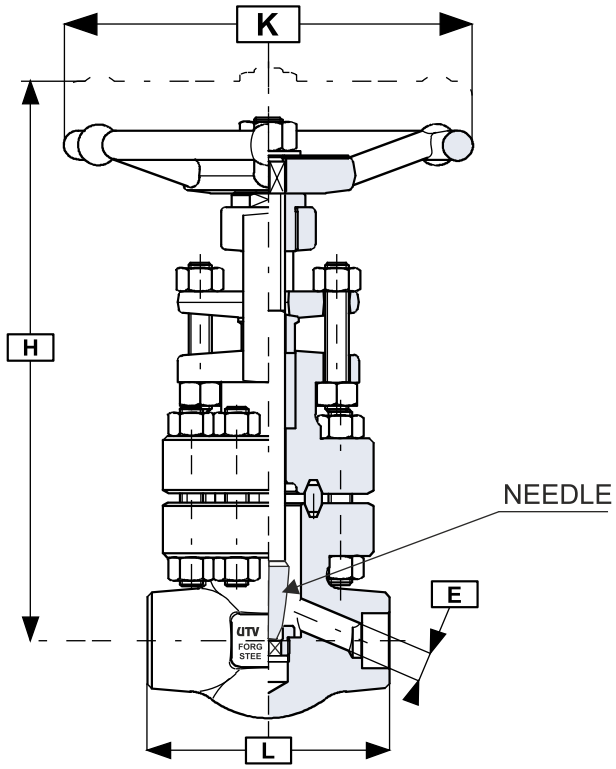
GLOBE & NEEDLE TYPE VALVE FORGED STEEL CLASS 2500 / 3000 SW/NPT/BW

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Bonnet	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Trim	:	ASTM A82 Gr. F6, 11, 12, 8, 5
Seat	:	HF Stellited
Gland Packing	:	Graphite Asbestos, INHIB, inconel wire rein
Bolt + Nut	:	B7/2H - B8/8 or B7/2H



Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body -9275 p.s.i.
Seat - 6800 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction	founded on ASME B16.34
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	API 598-ASME B16.34

Connections

SW	Socket weld
TH	Threaded NPT
TS	Sw/NPT
SE	Sw(in)/NPT
SU	Sw(out)/NPT
B4	Butt weld 160

STANDARD BORE

	1/2"	3/4"	1"	1.1/2"	2"
L (mm/in)	110 4,33	115 4,52	130 5,12	210 8,27	240 9,45
H (mm/in)	218 8,58	260 10,24	268 10,55	427 16,81	433 17,05
K (mm/in)	140 5,51	200 7,87	200 7,87	260 10,24	350 13,77
E (mm/in)	10 0,39	13 0,51	18 0,71	25 0,98	34 1,33
Wt. (kg/lb)	5,8 13,0	8,3 18,3	9,7 21,3	26,8 59,0	35,3 77,7
Catal. no.					

FORGED NEEDLE GLOBE VALVES

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FORGED CHECK VALVES

CHECK VALVE CLASS 800/600 FORGED STEEL SCREW / SOCKET WELD / BUTT WELD

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Cover	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Seat	:	HF Stellited SS/304/316/Cr. 13%
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

800 p.s.i. @ 850°F
1975 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 3000 p.s.i.
Seat - 2175 p.s.i.
Air under water:
not applicable

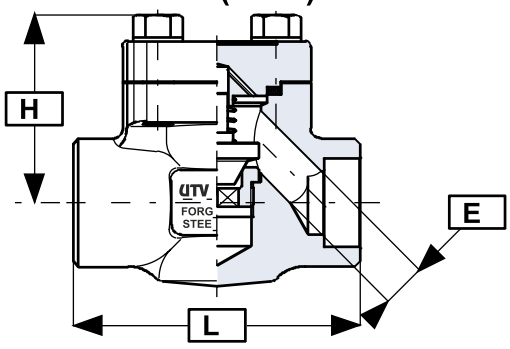
Standards

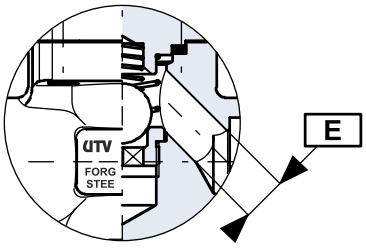
Construction	*BS 5352*
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	BS 6755 (Pt.1)

Connections

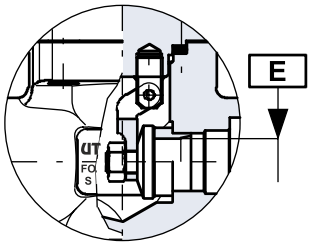
SW	Socket weld	**B8**	Butt weld 80
TH	Threaded NPT		
TS	Sw/NPT		
SE	Sw (in)/NPT		
SU	Sw (out)/NPT		
B4	Butt weld 40		

Piston (.P4../)





Ball (.B4../)



Swing (.S5../)

REDUCED BORE

			1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
L (mm/in)			**80** 3,15	**90** 3,54	**110** 4,33	**127** 5,00	**155** 6,10	**170** 6,69
H (mm/in)			**50** 1,97	**56** 2,20	**74** 2,91	**79** 3,11	**100** 3,94	**109** 4,29
E [7] (mm/in)			**9** 0,35	**12,5** 0,49	**17,5** 0,69	**22,5** 0,89	**28**[4] 1,10	**32**[5] 1,26
Wt. (kg/lb)			**1,1** 2,4	**1,8** 4,0	**2,6** 5,7	**3,6** 7,9	**5,5** 12,1	**8,4** 18,5
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FULL BORE

	1/4"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
L (mm/in)	**80** 3,15	**80** 3,15	**90** 3,54	**110** 4,33	**127** 5,00	**155** 6,10	**170** 6,69	**210** 8,27
H (mm/in)	**50** 1,97	**50** 1,97	**56** 2,20	**74** 2,91	**79** 3,11	**100** 3,94	**109** 4,29	**135** 5,31
E [7] (mm/in)	**6,5** 0,26	**9** 0,35	**12,5** 0,49	**17,5** 0,69	**22,5** 0,89	**28**[4] 1,10	**32**[5] 1,26	**38**[6] 1,50
Wt. (kg/lb)	**1,1** 2,4	**1,1** 2,4	**1,8** 4,0	**2,6** 5,7	**3,6** 7,9	**5,5** 12,1	**8,4** 18,5	**11,8** 26,0
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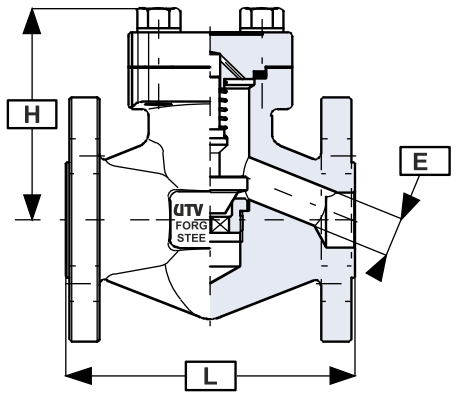
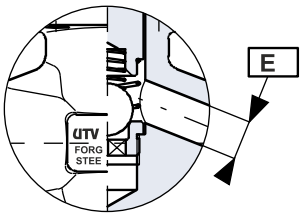
CHECK VALVE FORGED STEEL CLASS 150 B 16.5

Material of Construction

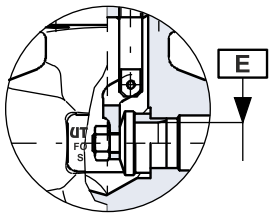
Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Cover	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Seat	:	HF Stellited SS/304/316/Cr. 13%
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Piston (.P4../15)





Ball (.B4../15)



Swing (.S5../15)

Ratings (ASTM A105)

150 p.s.i. @ 550°F
285 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 450 p.s.i.
Seat - 325 p.s.i.
Air under water:
not applicable

Standards

Construction	BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	BS 6755 (Pt.1)

Connections

RF Raised face (std.)
FF Flat finish

REDUCED BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			107,9 4,25	117,5 4,63	127,0 5,00		165,1 6,50	203,2 8,00
H (mm/in)			84 3,31	87 3,43	92 3,62		97 3,82	124 4,88
E (6) (mm/in)			9 0,35	12,5 0,49	17,5 0,69		28 (4) 1,10	32 (5) 1,26
Wt. (kg/lb)			2,6 5,7	3,8 8,4	5,1 11,2		8,4 18,5	14,2 31,2
Catal. no.								

FULL BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			107,9 4,25	117,5 4,63	127,0 5,00		165,1 6,50	203,2 6,50
H (mm/in)			84 3,31	87 3,43	92 3,62		110 4,33	124 4,88
E (6) (mm/in)			12,5 0,49	17,5 0,69	22,5 0,89		32 1,38	38 1,50
Wt. (kg/lb)			2,6 5,7	3,8 8,4	5,1 11,2		8,4 18,5	14,7 31,2
Catal. no.								

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FORGED CHECK VALVES

CHECK VALVE FORGED STEEL CLASS 300
BOLTED COVER FLANGED END RF/RJ

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Cover	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Seat	:	HF Stellited SS/304/316/Cr. 13%
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

300 p.s.i. @ 850°F
740 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 1125 p.s.i.
Seat - 825 p.s.i.
Air under water:
not applicable

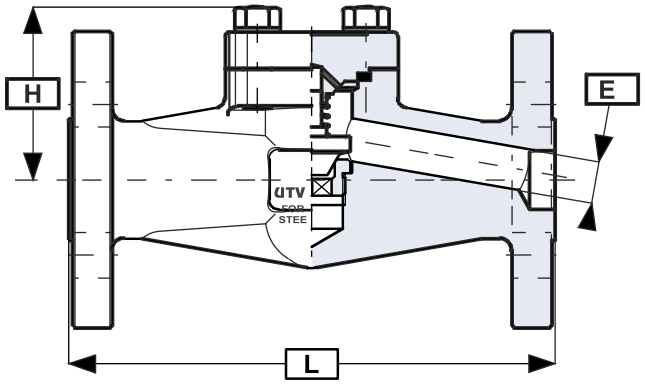
Standards

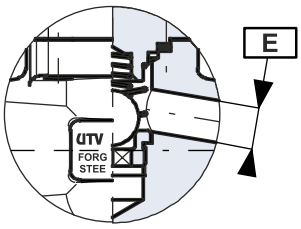
Construction	BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	BS 6755 (Pt.1)

Connections

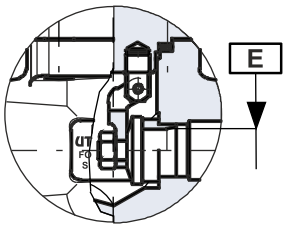
RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		

Piston (.P4../30)





Ball (.B4../30)



Swing (.S5../30)

REDUCED BORE									
			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**152,4** 6,00	**177,8** 7,00	**203,2**[6] 8,00		**228,6**[6] 9,00	**266,7** 10,50
H (mm/in)			**50** 1,97	**56** 2,20	**74** 2,91		**100** 3,94	**109** 4,29
E[7] (mm/in)			**9** 0,35	**12,5** 0,49	**17,5** 0,69		**28**[4] 1,10	**32**[5] 1,26
Wt. (kg/lb)			**2,5** 5,5	**4,2** 9,2	**5,7** 12,5		**11,2** 24,6	**14,4** 31,7
Catal. no.								

FULL BORE								
			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**152,4** 6,00	**177,8** 7,00	**203,2**[6] 8,00		**228,6**[6] 9,00	**266,7** 10,50
H (mm/in)			**50** 1,97	**56** 2,20	**92** 3,62		**110** 4,33	**140** 5,51
E[7] (mm/in)			**12,5** 0,49	**17,5** 0,69	**22,5** 0,89		**35** 1,38	**45** 1,77
Wt. (kg/lb)			**2,5** 5,5	**4,2** 9,2	**5,7** 12,5		**11,2** 24,6	**14,4** 31,7
Catal. no.								

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CHECK VALVE CLASS 600 FORGED STEEL BOLTED COVER FLANGED END RF/RJ

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Cover	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Seat	:	HF Stellited SS/304/316/Cr. 13%
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

600 p.s.i. @ 850°F
1480 p.s.i. @ 100°F

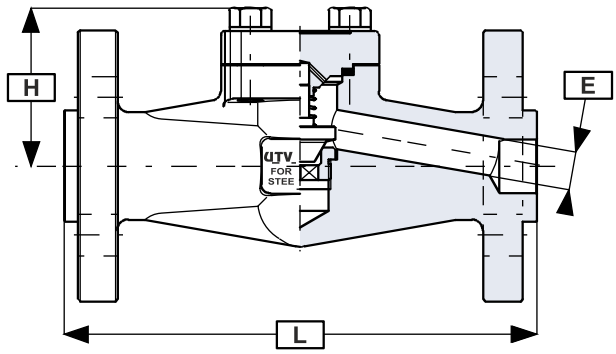
Test pressure (ASTM A105)

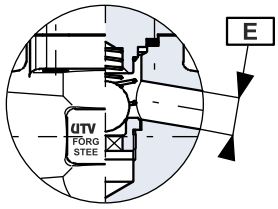
Hydraulic: *(minimum)*
Body - 2225 p.s.i.
Seat - 1650 p.s.i.
Air under water:
not applicable

Standards

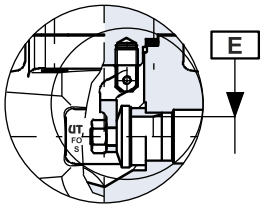
Construction	BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	BS 6755 (Pt.1)

Piston (.P4../60)





Ball (.B4../60)



Swing (.S5../60)

Connections

RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		

REDUCED BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			165,1 6,50	190,5 7,50	215,9 8,50		241,3 9,50	292,1 11,50
H (mm/in)			50 1,97	56 2,20	74 2,91		100 3,94	109 4,29
E (6) (mm/in)			9 0,35	12,5 0,49	17,5 0,69		28 (4) 1,10	32 (5) 1,26
Wt.(kg/lb)			3,1 6,8	5 11,0	7,3 16,1		12 26,4	16,6 36,5
Catal.no.								

FULL BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			165,1 6,50	190,5 7,50	215,9 8,50		241,3 9,50	292,1 11,50
H (mm/in)			50 1,97	56 2,20	92 3,62		110 4,33	140 5,51
E (6) (mm/in)			12,5 0,49	17,5 0,69	22,5 0,89		35 1,38	45 1,77
Wt.(kg/lb)			3,1 6,8	5 11,0	7,3 16,1		12 26,4	16,6 36,5
Catal.no.								

FORGED CHECK VALVES

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FORGED CHECK VALVES

CHECK VALVE CLASS 1500 FORGED STEEL BOLTED COVER FLANGED END RF/RJ

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Cover	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Seat	:	HF Stellited SS/304/316/Cr. 13%
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 5575 p.s.i.
Seat - 4100 p.s.i.
Air under water:
not applicable

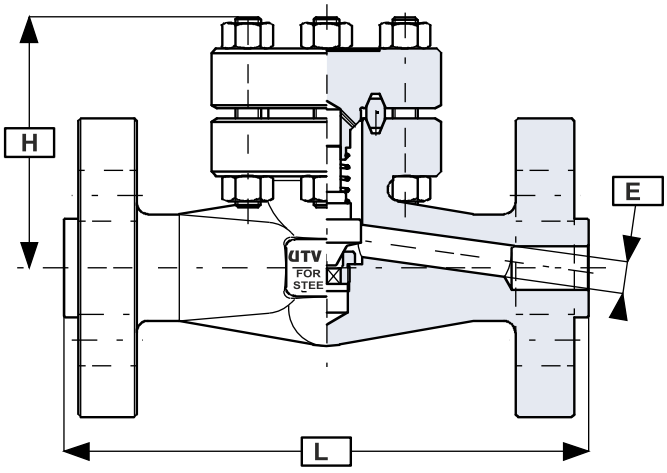
Standards

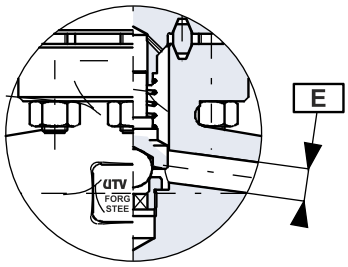
Construction	BS 5352
Flanged	ASME B16.5, ASME B16.10
Test	BS 6755 (Pt.1)

Connections

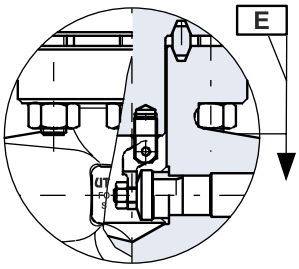
RF	Raised face (std.)	**LF**	Large female
RJ	Ring joint	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		

Piston (P.../150)





Ball (B.../150)



Swing (S.../150)

STANDARD BORE									
			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			215,9 8,50	228,6 9,00	254,0 10,00		304,8 12,00	368,3 14,50
H (mm/in)			93 3,66	109 4,29	122 4,80		158 6,22	171 6,73
E (4) (mm/in)			11 0,43	14,5 0,57	19 0,75		31 1,22	37,5 1,48
Wt. (kg/lb)			7,5 16,5	10,9 24,0	14,4 31,7		30,3 67,0	44,0 96,8
Catal. no.								

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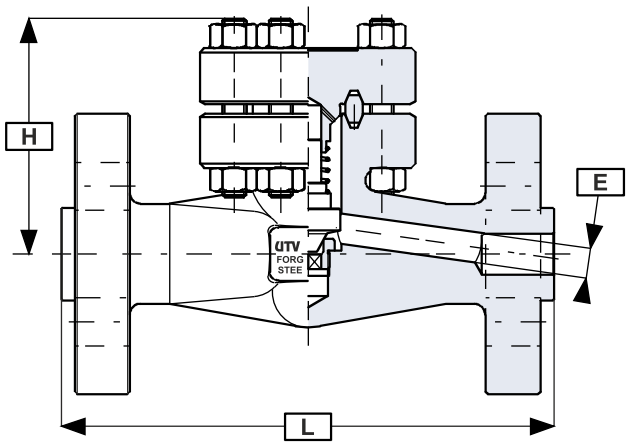
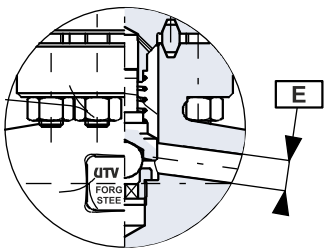
CHECK VALVE CLASS 2500 FORGED STEEL BOLTED COVER FLANGED END RF/RJ

Material of Construction

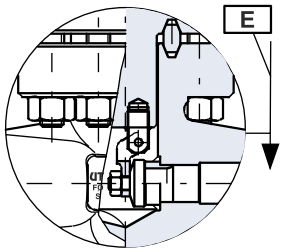
Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Cover	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Seat	:	HF Stellited SS/304/316/Cr. 13%
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Piston (P.../250)





Ball (B.../250)



Swing (S.../250)

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 9275 p.s.i.
Seat - 6800 p.s.i.
Air under water:
not applicable

Standards

Construction	*founded on* ASME B16.34
Flanged	ASME B16.5, ASME B16.10
Test	API 598-ASME B16.34

Connections

RF	Raised face (std.)	**LF**	Large female
R²	Ring t	**LG**	Large groove
SF	Small female	**LM**	Large male
SG	Small groove	**LT**	Large tongue
SM	Small male		
ST	Small tongue		

FORGED CHECK VALVES

STANDARD BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			**263,5** 10,37	**273,0** 10,75	**308,0** 12,13		**384,2** 15,13	**450,8** 17,75
H (mm/in)			**93** 3,66	**109** 4,29	**122** 4,80		**158** 6,22	**171** 6,73
E[4] (mm/in)			**10** 0,39	**13** 0,51	**18** 0,71		**25** 0,98	**34** 1,33
Wt. (kg/lb)			**8,5** 18,7	**12,5** 27,5	**19,2** 42,2		**40,8** 89,8	**59,0** 129,8
Catal. no.								

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FORGED CHECK VALVES

CHECK VALVE FORGED STEEL BOLTED COVER CLASS 1500 SW/NPT/BW

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Cover	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Seat	:	HF Stellited SS/304/316/Cr. 13%
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 5575 p.s.i.
Seat - 4100 p.s.i.
Air under water:
not applicable

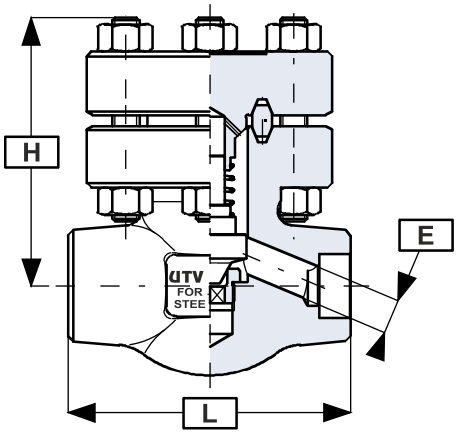
Standards

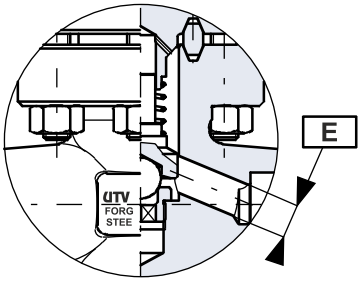
Construction	BS 5352
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	BS 6755 (Pt.1)

Connections

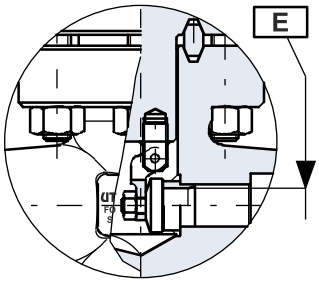
SW	Socket weld	**B8**	Butt weld 80
TH	Threaded NPT		
TS	Sw/NPT		
SE	Sw (in)/NPT		
SU	Sw (out)/NPT		
B6	Butt weld 160		

Piston (P.../)





Ball (B.../)



Swing (S.../)

STANDARD BORE									
			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			110 4,33	115 4,53	130 5,12		210 8,27	240 9,45
H (mm/in)			93 3,66	109 4,29	122 4,80		158 6,22	171 6,73
E (4)(mm/in)			11 0,43	14,5 0,57	19 0,75		31 1,22	37,5 1,48
Wt. (kg/lb)			3,8 8,4	5,9 13,0	6,8 15,0		18,8 41,4	23,7 52,1
Catal. no.								

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CHECK VALVE FORGED STEEL BOLTED COVER CLASS 2500 SW / NPT/ BW

Material of Construction

Body	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Cover	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Plug	:	ASTM A105 N, CF8, CF8M, 316/316L NACE, F11, F22, LF2
Seat	:	HF Stellited SS/304/316/Cr. 13%
Bolt + Nut	:	B7/2H - B8/8 or B7/2H
Gasket	:	SPW SS304/316 with CAF/Grafoil

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: *(minimum)*
Body - 9275 p.s.i.
Seat - 6800 p.s.i.
Air under water:
not applicable

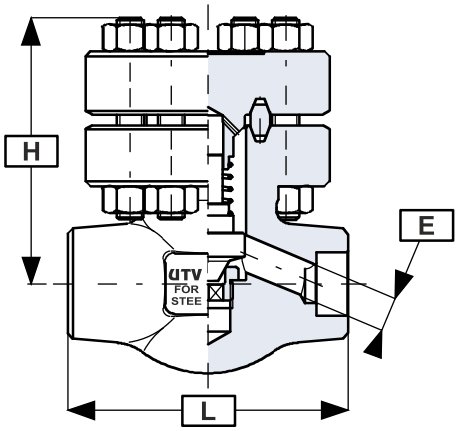
Standards

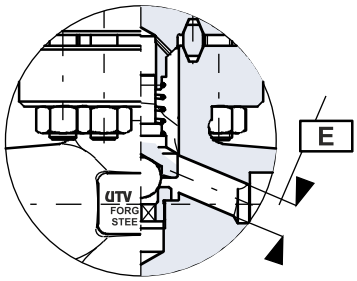
Construction	*founded on* ASME B16.34
Socket weld	ASME B16.11
Threaded	ASME B1.20.1
Butt weld	ASME B16.25
Test	API 598-ASME B16.34

Connections

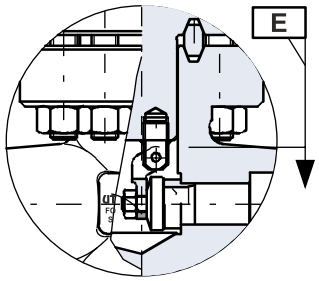
SW	Socket weld
TH	Threaded NPT
TS	Sw/NPT
SE	Sw (in)/NPT
SU	Sw (out)/NPT
B6	Butt weld 160

Piston (P..../)





Ball (B..../)



Swing (S..../)

STANDARD BORE

			1/2"	3/4"	1"		1.1/2"	2"
L (mm/in)			110 4,33	115 4,53	130 5,12		210 8,27	240 9,45
H (mm/in)			93 3,66	109 4,29	122 4,80		158 6,22	171 6,73
E [4] (mm/in)			10 0,39	13 0,51	18 0,71		25 0,98	34 1,33
Wt. (kg/lb)			4,0 8,8	6,2 13,6	7,2 15,8		19,4 42,7	24,5 53,9
Catal. no.								

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FLUSH BOTTOM VALVES

FLUSH BOTTOM VALVE OPEN IN TO TANK

FEATURES

- Since static pressure of the liquid in the tank acts to increase the contact pressure on the valve seat, it contributes to tight shut off.
  The valve body made of stainless steel is extremely corrosion resistant and durable.
- The soft seating arrangement can be provided.
- The plug/disk can be removed extremely without removing the valve plug from the body. This construction permits easy replacement the valve disk in a short time. The shape of the flow passage to discharge an immerse quantity of liquid from a vessel quickly.
- The internal design does not allow discharged liquid to remain in the valve.
- The valve plug is so constructed that the liquid is discharged when the valve stem is moved upwards.

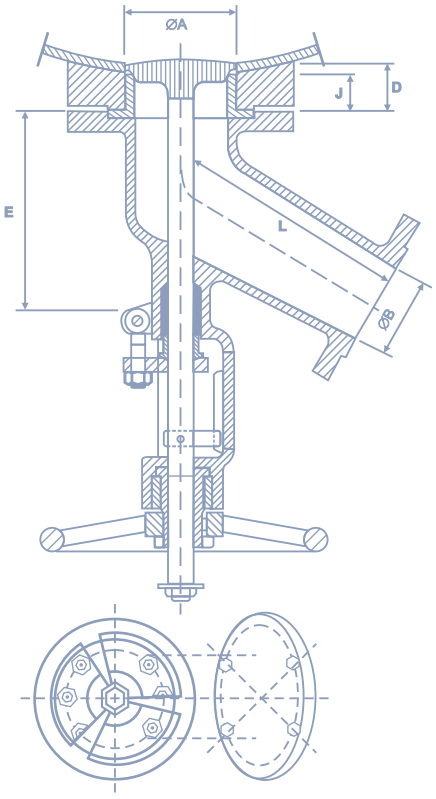
INSTALLATION NOTE

Install a discharge valve vertically with the hand wheel downwards. Do not install a valve horizontally as the valve stem may deviate from the centre line, causing leakage through the valve seat or the gland packing.

In designing the piping, note that the size of inlet connection is larger than the body size. Design the installation of a valve on a tank so that the valve seat and the bottom of the tank will be on the same level.

MATERIAL SPECIFICATION

Sr. No.	PARTS	MATERIALS
1	BODY	ASTM A 351 CF8M / CF8
2	BONNET	ASTM A 351 CF8M / CF8
3	SPINDLE	A 351 CF8M / CF8
4	PLUG	A 351 CF8M / CF8
5	PLUG NUT	A 351 CF8M / CF8
6	GLAND FLANGE	A 351 CF8M / CF8
7	GLAND BUSH	A 351 CF8M / CF8
8	EYE BOLT NUT	ASTM A 193 6R 87/24
9	CROSS BOLT NUT	ASTM A 193 6R 87/24
10	YOKE BUSH	DH BR / DUCTILE NI RE.
11	GRUB SCREW	ASTM A 193 6R 87/24
12	GLAND PACKING	PTFE
13	GASKET	SPW SS 304/316 With PTFE Filler
14	HAND WHEEL	C.I. M.S. S.G. IRON
15	WASHER	STAINLESS STEEL
16	STUD & NUT	B7/2H



DIMENSION

Valve Size in mm	CONN FLANGE IN X OUT	A	B	D	E	J	L
25	40 X 25	36	25	65	145	40	160
40	50 X 40	52	40	65	160	40	180
50	65 X 50	62	50	70	182	40	200
65	80 X 65	76	65	70	182	40	220
80	100 X 80	58	80	72	220	40	260
100	125 X 100	125	100	90	280	50	280
125	150 X 125	150	125	100	305	50	320
150	200 X 150	175	50	100	330	50	350

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	30
Seat	22
Seat Air Test :	7

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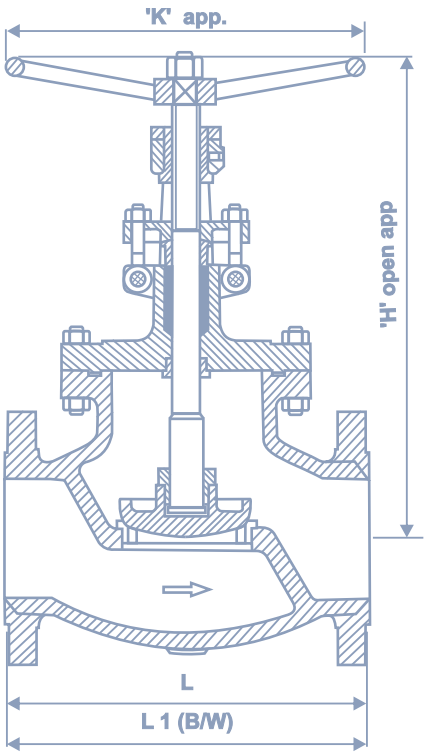
GLOBE VALVE CLASS 150 CAST STEEL BS 1873



MATERIAL SPECIFICATION

PARTS	MATERIALS		
BODY			A351 Gr. CF8/M
BONNET			A351 Gr. CF8/M
PLUG		WCB + 13% Cr. FACING	CF8/ CF8M
SEATRING		S.S. 304	CF8/ CF8M
BACKSEAT	S.S. 410		INTEGRAL
SPINDLE	S.S. 410		SS 304/SS 316
GLAND BUSH	S.S. 410		SS 304/SS 316
GLAND FLANGE	CARBON STEEL / WCB		S.S. 304
YOKE NUT	ASTM A 439 Gr. D2/ AL-BRONZE		
PLUG NUT	T 410		T 304
HAND WHEEL	CARBON STEEL / M.I		
HAND WHEEL NUT	Gr. 2H		Gr. 8
STUD & NUT	B7/ 2H	B16/7	B7 / 2H
EYE BOLT & NUT	B7/ 2H		B8 / 8
CROSS BOLT & NUT	B7/ 2H		B8 / 8
GASKET	SPW S.S. 304 / 316 WITH CAF		
GLAND PACKING	GRAPH. ASB. INHIB. & INCONEL WIRE REIN		
THRUST WASHER	T410 (HARDENED STEEL)		T 304
WASHER	STEEL		
GRUB SCREW	STEEL		
LOCK NUT	STEEL		
NAME PLATE	ALUMINIUM		

REF STANDARDS

MFG. AND DESIGN : BS 1873
FACE TO FACE : ANSI B 16.10
FLANGE DETAIL : ANSI B 16.5
INSPECTION AND TESTING: BS 6755

DIMENSION TABLE CLASS 150#

Valve Size in mm	2 50	2.5 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400
L	8.0 203	8.5 216	9.5 241	11.5 292	14.0 356	16.0 406	19.5 495	24.5 622	27.5 698	31.0 787	36.0 914
L 1	8.0 203	8.5 216	9.5 241	11.5 292	14.0 356	16.0 406	19.5 495	24.5 622	27.5 698	31.0 787	36.0 914
H app	320	330	380	480	525	575	650	780	935	1185	1250
oK app	200	200	250	300	300	350	450	500	600	700	750
Wt. kg app (F/E)	20	30	38	57	75	98	155	225	360	580	800

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	30
Seat and Back Seat	22
Seat Air Test :	7

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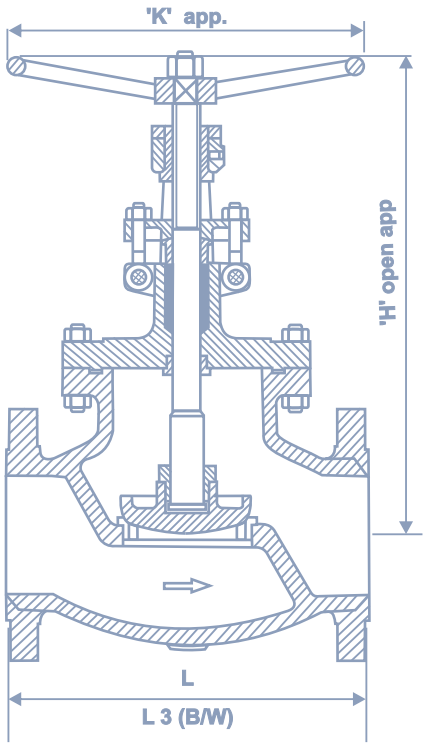
GLOBE VALVE CLASS 300 CAST STEEL BS 1873

MATERIAL SPECIFICATION

PARTS	MATERIALS		
BODY			A351 Gr. CF8/M
BONNET			A351 Gr. CF8/M
PLUG		WCB + 13% Cr. FACING	CF8/ CF8M
SEATRING		S.S. 304	CF8/ CF8M
BACKSEAT	S.S. 410		INTEGRAL
SPINDLE	S.S. 410		SS 304/SS 316
GLAND BUSH	S.S. 410		SS 304/SS 316
GLAND FLANGE	CARBON STEEL / WCB		S.S. 304
YOKE NUT	ASTM A 439 Gr. D2/ AL-BRONZE		
PLUG NUT	T 410		T 304
HAND WHEEL	CARBON STEEL / M.I		
HAND WHEEL NUT	Gr. 2H		Gr. 8
STUD & NUT	B7/ 2H	B16/7	B7 / 2H
EYE BOLT & NUT	B7/ 2H		B8 / 8
CROSS BOLT & NUT	B7/ 2H		B8 / 8
GASKET	SPW S.S. 304 / 316 WITH CAF		
GLAND PACKING	GRAPH. ASB. INHIB. & INCONEL WIRE REIN		
THRUST WASHER	T410 (HARDENED STEEL)		T 304
WASHER	STEEL		
GRUB SCREW	STEEL		
LOCK NUT	STEEL		
NAME PLATE	ALUMINIUM		



REF STANDARDS

MFG. AND DESIGN : BS 1873
FACE TO FACE : ANSI B 1610
FLANGE DETAIL : ANSI B16.5
INSPECTION AND TESTING : BS 6755

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	79
Seat and Back Seat	58
Seat Air Test :	7

DIMENSION TABLE CLASS 300#

Valve Size in mm	2 50	2.5 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500
L	10.5 267	11.5 292	12.5 318	14.0 356	15.7 400	17.5 444	22.0 559	24.5 622	28.0 711	33.0 838	34.0 864	38.5 978	40.0 1016
L 1	10.5 267	11.5 292	12.5 318	14.0 356	15.7 400	17.5 444	22.0 559	24.5 622	28.0 711	33.0 838	34.0 864	38.5 978	40.0 1016
H app	360	410	450	530	590	650	735	825	950	1145	1370	1422	1475
oK app	200	250	300	350	400	450	600	700	750	800	800	850	900
Wt. kg app (F/E)	30	45	60	95	125	150	235	390	590	965	1115	1400	1800

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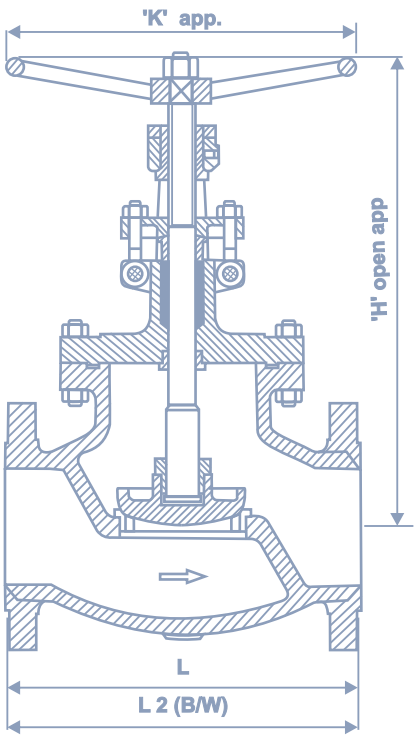
GLOBE VALVE CLASS 600 CAST STEEL BS 1873



MATERIAL SPECIFICATION

PARTS	MATERIALS		
BODY			A351 Gr. CF8/M
BONNET			A351 Gr. CF8/M
PLUG		WCB + 13% Cr. FACING	CF8/ CF8M
SEATRING		S.S. 304	CF8/ CF8M
BACKSEAT	S.S. 410		INTEGRAL
SPINDLE	S.S. 410		SS 304/SS 316
GLAND BUSH	S.S. 410		SS 304/SS 316
GLAND FLANGE	CARBON STEEL / WCB		S.S. 304
YOKE NUT	ASTM A 439 Gr. D2/ AL-BRONZE		
PLUG NUT	T 410		T 304
HAND WHEEL	CARBON STEEL / M.I		
HAND WHEEL NUT	Gr. 2H		Gr. 8
STUD & NUT	B7/ 2H	B16/7	B7 / 2H
EYE BOLT & NUT	B7/ 2H		B8 / 8
CROSS BOLT & NUT	B7/ 2H		B8 / 8
GASKET	SPW S.S. 304 / 316 WITH CAF		
GLAND PACKING	GRAPH. ASB. INHIB. & INCONEL WIRE REIN		
THRUST WASHER	T410 (HARDENED STEEL)		T 304
WASHER	STEEL		
GRUB SCREW	STEEL		
LOCK NUT	STEEL		
NAME PLATE	ALUMINIUM		

REF STANDARDS

MFG. AND DESIGN : BS 1873
FACE TO FACE : ANSI B 1610
FLANGE DETAIL : ANSI B16.5
INSPECTION AND TESTING : BS 6755

DIMENSION CHART CLASS 600#

Valve Size in mm	2 50	2.5 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500
L	11.5 292	13.0 330	14.0 356	17.0 432	20.0 508	22.0 559	26.0 660	31.0 787	33.0 838				
L 1	11.5 292	13.0 330	14.0 356	17.0 432	20.0 508	22.0 559	26.0 660	31.0 787	33.0 838				
H app	400	425	490	635	655	740	975	1080	1230				
oK app	250	300	350	400	450	500	600	650	700				
Wt. kg app (F/E)	35	40	68	128	185	250	435	825	910				

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	157
Seat and Back Seat	114
Seat Air Test :	7

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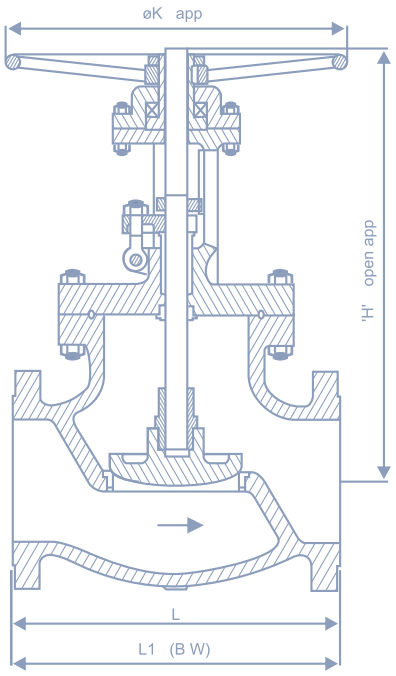
GLOBE VALVES

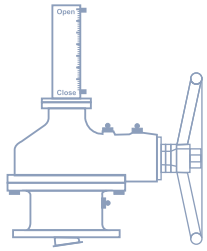
GLOBE VALVE BOLTED BONNET CLASS 900 / 1500 / 2500

MATERIAL SPECIFICATION

PARTS	MATERIALS		
BODY	WCB / A 105	WC6 / WC9	A351 Gr. CF8/M
BONNET	WCB / A 105	WC6 / WC9	A351 Gr. CF8/M
PLUG	CA15/A 515-70/ 13% Cr. STELLITED	WC6 / WC9 + STELLITED	CF8/ CF8M + STELLITED
SEATRING	CA15/A 515-70/ 13% Cr. STELLITED	304+ STELLITED	CF8/ CF8M + STELLITED
BACKSEAT	S.S. 410		INTEGRAL
SPINDLE	S.S. 410		SS 304/SS 316
GLAND BUSH	S.S. 410		SS 304/SS 316
GLAND FLANGE	CARBON STEEL / WCB		S.S. 304
YOKE NUT	ASTM A 439 Gr. D2/ AL-BRONZE		
PLUG NUT	T 410		T 304
HAND WHEEL	CARBON STEEL / M.I		
HAND WHEEL NUT	Gr. 2H		Gr. 8
STUD & NUT	B7/ 2H	B16/7	B7 / 2H
EYE BOLT & NUT	B7/ 2H		B8 / 8
CROSS BOLT & NUT	B7/ 2H		B8 / 8
GASKET	SPW S.S. 304 / 316 WITH CAF		
GLAND PACKING	GRAPH. ASB. INHIB. & INCONEL WIRE REIN		
THRUST WASHER	T410 (HARDENED STEEL)		T 304
WASHER	STEEL		
GRUB SCREW	STEEL		
LOCK NUT	STEEL		
NAME PLATE	ALUMINIUM		

* SEAL WELD
* INTEGRAL SEAT & BACK SEAT FOR AUTHENTIC STEEL VALVES
* GUIDED DISC PROVIDED





GEAR OPERATION

TESTING DETAIL 900

Hydrotest {KG/CM^2}	
Shell	235
Seat and Back Seat	171
Seat Air Test :	7

REF STANDARDS

MFG. AND DESIGN : BS 1873
FACE TO FACE : ANSI B 16.10
FLANGE DETAIL : ANSI B16.5
INSPECTION AND TESTING : BS 6755

TESTING DETAIL 1500

Hydrotest {KG/CM^2}	
Shell	390
Seat and Back Seat	286
Seat Air Test :	7

TESTING DETAIL 2500

Hydrotest {KG/CM^2}	
Shell	650
Seat and Back Seat	475
Seat Air Test :	7

DIMENSION TABLE 900

Valve Size in mm	2 50	3 80	4 100	6 150	8 200	10 250
L	14.5 368	15.0 381	18.0 457	24.0 610	29.0 737	33.0 838
L 1	14.5 368	15.0 381	18.0 457	24.0 610	29.0 737	33.0 838
H app	505	605	710	895	980	1150
oK app	300	400	500	600	700	735
Wt. kg app (F/E)	85	140	240	450	810	1150

DIMENSION TABLE 1500

Valve Size in mm	2 50	3 80	4 100	6 150	8 200
L	14.5 368	18.5 470	21.5 456	27.7 705	32.7 832
L 1	14.5 368	18.5 470	21.5 456	27.7 705	32.7 832
H app	548	750	865	1048	1188
oK app	350	450	500	700	800
Wt. kg app (F/E)	95	155	305	550	900

DIMENSION TABLE 2500

Valve Size in mm	2 50	3 80	4 100	6 150
L	17.7 451	22.7 578	26.5 673	36.0 914
L 1	17.7 451	22.7 578	26.5 673	36.0 914
H app	610	795	975	1080
oK app	400	500	700	750
Wt. kg app (F/E)	115	346	490	910

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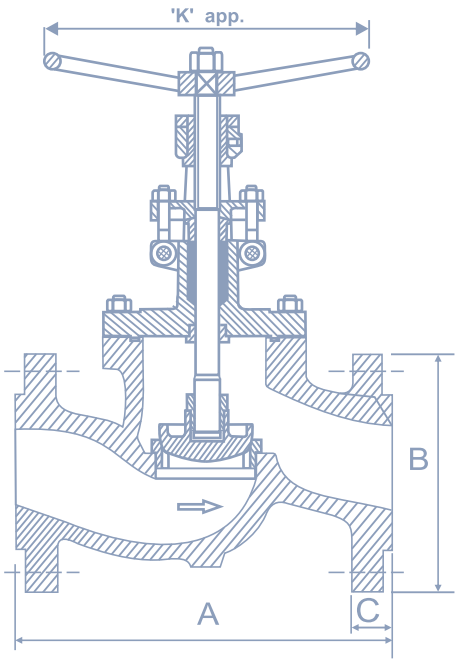
STEAM GLOBE VALVE CAST STEEL ND 40



MATERIAL SPECIFICATION

PARTS	MATERIALS		
BODY			A351 Gr. CF8/M
BONNET			A351 Gr. CF8/M
PLUG		WCB + 13% Cr. FACING	CF8/ CF8M
SEATRING		S.S. 304	CF8/ CF8M
BACKSEAT	S.S. 410		INTEGRAL
SPINDLE	S.S. 410		SS 304/SS 316
GLAND BUSH	S.S. 410		SS 304/SS 316
GLAND FLANGE	CARBON STEEL / WCB		S.S. 304
YOKE NUT	ASTM A 439 Gr. D2/ AL-BRONZE		
PLUG NUT	T 410		T 304
HAND WHEEL	CARBON STEEL / M.I		
HAND WHEEL NUT	Gr. 2H		Gr. 8
STUD & NUT	B7/ 2H	B16/7	B7 / 2H
EYE BOLT & NUT	B7/ 2H		B8 / 8
CROSS BOLT & NUT	B7/ 2H		B8 / 8
GASKET	SPW S.S. 304 / 316 WITH CAF		
GLAND PACKING	GRAPH. ASB. INHIB. & INCONEL WIRE REIN		
THRUST WASHER	T410 (HARDENED STEEL)		T 304
WASHER	STEEL		
GRUB SCREW	STEEL		
LOCK NUT	STEEL		
NAME PLATE	ALUMINIUM		

HYDRAULIC TEST PRESSURE

CLASS	BODY	SEAT
ND -16	32 Kg/ Sq. cm	16 Kg/ Sq. cm
ND -40	80 Kg/ Sq. cm	40 Kg/ Sq.cm

PRIMARY SERVICE RATING & TEMPERATURE

PARTS	MATERIALS	TEMPERATURE
ND -16	16 Kg/ Sq. cm	220°C
ND -40	40 Kg/ Sq. cm	400°C

DIMENSION

SIZE	15	20	25	32	40	50	65	80	100	125	150	200	250	300
A	130	150	160	180	200	230	290	310	350	400	480	600	730	850
B	95	105	115	140	150	165	185	20	235	270	300	375	450	515
C	16	18	18	18	18	20	22	24	24	26	28	34	38	42

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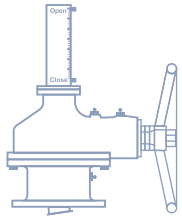
GATE VALVES

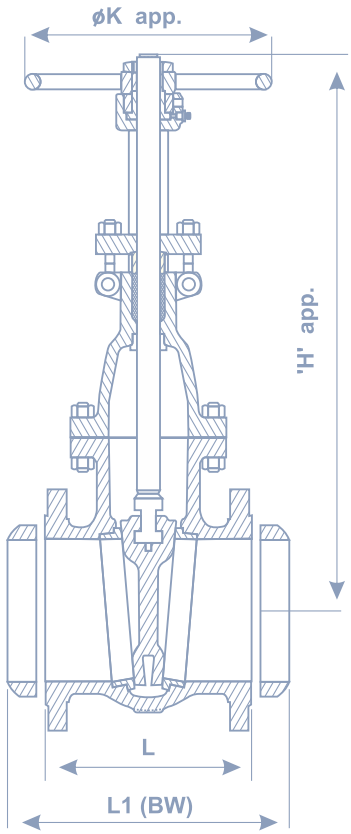
GATE VALVE BOLTED BONNET CLASS 150
API 600 / ASME AB16.34



GEAR OPERATION

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB /A105	WC6	CF8/ CF8M
2.	Bonnet	WCB / A105	WC6	CF8/ CF8M
3.	Yoke 1	WCB / A105	WC6	CF8/ CF8M
4.	Wedge	13%Cr. Facing on WCB	13%Cr. Facing on WC6	CF8/ CF8M
5.	Seats Ring 2	CA15/13%Cr.+ Stellited	S.S 304+ Stellited	CF8/CF8M Stellited
6.	Back Seat	T410		Integral
7.	Spindle	T410		T304/ T31
8.	Gland Bush	T410		T304/ T31
9.	Gland Flange	Carbon Steel / WCB		S.S 304
10.	Yoke Seleeve	ASTM A 439 Gr.D2/ AL-Bronze		
11.	Yoke Nut	WCB	WCB/WC6	CF8/ CF8M
12.	Hand Wheel	Carbon Steel / M.I.		
13.	Hand Wheel Nut	Carbon Steel		S.S 304
14.	Stud & Nut	B7/ 2H	B16/7	B7/2H
15.	Eye Bolt & Nut	B7 /2H		B8/8
16.	Casing Stud & Nut	B7 /2H		B8/2H
17.	Cross Bolt & Nut	B7 /2H		B8/8
18.	Gasket	Spiral Wound S.S. 304/ S.S 316 With ASB/GRAF		
19.	Gland Packing	Graphite ASB. INHIB. & Inconel Wire REIN.		
20.	Grease Nipple	Brass /Steel		
21.	Name Plate	Aluminum		
22.	Bearing	Standard		



NOTE: SEPARATE YOKE 10"NB AND ABOVE
SEAL WELD 20"NB AND ABOVE
INTEGRAL BACK SEAT FOR AUSTENITIC STEEL VALVES.
SEAT AND WEDGE STELLITING OPTIONAL

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	31
Seat	22
Seat Air Test :	7

DIMENSION CHART 150#

Valve Size in mm	2 50	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	22 550	24 600	26 650	28 700	30 750	32 800	36 900
L	7.0 178	8.0 203	9.0 229	10.0 254	10.5 267	11.5 292	13.0 330	14.0 356	15.0 381	16.0 406	17.0 432	18.0 457	19.0 483	20.0 508	22.0 559	24.0 610	24.0 670	28.0 711	28.0 711
L 1	8.5 216	11.12 282.5	12.0 305	15.0 381	15.9 403	16.5 419	18.0 457	19.8 502	22.5 572	24.0 610	26.0 660	28.0 711	30.0 762	32.8 813	35.5 902	39.0 991	39.0 991	--	48.0 1219
H app	400	485	600	725	765	985	1220	1395	1500	1775	2000	2210	2350	2725	2800	3130	3300	3420	3975
øK app	200	250	250	300	300	350	450	500	559	559	610	610	660	660	711	711	813	813	864
Wt. kg app (F/E)	20	33	55	70	90	130	225	330	450	530	625	825	1150	1210	1415	1620	2025	2450	3050

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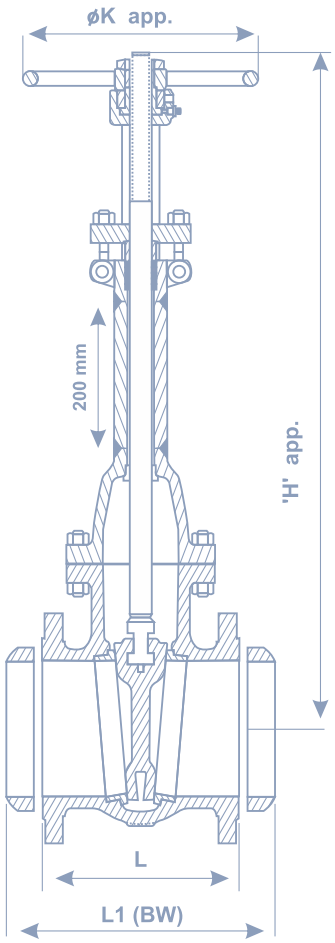
GATE VALVE EXTENDED BONNET CLASS 150
API 600 / ASME AB16.34

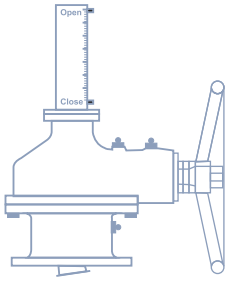
GATE VALVES



MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB /A105	WC6	CF8/ CF8M
2.	Bonnet	WCB / A105	WC6	CF8/ CF8M
3.	Yoke 1	WCB / A105	WC6	CF8/ CF8M
4.	Wedge	13%Cr. Facing on WCB	13%Cr. Facing on WC6	CF8/ CF8M
5.	Seats Ring 2	CA15/13%Cr.+ Stellited	S.S 304+ Stellited	CF8/CF8M Stellited
6.	Back Seat	T410		Integral
7.	Spindle	T410		T304/ T31
8.	Gland Bush	T410		T304/ T31
9.	Gland Flange	Carbon Steel / WCB		S.S 304
10.	Yoke Seleeve	ASTM A 439 Gr.D2/ AL-Bronze		
11.	Yoke Nut	WCB	WCB/WC6	CF8/ CF8M
12.	Hand Wheel	Carbon Steel / M.I.		
13.	Hand Wheel Nut	Carbon Steel		S.S 304
14.	Stud & Nut	B7/ 2H	B16/7	B7/2H
15.	Eye Bolt & Nut	B7 /2H		B8/8
16.	Casing Stud & Nut	B7 /2H		B8/2H
17.	Cross Bolt & Nut	B7 /2H		B8/8
18.	Gasket	Spiral Wound S.S. 304/ S.S 316 With ASB/GRAF		
19.	Gland Packing	Graphite ASB. INHIB. & Inconel Wire REIN.		
20.	Grease Nipple	Brass /Steel		
21.	Name Plate	Aluminum		
22.	Bearing	Standard		

NOTE: SEPARATE YOKE 10"NB AND ABOVE
SEAL WELD 20"NB AND ABOVE
INTEGRAL BACK SEAT FOR AUSTENITIC STEEL VALVES.
SEAT AND WEDGE STELLITING OPTIONAL



GEAR OPERATION

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	31
Seat	22
Seat Air Test :	7

DIMENSION CHART 150#

Valve Size in mm	2 50	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	22 550	24 600	26 650
L	7.0 178	8.0 203	9.0 229	10.0 254	10.5 267	11.5 292	13.0 330	14.0 356	15.0 381	16.0 406	17.0 432	18.0 457	19.0 483	20.0 508	22.0 559
L 1	8.5 216	11.12 282.5	12.0 305	15.0 381	15.9 403	16.5 419	18.0 457	19.8 502	22.5 572	24.0 610	26.0 660	28.0 711	30.0 762	32.8 813	35.5 902
H app	600	685	800	925	965	1185	1470	1645	1800	2075	2300	2210	2650	3050	3300
øK app	200	250	250	300	300	350	450	500	559	559	610	610	660	660	711
Wt. kg app (F/E)	20	33	55	70	90	130	225	330	450	530	625	825	1150	1210	1415

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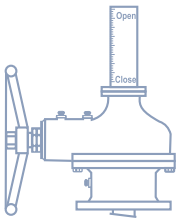
GATE VALVES

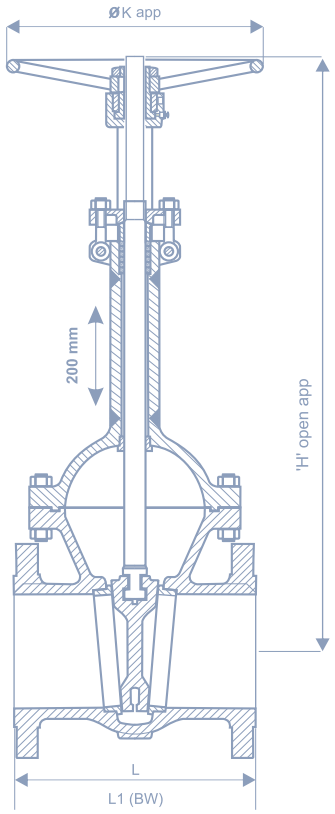
GATE VALVE EXTENDED BONNET CLASS 300/600
API 600 / ASME AB16.34

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB /A105	WC6	CF8/ CF8M
2.	Bonnet	WCB / A105	WC6	CF8/ CF8M
3.	Yoke 1	WCB / A105	WC6	CF8/ CF8M
4.	Wedge	13%Cr. Facing on WCB	13%Cr. Facing on WC6	CF8/ CF8M
5.	Seats Ring 2	CA15/13%Cr.+ Stellited	S.S 304+ Stellited	CF8/CF8M Stellited
6.	Back Seat	T410		Integral
7.	Spindle	T410		T304/ T31
8.	Gland Bush	T410		T304/ T31
9.	Gland Flange	Carbon Steel / WCB		S.S 304
10.	Yoke Seleeve	ASTM A 439 Gr.D2/ AL-Bronze		
11.	Yoke Nut	WCB	WCB/WC6	CF8/ CF8M
12.	Hand Wheel	Carbon Steel / M.I.		
13.	Hand Wheel Nut	Carbon Steel		S.S 304
14.	Stud & Nut	B7/ 2H	B16/7	B7/2H
15.	Eye Bolt & Nut	B7 /2H		B8/8
16.	Casing Stud & Nut	B7 /2H		B8/2H
17.	Cross Bolt & Nut	B7 /2H		B8/8
18.	Gasket	Spiral Wound S.S. 304/ S.S 316 With ASB/GRAF		
19.	Gland Packing	Graphite ASB. INHIB. & Inconel Wire REIN.		
20.	Grease Nipple	Brass /Steel		
21.	Name Plate	Aluminum		
22.	Bearing	Standard		



GEAR OPERATION



DIMENSION CHART CLASS 600#

Valve Size in mm	2 50	2.5 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450
L	11.5 292	13.0 330	14.0 356	17.0 432	20.0 508	22.0 559	26.0 660	31.0 787	33.0 838	35.0 889	39.0 991	43.0 1092
L 1	11.5 292	13.5 330	14.0 356	17.0 432	20.0 508	22.0 559	26.0 660	31.0 787	33.0 838	35.0 889	39.0 991	43.0 1092
H app	610	685	760	905	1000	1095	1375	1650	1785	2075	2200	2390
oK app	250	250	350	450	500	500	600	680	760	760	760	760
Wt. kg app (F/E)	38	56	72	136	170	245	432	780	835	1190	1690	2010

DIMENSION CHART 300#

Valve Size in mm	2 50	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	22 550	24 600
L	8.5 216	11.2 282.5	12.0 305	15.0 381	15.88 403	16.5 419	18.0 487	19.8 502	30.0 762	33.0 838	36.0 914	39.0 991	43.0 1092	45.0 1143
L 1	8.5 216	11.12 282.5	12.0 305	15.0 381	15.88 403	16.5 419	18.0 457	19.8 502	30.0 762	33.0 838	36.0 914	39.0 991	43. 1092	45.0 1143
H app	610	685	815	925	1035	1215	1480	1750	1970	2150	2410	2700	2820	3150
øK app	200	250	300	350	350	450	500	500	600	600	680	760	760	760
Wt. kg app (F/E)	32	55	80	100	150	225	350	480	745	1060	1325	1725	1900	2570

TESTING DETAIL

Shell	157
Seat	114
Seat Air Test :	

TESTING DETAIL

Hydrotest {KG/CM^2}

Shell	79
Seat	58
Seat Air Test :	7

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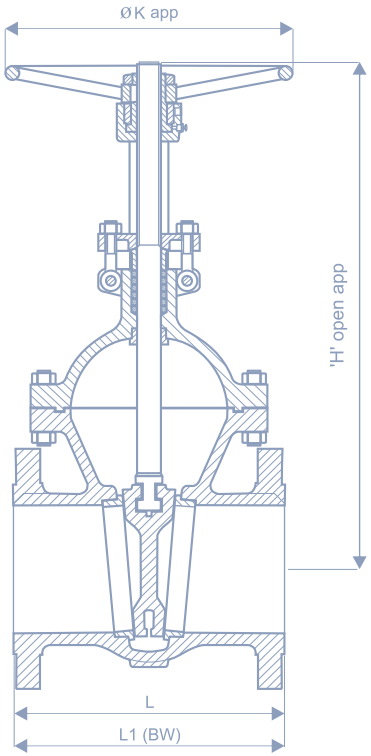
GATE VALVE BOLTED BONNET CLASS 300
API 600 / ASME AB16.34



MATERIAL SPECIFICATIONS

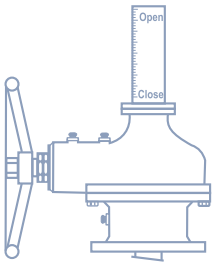
NO.	Part Name	Material		
1.	Body	WCB /A105	WC6	CF8/ CF8M
2.	Bonnet	WCB / A105	WC6	CF8/ CF8M
3.	Yoke 1	WCB / A105	WC6	CF8/ CF8M
4.	Wedge	13%Cr. Facing on WCB	13%Cr. Facing on WC6	CF8/ CF8M
5.	Seats Ring 2	CA15/13%Cr.+ Stellited	S.S 304+ Stellited	CF8/CF8M Stellited
6.	Back Seat	T410		Integral
7.	Spindle	T410		T304/ T31
8.	Gland Bush	T410		T304/ T31
9.	Gland Flange	Carbon Steel / WCB		S.S 304
10.	Yoke Seleeve	ASTM A 439 Gr.D2/ AL-Bronze		
11.	Yoke Nut	WCB	WCB/WC6	CF8/ CF8M
12.	Hand Wheel	Carbon Steel / M.I.		
13.	Hand Wheel Nut	Carbon Steel		S.S 304
14.	Stud & Nut	B7/ 2H	B16/7	B7/2H
15.	Eye Bolt & Nut	B7 /2H		B8/8
16.	Casing Stud & Nut	B7 /2H		B8/2H
17.	Cross Bolt & Nut	B7 /2H		B8/8
18.	Gasket	Spiral Wound S.S. 304/ S.S 316 With ASB/GRAF		
19.	Gland Packing	Graphite ASB. INHIB. & Inconel Wire REIN.		
20.	Grease Nipple	Brass /Steel		
21.	Name Plate	Aluminum		
22.	Bearing	Standard		

NOTE: SEPARATE YOKE 16"NB AND ABOVE

SEAL WELD 14"NB AND ABOVE

INTEGRAL BACK SEAT FOR AUSTENITIC STEEL VALVES.

SEAT AND WEDGE STELLITING OPTIONAL



GEAR OPERATION

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	79
Seat	58
Seat Air Test :	7

DIMENSION CHART

Valve Size in mm	2 50	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	22 550	24 600
L	8.5 216	11.2 282.5	12.0 305	15.0 381	15.88 403	16.5 419	18.0 487	19.8 502	30.0 762	33.0 838	36.0 914	39.0 991	43.0 1092	45.0 1143
L 1	8.5 216	11.12 282.5	12.0 305	15.0 381	15.88 403	16.5 419	18.0 457	19.8 502	30.0 762	33.0 838	36.0 914	39.0 991	43. 1092	45.0 1143
H app	410	485	615	725	835	1015	1230	1555	1720	1970	2160	2410	2550	2810
øK app	200	250	300	350	350	450	500	500	600	600	680	760	760	760
Wt. kg app (F/E)	32	55	80	100	150	225	350	480	745	1060	1325	1725	1900	2570

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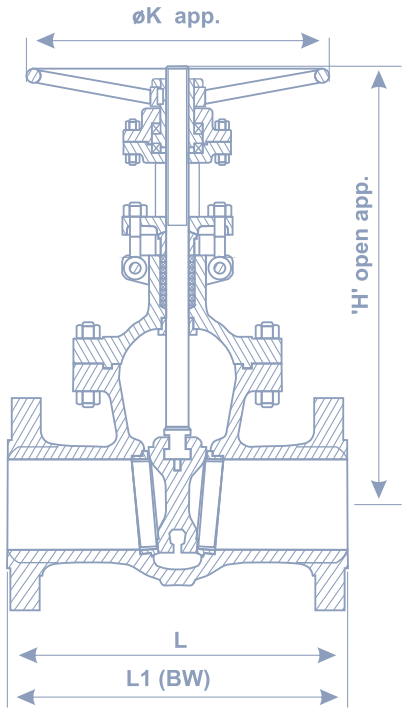
GATE VALVES

GATE VALVE CLASS 600 CAST STEEL
API 600 / ASME AB16.34

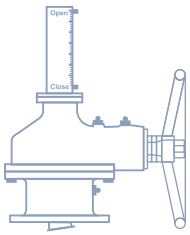
MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB	WC6	CF8/ CF8M
2.	Bonnet	WCB	WC6	CF8/ CF8M
3.	Yoke 1	WCB	WC6	CF8/ CF8M
4.	Wedge	13%Cr. Facing on WCB	13%Cr. Facing on WC6	CF8/ CF8M
5.	Seats Ring 2	CA15/13%Cr.+ Stellited	S.S 304+ Stellited	T304/T318,CF8/CF8M Stellited
6.	Back Seat	T410		Integral
7.	Spindle	T410		T304/ T31
8.	Gland Bush	T410		T304/ T31
9.	Gland Flange	Carbon Steel / WCB		S.S 304
10.	Yoke Seleeve	ASTM A 439 Gr.D2/ AL-Bronze		
11.	Yoke Nut	WCB	WCB/WC6	CF8/ CF8M
12.	Hand Wheel	Carbon Steel / M.I.		
13.	Hand Wheel Nut	Carbon Steel		S.S 304
14.	Stud & Nut	B7/ 2H	B16/7	B7/2H
15.	Eye Bolt & Nut	B7 /2H		B8/8
16.	Casing Stud & Nut	B7 /2H		B8/2H
17.	Cross Bolt & Nut	B7 /2H		B8/8
18.	Gasket	Spiral Wound S.S. 304/ S.S 316 With ASB/GRAF		
19.	Gland Packing	Graphite ASB. INHIB. & Inconel Wire REIN.		
20.	Grease Nipple	Brass /Steel		
21.	Name Plate	Aluminum		
22.	Bearing	Standard		



REF STANDARDS

MFG. AND DESIGN :API 600 / BS1414
FACE TO FACE : ANSI B 16.10
FLANGE DETAIL : ANSI B 16.5
INSPECTION AND TESTING: API 598



GEAR OPERATION

DIMENSION CHART CLASS 600#

Valve Size in mm	2 50	2.5 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500
L	11.5 292	13.0 330	14.0 356	17.0 432	20.0 508	22.0 559	26.0 660	31.0 787	33.0 838	35.0 889	39.0 991	43.0 1092	47.0 1194
L 1	11.5 292	13.5 330	14.0 356	17.0 432	20.0 508	22.0 559	26.0 660	31.0 787	33.0 838	35.0 889	39.0 991	43.0 1092	47.0 1194
H app	410	485	560	705	800	895	1125	1400	1535	1825	1955	2140	2310
oK app	250	250	350	450	500	500	600	680	760	760	760	760	813
Wt. kg app (F/E)	38	56	72	136	170	245	432	780	835	1190	1690	2010	2400

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	157
Seat and Back Seat	114
Seat Air Test :	7

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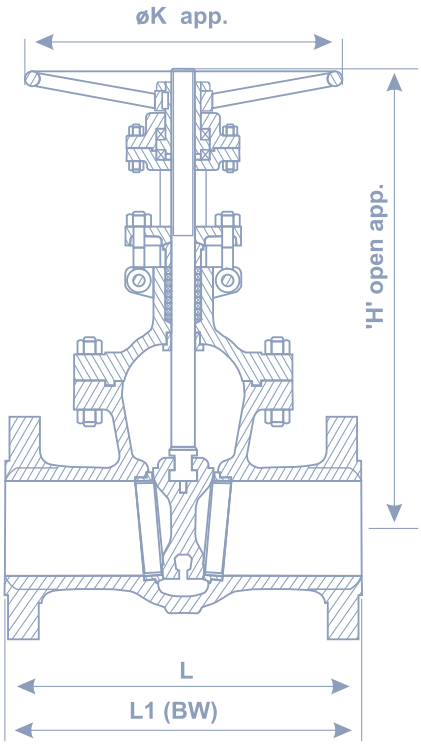
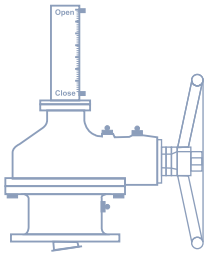
GATE VALVE BOLTED BONNET CLASS 900
API 600 / ASME AB16.34



MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB /A105	WC6	CF8/ CF8M
2.	Bonnet	WCB / A105	WC6	CF8/ CF8M
3.	Yoke 1	WCB / A105	WC6	CF8/ CF8M
4.	Wedge	13%Cr. Facing on WCB	13%Cr. Facing on WC6	CF8/ CF8M
5.	Seats Ring 2	CA15/13%Cr.+ S t e l l i t e d	S.S 304+ Stellited	T304/T318,CF8/CF8M Stellited
6.	Back Seat	T410		Integral
7.	Spindle	T410		T304/ T31
8.	Gland Bush	T410		T304/ T31
9.	Gland Flange	Carbon Steel / WCB		S.S 304
10.	Yoke Seleeve	ASTM A 439 Gr.D2/ AL-Bronze		
11.	Yoke Nut	WCB	WCB/WC6	CF8/ CF8M
12.	Hand Wheel	Carbon Steel / M.I.		
13.	Hand Wheel Nut	Carbon Steel		S.S 304
14.	Stud & Nut	B7/ 2H	B16/7	B7/2H
15.	Eye Bolt & Nut	B7 /2H		B8/8
16.	Casing Stud & Nut	B7 /2H		B8/2H
17.	Cross Bolt & Nut	B7 /2H		B8/8
18.	Gasket	Spiral Wound S.S. 304/ S.S 316 With ASB/GRAF		
19.	Gland Packing	Graphite ASB. INHIB. & Inconel Wire REIN.		
20.	Grease Nipple	Brass /Steel		
21.	Name Plate	Aluminum		
22.	Bearing	Standard		



GEAR OPERATION

TESTING DETAIL

Shell	235
Seat	171
Seat Air Test :	

* SEPARATE YOKE 12"NB AND ABOVE
* SEAL WELD 6"NB AND ABOVE
* INTEGRAL BACK SEAT FOR AUSTENITIC STEEL VALVES.
* WEDGE STELLITNG OPTIONAL

DIMENSION CHART 900#

Valve Size in mm	2 50	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500
L	14.5 368	15.0 381	18.0 457	24.0 610	29.0 737	33.0 838	38.0 965	40.5 1029	44.5 1130	48.0 1219	52.0 1321
L 1	14.5 368	15.0 381	18.0 457	24.0 610	29.0 737	33.0 838	38.0 965	40.5 1029	44.5 1130	48.0 1219	52.0 1321
H app	440	584	712	927	1220	1600	1752	2286	2362	2450	2600
oK app	250	300	400	500	600	680	760	760	910	910	950
Wt. kg app (F/E)	70	105	190	380	595	975	1275	1665	2310	2880	3505

REF STANDARDS

MFG. AND DESIGN :API 600 / BS1414
FACE TO FACE : ANSI B 16.10
FLANGE DETAIL : ANSI B 16.5
INSPECTION AND TESTING: API 598

GATE VALVES

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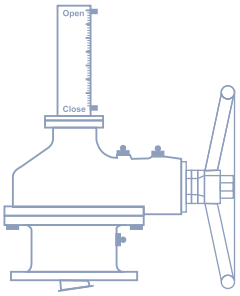
GATE VALVES

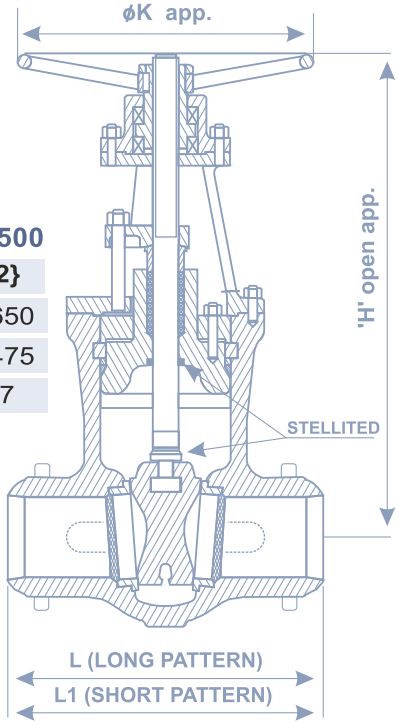
GATE VALVE PRESSURE SEAL CLASS 900/ 1500/ 2500 API 600/ST-A

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB	WC6	CF8/ CF8M
2.	Bonnet	WCB	WC6	CF8/ CF8M
3.	Yoke 1	WCB	WC6	CF8/ CF8M
4.	Wedge	13%Cr. Facing on WCB+ Stellited	Wc6 + Stellited	CF8/ CF8M Stellited
5.	Seats Ring 1	A515-70/13%Cr. Stellited	S.S 304+ Stellited	T304/ T316
6.	Back Seat	Integral		
7.	Spindle	T410		T304/ T31
8.	Gland Bush	T410		T304/ T31
9.	Gland Flange	Carbon Steel / WCB		S.S 304
10.	Yoke Sleeve	ASTM A 439 Gr.D2/ AL-Bronze		
11.	Casing Cover	WCB	WCB/WC6	CF8
12.	Bonnet Plate	ASTM A 515 - 70		
13.	Hand Wheel	Carbon Steel		
14.	Hand Wheel Nut	Carbon Steel		S.S 304
15.	Stud & Nut	B7/ 2H	B16/7	B7/2H
16.	Gland Stud & Nut	B7 /2H		B8/8
17.	Casing Stud & Nut	B7 /2H		B8/2H
18.	Yoke Stud & Nut	B7 /2H		B8/8
19.	Gland Packing	Graphite ASB. INHIB. & Inconel Wire REIN.		
20.	Seal Ring	T304		T304 / T316
21.	Spacer Ring	ASTM A 515 -70	T304	T304 / T316
22.	Segmental Ring	ASTM A 515 -70	T304	T304 / T316
23.	Name Plate	Aluminum/ S.S		
24.	Bearing	Standard		



GEAR OPERATION



TESTING DETAIL # 900

Hydrotest {KG/CM^2}	
Shell	235
Seat and Back Seat	171
Seat Air Test :	7

TESTING DETAIL # 1500

Hydrotest {KG/CM^2}	
Shell	390
Seat and Back Seat	286
Seat Air Test :	7

TESTING DETAIL # 2500

Hydrotest {KG/CM^2}	
Shell	650
Seat and Back Seat	475
Seat Air Test :	7

DIMENSION CHART 900#

Valve Size in mm	2 50	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 350	20 400
L	14.5 368	15.0 381	18.0 457	24.0 610	29.0 373	33.0 838	38.0 965	40.0 1029	44.5 1130	48.0 1219	52.0 1321
L 1	8.5 216	12.0 305	14.0 356	20.0 508	26.0 660	31.0 787	36.0 914	39.0 991	43.0 1092	-	-
H app	545	595	720	970	1140	1345	1615	1651	2362	2450	2550
oK app	250	300	400	500	600	680	760	760	910	910	950
Wt. kg app (F/E)	50	75	130	265	430	680	950	1290	1850	2250	2785

DIMENSION CHART 1500#

Valve Size in mm	2 50	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400
L	14.5 368	18.5 470	21.5 546	27.8 705	32.7 832	39.0 991	44.5 1130	49.5 1257	54.5 1384
L 1	8.5 216	12.0 305	16.0 406	22.0 559	28.0 711	34.0 863	39.0 991	42.0 1067	47.0 1194
H app	545	625	900	1085	1290	1420	1580	2100	2457
oK app	250	350	400	600	680	910	965	1015	1065
Wt. kg app (F/E)	55	85	160	440	760	1050	1350	1890	2830

DIMENSION CHART 2500#

Valve Size in mm	2 50	3 80	4 100	6 150	8 200	10 250
L	17.8 451	22.8 578	26.5 673	36.0 914	40.3 1022	50.0 1270
L 1	11.0 279	14.5 368	18.0 457	24.0 610	30.0 762	36.0 914
H app	590	800	865	950	1050	1345
oK app	250	350	400	600	680	910
Wt. kg app (F/E)	85	120	190	520	980	1600

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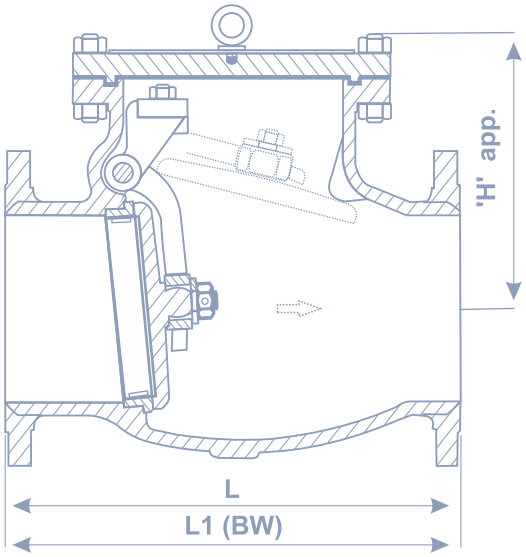
CHECK VALVE SWING TYPE BOLTED COVER CLASS 1050 /1030 BS 1868 / API 6D



MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	A 216 GR WCB	A 216 GR WCB	A 351 GR CF8/M
2.	Disc	CA15/ 13%Cr. FACING ON WCB	WC6+13% Cr	1 351 GR CFB/M
3.	Seat Ring 1	CA15/A 515 Gr70+ 13%Cr FACING	SS 304	T304/T316
4.	Top Cover	WCB/Gr 70	A 216 GR WCB	A 351 GR CF8/M
5.	Stud & Nut	B7/2H	B16/7	B7/2H
6.	Bracket Stud & Nut	B8/8		
7.	Gasket	SPW S.S 304/316 WITH CAF		
8.	Washer	T410	T410	T316
9.	Disc Nut	Gr. 8		
10.	Hinge Pin	T410	T410	T316
11.	Split Pin	T410	T410	T316
12.	Name Plate	Aluminium / SS		
13.	Hinge	WCB/Gr. 70	WC6/CF8	CF8 / CF8M
14.	Hinge Bracket	WCB/Gr. 70	WC6/CF8	CF8 / CF8M
15.	Lifting Eye Bolt	ASTM A 105		

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	31
Seat	22
Seat Air Test :	

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	78
Seat	58
Seat Air Test :	

DIMENSION CHART 300#

Valve Size in mm	2 50	2.5 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500
L	10.5 267	11.5 292	12.5 318	14.0 356	15.7 400	17.5 444	21.0 533	24.5 622	28.0 711	33.0 838	34.0 864	38.5 978	40.0 1016
L 1	10.5 267	11.5 292	12.5 318	14.0 356	15.7 400	17.5 444	21.0 533	24.5 622	28.0 711	33.0 838	34.0 864	38.5 978	40.6 1016
H app	155	215	185	220	245	275	300	375	430	520	560	686	610
Wt. kg app (F/E)	25	40	60	80	105	130	215	345	470	685	998	1050	1220

DIMENSION CHART 150#

Valve Size in mm	2 50	2.5 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	22 550	24 600	26 650	28 700	30 750
L	8.0 203	8.5 216	9.5 241	11.5 292	13 330	14.0 356	19.5 495	24.5 622	27.5 698	31.0 787	34.0 864	38.5 978	38.5 978	42.0 1067	51.0 1295	51.0 1295	57.0 1448	60.0 1525
L 1	8.0 203	8.5 216	9.5 241	11.5 292	13 330	14.0 356	19.5 495	24.5 622	27.5 698	31.0 787	34.0 864	38.5 978	38.5 978	42.0 1067	51.0 1295	51.0 1295	57.0 1448	60.0 1525
H app	145	165	170	205	225	255	300	340	485	465	595	545	600	695	750	775	800	825
Wt. kg app (F/E)	18	25	32	52	56	92	136	220	345	485	570	770	1055	1255	1325	1500	1650	1865

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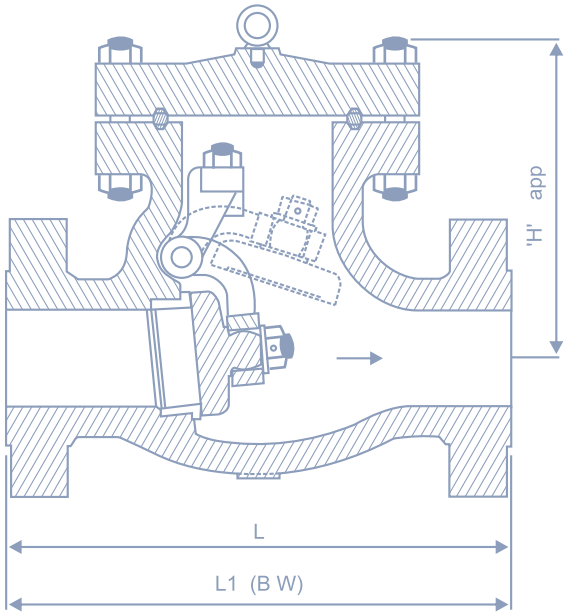
CHECK VALVES

CHECK VALVE SWING TYPE BOLTED COVER
CLASS 600/ 900 / 1500 / 2500 BS 1868 / API 6D

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	A 216 GR WCB	A 216 GR WCB	A 351 GR CF8/M
2.	Disc	CA15/ 13%Cr. FACING ON WCB	WC6+13% Cr	1 351 GR CFB/M
3.	Seat Ring 1	CA15/A 515 Gr70+ 13%Cr FACING	SS 304	T304/T316
4.	Top Cover	WCB/Gr 70	A 216 GR WCB	A 351 GR CF8/M
5.	Stud & Nut	B7/2H	B16/7	B7/2H
6.	Bracket Stud & Nut	B8/8		
7.	Gasket	SPW S.S 304/316 WITH CAF		
8.	Washer	T410	T410	T316
9.	Disc Nut	Gr. 8		
10.	Hinge Pin	T410	T410	T316
11.	Split Pin	T410	T410	T316
12.	Name Plate	Aluminium / SS		
13.	Hinge	WCB/Gr. 70	WC6/CF8	CF8 / CF8M
14.	Hinge Bracket	WCB/Gr. 70	WC6/CF8	CF8 / CF8M
15.	Lifting Eye Bolt	ASTM A 105		



DIMENSION CHART 600#

Valve Size in mm	2 50	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400
L	11.5 292	14.0 356	17.0 432	20.0 559	26.0 660	31.0 787	33.0 838	35.0 889	39.0 991
L 1	11.5 292	14.0 356	17.0 432	22.0 559	26.0 660	31.0 787	33.0 838	35.0 889	39.0 991
H app	160	230	280	330	360	475	555	580	665
Wt. kg app (F/E)	29	65	115	250	405	620	815	970	1215

DIMENSION CHART 900#

Valve Size in mm	2 50	3 80	4 100	6 150	8 200	10 250	12 300
L	14.5 368	15.0 381	18.0 457	24.0 610	29.0 737	33.0 838	38.0 965
L 1	14.5 368	15.0 381	18.0 457	24.0 610	29.0 737	33.0 838	38.0 965
H app	220	280	350	450	525	600	675
Wt. kg app (F/E)							

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	235
Seat	171
Seat Air Test :	

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	235
Seat	171
Seat Air Test :	

DIMENSION CHART 1500#

Valve Size in mm	2 50	3 80	4 100	6 150	8 200	10 250	12 300
L	14.5 368	18.5 470	21.5 546	27.7 705	42.7 832	39.0 991	44.5 1130
L 1	14.5 368	18.5 470	21.5 546	27.7 705	42.7 832	39.0 991	44.5 1130
H app	220	290	370	450	600	660	750
Wt. kg app (F/E)							

DIMENSION CHART 2500#

Valve Size in mm	2 50	3 80	4 100	6 150	8 200
L	17.7 451	22.7 578	26.5 673	36.0 914	40.2 1022
L 1	17.7 451	22.7 578	26.5 673	36.0 914	40.2 1022
H app	305	390	415	565	640
Wt. kg app (F/E)					

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	390
Seat	286
Seat Air Test :	

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	650
Seat	475
Seat Air Test :	

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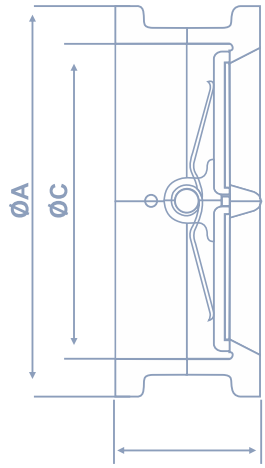
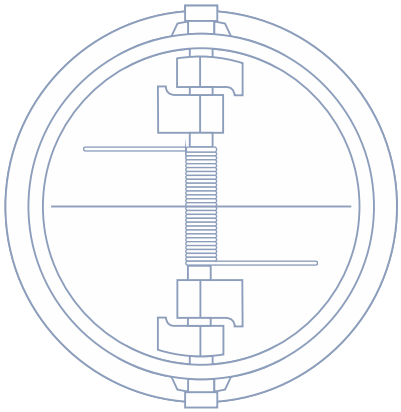
DUAL PLATE CHECK VALVE WAFER TYPE

MATERIAL SPECIFICATIONS

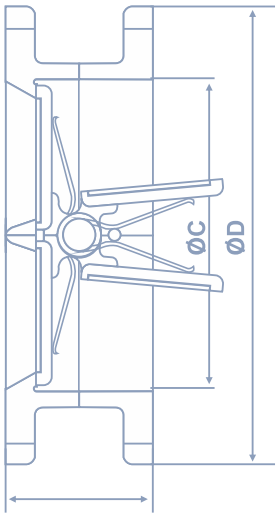
NO.	Part Name	Standard Supply	Optional
1.	Valve Body & Plates	Cast Iron IS 210 GR. FG 260	C.S ASTM A 216 GR. WCB/ S.S. ASTM A 351 Gr. Cf8 / CF 8 M
2.	Metal Seat	S.S. AISI 304	S.S. AISI 316/S.S. AISI 410 Bronze is 318 GR. LTB 2
3.	Resilient Seal	Nitrile	EPDM / Neoprene
4.	Hinge / Stop Pin	S. S. AISI 410	S. S. AISI 304 / S.S. AISI 316
5.	Spring	S.S. AISI 304	S.S. AISI 316 / S.S. AISI 410



PREF. FLOW



PREF. FLOW



DIMENSIONS IN INCH

Valve Size in Inch	2”	2.5”	3”	4”	5”	6”	8”	10”	12”	14”	16”	18”	20”	24”	30”	36”	42”
ANSI Rating	300	300	300	300	300	300	300	300	300	300	300	300	300	300	250	250	250
A	92	105	127	157	186	216	270	324	381	413	470	533	584	692	949	1096	1300
B	60	67	73	73	86	98	127	146	181	222	232	264	292	318	365	483	568
C	60	73	89	114	141	168	219	273	324	356	406	457	508	610	762	914	1067
D	165	190	210	254	279	318	381	444	521	584	648	711	775	914	1092	1270	1448

DIMENSIONS IN MM

Valve Size in mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	750	900	1050
ANSI Rating	150	150	150	150	150	150	150	150	150	150	150	150	150	150	125	125	125
A	92	105	127	157	186	216	270	324	381	412	470	533	584	692	870	1035	1206
B	60	67	73	73	86	98	127	146	181	184	191	203	219	222	305	368	432
C	60	73	89	114	141	168	219	273	324	356	406	457	508	610	762	914	1067
D	152	178	190	229	254	279	343	406	483	533	597	635	698	812	984	1168	1346

DUAL CHECK VALVES

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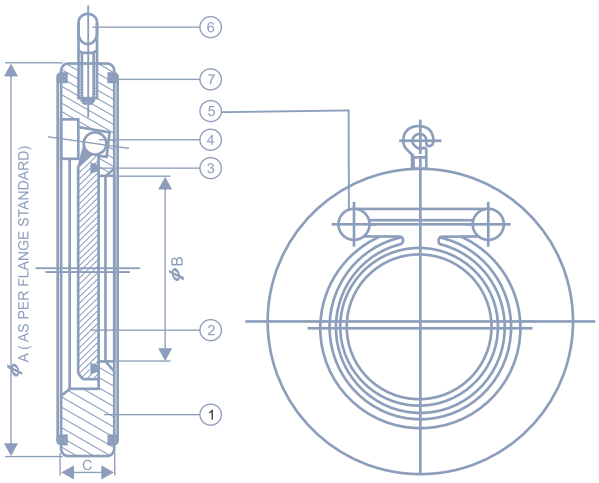
WAFER CHECK VALVES

CHECK VALVE WAFER CLASS 125 "C" TYPE

Sr. No.	DESCRIPTION	MATERIAL
1	Body	M.S./SS 304 / 316
2	Disc	
3	Disc Sealing "O" Ring	Nitrile / EPDM
4	Hinge Pin	M.S./SS 304 / 316
5	Locking Device	
6	Eye Bolt	M.S.
7	Body Sealing "O" Ring	Nitrile / EPDM



INSTALLATION

Slam Check Valves simply fit between two pipes flanges. Standard gaskets are used on either side of the valves together with longer bolts or stud.

TECHNICAL SPECIFICATIONS

CONSTRUCTION : WAFER TYPE, SLAM CHECK VALVE
MFG STANDARD : API 594
TESTING STANDARD : API 598
FACE TO FACE : MANUFACTURER'S STANDARD
END CONNECTION : WAFER TYPE, TO SUIT **ANSI** B 16. FLANGES
PRESSURE RATING : **ANSI** CLASS 125

SPECIAL FEATURES

- Compact design, light weight, self centering disc and easy installation between a wide range of flanges.
- The specially designed springs are of S.S. and ensure positive closing even at low back pressure.

TEST PRESSURE	IN Kg/ cm^2	psig
HYDROSTATIC SHELL	15	215
HYDROSTATIC SEAT	11	160

DN	OA As per BS 10	ØB	C
15	48	9	16
20	57	12	
25	68	15	15
32	72	18	
40	81	22	16
50	97	28	
65	108	41	18
80	128	52	
100	158	75	20
125	190	100	
150	216	122	22
200	272	158	26
250	333	203	28
300	383	248	30
350	443	275	32
400	493	326	34

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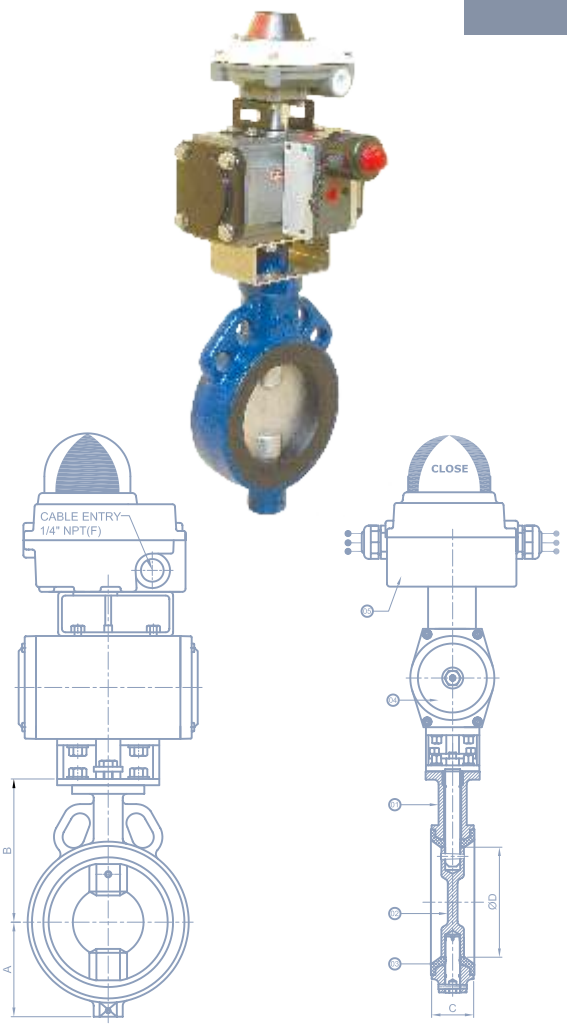
BUTTERFLY VALVE PNEUMATIC WAFER TYPE



DOUBLE ACTING

Actuator Details	(Double Acting - Double Rack and Pinion)
Body	Alluminium Anodized
Caps & Rack	Alluminium Pressure Die Cast
Pinion	En 8
Seals	Buna - N
Air Pressure	5 to 9 Bar
Actuator Design	ISO 5211

Butterfly Valve Details	
Temperature	Up to 120°C
Pressure Rating	PN 10
End Connection	Wafer Sandwiched
Seat Leakage	Tight Shut Off
Valve Type	Centric Disc Butterfly Valve
Body Type	Short Wafer (Sandwiched between flanges)

Micro Limit Switches	
Limit Switches	Limit switch box with dome type on off indicator for Open & Close indication
No. of Contacts provided with pre-wiring for avoiding separate connecting to be both limit switches.	2 Nos (1No + 1 nc-spdt type)
Sensing Element	Mechanical Switch
Enclosure certificate. Make of mechanical type	Water proof IP67
Proximity Switch	Hony well - Make. Model : V15

DIMENSIONS (IN MM)

VLV. Size	A	B	C	OD
1.1/2 (40)	53	103	33	40
2 (50)	59	113	43	50
2.1/2 (65)	67	121	46	65
3 (80)	75	128	46	80
4 (100)	94	146	52	100
5 (125)	108	158	56	125
6 (150)	120	174	56	150
8 (200)	147	198	60	200
10 (250)	216	260	71	241
12 (300)	250	284	81	288.5
14 (350)	265	310	88	350
16 (400)				
18 (450)				
20 (500)				

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB	CAST IRON	CF8/ CF8M
2.	Disc	S.G. IRON	CAST IRON	CF8/ CF8M
3.	Seat	NITRILE	EPDM	PTFE / VITON
4.	Actuator (Double Acting)	ALLUMINIUM		
5.	Micro Limit Switch	STANDARD		
6.	Solenoid Valve	STANDARD / UTVC MAKE		

REF. STANDARDS :

MFG. Standard : API 609/ category A/BS 5155/C-504
Face to Face : Short wafer as per ISO 5752 Tab 5/API 609 Category A
Flange drilling : ISO 5211Par II
Testing : API 598 / BS 6755
Flange Standards : ANSI 150, DIN Pn16/ 10, JIS 5K/ 10K/BS10 Tab D&E, IS 6392 PN 1.0 / 1.6

TESTING DETAIL

Hydraulic Test Pressure Valve	
Body	16 Bar
Seat	11 Bar
Seat Air Test	

PNEUMATIC BUTTERFLY VALVES

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ELECTRICAL BUTTERFLY VALVES

BUTTERFLY VALVE ELECTRICAL OVERRIDE

On - Off Type "MOD" series Electrical Actuator Details

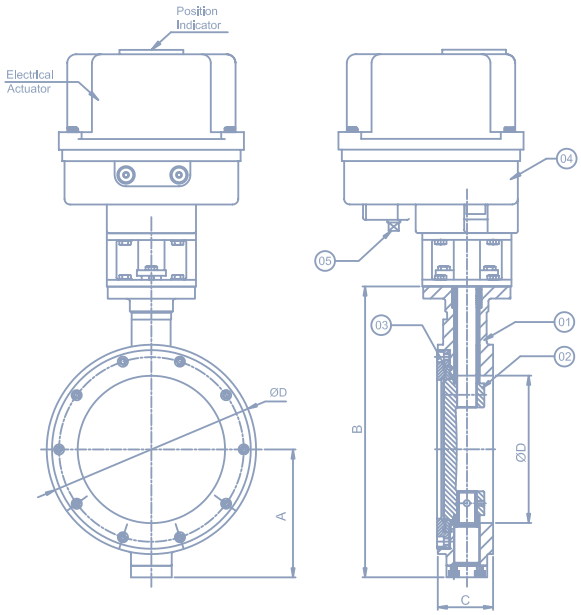
Characteristic	On-Off Type
Travel	90° (Degree)
Indicator	Continuous Opsition Indicator
Phase	Single Phase
Supply	230 V AC, 50 Hz
Body	Alluminium Alloy & "A" Nylon
Ambient Temperature	20OC ~ 80OC
Moisture	10% to 95% (25OC)
Mechanic Motor Power	Class F
Protection Class	IP - 67 Weather Proof
Manual Adjustment	Wrench Setting
Limit Switch	1No + Output of 230V AC
Manual Override	Key Type Provided

Damper Valve Details

Temperature	Up to 180°C
End Connection	Wafer Design
Working Pressure	Up to 10 Kg
Seat Leakage	Tight Shut Off
Leakage Class	VI

Micro Limit Switches

Limit Switches	Limit switch box with dome type on off indicator for Open & Close indication
No. of Contacts provided with pre-wiring for avoiding separate connecting to be both limit switches.	2 Nos (1No + 1 nc-spdt type)
Sensing Element	Mechanical Switch
Enclosure certificate. Make of mechanical type	Water proof IP67
Proximity Switch	Hony well - Make. Model : V15



DIMENSIONS (IN MM)

VLV. Size	A	B	C	OD
1.1/2 (40)	53	103	33	40
2 (50)	59	113	43	50
2.1/2 (65)	67	121	46	65
3 (80)	75	128	46	80
4 (100)	94	146	52	100
5 (125)	108	158	56	125
6 (150)	120	174	56	150
8 (200)	147	198	60	200
10 (250)	216	260	71	241
12 (300)	250	284	81	288.5
14 (350)	265	310	88	350
16 (400)				
18 (450)				
20 (500)				

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB	CAST IRON	CF8/ CF8M
2.	Disc	S.G. IRON	CAST IRON	CF8/ CF8M
3.	Seat	NITRILE	EPDM	PTFE / VITON
4.	Electrical Actuator	STANDARD		
5.	Manual Override	KEY TYPE		

REF. STANDARDS :

MFG. Standard : API 609/ category A/BS 5155/C-504
Face to Face : Short wafer as per ISO 5752 Tab 5/API 609 Category A
Flange drilling : ISO 5211Par II
Testing : API 598 / BS 6755
Flange Standards : ANSI 150, DIN Pn16/ 10, JIS 5K/ 10K/BS10 Tab D&E, IS 6392 PN 1.0 / 1.6

TESTING DETAIL

Hydraulic Test Pressure Valve	
Body	16 Bar
Seat	11 Bar
Seat Air Test	

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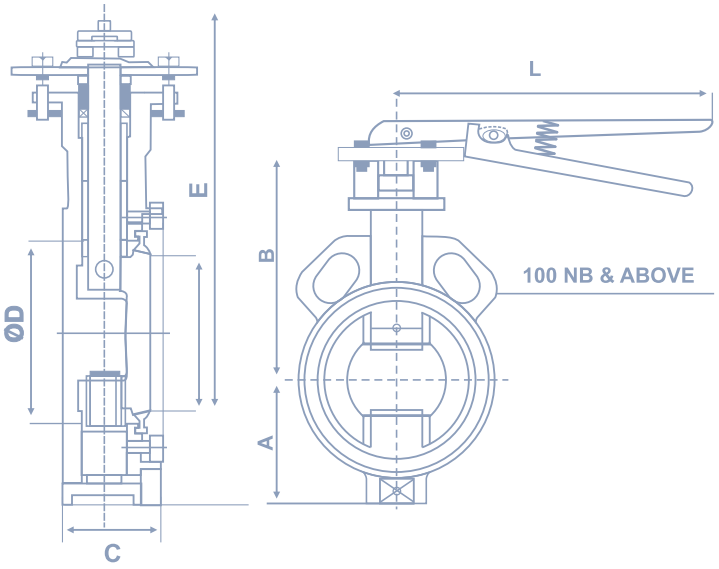
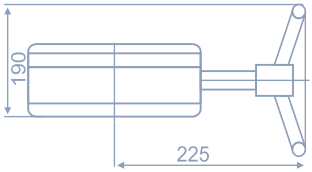
BUTTERFLY VALVE HIGH PERFORMANCE GEAR OPERATOR



SIZE RANGE : 8: to 20”



GEAR ACTUATOR

Dimension (In mm)		
Valves Size	A	B
8”, 10”, 12”	190	225
14” & 20”	On Req.	

Applications:
Hygienic Powder & Slurries, especially in pharmaceutical Industries. Chemical and Dyeing Fluids in Textile Processing.Brine Waters & Oils, Stream Lines, Air / Gas Lines / Vacuum.

Special Effects:
Compact Design - Full Port offers Mass flow, Simple structure, Light & smooth. Takes very short time for opening & closing with very low torque, Easy Maintenance, Replaceable Seals Design, Self Sealing, Self cleaning the under cut Disc segment and seal tends to wipe away the material from gland pressing plate Ensures complete utilization of gland seals.

Spherical Disc Valve has been proved as Superior to other valves in many aspects, particularly in Weight, Pressure Range, Space, Maintenance ease, Multiple operations, Torque & Economy

REF. STANDARDS :

MFG. Standard : API 609/ category B
Face to Face : API 609 Category B / ANSI B 16.10
Testing : API 598 / ANSI FCI 70-2
Flange Standards : ANSI B 16.5 Class150
Pressure Temp. Rating : ASME / ANSI B16.34

TECHNICAL SPECIFICATIONS

Body	CI (IS 210 Gr. FG 200 / 220/ WCB/CF8/ CF8M)
Disc	WCB/ CF8 /CF8M
Seat	EPDM / Nitrile / PTFE / VITON
Shaft	AISI 410 /304 /316
Plate Mounting	NAMUR Standard
Pressure rating	ANSI 150 Class / ANSI 300 Class
End Connection	Wafer Sandwiched / Lug type
Oper. Temp. Range	-25°C to 180°C (Soft Seating)
	-25°C to 600°C (Metal to Metal Seating)
Operation	Hand lever, Worm Gear Box Pneumatic
	Actuated, Electrical Actuated

DIMENSIONS (IN MM)

VALVE Size	A	B	C	OD	E	L
1.1/2 (40)	42	85	59.5	85	146	265
2 (50)	45	95	68.5	95	150	265
2.1/2 (65)	48	113.5	74.5	108	172	265
3 (80)	48	120	80	127	181	265
4 (100)	54	133	95	159	197	265
5 (125)	57	151	117	186	231	265
6 (150)	57	168	132	217	245	265
8 (200)						
10 (250)						
12 (300)						
14 (350)						
16 (400)						
18 (450)						
20 (500)						

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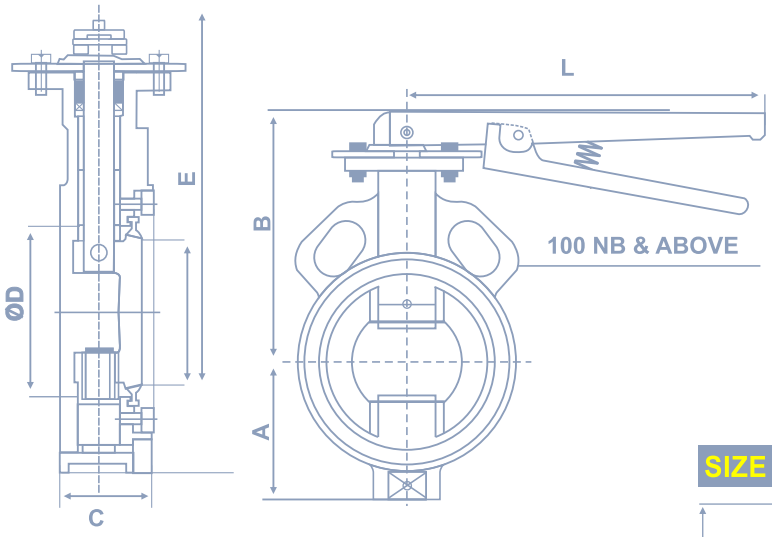
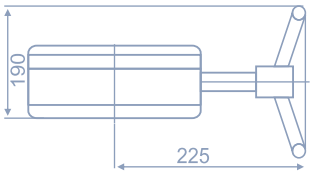
BUTTERFLY VALVES

BUTTERFLY VALVE MANUAL WAFER TYPE



SIZE RANGE : 8: to 20”



GEAR ACTUATOR

Dimension (In mm)

Valves Size	A	B
8”, 10”, 12”	190	225
14” & 20”	On Req.	

SALIENT FEATURES

- Integrally moulded seat liner on body, which ensures excellent dimensional stability & guaranteed seat tightness.
- Seat liner extending on to the contact faces ensures perfect sealing and eliminates the need separate flange gaskets.
- Narrow land disc ensures perfect sealing with least operating torque requirements.
- A fully universal body design ensures fitting of the valve between companion flange of all Popular standards (Viz. ANSI, BS, DIN, JIS, IS etc.)
- The notch disc & band lever ensures locking of the valve in 8 intermediate position in addition to close and open position. Hand lever can be locked through pad lock.
- Body castings made of superior FG 260 grade cast iron to ensure additional strength.
- Valve disc made o stainless steel/ ductile cast iron which enable protection against possible water hammer or
- Pressure surges.
- A truly line size body bone to ensure maximum flow Capacity with the lowest pressure Drop.

REF. STANDARDS :

MFG. Standard	:	API 609/ category A/BS 5155/C-504
Face to Face	:	Short wafer as per ISO 5752 Tab 5/API 609 Category A
Flange drilling	:	ISO 5211Par II
Testing	:	API 598 / BS 6755
Flange Standards	:	ANSI 150, DIN Pn16/ 10, JIS 5K/ 10K/BS10 Tab D&E, IS 6392 PN 1.0 / 1.6

TECHNICAL SPECIFICATIONS

Body	CI (IS 210 Gr. FG 200 / 220/ WCB/CF8/ CF8M)
Disc	CF8 /CF8M / SGI /Teflon Coated
Seat	EPDM / Nitrile / PTFE / VITON
Shaft	AISI 410
Valve Type	Centric Disc Butterfly Valve with a single piece
	rubber lined body
Body Type	Short wafer (sandwiched between flanges)
Seat Type	Integrally moulded with the body
End Connection	Wafer Sandwiched
Pressure rating	PN 10 (max.)
Oper. Temp. Range	-25°C to 130°C (depending on MOC)
Seat leakage	Tight Shut off
Operation	Hand lever for sozos from 40NB to 300 NB
	worm gear boxes for 200 NB to 500 NB

DIMENSIONS (IN MM)

VALVE Size	A	B	C	OD	E	L
1.1/2 (40)	53	103	33	40	133	265
2 (50)	59	113	43	50	143	265
2.1/2 (65)	67	121	46	65	151	265
3 (80)	75	128	46	80	158	265
4 (100)	94	146	52	100	176	265
5 (125)	108	158	56	125	188	265
6 (150)	120	174	56	150	206	265
8 (200)	147	198	60	200	230	375
10 (250)	216	260	71	241	295	375
12 (300)	250	284	81	288.5	319	375
14 (350)	265	310	88	350		
16 (400)						
18 (450)						
20 (500)						

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BALL VALVE FLOATING I-PIECE FIRE SAFE DESIGN REDUCE BORE CLASS 150 / 300

BALL VALVES

MANUAL BALL VALVE

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	A 216 GR WCB	A 216 WCB	A 351 GR CF8/M
2.	Ball	T304/CF8		T316/CF8M
3.	Seat	PTFE		
4.	Spindle	SS 410/SS 304	SS 304	SS 304
5.	Gland Bush	SS 410/SS 304	T 304	T 316
6.	Handle	STEEL WITH PVC CAP		
7.	Handle Nut	STEEL	T304	
8.	Stud & Nut	B7/2H		
9.	Gasket	PTFE		
10.	Gland Packing	PTFE		
11.	Bottom Washer	PTFE		
12.	End Piece	WCB	CF8	CF8M
13.	Gland Nut	CARBON STEEL	T 304	F 316
14.	Name Plate	ALUMINIUM		
15.	Position Indicator	ALUMINIUM		

1 - Hollow Ball 3'NB AND ABOVE

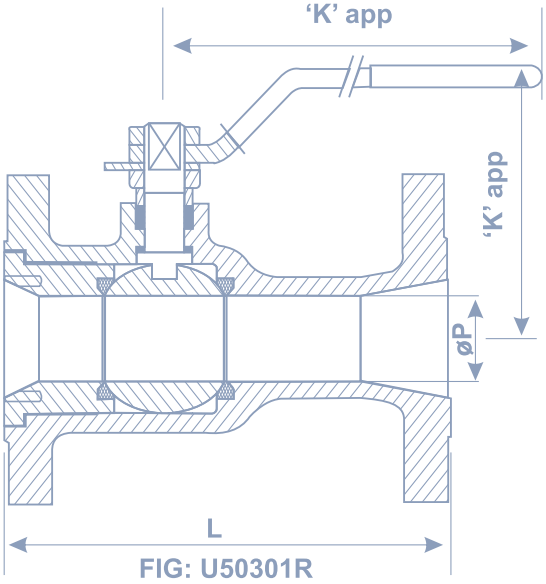

FIG: U50301R

DIMENSION TABLE 300 CLASS

Valve Size in mm	1 25	1.5 40	2 50	2.5 65	3 80	4 100	6 150
L	6.5 165	7.5 190	8.5 216	9.5 241	11.1 283	12.0 305	15.9 403
'H' app	95	100	125	140	175	195	235
'K' app	220	220	220	320	320	385	500
øP	17	28	36	50	57	75	98
Wt. kg app (F/E)	6	9	16	29	33	45	85

TESTING DETAIL 150

Hydrotest {KG/CM^2}	
Shell	31
Seat and Back Seat	22
Seat Air Test	07

TESTING DETAIL 300

Hydrotest {KG/CM^2}	
Shell	79
Seat and Back Seat	58
Seat Air Test	07

DIMENSION TABLE 150 CLASS

Valve Size in mm	1 25	1.5 40	2 50	2.5 65	3 80	4 100	6 150
L	5.0 127	6.5 165	7.0 178	7.5 190	8.0 203	9.0 229	10.5 267
'H' app	95	100	125	140	175	195	235
'K' app	220	220	220	320	320	385	500
øP	17	28	36	50	57	75	98
Wt. kg app (F/E)	3	6	8.5	17	21	30	42

REF STANDARDS

MFG. AND DESIGN :BS 5351
FACE TO FACE : ANSI B 1610
FLANGE DETAIL : ANSI B16.5
INSPECTION AND TESTING:AP1598/BS6755

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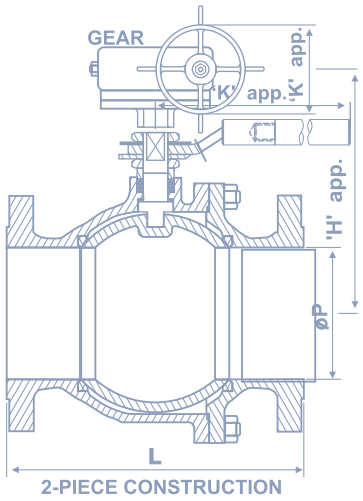
BALL VALVES

BALL VALVE FLOATING CLASS 150
2 PIECE BS 5351 / API 6D

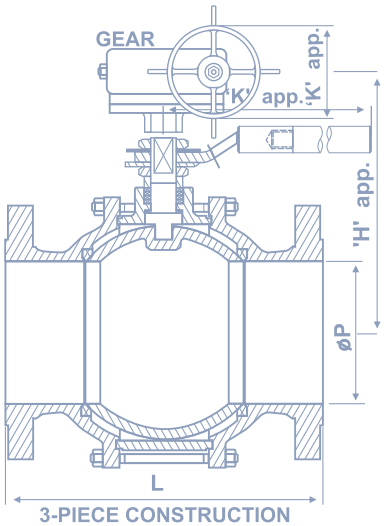
BS 5351 / API6D

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB / A105	CF8	CF8/ CF8M
2.	Yoke	WCB / A105	WCB/8CF8	
3.	Ball	CF8	CF8	CF8
4.	Seat	PTFE		
5.	Spindle	T410 / T304	T304	T316
6.	Gland Bush	T410 / T304	T304	T316
7.	Gland Flange	Carbon Steel		
8.	Hand Wheel	Carbon Steel		
9.	Stud & Nut	B7/2H		
10.	Gland Stud & Nut	B7/2H	B8/8	
11.	Yoke Stud & Nut	B7/2H		
12.	Mounting Bolts	B7		
13.	Trunion Stud & Nut	B7/2H		
14.	Gasket	SPW SS 304/316 With PTFE Filler		
15.	Gland Packing	PTFE		
16.	Gbottom Washer	PTFE		
17.	End Piece	WCB	CF8	CF8M
18.	Name Plate	Aluminium /SS		
19.	Seat Retainer	Carbon Steel	T304	T316
20.	Trunion Support			
21.	Gear Box Assly.	UTVC Make		
22.	Spring	S.S 304		S.S 306
23.	'O' Ring	Neoprene		
24.	Bottom Gasket	SPW SS 304/ 316 With PTFE Filler		



2-PIECE CONSTRUCTION



3-PIECE CONSTRUCTION

1- HOLLOW BALL 3"NB AND ABOVE.
2- LEVER OPERATION UP TO 4"NB, GEAR OPERATION 6"NB AND ABOVE.
3- TRUNNION MOUNTED BALL AS PER REQUIREMENT.

DIMENSION CHART 150#

Valve Size in mm	1.5 40	2 50	2.5 65	3 80	4 100	6 150	8 200	10 250	12 300
L	6.5 165	7.0 178	7.5 191	8.0 203	9.0 229	15.9 394	18.0 457	21.0 533	24.0 610
H app	100	125	140	150	180	270	325	390	540
K app	220	220	320	320	385	500	600	450	450
øp	37	49	64	75	98	148	198	248	298
Wt. kg app (F/E)	9	14	20	27	40	90	165	225	325

TESTING DETAIL 300

Hydrotest {KG/CM^2}	
Shell	31
Seat	22
Seat Air Test :	7

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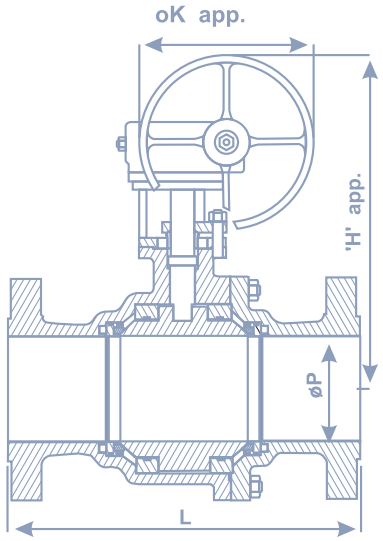
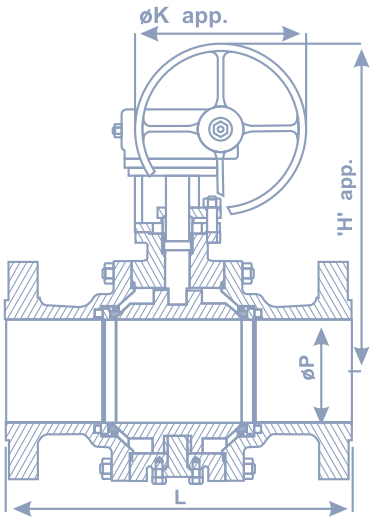
BALL VALVE TRUNNION MOUNTED CLASS 300/600





FULL PORT

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB / A105	CF8	CF8/ CF8M
2.	Yoke	WCB / A105	WCB/8CF8	
3.	Ball	CF8	CF8	CF8
4.	Seat	PTFE		
5.	Spindle	T410 / T304	T304	T316
6.	Gland Bush	T410 / T304	T304	T316
7.	Gland Flange	Carbon Steel		
8.	Hand Wheel	Carbon Steel		
9.	Stud & Nut	B7/2H		
10.	Gland Stud & Nut	B7/2H	B8/8	
11.	Yoke Stud & Nut	B7/2H		
12.	Mounting Bolts	B7		
13.	Trunion Stud & Nut	B7/2H		
14.	Gasket	SPW SS 304/316 With PTFE Filler		
15.	Gland Packing	PTFE		
16.	Gbottom Washer	PTFE		
17.	End Piece	WCB	CF8	CF8M
18.	Name Plate	Aluminium /SS		
19.	Seat Retainer	Carbon Steel	T304	T316
20.	Trunion Support			
21.	Gear Box Assly.	UTVC Make		
22.	Spring	S.S 304		S.S 306
23.	'O' Ring	Neoprene		
24.	Bottom Gasket	SPW SS 304/ 316 With PTFE Filler		

1- HOLLOW BALL 3"NB AND ABOVE.
2- LEVER OPERATION UP TO 4"NB, GEAR OPERATION 6"NB AND ABOVE.
3- TRUNNION MOUNTED BALL AS PER REQUIREMENT.

TESTING DETAIL 300

Hydrotest {KG/CM^2}	
Shell	79
Seat	58
Seat Air Test :	7

DIMENSION CHART 300

Valve Size in mm	2 50	2.5 65	3 80	4 100	6 150	8 200
L	216	241	282	305	403	502
'H' app	135	150	170	190	300	360
øp	49	64	75	98	148	198
Wt. kg app (F/E)	18	28	35	55	110	235

DIMENSION CHART 600

Valve Size in mm	1.5 40	2 50	2.5 65	3 80	4 100	6 150	8 200
L	9.5 241	11.5 292	13.0 330	14.0 356	17.0 432	22.0 559	26.0 660
'H' app	220	135	150	200	250	450	500
øp	37	49	64	75	98	148	198
Wt. kg app (F/E)	22	30	55	55	75	165	325

TESTING DETAIL 600

Hydrotest {KG/CM^2}	
Shell	157
Seat	114
Seat Air Test :	7

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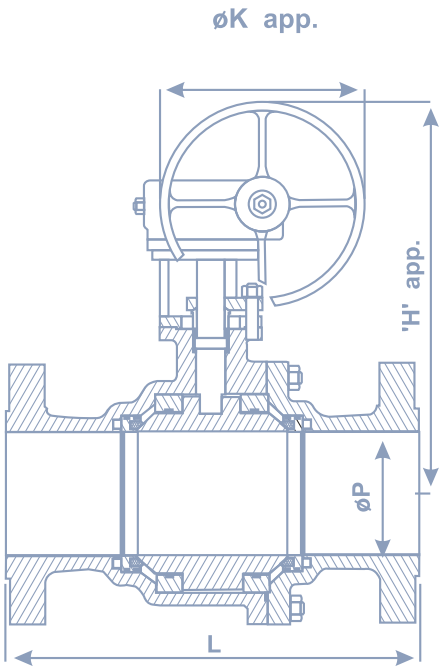
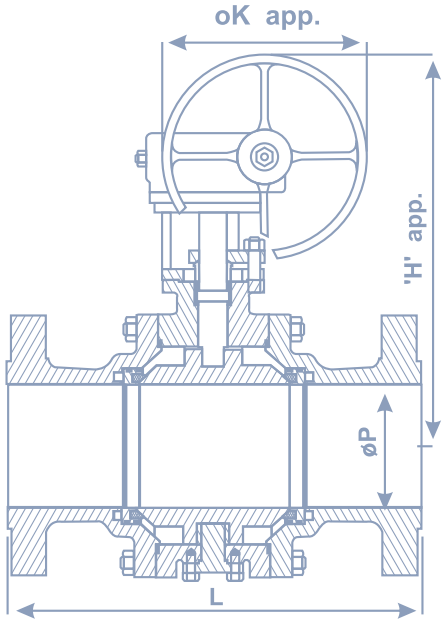
BALL VALVES

BALL VALVE TRUNNION MOUNTED CLASS 900

FULL PORT





MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB / A105	CF8	CF8/ CF8M
2.	Yoke	WCB / A105	WCB/8CF8	
3.	Ball	CF8	CF8	CF8
4.	Seat	PTFE		
5.	Spindle	T410 / T304	T304	T316
6.	Gland Bush	T410 / T304	T304	T316
7.	Gland Flange	Carbon Steel		
8.	Hand Wheel	Carbon Steel		
9.	Stud & Nut	B7/2H		
10.	Gland Stud & Nut	B7/2H	B8/8	
11.	Yoke Stud & Nut	B7/2H		
12.	Mounting Bolts	B7		
13.	Trunion Stud & Nut	B7/2H		
14.	Gasket	SPW SS 304/316 With PTFE Filler		
15.	Gland Packing	PTFE		
16.	Gbottom Washer	PTFE		
17.	End Piece	WCB	CF8	CF8M
18.	Name Plate	Aluminium /SS		
19.	Seat Retainer	Carbon Steel	T304	T316
20.	Trunion Support			
21.	Gear Box Assly.	UTVC Make		
22.	Spring	S.S 304		S.S 306
23.	'O' Ring	Neoprene		
24.	Bottom Gasket	SPW SS 304/ 316 With PTFE Filler		

1- HOLLOW BALL 3"NB AND ABOVE.
2- LEVER OPERATION UP TO 4"NB, GEAR OPERATION 6"NB AND ABOVE.
3- TRUNNION MOUNTED BALL AS PER REQUIREMENT.

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	235
Seat	171
Seat Air Test :	7

DIMENSION CHART 900

Valve Size in mm	2 50	2.5 65	3 80	4 100	6 150	8 200
L	368	381	419	457	610	737
'H' app	210	250	280	290	360	455
øp	49	64	75	75	148	198
Wt. kg app (F/E)	45	50	75	135	240	500

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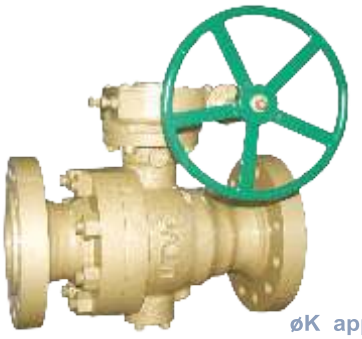
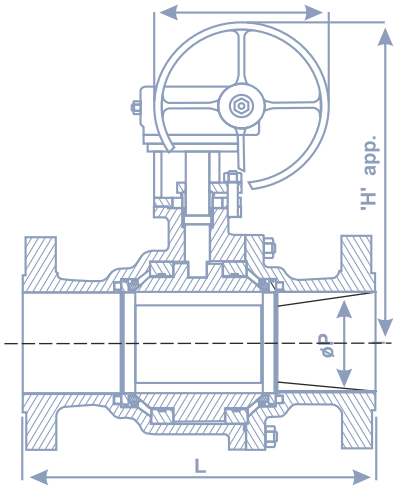
BALL VALVES

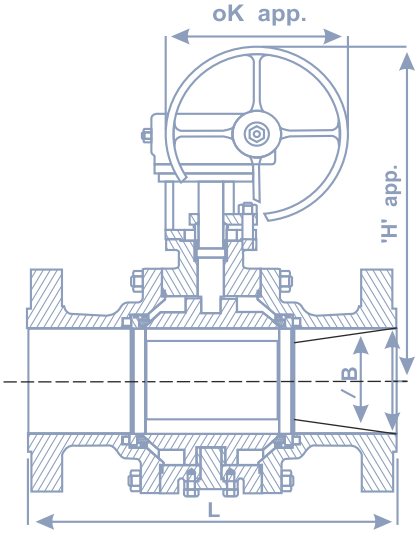
BALL VALVE FULL REDUCE PORT CLASS 1500

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	WCB / A105	CF8	CF8/ CF8M
2.	Yoke	WCB / A105	WCB/8CF8	
3.	Ball	CF8	CF8	CF8
4.	Seat	PTFE		
5.	Spindle	T410 / T304	T304	T316
6.	Gland Bush	T410 / T304	T304	T316
7.	Gland Flange	Carbon Steel		
8.	Hand Wheel	Carbon Steel		
9.	Stud & Nut	B7/2H		
10.	Gland Stud & Nut	B7/2H	B8/8	
11.	Yoke Stud & Nut	B7/2H		
12.	Mounting Bolts	B7		
13.	Trunion Stud & Nut	B7/2H		
14.	Gasket	SPW SS 304/316 With PTFE Filler		
15.	Gland Packing	PTFE		
16.	Gbottom Washer	PTFE		
17.	End Piece	WCB	CF8	CF8M
18.	Name Plate	Aluminium /SS		
19.	Seat Retainer	Carbon Steel	T304	T316
20.	Trunion Support			
21.	Gear Box Assly.	UTVC Make		
22.	Spring	S.S 304		S.S 306
23.	'O' Ring	Neoprene		
24.	Bottom Gasket	SPW SS 304/ 316 With PTFE Filler		







ASME 1500 Class Full Port

Size DN	50	65	80	100	150	200	250	300	350	400
L - RF	368	419	470	546	705	832	990	1130	1257	1384
B	51	64	76	102	146	194	241	290	320	360
H (approx)	230	260	290	305	370	470	520	575	635	700
ØW	300	300	400	400	600	600	750	750	750	750
Wt. (approx) kg	52	74	98	144	320	695	960	1550	2600	3700

ASME 1500 Class Reduce port

Size DN	50	65	80	100	150	200	250	300	350	400
L - RF	368	419	470	546	705	832	990	1130	1257	1384
B	36	50	57	75	98	144	187	241	290	320
H (approx)	230	260	290	305	370	470	520	575	635	700
ØW	300	300	400	400	600	600	750	750	750	750
Wt. (approx) kg	51	62	76	110	215	500	815	1200	1920	2900

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	390
Seat	286
Seat Air Test :	7

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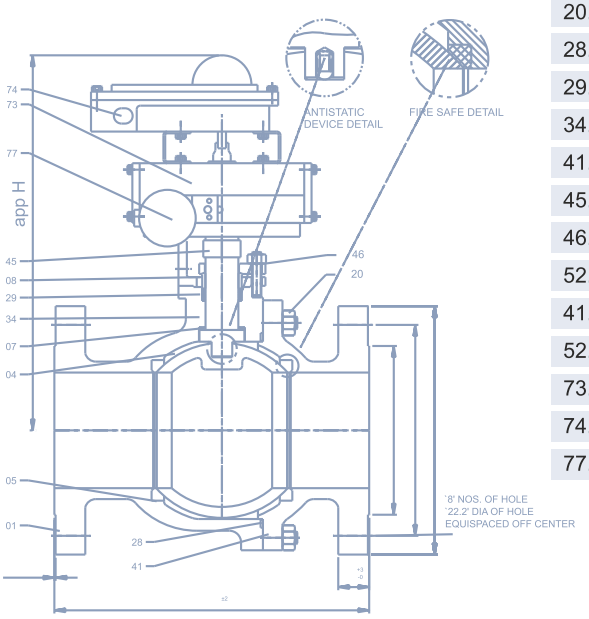
BALL VALVE 2 PIECE PNEUMATIC ACTUATOR DOUBLE ACTING CLASS 150 / 300

DOUBLE ACTING



MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	BODY	WCB / A105	CF8	CF8/ CF8M
4.	BALL	CF8 / CF8M	SS304 / SS316	
5.	SEAT	PTFE		
7.	SPINDLE	SS304 / SS316		
8.	GLAND BUSH	SS304 / SS316		
18.	HANDLE	N/A		
20.	STUD & NUT	A 193 Gr. B7 / A 194 Gr. 2H		
28.	BODY PACKING	VITON / GRAFOIL / PTFE		
29.	STEM PACKING	GFT/ VITON / GRAFOIL / PTFE		
34.	BOTTOM WASHER	PTFE		
41.	END PIECE	WCB / A105	CF8	CF8/ CF8M
45.	LOCK NUT	AISI 316		
46.	GLAND FLANGE	WCB		
52.	NAME PLATE	SS / AL		
41.	END PIECE	WCB / A105	CF8	CF8/ CF8M
52.	NAME PLATE	SS / AL		
73.	ACTUATOR ASSLY.	DOUBLE ACTING		
74.	LIMIT SWITCH	UTVC Make		
77.	SOLENOID VALVE			

1- HOLLOW BALL 3"NB AND ABOVE.

TESTING DETAIL 150

Hydrotest {KG/CM^2}	
Shell	30
Seat	20
Seat Air Test :	7

TESTING DETAIL 300

Hydrotest {KG/CM^2}	
Shell	79
Seat	58
Seat Air Test :	7

REFERENCE STANDARD

MFG. STD.	BS 5351
FACE TO FACE	ANSI B 16.10
FLANGE DETAIL	ANSI B 16.5
INSP. & TEST	BS 6755 PART - 1

DIMENSION CHART 150#

Valve Size in mm	1.5 40	2 50	2.5 65	3 80	4 100	6 150
L	6.5 165	7.0 178	7.5 191	8.0 203	9.0 229	15.9 394
H app	13.80	14.12	15.87	16.78	17.74	19.84
øp	37	49	64	75	98	148
Wt. kg app (F/E) (VALVE)	9	14	20	27	40	90

DIMENSION CHART 300

Valve Size in mm	2 50	2.5 65	3 80	4 100	6 150
L	216	241	282	305	403
H app	15.5	16.87	17.78	18.84	21.50
øp	49	64	75	98	148
Wt. kg app (F/E) (VALVE)	18	28	35	55	110

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PNEUMATIC BALL VALVES

BALL VALVE 1 PIECE PNEUMATIC ACTUATOR CLASS 150/300 REDUCE PORT

DOUBLE ACTING

MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	BODY	WCB / A105	CF8	CF8/ CF8M
2.	BALL	CF8 / CF8M	SS304 / SS316	
3.	SEAT	PTFE		
4.	SPINDLE	SS304 / SS316		
5.	GLAND BUSH	SS304 / SS316		
6.	HANDLE	N/A		
7.	STUD & NUT	A 193 Gr. B7 / A 194 Gr. 2H		
8.	BODY PACKING	VITON / GRAFOIL / PTFE		
9.	STEM PACKING	GFT/ VITON / GRAFOIL / PTFE		
10.	BOTTOM WASHER	PTFE		
11.	END PIECE	WCB / A105	CF8	CF8/ CF8M
12.	LOCK NUT	AISI 316		
13.	GLAND FLANGE	WCB		
14.	NAME PLATE	SS / AL		
15.	END PIECE	WCB / A105	CF8	CF8/ CF8M
16.	NAME PLATE	SS / AL		
17.	ACTUATOR ASSLY.	DOUBLE ACTING		
18.	LIMIT SWITCH	UTVC Make		
19.	SOLENOID VALVE			

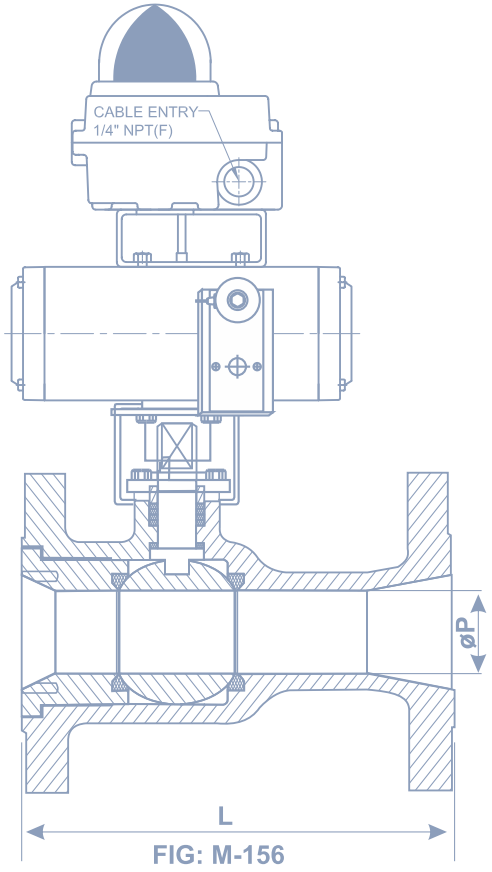

FIG: M-156

REF STANDARDS

MFG. AND DESIGN :BS 5351
FACE TO FACE : ANSI B 1610
FLANGE DETAIL : ANSI B16.5
INSPECTION AND TESTING : AP1598 / BS 6755

TESTING DETAIL 150

Hydrotest {KG/CM^2}	
Shell	31
Seat and Back Seat	22
Seat Air Test	07

TESTING DETAIL 300

Hydrotest {KG/CM^2}	
Shell	79
Seat and Back Seat	58
Seat Air Test	07

DIMENSION TABLE 150 CLASS

Valve Size in mm	1 25	1.5 40	2 50	2.5 65	3 80	4 100	6 150
L	5.0 127	6.5 165	7.0 178	7.5 190	8.0 203	9.0 229	10.5 267
ØP	17	28	36	50	57	75	98
Valve Wt. kg app (F/E)	3	6	8.5	17	21	30	42

DIMENSION TABLE 300 CLASS

Valve Size in mm	1 25	1.5 40	2 50	2.5 65	3 80	4 100	6 150
L	6.5 165	7.5 190	8.5 216	9.5 241	11.1 283	12.5 305	15.9 403
ØP	17	28	36	50	57	75	98
Valve Wt. kg app (F/E)	6	9	16	29	33	45	85

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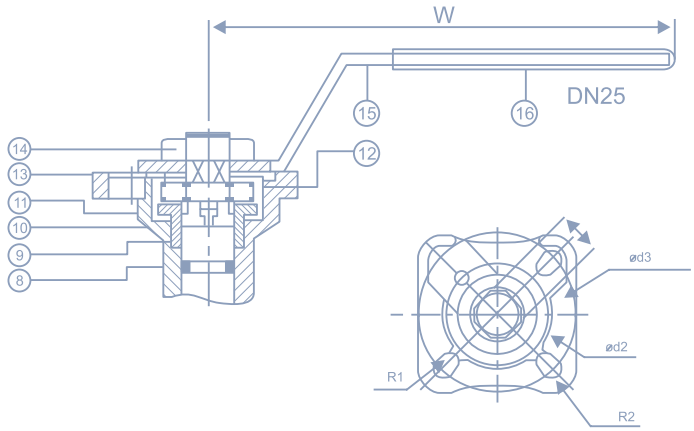
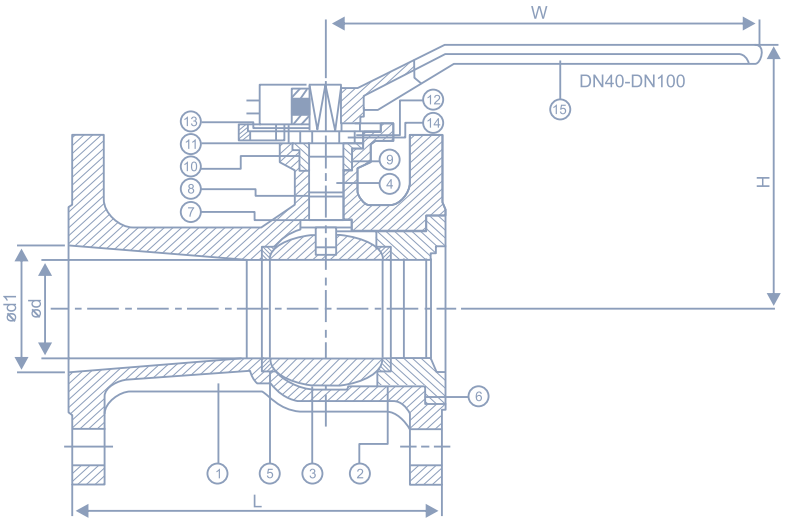
BALL VALVE PNEUMATIC FE 150# 1 PC





FEATURES

1. Standard port, 1"~4" (DN25~DN100)
2. W. P.:CLASS 150/300
3. W. T.:-20" ~200" (-4"~392")
4. Investment casting
5. Blow-out proof stem
6. Anti-static device
7. ISO 5211 Direct Mounting pad
8. API 607 Fire safe approved
9. Automation accessories (option)
10. Wall thickness :ASME B16.34
11. Flange dimension: ASME B16.5
12. Face to face: ASME B16.10

DN	d	d1	L	H	W	ISO 5211	S	h1	d2	d3	R1	R2	Torque (N-m)	
													Action	Breakaway
25	20	25	127	80	117	F03/F04	9	8	36	42	2.75	2.75	5.9	9.8
40	30	40	165	90	160	F04/F05	11	10.5	42	50	2.75	3.5	11.7	20.8
50	38	50	178	117	221	F05/F07	14	14	50	70	3.5	4.5	20.8	29.9
65	50	64	190.5	130				15.5					26	37.7
80	64	76	203	134	325	F07/F10	17	18.5	70	102	4.5	5.5	36.4	48.1
100	76	100	229	157				20					45.5	55.9

unit :mm

NPS	d	d1	L	H	W	ISO 5211	S	h1	d2	d3	R1	R2	Torque (in - lb)	
													Action	Breakaway
1"	0.79	0.98	5	3.15	4.6	F03/F04	0.35	0.32	1.42	1.65	0.11	0.11	52.22	86.74
1-1/2"	1.18	15.7	6.5	3.54	6.3	F04/F05	0.43	0.41	1.65	1.97	0.11	0.14	103.55	184.09
2"	1.5	1.97	7.01	4.61	8.7	F05/F07	0.55	0.55	1.97	2.76	0.14	0.18	184.09	264.64
2-1/2"	1.97	2.52	7.5	5.12				0.61					230.12	333.67
3"	2.52	2.99	7.99	5.28	12.8	F07/F10	0.67	0.73	2.76	4.02	0.18	4.02	322.17	425.72
4"	2.99	3.94	9.02	6.18				0.79					402.71	494.75

unit :mm

ITEM	PARTS	MATERIAL	
1	BODY	ASTMA351-CF8M	ASTMA216-WCB
2	RETAINER		
3	BALL	ASTMA351-CF8M	
4	STEM	ASTM A276-316	
5	SEAT	PTFE	
6	SEAL	GRAPHITE	
7	THRUST WASHER	CTFE	
8	O-RING	VITON	
9	PACKING	GRAPHITE	
10	GLAND RING	AISI 304	
11	BELLEVLLE WASHER	AISI 301	
12	LOCKING WASHER	AISI 304	
13	LOCKING DEVICE		
14	STEM NUT		
15	HANDLE		
16	HANDLE SELLVE	PVC	

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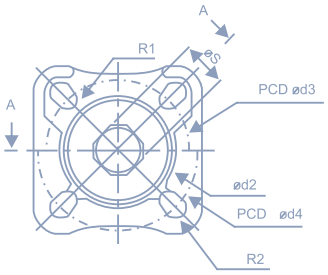
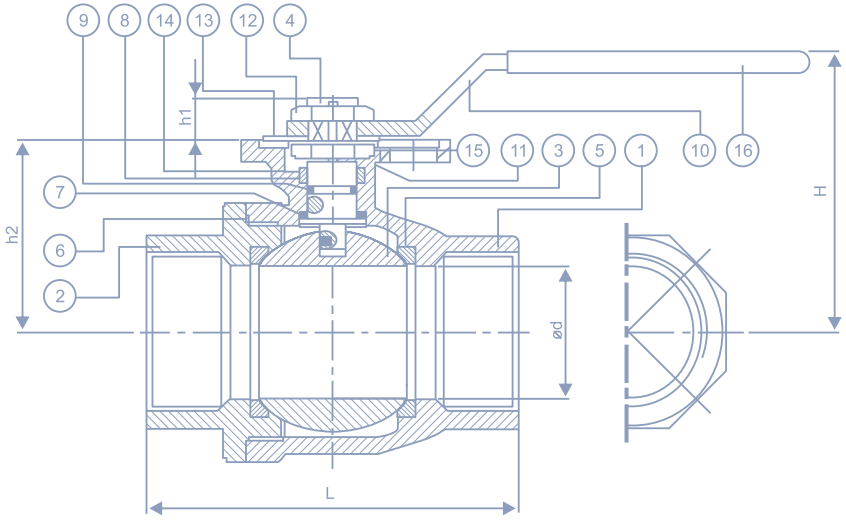
BALL VALVE PNEUMATIC ACTUATOR SE 2PC





FEATURES

1. Full port, 1/4"~2" (DN8~DN50)
2. W. P.: 1000 WOG(PN63)
3. W. T.:-20" ~200" (-4"~392")
4. Investment casting
5. Blow-out proof stem
6. Live-loading device
7. Anti-static device
8. Locking device
9. ISO 5211 Direct mounting pad
10. Length conform to DIN 3202/4-M3
11. Automation accessories (option)
12. Thread type: ASTM B1.20.1 (NPT), DIN 2999 & BS21, ISO228/1 & ISO7/1

DN	d	L	H	DIN / ISO	S	h1	h2	d2	d3	d4	R1	R2	Torque N - m	
													Action	Breakaway
8	8	75	64	F03 / F04	9	8	39	31	36	42	2.75	2.75	2.5	6.4
10	10												2.5	6.4
15	15												2.5	6.4
20	20	80	70				44						3.3	10
25	25	90.5	74	F04 / F05	11	9	47.5	35.5	42	50	2.75	3.5	2.6	9
32	32	110	80			12	53						7.7	25.5
40	38	120	98	F05 / F07	14	13	64.5	56	50	70	3.5	4.5	9.6	34.5
50	50	140	107			13.5	73						15.3	52.3

NPS	d	L	H	ISO 5211	S	h1	h2	d2	d3	d4	R1	R2	Torque N - m	
													Action	Breakaway
1/4"	0.31	2.95	2.52	F03 / F04	0.35	0.31	1.54	1.22	1.42	1.65	0.11	0.11	22.13	56.65
3/8"	0.39												22.13	56.65
1/2"	0.59												22.13	56.65
3/4"	0.79	3.15	2.76				1.73						29.21	88.51
1"	0.98	3.56	2.91	F04 / F05	0.43	0.35	1.87	1.4	1.65	1.97	0.11	0.14	23.01	79.66
1-1/4"	1.26	4.33	3.15			0.47	2.09						68.15	225.70
1-1/2"	1.5	4.72	3.86	F05 / F07	0.55	0.51	2.54	2.2	1.97	2.76	0.14	0.18	84.97	305.36
2"	1.97	5.51	4.21			F05 / F07	2.87						135.42	462.91

Item	PARTS	MATERIAL	
1	BODY	ASTM A351-CF8M	ASTM A216-WCB
2	CAP		
3	BALL	ASTM A351-CF8M	
4	STEM	ASTM A276-316	
5	SEAT	PTFE	
6	SEAL		
7	THRUST WASHER		
8	PACKING		
9	O-RING	Viton	
10	HANDLE	AISI 304	
11	BELLEVILLE WASHER	AISI 301	
12	STEM NUT	AISI 304	
13	LOCKING DEVICE		
14	GLAND RING		
15	LOCKING WASHER		
16	HANDLE SLEEVE	PVC	

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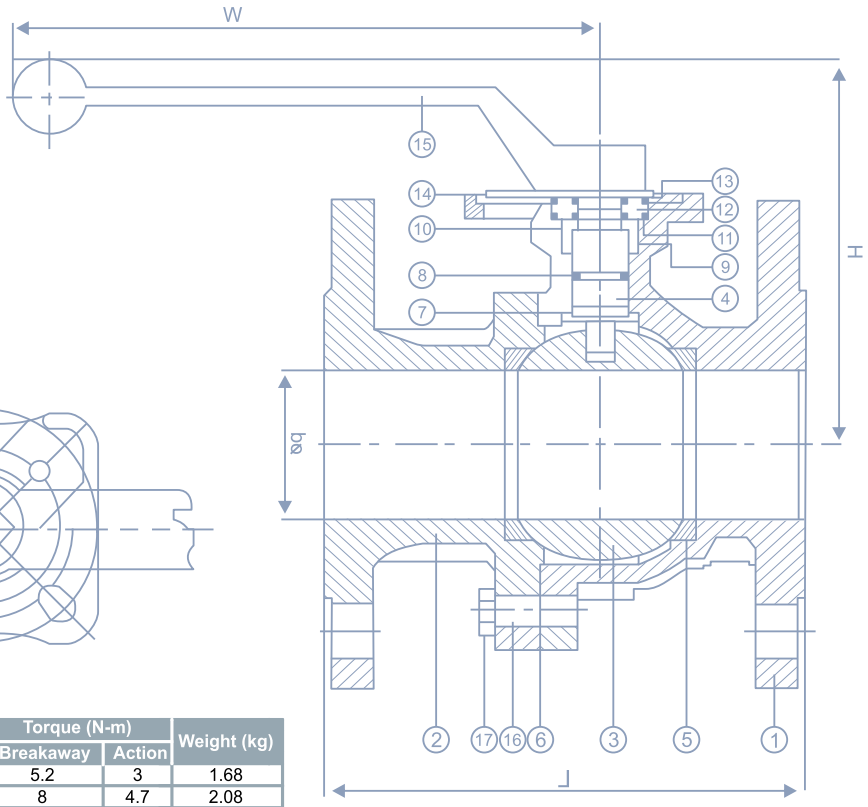
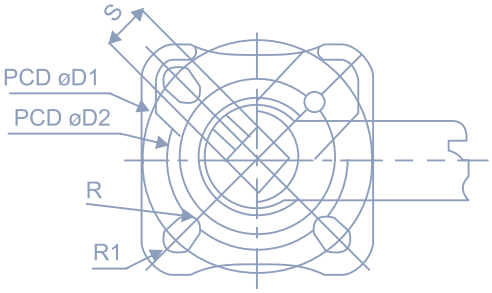
BALL VALVE PNEUMATIC FLANGED 2PC

FEATURES

1. Full port, 1/2"~8" (DN15~DN200)
2. W. P.: CLASS 150 / 300
3. W. T.:-20" ~200" (-4"~392")
4. Investment casting
5. Blow-out proof stem
6. Live-loading design
7. Anti-static device
8. Locking device
9. ISO 5211 direct Mounting pad
10. API 607 Fire safe approved
11. Automation accessories (option)
12. Flange dimension : ASME B16.5
13. Face to face: ASME B16.10





DN	D1	D2	d	L	H	W	R	R1	S	Torque (N-m)		Weight (kg)
										Breakaway	Action	
15	42	36	15	108	86.2	197.5	2.75	2.75	9	5.2	3	1.68
20	42	36	20	117	90.7	197.5	2.75	2.75	9	8	4.7	2.08
25	50	42	24	127.5	96.9	197.5	2.75	3.5	11	12.5	9	3.22
32	50	42	30	140.5	99.9	197.5	2.75	3.5	11	12	8.5	3.72
40	70	50	38	165	124.2	247.5	3.5	4.5	14	24.5	18	5.98
50	70	50	50	178	132.2	247.5	3.5	4.5	14	32	23	8
65	102	70	64	190.5	162.5	340	4.5	5.5	17	38	27	14.5
80	102	70	76	203	169.5	340	4.5	5.5	17	45	30	18.24
100	125	102	100	229	194.8	340	5.5	6.5	22	55	37	29

NPS	D1	D2	d	L	H	W	R	R1	S	Torque (in-lb)		Weight (lb)
										Breakaway	Action	
1/2"	1.65	1.42	0.59	4.25	3.39	7.78	0.11	0.11	0.35	46.02	26.55	3.7
3/4"	1.65	1.42	0.79	4.61	3.57	7.78	0.11	0.11	0.35	70.81	41.6	4.59
1"	1.97	1.65	0.94	5.02	3.81	7.78	0.11	0.14	0.43	110.63	79.66	7.1
1-1/4"	1.97	1.65	1.18	5.53	3.93	7.78	0.11	0.14	0.43	106.21	75.23	8.2
1-1/2"	2.76	1.97	1.5	6.5	4.89	9.74	0.14	0.18	0.55	216.84	159.31	13.18
2"	2.76	1.97	1.97	7.01	5.2	9.74	0.14	0.18	0.55	283.22	203.57	17.64
2-1/2"	4.02	2.76	2.52	7.5	6.4	13.39	0.18	0.22	0.67	336.33	238.97	31.97
3"	4.02	2.76	2.99	7.99	6.67	13.39	0.18	0.22	0.67	398.28	265.52	40.21
4"	4.92	4.02	3.94	9.02	7.67	13.39	0.22	0.26	0.87	486.79	327.48	63.93

ITEM	PARTS	MATERIAL	
1	BODY	ASTM A351-CF8M	ASTM A216-WCB
2	CAP		
3	BALL	ASTM A351-CF8M	
4	STEM	ASTM A276-316	
5	SEAT	PTFE	
6	SEAL	GRAPHITE	
7	THRUST WASHER	CTFE	
8	O-RING	VITON	
9	PACKING	GRAPHITE	
10	GLAND RING	AISI 304	
11	BELLEVILLE WASHER	AISI 301	
12	NUT	AISI 304	
13	LOCKING DEVICE		
14	LOCKING DEVICE		
15	HANDLE		
16	STUD		
17	NUT		

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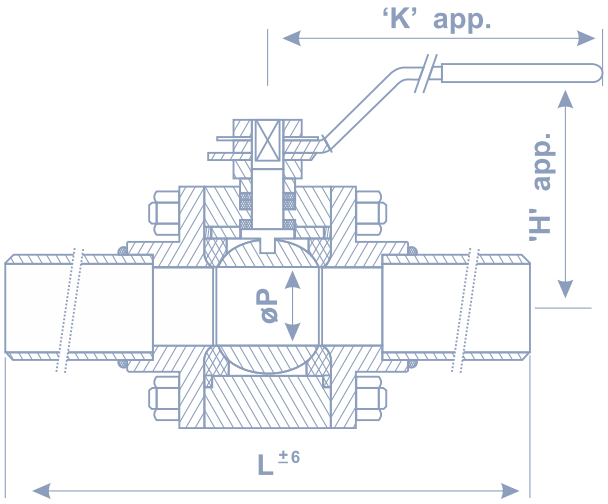
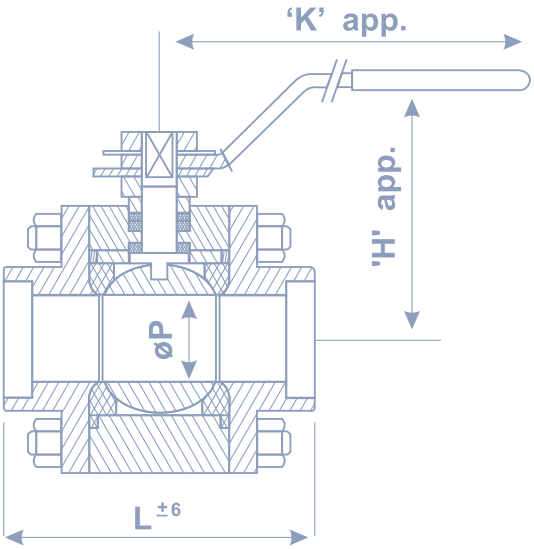
BALL VALVE FORGED STEEL SW / BW / SE 800





MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	A 105	F 304	F 316
2.	Ball	T 304		T 316
3.	Seat	PTFE		
4.	Spindle	T410/ T304	T 304	T 316
5.	Gland Bush	T410/ T304	T 304	T 316
6.	Handle	STEEL		
7.	Handle Nut	T410	T304	
8.	Stud & Nut	B7/2H		
9.	Gasket	PTFE		
10.	Gland Packing	PTFE		
11.	Bottom Washer	PTFE		
12.	End Piece	105	F 304	F 316
13.	Gland Nut	T410	T 304	F 316
14.	Name Plate	ALUMINIUM		
15.	Position Indicator	ALUMINIUM		
16.	Extended Pipe	A 106	TP 304	TP 316

TESTING DETAIL

Hydrotest {KG/CM^2}	
Shell	157
Seat	114
Seat Air Test :	7

REF STANDARDS

MFG. AND DESIGN :BS 5351
FACE TO FACE : MG STD. B16.11
INSPECTION AND TESTING:AP1598/BS6755

DIMENSION

Valve Size in mm	0.5 15	0.75 20	1 25	1.25 32	1.5 40	2 50
L	3.1 80	3.3 85	3.9 100	4.5 115	5.1 130	9.5 150
L1	10.8 275	11.0 280	11.8 300	12.4 315	12.6 320	13.8 350
'H' app	70	80	90	105	110	125
'K app	130	140	160	240	240	240
øP	12	19	24	30	37	50
Wt. kg app	1.4	2	3.5	6	7	8

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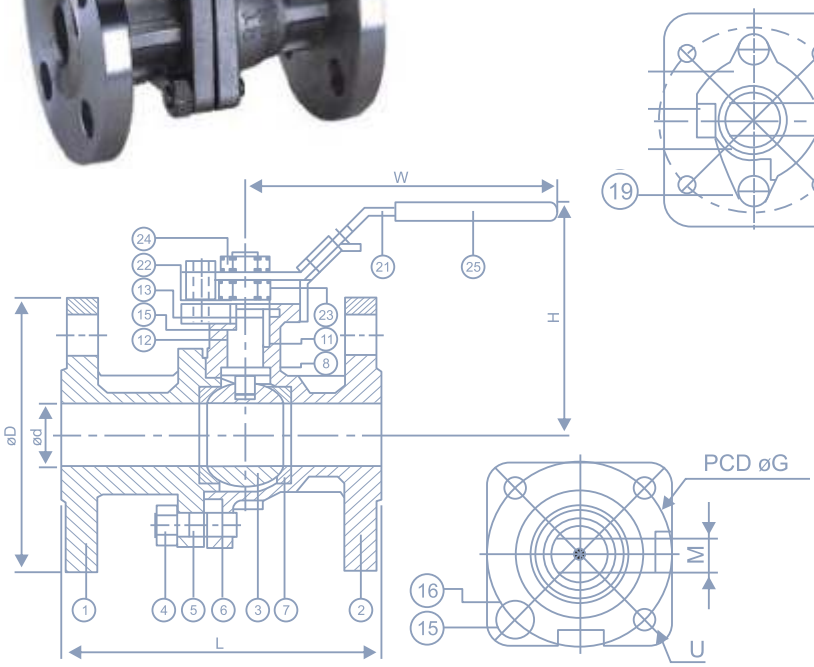
BALL VALVES

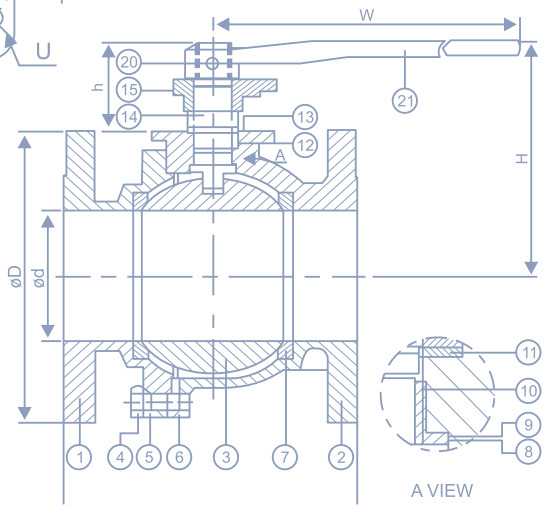
BALL VALVE FLANGED END 2 PC

FEATURES

1. Full port, 1/2"~12" (DN15~DN300)
2. W. P.: CLASS 150/300
3. W. T.:-20" ~200" (-4"~392")
4. Investment casting
5. Blow-out proof stem
6. Anti-static device (option)
7. Locking device
8. ISO 5211 Mounting pad
9. API 607 Fire safe approved
10. Flange dimension : DIN 2501
11. Face to face: ASME B16.10



DN15-DN50



DN65-DN100

ITEM	PARTS	MATERIAL	
1	CAP	ASTM A351-CF8M	ASTM A216-WCB
2	BODY		
3	BALL	ASTM A351-CF8M	
4	NUT	AISI 304	
5	BOLT		
6	SEAL	GRAPHITE	
7	SEAT	PTFE	
8	THRUST WASHER 1	CTFE	
9	THRUST WASHER 2		
10	THRUST WASHER 3	PTFE	
11	PACKING	GRAPHITE	
12	PACKING2		
13	GLAND RING 1	AISI 304	
14	GLAND RING 2		
15	STEM	AISI 316	
16	STOPPER	ASTM A276-316	
17	GLAND	ASTM A351-CF8M	
18	CIRCLIPS FOR SHAFTS	AISI 304	
19	BOLT		
20	SOCKET SET SCREWS		
21	HANDLE	ASTM A351-CF8M	
22	BELLEVILLE WASHER	AISI 301	
23	LOCK WASHER	AISI 304	
24	STEM NUT		
25	HANDLE SLEEVE	PVC	

DN	d	L (Class 150)	L (Class300)	H	W	M	G	U	Torque (N-m)		Weight (kg)
									Action	Breakaway	
15	15	108	140	74.5	165	6.3	42	M5*0.8	2.9	3.4	2.1
20	20	117	152	77.5	165	6.3	42	M5*0.8	3.9	5.4	3
25	25	127	165	90.6	199	8	50	M6*1	4.9	6.9	3.5
32	32	140.2	178	93.5	199	8	50	M6*1	8.8	14.7	4
40	38	165	190	108	248	9.5	70	M8*1.25	16.7	32	6.8
50	50	178	216	124	262	9.5	70	M8*1.25	19.6	32	9
65	65	190	241	155	328	17	102	M10*1.5	30	40	17.64
80	76.5	203	282	160	328	17	102	M10*1.5	36	48	19.64
100	102	229	305	181.6	328	17	102	M10*1.5	46	58	27.94

NPS	d	L (Class 150)	L (Class300)	H	W	M	G	U	Torque (in-lb)		Weight (lb)
									Action	Breakaway	
1/2"	0.59	4.25	5.41	2.93	6.5	0.25	1.65	M5*0.8	25.7	30.1	4.63
3/4"	0.79	4.61	5.98	3.05	6.5	0.25	1.65	M5*0.8	34.5	47.8	6.61
1"	0.98	5	6.5	3.57	7.83	0.31	1.97	M6*1	43.4	61.1	7.71
1-1/4"	1.26	5.52	7.01	3.68	7.83	0.31	1.97	M6*1	77.9	130.1	8.82
1-1/2"	1.5	6.5	7.48	4.25	9.76	0.37	2.76	M8*1.25	147.8	283.2	14.99
2"	1.97	7.01	8.5	4.88	10.31	0.37	2.76	M8*1.25	173.5	283.2	19.84
2-1/2"	2.56	7.48	9.49	6.1	12.91	0.67	4.02	M10*1.5	265.5	354	38.88
3"	3.01	7.99	11.1	6.3	12.91	0.67	4.02	M10*1.5	318.6	424.8	43.29
4"	4.02	9.02	12.01	7.15	12.91	0.67	4.02	M10*1.5	407.1	513.3	61.58

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UTVC™

BALL VALVE 3 PIECE NPT / BSP 1000 PSI WOG

INVESTMENT CASTING

SS 3 PIECE DESIGN FULL BORE BALL VALVE SCREWED END, SOCKET WELD END (1000WOG)

Full Port Three - Pieces Ball Valve

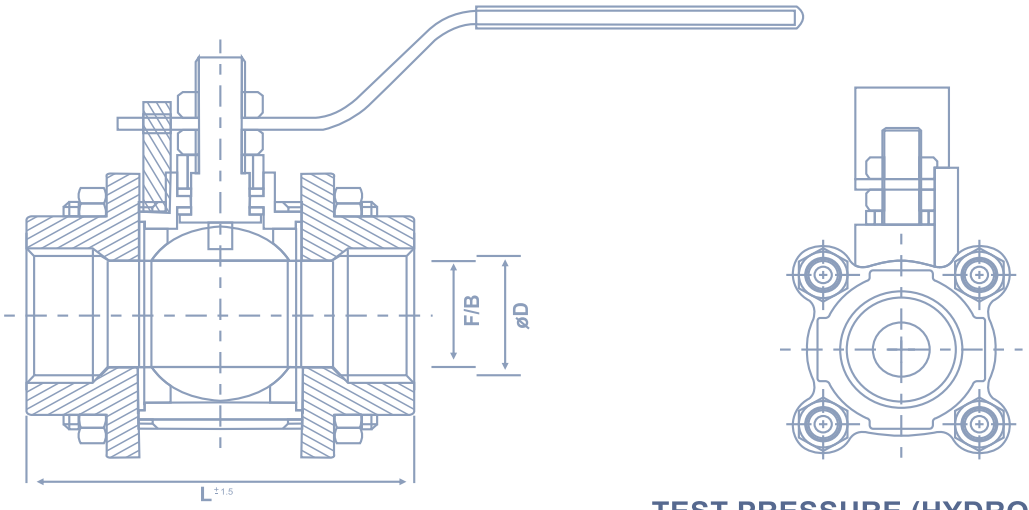
- Dynamic loading on stem packing , ensures a tight seal through varying pressure and temperature conditions, reducing maintenance costs and extending service life.
- End Cap Alignment Step; Ensures easy and proper alignment between mating parts.
- Full Port Design: Improves flow resulting in increased process efficiencies.
- 3-Piece Construction : Easy to repair.
- Stem is bottom loaded to prevent removal when valve is in service.
- Locking Device: Enables plant personnel to secure valve in open or closed position when manually operated

Specification of Three Pieces Ball Valve

- Working Pressure: 1000PSI WOG
- Temperature Range : 20 - - -232C
- Suitable medium: Water, Oil, Air and some corrosive liquid.
- Thread kinds : NPT, BSPT, BSP. Din 259/2999

MATERIAL OF CONSTRUCTION

No.	DESCRIPTION	SPECIFICATION
1.	BODY	ASTM A - 351 GRADE CF 8M / CF 8
2.	END CAP	ASTM A - 351 GRADE CF 8M / CF 8
3.	BALL	SS316 / SS 304
4.	SEAT RING	PTFE
5.	BODY SEAL	PTFE
6.	THRUST WASHER	PTFE
7.	STEM SEAL	SS316 / SS 304
8.	STEM	SS304 / SS 316
9.	GLAND NUT	SS304
10.	HANDLE WASHER	SS304
11.	HANDLE NUT	SS304
12.	HANDLE	SS304
13.	HANDLE COVER	PLASTIC



DIMENSIONS OF 3 PC/SCR END IN MM

Size	L	F/B	Ends D
15	70	12.5	1/2"
20	74	19	3/4"
25	88	25	1"
40	102	38	1/2"
50	117	51	2"

TEST PRESSURE (HYDROSTATIC)

Class	150 lbs	300 lbs
Body	450 PSIG or 31.5 Kg/cm^{2}g	1100 PSIG or 77 Kg/cm^{2}g
Seat	315 PSIG or 22 Kg/cm^{2}g	800 PSIG or 56 Kg/cm^{2}g

TEST PRESSURE (PNEUMATIC)

Class	150 lbs
Seat	80 PSIG or 5.5 Kg/cm^{2}g

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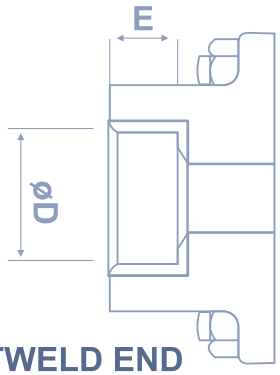
FORGED BALL VALVES

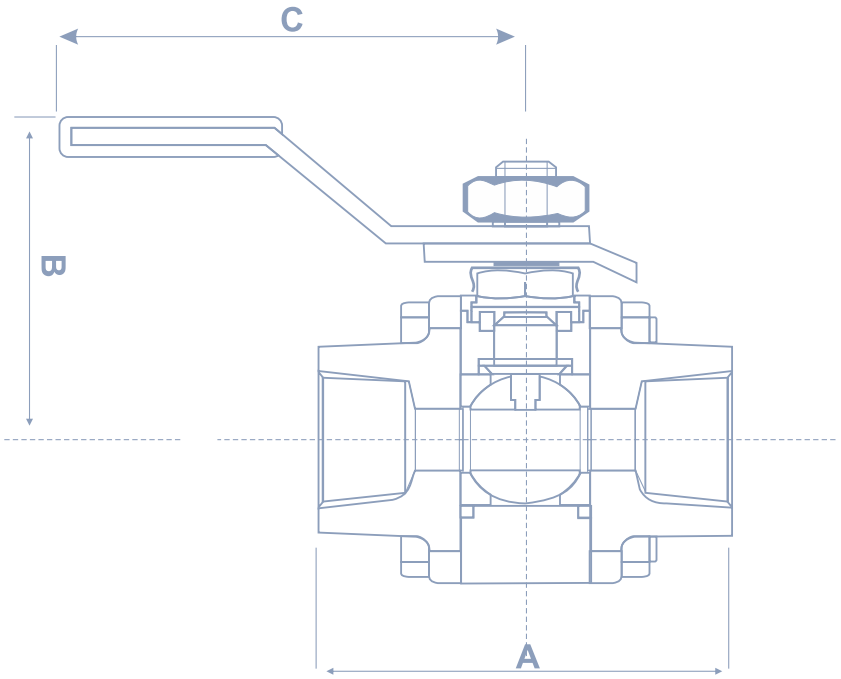
BALL VALVE THREE PIECE FORGED A105 / WCB SOCKET WELD SCREWED END 800

MATERIAL SPECIFICATIONS

NO.	Part Name	Carbon Steel Valve	Stainless Steel Valve
1.	Body	ASTM A 105 OR ASTM A216 Gr. WCB	ASTM A 351 Gr.CF 8M
2.	Body Connector		
3.	Ball	AISI 316 or ASTM A 351 Gr. CF 8M	
4.	Seat	Virgin PTFE	
5.	Stem	Stainless Steel AISI 316	
6.	Back Seat	Virgin PTFE	
7.	Gland Packing	35% Carbon filled PTFE	
8.	Stem Seal		



SOCKETWELD END



SCREWED END

DIMENSIONS

Valve Size in mm	8	10	15	20	25	40	50
A	66.6	66.6	66.6	72.6	95.2	116	128
B	45	45	45	48	59	75	80
C	122	122	122	122	149	181	181
D	14.61 14.10	18.03 17.53	22.23 21.72	27.56 27.05	34.29 48.64	49.15 48.64	61.62 61.11
E	9.7	9.7	9.7	12.7	12.7	12.7	15.9

TEST PRESSURE

	psig	kg/cm²
Shell Hydro (optional)	1500	103
Seat (Air)	80	5.5

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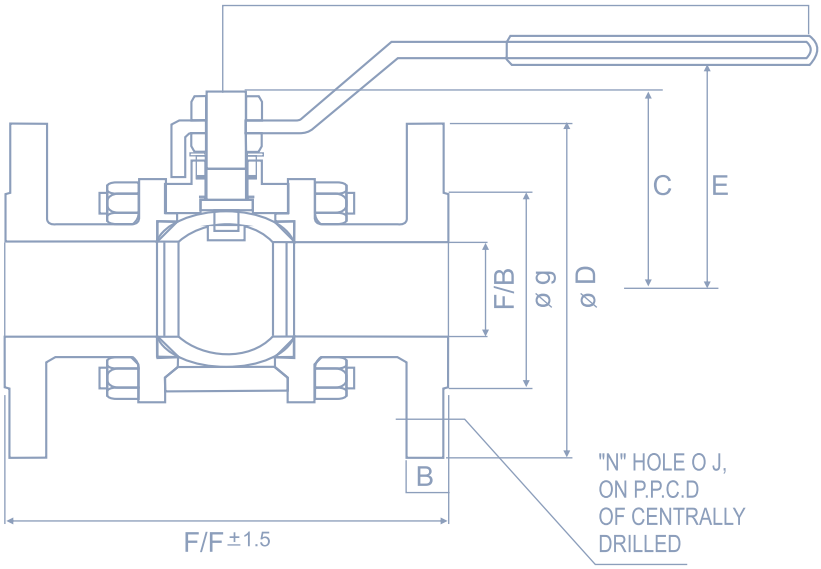
BALL VALVE 3 PC DESIGN INVESTMENT CASTING
CLASS 150 E / F TABLES FLANGED



F TABLE

SIZE	F/B	F/F	ø D	b	P	J	N
15	12.5	108	95	9.5	66.6	14.2	4
20	19	118	101.5	9.5	73	14.2	4
25	25	127	120.5	9.5	87.8	17.5	4
40	38	165	140	12.7	104.7	17.5	4
50	51	178	165	15.8	127	17.5	4
65	63	190	184	15.8	146	17.5	8
80	76	203	203	15.8	165	17.5	8
100	101	229	228.5	19	190.5	17.5	8

E TABLE

SIZE	F/B	F/F	ø D	b	P	J	N
15	12.5	108	95	9.5	66.6	14.2	4
20	19	118	101.5	9.5	73	14.2	4
25	25	127	114.5	9.5	82.5	14.2	4
40	38	165	133.5	12.7	98.5	14.2	4
50	51	178	152.5	14.2	114.3	17.5	4
65	63	190	165	14.2	127	17.5	4
80	76	203	184	14.2	146	17.5	4
100	101	229	216	17.5	177.8	17.5	8

TEST PRESSURE (PNEUMATIC)

CLASS	150 lbs
SEAT	80 PSIG or 5.5 Kg/ cm^2g

TEST PRESSURE (HYDROSTATIC)

CLASS	150 lbs
BODY	250 PSIG or 31.5 Kg/ cm^2g
SEAT	315 PSIG or 22 Kg/ cm^2g

NO.	Part Name	Material		
1.	Body	ASTM	ASTM	ASTM
2.	Body Connector	A351 CF8	A351 CF8M	A216 WCB
3.	Connector Seal	PTFE		
4.	Ball	AISI 304, AISI 316		
5.	Stem	AISI 304, AISI 316		
6.	Ball Seat	PTFE		
7.	Steam Seal	PTFE		
8.	Gland Packing	PTFE		
9.	Gland	AISI 304, AISI 316		
10.	Gland Nut	SS 304		
11.	Lever	SS / MS		
12.	Lever Nut	SS 304		
13.	Lever Sleeve	PVC		
14.	Body Studs & Nuts	SS 304 / MS		
15.	Wisher	SS / MS		

DIMENSIONS OF 3 PC F/E 150 # IN MM

SIZE	F/B	F/F	ø D	b	ø g	P	C	J	N
15	12.5	108	89	11.2	35	60.4	52	15.8	4
20	19	118	98.5	11.2	42.8	69.8	54	15.8	4
25	25	127	108	11.2	50.8	79.2	62	16	4
40	38	165	127	14.2	73	98.5	77	16	4
50	51	178	152.5	16	92	120.6	85.5	19	4
65	63	190	178	17.5	104.7	139.7	100	19	4
80	76	203	191	19	127	152.4	110	19	4
100	101	229	229	24	157	190.5	132	19	8

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BALL VALVES

BALL VALVE 2 PIECE NPT / BSP 1000 PSI WOG

INVESTMENT CASTING

SS 2 PIECE DESIGN FULL BORE BALL VALVE SCREWED END, SOCKET WELD END (1000WOG)

Full port two - pieces ball valve

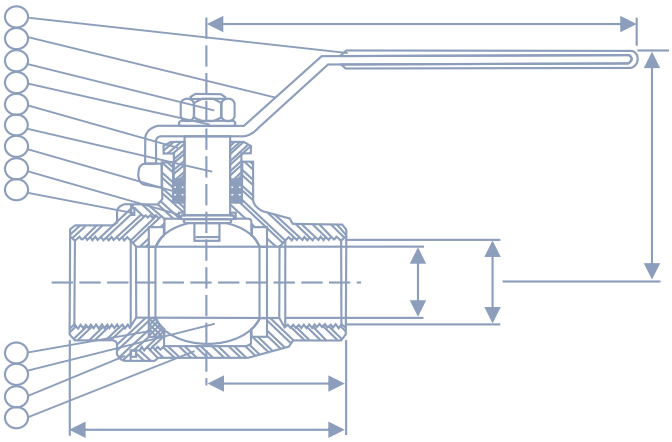
- Stem is bottom loaded to prevent removal when valve is in service.
- Enables plant personnel to secure valve in open or closed position when manually operated.
- Made of 316 stainless steel (CF8M) for superior chemical resistance and longer service life.
- Improves dimensional control and reduces porosity.
- Actuators mounting pad.

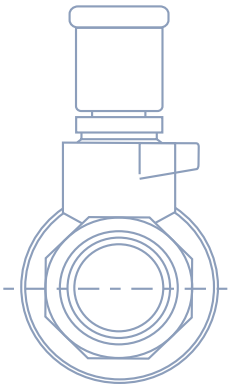
Specification of three pieces ball valve

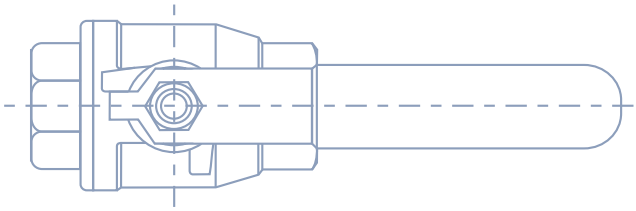
- Working Pressure: 1000PSI WOG
- Temperature Range : 20 - - -232C
- Suitable medium: Water, Oil, Air and some corrosive liquid.
- Thread kinds : NPT, BSPT, BSP. Din 259/2999

MATERIAL OF CONSTRUCTION

No.	DESCRIPTION	SPECIFICATION
1.	BODY	ASTM A - 351 GRADE CF 8M
2.	END CAP	ASTM A - 351 GRADE CF 8 M
3.	BALL	SS316
4.	SEAT RING	PTFE
5.	BODY SEAL	PTFE
6.	THRUST WASHER	PTFE
7.	STEM SEAL	SS316
8.	STEM	SS304
9.	GLAND NUT	SS304
10.	HANDLE WASHER	SS304
11.	HANDLE NUT	SS304
12.	HANDLE	SS304
13.	HANDLE COVER	PLASTIC







DIMENSIONS (MM)

SIZE	PORT	L	H	W	P
¼"	10	54	45	98	¼" PF or NPT
3/8"	12	54	45	98	3/8" PF or NPT
½"	16	68	62	125	½" PF or NPT
¾"	20	76	65	125	¾" PF or NPT
1"	25	88	83	140	1" PF or NPT
1¼"	32	98	89	140	1¼" PF or NPT
1½"	40	120	100	200	1½" PF or NPT
2"	50	134	108	200	2" PF or NPT

TEST PRESSURE (HYDROSTATIC)

Class	150 lbs	300 lbs
Body	450 PSIG or 31.5 Kg/cm^{2}g	1100 PSIG or 77 Kg/cm^{2}g
Seat	315 PSIG or 22 Kg/cm^{2}g	800 PSIG or 56 Kg/cm^{2}g

TEST PRESSURE (PNEUMATIC)

Class	150 lbs
Seat	80 PSIG or 5.5 Kg/cm^{2}g

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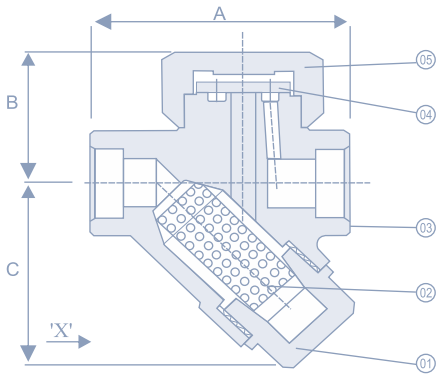
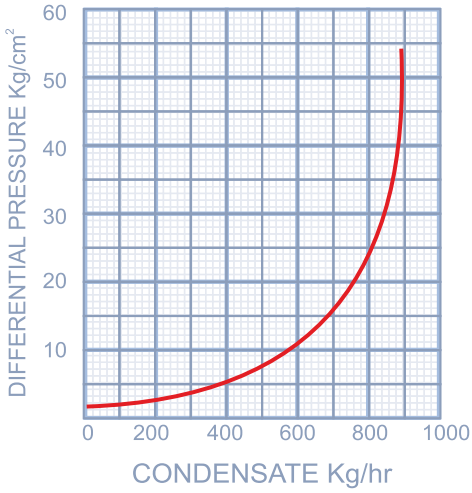
STEAM TRAP THERMODYNAMIC TD-3



Sr. No.	PARTS	MATERIALS
1	STRAINER CAP	ASTM A743 Gr. CA40 (Cast Equiv. AISI 420)
2	MESH	STAINLESS STEEL AISI 304
3	BODY	ASTM A743 Gr. CA 40 (Cast Equiv. AISI 420)
4	DISC	ASTM A743 Gr. CA 40 (Cast Equiv. AISI 420)
5	DISC CAP	ASTM A743 Gr. CA 40 (Cast Equiv. AISI 420)



FEATURES

MOC CA40 for better mechanical properties & corrosion resistance.

Maximum allowable pressure - 55 kg cm^2 (g)

Inbuilt strainer to protect trap from contamination.

Hardened stainless steel seat and disc for extended service life.

Trap will function in any orientation (horizontal preferred).

Ideal for fluctuating load an pressure.

Replaceable stainless steel mesh.

Thermodynamic Steam Trap has Cyclic On-Off operation, with a Disc that is pushed open by incoming condensate and closes tightly when steam tries to escape.
Best suited for steam header, main line drainage and tracing application.

SIZE	15NB, 20 NB (½", ¾")	OPERATING PARAMETES	
END CONNECTIONS	SCREWED BSP/SW	MAX. WORKING PRESSURE	55.0 Kg/Cm^2
OPTIONS	IBR / NON-IBR	MAX. WORKING TEMPERATURE	424°C

Minimum differential pressure for satisfaction operation 0.25Kg/Cm2
Maximum operating Back pressure at outlet should not exceed 80% of the inlet pressure.

INSTALLATION

- The Trap should be installed as close as possible to system drain point.
- The system should be properly flushed prior to fitting the trap.
- Trap can be installed in any position, but horizontal with disc cap on top is preferred.
- Installation in any position simplifies piping layout.
- Installation should include full port isolation valve.

DIMENSION

SIZE	15 NB	25 NB
A	78	78
B	42	42
C	60	60

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'Y' TYPE STAINER FLANGE END 150

'Y' TYPE STAINER VALVES

We are lading manufacturer of wide range of Industrial Strainers.

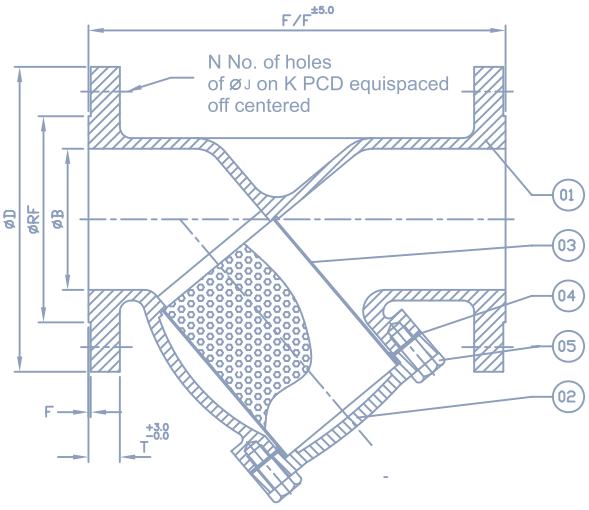
Bolted Cover design "Y" Type Strainer self mechanically removing solids &foreign particles from flowing liquids, Air, Steam or straining element. High area of "Y" Type Strainer has low pressure drop due to higher flow area through screen. The Strainer improves the clearance in the medium and prolongs the life of valves, protect expensive pups, meters and other important & costly equipments.

"Y" Strainer are available in wide range of body material construction, pressure ranges and screen sizes for various suitable applications.

"Y" Strainers are easy to install in either a horizontal or vertical position. During both direction installations, the screening element must be on the "down side" of the strainer body, so the entrapped material can properly collect in it. "Y" strainer also available with drain plug.

DIMENSIONS & WEIGHTS OF "Y" TYPE STRAINER

Body	F/F	OD	RF	N OJ	T	K	WT.(Kg)
DN15	130	89	35	4-14	14	60.5	1.7
DN20	150	98	43	4-14	16	70.0	2.25
DN25	160	108	51	4-14	16	79.2	3.15
DN32	180	117	64	4-18	18	89.0	5
DN40	200	127	73	4-18	18	98.5	6.45
DN50	230	152	92	4-18	20	120.5	8.7
DN65	290	178	105	4-18	20	139.5	12
DN80	310	190	127	8-18	22	152.5	19
DN100	350	229	157	8-18	24	190.5	27
DN125	400	254	186	8-18	26	216.0	40
DN150	480	279	216	8-22	26	241.5	58
DN200	600	343	270	12-22	30	298.5	86
DN250	730	406	324	12-26	32	362.0	127
DN300	850	483	381	12-26	32	432.0	200
DN350	980	533	413	16-26	36	476.0	290
DN400	1100	597	470	16-30	38	539.5	385
DN450	1200	635	533	20-30	40	578.0	520
DN500	1250	698	684	20-33	42	635.0	780



MATERIAL SPECIFICATIONS

NO.	Part Name	Material		
1.	Body	A 216 GR WCB	A 216 WCB	A 351 GR CF8/M
2.	Cover	A 216 GR WCB		A 351 GR CF8/M
3.	Screen	304 / 316 / Perforated 40 Mesh		
4.	Gasket	CAF Chempion Style 20		
5.	Stud & Nut	B7/2H		

TECHNICAL DETAILS

Mfg. & Design	UTVC
Insp. & Testing	150
Face to Face	UTVC
End Connection	B 16.5 RF

TESTING DETAIL 150

Hydrotest {KG/CM^2}	
Shell	31

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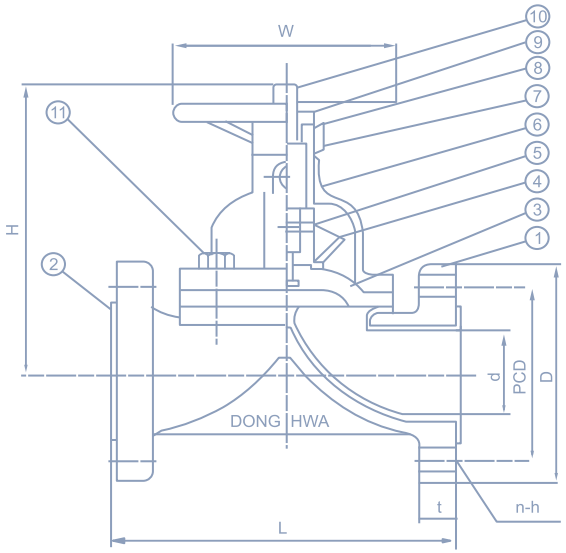
TEFLON LINED VALVES

TEFLON LINED DIAPHRAGM VALVE

TEFLON LINED DIAPHRAGM VALVE
MODEL : DTL 3100
Manual Diaphragm Valve
Pneumatic Actuator Operated Valves
Electric Actuator Operated Valves
SIZE : 20A - 250A

NO.	DESCRPTION	Q'TY	METERIAL
11	BONNET BOLT	1	SS41
10	SPINDLE	1	SS41
9	SEAL COLLAR	1	SS41
8	BUSHING	1	SS41
7	HANDLE	1	FC200
6	BONNET	1	FC200
5	COMP PIN	1	S50C
4	COMPRESSOR	1	FC200
3	DIAPHRAGM	1	TEFLON + RUBBER
2	BODY LINED	1	TEFLON
1	BODY	1	FCD40



DIMENSIONS unit: mm

SIZE	L	H	W	d	PCD	D	t	n-h
15A	135	98	80	15	70	95	14	4 - 15
20A	135	116	80	20	75	100	16	4 - 15
25A	145	119	80	25	90	125	16	4 - 19
40A	180	154	130	40	105	140	18	4 - 19
50A	210	178	130	50	120	155	18	4 - 19
65A	250	223	180	65	140	175	20	4 - 19
80A	300	257	180	80	150	185	20	4 - 19
100A	350	296	220	100	175	210	22	4 - 19
125A	400	372	220	125	210	250	22	8 - 19
150A	460	440	320	150	240	280	24	8 - 23
200A	520	575	420	200	290	330	24	12 - 23

* JIS 10kgf/ FF

* BS, ANSI 150 # flanged on your request

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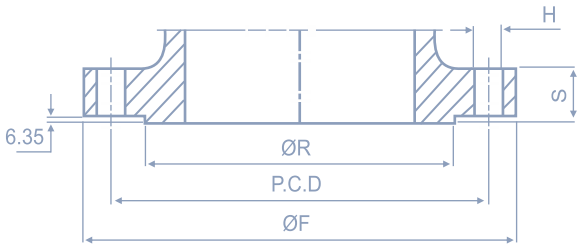
FLANGES

ANSI B 16.5

For Class 1500 & 2500



Class 1500 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
2	50	8.50	216	6.50	165.0	3.62	92	1.50	38.1	1.00	25	8	7/8
2 1/2	65	9.62	244	7.50	190.0	4.12	105	1.62	41.2	1.12	29	8	1
3	80	10.50	267	8.00	203.0	5.00	127	1.88	47.8	1.25	32	8	1 1/2
4	100	12.25	311	9.50	241.5	6.19	157	2.12	53.9	1.38	35	8	1 1/4
5	125	14.75	375	11.50	292.0	7.31	186	2.88	73.2	1.62	41	8	1 1/2
6	150	15.50	394	12.50	317.5	8.50	216	3.25	82.6	1.50	38	12	1 3/8
8	200	19.00	483	15.50	393.5	10.62	270	3.62	92.0	1.75	45	12	1 5/8
10	250	23.00	584	19.00	482.5	12.75	324	4.25	108.0	2.00	51	12	1 7/8
12	300	26.50	673	22.50	571.5	15.00	381	4.88	124.0	21.12	54	16	2
14	350	29.50	749	25.00	635.0	16.25	413	5.25	133.4	2.38	60	16	2 1/4
16	400	32.50	826	27.75	705.0	18.50	470	5.75	146.1	2.62	67	16	2 1/2
18	450	36.00	914	30.50	774.5	21.00	533	6.38	162.1	2.88	73	16	2 3/4
20	500	38.75	984	32.75	832.0	23.00	584	7.00	177.8	3.12	79	16	3
24	600	46.00	1168	39.00	990.5	27.25	692	8.00	203.2	3.62	92	16	3 1/2

Class 2500 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
2	50	9.25	235	6.75	171.5	3.62	92	2.00	50.8	1.12	29	8	1
2 1/2	65	10.50	267	7.75	197.0	4.12	105	2.25	57.2	1.25	32	8	1 1/8
3	80	12.00	305	9.00	228.5	5.00	127	2.62	66.5	1.38	35	8	1 1/4
4	100	14.00	356	10.75	273.0	6.19	157	3.00	76.2	1.62	41	8	1 1/2
5	125	16.50	419	12.75	324.0	7.31	186	3.62	91.9	1.88	48	8	1 3/4
6	150	19.00	483	14.50	368.5	8.50	216	4.25	108.0	2.12	54	8	2
8	200	21.75	552	17.25	438.0	10.62	270	5.00	127.0	2.12	54	12	2
10	250	26.50	673	21.25	540.0	12.75	324	6.50	165.1	2.62	67	12	2 1/2
12	300	30.00	762	24.38	619.5	15.00	381	7.25	184.2	2.88	73	12	2 3/4

MSS SP-44 Class 150, 300 & 600 RF Dimension

Class 150 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
22	550	9.25	235	6.75	171.5	3.62	92	2.00	50.8	1.12	29	8	1

Class 300 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
22	550	9.25	235	6.75	171.5	3.62	92	2.00	50.8	1.12	29	8	1

Class 600 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
22	550	9.25	235	6.75	171.5	3.62	92	2.00	50.8	1.12	29	8	1

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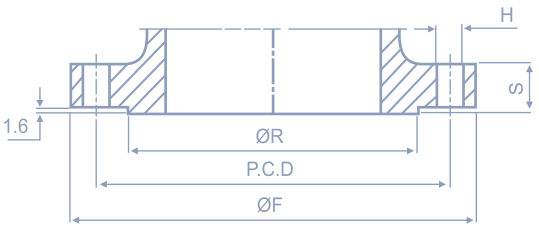
For Class 150 & 300



Class 150 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
1/2	15	3.50	89	2.38	60.5	1.38	35	0.44	11.1	0.62	16	4	1/2
3/4	20	3.88	98	2.75	70.0	1.69	43	0.50(0.44)	12.7(11.1)	0.62	16	4	1/2
1	25	4.25	108	3.12	79.2	2.00	51	0.56(0.44)	14.3(11.1)	0.62	16	4	1/2
1 1/4	32	4.62	117	3.50	89.0	2.50	64	0.62(0.50)	15.9(12.7)	0.62	16	4	1/2
1 1/2	40	5.00	127	3.88	98.5	2.88	73	0.69(0.56)	17.5(14.3)	0.62	16	4	1/2
2	50	6.00	152	4.75	120.5	3.62	92	0.75(0.62)	22.3(17.5)	0.75	19	4	5/8
21/2	65	7.00	178	5.50	139.5	4.12	105	0.88(0.69)	22.3(17.5)	0.75	19	4	5/8
3	80	7.50	190	6.00	152.5	5.00	127	0.94(0.75)	23.9)19.1)	0.75	19	4	5/8
4	100	9.00	229	7.50	190.5	6.19	157	0.94	23.9	0.75	19	8	5/8
5	125	10.00	254	8.50	216.0	7.31	186	0.94	23.9	0.88	22	8	3/4
6	150	11.00	279	9.50	241.5	8.50	216	1.00	25.4	0.88	22	8	3/4
8	200	13.50	343	11.75	298.5	10.62	270	1.12	28.6	0.88	22	8	3/4
10	250	16.00	406	14.25	362.0	12.75	324	1.19	30.2	1.00	25	12	7/8
12	300	19.00	348	17.00	432.0	15.00	381	1.25	31.8	1.00	25	12	7/8
14	350	21.00	533	18.75	476	16.25	413	1.38	35.0	1.12	29	12	1
16	400	23.50	597	21.25	539.5	18.50	470	1.44	36.6	1.12	29	16	1
18	450	25.00	635	22.75	578.0	21.00	533	1.56	39.7	1.25	32	16	1 1/8
20	500	27.50	698	25.00	635.0	23.00	584	1.69	42.9	1.25	32	20	1 1/8
24	600	32.00	813	29.50	749.5	27.25	692	1.88	47.7	1.38	35	20	1 1/4

Class 300 Steel Flange Dimensions

DIMENSION IN ( ) ARE FOR VALVE FLANGES ONLY

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
1/2	15	3.75	95	2.62	66.5	1.38	35	0.56	14.3	0.62	16	4	1/2
3/4	20	4.62	117	3.25	82.5	1.69	43	0.62	15.9	0.75	19	4	5/8
1	25	4.88	124	3.50	89.0	2.00	51	0.69	17.5	0.75	19	4	5/8
1 1/4	32	5.25	133	3.88	98.5	2.50	64	0.75	19.1	0.75	19	4	5/8
1 1/2	40	6.12	156	4.50	114.5	2.88	73	0.81	20.7	0.88	22	4	3/4
2	50	6.50	165	5.00	127.0	3.62	92	0.88	22.3	0.75	19	8	5/8
2 1/2	65	7.50	190	5.88	149.0	4.12	105	1.00	25.4	0.88	22	8	3/4
3	80	8.25	210	6.62	168.0	5.00	127	1.12	28.6	0.88	22	8	3/4
4	100	10.00	254	7.88	200.0	6.19	157	1.25	31.8	0.88	22	8	3/4
5	125	11.00	279	9.25	235.0	7.31	186	1.38	35.0	0.88	22	8	3/4
6	150	12.50	318	10.62	270.0	8.50	216	1.44	36.6	0.88	22	8	3/4
8	200	15.00	381	13.00	33.0	10.62	270	1.62	41.3	1.00	25	12	7/8
10	250	17.50	444	15.25	387.5	12.75	324	1.88	47.7	1.12	29	16	1
12	300	20.50	521	17.75	451.0	15.00	381	2.00	50.8	1.25	32	16	1 1/8
14	350	23.00	584	20.25	514.5	1625	413	2.12	54.0	1.25	32	20	1 1/8
16	400	25.50	648	22.50	571.5	18.50	470	2.25	57.2	1.38	35	20	1 1/4
18	450	28.00	711	24.75	628.5	21.00	533	2.38	60.4	1.38	35	24	1 1/4
20	500	30.50	775	27.00	686.0	23.00	584	2.50	63.5	1.38	35	24	1 1/4
24	600	36.00	914	32.00	813.0	27.25	692	2.75	69.9	1.62	41	24	1 1/2

FLANGES

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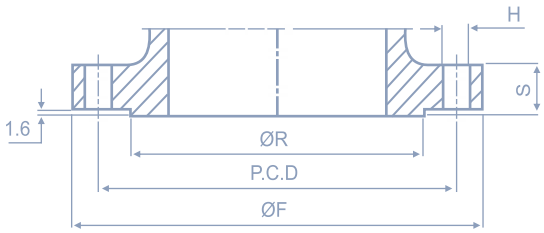
FLANGES

ANSI B 16.5 (26" & Larger)

For Class 150 & 300



Class 150 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
26	650	30.94	786	29.31	744.5	28.00	711.2	1.62	41.3	0.88	22.2	36	3/4
28	700	32.94	837	31.31	795.3	30.00	762.0	1.75	44.4	0.88	22.2	40	3/4
30	750	34.94	887	33.31	846.1	32.00	812.8	1.75	44.4	0.88	22.2	44	3/4
32	800	37.06	941	35.44	900.1	34.00	863.6	1.81	46.0	0.88	22.2	48	3/4
34	850	39.56	1005	37.69	957.3	36.25	920.8	1.94	49.2	1.00	25.4	40	7/8
36	900	41.62	1057	39.75	1009.6	38.25	971.6	2.06	52.4	1.00	25.4	44	7/8
38	950	44.25	1124	42.12	1070.0	40.25	1022.4	2.12	54.0	1.12	28.6	40	1
40	1000	46.25	1175	44.12	1120.8	42.50	1079.5	2.19	55.6	1.12	28.6	44	1
42	1050	48.25	1226	46.12	1171.6	44.50	1130.3	2.31	58.7	1.12	28.6	48	1
44	1100	50.25	1276	48.12	1222.4	46.50	1181.1	2.38	60.3	1.12	28.6	52	1
46	1150	52.81	1341	50.56	1284.3	48.62	1235.1	2.44	61.9	1.25	31.8	40	1 1/8
48	1200	54.81	1392	52.56	1335.1	50.75	1289.0	2.56	65.1	1.25	31.8	44	1 1/8
50	1250	56.81	1443	54.56	1385.9	52.75	1339.8	2.69	68.3	1.25	31.8	48	1 1/8
52	1300	58.81	1494	56.56	1436.7	54.75	1390.8	2.75	68.3	1.25	31.8	48	1 1/8
54	1350	61.00	1549	58.75	1492.2	56.75	1441.1	2.81	71.4	1.25	31.8	52	1 1/8
56	1400	63.00	1600	60.75	1543.0	58.75	1492.3	2.88	73.0	1.25	31.8	60	1 1/8
58	1450	65.94	4675	63.44	1611.3	60.75	1543.0	2.94	74.6	1.38	34.9	48	1 ¼
60	1500	67.94	1726	65.44	1662.1	63.00	1600.2	3.00	76.2	1.38	34.9	52	1 1/4

Class 300 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
26	560	34.12	867	31.62	803.3	29.00	736.6	3.50	88.9	1.38	34.9	32	1 1/4
28	700	36.25	921	33.75	857.2	31.00	787.4	3.50	88.9	1.38	34.9	36	1 1/4
30	750	39.00	991	36.25	920.8	33.25	844.6	3.69	93.7	1.50	38.1	36	1 3/8
32	800	41.50	1054	38.50	977.9	35.50	901.7	4.06	103.2	1.62	41.3	32	1 1/2
34	850	43.62	1108	40.62	1031.9	37.50	952.5	4.06	103.2	1.62	41.3	36	1 1/2
36	900	46.12	1172	42.88	1089.0	39.75	1009.6	4.06	103.2	1.75	44.4	32	1 5/8
38	950	48.12	1222	44.88	1139.8	41.75	1060.4	4.38	111.1	1.75	44.4	36	1 5/8
40	1000	51.12	1273	46.88	1190.6	43.88	1114.4	4.56	115.9	1.75	44.4	40	1 5/8
42	1050	52.50	1334	49.00	1244.6	46.00	1168.4	4.69	119.1	1.88	47.6	36	1 3/4
44	1100	54.50	1384	51.00	1295.4	48.00	1219.2	5.00	127.0	1.88	47.6	40	1 3/4
46	1150	57.50	1460	53.75	1365.2	50.00	1270.2	5.06	128.6	2.00	50.8	36	1 7/8
48	1200	59.50	1551	55.75	1416.0	52.25	1327.2	5.06	128.6	2.00	50.8	40	1 7/8

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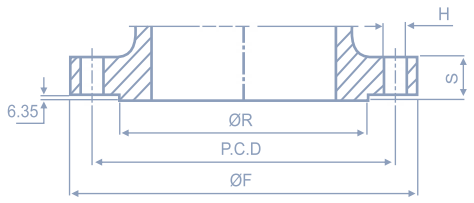
For Class 600 & 900



Class 600 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
1/2	15	3.75	95	2.62	66.5	1.38	35	0.56	14.3	0.62	16	4	1/2
3/4	20	4.62	117	3.25	82.5	1.69	43	0.62	15.9	0.75	19	4	5/8
1	25	4.88	124	3.50	89.0	2.00	51	0.69	17.5	075	19	4	5/8
1 1/4	32	5.25	133	3.88	98.5	2.50	64	0.81	20.7	0.75	19	4	5/8
1 1/2	40	6.12	156	4.50	114.5	2.88	73	0.88	22.3	0.88	22	4	3/4
2	50	6.50	165	5.00	127.0	3.62	92	1.00	25.4	0.75	19	8	5/8
2 1/2	65	7.50	190	5.88	49.0	4.12	105	1.12	28.6	0.88	22	8	3/4
3	80	8.25	210	6.62	168.0	5.00	127	1.25	31.8	0.88	22	8	3/4
4	100	10.75	273	8.50	216.0	6.19	157	1.50	38.1	1.00	25	8	7/8
5	125	13.00	330	10.50	266.5	7.31	186	1.75	44.5	1.12	29	8	1
6	150	14.00	356	11.50	292.0	8.50	216	1.88	47.7	1.12	29	12	1
8	200	16.50	419	13.75	349.0	10.62	270	2.19	55.6	1.25	32	12	1 1/8
10	250	20.00	508	17.00	432.0	12.75	324	2.50	63.5	1.38	35	16	1 1/4
12	300	22.00	559	19.25	489.0	15.00	381	2.62	66.7	1.38	35	20	1 1/4
14	350	23.75	603	20.75	527.0	16.25	413	2.75	69.9	1.50	38	20	1 3/8
16	400	27.00	686	23.75	603.0	18.50	470	3.00	76.2	1.62	41	20	1 1/2
18	450	29.25	743	25.75	654.0	21.00	533	3.25	82.6	1.75	45	20	1 5/8
20	500	32.00	813	28.50	724.0	23.00	584	3.50	88.9	1.75	45	24	1 5/8
24	600	37.00	940	33.00	838.0	27.25	692	4.00	101.6	2.00	51	24	1 7/8

Class 900 Steel Flange Dimensions

Nominal Size		ØF		PCD		ØR		S		ØH		N	STUD
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Size (in)
2	50	8.50	216	6.50	165.0	3.62	92	1.50	38.1	1.00	25	8	7/8
2 1/2	65	9.62	244	7.50	190.5	4.12	105	1.62	41.2	1.12	29	8	1
3	80	9.50	241	7.50	190.5	5.00	127	1.50	38.1	1.00	25	8	7/8
4	100	11.50	292	9.25	235.0	6.19	157	1.75	44.5	1.25	32	8	1 1/8
5	125	13.75	349	11.00	279.5	7.31	186	2.00	50.8	1.38	35	8	1 1/4
6	150	15.00	381	12.50	317.5	8.50	216	2.19	55.6	1.25	32	12	1 1/8
8	200	18.50	470	15.50	393.7	10.62	270	2.50	63.5	1.50	38	12	1 3/8
10	250	21.50	546	18.50	470.0	12.75	324	2.75	69.9	1.50	38	16	1 3/8
12	300	24.00	610	21.00	533.5	15.00	381	3.12	79.2	1.50	38	20	1 3/8
14	350	25.25	641	22.00	559.0	16.25	413	3.38	85.9	1.62	41	20	1 1/2
16	400	27.75	705	24.25	616.0	18.50	470	3.50	88.9	1.75	45	20	1 5/8
18	450	31.00	787	27.00	686.0	21.00	533	4.00	101.6	2.00	51	20	1 7/8
20	500	33.75	857	29.50	749.5	23.00	584	4.25	108.0	2.12	54	20	2
24	600	41.00	1041	35.50	901.5	27.25	692	5.50	139.7	2.62	67	20	2 1/2

FLANGES

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BUTT WELD

BUTT WELD END DIMENSIONS

PIPE SIZE	SCH.	PIPE O.D.	Ø A	Ø B	S	PIPE SIZE	SCH.	PIPE O.D.	Ø A	Ø B	S
6”	40	168.3	172.2	154.05	10.66	16”	40	406.4	413	381	19.05
	60						60			373.08	24.99
	80			146.3	16.45		80			363.58	32.11
	100						100			354.03	39.28
	120			139.73	21.40		120			344.47	46.44
	140						140			333.35	54.78
	160			131.80	27.36		160			325.42	60.73
	XXS			124.38	32.91		XXS				
8”	40	219.1	223	202.72	12.27	18”	40	457.2	464.3	428.65	21.4
	60			198.45	15.46		60			419.1	28.57
	80			193.67	19.05		80			409.6	35.7
	100			188.89	22.63		100			398.48	44.04
	120			182.6	27.36		120			387.35	52.38
	140			177.83	30.93		140			377.85	59.5
	160			173.05	34.51		160			366.73	67.86
	XXS			174.62	33.33		XS			431.8	19.05
10”	40	273	278	254.51	13.90	20”	40	508	516	477.88	22.63
	60			247.65	19.05		60			466.75	30.93
	80			242.87	22.63		80			455.63	39.28
	100			236.52	27.36		100			442.93	48.81
	120			230.17	32.11		120			431.8	57.15
	140			222.2	38.1		140			419.1	66.67
	160			215.90	42.85		160			407.97	74.98
	XXS						XS			482.6	19.05
12”	40	323.8	329	303.23	15.46	22”	40	559	567.4		
	60			295.3	21.40		60			514.35	33.33
	80			288.95	26.17		80			501.65	42.86
	100			280.97	32.11		100			488.95	52.38
	120			273.05	38.1		120			476.25	61.9
	140			266.7	42.85		140			463.55	71.43
	160			257.2	49.98		160			450.85	80.96
	XS			298.45	19.05		XS			533.4	19.05
14”	40	355.6	362	333.35	16.68	24”	40	610	619	574.7	26.17
	60			325.42	22.63		60			560.37	36.88
	80			317.5	28.5		80			547.67	46.44
	100			308	35.7		100			531.83	58.33
	120			300.02	41.68		120			517.55	69.03
	140			292.1	47.62		140			504.85	78.55
	160			284.18	53.56		160			490.52	89.26
	XS			330.2	19.05		XS			584.2	19.05

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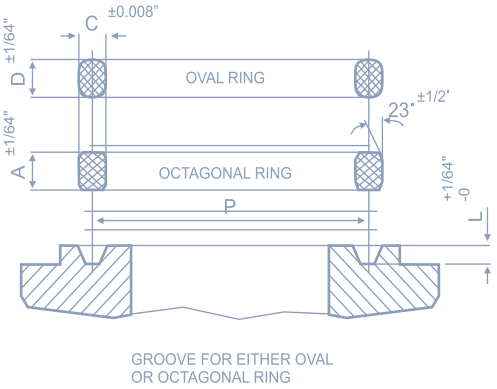
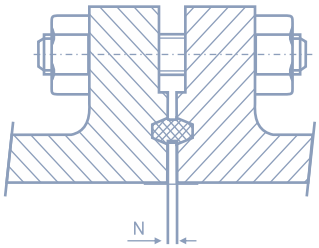
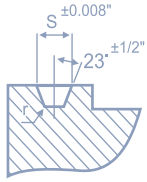
DIMENSION OF RING JOINT







Ring No.	P mm	P inch	S mm	S inch	L mm	L inch	r max. mm	r max. inch	A mm	A inch	C mm	C inch	D mm	D inch	N 300#	N 600#
R11	34.1	1 11/32	7.1	9/32	5.5	7/32	1	1/32	9.5	3/8	6.4	1/4	11.1	7/16	3.2	3.2
R12	39.7	1 9/16	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R13	42.9	1 11/16	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	3.9	3.9
R14	44.4	1 3/4	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R15	47.6	1 7/8	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R16	50.8	2	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	3.9	3.9
R17	57.1	2 1/4	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R18	60.3	2 3/8	8.7	11/32	6.3	1/4	1	1/32	12.7	½	7.9	5/16	14.3	9/16	3.9	3.9
R19	65.1	2 9/16	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R20	68.6	2 11/16	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	3.9	3.9
R21	72.2	2 27/32	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.5	11/16	4	4
R22	82.5	3 1/4	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R23	82.5	3 1/4	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.4	11/16	5.9	4.8
R24	95.2	3 3/4	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.5	11/16	3.2	3.2
R25	101.6	4	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R26	101.6	4	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.4	11/16	5.5	4.8
R27	107.9	4 1/4	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.5	11/16	3.2	3.2
R28	111.1	4 3/8	13.5	17/32	9.5	3/8	1.5	1/16	17.5	11/16	12.7	1/2	19.1	3/4	3.2	3.2
R29	114.3	4 1/2	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R30	117.5	4 5/8	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	12.7	1/2	7.9	5/16	4	4
R31	123.8	4 7/8	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.4	11/16	5.5	4.8
R32	127	5	13.5	17/32	9.5	3/8	1.5	1/16	17.5	5/8	12.7	1/2	19.1	3/4	3.2	3.2
R33	131.8	5 3/16	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R34	131.8	5 3/16	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.4	11/16	5.5	4.8
R35	136.5	5 3/8	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.5	11/16	3.2	3.2
R36	149.2	5 7/8	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R37	149.2	5 7/8	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.5	11/16	4	4
R38	157.1	6 3/16	16.7	21/32	11.1	7/16	1.5	1/16	20.6	3/16	15.9	5/8	22.2	7/8	4	4
R39	161.9	6 3/8	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.5	11/16	3.2	3.2
R40	171.4	6 3/4	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R41	181	7 1/8	11.9	15/32	7.9	5/16	1	1/32	15.9	5/8	11.1	7/16	17.4	11/16	5.5	4.8
R42	190.5	7 1/2	19.8	25/32	12.7	1/2	1.5	1/16	23.8	15/16	19.1	3/4	25.4	1	4	4
R43	193.7	7 5/8	8.7	11/32	6.3	1/4	1	1/32	12.7	1/2	7.9	5/16	14.3	9/16	4	4
R44	193.7	7 5/8	11.9	15/32	7.9	5/16	1	1/32	15.9	5/16	11.1	7/16	17.5	11/16	3.2	3.2
R45	211.1	8 5/16	11.9	15/32	7.9	5/16	1	1/32	15.9	5/16	11.1	7/16	17.5	11/16	4	4
R46	211.1	8 5/16	13.5	17/32	9.5	3/8	1.5	1/16	17.5	11/16	12.7	1/2	19.1	3/4	3.2	3.2

FLANGES RING RTJ

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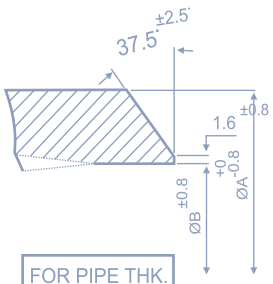
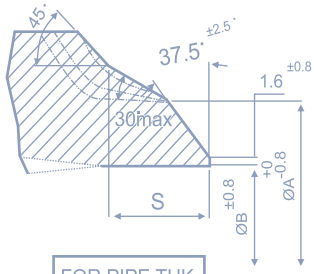
BUTT WELD END DIMENSIONS

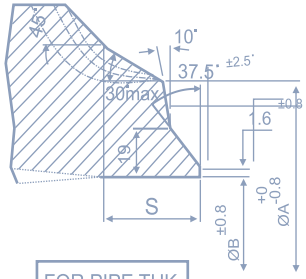
ANSI B 16.25



FOR PIPE THK.
UP TO 10mm



FOR PIPE THK.
UP TO 22.2 mm



FOR PIPE THK.
UP TO 22.2 mm

PIPE SIZE	SCH.	PIPE O.D.	Ø A	Ø B	S	PIPE SIZE	SCH.	PIPE O.D.	Ø A	Ø B	S
	40			26.56	5.1		40			62.6	7.8
	60						60				
	80			24.4	6.75		80			59	10.5
	100						100				
1”	120	33.4	35			2.5”	120	73.0	75		
	140						140				
	160			20.7	9.52		160			54	14.25
	XXS			15.2	13.65		XXS			45	21
	40			35.0	5.4		40			77.93	8.23
	60						60				
	80			32.4	7.35		80			73.66	11.43
	100						100				
1.25”	120	42.4	44			3”	120	88.9	91.2		
	140						140				
	160			29.5	9.52		160			66.65	16.68
	XXS			22.78	14.55		XXS			58.42	22.86
	40			40.9	5.55		40			102.26	9.03
	60						60				
	80			38.1	7.65		80			97.18	12.84
	100						100				
1.5”	120	48.3	50			4”	120	114.3	117.4	92.05	16.68
	140						140				
	160			34.0	10.72		160			87.33	20.23
	XXS			27.9	15.3		XXS			80.06	25.68
	40			52.5	5.85		40			128.19	10
	60						60				
	80			49.3	8.25		80			122.25	14.2
	100						100				
2”	120	60.3	62			5”	120	141.2	144.5	115.9	19
	140						140				
	160			42.9	13.05		160			109.55	23.81
	XXS			38.1	16.65		XXS			103.2	28.57

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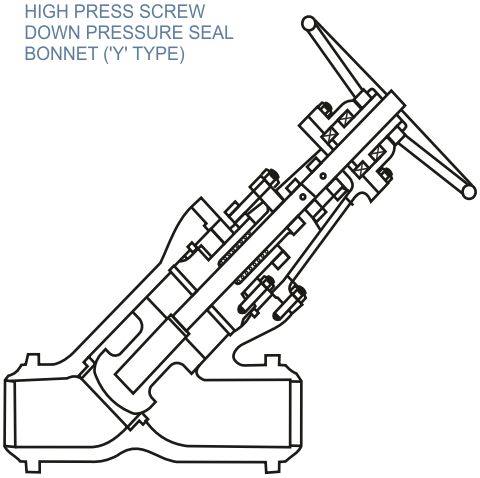
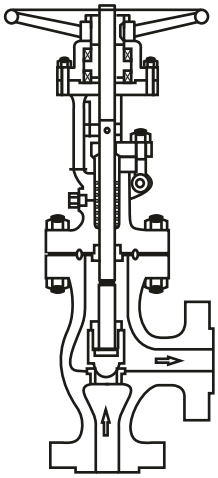
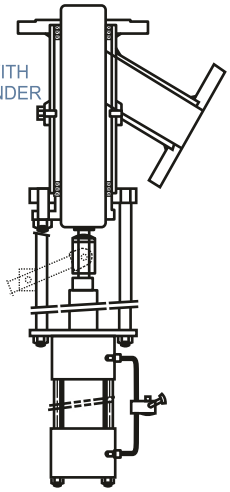
HIGH PRESS SCREW DOWN PRESSURE SEAL BONNET ('Y' TYPE)



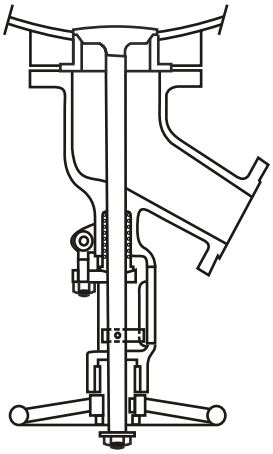
HIGH PRESSURE ANGEL VALVE



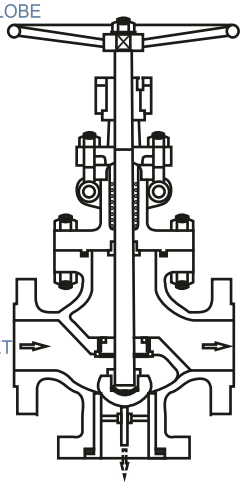
RAM TYPE FLUSH BOTTOM VALVE WITH PNEUMATIC CYLINDER



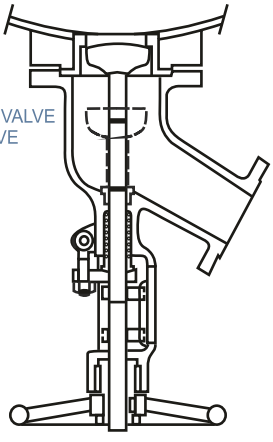
FLUSH BOTTOM VALVE OPEN IN TO TANK



THREE WAY GLOBE VALVE



FLUSH BOTTOM VALVE OPEN IN TO VALVE



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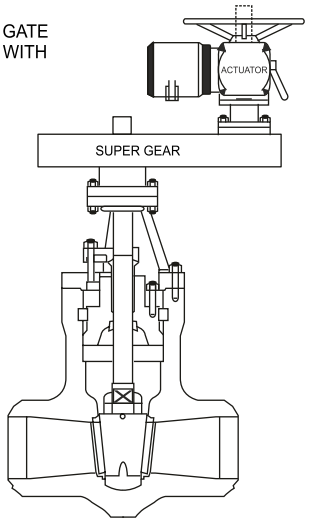
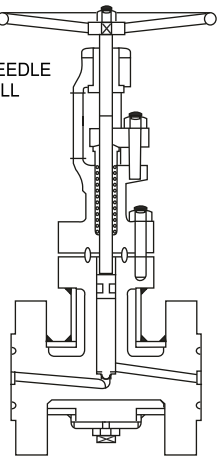
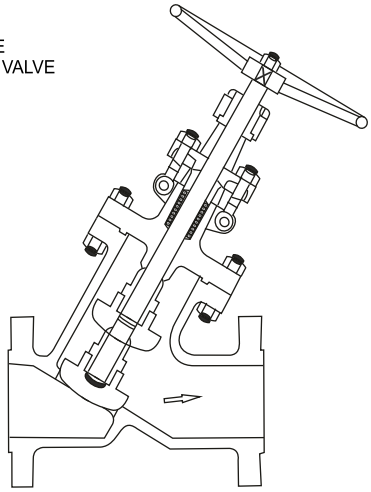
HIGH PRESS GATE VALVE GEAR WITH ACTUATOR



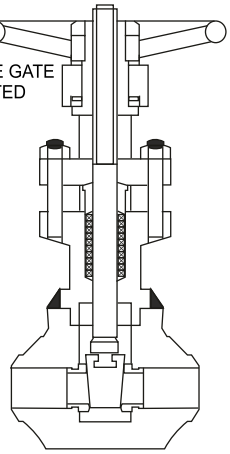
HIGH PRESS NEEDLE VALVE WITH FULL JACKET



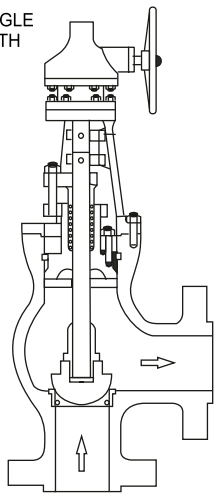
'Y' TYPE GLOBE VALVE



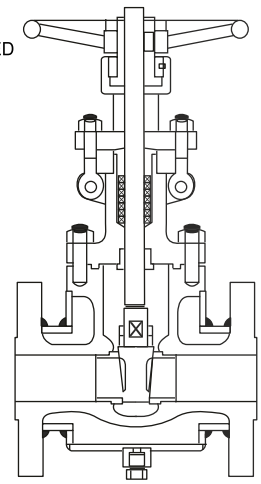
HIGH PRESSURE GATE VALVE FABRICATED



HIGH PRESS ANGLE VALVE GEAR WITH PRESSURE BONNET



GATE VALVE FULL JACKETED



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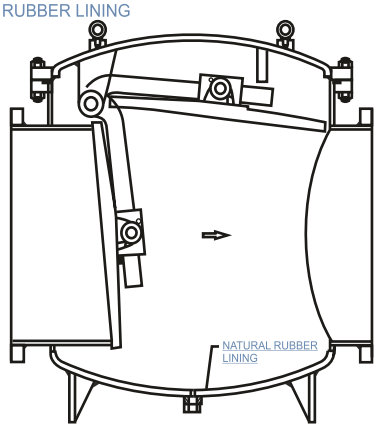
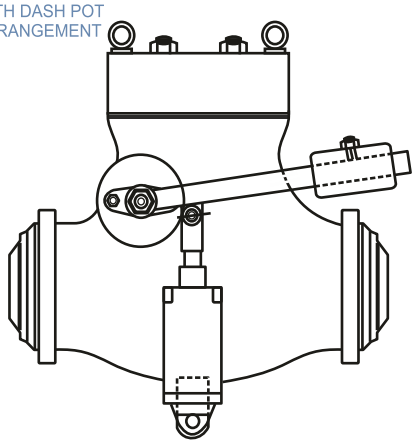
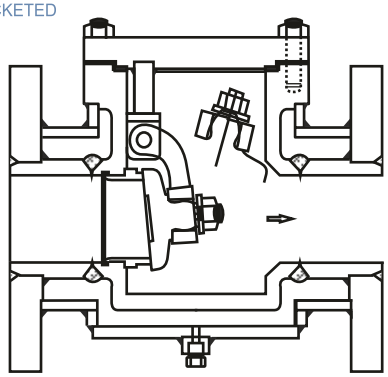
FABRICATED SWING CHECK VALVE WITH INSIDE RUBBER LINING



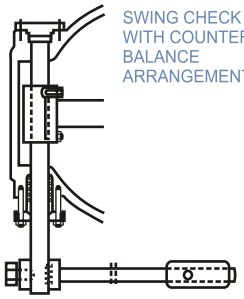
SWING CHECK VALVE WITH DASH POT ARRANGEMENT



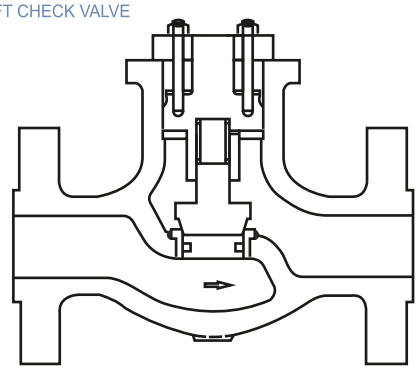
FABRICATED SWING CHECK VALVE FULL JACKETED

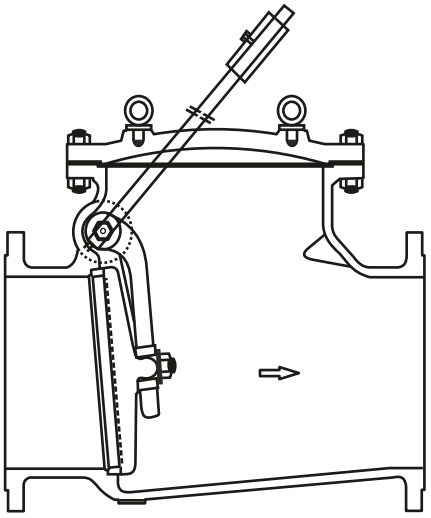


SWING CHECK VALVE WITH COUNTER WEIGHT BALANCE ARRANGEMENT



PRESSURE SEAL COVER LIFT CHECK VALVE





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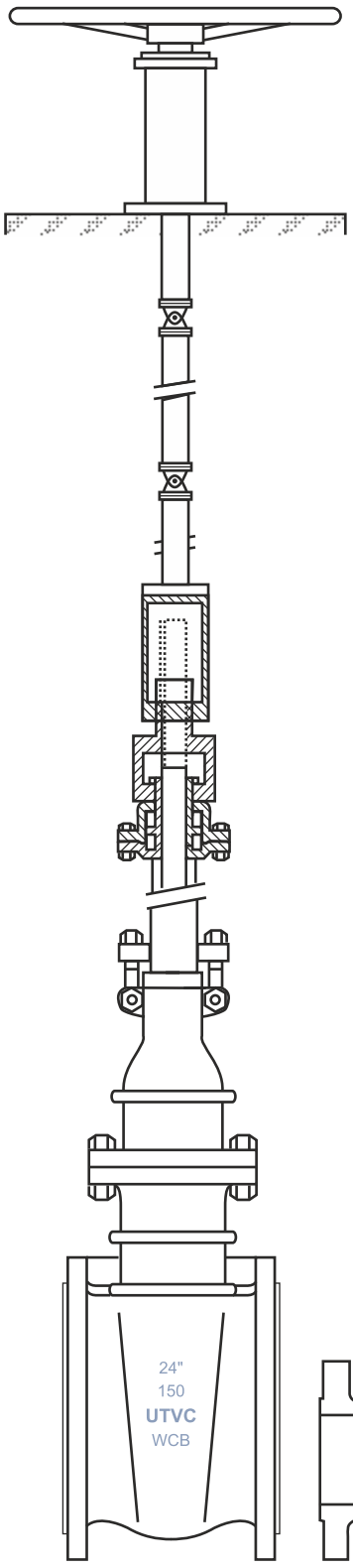
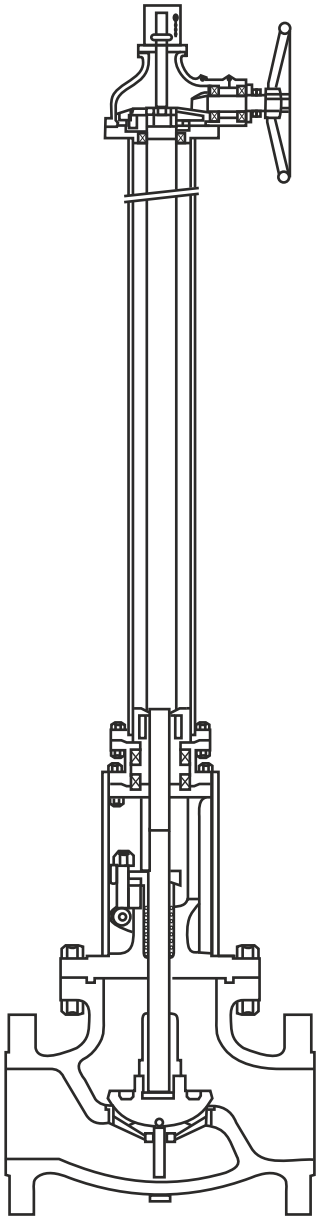
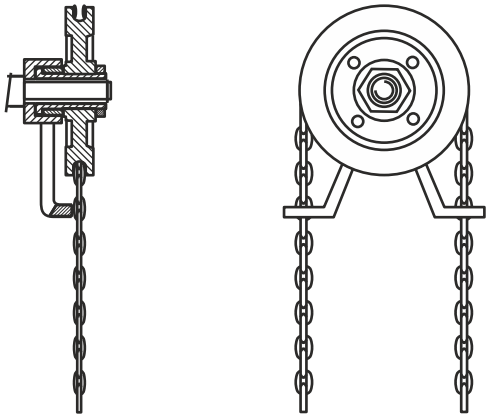
EXTENDED STEM ARRANGEMENT GATE VALVE



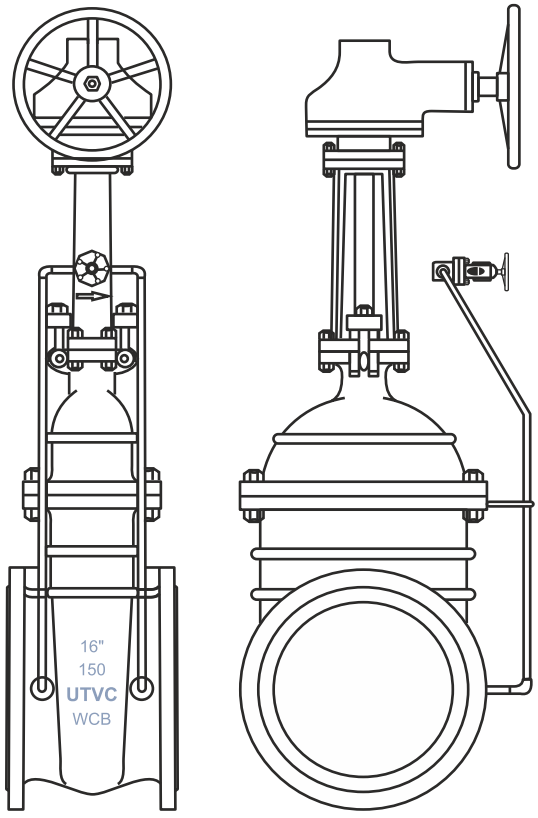
EXTENDED BONNET GLOBE VALVE



CHAIN WHEEL ARRANGEMENT



BY-PASS ARRANGEMENT GATE VALVE



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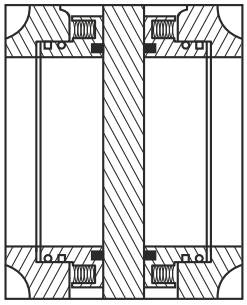
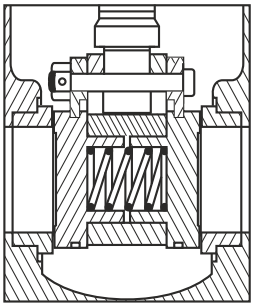
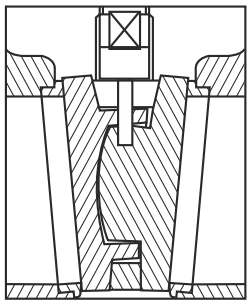
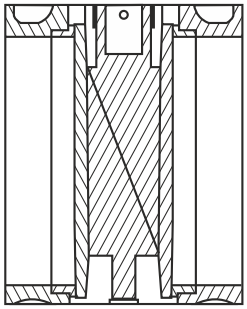
WEDGES

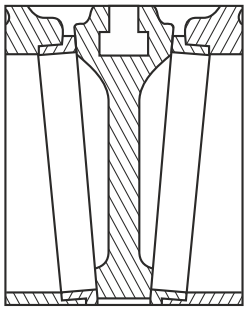
VARIOUS WEDGE DESIGNS

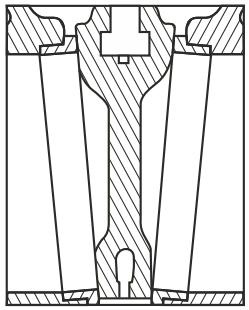

CONDUIT GATE (SLAB)


PARALLEL SLIDE GATE

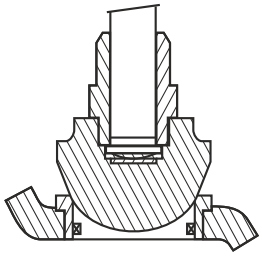

SPLIT WEDGE

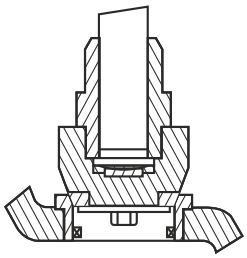

DOUBLE DISC WDGE

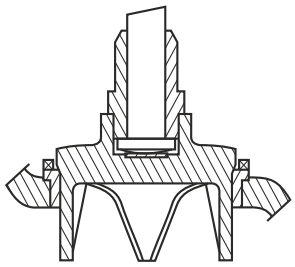

SOLID WEDGE

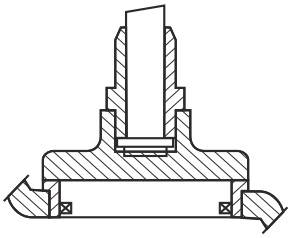

FLEXIBLE WEDGE

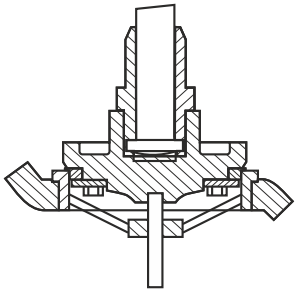
VARIOUS PLUG DESIGNS

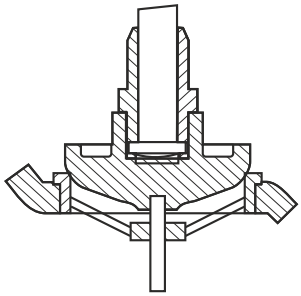

REGULATING
TYPE DISC


SOFT SEAT DISC


THROTTLING TYPE
SEAT & DISC, V-PORT


FLAT DISC WITH
SOFT SEAT


SOFT SEAT DETAIL


GUIDED-DISC SEAT