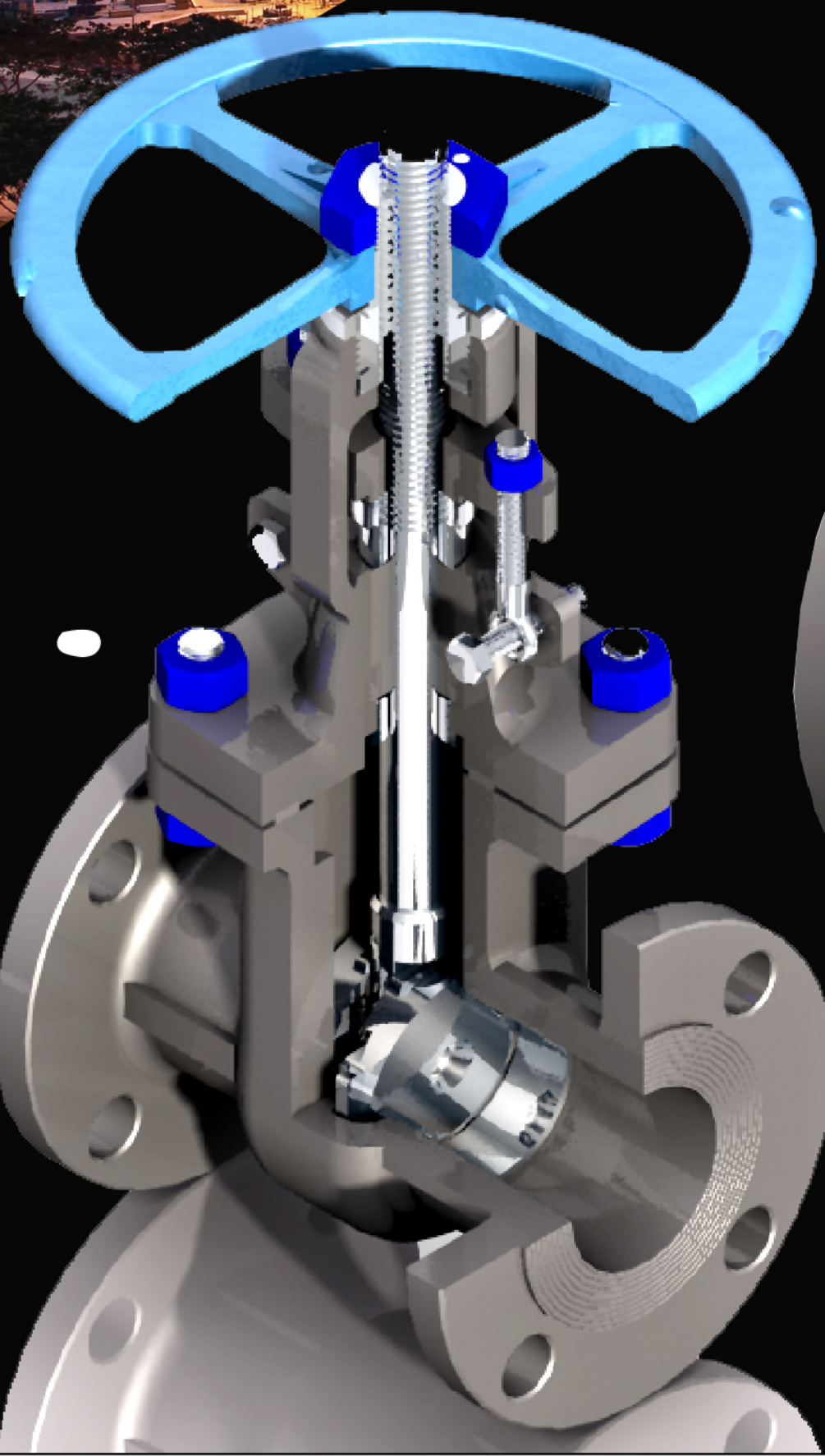
PRODUCT CATALOGUE

Micon Engineers (Hubli) Pvt. Ltd

Quality in everything at it's best...

SERVING THE OIL & GAS, HYDROCARBON PETROCHEMICAL AND POWER SECTOR



CERTIFICATION / APPROVALS

ISO 9001 : 2015

API 6D-1314

FOREWORD

From Chairman's Desk

it is indeed an honor to introduce our company MICON ENGINEERS (HUBLI) PVT LTD. Established and accepted in India & Globally as a brand by the name MEH. Solely engaged in manufacturing & exporting quality valves for the industries like.

Oil & Gas, Power , Steel, Chemical , Petrochemicals, Waste Water treatment plant, Fertilizers ,Mining ,Sugar & Distilleries, Pharmaceutical ,Cement , and General Industries.

I would also like to say that we have state of the art manufacturing facilities in Hubli [North Karnataka] INDIA. Which is also known as a Hub of manufacturing industrial valves and other engineering goods in India.

We are committed to design, develop, and manufacture, sale &service of quality industrial valves at a competitive price by imbibing needs & requirements of the customer.

We are an ISO-9001:2008 certified company offering you the range of industrial valves like, Gate, Globe, Check, Ball & Butterfly valves, for all your processes handling needs. Micons strength is quality product at affordable price, prompt delivery and the unflinching commitment to excel,. The groups product have been enjoying a sustained presence in the National & international Markets over the decades.

The company has established a well defined quality system and a team of committed engineers, who have been performing their level of excellence and keeping themselves upgraded with the latest innovations, engineering excellence, precision manufacturing, assuring 100% quality & hands-on technical assistance to the customer.

Innovation,Re-invention and diversification are a continuous process of ' Micon Engineers' be it a new product development or enhancement of older products, We at 'Micon Engineers' are constantly striving to give our customers maximum value for their investment, Widest product range and most complete solutions.

Over the last few years Micon Engineers has been introducing new products on a regular basis by continuous R&D. We are Frequently Review and Up gradation for innovative products that complement the 'Micon Engineers range. With our well-established network of sales offices and leading industrial clientele, we have been able to successfully branch out and gain product acceptance for various ancillary products.
If our product ranges fulfill your requirement, please feel free to contact us to have a long term and healthy business relationship in future.

For Further information visit our website : www.miconvalveshubli.com

Zakeer M. Naikwadi
Chairman / CEO

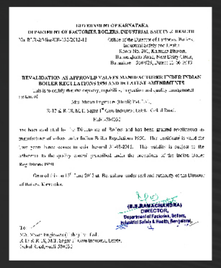
MILE STONE

1990 - 1994 This was the year and the colossal effort of Mr.M. A.Naikwadi & Sons. Laid the foundation for the Industrial success and "PERFECT ENGINEERING WORK" takes shape as a Manufacturing Sub-Contractor for supplying of valve components & accessories.

1995 - 2004 Independently started manufacturing of Needle valves in the name of "M/s. TECH FLOW VALVES", towards a positive step ahead for manufacturing & supplying Forged Steel Gate, Globe & Lift Check valves. to one of the leading industrial valve manufacturer located in Mumbai.

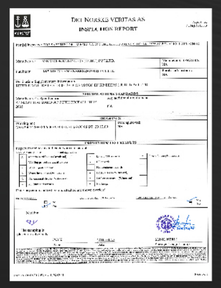
2005 - 2006 This was the year which was witness for the establishment the flagship of 'MEH'" i.e MICON ENGINEERS(HUBLI) PVT LTD", at Hubli. With asset of Committed Engineers and Loyal workmen focusing on supplying of Aquaria series valves i.e.Butterfly Valves, Dual plate Check valves, Air release valves to one of the leading valve exporter located in Mumbai.

2006 – 2008 The Micon Engineers (Hubli) Pvt Ltd.has established the quality Benchmark and achieved the prestigious ISO-9000-2000. Certification through Bureau Veritas, IBR & TDC (Technical Development Committee .Further to above developments, Micon Engineers rises to the challenge of developing the Higher size valves, like cast steel Gate, Globe , Check & Ball Valves.



2009 - 2010 Owing to the fact of demanding needs of customers in global level, Micon Engineers took a step ahead of plant expansion at Hubli. Now we have been performing less than 20000 Sq. feet wide area, with state of the art manufacturing facilities and enhancing the manufacturing capacity up to 24" size with an EOT crane of 5 TON. We have also been recertified with ISO 9001:2008 in this year.

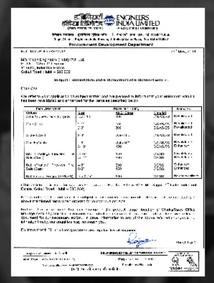
We are regularly exporting to the Middle East countries since 2008 this year also became an unforgettable year as we achieved enlistment in EIL, BHEL, L&T, TATA PROJECTS, PDIL and NPCIL and other prestigious OEM's, (See below detalis) thereby enhancing our credentials and quality bench marks.

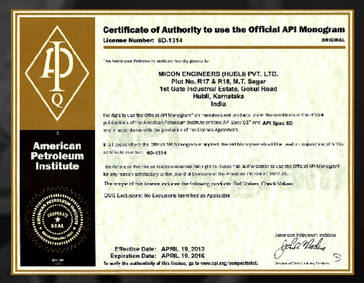


2011 - 2014 Growing demand for quality valves worldwide made Micon Engineers to go for API 6D & API 600 Monogram license accordingly in the Year 2013 we have been got certified.
Micon Engineers has also been Awarded as a "Quality Brand "by M/s.National Organization of Commerce & Industry.- Mumbai.

2015 This year Micon Engineers is celebrating its Silver jubilee year. With one more prestigious MICON UNIT-II. With state of the Art automation & testing facility.

We also embarked on the process of getting certification in CE-Marking.





CERTIFICATIONS / APPROVALS

ISO-9001:2015 · EIL · API 6D-1314 · NTPC · IBR Approved · TDC · NPCIL · MECON · AVANT-GARDE · NMDC · SAIL · TATA · APGENCO · L&T · BHEL · DAE · TCE · UHDE INDIA · JACOBS · N. Desture · Reliance Industries Limited · Bharat Petroleum · HP · CAIRN Energy for India · BPCL · TOYO INDIA · PDIL

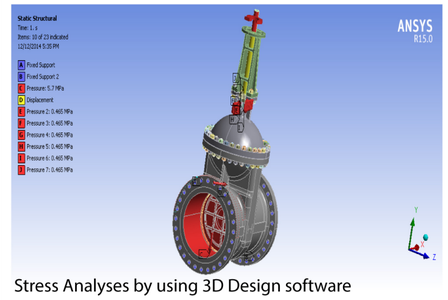
PHOTO GALLERY

1st Time : 1996-ISO 9001:2000 Certificate

Fire-Safe for Ball Valve all range Certificate

Succefully Execution of 700x300 Gate Valve Exported to USA

Succefully Execution of 700x300 Gate Valve Exported to USA



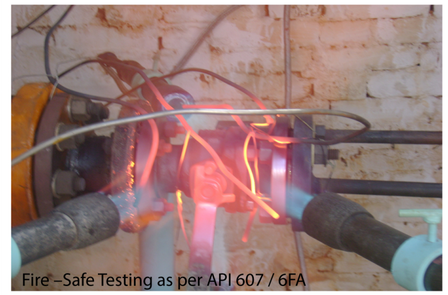
Stress Analyses by using 3D Design software

1996- 1ST Award Exhibition-HUBLI

MEH-Corporate Office

Silver Jubilee 1990-2015 Celebration

Foreign client visit


Fire –Safe Testing as per API 607 / 6FA

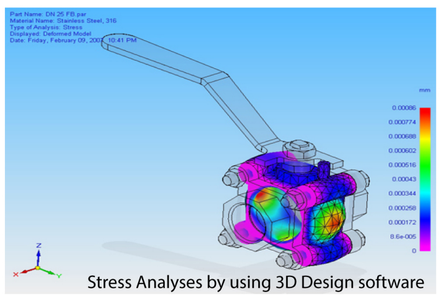
MEH-Unit-1 Works TEAM.

Foreign client visit

1998- 2ND Award Exhibition-HYDERABAD

MEH Board of Directors & Team

Silver Jubilee 1990-2015 Celebration

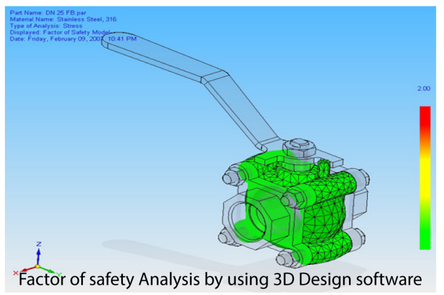


Stress Analyses by using 3D Design software

Exhibition participation

MEH-Unit-1 Plant

Business Meet 2015 at Hubli



Factor of safety Analysis by using 3D Design software

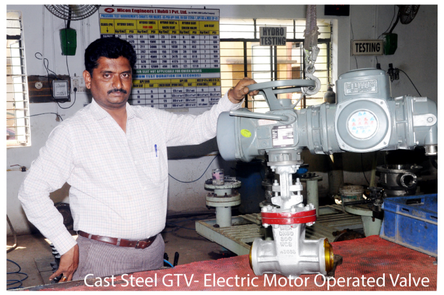
Exhibition participation

700x300& 450x300 - CF8M Gate Valve Export to USA

750x150 Gate Valve – Sugar Ind.

Pressure Seal Gate, Globe & Check Valve

Gate Valve with Stem Extension - LGB


Cast Steel GTV- Electric Motor Operated Valve

20#800 Forged Steel GTV Electric Motor Operated

450x300 Swing Check Valve – Export to USA

Jacketed Globe Valve

Custom Built Angle type Globe Valve

350 x 300 TMBV with Gear Oper

150x300 TMBV Duplex, with Actuator Oper - Export

50x6000 PSI
Double Isolation Ball Valve

200x150 TMBV- Duplex, with Actuator Oper
Customer: VA Tech wabag Limited
Project: Sri Damodaran Sanjeevaih Thermal Power Station

250 x 300 TMBV Duplex, with Actuator Oper

250 x 300 TMBV Duplex, with Actuator Oper

250x150 TMBV- Emergency shut down within 2 sec

250x300 TMBV- Duplex, with Gear Oper

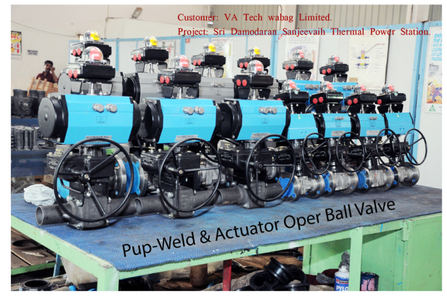
250x300 TMBV Gear Oper - Export

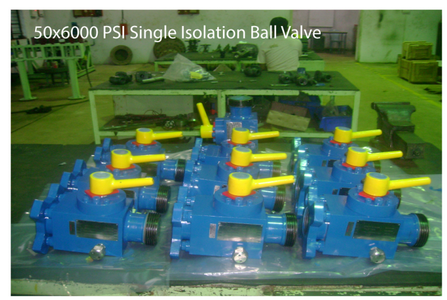
PHOTO GALLERY

50x600-A105 TMBV

100 &150 x 300 TMBV- Duplex Export

TMBV- Duplex Actuator Oper -Export




50x6000 PSI Single Isolation Ball Valve

ENGINEERING DATA

0050 2F 3 B FE 5 WCB FS PT LV RP

CODE: VALVE SIZE IN DN
15,20,25 & so no.....

CODE: VALVE TYPE
GT - Gate Valve
GL - Globe Valve
SC - Swing Check Valve
LC - Lift Check Valve
2F - 2pc Floating Type Ball Valve
3F - 3pc FloatingType Ball Valve
1F - 1pcFloating Type Ball Valve

CODE: VALVE PRESSURE CLASS
1 - 150# / PN 20
3 - 300# / PN 50
6 - 600# / PN 110
8 - 800#
9 - 900# / PN 150
5 - 1500# / PN260
2 - 2500# / PN420

CODE: TYPE OF BONNET / COVER OR SIDE PIECE
B - Bolted Bonnet / Cover / Side Piece
P - Pressure Seal Bonnet / Cover
W - Welded Bonnet / Cover
S - Screwd Bonnet
U - Union Bonnet

CODE: TYPE OF END CONNECTION
FE - Flanged End (Raised Face)
BW - Butt Weld End (Pl. Specify schedule)
SR - Screwd End / SW Soket Weld End
RJ - Ring Joint
LG - Large Groove
WT - Wafer Type
LT - Lug Type

1 - API 6D
2 - API 600
3 - API 602 / EN ISO 15761
4 - ASME B 16.34
5 - BS 5351/EN ISO 17292
6 - BS 1873
7 - BS 1868
8 - BS 6364
9 - BS 5352
10 - API 608

CODE: SPECIAL REQUIREMENT
BP - BY-Pass
DR - Drain
JK - Jacketed
RP - Reduced Port
FP - Full Port
CR - Extended Bonnet
SF - Stem Extenssion
LO - Lock Open
LC - Lock Close

CODE: VALVE ACTUATION
LV - Lever Operated
HW - Hand Wheel
GO - Gear Operated
MO - Motor Operated
CY - Cylinder Operated
CO - Chain Operated
AO - Auto / not Applicable

CODE: SEAT SURFACE
CR - 13% Cr. Steel
HF - Hard faced (Co - Cr - A)
PT - PTFE
TC - Tungsten Carbide Coated
EN - Electro Less Ni, Coated
RT - RPTFE
NY - Nylon

CODE: DISC / PLUG/ WEDGE/BALL TYPE

FL - Flexible Wedge	SP - Splite Wedge
SS - Soft Seat Disc	FE - Floating Solide Ball
SL - Solid Wedge	TR - Throttling Plug Type
PT - Piston Type	GP - Guided Plug Type
PS - Parrallel Slide Gate	RG - Regulating Plug Type
FH - Floating Hollow Ball	

CODE:	BODY MATERIAL CASTING		CODE:	BODY MATERIAL CASTING	
CODE:	Material Castings	ASTM Spec.	Code:	Material Castings	ASTM /BS
WCB	Carbon Steel	A217 Gr.WCB	CF8	18Cr. 8Ni Steel	A351Gr.CF8
WC 1	1/2 Mo.Alloy Steel	A217 Gr.WC 1	CF8M	18Cr. 8Ni 2 Mo Steel	A351Gr.CF8M
WC 6	1 1/4 Cr. 1/2 Mo.Alloy Steel	A217 Gr.WC6	CF8C	18Cr. 10Ni Cb	A351Gr.CF8C
WC 9	2 1/4 Cr. 1 Mo.Alloy Steel	A217 Gr.WC9	CF3	LowC% 18% Cr8Ni Steel	A351Gr.CF3
C 5	5 Cr. 1/2 Mo.Alloy Steel	A217 GrC5	CF3M	LowC% 18% Cr8Ni 2 Mo. Steel	A351Gr.CF3M
C 12	9 Cr. 1 Mo.Alloy Steel	A217 GrC12	D2A	Duplex Stainless Steel	A890Gr.2A
LCB	Low Temp.Service Carbon Steel	A352 Gr.LCB	D4A	Duplex Stainless Steel	A890Gr.4A
LCC	Low Temp.Service Carbon Steel	A352 Gr.LCC	D5A	Duplex Stainless Steel	A890Gr.5A
LC 2	Low Temp.Service 2 1/2Ni. Alloy Steel	A352 Gr.LC 2	D6A	Supper Duplex Stainless Steel	A890Gr.6A
LC3	Low Temp.Service 3 1/2Ni. Alloy Steel	A352 Gr.LC3	M35	Ni.Cu. Alloy	A744Gr.M-35-1
			CWM	Hastelloy C	A494CW Gr.12MW
			BMV	Hastelloy B	A494CN Gr.12MV
			CN7	Alloy 20	A351 Gr. CN7M
			AB 2	Al-Bronze	A1400AB2-C
			PBT	Leaded Tin Bronze	B16
	Materials Forgings			Materials Forgings	
105	Carbon Steel	A105	F304	18Cr. 8Ni.Steel	A182 Gr.F304
F1	1/2 Mo.Alloy Steel	A182 Gr.F1	F316	18Cr. 10Ni. 2Mo Steel	A182 Gr.F316
F11	1.1/4 Cr. 1/2 Mo.Alloy Steel	A182 GrF11	F347	18Cr. 8Ni. 2Mo Steel	A182 GrF347
F22	2.1/4 Cr. 1 Mo.Alloy Steel	A182 GrF22	F51	Duplex Stainless Steel	A182 GrF51
F5	5 Cr. 1/2 Mo.Alloy Steel	A182 GrF5	F53	Supper Duplex Stainless Steel	A182 GrF53
F9	9 Cr. 1 Mo.Alloy Steel	A182 GrF9	F304L	Low C% 18Cr.8Ni. Steel	A182 GrF304L
LF2	Low Temp.Service Carbon Steel	A350 Gr.LF2	F316L	Low C% 18Cr.8Ni. 2 Mo Steel	A182 Gr.F316L
			LF3	Low Temp Service 31/2 Nr Alloy Steel	A350 Gr.LF3

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PRODUCT NAME	PRODUCT CODE	PAGE No.
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& Lift Check Valves	D0	
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Bolted and Pressure Seal Bonnet	1G	
GLOBE VALVES		
Cast Steel Globe Valves	1C	12 & 13
Bolted and Pressure Seal Bonnet	1J	
CHECK VALVES		
Cast Steel Swing Check Valves	1D	14 & 15
Bolted and Pressure Seal Cover	1K	
BALL VALVES FLOATING		
3 Piece Forged Steel Valve	F3	16
Single Piece Valve	E1	16
2 Piece Valve	E2/S2	17
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TECHNICAL DATA

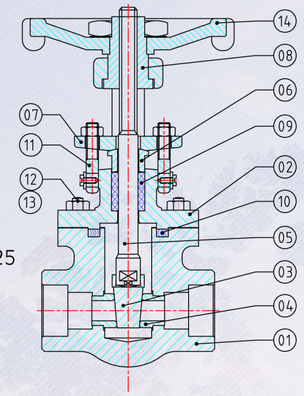
Features

- OS&Y type,Bolted bonnet.Solid wedge.
- Design Std.API 602 /EN ISO 15761/ASME 16.34.
- Testing as per API 598/ EN ISO 12266-1.
- Valves with integral back seat arrangement.
- Face to Face Dimensions as per Mfr standard.
- Socket welds to B 16.11/ Buttweld ends as per B 16.25 Screwed to BSP as per B16.11 & B521 / ASME B1.20.1 NPT.

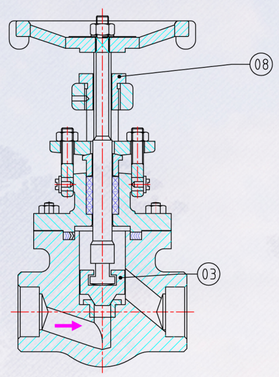
On Request

- Full bore construction.
- Welded bonnet construction.
- Locking arrangement (Open/Close).
- NACE as per MR-01-75 / MR 0103
- Stellited Hard Faces.
- For low temp & Cryogenic Service as per BS 6364.
- All Exotic Materials (Superduplex/Hast Alloy C & B. Monel/Inconel).

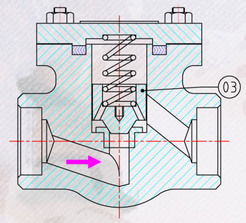
GATE



GLOBE



LIFT CHECK



GATE

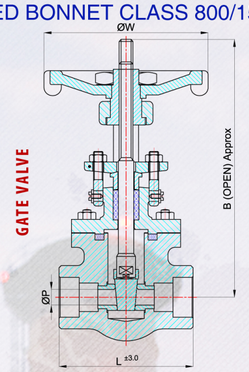
GLOBE

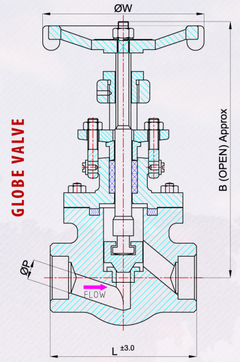
LIFT CHECK

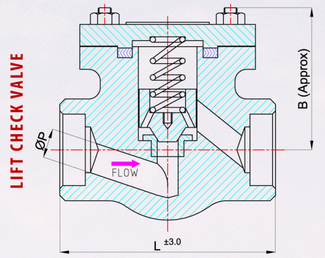
Materials

Sr.No	Part Name	Material Option
01	Body	ASTM A105/182 F304, F304L, F316, F316L, F321, F5,F9,F11,22,F44,F51,F53,F55, F91/350 LF2
02	Bonnet	ASTM A105/182 F304, F304L, F316, F316L, F321, F5,F9,F11,22,F44,F51,F53,F55, F91/350 LF2
03	Wedge/Plug/Disc	ASTM A217 CA15/ASTM A351 CF8,CF8M,CF3,CF3M,SS321/A 182 F6a/Duplex
04	Seat Rings	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/SS 321/Duplex
05	Stem	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/SS 321/Duplex
06	Gland	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/SS 321/Duplex
07	Gland Flange	ASTM A105/182 F304/ F316, Duplex
08	Yoke sleeve/Bush	ASTM A439 D2/ASTM A582 416 / ASTM A276 SS304/S.G.IRON
09	Gland Packing	GRAFOIL/PTFE
10	Bonnet Gasket	SPIRAL WOUND SS304/304L/316/316L/321+GRAFOIL/PTFE
11	Eye bolt/Nut	ASTM A193 B7 A194 2H ASTM A276 SS410
12	Body Stud/Hex bolt	ASTM A193 B7/ B7M / B8 / B8M / B16 / ASTM A320 / L7
13	Nut	ASTM A194 2H / 2HM / 8 / 8M / ASTM A320 / 7
14	Hand Wheel	S.G.IRON/MALLEABLE IRON/CARBON STEEL / FABRICATED

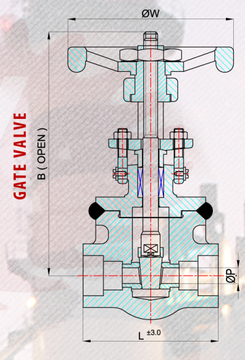
BOLTED BONNET CLASS 800/1500

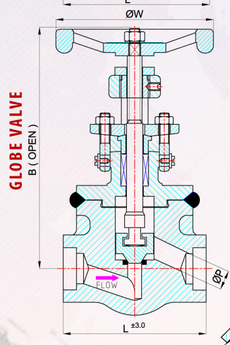


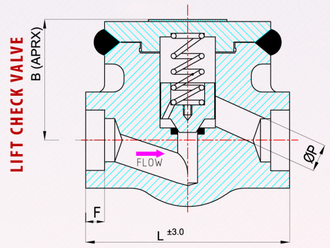




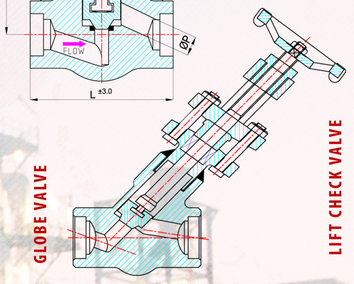
WELDED BONNET CLASS 2500

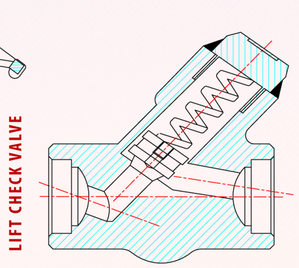






'Y' TYPE WELDED BONNET CLASS 2500





Dimensions

GATE VALVE- # 800 REDUCED BORE

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	9	12	17	23	28	36
L	85	90	103	128	128	140
B	161	175	191	261	268	278
ØW	100	100	100	150	150	150
Wt (APX)	2.2	2.9	3.9	8.5	8	10.5

GATE VALVE- # 800 FULL BORE

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	12	17	22	28	35	44
L	90	103	128	128	140	176
B	175	191	261	268	278	295
ØW	100	100	150	150	150	150
Wt (APX)	2.9	3.9	8.5	8	10.5	12

GATE VALVE- # 1500

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	9	12	15	22	27	34
L	90	103	128	140	140	176
B	178	195	255	270	273	295
ØW	100	100	150	150	150	150
Wt (APX)	2.9	3.9	7.9	9.5	10	12

GATE VALVE- # 2500

SIZE	1/2" (15)	3/4" (20)	1" (25)
ØP	11.2	14.2	19.1
L	103	128	140
B	195	261	268
ØW	100	150	150
Wt (APX)	3.5	8.5	10.5

GLOBE VALVE- # 800 REDUCED BORE

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	9	12	17	23	28	36
L	85	90	103	128	128	140
B	169	180	195	260	265	278
ØW	100	100	100	150	150	150
Wt (APX)	2.2	2.9	3.9	8.5	8	11

GLOBE VALVE- # 800 FULL BORE

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	12	17	22	28	35	44
L	90	103	128	128	140	176
B	180	195	260	265	278	295
ØW	100	100	150	150	150	150
Wt (APX)	2.9	3.9	8.5	8	10.5	12

GLOBE VALVE- # 1500

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	8	9	14	20	25	27
L	90	103	128	275	275	176
B	178	193	258	278	285	315
ØW	100	100	150	150	150	150
Wt (APX)	3.1	4.1	8.5	11	10.5	12

GLOBE VALVE- # 2500

SIZE	1/2" (15)	3/4" (20)	1" (25)
ØP	11.2	14.2	19.1
L	103	128	140
B	195	261	265
ØW	100	150	150
Wt (APX)	3.4	8.5	11

LIFT CHECK VALVE- # 800 REDUCED BORE

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	9	12	17	23	28	36
L	85	90	103	128	128	140
B	52	60	71	104	104	110
Wt (APX)	1.4	1.7	2.3	6.8	6	9

LIFT CHECK VALVE- # 800 FULL BORE

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	12	17	22	28	35	44
L	90	103	128	128	140	176
B	60	71	104	104	104	295
Wt (APX)	1.7	2.3	6.8	6	9	10

LIFT CHECK VALVE- # 1500

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	8	9	14	20	25	27
L	90	103	128	275	275	176
B	60	71	104	114	114	121
Wt (APX)	2.5	3.5	7.1	9.1	9.5	10

LIFT CHECK - # 2500

SIZE	1/2" (15)	3/4" (20)	1" (25)
ØP	11.2	14.2	19.1
L	103	128	140
B	71	104	110
Wt (APX)	3.5	7.0	9.0

Notes:

- All Dimensions are in mm.
- For 'Y' Type # 2500 Dimensions on Request
- Data provided for information only. subject to change without notice.

CAST STEEL GATE, VALVE BOLTED BONNET
CLASS 150/300/600

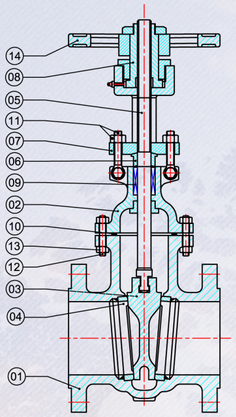
TECHNICAL DATA

Features

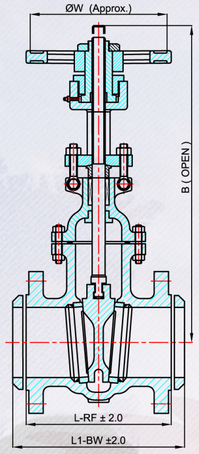
- OS&Y type,Bolted bonnet.Flexible wedge.
- Design Std.API 600 /ASME 16.34 .
- Testing as per API 598/ EN ISO 12266-1.
- Face to Face Dimensions as per B 16.10.
- Valves with back seat arrangement.
- Flange Drilling as per ASME B 16.5/B16.47 RF. / Buttweld ends as per ASME B 16.25

On Request

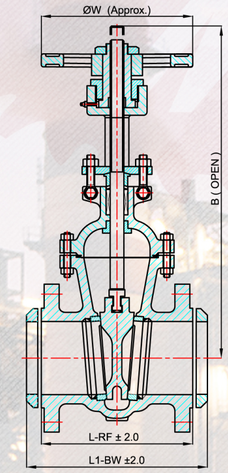
- Locking arrangement (Open/Close).
- Solid wedge.
- Gear/Electrical Actuator.
- NACE as per MR-01-75 / MR0103.
- Stellited Hard face.
- For low temp & Cryogenic Service as per BS 6364.
- Jacketed valves.
- H2 Service (Heleam Leak Test).



CLASS 150



CLASS 300/600



Dimensions

SIZE	L-RF ±2.0			L1-BW ±2.0			B-(OPEN)			ØW			WT.(APPROX) KG.		
CLASS	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600
15(1/2")	108	140	165	108	140	165	161	161	161	100	100	100	2.7	3.2	--
20 (3/4")	117	152	190	117	152	190	175	175	175	100	100	100	3.3	4.4	--
25 (1")	127	165	216	127	165	216	191	191	191	100	100	100	6	7.5	--
40 (1.1/2")	165	190	241	165	190	241	268	268	268	150	150	150	9.5	14	--
50 (2")	178	216	292	216	216	292	345	345	410	205	205	255	17	20	31
65 (2.1/2")	190	241	330	241	241	330	395	422	460	205	205	255	24	29	40
80 (3")	203	282	356	282	282	356	440	455	505	255	255	300	28	44	52
100 (4")	229	305	432	305	305	432	550	552	660	255	300	350	45	76	97
125 (5")	254	381	508	381	381	508	640	681	702	255	350	400	54	99	134
150 (6")	267	403	559	403	403	559	730	798	780	280	350	500	79	130	215
200 (8")	292	419	660	419	419	660	945	993	1110	350	450	600	128	216	356
250 (10")	330	457	787	457	457	787	1130	1220	1310	400	500	600	185	367	600
300 (12")	356	502	838	502	502	838	1380	1462	1500	450	600	*	280	478	827
350 (14")	381	762	889	572	762	889	1938	1615	1658	600	800	*	396	581	1240
400 (16")	406	838	991	610	838	991	2150	1900	1910	750	800	*	458	985	1710
450 (18")	432	914	1092	660	914	1092	2000	2050	2020	750	*	*	578	1190	2070
500 (20")	457	991	1194	711	991	1194	2230	2230	2280	800	*	*	730	1550	2425
600 (24")	508	1143	1397	813	1143	1397	2565	2600	2800	800	*	*	1300	1810	3900
650 (26")	559	1245	--	--	--	--	--	--	---	--	*	*	--	--	--
700 (28")	610	1346	--	--	---	--	--	--	--	--	*	*	--	--	--
750 (30")	610	1397	--	--	--	--	--	--	--	--	*	*	---	--	--
800 (32")	660	1524	---	--	--	--	--	--	--	--	*	*	--	--	---

Notes: ● All Dimensions are in mm. ● * Gear Operation sugested.
● Flange Drilling Details See Page No. 21 and 22.
● Material Details See Page No. 11.
● Data provided for information only. subject to change without notice.

PRESSURE SEAL GATE, VALVES
CLASS 900/1500/2500

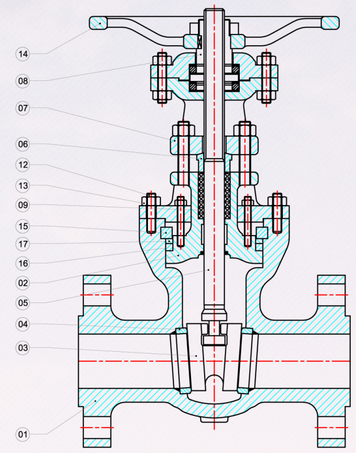
TECHNICAL DATA

Features

- OS&Y type,Pressure Seal Bonnet.Flexible wedge.
- Design Std.API 600 /ASME B16.34 .
- Testing as per API 598/ BS12266-1.
- Face to Face Dimensions as per B 16.10.
- Valves with back seat arrangement.
- Flange Drilling as per ASME B 16.5 / B16.47 RF Serrated / Buttweld ends as per ASME B 16.25

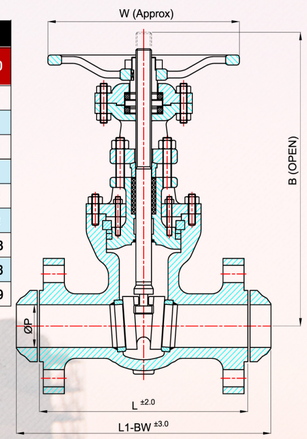
On Request

- Locking arrangement.
- Solid wedge.
- Gear/Electrical Actuator.
- NACE as per MR-01-75/MR0103.
- Stellited Hard face.
- For low temp & Cryogenic Service as per BS 6364.
- Jacketed valves.
- H2 Service (Heleam Leak Test).



Dimensions

SIZE	L-RF ±2.0			L1-BW ±2.0			B-(OPEN)			ØW			WT.(APPROX) KG.					
CLASS	900	1500	2500	900	1500	2500	900	1500	2500	900	1500	2500	900 FE	900 BW	1500 FE	1500 BW	2500
50 (2")	368	368	279	216	216	279	522	522	460	300	300	450	55	42	60	43	56
65 (2.1/2")	419	419	330	254	254	330	590	590	530	450	450	600	88	58	88	59	83
80 (3")	381	470	368	305	305	368	670	670	590	450	600	*	82	68	117	78	108
100 (4")	457	546	457	356	406	457	780	780	700	600	*	*	132	90	174	108	151
125 (5")	559	673	533	432	483	533	895	920	840	600	*	*	198	142	288	193	453
150 (6")	610	705	610	508	559	610	1075	1075	1000	*	*	*	335	253	443	265	513
200 (8")	737	832	762	660	711	762	1420	1420	1365	*	*	*	600	418	878	560	1053
250 (10")	838	991	914	787	863	914	1530	1530	1730	*	*	*	700	612	1328	892	1268
300 (12")	965	1130	990	914	990	990	1620	1620	2165	*	*	*	1115	862	2529	1583	1509



Notes: ● All Dimensions are in mm. ● * Gear Operation sugested.
● Data provided for information only. subject to change without notice.

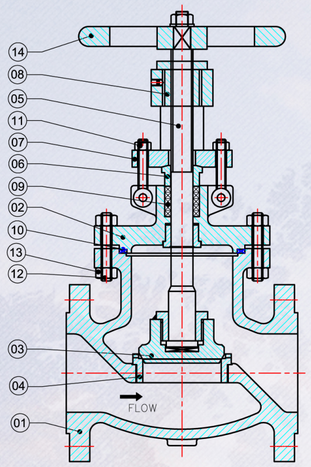
Materials

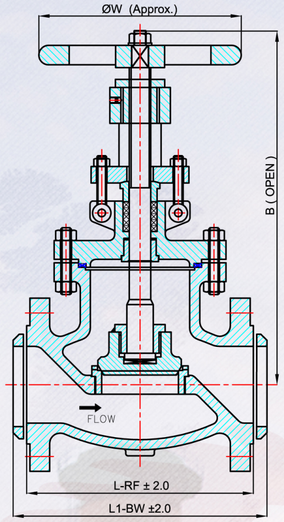
Sr.No	Part Name	Material Option
01	Body	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
02	Bonnet / Yoke	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
03	Wedge	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
04	Seat Rings	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
05	Stem	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/DULPEX
06	Gland	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/DULPEX
07	Gland Flange	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
08	Yoke sleeve	ASTM A439 D2/ASTM A582 416 /S.G.IRON
09	Gland Packing	GRAFOIL/PTFE
10	Bonnet Gasket	SPIRAL WOUND SS304/304L/316/316L/321+GRAFOIL/PTFE
11	Eye bolt/Nut	ASTM A193 B7 A194 2H, ASTM A276 SS410
12	Body Stud	ASTM A193 B7/ B7M / B8 / B8M / B16 / ASTM A320/L7
13	Body Nut	ASTM A194 2H / 2HM / 8 / 8M / ASTM A320 / 7
14	Hand Wheel	S.G.IRON / MALLEABLE IRON / CARBON STEEL
15	Segment Ring	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L
16	Pressure Seal Ring	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L
17	Support Ring	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L

CAST STEEL GLOBE, VALVE BOLTED BONNET
CLASS 150/300/600

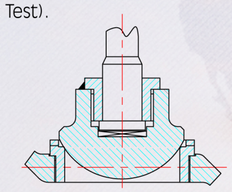
TECHNICAL DATA

Features
- OS&Y type,Bolted bonnet.Plug Type Disc.
- Design Std.BS 1873 /ASME 16.34 .
- Testing as per BS 6755-1/ EN ISO 12266-1.
- Face to Face Dimensions as per B 16.10.
- Valves with back seat arrangement.
- Flange Drilling as per ASME B 16.5 RF Serrated / Buttweld ends as per ASME B 16.25

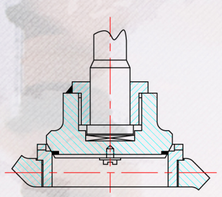




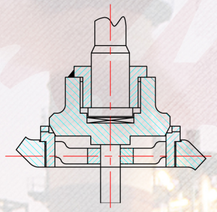
On Request
- Parabolic plug for Linear characteristic
- Guided & Soft Seat plug.
- Locking arrangement.
- Gear/Electrical Actuator.
- NACE as per MR-01-75/MR0103.
- Stellited Hard face.
- For low temp & Cryogenic Service as per BS 6364.
- Jacketed valves.
- H2 Service (Heleam Leak Test).



PARABOLIC PLUG



SOFT SEAT PLUG



GUIDED PLUG

Dimensions

SIZE	L-RF ±3.0			L1-BW±3.0			B-(OPEN)			ØW			WT.(APPROX) KG.		
CLASS	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600
15 (1/2")	108	152	165	108	152	165	178	178	178	100	100	100	2.9	3.5	6
20 (3/4")	117	178	190	117	178	190	194	194	194	100	100	100	3.5	4.8	10
25 (1")	127	203	216	127	203	216	266	266	266	100	100	100	6.5	8	15
40 (1.1/2")	165	229	241	165	229	241	302	302	302	150	150	150	10.5	14.5	20
50 (2")	203	267	292	203	267	292	340	338	360	205	205	300	15	17.5	38
65 (2.1/2")	216	292	330	216	292	330	350	351	445	255	255	300	30	36	58
80 (3")	241	318	356	241	318	356	370	370	510	255	300	350	37	47	72
100 (4")	292	356	432	292	356	432	470	425	560	300	300	500	54	75	125
125 (5")	356	400	508	356	400	508	520	500	610	350	350	500	78	112	272
150 (6")	406	444	559	406	444	559	570	550	670	350	350	600	95	170	360
200 (8")	495	559	660	495	559	660	610	640	910	450	500	600	165	210	630
250 (10")	622	622	787	622	622	787	790	800	1110	500	600	700	245	460	855
300 (12")	698	711	838	698	711	838	930	880	1310	600	700	800	385	750	1035
350 (14")	787	--	--	787	--	--	1186	1150	--	600	800	--	490	--	--

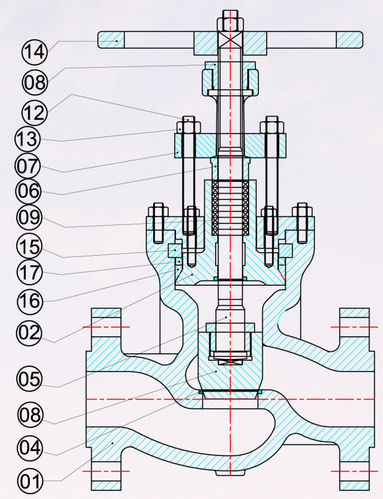
Notes: ● All Dimensions are in mm. ● Flange Drilling Details See Page No.21 and 22.
● Material Details See Page No. 13.
● Data provided for information only. subject to change without notice.

PRESSURE SEAL GLOBE, VALVES
CLASS 900/1500/2500

TECHNICAL DATA

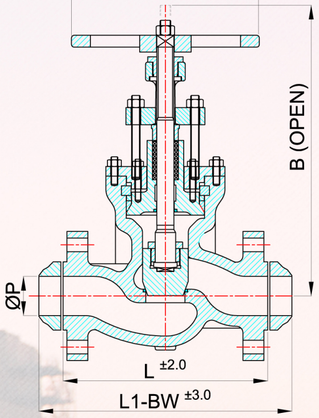
Features
- OS&Y type,Bolted bonnet.Plug Type Disc.
- Design Std.BS 1873 /ASME 16.34 .
- Testing as per BS 6755-1/ EN ISO 12266-1.
- Face to Face Dimensions as per B 16.10.
- Valves with back seat arrangement.
- Flange Drilling as per ASME B 16.5 RF Serrated / Buttweld ends as per ASME B 16.25

On Request
- Parabolic plug for Linear characteristic
- Guided & Soft seat plug.
- Locking arrangement.
- Gear/Electrical Actuator.
- NACE as per MR-01-75/MR0103 .
- Stellited Hard face.
- For low temp & Cryogenic Service as per BS 6364.
- Jacketed valves.



Dimensions

SIZE	L-RF ±2.0		L1-BW ±2.0			B-(OPEN)			ØW			WT.(APPROX) KG.					
CLASS	900	1500	900	1500	2500	900	1500	2500	900	1500	2500	900		1500		2500
												FE	BW	FE	BW	
50 (2")	368	368	216	216	279	580	582	620	600	600	750	87	53	88	53	58
65 (2.1/2")	419	419	254	254	330	592	593	512	600	600	750	103	56	104	55	77
80 (3")	381	470	305	305	368	526	528	642	600	*	*	108	59	153	93	108
100 (4")	457	546	356	406	457	727	726	1222	*	*	*	172	128	208	149	443
125 (5")	559	673	432	483	533	1020	1035	800	*	*	*	258	205	307	230	492
150 (6")	610	705	508	559	610	1036	1128	1402	*	*	*	313	334	383	358	543
200 (8")	737	832	660	711	762	1241	1212	1465	*	*	*	682	630	782	815	1205
250 (10")	838	991	787	863	--	1380	1330	--	*	*	*	1303	1140	1503	1365	--
300 (12")	965	1130	914	990	--	1530	1442	--	*	*	*	1902	1723	2302	1942	--



Notes: ● All Dimensions are in mm. ● * Gear Operation sugested.
● Data provided for information only. subject to change without notice.

Materials

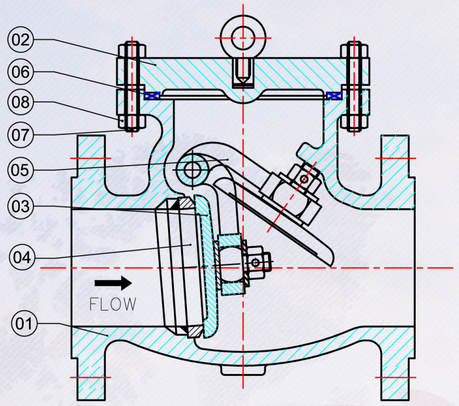
Sr.No	Part Name	Material Option
01	Body	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
02	Bonnet / Yoke	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
03	Disc	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
04	Seat Rings	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
05	Stem	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/DULPEX
06	Gland	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/DULPEX
07	Gland Flange	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
08	Yoke Bush	ASTM A439 D2/ASTM A582 416 /S.G.IRON
09	Gland Packing	GRAFOIL/PTFE
10	Bonnet Gasket	SPIRAL WOUND SS304/304L/316/316L/321+GRAFOIL/PTFE
11	Eye bolt/Nut	ASTM A193 B7 A194 2H, ASTM A276 SS410
12	Body Stud	ASTM A193 B7/ B7M / B8 / B8M / B16 / ASTM A320/L7
13	Body Nut	ASTM A194 2H / 2HM / 8 / 8M / ASTM A320 / 7
14	Hand Wheel	S.G.IRON / MALLEABLE IRON / CARBON STEEL
15	Segment Ring	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L
16	Pressure Seal Ring	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L
17	Support Ring	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L

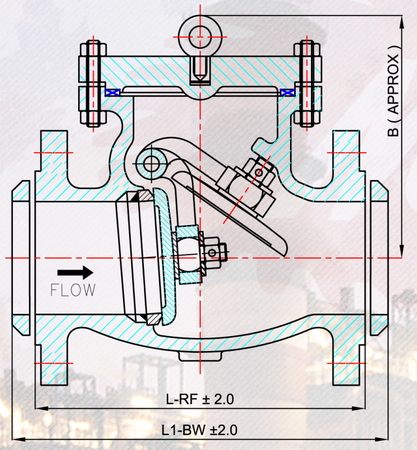
SWING CHECK, VALVE BOLTED COVER
CLASS 150/300/600

TECHNICAL DATA

Features
- Bolted Cover.
- Design Std.BS 1868 /ASME 16.34/API 6D.
- Testing as per BS 6755-1/ EN ISO 12266-1.
- Face to Face Dimensions as per B 16.10.
- Flange Drilling as per ASME B 16.5 RF Serrated / Buttweld ends as per ASME B 16.25

On Request
- API 6D Design.
- Tilting Disc Design.
- NACE as per MR-01-75/MR0103.
- Stellited Hard face.
- Jacketed valves.
- Dash pot arrangement.
- H2 Service (Heleam Leak Test).





Dimensions

SIZE	L-RF			L1-BW			B-(Approx)			WT.(APPROX) KG.		
CLASS	150	300	600	150	300	600	150	300	600	150	300	600
40 (1.1/2")	165	241	241	165	241	241	130	140	140	--	--	--
50 (2")	203	267	292	203	267	292	145	160	170	16	24	28
65 (2.1/2")	216	292	330	216	292	330	170	180	190	23	38	54
80 (3")	241	318	356	241	318	356	190	200	215	31	61	65
100 (4")	292	356	432	292	356	432	210	210	230	51	81	118
125 (5")	330	400	508	330	400	508	242	252	280	66	106	148
150 (6")	356	444	559	356	444	559	260	280	310	93	132	255
200 (8")	495	533	660	495	533	660	305	340	370	137	216	408
250 (10")	622	622	787	622	622	787	390	405	430	221	346	623
300 (12")	698	711	838	698	711	838	410	425	480	346	472	810
350 (14")	787	838		787	838		470	525		487	686	
400 (16")	864	864		864	864		600	562		574	1000	
450 (18")	978	978		978	978		550	670		775	1060	
500 (20")	978	1016		978	1016		605	630		1060	1230	
600 (24")	1295			1295			760			1320		

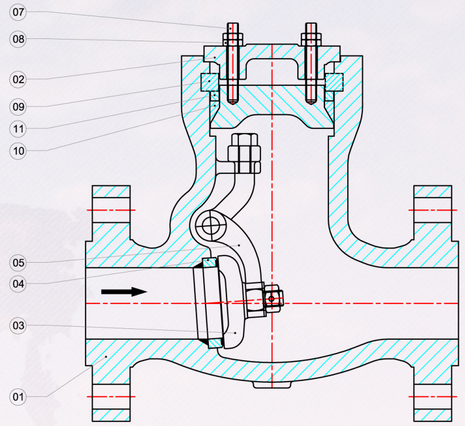
Notes: ● All Dimensions are in mm. ● Data provided for information only. subject to change without notice.
● Flange Drilling Details See Page No. 21 and 22. ● Material Details See Page No. 15

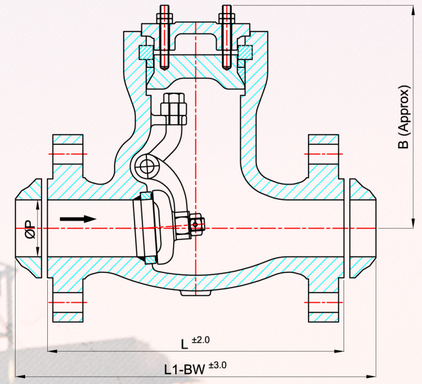
PRESSURE SEAL SWING CHECK VALVES
CLASS 900/1500/2500

TECHNICAL DATA

Features
- Bolted Cover.
- Design Std.ASME B16.34 / API 6D / B51868.
- Testing as per API 598 / API 6D.
- Face to Face Dimensions as per B 16.10/API 6D.
- Flange Drilling as per ASME B 16.5 RF Serrated / Buttweld ends as per ASME B 16.25

On Request
- API 6D Design.
- Tilting Disc Design.
- NACE as per MR-01-75/MR0103.
- Stellited Hard face.
- Jacketed valves.
- Dash pot arrangement.
- H2 Service (Heleam Leak Test).





Dimensions

SIZE	L-RF ±2.0		L1-BW ±2.0			B-(OPEN)			WT.(APPROX) KG.				
CLASS	900	1500	900	1500	2500	900	1500	2500	900 FE	900 BW	1500 FE	1500 BW	2500
50 (2")	368	368	216	216	279	185	190	185	--	30	--	34	47
65 (2.1/2")	419	419	254	254	330	200	205	205	--	34	--	39	77
80 (3")	381	470	305	305	368	240	245	240	--	36	--	42	95
100 (4")	457	546	356	406	457	275	275	270	--	53	--	68	130
125 (5")	559	673	432	483	533	322	325	300	--	72	--	102	196
150 (6")	609	705	508	559	610	335	340	340	--	100	--	150	280
200 (8")	736	832	660	711	762	450	470	420	--	220	--	358	485
250 (10")	838	991	787	863	--	545	545	--	--	335	--	607	--
300 (12")	965	1130	914	990	--	645	645	--	--	550	--	695	--

Notes: ● All Dimensions are in mm. ● Data provided for information only. subject to change without notice.

Materials

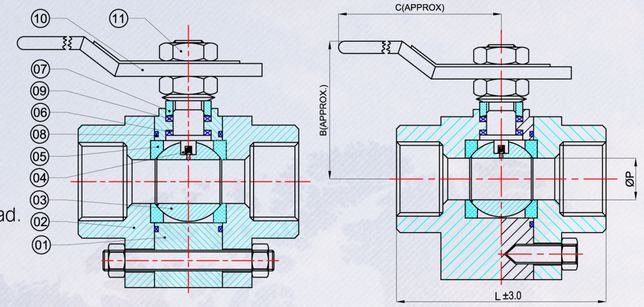
Sr.No	Part Name	Material Option
01	Body	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
02	Cover	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
03	Disc	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
04	Seat Rings	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
05	Hinge	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
06	Bonnet Gasket	SPIRAL WOUND SS304/304L/316/316L/321+GRAFOIL/PTFE
07	Body Stud	ASTM A193 B7 / B7M / B8 / B8M / B16 / ASTM A320 / L7
08	Body Nut	ASTM A194 2H / 2HM / 8 / 8M / ASTM A320 / 7
09	Segment Ring	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L
10	Pressure Seal Ring	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L
11	Support Ring	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L

FORGED STEEL FLOATING BALL VALVES

TECHNICAL DATA

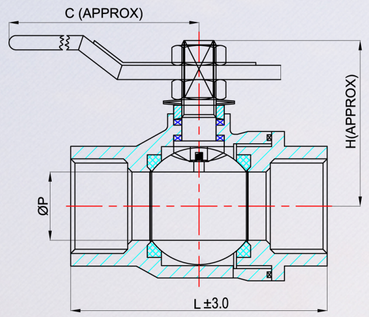
Features

- Low Operating Torque.
- Design Std.BS EN ISO 17292 / BS 5351.
- Fire safe test As Per Design API 607 / API 6FA.
- Testing as per EN ISO 12266 - 1 / API 598.
- Blowout Proof Stem Design & Antistatic Device.
- End to End Dimension as per Manufacturer Standrad.
- End Connection BSP/SWE As Per B16.11
  NPT As Per B1.20.1, BWE as per BS EN ISO 17292



On Request

- Locking Arrangement.
- NACE as per MR-01-75
- Nipple Welded.



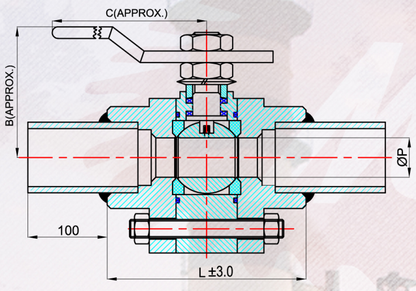
Dimensions

REDUCED BORE # 800

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	9	12	19	24	30	38
L	63	69	86	105	105	120
B	68	71	92	114	114	120
C	125	125	180	230	230	230
Wt (APX)	0.70	0.80	1.6	3	3.5	5.5

FULL BORE # 800

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/4" (32)	1.1/2" (40)	2" (50)
ØP	12	19	24	30	38	50
L	63	80	90	105	120	125
B	70	85	90	111	115	122
C	125	180	180	230	230	230
Wt (APX)	0.80	1.6	3	3.5	5.5	6.5

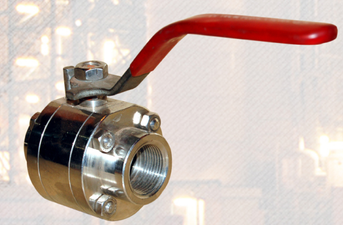


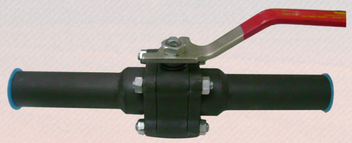
Dimensions

FULL BORE # 150/300

SIZE	1/2" (15)	3/4" (20)	1" (25)	1.1/2" (40)	2" (50)
P	12	19	24	38	50
L	66	69	90	110	125
H	70	85	92	115	122
C	125	180	180	230	230
Wt (APX)	0.45	0.70	1.25	2.50	4.50

Notes: ● All Dimensions are in mm.





Materials

Sr.No	Part Name	Material Option
01	Body	ASTM A105/182 F304, F304L, F316, F316L, F321, F5, F9, F11, 22, F44, F51, F53, F55/350 LF2
02	Connector	ASTM A105/182 F304, F304L, F316, F316L, F321, F5, F9, F11, 22, F44, F51, F53, F55/350 LF2
03	Ball	ASTM A217 CA15/ASTM A276 SS 410, SS304, SS316, SS304L, SS316L/DUPLEX
04	Stem	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/SS 321/DUPLEX
05	Body Seat Rings	PTFE/GFT
06	Stem Seal	PTFE/GFT
07	Gland	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/SS 321/DUPLEX
08	Body Seal	GRAFOIL/PTFE
09	Gland Packing	GRAFOIL/PTFE
10	Leaver	CS+GALVANZED+PVC
11	Leaver/Nut	CARBON STEEL

FLOATING BALL VALVES

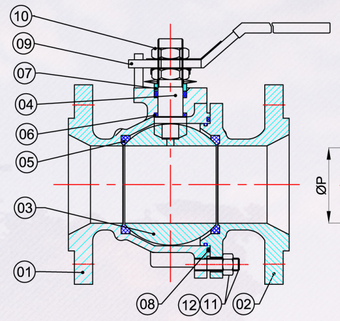
TECHNICAL DATA

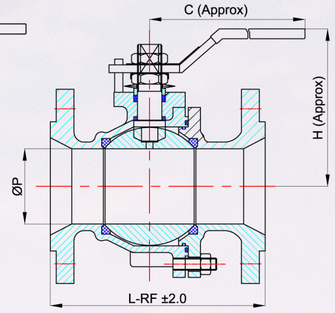
Features

- Low Operating Torque.
- Design Std.BS EN ISO 17292 / BS 5351.
- Fire Safe Test As Per Design API 607/API 6FA.
- Testing as per EN ISO 12266-1.
- Blowout Proof Stem Design & Antistatic Device.
- Face to Face Dimension as per ANSI B 16.10.
- Flange Drilling as per ANSI B16.5 RF Serrated
- Full Bore / Reduced Bore

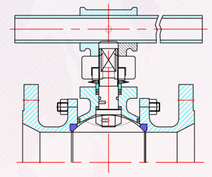
On Request

- Design as per API 6D.
- Locking Arrangement.
- NACE as per MR-01-75/MR-0-103.
- Gear/Pneumatic Actuator/Electrical Actuator.
- For low temp & Cryogenic Service as per BS 6364.
- Jacketed Valves.
- Other Types of Ends & Drilling.
- Metal Seated Valves.

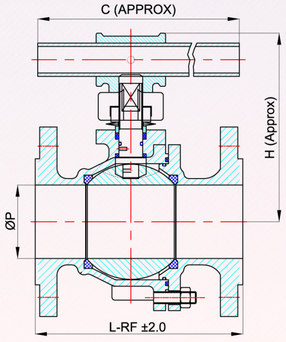




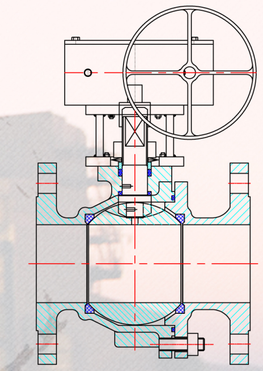
REDUCED BORE



Above 50MM
Lever Arrangement



FULL BORE



GEAR OPERATED

Dimensions

SIZE / CLASS	L-RF ± 3.0 150	L-RF ± 3.0 300	OP RB	OP FB	H-(Approx) 150	H-(Approx) 300	C-(Approx) 150	C-(Approx) 300	WT.(APPROX) KG. 150 RB	WT.(APPROX) KG. 150 FB	WT.(APPROX) KG. 300 RB	WT.(APPROX) KG. 300 FB
15 (1/2")	108	140	9	12	68	68	125	125	2	3	3	4
20 (3/4")	117	152	12	19	71	71	125	125	3	4	4	6
25 (1")	127	165	19	24	92	92	180	180	3	5	5	7
40(1.1/2")	165	190	30	38	114	114	230	230	5	7	8	10
50 (2")	178	216	38	50	120	120	230	230	9	12	14	17
65 (2.1/2")	190	241	50	62	181	181	300	300	14	20	21	30
80 (3")	203	282	62	74	187	187	400	400	19	26	28	36
100 (4")	229	305	74	100	222	222	450	450	29	41	40	55
125 (5")	**	**	100	125	**	**	**	**	**	**	**	**
150 (6")	**	**	100	150	251	251	900	900	50	75	76	105
200 (8")	**	**	150	201	320	320	900	900	120	145	142	165
250 (10")	**	**	201	252	**	**	**	**	**	**	**	**
300 (12")	**	**	252	303	**	**	**	**	**	**	**	**

Notes: ● All Dimensions are in mm. ● Flange Drilling Details See Page No. 21 and 22.
● Data provided for information only. subject to change without notice.

Materials

Sr.No	Part Name	Material Option
01	Body	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
02	Connector	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
03	Ball	ASTM A217 CA15/ASTM A276 SS 410, SS304, SS316, SS304L, SS316L/DUPLEX
04	Stem	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/SS 321/DUPLEX
05	Body Seat Rings	PTFE/GFT
06	Stem Seal	PTFE/GFT
07	Gland	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L/SS 321/DUPLEX
08	Body Seal	GRAFOIL/PTFE
09	Gland Packing	GRAFOIL/PTFE
10	Leaver	CS+GALVANZED+PVC
11	Leaver/Nut	CARBON STEEL

TECHNICAL DATA

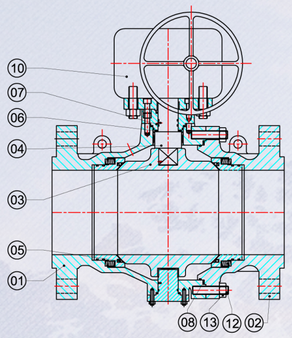
Features

- Low Operating Torque.
- Design Std.BS EN ISO 17292 / API6D / BS 5351.
- Fire Safe Test As Per Design API 607/API 6FA.
- Testing as per EN ISO 12266-1 / API 598.
- Blowout Proof Stem Design & Antistatic Device.
- Face to Face Dimension as per B 16.10/API 6D.
- Flange Drilling as per ANSI B16.5 RF Serrated
- Full Bore / Reduced Bore
- Double Bolck and Bleed.

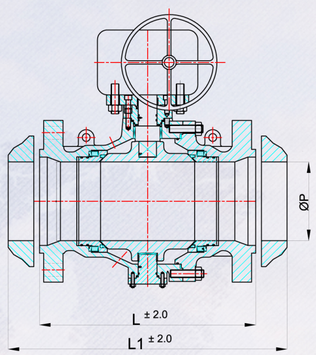
On Request

- Locking Arrangement.
- NACE as per MR-01-75/MR-0-103.
- Gear/Pneumatic Actuator/Electrical Actuator.
- Emergency sealant Injection
- For low temp & Cryogenic Service as per BS 6364.
- Jacketed Valves.
- Other Types of Ends & Drilling.
- Metal Seated Valves.

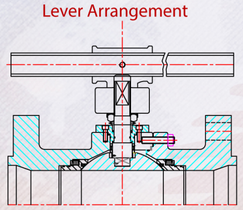
Full - Bore



Reduced - Bore



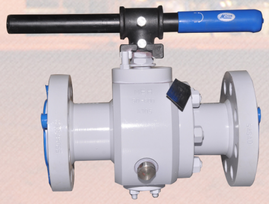
Lever Arrangement



Dimensions

SIZE	L-RF ±2.0			L1-BW ±2.0			ØP-(PORT)		B						WT.(APPROX) KG.					
CLASS	150	300	600	150	300	600	150/300/600		150		300		600		150		300		600	
							RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB
50 (2")	178	216	292	216	216	292	38	49	230	300	230	300	300	300	11	15	15	20	19	25
65 (2.1/2")	191	241	330	241	241	330	49	62	300	300	300	300	400	400	18	22	26	34	36	52
80 (3")	203	283	356	283	283	356	62	74	400	400	400	400	450	450	25	30	38	43	68	90
100 (4")	229	305	432	305	305	432	74	100	450	450	450	450	900	900	34	42	54	76	105	140
150(6")	394	403	559	457	457	559	100	150	900	*	*	*	*	*	52	90	94	140	190	262
200(8")	457	502	660	521	521	660	150	201	*	*	*	*	*	*	100	170	156	225	340	412
250(10")	533	568	787	559	559	787	201	252	*	*	*	*	*	*	190	265	254	345	490	635
300(12")	610	648	838	635	635	838	252	303	*	*	*	*	*	*	290	390	400	490	800	960
350(14")	686	762	889	762	762	889	303	334	*	*	*	*	*	*	430	475	605	665	1045	1325
400(16")	762	838	991	838	838	991	334	385	*	*	*	*	*	*	560	775	745	925	1520	1785
450(18")	864	914	1092	914	914	1092	385	436	*	*	*	*	*	*	840	925	995	1125	1860	2010
500(20")	914	991	1194	991	991	1194	436	487	*	*	*	*	*	*	960	1015	1335	1555	2150	2300
600(24")	1067	1143	1397	1143	1143	1397	538	589	*	*	*	*	*	*	1025	2050	2450	2800	3250	3100

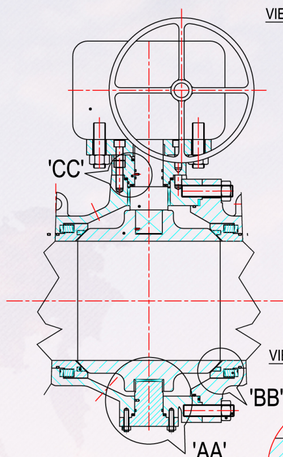
Notes: ● All Dimensions are in mm. ● * Gear Operated Suggested. ● Flange Drilling Details see Page No. 21 and 22.
● Data provided for information only. subject to change without notice.
● ** Available on Request.



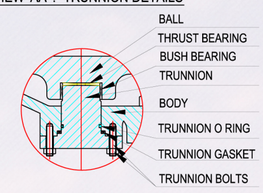
Dimensions

SIZE	L-RF ±3.0		ØP				WT.(APPROX) KG.			
CLASS	900	1500	900		1500		900		1500	
			RB	FB	RF	FB	RB	FB	RB	FB
15 (1/2")	216	216	9.5	13	9.5	13	5.8	6.4	5.8	6.4
20 (3/4")	229	229	13	19	13	19	8.1	11.5	8.1	11.5
25 (1")	254	254	19	25	19	25	11	15	11	15
40 (1.1/2")	305	305	32	38	32	38	27	32	27	32
50(2")	368	368	38	50	38	50	40	55	40	55
65(2.1/2")	419	419	50	62	50	62	73	94	73	94
80(3")	381	470	62	74	62	74	108	154	140	225
100(4")	457	546	74	100	74	100	210	255	305	365
150(6")	610	705	100	150	100	144	320	405	365	455
200(8")	737	832	150	201	150	192	600	700	616	785
250(10")	838	991	201	252	201	239	840	1000	900	1135
300(12")	965	1130	252	303	252	287	1250	1400	1300	1600

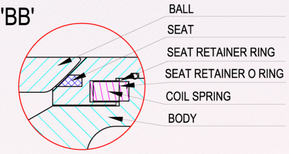
Notes: ● All Dimensions are in mm. ● * Gear Operated Suggested.
● Data provided for information only. subject to change without notice.
● ** Available on Request.



VIEW 'AA' :- TRUNNION DETAILS

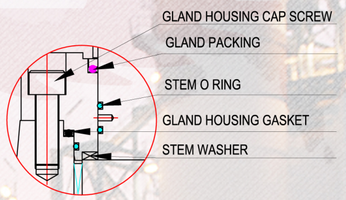


VIEW 'BB':- SEAT & COIL SPRING DETAILS

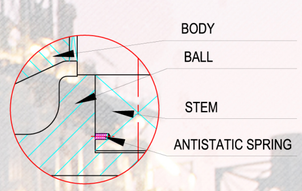


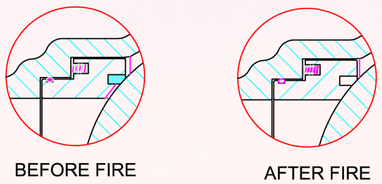
FIRE SAFE DESIGN

VIEW 'CC':- GASKET & 'O' RING DETAILS

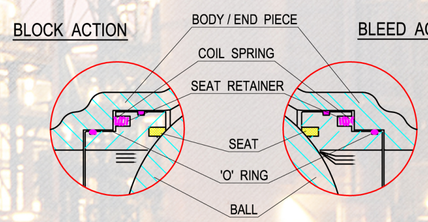


ANTISTATIC DETAILS

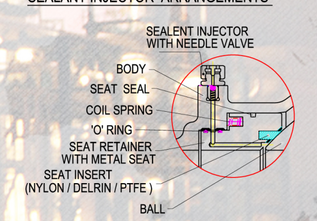


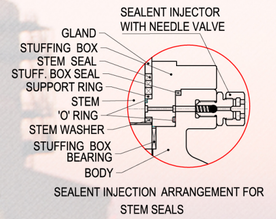


DOUBLE BLOCK AND BLEED FEATURE



SEALANT INJECTOR ARRANGEMENTS





Up stream and down stream seats are of floating type. these seats are pressure actuated and spring loaded. the seat spring ensures positive ball seat contact and sealing at low operating pressure.at high pressure the force created by pressure it self is adeqate to seal. in this way both up stream and down stream seat seals independently to achieve double block feature.

When the cavity pressure increases, the seating system is designed to automatically bleed cavity pressure at the low - pressure side of the valve.

For soft seated valves there shall be no visible leakage when monitored from each seat VIA the valve body cavity vent or drain connection.

Trunnion Mounted Ball Valve. Metal seat with Seat insert Arrangement Seating Comprises of PTFE(TEFLON) Accompanied By Hard Face Metal Contact As Shown in the Figure.

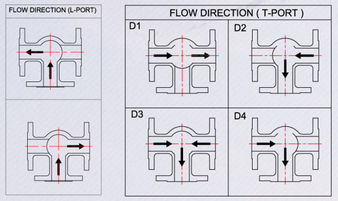
TECHNICAL DATA

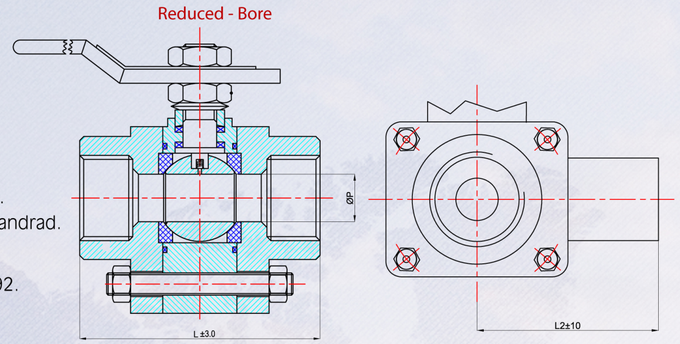
Features

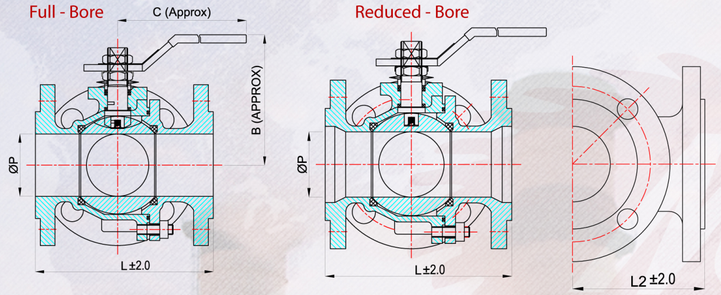
- Low Operating Torque.
- Design Std.BS EN ISO 17292 / BS 5351.
- Fire safe test As Per Design API 607 / API 6FA.
- Testing as per EN ISO 12266 - 1/ API 598.
- Blowout Proof Stem Design & Antistatic Device.
- End to End Dimension as per Manufacturer Standrad.
- Face to Face Dimension As Per ASME B 16.10.
- End Connection, BSP/SWE As Per B16.11
  NPT As Per B1.20.1, BWE As Per BS EN ISo 17292.

On Request

- Locking Arrangement.
- NACE as per MR-01-75/MR-0-103.
- Nipple Welded.







Dimensions

CLASS 150

SIZE	L-RF	ØP		L2		C		B	
CLASS	150	RB	FB	RB	FB	RB	FB	RB	FB
15(1/2")	108	9	13	70	76	125	125	68	70
20(3/4")	117	13	19	76	80	125	180	71	85
25(1")	127	19	25	80	98	180	180	92	92
40(1.1/2")	165	32	38	98	107	230	230	114	115
50(2")	178	38	50	107	125	230	230	120	122
65(2.1/2")	190	50	65	125	133	300	300	181	189
80(3")	203	58	76	133	157	400	400	187	222
100(4")	229	76	98	157	216	450	450	222	246
150(6")	267	98	148	216	--	900	900	251	278

CLASS 300

SIZE	L-RF	ØP		L2		C	
CLASS	300	RB	FB	RB	FB	RB	FB
15(1/2")	140	9	13	76	96	125	125
20(3/4")	152	13	19	96	100	125	180
25(1")	165	19	25	100	120	180	180
40(1.1/2")	190	32	38	120	125	230	230
50(2")	216	38	50	125	140	230	230
65(2.1/2")	241	50	65	140	152	300	300
80(3")	283	58	76	152	178	400	400
100(4")	305	76	98	178	216	450	450
150(6")	403	98	148	216	--	900	900

CLASS 800

SIZE	L-RF	ØP		L2
CLASS	800	RB	FB	RB/FB
15(1/2")	65	9	13	57
20(3/4")	75	13	19	68
25(1")	88	19	32	78
40(1.1/2")	115	32	38	85
50(2")	125	38	50	95

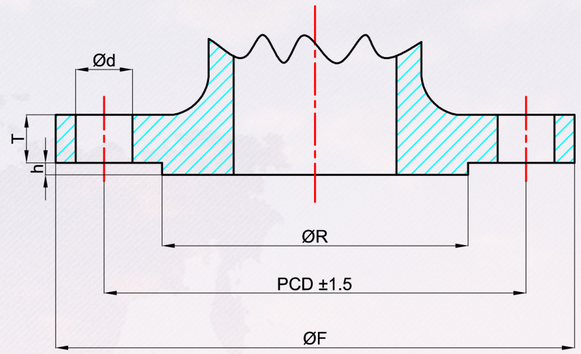
Materials

Notes: ● Forged Material Gr.See Page No. 16.

Sr.No	Part Name	Material Option
01	Body	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
02	End Piece	ASTM A216 WCB/A217 WC6,WC9,C5,C12/A351 CF8,CF8M,CF3,CF3M/A352 LCB/A890 DUPLEX
03	Ball	ASTM A351/CF8,CF8M,CF3,CF3M/A890 DUPLEX
04	Stem	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L DUPLEX
05	Body Seat Rings	PTFE/GFT
06	Stem Seal	PTFE/GFT
07	Gland	ASTM A276 SS410/SS 304/SS 304L/SS 316/SS 316L DUPLEX
08	Body Seal	GRAFOIL/PTFE
09	Gland Packing	GRAFOIL/PTFE
10	Leaver	CS+GALVANIZED+PVC
11	Leaver/Nut	CARBON STEEL
12	Stud/Bolt	ASTM A193 B7/B7M/B8/B8M/B16/ASTM A320/L7
13	Nut	ASTM A194 2H/2HM/8/8M/ASTM A320/7

KEY DIMENSIONS

ØF = Flange out side Diameter.
T = Flange thickness.
ØR = Diameter of raised face.
PCD = Diameter of bolt circle .
Ød = Diameter of bolt hole.
N = Number of holes.
h = Height of raised face (RF).



CLASS 150

SIZE	ØF	ØR	h	T	Drilling		
					PCD	Ød	N
15 (1/2")	90	34.9	2	8	60.3	16	4
20 (3/4")	100	42.9	2	8.9	69.9	16	4
25 (1")	110	50.8	2	9.6	79.4	16	4
32 (1.1/4")	115	63.5	2	11.2	88.9	16	4
40 (1.1/2")	125	73	2	12.7	98.4	16	4
50 (2")	150	92.1	2	14.3	120.7	19	4
65 (2.1/2")	180	104.8	2	15.9	139.7	19	4
80 (3")	190	127	2	17.5	152.4	19	4
100 (4")	230	157.2	2	22.3	190.5	19	8
125 (5")	255	185.7	2	22.3	215.9	22.2	8
150 (6")	280	215.9	2	23.9	241.3	22.2	8
200 (8")	345	269.9	2	27	298.5	22.2	8
250 (10")	405	323.8	2	28.6	362	25.4	12
300 (12")	485	381	2	30.2	431.8	25.4	12
350 (14")	535	412.8	2	33.4	476.3	28.5	12
400 (16")	595	469.9	2	35	539.8	28.5	16
450 (18")	635	533.4	2	38.1	577.9	31.8	16
500 (20")	700	584.2	2	41.3	635	31.8	20
600 (24")	815	692.2	2	46.1	749.3	35	20

CLASS 300

SIZE	ØF	ØR	h	T	Drilling		
					PCD	Ød	N
15 (1/2")	95	34.9	2	12.7	66.7	16	4
20 (3/4")	115	42.9	2	14.3	82.6	19	4
25 (1")	125	50.8	2	15.9	88.9	19	4
32 (1.1/4")	135	63.5	2	17.5	98.4	19	4
40 (1.1/2")	155	73	2	19.1	114.3	22.2	4
50 (2")	165	92.1	2	20.7	127	19	8
65 (2.1/2")	190	104.8	2	23.9	149.2	22.2	8
80 (3")	210	127	2	27	168.3	22.2	8
100 (4")	255	157.2	2	30.2	200	22.2	8
125 (5")	280	185.7	2	33.4	235	22.2	8
150 (6")	320	215.9	2	35	269.9	22.2	12
200 (8")	380	269.9	2	39.7	330.2	25.4	12
250 (10")	445	323.8	2	46.1	387.4	28.5	16
300 (12")	520	381	2	49.3	450.8	31.8	16
350 (14")	585	412.8	2	52.4	514.4	31.8	20
400 (16")	650	469.9	2	55.6	571.5	35	20
450 (18")	710	533.4	2	58.8	628.6	35	24
500 (20")	775	584.2	2	62	685.8	35	24
600 (24")	915	692.2	2	68.3	812.8	41.2	24

FLANGE DRILLING DIMENSIONS AS PER ASME B 16.5
CLASS - 150 / 300 / 600 /900 / 1500 / 2500

CLASS 600

SIZE	ØF	ØR	h	T	Drilling		
					PCD	Ød	N
15 (1/2")	95	34.9	7	14.3	66.7	16	4
20 (3/4")	115	42.9	7	15.9	82.6	19	4
25 (1")	125	50.8	7	17.5	88.9	19	4
32 (1.1/4")	135	63.5	7	20.7	98.4	19	4
40 (1.1/2")	155	73	7	22.3	114.3	22.2	4
50 (2")	165	92.1	7	25.4	127	19	8
65 (2.1/2")	190	104.8	7	28.6	149.2	22.2	8
80 (3")	210	127	7	31.8	168.3	22.2	8
100 (4")	275	157.2	7	38.1	215.9	25.4	8
125 (5")	330	185.7	7	44.5	266.7	28.5	8
150 (6")	355	215.9	7	47.7	292.1	28.5	12
200 (8")	420	269.9	7	55.6	349.2	31.7	12
250 (10")	510	323.8	7	63.5	431.8	35	16
300 (12")	560	381	7	66.7	489	35	20
350 (14")	605	412.8	7	69.9	527	38.1	20
400 (16")	685	469.9	7	76.2	603.2	41.2	20
450 (18")	745	533.4	7	82.6	654	44.5	20
500 (20")	815	584.2	7	88.9	723.9	44.5	24
600 (24")	940	692.2	7	101.6	838.2	50.8	24

CLASS 900

SIZE	ØF	ØR	h	T	Drilling		
					PCD	Ød	N
15 (1/2")	120	34.9	7	22.3	82.6	22.2	4
20 (3/4")	130	42.9	7	25.4	88.9	22.2	4
25 (1")	150	50.8	7	28.6	101.6	25.4	4
32 (1.1/4")	160	63.5	7	28.6	111.1	25.4	4
40 (1.1/2")	180	73	7	31.8	123.8	28.5	4
50 (2")	215	92.1	7	38.1	165.1	25.4	8
65 (2.1/2")	245	104.8	7	41.3	190.5	28.5	8
80 (3")	240	127	7	38.1	190.5	25.4	8
100 (4")	290	157.2	7	44.5	235	31.7	8
125 (5")	350	185.7	7	50.8	279.4	35	8
150 (6")	380	215.9	7	55.6	317.5	31.7	12
200 (8")	470	269.9	7	63.5	393.7	38.1	12
250 (10")	545	323.8	7	69.9	469.9	38.1	16
300 (12")	610	381	7	79.4	533.4	38.1	20
350 (14")	640	412.8	7	85.8	558.8	41.2	20
400 (16")	705	469.9	7	88.9	616	44.5	20
450 (18")	785	533.4	7	101.6	685.8	50.8	20
500 (20")	855	584.2	7	108	749.3	54	20
600 (24")	1040	692.2	7	139.7	901.7	66.6	20

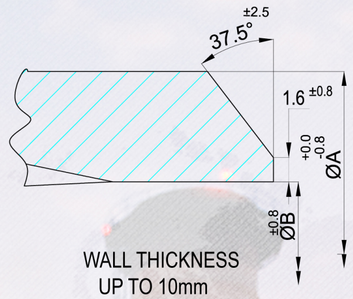
CLASS 1500

SIZE	ØF	ØR	h	T	Drilling		
					PCD	Ød	N
15 (1/2")	120	34.9	7	22.3	82.6	22.2	4
20 (3/4")	130	42.9	7	25.4	88.9	22.2	4
25 (1")	150	50.8	7	28.6	101.6	25.4	4
32 (1.1/4")	160	63.5	7	28.6	111.1	25.4	4
40 (1.1/2")	180	73	7	31.8	123.8	28.5	4
50 (2")	215	92.1	7	38.1	165.1	25.4	8
65 (2.1/2")	245	104.8	7	41.3	190.5	28.5	8
80 (3")	265	127	7	47.7	203.2	31.7	8
100 (4")	310	157.2	7	54	241.3	35	8
125 (5")	375	185.7	7	73.1	292.1	41.27	8
150 (6")	395	215.9	7	82.6	317.5	38.1	12
200 (8")	485	269.9	7	92.1	393.7	44.5	12
250 (10")	585	323.8	7	108	482.6	50.8	12
300 (12")	675	381	7	123.9	571.5	54	16
350 (14")	750	412.8	7	133.4	635	60.3	16
400 (16")	825	469.9	7	146.1	704.8	66.6	16
450 (18")	915	533.4	7	162	774.7	73	16
500 (20")	985	584.2	7	177.8	831.8	79.3	16
600 (24")	1170	692.2	7	203.2	990.6	92	16

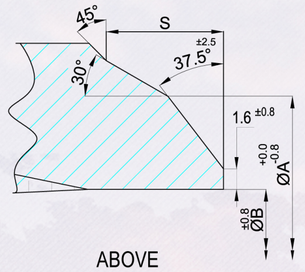
CLASS 2500

SIZE	ØF	ØR	h	T	Drilling		
					PCD	Ød	N
15 (1/2")	135	34.9	7	30.2	88.9	22.2	4
20 (3/4")	140	42.9	7	31.8	95.2	22.2	4
25 (1")	160	50.8	7	35	108	25.4	4
32 (1.1/4")	185	63.5	7	38.1	130.2	28.5	4
40 (1.1/2")	205	73	7	44.5	146	31.7	4
50 (2")	235	92.1	7	50.9	171.4	28.5	8
65 (2.1/2")	265	104.8	7	57.2	196.8	31.7	8
80 (3")	305	127	7	66.7	228.6	35	8
100 (4")	355	157.2	7	76.2	273	41.2	8
125 (5")	420	185.7	7	92.1	323.8	47.6	8
150 (6")	485	215.9	7	108	368.3	54	8
200 (8")	550	269.9	7	127	438.2	54	12
250 (10")	675	323.8	7	165.1	539.8	66.6	12
300 (12")	760	381	7	184.2	619.1	73	12

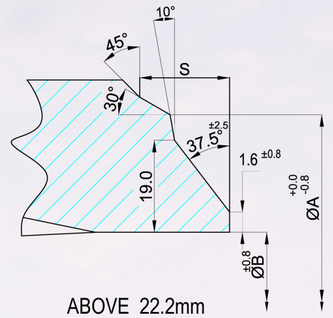
BUTT WELD END DIMENSIONS
AS PER ASME B 16.25 / ASME B 36.10



WALL THICKNESS
UP TO 10mm



ABOVE
10mm UP TO 22.2mm



ABOVE 22.2mm

PIPE SIZE		SCH	ØA	ØB	S
DN	NPS				
25	1"	40	35	26.6	5.1
		80	35	24.3	6.8
		160	35	20.7	9.52
		XXS	35	15.2	13.65
32	1.25"	40	44	35	5.4
		80	44	32.5	7.35
		160	44	29.5	9.52
		XXS	44	22.8	14.55
40	1.5"	40	50	40.9	5.55
		80	50	38.1	7.65
		160	50	34	10.72
		XXS	50	28	15.3
50	2"	40	62	52.5	5.85
		80	62	49.3	8.25
		160	62	42.9	13.05
		XXS	62	38.2	16.65
65	2.5"	40	75	62.5	7.8
		80	75	59	10.5
		160	75	54	14.25
		XXS	75	45	21
80	3"	40	91.1	78	8.23
		80	91.1	75	11.43
		160	91.1	66	16.68
		XXS	91.1	58.5	22.86

PIPE SIZE		SCH	ØA	ØB	S
DN	NPS				
100	4"	40	117	102	9.03
		80	117	97	12.84
		160	117	87	20.23
		XXS	117	80	25.68
125	5"	40	144	128	10
		80	144	122	14.2
		160	144	109	24
		XXS	144	103	28.57
150	6"	40	172	154	10.66
		80	172	146	16.45
		160	172	132	27.2
		XXS	172	124.5	32.8
200	8"	40	223	203	12.27
		80	223	193	19
		160	223	173	34.5
		XXS	223	175	33
250	10"	40	278	254	13.90
		80	278	243	22.5
		160	278	216	42.75
		--	--	--	--
300	12"	40	329	303	15.46
		80	329	289	26
		160	329	257	50
		XS	329	298.5	19

PIPE SIZE		SCH	ØA	ØB	S
DN	NPS				
350	14"	40	362	333.3	16.68
		80	362	317.5	28.5
		160	362	284	53.7
		XS	362	308	19
400	16"	40	413	381	19.05
		80	413	363.5	32
		160	413	325.5	60
		XS	--	--	--
450	18"	40	464	428.5	21.4
		80	464	409.5	35
		160	464	366.5	68
		XS	464	432	18.9
500	20"	40	516	478	22.63
		80	516	455.5	39
		160	516	406	76
		XS	516	482.5	19
550	22"	--	--	--	--
		80	567	501.5	42.86
		160	567	550.5	81
		XS	567	533	19
600	24"	40	619	574.5	26.17
		80	619	547.5	46.5
		160	619	590.5	89
		XS	619	584	19

Notes:
- All Dimensions are in mm.

MAXIMUM ALLOWABLE NON-SHOCK PRESSURE. PSIG

Service Temp.		ASTM MATERIALS									
		Gr.1.1	Gr.1.2		Gr.1.3	Gr.1.5	Gr.1.9	Gr.1.10	Gr.1.13	Gr.2.1	Gr.2.2
°F	°C	(a) A 216 WCB	(a) A 216 WCC	(c) A 352 LCC	(c) A 352 LCB	(b) A 217 WC1	(d) A 217 WC6	(d) A 217 WC9	A 217 C5	A 351 CF8	A 351 CF8M
ASME # 150 / ISO PN 20											
-20 to 100	-29 to 38	285	290	290	265	265	290	290	290	275	275
200	93	260	260	260	260	260	260	260	260	230	235
300	149	230	230	230	230	230	230	230	230	205	215
400	204	200	200	200	200	200	200	200	200	190	195
500	260	170	170	170	170	170	170	170	170	170	170
600	316	140	140	140	140	140	140	140	140	140	140
650	343	125	125	125	125	125	125	125	125	125	125
700	371	110	110	110	110	110	110	110	110	110	110
750	399	95	95	95	95	95	95	95	95	95	95
800	427	80	80	80	80	80	80	80	80	80	80
850	454	65	65	65	65	65	65	65	65	65	65
900	482	50	50	50	50	50	50	50	50	50	50
950	510	35	35	35	35	35	35	35	35	35	20
1000	538	20	20	20	20	20	20	20	20	20	20*
1050	566	-	-	-	-	-	20*	20*	20*	20*	20*
1100	593	-	-	-	-	-	20*	20*	20*	20*	20*
1150	621	-	-	-	-	-	20*	20*	20*	20*	20*
1200	649	-	-	-	-	-	15*	20*	15*	20*	20*
Hydrostatic Shell test		428	435	435	398	398	435	435	435	413	413
Valve Closure test	Fluid	314	319	319	292	292	319	319	319	303	303
	Air	80	80	80	80	80	80	80	80	80	80

ASME # 300 / ISO PN 50

-20 to 100	-29 to 38	-	-	-	-	-	750	750	750	720	720
200	93	740	750	750	695	695	750	750	745	600	620
300	149	675	750	750	655	680	720	730	715	540	560
400	204	655	730	730	640	655	695	705	705	495	515
500	260	635	705	705	620	640	665	665	665	465	480
600	316	600	665	665	585	620	605	605	605	435	450
650	343	550	605	605	535	605	590	590	590	430	445
700	371	535	590	590	525	590	570	570	570	425	430
750	399	535	570	570	520	570	530	530	530	415	425
800	427	505	505	475	530	530	510	510	510	405	420
850	454	410	410	410	390	510	485	485	485	395	420
900	482	270	270	270	270	485	450	450	370	390	415
950	510	170	170	170	170	450	320	375	275	380	385
1000	538	105	105	105	105	280	215	260	200	320	350
1050	566	50	50	50	50	165	145	175	145	305	345
1100	593	-	-	-	-	-	95	110	100	255	305
1150	621	-	-	-	-	-	60	70	60	200	235
1200	649	-	-	-	-	-	40	40	35	155	185
Hydrostatic Shell test		1110	1125	1125	1042	1042	1125	1125	1125	1080	1080
Valve Closure test	Fluid	814	825	825	765	765	825	825	825	792	792
	Air	80	80	80	80	80	80	80	80	80	80

Notes:
(a) Permissible,but not recommended for prolonged use above 425°C (800 °F)
(b) Permissible,but not recommended for prolonged use above 470°C (875 °F)
(c) Not be used over 343°C (650 °F)
(d) For welding end valves only.Flange end rating terminate at 538°(1000 °F)
⋆ Not be used over 593°C (1100 °F)

MAXIMUM ALLOWABLE NON-SHOCK PRESSURE. PSIG

Service Temp.		ASTM MATERIALS									
		Gr.1.1	Gr.1.2		Gr.1.3	Gr.1.3	Gr.1.9	Gr.1.10	Gr.1.13	Gr.2.1	Gr.2.2
°F	°C	(a) A 216 WCB	(a) A 216 WCC	(c) A 352 LCC	(c) A 352 LCB	(b) A 217 WC1	(d) A 217 WC6	(d) A 217 WC9	A 217 C5	A 351 CF8	A 351 CF8M
ASME # 600 / ISO PN 110											
-20 to 100	-29 to 38	1480	1500	1500	1395	1395	1500	1500	1500	1440	1440
200	93	1360	1500	1500	1320	1320	1500	1500	1500	1200	1240
300	149	1310	1455	1455	1275	1275	1445	1455	1455	1075	1120
400	204	1265	1405	1405	1230	1230	1385	1410	1410	995	1025
500	260	1205	1330	1330	1175	1175	1330	1330	1330	930	955
600	316	1135	1210	1210	1105	1105	1210	1210	1210	885	900
650	343	1100	1175	1175	1065	1065	1175	1175	1175	865	885
700	371	1060	1110	-	-	1025	1135	1135	1135	845	870
750	399	1015	1015	-	-	955	1065	1065	1065	825	855
800	427	825	825	-	-	780	1015	1015	1015	810	845
850	454	-	-	-	-	595	975	975	975	790	835
900	482	-	-	-	-	405	900	900	745	780	830
950	510	-	-	-	-	-	640	755	550	765	775
1000	538	-	-	-	-	-	430	535	400	710	725
1050	566	-	-	-	-	-	290	350	290	650	720
1100	593	-	-	-	-	-	190	220	200	515	610
1150	621	-	-	-	-	-	130	135	125	410	475
1200	649	-	-	-	-	-	80	80	70	330	370
Hydrostatic Shell test		2220	2250	2250	2092	2092	2250	2250	2250	2160	2160
Valve Closure test	Fluid	1628	1650	1650	1535	1535	1650	1650	1650	1584	1584
	Air	80	80	80	80	80	80	80	80	80	80

ASME # 900 / ISO PN 150

-20 to 100	-29 to 38	2220	2250	2250	2090	2090	2250	2250	2250	2160	2160
200	93	2035	2250	2250	1980	1980	2250	2250	2250	1800	1860
300	149	1965	2185	2185	1915	1915	2165	2185	2185	1615	1680
400	204	1900	2110	2110	1845	1845	2080	2115	2115	1490	1540
500	260	1810	1995	1995	1760	1760	1995	1995	1995	1395	1435
600	316	1705	1815	1815	1665	1665	1815	1815	1815	1325	1355
650	343	1650	1765	1765	1600	1600	1765	1765	1765	1295	1325
700	371	1590	1665	-	-	1535	1705	1705	1705	1265	1305
750	399	1520	1520	-	-	1430	1595	1595	1595	1240	1280
800	427	1235	1235	-	-	1175	1525	1525	1525	1215	1265
850	454	-	-	-	-	1895	1460	1460	1460	1190	1255
900	482	-	-	-	-	605	1350	1350	1120	1165	1245
950	510	-	-	-	-	-	955	1160	825	1145	1160
1000	538	-	-	-	-	-	650	800	595	1065	1090
1050	566	-	-	-	-	-	430	525	430	975	1080
1100	593	-	-	-	-	-	290	330	300	770	915
1150	621	-	-	-	-	-	195	205	185	615	710
1200	649	-	-	-	-	-	125	125	105	495	555
Hydrostatic Shell test		3330	3375	3375	3135	3135	3375	3375	3375	3240	3240
Valve Closure test	Fluid	2442	2475	2475	2299	2299	2475	2475	2475	2376	2376
	Air	80	80	80	80	80	80	80	80	80	80

Notes:
(a) Permissible,but not recommended for prolonged use above 425°C (800 °F)
(b) Permissible,but not recommended for prolonged use above 470°C (875 °F)
(c) Not be used over 343°C (650 °F)
(d) For welding end valves only.Flange end rating terminate at 538°(1000 °F)
⋆ Not be used over 593°C (1100 °F)

PRESSURE - TEMPERATURE RATINGS
AS PER ASME B 16.34

MAXIMUM ALLOWABLE NON-SHOCK PRESSURE. PSIG

Service Temp.		ASTM MATERIALS									
		Gr.1.1	Gr.1.2		Gr.1.3	Gr.1.5	Gr.1.9	Gr.1.10	Gr.1.13	Gr.2.1	Gr.2.2
°F	°C	(a) A 216 WCB	(a) A 216 WCC	(c) A 352 LCC	(c) A 352 LCB	(b) A 217 WC1	(d) A 217 WC6	(d) A 217 WC9	A 217 C5	A 351 CF8	A 351 CF8M
ASME # 1500 / ISO PN 260											
-20 to 100	-29 to 38	3705	3750	3750	3480	3480	3750	3750	3750	3600	3600
200	93	3395	3750	3750	3300	3300	3750	3750	3750	3000	3095
300	149	3270	3640	3640	3190	3190	3610	3640	3640	2690	2795
400	204	3170	3520	3520	3075	3075	3465	3530	3530	2485	2570
500	260	3015	3325	3325	2930	2930	3325	3325	3325	2330	2390
600	316	2840	3025	3025	2755	2755	3025	3025	3025	2210	2255
650	343	2745	2940	2940	2665	2665	2940	2940	3940	2160	2220
700	371	2665	2775	-	-	2560	2840	2840	2840	2110	2170
750	399	2535	2535	-	-	2385	2660	2660	2660	2065	2135
800	427	2055	2055	-	-	1955	2540	2540	2540	2035	2110
850	454	-	-	-	-	1490	2435	2435	2435	1980	2090
900	482	-	-	-	-	1010	2245	2245	1870	1945	2075
950	510	-	-	-	-	-	1595	1930	1370	1910	1930
1000	538	-	-	-	-	-	1080	1335	995	1770	1820
1050	566	-	-	-	-	-	720	875	720	1630	1800
1100	593	-	-	-	-	-	480	550	495	1285	1525
1150	621	-	-	-	-	-	325	345	310	1030	1525
1200	649	-	-	-	-	-	205	205	170	825	1185
Hydrostatic Shell test		5557	5625	5625	5220	5220	5625	5625	5625	5400	5400
Valve Closure test	Fluid	4076	4125	4125	3828	3828	4125	4125	4125	3960	3960
	Air	80	80	80	80	80	80	80	80	80	80

ASME # 2500 / ISO PN 420

-20 to 100	-29 to 38	6170	6250	6250	5805	5805	6250	6250	6250	6000	6000
200	93	5655	6250	6250	5505	5505	6250	6250	6250	5000	5160
300	149	5450	6070	6070	5315	5315	6015	6070	6070	4480	4660
400	204	5280	5865	5865	5125	5125	5775	5880	5880	4140	4280
500	260	5025	5540	5540	4885	4885	5540	5540	5540	3880	3980
600	316	4370	5040	5040	4595	4595	5040	5040	5040	3680	3760
650	343	4575	4905	4905	4440	4440	4905	4905	4905	3600	3680
700	371	4425	4630	-	-	4270	4730	4730	4730	3520	3620
750	399	4230	4230	-	-	3970	4430	4430	4430	3440	3560
800	427	3430	3430	-	-	3255	4230	4230	4230	3380	3520
850	454	-	-	-	-	2485	4060	4060	4060	3300	3480
900	482	-	-	-	-	1685	3745	3745	3115	3240	3460
950	510	-	-	-	-	-	2655	3220	2285	3180	3220
1000	538	-	-	-	-	-	1800	2230	1655	2950	3030
1050	566	-	-	-	-	-	1200	1455	1200	2715	3000
1100	593	-	-	-	-	-	800	915	830	2145	2545
1150	621	-	-	-	-	-	545	570	515	1715	1970
1200	649	-	-	-	-	-	345	345	285	1370	1545
Hydrostatic Shell test		9255	9375	9375	8707	8707	9375	9375	9375	9000	9000
Valve Closure test	Fluid	6787	6875	6875	6385	6385	6875	6875	6875	6600	6600
	Air	80	80	80	80	80	80	80	80	80	80

Notes:
(a) Permissible,but not recommended for prolonged use above 425°C (800 °F)
(b) Permissible,but not recommended for prolonged use above 470°C (875 °F)
(c) Not be used over 343°C (650 °F)
(d) For welding end valves only.Flange end rating terminate at 538°(1000 °F)
⋆ Not be used over 593°C (1100 °F)

ASTM MATERIALS
SPECIFICATION AND PROPERTIES

ASTM CODE	CHEMICAL COMPOSITIONS IN %											MECHANICAL			
	C	Mn	P	S	Si	Cr	Mo	Ni	Cu	V	Others	Tensile Mpa	Yield Mpa	% Elong ation	% Reduct Area
	max.	max.	max.	max.	max.	max.	max.	max.	max.	max.	max.	min.	min.	min.	min.
A216 WCB	0.30	1.00	0.035	0.035	0.60	0.50	0.20	0.50	0.30	0.03		485 655	250	22	35
A216 WCC	0.25	1.20	0.035	0.035	0.60	0.50	0.20	0.50	0.30	0.03		485 655	275	22	35
A217 WC1	0.25	0.50 0.80	0.04	0.045	0.60	-	0.45 0.65	-				450 620	240	24	35
A217 WC5	0.05 0.20	0.40 0.70	0.04	0.045	0.60	0.50 0.90	0.90 1.20	0.60 1.00				485 655	275	20	35
A217 WC6	0.05 0.20	0.50 0.80	0.035	0.035	0.60	1.00 1.50	0.45 0.65	-				620 795	275	20	35
A217 WC9	0.05 0.18	0.40 070	0.035	0.035	0.60	2.00 2.75	0.90 1.20	-				620 795	275	20	35
A217 C5	0.20	0.40 070	0.04	0.045	0.75	4.00 6.50	0.45 0.65	-				620 795	415	18	35
A217 C12	0.20	0.35 0.65	0.035	0.035	1.00	8.00 10.00	0.90 1.20	-		0.06		620 795	415	18	35
A217 CA15	0.15	1.00	0.040	0.025	1.50	11.5 14.00	0.50	1.00				620 795	450	18	35
A352 LCB	0.30	1.00	0.040	0.045	0.60	0.50	0.20	0.50	0.03	0.03		450 620	240	24	35
A352 LCC	0.25	1.20	0.4	0.045	0.60	0.50	0.20	0.50	0.03	0.03		485 655	275	22	35
A351 CF8	0.08	1.50	0.040	0.040	2.00	18.00 21.00	0.50	8.00 11.00				485	205	35	-
A351 CF8M	0.08	1.50	0.040	0.040	1.50	18.00 21.00	2.00 3.00	9.00 12.00				485	205	30	-
A351 CF3	0.03	1.50	0.040	0.040	2.00	17.00 21.00	0.50	8.00 12.00				485	205	35	-
A351 CF3M	0.03	1.50	0.040	0.040	1.50	17.00 21.00	2.00 3.00	9.00 13.00				485	205	30	-
A351 CN7M	0.07	1.50	0.040	0.040	1.50	19.00 22.00	2.00 3.00	27.5 30.5				425	170	35	-
A105	0.35	0.60 1.05	0.035	0.040	0.10 0.35	0.30	0.12	0.40	0.40	0.08		485	250	30	30
A182 F304	0.08	2.00	0.45	0.030	1.00	18.00 20.00	-	-	-	-	-	515	205	30	50
A182 F304L	0.030	2.00	0.45	0.030	1.00	18.00 20.00	-	-	-	-	-	485	170	30	50
A182 F316	0.08	2.00	0.45	0.030	1.00	16.00 18.00	-	-	-	-	-	515	205	30	50
A182 F316L	0.030	2.00	0.45	0.030	1.00	16.00 18.00	-	-	-	-	-	485	170	30	50
A182 F321	0.038	2.00	0.45	0.030	1.00	17.00 19.00	-	-	-	-	-	515	205	30	50
A182 F5	0.15	0.30 0.60	0.030	0.030	0.50	4.0 6.0	0.44 0.65	0.50				485	275	20	35
A182 F6a	0.15	1.00	0.040	0.030	1.00	11.5 13.5	-	0.50				485	275	18	35
A182 F9	0.15	0.30 0.60	0.030	0.030	0.50 1.00	8.00 10.00	0.90 1.10	-				585	380	20	40
A182 F11	0.10 0.20	0.30 0.80	0.040	0.040	0.50 1.00	1.00 1.50	0.44 0.65	-	-			485	275	20	30
A182 F22	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
A182 F44	0.020	1.00	0.030	0.010	0.80	19.5 20.5	6.0 6.5	17.5 18.5	-			650	300	35	50
A182 F51	0.030	2.00	0.030	0.020	1.00	21.0 23.0	2.5 3.5	4.5 6.5				620	450	25	45
A182 F53	0.30	1.20	0.35	0.020	0.80	24.0 26.0	3.0 5.0	6.0 8.0	-	-	-	800	550	15	-
A182 F55	0.030	1.00	0.030	0.010	1.00	24.0 26.0	3.0 4.0	6.0 8.0	0.50 1.00			750 895	550	25	45
A 350 LF2	0.30	0.60 1.35	0.035	0.040	0.15 0.30	0.30	0.12	0.40	0.40			485 655	250	22	30
A 276 410	0.08 0.15	1.00	0.040	0.030	1.00	11.5 13.5	-	-	-	-		480	275	20	45
A 276 304	0.08	2.00	0.045	0.030	1.00	18.0 20.0	-	8.00 11.00	-	-		515	205	30	40
A 276 304L	0.030	2.00	0.045	0.030	1.00	18.0 20.0	-	8.00 12.00	-	-		485	170	40	50
A 276 316	0.08	2.00	0.045	0.030	1.00	16.0 18.0	2.0 3.0	10.0 14.0	-	-		515	205	30	40
A 276 316L	0.030	2.00	0.045	0.030	1.00	16.0 18.0	2.0 3.0	10.0 14.0	-	-		515	205	30	40
B 164 MONEL															
AL BRONZE 148 Gr.955															
STELLITE-6															

ASTM CODE	CHEMICAL COMPOSITIONS IN %											MECHANICAL			
	C	Mn	P	S	Si	Cr	Mo	Ni	Cu	V	Others	Tensile Mpa	Yield Mpa	% Elongation	% Reduct Area
	max.	max.	max.	max.	max.	max.	max.	max.	max.	max.	max.	min.	min.	min.	min.
A 193 B7	0.37 0.49	0.65 1.10	0.035	0.040	0.15 0.35	0.75 1.20	0.15 0.25	-	-	-	-	860	720	16	50
A 193 B7M	-	-	-	-		-	-	-	-	-	-	690	550	18	50
A 193 B16	0.36 0.47	0.45 0.70	0.035	0.040	0.15 0.35	0.80 1.15	0.50 0.65	-	-	0.25 0.35	0.015	860	720	18	50
A 193 B8	0.08	2.0	0.045	0.030	1.00	18.0 20.0	-	8.0 11.0	-	-	-	515	205	30	50
A 193 B8M	0.08	2.0	0.045	0.030	1.00	16.0 18.0	2.0 3.0	10.0 14.0	-	-	-	515	205	30	50
A 320 L7	0.38 0.48	0.75 1.00	0.035	0.040	0.15 0.35	8.0 11.0	0.15 0.25	-	-	-	-	860	725	16	50
A 194 2H	0.40	1.00	0.040	0.050	0.40	-	-	-	-	-	-	-	-	-	-
A 194 2HM	0.40	1.00	0.040	0.050	0.40	-	-	-	-	-	-	-	-	-	-
A 194 Gr.8	0.08	2.00	0.040	0.050	1.00	18.0 20.0	-	8.0 11.0	-	-	-	-	-	-	-
A 194 Gr.8M	0.08	2.00	0.045	0.030	1.00	16.0 18.0	2.0 3.0	10.0 14.0	-	-	-	-	-	-	-
A 194 Gr.7	0.38 0.48	0.75 1.00	0.035	0.040	0.15 0.35	0.80 1.10	0.15 0.25	-	-	-	-	-	-	-	-
A 194 Gr.4	0.40 0.50	0.70 0.90	0.035	0.040	0.15 0.35	-	0.2 0.3	-	-	-	-	-	-	-	-

TABLE:1 VALVE TEST PRESSURE CHART AS PER API 598 / ASME B 16.34

HYDROSTATIC TEST														
PRESSURE RATING			150		300		600		900		1500		2500	
MATERIAL			Shell	Seat & Backseat	Shell	Seat & Backseat	Shell	Seat & Backseat	Shell	Seat & Backseat	Shell	Seat & Backseat	Shell	Seat & Backseat
Grp No.	Forging	Casting	kg/cm²		kg/cm²		kg/cm²		kg/cm²		kg/cm²		kg/cm²	
1.1	A105 A350-LF2	A216 WCB	32	23	79	58	158	116	237	174	374	274	660	484
1.3	———	A352 LCB	32	23	79	58	158	116	237	174	374	274	660	484
1.9	A182 F12 A182 F11	A217 WC6	30	20	78	32	158	116	237	158	396	264	660	440
1.10	A182 F22	A217 WC9	30	20	79	53	158	105	237	158	396	264	660	440
1.13	A182 F5a	A217 C5	30	20	79	53	158	105	237	158	396	264	660	440
2.1	A182 F304 A182 F304H	A351 CF3 A351 CF8	29	19	76	50	152	101	228	152	380	253	633	422
2.2	A182 F316 A182 F316H	A351 CF3 A351 CF8 A351 CF3M A351 CF8M	29	19	76	50	152	101	228	152	380	253	633	422
2.3	A182 F304L A182 F316L	———	24	16	63	42	126	84	190	126	316	211	528	352
2.4	A182 F321 A182 F321H	———	30	20	78	53	158	105	237	158	396	264	660	440
3.17	———	A351 CN7M	24	16	63	42	126	84	190	126	316	211	528	352

(a) High Pressure Seat as table for Gate,Globe,Check & Ball valves
(b) Air Seat & Low pressure Hydro Seat Test 4 to 7 bar for Gate,Check & Ball Valves
(c) For Shell tests and backseat Test No leakage allowed.
(d) Back Seat Not Applicable for Check Valve.

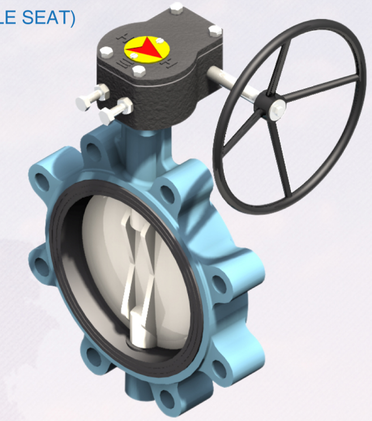
TABLE:2 DURATION OF TEST PRESSURE AS PER API 598

VALVE SIZE (NPS)	Minimum test duration (seconds)				
	SHELL		BACK SEAT	CLOSER	
	Check valve API 594	Other valve		Check valve API 594	Other valve
≤ 2	15	15	15	60	15
2.1/2-6	60	60	60	60	60
8-12	120		60	120	120
≤14	300		60	120	120

(a) The test duration of the period of inspection after the valve is fully prepared and is under full pressure.

BUTTERFLY VALVE - CENTER DISC (REPLACEABLE SEAT)

Size : 1.1/2" (40 MM) To 24" (600 MM).
Rating : PN10 & PN16.
Ends : Wafer & Lugged.



BUTTERFLY VALVE - DOUBLE OFFSET

Size : 6" (150 MM) To 48" (1200 MM).
Rating : PN10, PN16 & #150.
Ends : Wafer & Double Flanged.

BUTTERFLY VALVE - DOUBLE OFFSET HIGH PERFORMANCE

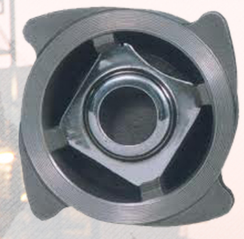
Size : 2" (50 MM) To 24" (600 MM).
Rating : #150 & #300.
Ends : Wafer & Lugged.

CHECK VALVE - WAFER TYPE

Size : 2" (50 MM) To 24" (600 MM).
Rating : PN10, PN16 & #150.

CHECK VALVE - NON SLAM TYPE

Size : 1.1/2" (15 MM) To 12" (300 MM).
Rating : PN10, PN16 & #150.



CHECK VALVE - DUAL PLATE TYPE

Size : 1.1/2" (15 MM) To 12" (300 MM).
Rating : PN10, PN16 & #150.

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