VALVES
STRAINERS

Cast Product

Cast Steel
Alloy & Stainless Steel
Cast Bronze
Special Alloy Steel

DONG-A VALVE

Message from the president

It is a great pleasure to introduce DONG-A VALVE IND., CO. to customer.

We, DONG-A VALVE IND., CO. established in 1978 in Busan, Korea, have manufactured low & high pressure valves, Flap check(duo-check) valve, Tilting disc check valve, and strainer which are used for marine offshore project (FPSO, PLATFORM) and plant industry , etc.

We established a subsidiary Company at 1997, TAE-YOUNG SPECIAL METAL IND., CO.

TAE-YOUNG SPECIAL METAL IND., CO. has produced various materials such as Cast Iron, Cast Steel, Stainless Steel, Cast Bronze, Ductile iron, Nikel Aluminum Bronze and Alloy Steel, especially Super Duplex Alloy Steel.

TAE-YOUNG SPECIAL METAL IND., CO. obtained Certificate from ABS, BV, DNV, GL,KR.LR, RINA.

Nowdays, D.A.V. is the most well-known valve maker in domesic ship-yard, marine plant, offshore project (FPSO, PLAFORM ect) and plant industry .

Also, all of our staffs will try our utmost to promote new products and develop technology and will serve our every requirement to furnish you better products.

Use our valves, you will be greatly satisfied with them.

대표이사 김 태 성

Name of Company

DONG-A VALVE IND., CO.

Name of President

Kim, Tae-sung

Establishment

04.Oct.1984

Name of family company

Tae-young Special Metal Co., Ltd.

Tae-young Metal Co., Ltd.

Head Office

Address : 1579-3 Songjung-dong, Kangseo-gu, Busan, Korea

Tel : +82-51-831-1500

Fax: +82-51-831-1509

e-mail : da_valve@donga-valve.com

JINHAE Factory

Address : 401. Jookog-dong. Jinhae. Kyungnam. Korea

Tel : +82-55-545-2430

Fax: +82-55-546-2882

NOKSAN Factory

Address : 1731-11. Songjung-dong. Kangseo-gu. Busan. Korea

Tel : +82-51-972-0100

Fax: +82-51-972-9140

Bussiness

Marine Ships valves & Strainers

Offshore (Rig, Drilling ships, FPSO, platform etc.) project

Petroleum chemical plant valves

Desalination plant valves

Power palnt valves

Main Buyers

Hyundai Heavy Ind. Co., Ltd

Hyundai Mipo Dockyard Co,. Ltd.

Hyundai Samho Heavy ind. Co., Ltd

Hyundai Engine & Machinery Divsion

Samsung Heavy Ind. Co., Ltd

Daewoo Shipbuilding & Marine Engineering Co., Ltd

STX Offshore & Shipbuilding Co., Ltd

Sungdong Shipbuilding & Marine Engineering Co., Ltd

History

1978

MAY. 1978 - Established as the name of DONG-A VALVE in Busan Korea.

MAY. 1979 - Listed as HYUNDAI MIPO DOCK YARD Co., Ltd.

1980

JUN. 1982 - Reorganized as DONG-A VALVE Ind.Co.

APR. 1983 - Listed as DAEWOO SHIPBUILDING& MARINE ENGINEERING Co., Ltd.

JUL. 1985 - Listed as HYUNDAI HEAVY Ind. Co.,Ltd.

JUN. 1988 - Listed as SANMSUNG HEAVY Ind. Co., Ltd.

MAY. 1989 - Listed as HALLA ENGINEERING & HEAVY Ind. Co., Ltd.

(HYUNDAI ASMHO HEAVY Ind. Co., Ltd.)

1990

JUN. 1997 - Established as the name of TAE-YOUNG SPECIAL METAL Co., Ltd. in JINHAE KEYONGNAM, KOREA.(Casting Manufacture)

SEP. 1997 - Introduction of Auto Shell Mold Process.

JAN. 1998 - Approved casting manufacturer by G.L.(Germanischr Lloyd)

- Approved casting manufacturer by D.N.V(Det Norsk Veritas)
- Approved casting manufacturer by L.R.(Lloyd's Resister)
- Approved casting manufacturer by G.L.(Germanischr Lloyd)
- Listed as MITSUBISHIHEAVY ind.Co.,Ltd. (Nagasaki Shipyard & Manufacture Works)
- Supplying the cast steel valves for MISTUI shipyard.

JUL. 1999 - Head office & factory moved to Nocksan national Area.

NOV. 1999 - Obtained ISO 9001(E.Q.A) : DONG-A VALVE Ind. Co.

DEC. 1999 - Obtained ISO 9001(E.Q.A) : TAE-YOUNG SPECIAL MEAL Co.,

2000

OCT. 2000 - Approved casting manufacture by R.I.N.A (Resistro Italiano Navale)

JUN. 2003 - Obtained ISO 9001:2000 Certificate by TUV ; DONG-A VALVE Ind. Co.

- Obtained CE0035(Community Europe PED/97/23/EC) certificate by TUV

MAR. 2005 - Developed valves for cryogenic (Duo check, Gate, Globe and Ball valve ect)

JUL. 2005 - Obtained ISO 14001:2004(Environmental management system) by WSCS

OCT. 2005 - Obtained Fire Safty certificate by VELOSI (Globe, Gate, Check, Ball valve E146(Metal to Metal & Soft seat)

MAR. 2006 - Approved steel valves manufacturer by API(American petroleum Institute) /API6D pipeline valves (Gate,Check, Ball ect)

AUG. 2007 - Established as the name of TAE-YOUNG METAL Co.,Ltd. In Noksan. Busan Korea: Ingot, Ship Engine compoent etc.

2010

JAN. 2010 - Type approved cryogenic valve manufacturer by B.V. (Bureau Veritas)

Mar. 2010 - Approval manufacturer valves for KEPIC & AMSE (N, & NPT Stamp)

ABS


American Bureau of Shipping

CASTING FACILITY AND PROCESS APPROVAL CERTIFICATE

TAE YOUNG SPECIAL METAL CO., KYUNGNAM, KOREA

API


Certificate of Authority to use the Official API Monogram

License Number: 6D-0640

DONG - A VALVE CO.
Noksan State Ind. Complex, 1579-3
Songjung - Dong
Kangseo-Gu, Pusan
South Korea

American Petroleum Institute

Effective Date: MARCH 20, 2006
Expiration Date: MARCH 20, 2009

BV


RECOGNITION

TAE YOUNG SPECIAL METAL CO.

CE MARK


Certificate

Quality-Assurance System

CE 0035

TÜVRheinland

DNV


DET NORSKE VERITAS

APPROVAL OF MANUFACTURER

CERTIFICATE

Tae Young Special Metal Co., Ltd.
Kyungnam, Korea, Republic of

Copper Alloy Castings

GL


GL

TAE YOUNG SPECIAL METAL CO., LTD.
JINHAE,KYUNGNAM
KOREA

Germanischer Lloyd

TUV


CERTIFICATE

The TÜV CERT Certification Body
of TÜV Rheinland Industrie Service GmbH

certifies in accordance with
TÜV CERT procedures that

Dong-A Valve Ind. Co.
1579-3, Songjung-dong, Kangseo-gu
Busan, 618-270, Republic of Korea

has established and applies a quality management system for

Design and Manufacture of Industrial Valves and Stainers

DIN EN ISO 9001:2000

DNV


ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Certificate No. : WE05-035

DONG-A VALVE IND., CO.

#1579-3, Songjung-Dong, Kangseo-Gu, Busan, Korea

Has been found to conform to the Environmental System Standard :
KS A ISO 14001 : 2004 / ISO 14001 : 2004

This certificate is valid for the following product or service ranges :
Design, Development, Manufacturing and Service of Valves

Date of Registration : Jul. 22, 2008 Valid Until : Jul. 21, 2011

For the successful Implementation of a Environmental Management System, Registered by Environmental Certification WSCS Co., Ltd.

Jul. 18, 2008

WSCS

GL


VELOSI INTERNATIONAL KOREA

FIRE TEST CERTIFICATE

KR


APPROVAL CERTIFICATE FOR MANUFACTURING PROCESS

LR


TAE YOUNG SPECIAL METAL CO., LTD.
665, Jangdong-Dong
Jinhae
Kyungnam
Korea

LR


TAE YOUNG SPECIAL METAL CO., LTD.
665, Jangdong-Dong
Jinhae
Kyungnam
Korea

RINA


RINA

APPROVAL CERTIFICATE

TAE YOUNG SPECIAL METAL CO., LTD.
401, Jangdong-dong, Jinhae city, Kyungnam, Korea

STEEL CASTINGS

QUALITY CONDITION & EQUIPMENT

Facilities


Spectro Meter


Universal Tester


Hardness Tester


Cryogenic Test


Fire Safety test


Helium-Detection test

Quality
Condition Test


Sharpy Impact Tester


Cryogenic Test Equipment


High pressure leak tester


Coating Thickness Gauge


Wall Thickness Test


PMI Test


STEP1. Design


STEP2. Wood&Metal Mold


STEP3. Molding


STEP4. Melting


STEP5. Pouring


STEP6. Separating


STEP7. Gouging&Grinding


STEP8. Heat-Treatment


STEP9. Shot Blasting


STEP10. Machining(Major)


STEP11. Machining(Trim)


STEP12. Assembly


STEP13. Operation


STEP14. Painting


STEP15. Delivery

PRODUCTION FLOW

Gallery

PICTURES

DONAG-A VALVE OVER VIEW

DONAG-A VALVE MACHIN'G

TAE-YOUNG METAL Co,. Ltd

POURING

AOD LINE

INSPECTION

WELDING

TAE-YOUNG SPECIAL METAL

MOLDING LINE #1

MOLDING LINE #2

Classification System

Example of a product designation

15	GL	20	RF	0	A
CLASS	TYPE	SIZE	END CONNECTION	MATERIAL	TRIM
150	CLOBE	20"	RAISED FACE	A216 WCB	13Cr

CLASS		TYPE		SIZE		END CONNECTION		MATERIAL		TRIM	
CODE	CLASS	CODE	TYPE	CODE	SIZE	CODE	END CONN.	CODE	CASTED	CODE	TRIM
ASME		GA	GATE	**ASME**		FF	FLAT FACE	**ASME**		**ASME**	
15	150	GL	GLOBE	2	2"	RF	RAISED FACE	0	A216 WCB	A	13Cr
30	300	AG	ANGLE	|	|	BW	BUT WELD	1	A352 LCB	B	304
60	600	GLCH	GLOBE CHECK	36	36"	RTJ	RING JOINT	2	A352 LCC	C	316
90	900	AGCH	ANGLE CHECK	**JIS**		WF	WAPER	3	A217 WC6	D	304L
150	1500	CH	SWING CHECK	15	15A	LUG	LUG	4	A217 WC9	E	316L
250	2500	STR-SIM	SIMPLEX STRAINER	|	|	FLG	FLANGE	5	A217 C5	F	MONEL
JIS		STR-DU	DUPPLEX STRAINER	1000	1000a			6	A351 CF8	G	UNS S31803
5K	5K	Y-STR	Y - STRAINER					7	A351 CF8M	H	UNS S32760
10K	10K	BALL	BALL					8	A351 CF3	**JIS**	
16K	16K							9	A351 CF3M	I	S CLASS
20K	20K							10	MONEL	J	B CLASS
30K	30K							11	UNS S31803		
40K	40K							12	UNS S32760		
								13	NI-AL-BC		
								14	B62		
								15	CU-NI		
								JIS			
								16	SCPH2		
								17	SCPL1		
								18	SCS13		
								19	SCS14A		
								20	SCS16A		
								21	CAC406		
								22	CAC706		
								23	CAC703		

Valve Type			Gate						Globe						Check					
ASME/ANSI Class			150	300	600	900	1500	2500	150	300	600	900	1500	2500	150	300	600	900	1500	2500
	P.T Rating		ASME / ANSI B16.34																	
	Wall thickness		API600 & BS1414						API 600& BS1873						API600&BS1868					
STD. Shell Material*			ASTM A216 Gr. WCB						ASTM A216 Gr. WCB						ASTM A216 Gr. WCB					
S	2in	50mm	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
I	2-1/2	65	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Z	3	80	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
E	4	100	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	6	150	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	8	200	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	10	250	O	O	O	O	O	O	O	O	O				O	O	O	O	O	O
	12	300	O	O	O	O	O	O	O	O					O	O	O	O	O	O
	14	350	O	O	O	O	O		O	O					O	O	O	O	O	
	16	400	O	O	O	O	O		O	O					O	O	O	O	O	
	18	450	O	O	O	O	O		O						O	O	O	O	O	
	20	500	O	O	O	O	O								O	O	O	O	O	
	22	550	O	O	O															
	24	600	O	O	O	O	O								O	O	O	O	O	
	26	650	O	O	O															
	28	700	O	O	O															
	30	750	O	O	O										O	O				
	36	900	O	O											O					
	38	1000	O																	
	42	1050	O																	
	48	1200	O																	

It is possible to manufacture all material of valves according to the valve shell meterial as well as A216WCB. Please see the shell materials table to the " Classified by Materials" page.

Category

Marine Valve

O : Actual results △ : Possibility

FC																							
	Globe			Angle			G/Check			A/Check			Gate			S/ Check		Lift	Lift	Hose			
																		G/GH	A/GH	GL	AN	GL	AN
	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F			
	7305	7307	7309	7306	7308	7310	7363	7375	7377	7354	7376	7378	7363	7364	7369	7372	7373	7358	7369	7333			
	5K	10K	16K	5K	10K	16K	5K	10K	16K	5K	10K	16K	5K	10K	16K	5K	10K	5K	5K	5K	5K	10K	10K
25A																							
32A																							
40A																							
50A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
65A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O			O	O
80A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O				
100A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O				
125A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O				
150A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O				
200A	O	O	O	O	O	O	O	O		O	O		O	O	O	O	O		O				
250A	O	O		O	O		O			O			O	O	O	O							
300A	O	O		O	O		O			O			O	O	O								
350A	O			O	O		O			O			O	O	O								
400A	O			O	O		O			O			O	O	O								
450A				O						O			O	O									
500A				O						O			O	O									
550A				O						O			O	O									
600A				O						△			O	O									
650A																							

SC																
	Globe					Angle					G/Chk		A/Check			Gate	
	F7311	F7319	F7313	F7340	F7317	F7312	F7320	F7314	F7316	F7318	F7471	F7473	F7472	F7474	F7475	F7366	B2083
	5K	10K	20K	30K	40K	5K	10K	20K	30K	40K	10K	20K	10K	20K	30K	10K	20K
25A																	Ref F7366 & B2083
32A																	
40A																	
50A	O	O	O	O			O	O	O	O		O		O	O	O	
65A	O	O	O	O			O	O	O	O		O		O	O	O	
80A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
100A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
125A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
150A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
200A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
250A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
300A	O	O			O	O	O				O	O	O	O	O	O	
350A					O	O	O					O	O	O		O	
400A					O	O										O	
450A																O	
500A																O	
550A																O	
600A						△										O	
650A						△										O	
700A																O	
750A																O	
1000A																O	

O : Actual results △ : Possibility

CHECK VALVE												
	FC/CHECK						SC F/CHECK					
	WAFTER			FLAGE			WAFTER			FLAGE		
	5K	10K	16K	5K	10K	16K	5K	10K	16K	5K	10K	16K
50A	O	O	O				O	O	O			
65A	O	O	O				O	O	O			
80A	O	O	O				O	O	O			
100A	O	O	O				O	O	O			
125A	O	O	O				O	O	O			
150A	O	O	O				O	O	O			
200A	O	O	O	O	O	O	O	O	O	O	O	O
250A	O	O	O	O	O	O	O	O	O	O	O	O
300A	O	O	O	O	O	O	O	O	O	O	O	O
350A	O	O	O	O	O	O	O	O	O	O	O	O
400A	O	O	O	O	O	O	O	O	O	O	O	O
450A	O	O	O	O	O	O	O	O	O	O	O	O
500A	O	O	O	O	O	O	O	O	O	O	O	O
550A	O	O	O	O	O	O	O	O	O	O	O	O
600A	O	O	O	O	O	O	O	O	O	O	O	O
650A	O	O	O	O	O	O	O	O	O	O	O	O
700A	O	O	O	O	O	O	O	O	O	O	O	O
850A												
1000A												

STRAINER					
	STRAINER				
	WAFTER	SIMPLEX	OUPLEX		MUD
	F3121	F7209	F7224	F7208	5K
25A	O	O	O		
32A	O	O	O		
40A	O	O	O		
50A	O	O		O	O
65A	O	O		O	O
80A	O	O		O	O
100A	O	O		O	O
125A	O	O		O	O
150A	O			O	O
200A	O			O	O

STORM		
	F3060	
	STM A	STM G
25A		
32A		
40A		
50A	O	O
65A	O	O
80A	O	O
100A	O	O
125A	O	O
150A	O	O
200A	O	O

TILTING CHK			
MATERIAL	RATING	SIZE	TYPE
SC/SUS	5K/10K/16K	200/250/300/350/400 450/500/550/600/650	

Category

Classified by Materials

Valves Shell material

Besides it's standard material ASTM A216 (WCB),
DAV cast steel valves are optionally available with the materials listed below :

Working Temperature ˚F(℃)	Standard if materials		
	Material Designation	ASTM Spec.	JIS
Over 23 (-5) up to 800 (427)	Corbon Steel	A216 WCB	SCPH 2
850 (454)	C - ½ Mo	A217 WC1	SCPH 11
*1100 (593)	1 ¼ Cr - ½ Mo	A217 WC6	SCPH 21
	2 ¼ Cr - 1 Mo	A217 WC9	SCPH 32
*1200 (650)	5 Cr - ½ Mo	A217 C5	SCPH 61
	9 Cr - 1 Mo	A217 C12	
Down to -50 (-46)	Carbon Steel	A352 LCB	SCPL1
	Carbon Steel	A352 LCC	
- 75 (- 59)	C - ½ Mo	A352 LC1	SCPL 11
- 100 (- 73)	2 ½ Ni	A352 LC2	SCPL 21
- 150 (- 101)	3 ½ Ni	A352 LC3	SCPL 31
*Over -320 (-196) up to 1500 (815)	18 Cr - 8 Ni (Co 0.03)	A351 LC3	SCS 19
	18 Cr - 8 Ni (Co 0.08)	A351 CF8	SCS13
	18 Cr - 8 Ni - 2 Mo(Co	A351 CF3M	SCS16
	18 Cr - 8 Ni - 2 Mo(Co	A351 CF8M	SCS 14
	18 Cr - 10 Ni - Cb	A351 CF8C	
300 (149)	19 Cr - 29 Ni	A351 CN7M	

*For welding ended valves only end ratings terminate at 1000˚F

** Refer to ASME/ANSI B16.34 for details of A216,A217, A351 and A352.
Pressure-Temperatureratings.
The minimum working temperatres of ASTM A352 are based on ASME B31.3.

Valves trim material

Vlave trim

The trim is comprised of the following :

DESCRIPTION	Gate. Valve	Globe Valve	Check Valve
Body seat surface	○	○	○
Disc seat surface	○	○	◎
Stem(Hinge Pin)	○	○	-
Bonnet bush(Baclseat)	○	○	-
Others	Small internal parts	Small internal parts	Small internal parts
Specified by	API 600/BS 1414	BS 1873	BS 1868

Trim material

Following trims specified in API 600, Table 3, are available from DAV either as our standard or at your option.

Trim No.	Nominal trim	Body Seat surface*	Disc Seat surface*	Stem(hinge pin)	
Symbol				and bonnet bush	
1	F6	13Cr	13Cr	13Cr	
2	304	18Cr - 8Ni	18Cr - 8Ni	18Cr - 8Ni	Available optionally
5	Hardfaced(HF)	Stellite#6	Stellite#6	13Cr	
8	F6 & HF	Stellite#6	13Cr	13Cr	
9	Monel	Ni- Cu Alloy	Ni- Cu Alloy	Ni- Cu Alloy	Available optionally
10	316	18Cr - 10Ni - 2Mo	18Cr - 10Ni - 2Mo	18Cr - 10Ni - 2Mo	
11	Monel & HF	Stellite#6	Ni- Cu Alloy	Ni- Cu Alloy	
12	316 & HF	Stellite#6	18Cr - 10Ni - 2Mo	18Cr - 10Ni - 2Mo	
13	Alloy20	19Cr - 29Ni	19Cr - 29Ni	19Cr - 29Ni	
14	Alloy20 & HF	Stellite#6	19Cr - 29Ni	19Cr - 29Ni	

* Disk and body seatring base material shall be at least equal to the corrasion resistance of the material of shell

General specificaion and standards

VALVE TYPE			GATE	GLOBE	CHECK
Shell wall thickness			API 600	API 600	API 600
General valve design specifications			BS 1414	BS 1873	BS 1868
Pressure-Temperature ratings			ASME/ANSI B16.34		
Face to face or end to end dimensions			ASME B16.10		
End flange dimensions Gasket contact facing		Size 2~20", 24"	ASME/ANSI B16.5		
		22"	MSS SP - 44		
		22" and larger	ASME B16.47 Ser A (MSS SP-44) or B (API 605)		
Finishes for contact face of RF			ASME/ANSI B16.5		
Buttwelding end dimensions			ASME B16.25		
Inside diameter of flanged end minimum			ASME/ANSI B16.34		
Bolt and nut, thread			ASME/ANSI B1.1, B18.2.1, B18.2.2		
Material of shell, trim, bolt, nut, and others			API 600, ASTM Respective specification		
Marking system			MSS SP - 25		
Test and Inspecton	Chemical composition analysis		Relevant ASTM		
	Mechanical property test		Relevant ASTM/ASTM A370		
	Pressure test		API 598, BS 5146 and ASME/ANSI B16.34		
	Radiographic inspection		ASME/ANSI B16.34, ASTM E142/E94		
	Wet magnetic particle inspection		ASME/ANSI B16.34, ASTM E709/A275		
	Liquid penetrant inspection		ASME/ANSI B16.34, ASTM E165		
	Low temperature impact test		ASTM A352/E23		
	Dimensional inspection		Relevant valve standards		
	Visual inspection		MSS SP - 55		

Nace valves

For servicing sour gases or other Hydrogen Sulfide bearing hydrocarbon fluids, DAV offers NACE valves made of component material specially heat-treatment and hardness controlled in conformity with NACE MR-01-75 standard.

Typical NACE material configuration is shown below for DAV cast carbon steel gate valves. A note should be taken on the fact that NACE hardness requirment conflicts with the one of valve seating surface specified by API600, Table 3. DAV NACE valves are available only at your option.

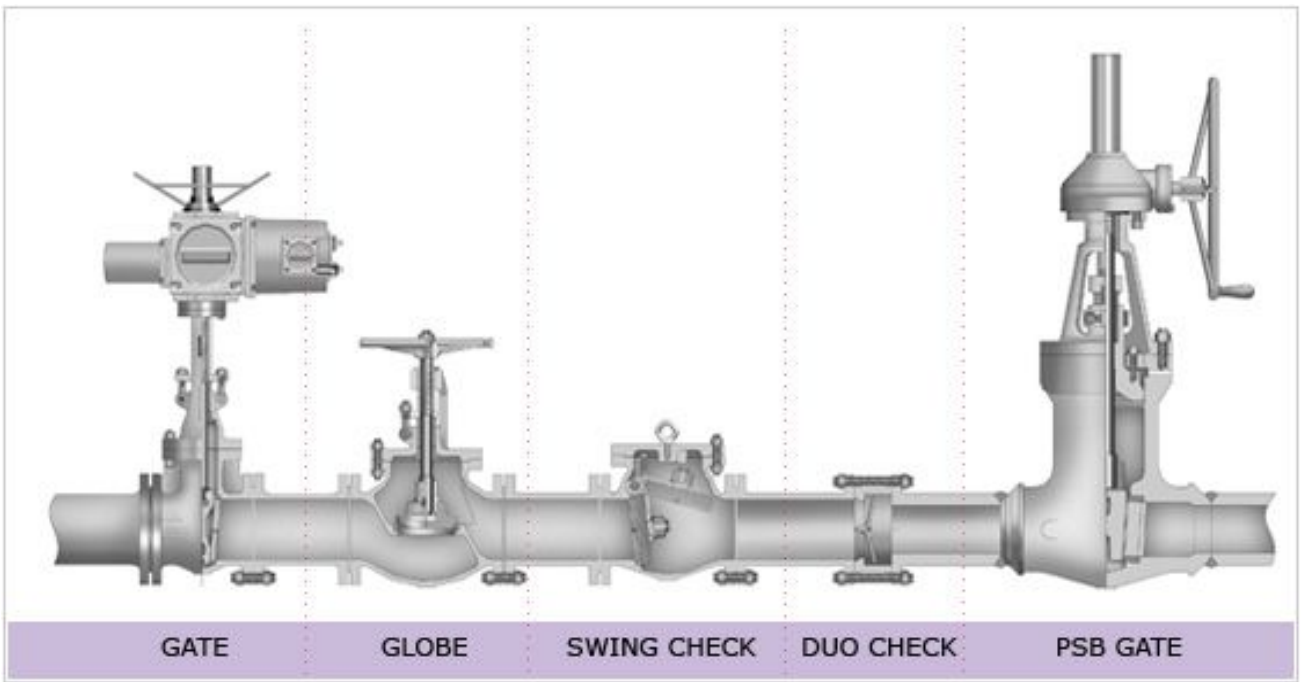
VALVE PARTS	ASTM SPECIFICATION	NACE HARDNESS	API 600 HARDNESS
Body / bonnet	A216 WCB	Max. HRC 22	—
Disc	A216 WCB or AISI Type 410	HB 237	—
Disc seat surface	13Cr deposit or AISI Type 410		Min. 300 HB
Body seat ring	A105 or AISI Type 410		—
Body seat ring surface	Hardface	—	—
Stem	AISI Type 410	Max. HRC 22	200~275 HB
Bonnet bush		HB 237	Min. 250 HB
Packing gland			—
Lantern ring			—
Bonnent bolts	A193 B7	—	—
	A193 B7M	Max. HRC 22 (HB 237)	—
Bonnet nuts	A194 2H	—	—
	A194 2M	Max. HRC 22 (HB 237)	—

* Only when specially required

Category

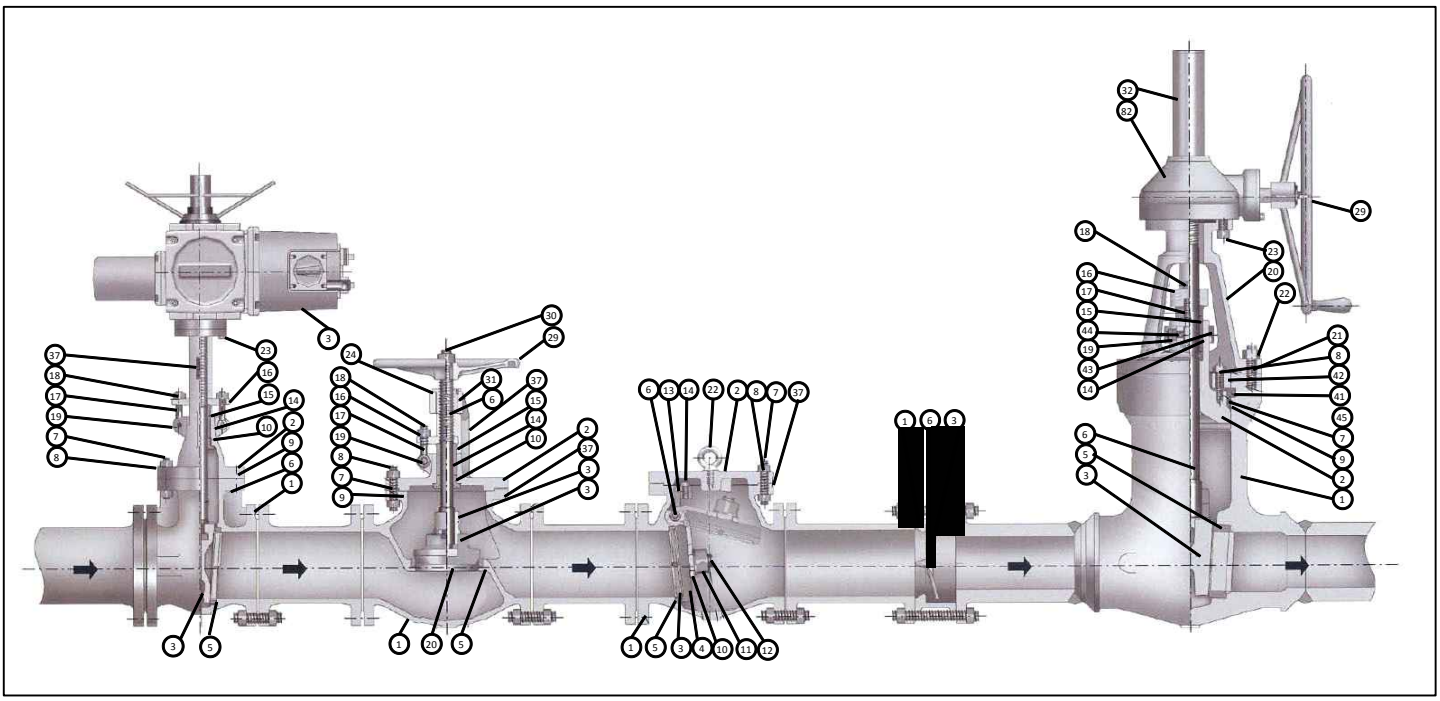
Classified by Structure

	Type	Application standard	Service
GATE	-Bolted bonnet(BB)	- API600	- on/off
	-Motor operator(MOV)	- AME B16.34	
	-Flanged ends	- BS 1414	
GLOBE	-Bolted bonnet(BB)	- AME B16.34	- THROTTLE
	-hand wheel operator	- BS 1873	- on/off
	-Flanged ends		
SWING CHECK	-Bolted bonnet(BB)	- AME B16.34	- CHECK
	-Self	- BS 1868	
	-Flanged ends		
DUO CHECK	-Dual plate	- API600	- CHECK
	-Self		
	-Wafer type		
PSB GATE	-Presssrue seal bonnet	- AME B16.34	- on/off
	-Bevel Gear Operator(PSB)		(High temperature, high pressure)
	-Buttwelding ends		



	GATE(BB)	GLOBE(BB)	CHECK(BB)	GATE(PSB)
1	BODY	←		BODY
2	BONNET	←	COVER	BONNET
3	DISK	←		←
4		DISK GL/HD	ARM	←
5	SEAT RING	←		←
6	STEM	←	HINGE PIN	STEM
7	BONNET BOLT	←	COVER BOLT	BONNET BOLT
8	BONNET NUT	←	COVER NUT	BONNET NUT
9	GASKET	←		←
10	BONNET BACK BUSH	←	DISK WASHER	←
11	PACKING RING	←	DISK NUT	PACKING RING
12	LANTER RING	←		LANTERRING
13	PLUG	←	HINGE	PLUG
14	PACKING	←	HINGE BOLT	PACKING RING
15	GLAND RING	←	BLIND FLANGE	GLAND RING
16	GLAND PLATE	←	HINGE GASKET	GLAND PLATE
17	GLAND(EYE) BOLT	←	B/FLANGE NUT	EYE BOLT
18	GLAND(EYE) NUT	←	PLUG	EYE BOLT NUT
19	EYE BOLT PIN	←	PLUG RETAINER	CLAMP BOLT
20	YOKE	STOPPER	PLUG RETAINER NUT	YOKE
21	YOKE BOLT	?	EYE BOLT	YOKE BOLT
22	YOKE NUT	←		YOKE NUT
23	MOUNTING BOLT	←		MOUNTING BOLT
24	SLEEVE	←		SLEEVE
25	SLEEVE GLAND	←		SLEEVE GLAND
26	THRUST BALL BEARING	←		THRUST BALL BEARING
27	GREESE NIPPLE	←		GREESE NIPPLE
28	KEY	←		KEY
29	HAND WHEEL	←		HAND WHEEL
30	HAND WHEEL NUT	←		HAND WHEEL NUT
31	SET SCREW	←		SET SCREW
32	STEM COVER	←		STEM COVER
33		WHEEL WASHER		
34		STEM GUIDE		

	GATE(BB)	GLOBE(BB)	CHECK(BB)	GATE(PSB)
35		GUIDE BOLT		
36		GUIDE NUT		
37	NAME PLATE	←	←	
38				
39				
40				
41				RETAINING RING
42				BONNET PLATE
43				EYE BOLT CLAMP
44				CLAMP NUT
45				GASKET RING
46				BONNET CLAMP
47				
81	MOTOR ACTURATOR	←		MOTOR ACTURATOR
82	BEVEL GEAR	←		BEVEL GEAR
83	CHAIN WHEEL	←		←
84	CHAIN	←		←
85	GUIDE	←		←
86	?/RING	←		←
87	ADJUSTABLE PAD	←		←
88	PAD	←		←
89	HEX BOLT	←		←
90	NUT	←		←
91				
92				
93				
94				
95				
96				
97				
98				
99				
100				



General Description of Gate Valve

1. Body

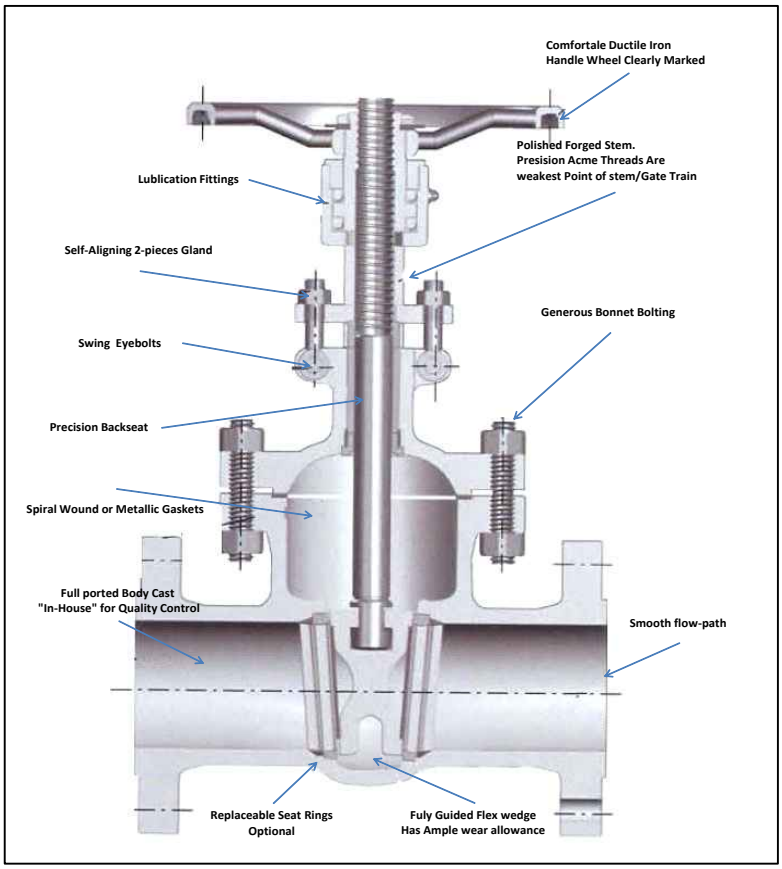
The body is cast steel. And is carefully designed in all its details to comply with ASME,API or BS Standards. The Body-to-onnet flange is bolted and the face is circular except in the 150 LB. Class which is oval. The sealing surfaces for connection to the bonnet may be flat Finish, recessed, ring joint flange. The body may be threaded or arranged for weld fitted renewable seats.
Ends of the body are supplied ready for welding, or for flaged connections.

2. Bonnet

The bonnet is in caststeel. It is arranged to incorportable a stuffing box dimensioned in accordance with the API standard.

3. Bonneting bolting

Bonnet securing studs and nuts are manufactured from alloy steel to the relevant ASTM standard.



4. Lentern ring

If required a lantern ring can be fitted to valves.

5. Gland Bolts and Nuts

The gland stud os of the eyebolt type which can be swung ouward for ease of gland repacking.

6. Gland and Flange

They are supplied in two separate pieces to ensure proper pressure is exeted on the packing.
And optimum operation of valves under maximum pressure.

7. Yoke sleeve

The yoke sleeve is made from cast aluminium Bronze having high resistance to wear and high melting point. It is designed to permit removal from the bonnet or yoke while Valve in service.

8. Hand Wheel

The handwheel can be supplied either in the form of a casting, or fablicated from steel tube.

9. Packing

For general applicatiions, high grade graphited strong asbestos woven fiber packing is supplied. Other kinds of packing can be used.

10. Back seat

For backseat can be supplied with a threaded stainless steel bushing. Either welded to the bonnet or of the integral type.
It ca also be hardfaced with stellite or other material as required. Backseat forms part of the trim.

11. Stem

For stem is in stainless steel , and is part of the trim. The stem is made in a single piece. And is provided with a slot for connection to the wedge. A backseat is also provided to ensure a perfectly tight seal to the stuffling box when the valve is fully open and allow stuffing to be renewed with the valve in service. The treading on the stem is ACME type, and dimensions comply with the API600 standard.

12. Gasket

Joint can be asbestos metal spiral type or jacketel. Other types of joint can be supplied to the specifications.

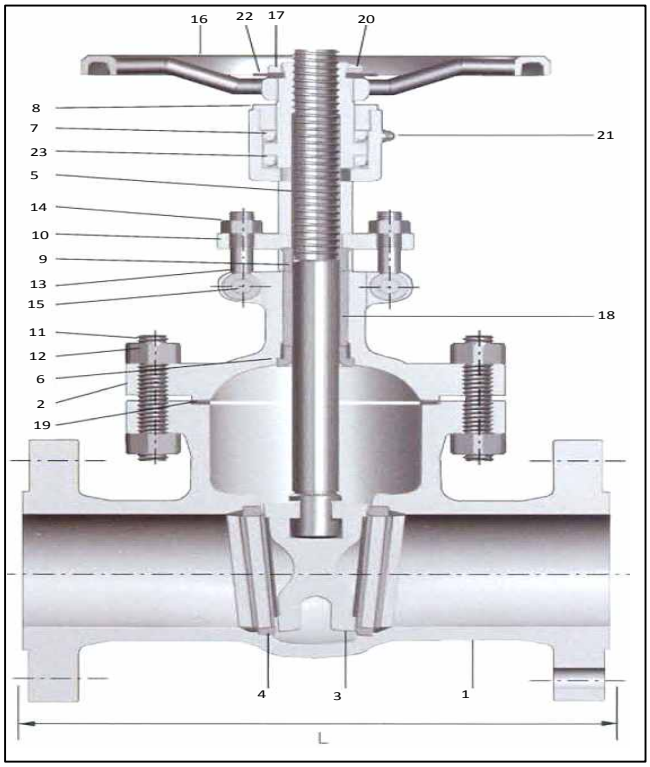
13. Sea rings

The rings are part of the trim. And are in forged stainless steel, or provided with stellite facing. They are normally supplied threaded to the body.and posses a notch on their inner surface to facilitate installing and dismantling. Special attention is given to the sealing surfaces, which are lapped for a perfectly tight seal.

11. Wedge

The wedge is part of the trim. It is normally in forged stainless steel for diameters up to 8" , and in cast steel for larger valves, with stellite build up if required It can be supplied as solid or flexible wedge type are machined. Special attention is given to the seating surfaces which are lapped.

Basic Design



Briefs

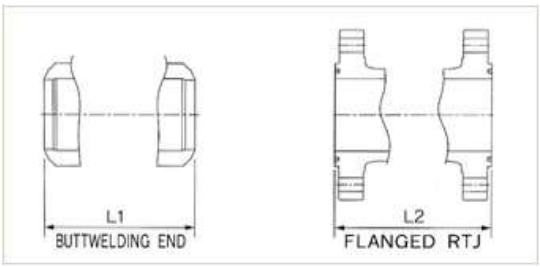
Products :	Gate Valve
Size :	-
Materials :	Cast Carborn, Alloy, Stainless Steel
Origin :	Korea
Factory :	Busan, Korea

Features

Cast carbon, Alloy and stainless steel, Bolted bonnet , outside screw and yoke, Rising stem, Renewable or welded seats.

End Connection

- R.F Flanged ends
- B.W Ends
- R.T.F flanged ends
- size26" and larger, flanged ends according to API605 or ASME B16.47 Series A(MMS-SP-44), Series B(API605)



Standrd Material Specifications

No	Part name	Carbon steel		Alloy steel			S. steel
		WCB	LCB	WC6	WC9	C5	CF 8M
1	BODY	A216 Gr WCB	A 352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 GR C5	A351 -CF 8M
2	BONNET	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351- CF8M
3	WEDGE	A217 CA15	A352 CF8	A217 CA15	A217 CA15	A217 CA15	A351- CF8M
		WCB+13CR	LCB+304SS	WC6+13CR	WC9+13CR	C5+13CR	
4	SEAT RING	A105+STL#6	304SS+STL#6	304SS+STL#6	304SS+STL#6	304SS+STL#6	316SS+STL#6
5	STEM	A479 Gr410	A276 Gr304	A479 Gr410	A479 Gr410	A479 Gr410	A276 Gr316
6	BACK SEAT RING	A479 Gr410	A276 Gr304	A479 Gr410	A479 Gr410	A479 Gr410	A276 Gr316
7	YOKE SLEEVE	A439 D2C	A439 D2C	A439 D2C	A439 D2C	A439 D2C	A439 D2C
8	SLEEVE GLAND	CARBON STEEL					304SS
9	PACKING GLAND	A479 Gr410	A276 Gr304	A479 Gr410	A479 Gr410	A479 Gr410	A276 Gr316
10	GLAND FLANGE	A105 / WCB	A105 / WCB	A105 / WCB	A105 / WCB	A105 / WCB	A351- CF8M
11	BONNET BOLT	A193 B7	A320 L7	A193 B16	A193 B16	A193 B16	A193 B16
12	BONNET NUT	A194 2H	A194 4	A194 4	A194 4	A194 4	A194 4
13	GLAND BOLT	A307 B	A307 B	A307 B	A307 B	A307 B	A193 B8
14	GLAND NUT	A563 A	A563 A	A563 A	A563 A	A563 A	A194 8
15	HINGE PIN	CARBON STEEL					304SS
16	HAND WHEEL	A395	A395	A395	A395	A395	A395
17	WHEEL NUT	CARBON STEEL					304SS
18	PACKING	GRAPHITE(CENTER RINGS)+CARBON FIBER(TOP&BOTTOM RINGS)					
19	GASKET	GRAPHITE WITH S.S SPIRAL WOUND or METAL RING					
20	SET SCREW	A307 B	A307 B	A307 B	A307 B	A307 B	304SS
21	GREASE NIPPLE	STEEL	STEEL	STEEL	STEEL	STEEL	BRASS
22	NAME PLATE	REQUIREMENT					
23	BEARING	A295	A295	A295	A295	A295	A295

Note :

- **Construction and materials may vary between size and pressure classes and are subject to change without notice.**
- **This is not complete list of all available materials.**
- **STL: SELLITE #6**

DIMENSIONS (Gate Valve)

CLASS 150

size	mm	40	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
	inch	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36
L(RF)	mm	165	178	191	203	229	267	292	330	356	381	407	432	457	508	610	711
	inch	6½	7	7½	8	9	10½	11½	13	14	15	16	17	18	20	24	28
L1(BW)	mm	165	216	2541	283	305	403	419	457	502	572	610	660	711	813	914	1016
	inch	6½	8½	9½	11½	12	15⅞	16½	18	19¾	22½	24	26	28	32	36	40
L2(RTJ)	mm	178	191	203	216	241	279	305	343	368	394	419	445	470	521		
	inch	7	7½	8	8½	9½	11	12	13½	14½	15½	16½	17½	18½	20½		
H	mm	324	367	397	458	560	763	960	1166	1369	1515	1824	1900	2124	2502	3200	3561
	inch	12.76	14.45	15.63	18.03	22.05	30.04	37.80	45.91	53.90	59.65	71.80	74.80	83.50	98.50	126.00	140.20
D	mm	180	200	200	224	250	315	355	400	450	500	560	630	710	800	900	1092
	inch	7.09	7.87	7.87	8.82	9.84	12.40	13.98	15.75	17.72	19.69	22.05	24.80	27.95	31.50	35.43	43.00

CLASS 300

size	mm	40	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
	inch	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36
L(RF) L1(BW)	mm	191	216	241	283	305	403	419	457	502	762	838	914	991	1143	1397	1727.2
	inch	7½	8½	9½	11⅛	12	15⅞	16½	18	19¾	30	33	36	39	45	55	68
L2(RTJ)	mm	203	232	257	293	321	419	435	473	518	778	854	930	1010	1165	1422	1753
	inch	8	9½	10⅛	11⅞	12⅝	16½	17⅛	18⅝	20⅜	30⅝	33⅝	36⅝	39¾	45⅞	56	59
H	mm	381	405	440	500	592	816	1042	1227	1442	1588	1890	2040	2197	3078	3241	4040
	inch	15.00	15.94	17.32	19.69	23.31	32.13	41.02	48.31	56.77	62.52	74.41	80.31	86.50	121.18	127.60	159.06
D	mm	200	200	200	224	250	355	400	450	500	560	630	710	800	900	1296	1600
	inch	7.87	7.87	7.87	8.82	9.84	13.98	15.75	17.72	19.69	22.05	24.80	27.95	31.50	35.43	51.02	62.99

CLASS 600

size	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
	inch	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36
L(RF) L1(BW)	mm	292	300	356	432	559	660	787	838	889	991	1092	1194	1397	1651	2083
	inch	11½	13	14	17	22	26	31	33	35	39	43	47	55	65	82
L2(RTJ)	mm	292	333	359	435	562	664	790	841	892	994	1095	1200	1406	1664	2096
	inch	11⅝	13⅛	14⅛	17⅛	22⅛	26⅛	31⅛	33⅛	35⅛	39⅛	43⅛	47¼	55⅜	65½	82½
H	mm	419	457	511	635	958	1078	1241	1440	1628	1805	1984	2030	2718	3962	4201
	inch	15.00	15.94	17.32	25.00	37.72	42.44	48.86	56.69	64.09	71.06	78.11	79.92	107.01	155.98	165.39
D	mm	200	224	250	355	450	500	630	710	800	900	900	1092	1092	1600	1600
	inch	7.87	8.82	9.84	13.98	17.72	19.69	24.80	27.95	31.50	35.43	35.43	42.99	42.99	62.99	62.99

CLASS 900

size	mm	50	80	100	150	200
	inch	2	3	4	6	8
L(RF) L1(BW)	mm	368	381	457	610	737
	inch	14½	15	18	24	29
L2(RTJ)	mm	371	384	460	613	740
	inch	14⅝	15⅛	18⅛	24⅛	29⅛
H	mm	474	585	702	958	1295
	inch	15.00	15.94	17.32	37.72	50.98
D	mm	250	355	355	500	630
	inch	9.84	13.98	13.98	19.69	24.80

CLASS 1500

size	mm	50	80	100	150	200
	inch	2	3	4	6	8
L(RF) L1(BW)	mm	368	470	546	750	832
	inch	14⅝	18½	21½	27¾	32¾
L2(RTJ)	mm	371	473	549	711	841
	inch	14⅝	18⅝	21⅝	28	331
H	mm	474	603	729	944	1359
	inch	15.00	15.94	17.32	37.17	53.50
D	mm	250	355	400	560	800
	inch	9.84	13.98	15.75	22.05	31.50

Tilting Check Valves

1. Body

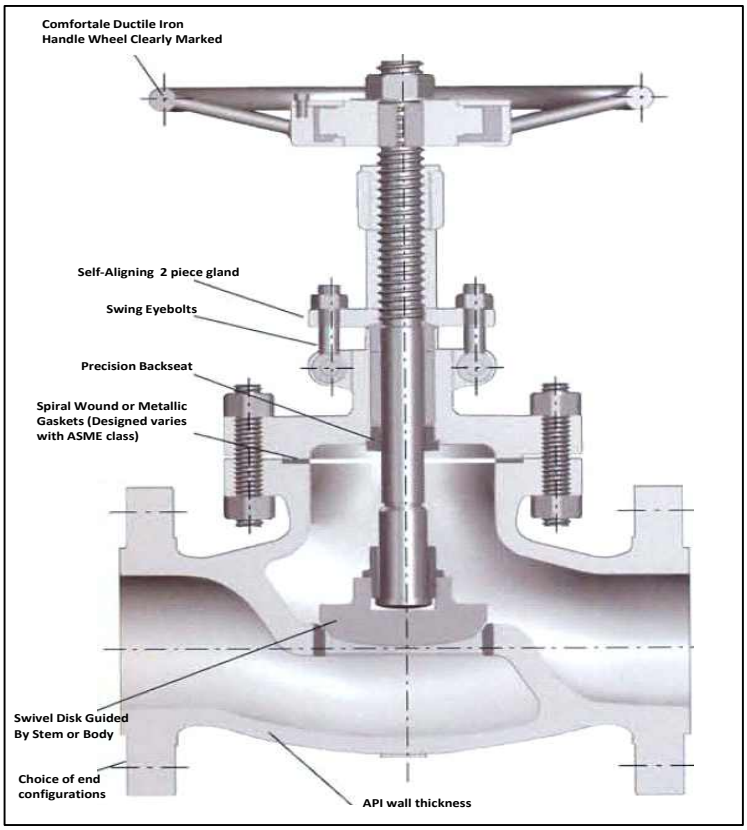
The body is cast steel. And is carefully designed in all its details to comply with ASME,API or BS Standards. The Body-to-onnet flange is bolted and the face is circular. The sealing surfaces for connection to the bonnet may be flat finish, recessed RTJ. The body may be threaded or arranged for weld fitted renewable seats. 8"diameter bodies and lager sizes are provided with 3 guides at 120º to guide the disk and ensure a good seal between the seating surfaces. Ends of the body are supplied ready for welding or flanged connections.

2. Bonnet

The bonnet is in caststeel. It is designed to incorporte a stuffing box dimensioned in accordance with the API standard.

3. Bonneting bolting

Bonnet securing studs and nuts are manufactured from alloy steel to the relevant ASTM standard.



4. Lentern ring

If required a lantern ring can be fitted to valves.

5. Gland Bolts and Nuts

The gland stud os of the eyebolt type which can be swung ouward for ease of gland repacking.

6. Gland and Flange

They are supplied in two separate pieces to ensure proper pressure is applied to the packing. And optimum operation of valves under maximum pressure.

7. Yoke sleeve

The yoke sleeve is made from cast aluminium Bronze having high resistance to wear and high melting point. It is designed to permit removal from the bonnet or yoke while Valve in service.

8. Hand Wheel

The handwheel can be supplied either in the form of a casting, or fablicated from steel tube.

9. Packing

For general applicatiions, high grade graphited strong asbestos woven fiber packing is supplied. Other kinds of packing can be used.

10. Back seat

For backseat can be supplied with a threaded stainless steel bushing. Either welded to the bonnet or of the integral type. It ca also be hardfaced with stellite or other material as required. Backseat forms part of the trim.

11. Stem

For stem is in stainless steel , and is part of the trim. The stem is attached to the disk by means of threaded ring which allows the disk to rotate. A backseat is also provided to ensure a perfectly tight seal to the stuffling box when the valve is fully open and allow stuffing to be renewed with the valve in service. The treading on the stem is ACME type, and dimensions comply with the BS1873 standard.

12. Gasket

Joint can be asbestos metal spiral type or jacketel. Other types of joint can be supplied to the specifications.

13. Sea rings

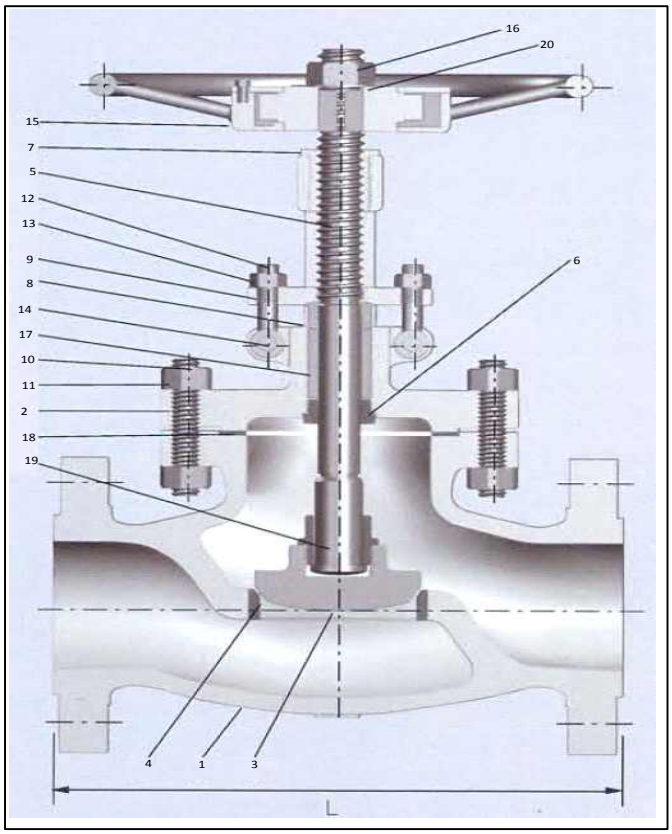
The rings are part of the trim. And are in forged stainless steel, or provided with stellite facing. They are normally supplied threaded to the body.and posses a notch on their inner surface to facilitate installing and dismantling. Special attention is given to the sealing surfaces, which are lapped for a perfectly tight seal.

14. Disk

The disk is part of the trim. It is normally in forged stainless steel for diameters up to 8" , and in cast steel for larger valves, with stellite build up if required. In addition to being supplied in the standard shape. The valve disk can be of the parabolic or cage regulating type. Special attention is given to the seating surfaces which are lapped.

Petroleum Chemical Plant Valves

Globe Valve



Briefs

Products :	Globe Valve
Size :	-
Materials :	Cast carborn,
Origin :	Korea
Factory :	Busan, Korea

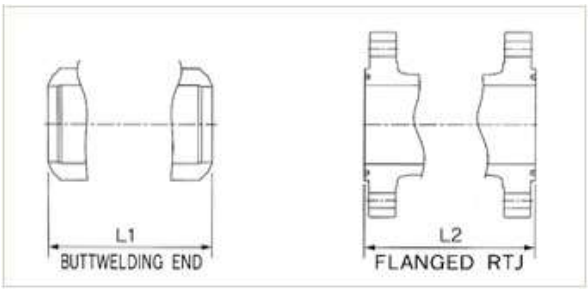
Features

Globe valves : Bloted Bonnet, outside screw and yoke, Rising stem, plug type disc

Basic Design

End connection

- R.F Flanged ends
- B.W Ends
- R.T.F flanged ends



Standrd Material Specifications

No.	PART NAME	CARBON STEEL		ALLOY STEEL			S. STEEL
		WCB	LCB	WC6	WC9	C5	CF 8M
1	BODY	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351- CF8M
2	BONNET	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351- CF8M
3	DISC	A217 CA15	A352 CF8	A217 CA15	A217 CA15	A217 CA15	A351- CF8M
		WCB+13CR	LCB+304SS	WC6+13CR	WC9+13CR	C5+13CR	
4	SEAT RING	A105+STL#6	304SS+STL#6	304SS+STL#6	304SS+STL#6	304SS+STL#6	316SS+STL#6
5	STEM	A479 Gr410	A276 Gr304	A479 Gr410	A479 Gr410	A479 Gr410	A276 Gr316
6	BACK SEAT RING	A479 Gr410	A276 Gr304	A479 Gr410	A479 Gr410	A479 Gr410	A276 Gr316
7	YOKE SLEEVE	A439 D2C	A439 D2C	A439 D2C	A439 D2C	A439 D2C	A439 D2C
8	PACKING GLAND	A479 Gr410	A276 Gr304	A479 Gr410	A479 Gr410	A479 Gr410	A276 Gr316
9	GLAND FLANGE	A105 / WCB	A105 / WCB	A105 / WCB	A105 / WCB	A105 / WCB	A351- CF8M
10	BONNET BOLT	A193 B7	A320 L7	A193 B16	A193 B16	A193 B16	A193 B16
11	BONNET NUT	A194 2H	A194 4	A194 4	A194 4	A194 4	A194 4
12	GLAND BOLT	A307 B	A307 B	A307 B	A307 B	A307 B	A193 B8
13	GLAND NUT	A563 A	A563 A	A563 A	A563 A	A563 A	A194 8
14	HINGE PIN			CARBON STEEL			304SS
15	HAND WHEEL	A395	A395	A395	A395	A395	A395
16	WHEEL NUT	A563 A	A563 A	A563 A	A563 A	A563 A	A194 8
17	PACKING	GRAPHITE(CENTER RINGS)+CARBON FIBER(TOP & BOTTOM RINGS)					
18	GASKET	GRAPHITE WITH S.S SPIRAL WOUND or METAL RING					
19	DISC LOCK NUT	A479 Gr410	A276 Gr304	A479 Gr410	A479 Gr410	A479 Gr410	A276 Gr316
20	NAME PLATE	REQUIREMENT					

Note.

- Construction and materials may vary between sizes and pressure classes and are subject to change without
- This is not complete list of all available materials.
- STL : STELLITE#6

CLASS 150

size	mm	40	50	65	80	100	150	200	250	300	350	400	450	500
	inch	1½	2	2½	3	4	6	8	10	12	14	16	18	20
L(RF) L1(BW)	mm	165	178	191	203	229	267	292	330	356	381	407	432	457
	inch	6½	7	7½	8	9	10½	11½	13	14	15	16	17	18
L2(RTJ)	mm	178	216	229	254	305	419	508	635	711	800	927	991	991
	inch	7	8½	9	10	12	16½	20	25	28	31½	36½	39	39
H	mm	290	316	330	364	414	505	623	803	839	1346	1549	1778	2006
	inch	11.42	12.44	12.99	14.33	16.30	19.88	24.53	31.61	33.03	52.99	60.98	70.00	78.98
D	mm	180	200	224	250	35	355	355	400	400	450	450	800	800
	inch	7.09	7.87	8.82	9.84	1.38	13.98	13.98	15.75	15.75	17.72	17.72	31.50	31.50

CLASS 300

size	mm	50	65	80	100	150	200	250	300	350	400
	inch	2	2½	3	4	6	8	10	12	14	16
L(RF) L1(BW)	mm	267	292	318	356	445	559	622	711	838	864
	inch	10½	11½	12½	14	17½	22	24½	28	33	34
L2(RTJ)	mm	283	308	333	371	460	575	638	727	854	880
	inch	11⅛	12⅛	13⅛	14⅝	18⅛	22⅝	25⅛	28⅝	33⅝	34⅝
H	mm	350	391	420	492	620	793	1145	1260	1404	1600
	inch	15.00	15.94	17.32	19.37	24.41	31.22	45.08	49.61	55.28	62.99
D	mm	200	224	250	315	355	400	450	500	710	710
	inch	7.87	8.82	9.84	12.40	13.98	15.75	17.72	19.69	27.95	27.95

CLASS 600

size	mm	50	60	80	100	150	200	250	300
	inch	2	2½	3	4	6	8	10	12
L(RF) L1(BW)	mm	292	330	356	432	559	660	787	838
	inch	11½	12	14	17	22	26	31	33
L2(RTJ)	mm	295	333	359	435	562	664	790	841
	inch	11⅝	13⅛	14⅛	17⅛	22⅛	26⅛	31⅛	33⅛
H	mm	392	432	478	530	675	721	972	1074
	inch	15.00	15.94	17.32	20.87	26.57	28.39	38.27	42.28
D	mm	224	280	315	315	450	450	630	710
	inch	8.82	11.02	12.40	12.40	17.72	17.72	24.80	27.95

CLASS 900

size	mm	50	80	100	150
	inch	2	3	4	6
L(RF) L1(BW)	mm	368	381	457	610
	inch	14½	15	18	24
L2(RTJ)	mm	371	384	460	613
	inch	14⅝	15⅛	18⅛	24⅛
H	mm	497.1	513.1	603	958
	inch	19.57	20.20	23.74	37.72
D	mm	315	315	355	450
	inch	12.40	12.40	13.98	17.72

CLASS 1500

size	mm	50	60	80	100	150
	inch	2	2½	3	4	6
L(RF) L1(BW)	mm	368	419	470	546	705
	inch	14⅝	16½	18½	21½	27¾
L2(RTJ)	mm	371	422	473	549	711
	inch	14⅝	16⅝	18⅝	21½	28
H	mm	497	510	585	713	914
	inch	19.57	20.08	23.03	28.07	35.98
D	mm	315	355	400	400	500
	inch	12.40	13.98	15.75	15.75	19.69

General Description of Swing Check Valves

1. Body

The body is cast steel. And is carefully designed so as to keep pressure drop to minimum. And to comply with the relevant ANSI,API or BS standards. A wide opening on top of the body permits easy inspection and maintenance. The body to vap flange is circular and bolt secured. The connection sealing may be flat, raised face, or ring joint, to suit the valve rating. The body may be threaded for renewable seat, or it may be designed for a welded seat insert, and an integral over-travel stop is incorporated for the disk.
Valve ends may be raised face flanges or butt weld type.

2. Bonnet

The cap is in cast steel. The connection sealing may be raised face, or ring joint, to suit the valve rating.

3. Bonneting bolting

Bonnet securing studs and nuts are manufactured from alloy steel to the relevant ASTM standard.

4. Hindge pin

The hindge pin is part of the trim and is made in stainless steel. It can be easily removed for maintenance.

5. Seat Ring

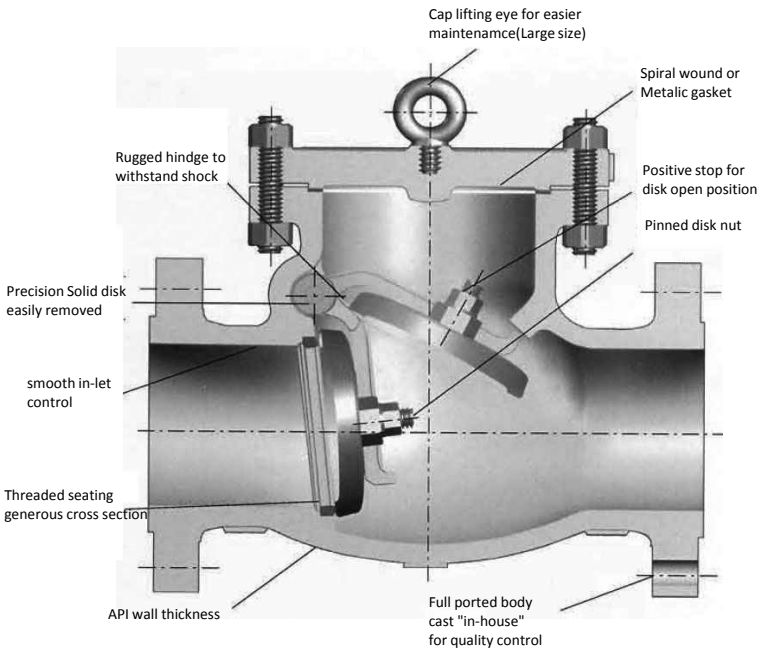
The ring is part of trim and is in forged stainless steel, or steel with stellite or other suitable build up. Its outer diameter is generally threaded and its bore notched to ease installation and dismantling. Sealing rings may also be weld fitted into the the body. Special attention is given to the sealing face, which is lappedd for a perfectly tight seal.
The yoke sleeve is made from cast aluminium Bronze having high resistance to wear and high melting point.
It is designed to permit removal from the bonnet or yoke while Valve in service.

6. Disk

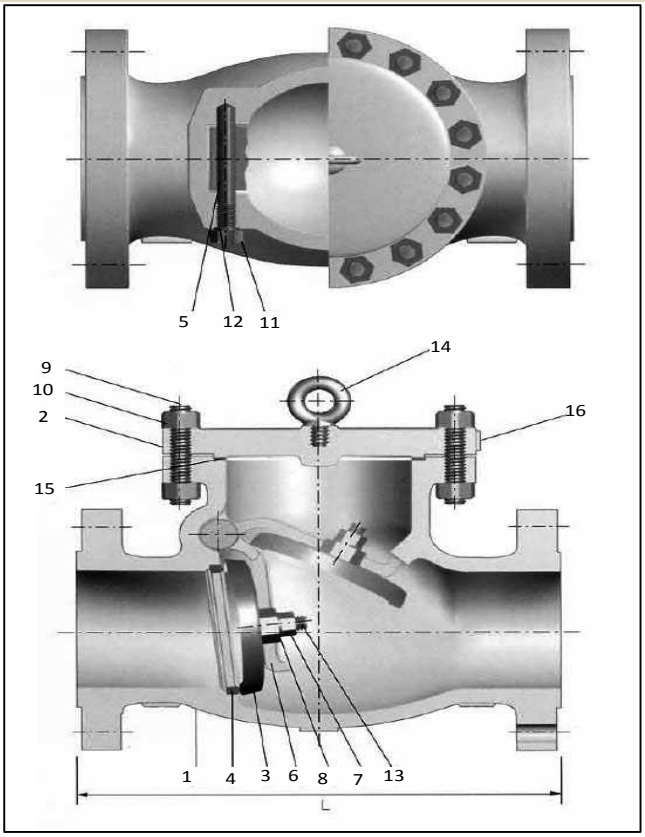
The disk is part of the trim. It is normally in forged stainless steel for diameters up to 4" , and in cast steel for larger valves.
It can be supplied with stellite build up or other coating as required for application. On the back face, there is a threaded spigot for attachment to the hinge arm by a nut and spilit pin. Special attention is given to the sealing face, which is lapped for ferfectly tight seal.

7. Hindge arm

It is normally supplied forged up to 8" and cast steel of 10 onwards.



Swing Check Valve



Briefs

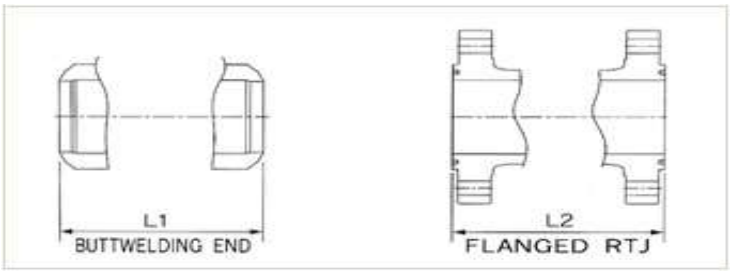
Products : Swing Check
Size : -
Materials : Cast carborn, Alloy, Stainless steel
Origin : Korea
Factory : Busan, Korea

Features

- Swing check valves : Bolted cover, Swing type disc insidehinge pin, Outside hinge pin type.

End connection

- R.F Flanged ends
- B.W Ends
- R.T.F flanged ends
- size26" and larger, flanged ends according to API605 or ASME B16.47 Series A(MMS SP-44), Series B(API605)



Standrd Material Specifications

No.	PART NAME	CARBON STEEL		ALLOY STEEL		S. STEEL	
		WCB	LCB	WC6	WC9	C5	CF 8M
1	BODY	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351- CF8M
2	COVER	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351- CF8M
3	DISC	A217 CA15	A352 CF8	A217 CA15	A217 CA15	A217 CA15	A351- CF8M
		WCB+13CR	LCB+304SS	WC6+13CR	WC9+13CR	C5+13CR	
4	SEAT RING	A105+STL#6	304SS+STL#6	304SS+STL#6	304SS+STL#6	304SS+STL#6	316SS+STL#6
5	HINGE PIN	A479 Gr410	A276 Gr304	A479 Gr410	A479 Gr410	A479 Gr410	A276 Gr316
6	ARM	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351- CF8M
7	DISC NUT	A194 8	A194 8	A194 8	A194 8	A194 8	A194 8M
8	WASHER	304SS	304SS	304SS	304SS	304SS	316SS
9	COVER BOLT	A193 B7	A320 L7	A193 B16	A193 B16	A193 B16	A193 B16
10	COVER NUT	A194 2H	A194 4	A194 4	A194 4	A194 4	A194 4
11	PLUG	A307 B	A276 Gr304	A479 Gr410	A479 Gr410	A479 Gr410	A276 Gr316
12	PLUG GASKET	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE
13	SPLIT PIN	304SS	304SS	304SS	304SS	304SS	304SS
14	EYE BOLT	A105	A105	A105	A105	A105	304SS
15	GASKET	GRAPHITE WITH S.S SPIRAL WOUND or METAL RING					
16	NAME PLATE	REQUIREMENT					

Note.

- Construction and materials may vary between sizes and pressure classes and are subject to change without notice.

- This is not complete list of all available materials.

- STL : STELLITE#6

DIMENSIONS (Swing Check Valve)

CLASS 150

size		40	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
	inch	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36
L(RF) L1(BW)	mm	165	203	216	241	229	356	495	622	699	787	864	978	978	1295	1524	1956
	inch	6½	8	8½	9½	11½	14	19½	24½	27½	31	34	38½	38½	51	60	77
L2(RTJ)	mm	178	216	229	254	305	368	508	635	711	800	876	991	991	1308	1537	1968
	inch	7	8½	9	10	12	14½	20	25	28	31½	34½	39	39	51½	60½	77½
H	mm	130	160	170	190	225	260	320	350	380	401	460	505	564	683	914	1054
	inch	5.12	6.30	6.69	7.48	8.86	10.24	12.60	13.78	14.96	15.79	18.11	19.88	22.20	26.89	35.98	41.50

CLASS 300

size		50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
	inch	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36
L(RF) L1(BW)	mm	267	292	318	356	445	533	622	711	838	864	978	1060	1346	1524	2083
	inch	10½	11½	12½	14	17½	21	24½	28	33	34	38½	40	53	62¾	82
L2(RTJ)	mm	283	308	333	371	460	549	638	727	854	879	994	1035	1368	1619	2108
	inch	11⅛	12⅛	13⅛	14⅝	18⅛	21⅝	25⅛	28⅝	33⅝	34⅝	39⅛	40¾	53⅞	63¾	83
H	mm	160	189	199	227	278	322	383	435	510	521	572	629	712	940	1092
	inch	15.00	15.94	17.32	8.94	10.94	12.68	15.08	17.13	20.08	20.51	22.52	24.76	28.03	37.01	42.99

CLASS 600

size		50	80	100	150	200	250	300	350	400	450	500	600
	inch	2	3	4	6	8	10	12	14	16	18	20	24
L(RF) L1(BW)	mm	292	356	432	559	660	787	838	889	991	1092	1194	1397
	inch	11½	14	17	22	26	31	33	35	39	43	47	55
L2(RTJ)	mm	295	359	435	562	664	791	841	892	994	1095	1200	1407
	inch	11⅛	14⅛	14⅛	22⅛	26⅛	31⅛	33⅛	35⅛	39⅛	43⅛	47¼	55⅜
H	mm	187	210	256	329	363	464	486	572	660	711	787	864
	inch	7.38	8.25	10.06	12.94	14.31	18.25	19.13	22.50	26.00	28.00	31.00	34.00

CLASS 900

size		50	80	100	150	200	250	300
	inch	2	3	4	6	8	10	12
L(RF) L1(BW)	mm	368	381	457	610	737	838	964
	inch	14½	15	18	24	29	33	38
L2(RTJ)	mm	371	384	460	613	740	841	968
	inch	14⅝	15⅛	18⅛	24⅛	29⅛	33⅛	38⅛
H	mm	267	290	306	338	460	500	578
	inch	10.51	11.42	12.05	13.31	18.11	19.69	22.76

CLASS 1500

size		50	80	100	150
	inch	2	3	4	6
L(RF) L1(BW)	mm	368	470	546	705
	inch	14½	18½	21½	27¾
L2(RTJ)	mm	371	473	549	711
	inch	14⅝	18⅝	21⅝	28
H	mm	267	296	355	465
	inch	15.00	15.94	17.32	18.31

Gate Valve (Bronze)

Briefs

Products :	Gate Valve
Size :	-
Materials :	Bronze
Origin :	Korea
Factory :	Busan, Korea

Features

Bronze : Rising stem type gate valves for marine use

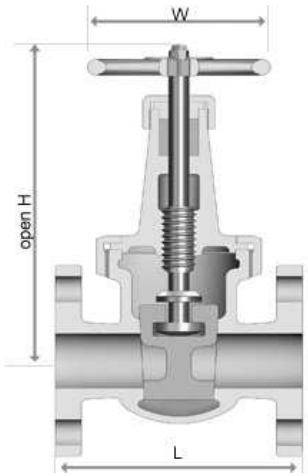
5K JIS F 7367

10K JIS F 7368

Pressure rating & test pressure(kgf/㎠)

FLUID CONDITION		RATING	
		5K	10K
Saturated Steam		2	2
Oil and Pulsation Water		5	10
Non-Shock Water Up to 120℃		7	14
Test Pressure	Shell Test	10.5	21
	Seat Test	7.7	15.4

Basic Design



End connection

- R.F Flanged ends(JIS B2210/ JIS B2220)
- F.F Flanged ends(JIS B2210/ JIS B2220)

Dimensions

Valve Rating	Position	Valve size				
		15A	20A	25A	32A	40A
5K	L	90	100	110	130	140
JIS F 7367	H	175	200	220	250	290
	W	80	80	100	100	125
10K	L	100	110	120	140	150
JIS F 7368	H	175	200	220	250	290
	W	80	80	100	100	125

Note :

1. Each not specified dimensions is manufacturer standard.

2. Not specified large size, Please contact to business department

Marine Valves

Gate Valve (Cast Steel)

Briefs

Products :	Gate Valve
Size :	-
Materials :	Cast Steel
Origin :	Korea
Factory :	Busan, Korea

Features

Cast steel : Non rising gate vavles for marine use

5K : Reference JIS F 7363

10K: JIS F 7366, JIS 7360 & maker standard

16K: JIS F 7366, & maker standard

Pressure rating & test pressure(kgf/㎠)

FLUID CONDITION		RATING					
		5K		10K		16K	
		400 or less	over 450A	400 or less	over 450A	400 or less	over 450A
Saturated Steam		3	2	5~7	5	5~7	5
Oil and Pulsation Water		5		10		10	
Non-Shock Water Up to 120℃		7	5	14		14	
Test Pressure	Shell Test	10.5	7.5	1.47	0.5	1.47	0.5
	Seat Test	7.7	5.5	1.08	0.25	1.08	0.25

Basic Design

End connection

- R.F Flanged ends

(JIS B2210/ JIS B2220)

- F.F Flanged ends

(JIS B2210/ JIS B2220)

Dimensions

Valve Rating	Position	Valve size													
		50A	65A	80A	100A	125A	150A	200A	250A	300A	350A	400A	450A	500A	550A	600A
5K JIS F 7363	L	Reference JIS F 7363														
	H															
	W															
10K JIS F 7366	L	200	220	230	250	270	290	310	340	380	420	480	Reference JIS F 7360			
	H	300	350	400	450	520	580	700	840	960	1050	1150				
	W	140	160	180	200	224	250	315	400	450	500	560				
16K JIS F 7369	L	Reference JIS F 7360							note1							
	H															
	W															

Note :

1. Each not specified dimensions is manufacturer standard.

2. Not specified large size, Please contact to business department

Globe & Globe SDNR Valve(Cast iron)

Briefs

Products :	Globe & Globe SDNR Valve
Size :	-
Materials :	Cast iron
Origin :	Korea
Factory :	Busan, Korea

Features

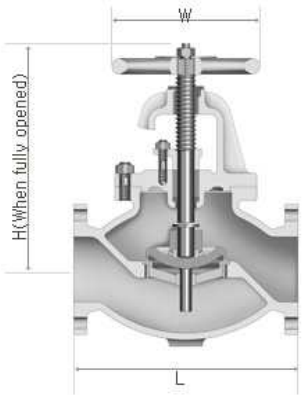
Cast iron : Globe & Globe SDNR valves for marine use

5K - JIS F 7305 , JIS F 7353
10K - JIS F 7307 , JIS F 7375
16K - JIS F 7309 , JIS F 7377

Pressure rating & test pressure(kgf/㎠)

FLUID CONDITION		Rating & Max. Work Pressure(kgf/㎠)									
		5K				10K				16K	
		Up to 200A		250.3	350.4	Up to 200A		over 250A		50A ~ 200A	
Class		B	S	B		B	S	B	S	B	S
Steam Up to 230℃		-	5			-	10			-	16
Steam Up to 205℃		5		-		10		-		16	
Saturated Steam		-				10		5		-	
Air or Gas		5			-	10		-		16	
Oil and Pulsation Water		5				10				16	
Non-Shock Water Up to 120℃		7			6	14		10		22	
Test Pressure	Shell Test	10.5				21				33	
	Seat Test	7.7				15.4				24.2	

Basic Design



Guided SDNR Type

Guided DISC Type

End connection

- R.F Flanged ends(JIS B2210/ JIS B2220)
- F.F Flanged ends(JIS B2210/ JIS B2220)

Dimensions

Valve Rating	Position	Valve size												
		50A	65A	80A	100A	125A	150A	200A	250A	300A	350A	400A	500A	550A	600A
5K	L	210	250	280	340	410	480	570	740	840	940	1080	Note2.		
JIS F 7305	H	270	300	310	360	390	445	530	650	740	840	940			
JIS F 7353	W	160	180	180	224	250	280	315	355	400	500	560			
10K	L	220	270	300	350	420	490	570	740	840	Note2.				
JIS F 7307	H	285	310	320	370	420	470	550	680	770					
JIS F 7375	W	160	200	200	250	280	315	355	450	500					
16K	L	220	270	300	350	430	500	570	Note2.						
JIS F 7309	H	285	310	340	385	455	510	630							
JIS F 7377	W	160	200	224	250	315	355	450							

Note :

1. Each not specified dimensions is manufacturer standard.

2. Not specified large size, Please contact to business department

Marine Valves

Globe & Globe SDNR Valve(Cast Steel)

Briefs

Products :	Globe & Globe SDNR Valve
Size :	-
Materials :	Cast Steel
Origin :	Korea
Factory :	Busan, Korea

Features

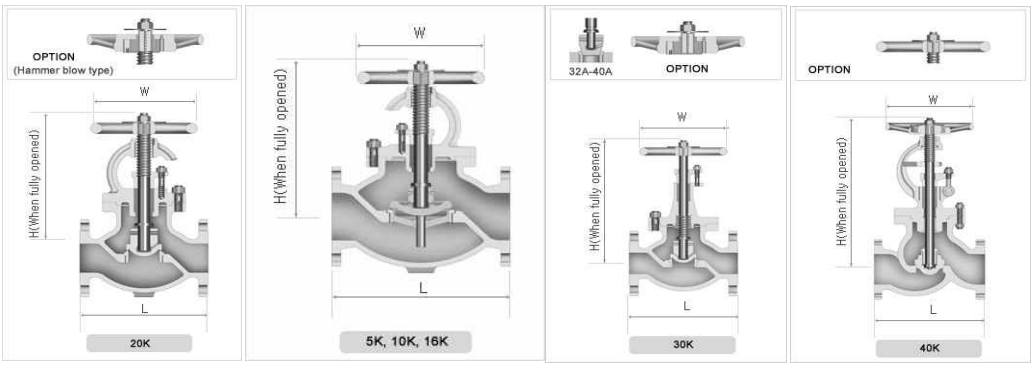
Cast Steel : Globe & Globe SDNR valves for marine use

5K - JIS F 7311 , Ref. JIS F 7311
10K - JIS F 7319 , JIS F 7471
16K - Ref.JIS F 7313 , Ref.JIS F 7473
20K - JIS F 7313, JIS F 7473
30K - JIS F 7340, Ref.JIS F 7340
40K - JIS F 7317, Ref. JIS F 7317

Pressure rating & test pressure(kgf/㎠)

FLUID CONDITION		Rating & Max. Work Pressure(㎏f/㎠)					
		5K	10K	16K	20K	30K	40K
Steam Up to 490℃		-	-	-	-	-	40
Steam Up to 475℃		-	-	-	-	-	42
Steam Up to 450℃		-	-	-	-	34	45
Steam Up to 425℃		-	-	-	-	36	48
Steam Up to 400℃		-	-	23	23	38	51
Steam Up to 350℃		-	-	26	26	39	52
Steam Up to 300℃		-	10	29	29	43	57
Steam Up to 220℃		-	12	31	31	-	-
Air or Gas		5	12	31	31	46	62
Oil and Pulsation Water		5	12	31	31	-	62
Non-Shock Water Up to 120℃		7	14	34	34	-	-
Test Pressure	Shell Test	10.5	21	33	51	69	93
	Seat Test	7.7	15.4	24.2	37.4	50.6	68.2

Basic Design



End connection
- R.F Flanged ends (JIS B2210/ JIS B2220)
- F.F Flanged ends (JIS B2210/ JIS B2220)

Valve Rating	Position	Valve size												
		50A	65A	80A	100A	125A	150A	200A	250A	300A	350A	400A	500A	550A	600A
5K	L								740	840					
JIS F 7311	H				Note1.				791	929		Note2.			
Ref. JIS F 7311	W								355	400					
10K	L	220	270	300	350	420	490	570	740	840					
JIS F 7319	H	270	300	310	355	415	470	565	645	735		Note2.			
JIS F 7471	W	160	200	200	250	280	315	355	450	500					
16K	L	230	270	300	350	430	500	560	660						
Ref.JIS F 7313	H	305	345	385	440	500	550	630	725			Note2.			
Ref.JIS F 7473	W	200	224	250	280	315	355	450	560						
20K	L	230	270	300	350	430	500	560	660						
JIS F 7313	H	305	345	385	440	500	550	630	725			Note2.			
JIS F 7473	W	200	224	250	280	315	355	450	560						
30K	L	260	310	340	390	470	540								
JIS F 7340	H	350	390	430	480	570	655					Note2.			
Ref.JIS F 7340	W	224	250	280	315	400	450								
40K	L	292	330	356	432	508	559								
JIS F 7317	H	435	490	540	640	720	815					Note2.			
Ref. JIS F 7317	W	224	250	315	400	450	500								

Note :

1. Each not specified dimensions is manufacturer standard.

2. Not specified large size, Please contact to business department

Angle & Angle SDNR Valve(Cast iron)

Briefs

Products :	Angle & Angle SDNR Valve
Size :	-
Materials :	Cast iron
Origin :	Korea
Factory :	Busan, Korea

Features

Cast iron : Globe & Globe SDNR valves for marine use

5K - JIS F 7306 , JIS F 7354

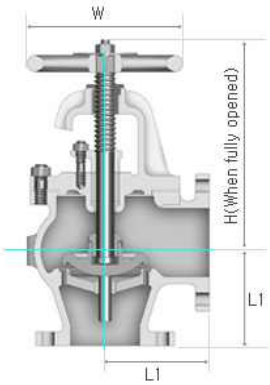
10K - JIS F 7308 , JIS F 7376

16K - JIS F 7310 , JIS F 7378

Pressure rating & test pressure(kgf/㎠)

FLUID CONDITION		Rating & Max. Work Pressure(㎏f/㎠)									
		5K				10K				16K	
		Up to 200A		250.3	350.4	Up to 200A		Over 250A		50A ~ 200A	
Class		B	S	B		B	S	B	S	B	S
Steam Up to 230℃		-	5			-	10		-	-	16
Steam Up to 205℃		5		-		10				16	
Saturated Steam		-				10		5		-	
Air or Gas		5			-	10		-		16	
Oil and Pulsation Water		5				10				16	
Non-Shock Water Up to 120℃		7			6	14		10		22	
Test Pressure	Shell Test	10.5				21				33	
	Seat Test	7				15.4				24.2	

Basic Design



Guided SDNR Type

Guided DISC Type

End connection

- R.F Flanged ends(JIS B2210/ JIS B2220)
- F.F Flanged ends(JIS B2210/ JIS B2220)

Dimensions

Valve Rating	Position	Valve size												
		50A	65A	80A	100A	125A	150A	200A	250A	300A	350A	400A	500A	550A	600A
5K	L	100	115	130	150	170	190	220	275	310	360	395	Note2.		
JIS F 7306	H	240	255	265	310	330	380	450	540	610	690	770			
JIS F 7354	W	160	180	180	224	250	280	315	355	400	500	630			
10K	L	120	130	140	160	180	205	230	290	320	360	420	Note2.		
JIS F 7308	H	255	270	275	315	360	405	475	570	645	710	790			
JIS F 7376	W	160	200	200	250	280	315	355	450	500	560	600			
16K	L	120	130	150	170	200	225	250	Note2.						
JIS F 7310	H	255	270	295	330	390	435	540							
JIS F 7378	W	160	200	224	250	315	355	450							

Note :

1. Each not specified dimensions is manufacturer standard.

2. Not specified large size, Please contact to business department

Angle & Angle SDNR Valve(Cast Steel)

Briefs

Products :	Angle & Angle SDNR Valve
Size :	-
Materials :	Cast Steel
Origin :	Korea
Factory :	Busan, Korea

Features

Cast iron : Globe & Globe SDNR valves for marine use

5K - JIS F 7312 , Ref. JIS F 7312
10K - JIS F 7320 , JIS F 7472
16K - Ref.JIS F 7314 , Ref.JIS F 7474
20K - JIS F 7314, JIS F 7474
30K - JIS F 7475, Ref.JIS F 7475
40K - JIS F 7318, Ref. JIS F 7318

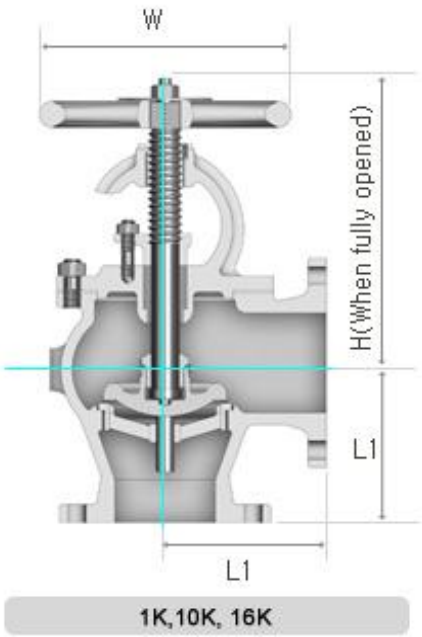
Pressure rating & test pressure(kgf/㎠)

FLUID CONDITION		Rating & Max. Work Pressure(kgf/㎠)					
		5K	10K	16K	20K	30K	40K
Steam Up to 490℃		-	-	-	-	-	40
Steam Up to 475℃		-	-	-	-	-	42
Steam Up to 450℃		-	-	-	-	34	45
Steam Up to 425℃		-	-	-	-	36	48
Steam Up to 400℃		-	-	23	23	38	51
Steam Up to 350℃		-	-	26	26	39	52
Steam Up to 300℃		-	10	29	29	43	57
Steam Up to 220℃		-	12	31	31	-	-
Air or Gas		5	12	31	31	46	62
Oil and Pulsation Water		5	12	31	31	-	62
Non-Shock Water Up to 120℃		7	14	34	34	-	-
Test Pressure	Shell Test	10.5	21	33	51	69	93
	Seat Test	7.7	15.4	24.2	37.4	50.6	68.2

Basic Design

End connection

- R.F Flanged ends(JIS B2210/ JIS B2220)
- F.F Flanged ends(JIS B2210/ JIS B2220)

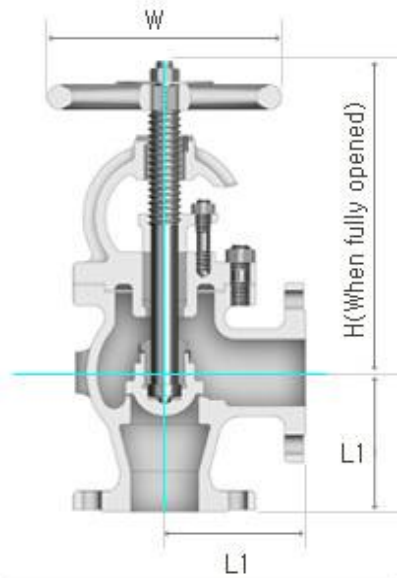


1K,10K, 16K


Type of GLOBE DISC

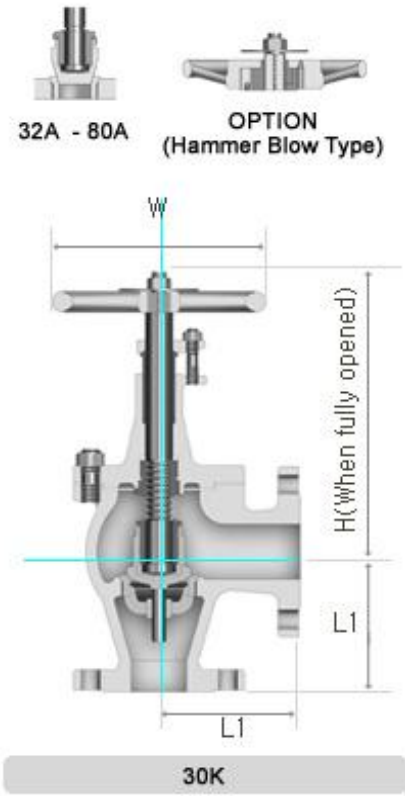
Type of SDNR DISC

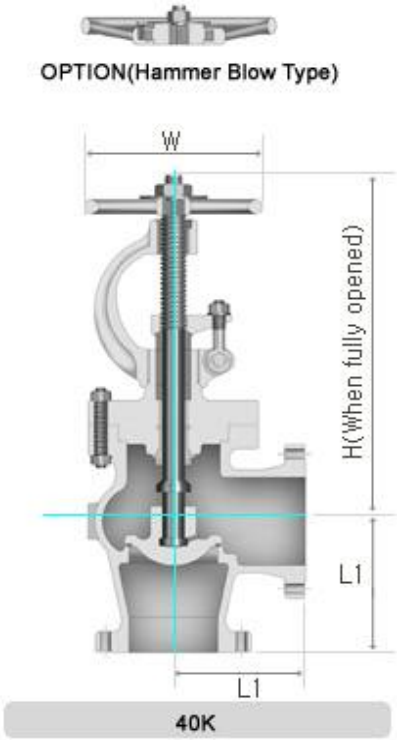

OPTION(hammer Blow Type)



20K

Angle & Angle SDNR Valve(Cast Steel)





Dimensions

Valve Rating	Position	Valve size													
		50A	65A	80A	100A	125A	150A	200A	250A	300A	350A	400A	500A	550A	600A
5K	L	Note1.							275	310	Note2.				
JIS F 7312	H								641	748					
Ref. JIS F 7312	W								355	400					
10K	L	120	130	140	160	180	205	230	290	320	Note2.				
JIS F 7320	H	240	260	265	300	350	400	480	535	610					
JIS F 7472	W	160	200	200	250	280	315	355	400	450					
16K	L	125	125	150	170	200	225	280	310	Note2.					
Ref.JIS F 7314	H	275	305	340	385	440	485	540	620						
Ref.JIS F 7474	W	200	224	250	280	315	355	450	560						
20K	L	125	135	150	170	200	225	280	310	Note2.					
JIS F 7314	H	275	305	340	385	440	485	540	620						
JIS F 7474	W	200	224	250	280	315	355	450	560						
30K	L	146	165	178	205	230	250	300	Note2.						
JIS F 7475	H	310	340	380	435	510	585	685							
Ref.JIS F 7475	W	224	250	280	315	400	450	500							
40K	L	146	165	178	216	254	279	Note2.							
JIS F 7318	H	405	455	500	590	660	740								
Ref. JIS F 7318	W	224	250	315	400	450	500								

Note :

1. Each not specified dimensions is manufacturer standard.

2. Not specified large size, Please contact to business department

Swing Check Valve

Briefs

Products :	Swing Check Vdalve
Size :	-
Materials :	Bronze / Cast iron / Cast steel
Origin :	Korea
Factory :	Busan, Korea

Features

Cast iron & Cast steel : Swing check valves for marine use.

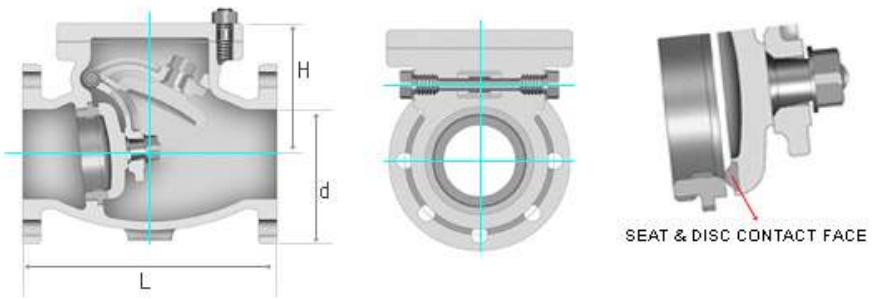
- Cast iron 5K - JIS F 7372
- Cast iron 10K - JIS F 7373
- Cast steel 5K - JIS F 7372
- Cast steel 10K - JIS F 7372

Pressure rating & test pressure(kgf/㎠)

FLUID CONDITION		RATING	
		5K	10K
Saturated Steam		-	-
Oil and Pulsation Water		5	10
Non-Shock Water Up to 120℃		7	14
Test Pressure	Shell Test	10.5	21
	Seat Test	7.7	15.4

*Not specified high pressure. Please contact to busines department

Basic Design



End connection

- R.F Flanged ends(JIS B2210/ JIS B2220)
- F.F Flanged ends(JIS B2210/ JIS B2220)

Dimensions

VALVE RATING	Position	VALVE SIZE								
		50A	65A	80A	100A	125A	150A	200A	250A	300A
5K	L	190	220	250	280	330	380	460	550	690
JIS F 7372	H	110	135	145	165	190	215	255	310	385
Ref. JIS F 7372	d	50	65	80	100	125	150	200	250	300
10K	L	210	240	270	300	350	400	480	Note 1.	
JIS F 7373	H	125	145	155	170	200	225	265		
Ref. JIS F 7373	d	50	65	80	100	125	150	200		

Note:

1. Each not specified dimensions is manufacturer standard.

2. Not specified large size, Please contact to business department

Hull Angle Valves

Briefs

Products :	Hull Angle Valves
Size :	-
Materials :	Bronze / Cast iron / Cast steel
Origin :	Korea
Factory :	Busan, Korea

Features

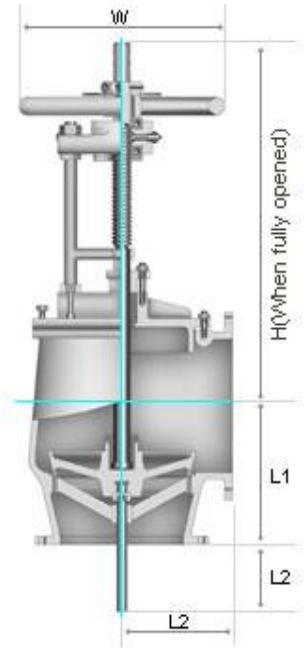
Cast steel : Hull angle valves for marine use.

Cast steel - JIS F7350

Pressure rating & test pressure(kgf/㎠)

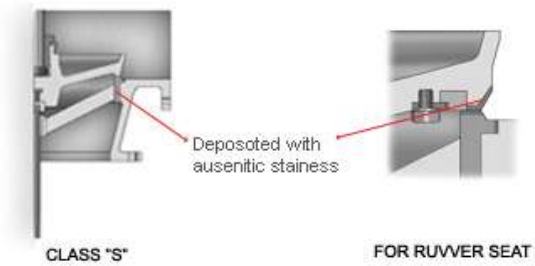
FLUID CONDITION		200A or Less		250A, 300A		350A or More	
		Class B	Class S	Class B	Class S	Class B	Class S
Sae Water and Bilge		10		7	10	2	
Test Pressure	Shell Test	15		10.5	15	5.1	
	Saet Test	11		7.7	11	2.5	

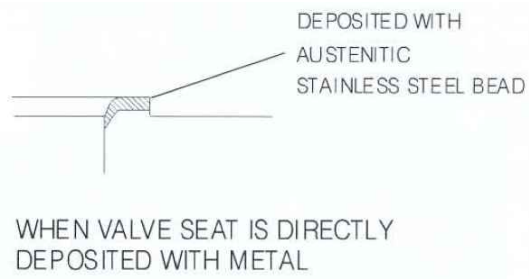
Basic Design



End connection

- R.F Flanged ends(JIS B2210/ JIS B2220)
- F.F Flanged ends(JIS B2210/ JIS B2220)





Dimensions

Position	VALVE SIZE												
	200A	250A	300A	350A	400A	450A	500A	550A	600A	650A	700A	750A	800A
L1	265	325	365	360	400	450	500	550	610	660	710	765	815
L2	230	290	320	320	350	380	430	460	500	540	570	610	650
H	700	835	970	1010	1130	1250	1380	1505	1630	1765	1765	2005	2115
d	200	250	300	335	380	430	480	530	580	630	680	730	780
W	355	400	450	500	600	710	800	900	900	1000	1000	1250	1250

Storm Valve

Briefs

Products :	Storm Valves
Size :	-
Materials :	Bronze / Cast iron / Cast steel
Origin :	Korea
Factory :	Busan, Korea

Features

Cast steel : Storm valves for marine use

Cast steel - JIS F 3058, F 3060 Vertical Storm Valves

Cast steel - Ref, JIS F 3058, 3060 Angle Storm Valves

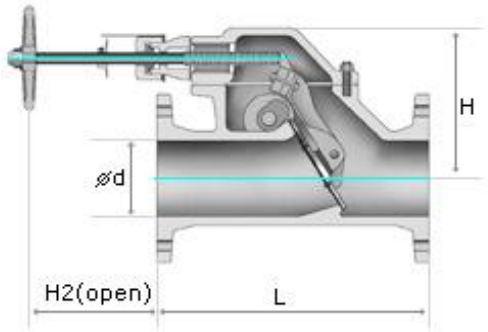
Type of Vertical Storm Valve

Type of Angle Storm Valve

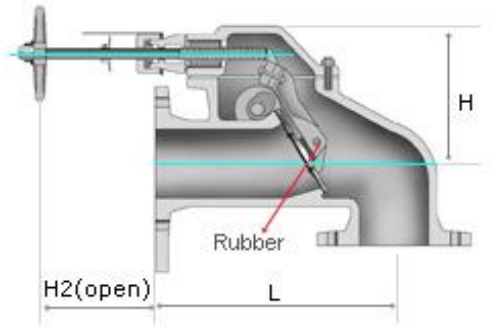
Basic Design

End connection

- R.F Flanged ends(JIS B2210/ JIS B2220)
- F.F Flanged ends(JIS B2210/ JIS B2220)



Type of vertical Storm Valves



Type of Angle Storm Valves

Dimensions

VALVE RATING	Position	VALVE SIZE								
		50A	65A	80A	100A	125A	150A	200A	250A	300A
Vertical Storm	H	210	240	260	280	330	360	Note. 2.		
JIS F 3058	H2(OPEN)	300	305	305	310	310	275			
JIS F3060	L	106	124	136	161	181	199			
Angle Storm	H	170	190	220	250	270	340	Note. 2.		
Ref. JIS F 3058	H2(OPEN)	300	305	305	310	310	275			
Ref. JIS F 3060	L	93	135	145	160	183	203			

Briefs

Products : Strainers
Size : -
Materials : Bronze / Cast iron / Cast steel
Origin : Korea
Factory : Busan, Korea

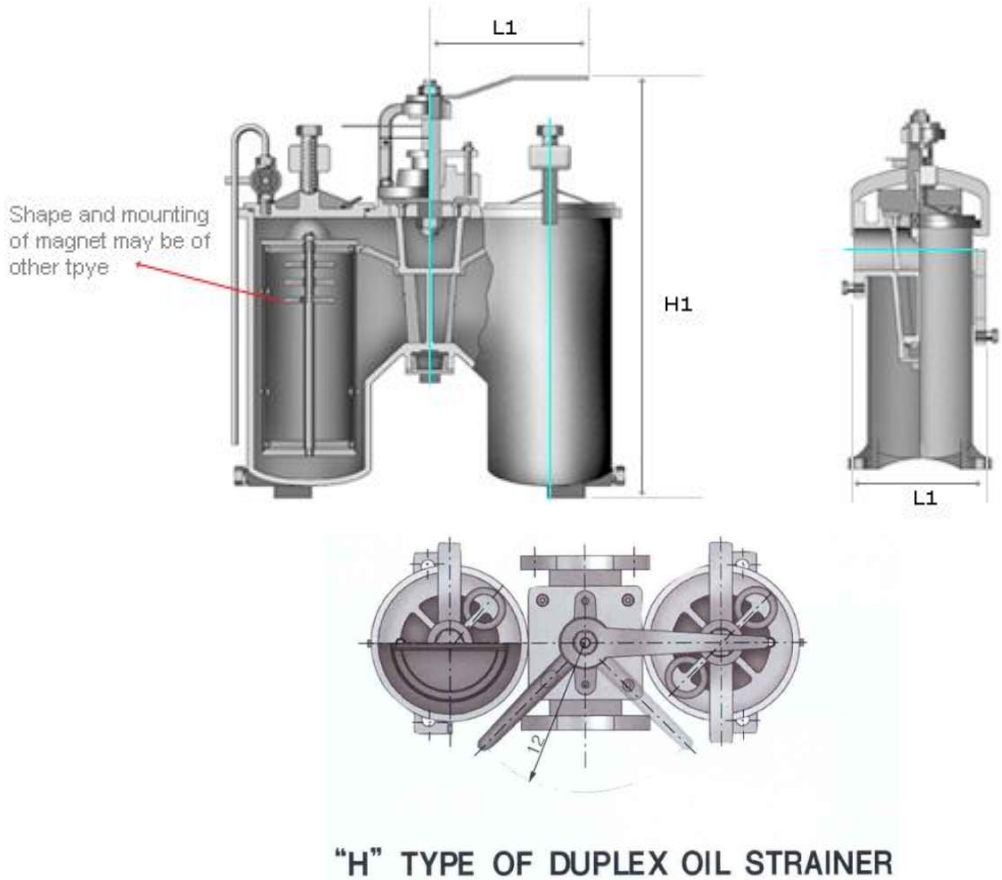
Features

Cast steel : Storm valves for marine use

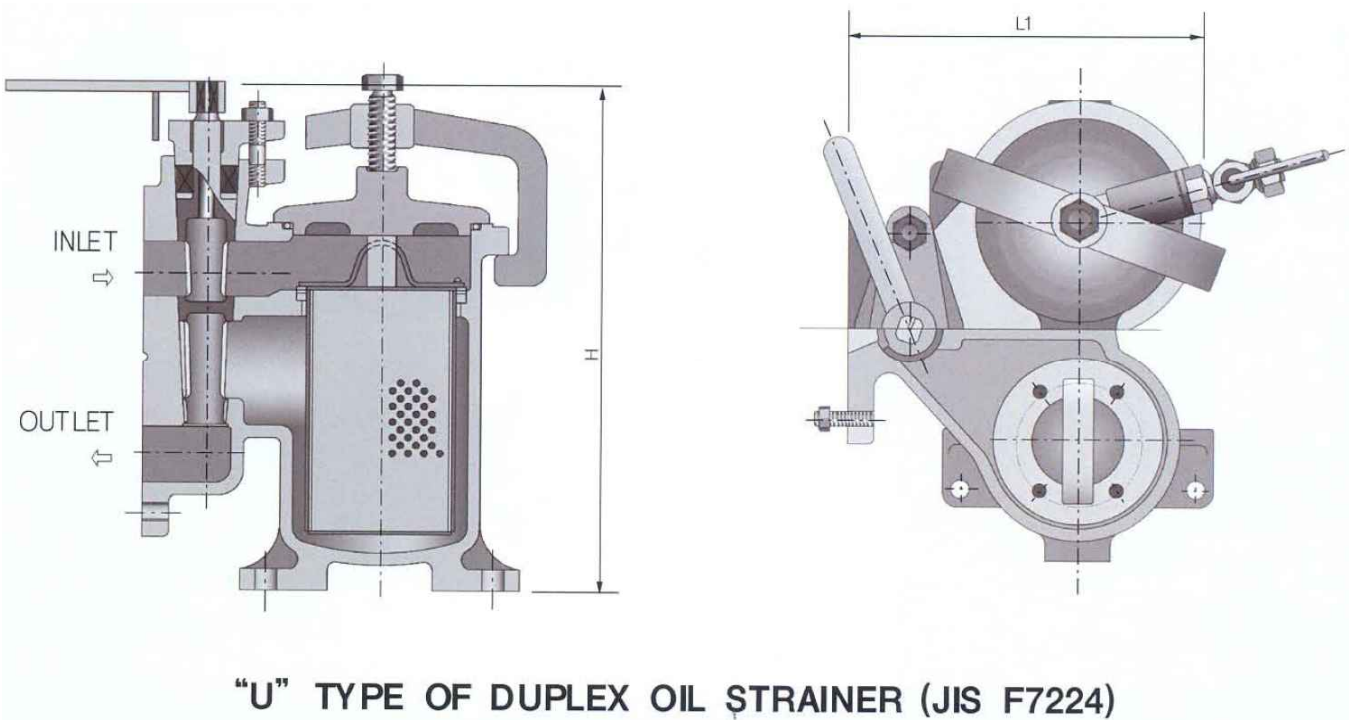
DUPLEX OIL STRAINER (H-Type) - JIS F 7208
DUPLEX OIL STRAINER (U-Type) - JIS F 7224
SIMPLEX OIL STRAINER (S,LA,LB-Type) - JIS F 7209
WATER STRAINER (S,LA,LB-Type) - JIS F 7121
MUD BOX(S-Type, L-Type) -JIS F 7203
40K & Y-type Strainer for Marine Use. - JIS F 7220 & 7222

FLUID CONDITION		PRESSURE RATING & TEST PRESSURE(kgf/㎠)			
		F 7121	F 7208	F 7209	F 7224
Fuel oil 60℃ or less		—	4	5	4
Lubricating oil 80℃ or less		—	—	5	4
Lubricating oil 100℃ or less		—	4	—	—
Sea water		2	—	—	—
Test Pressure	Shell Test	3	6	7.5	6
	Seat Test	—	4.4	—	4.4

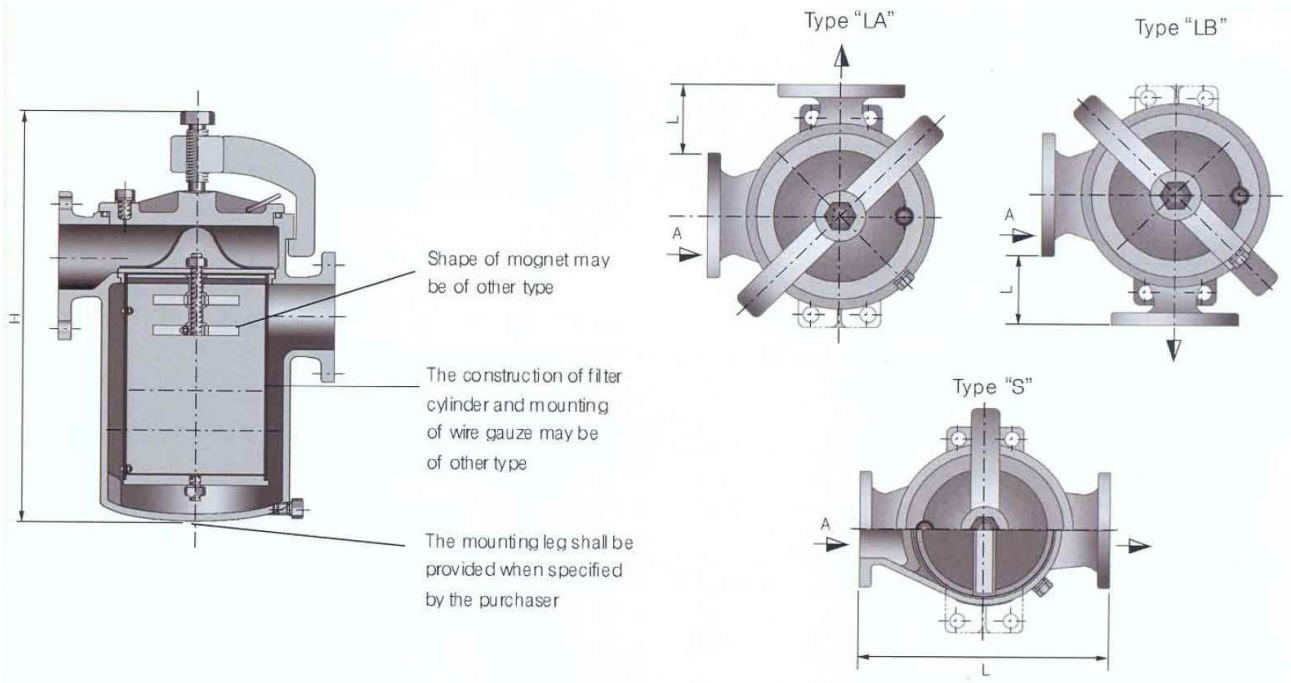
Basic Design



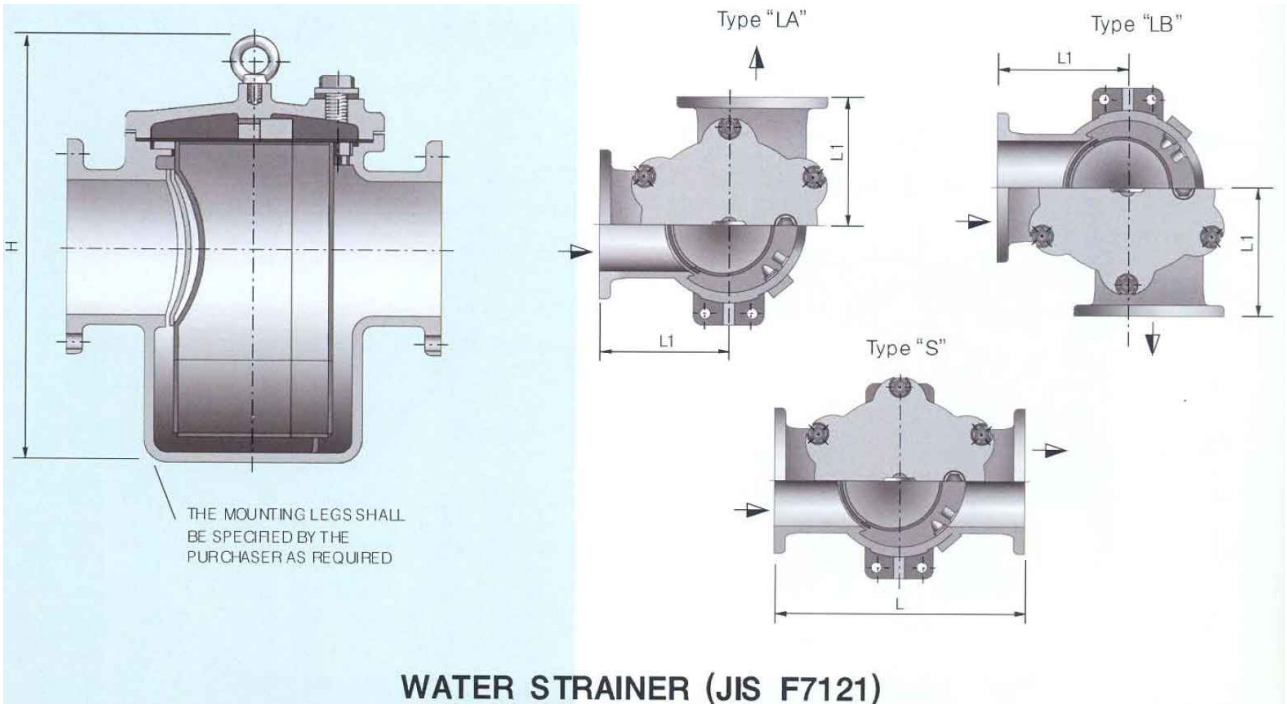
"H" TYPE OF DUPLEX OIL STRAINER



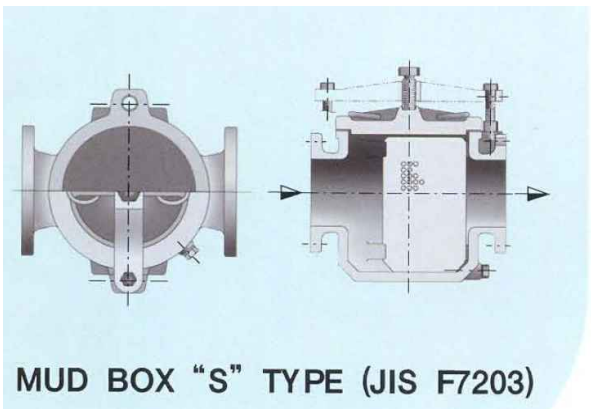
"U" TYPE OF DUPLEX OIL STRAINER (JIS F7224)



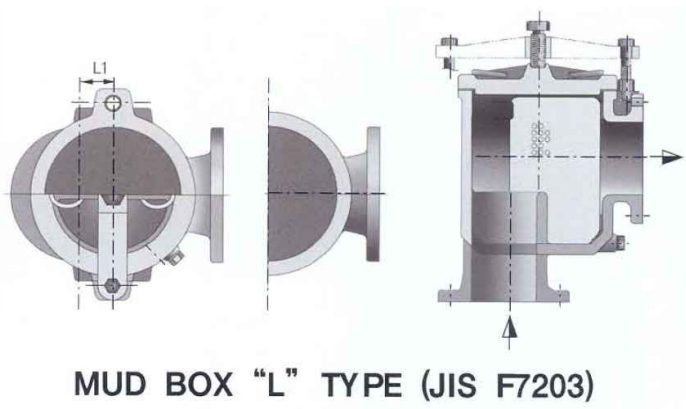
SIMPLEX OIL STRAINER (JIS F7224)



WATER STRAINER (JIS F7121)



MUD BOX "S" TYPE (JIS F7203)



MUD BOX "L" TYPE (JIS F7203)

APPLICATION CODE		POSITION	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A
JIS F7121	S Type	L	170	190	190	200	250	270	320	NOTE 2		
		H	180	215	215	240	305	340	400			
	LA,LB	L	85	95	95	100	125	135	160			
		H	180	215	215	240	305	340	400			
JIS F7208		L	-			180	215	245	285	330	410	490
		H				515	660	684	816	952	1299	1520
JIS F7209	S Type	L	190	260	260	280	340	370	420	450	470	570
		H	240	315	315	395	495	525	630	745	825	970
	LA,LB	L	95	130	130	140	170	185	210	225	235	285
		H	240	315	315	395	495	525	630	745	825	970
JIS F7208		L	167	211	241							
		H	235	315	355							

NOTE : 1.Each not specified dimensions is manufacturer standard

2. Not specified large size, Please contact to business department.

Marine Valves

Other valves

- Duplex Oil Strainer Valve Change Over Type - Maker Standard
- Duplex Oil Strainer Valve Change Over Type - Maker Standard
- Marine Fuel Oil Tank Self Closing Drain Valves - JIS F 7398
- Flanged Cocks for Marine Use. - JIS F 7381
- Steel Plate Oil Strainer for Marine Use. - JIS F 7225, 7226 & Maker Standard

Features

Cast steel : Other valves for marine use

Dimensions

APPLICATION CORD	VALVE SIZE																	
	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	550	600
	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Duplex str'	—					Note. 1												
						Note. 2												
Y-type str'	JIS F 7220					Note. 1												
	JIS F 7222					Note. 2												
Self closing	JIS F 7398					Note. 1												
Steel plate str'	—												JIS F 7225		Note. 1			
JIS F 7225															Note. 2			
Steel plate str'	—												JIS F 7226 & Note. 2.					
JIS F 7226																		

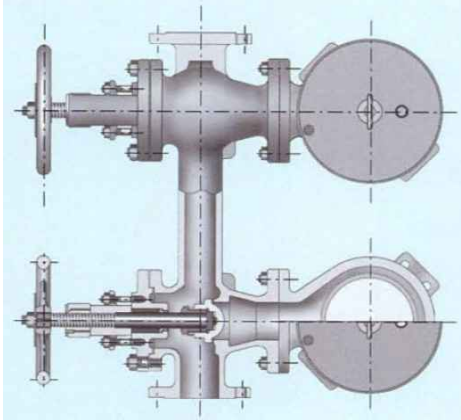
Note.

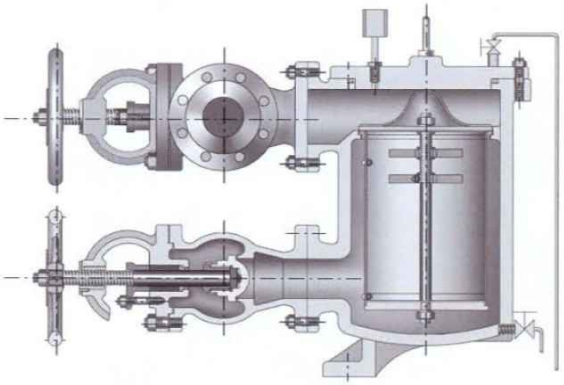
1. Each not specified dimensions is manufacturer standard.

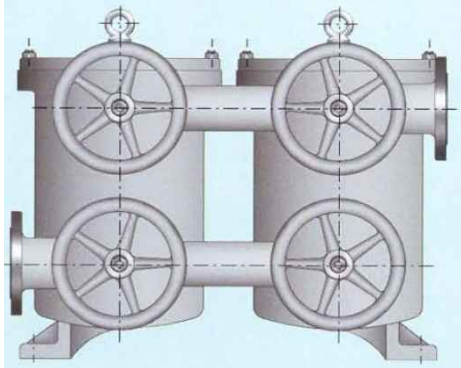
2. Not specified large size, Please contact to business department.

FLUID CONDITION		Rating & Max. Working Pressure (Kgf/Cm^2)					
		F7220	F7222	F7226	F7381	F7398	Dup. Str'
Steam 425℃		-	40	-	-	-	-
Steam 400℃			60				
Steam 350℃			52				
Steam 300℃			57				
Steam of 220℃ or less		10	62				
oil 80℃ or less		-	-	3.5	5	1	1.25Mpag
Air and Gass		10					
Nonshock Water of 120℃		7		5	5	1	
Test Pressure	Shell Test	21	90.3	7.5	10	1.5	5.1
	Seat Test	-	-	-	5	11	37.4

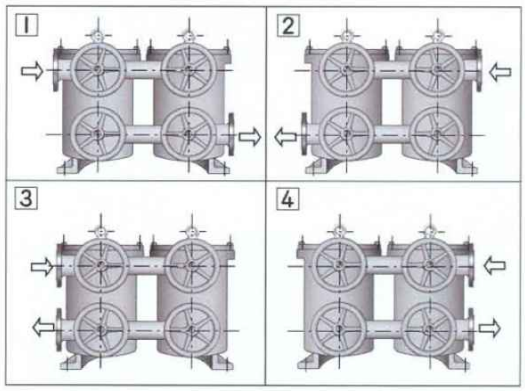
Duplex Oil Strainer Valve Change Over Type - Maker Standard.





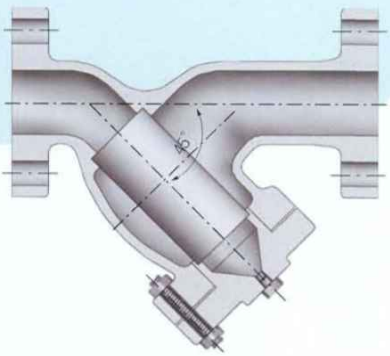


OPERATING HANDLE

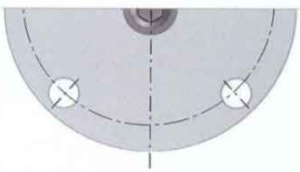


TYPE IN TO FOUR(4) CLASSES

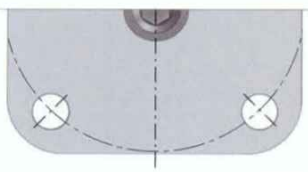
40K & Y-type Strainer for Marine USE. - JIS F 7220 & 7222



Selection of Bonnet Type



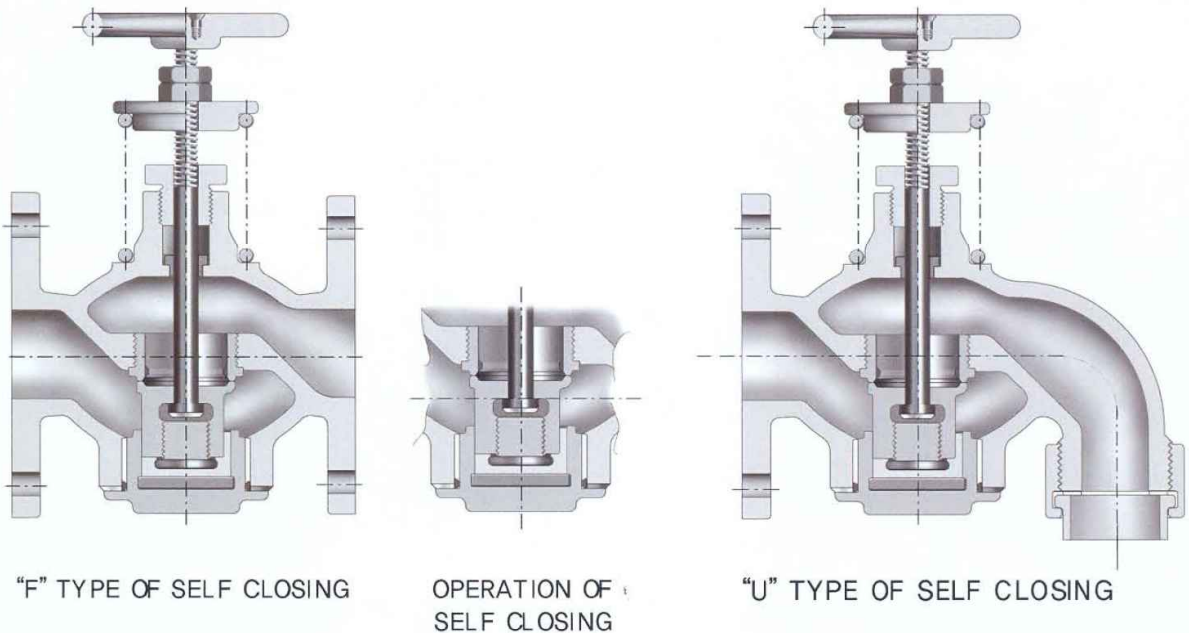
For Nominal Dia. 50mm & Lavger



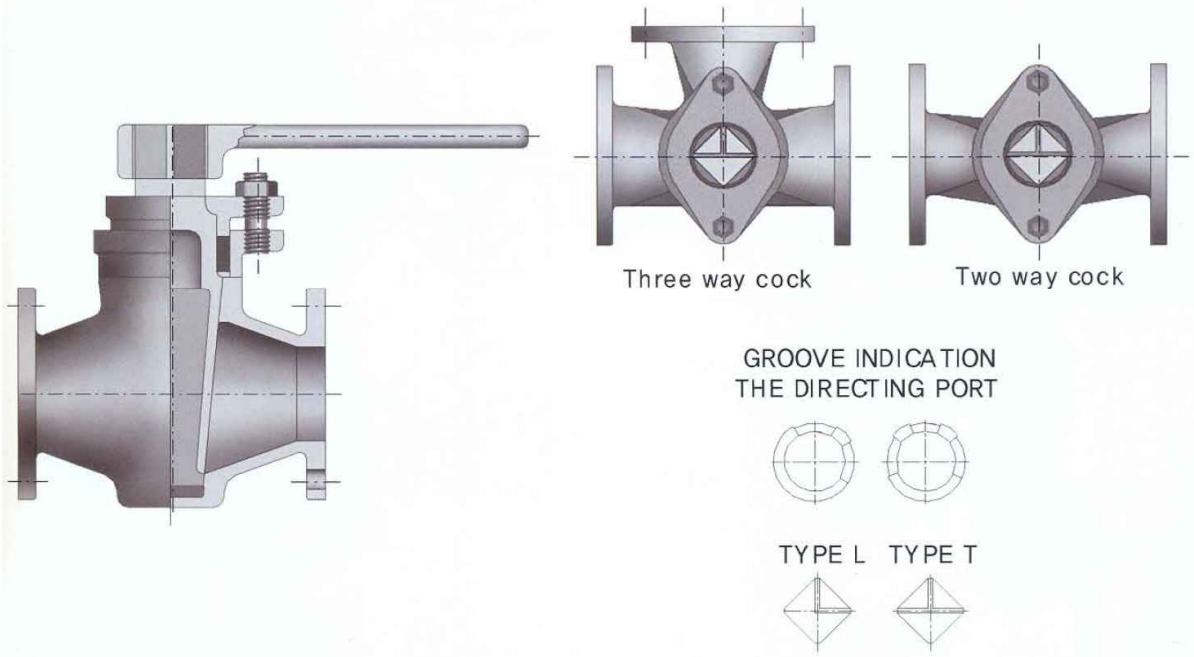
For Nominal Dia. 20mm to 40mm

BOLT HOLES OF FLANGE SHALL STRADDLE BODY CENTER LINES

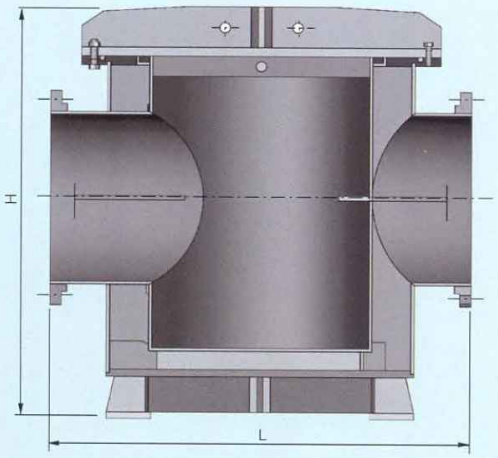
Marine Fuel Oil Tank Self Closing Drain Valves - JIS F 7398

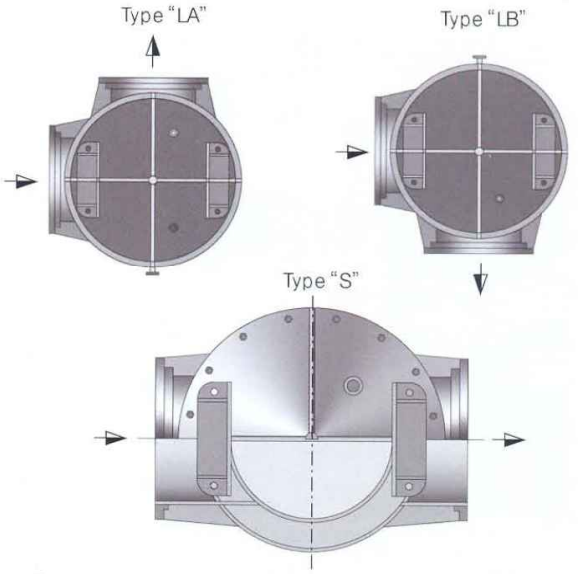


Flanged Cocks for Marine Use - JIS F 7381

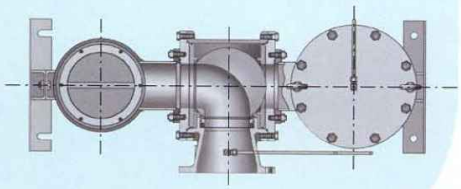


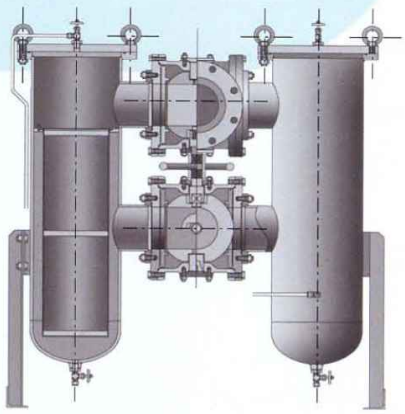
Steel Plate Oil Strainer for Marine Use.
- JIS F 7225, 7226 & Maker Standard



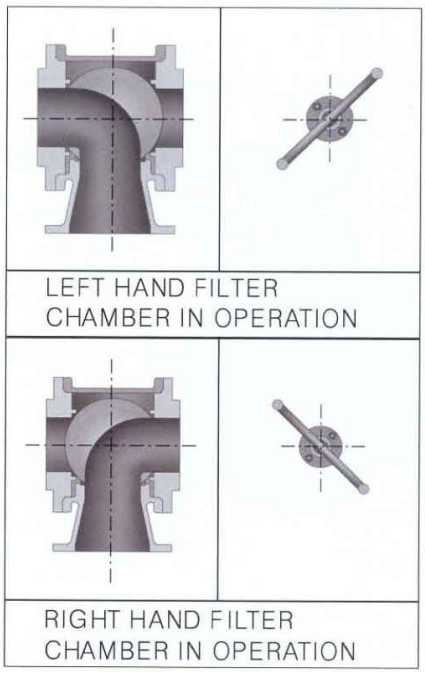


STEEL PLATE &
BALL TYPE DUPLEX OIL STARINER "H" TYPE





3-WAY VALVE POSITION



Punching Screen

Briefs

Products :	Punching Screen
Size :	-
Materials :	Cast iron / Cast steel
Origin :	Korea
Factory :	Busan, Korea

Features

Percentage open area

Even the "MESH" is same, OPEN AREA is not always same due to the diameter of wire.

The formula of OPEN AREA PERCENTAGE is as follows:

$$\text{OPEN AREA PPERCENTAGE} = \left(\frac{a}{a \times b}\right)^2 \times 100\ (\%)$$

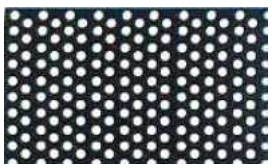
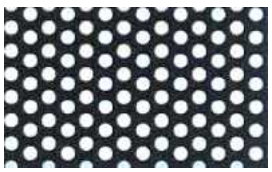
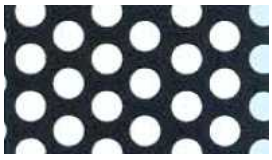
a: Width of Opening
b: Diameter of Wire

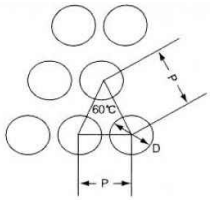
A:Number of Wire, B: Diameter of Wire, C: Width of opening, D: percentage of OPEN AREA

MESH	A SWG	B (m/mΦ)	C (m/m)	D (%)	MESH	A SWG	B (m/mΦ)	C (m/m)	D (%)
5	20	3914	4.166	67.3	100	42	0.102	0.152	35.8
10	22	0.711	1.829	51.8	120	43	0.092	0.119	31.8
20	28	0.356	0.914	51.8	150	45.5	0.066	0.103	37.1
30	32	0.274	0.572	45.7	180	46.5	0.053	0.088	38.9
40	36	0.193	0.442	48.4	200	47	0.051	0.076	35.8
50	37	0.172	0.336	43.6	250	48	0.039	0.062	37.7
60	38	0.152	0.271	41	300	48	0.04	0.044	27.6
80	40	0.122	0.195	37.8					

Outside screen(Protecting net)

For the outside Screen a stainless steel plate perforated in 60-degree staggered arrangment is used.

OUTSIDE screen			
DESCRIPTION	Φ0.8 x P1.6	Φ1 x P2	Φ1.2 x P2
OPEN AREA	22.8	22.8	32.8
Models of strainers	15~50(STANDARD)	32~50 (REQUEST)	65~100
OUTSIDE screen			
DESCRIPTION	Φ1.5 x P2.5	Φ2.5x P4	Φ3 x P5
OPEN AREA	32.8	35.5	32.8
Models of strainers	125~100	200~250	300~450



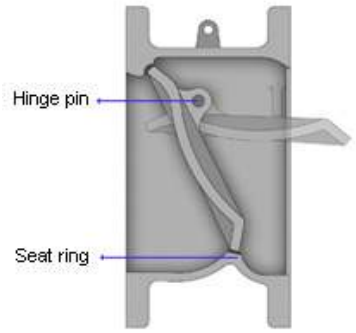
$$R = \frac{\sqrt{3} \times \pi}{6} \times \left(\frac{D}{P}\right)^2 \times 100\ (\%) = \frac{91 \times D^2}{P^2}$$

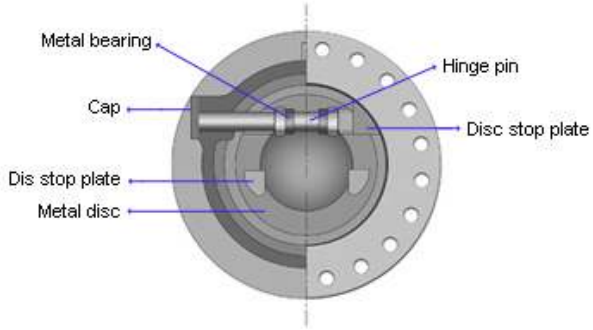
R : OPEN AREA
P : Pitch (mm)
D : Diamenter of Hole (mm)

Features

The seling surface is turned conically and the angle of seal surface is determined to exclude absolutly the possiblillty of valve disc jamming.

The spare saving design simplifies installation. Furhermore, water tilting disc check valves can be installed in any position.





Styles of Connection	
END CONNECTION	Class & Range
	All Class (ASME & JIS)
R.F Flanged Wafer Styles	2" OVER
R.F Flanged Styles	2" OVER

Body and Disk Plate Materials			
Material	Specification		Operating Temp. Range
	ASTM	JIS	
Cast Iron	A216 CL,B	FC200	-
Carbon steel	A216 WCB	SCPH2	427℃
High temp. Carbon steel	A217 WC6	SCPH21	593℃
Low temp. Carbon steel	A352LCC & LCB	SCPL1	-46℃
410 Stainless Steel	A217-CA15	SCS1	-
316L Stainless Steel	A351-CF8M	SCS16	-196℃
Monel	A494-M35-2	-	204℃
Duplex Stainless steel	UNS S 31803	-	-
Super Duplex Stainless steel	UNS S 32760	-	-
Ni-Al-Bronze	B148 Grade	CAC Grade	-
Gunmetal		CAC Grade	-

Standard Trim Material (General Trim)				
Body & Disk	Seal	Hinge Pin	Pin Retainer	Remark
A216 WCB	304SS + STL6	304SS	304SS	STL6=STELLITE #6
A351 CF8M	304SS + STL6	316SS	316SS	
A494 M35-2	A494 M35-2	A494 M35-3	A494 M35-4	
UNS S 31803	UNS S 31804	UNS S 31805	UNS S 31806	
B148 Grade	B149 Grade	316SS	316SS	

Duo Plate Check Valve

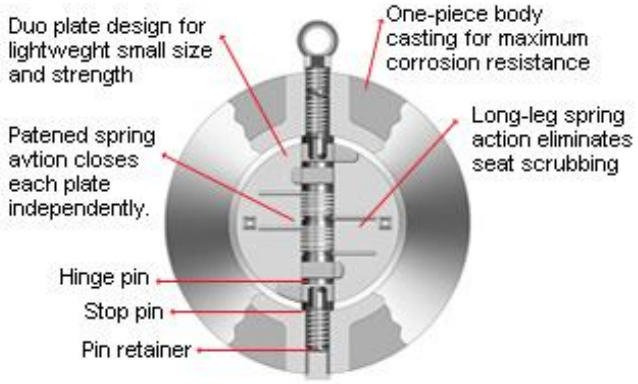
Features

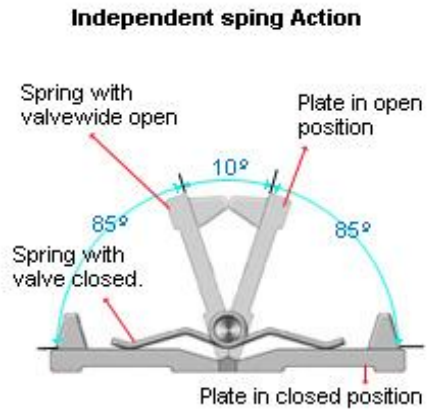
Duo plate check valves are available to meet your process conditions:

A complete range of size from 2"(50A) through 34"(850A) inches.

A wide variety of cast materials for bodys. plates and trim for all types of service and temperature condition

Full line of Duo plate chek valves, designed and rated in accordance with any ANSI 150# through 900# standard





Styles of Connection		
END CONNECTION	Class & Range	
	All Class (ASME & JIS)	
R.F Flanged Wafer Styles	2" OVER	
R.F Flanged Styles	2" OVER	
RUG Flanged Styles	2" OVER	

* Note : 1. Not specialied large size. Please contact to business department.

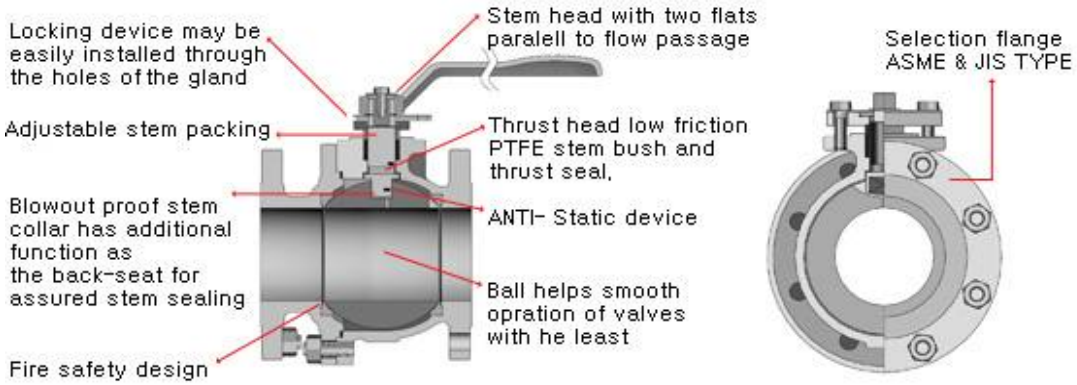
Body and Disk Plate Materials			
Material	Specification		Operating Temp. Range
	ASTM	JIS	
Cast Iron	A216 CL,B	FC200	-
Carbon steel	A216 WCB	SCPH2	427℃
High temp. Carbon steel	A217 WC6	SCPH21	593℃
Low temp. Carbon steel	A352LCC & LCB	SCPL1	-46℃
410 Stainless Steel	A217-CA15	SCS1	-
316L Stainless Steel	A351-CF8M	SCS16	-196℃
Monel	A494-M35-2	-	204℃
Duplex Stainless steel	UNS S 31803	-	-
Super Duplex Stainless steel	UNS S 32760	-	-
Ni-Al-Bronze	B148 Grade	CAC Grade	-
Gunmetal		CAC Grade	-

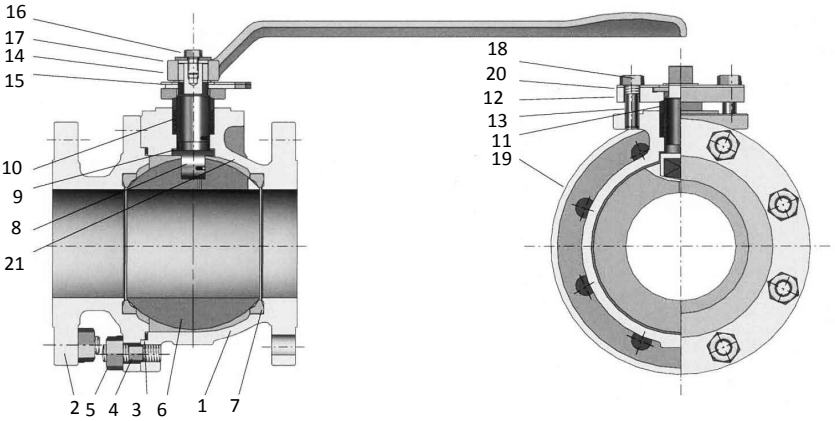
Standard Trim Material (General Trim)					
Body & Disk	Seal	Hinge Pin	Spring	Stop Pin	Pin Retainer
A216 WCB	NBR	304SS	304SS	304SS	304SS
A351 CF8M	316SS + STL6	316SS	316SS	316SS	316SS
A494 M35-2	A494 M35-2	A494 M35-3	Inconel X 750	A494 M35-2	A494 M35-2
UNS S 31803	UNS S 31804	UNS S 31805	Inconel X 750	UNS S 31803	UNS S 31803
B148 Grade	B149 Grade	316SS	316SS	316SS	316SS

General Discription of Ball Valves

Features

Full and regular port valves meet he design and test requirment of ASME B 16.34, API6D.
Flange dimensions are in accordance with ASME B16.5, JIS B 2210,2220.
Full port valves have insallation dimensions in acordance with the long pattern dimensions of ASME B 16.10 and API6D.
Regular port valves have installation dimensions in accordance with the face to face of JIS STANDARD.
Ball valves is all fire safety designed





☐ Product Range

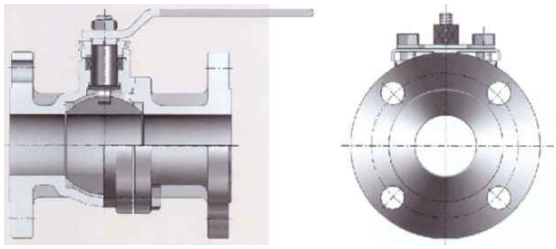
Full Bore		Regular Bore		Range
1 Piece	2 Piecs	1 Piece	2 Piecs	ASME & JIS
150				½" ~ 8"
300				½" ~ 6"

□ Standard Material Specifications

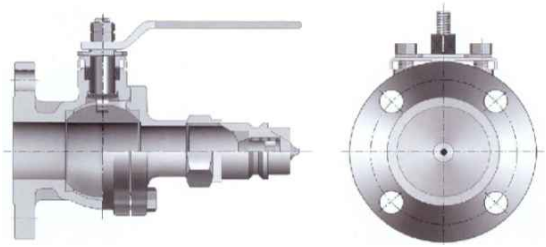
PARTS \ ASTM Design	A216-WCB	A351			A352 LCB
		CF8	CF8M	CF3M	
1 BODY	A216-WCB	A351-CF8	A351-CF8M	A351-CF3M	A352-LCB
2 CAP	A216-WCB	A351-CF8	A351-CF8	A351-CF8	A352-CF8
3 GASKET	PTFE	PTFE	PTFE	PTFE	PTFE
4 CAP BOLT	A193-B7	A193-B8	A194-B8M	A194-B8M	A320 L7
5 CAP NUT	A194-2H	A194-8	A194-8M	A194-8M	A194-4
6 BALL	316SS	316SS	316SS	316SS	316SS
7 SEAT	PTFE	PTFE	PTFE	PTFE	PTFE
8 STEM	A276-316	A276-316	A276-316	A276-316L	A276-316
9 THRUST SEAL	PTFE	PTFE	PTFE	PTFE	PTFE
10 GRAND PACKING	PTFE	PTFE	PTFE	PTFE	PTFE
11 GRAND RING	A276 304	A276 304	A276 304	A276 304	A276 304
12 GRAND FLANGE	A351-CF8	A351-CF8	A351-CF8	A351-CF8	A351-CF8
13 GRAND BOLT	A193-B8	A193-B8	A193-B8	A193-B8	A193-B8
14 LEVER	A395	A395	A395	A395	A395
15 STOPPER	A240-304	A240-304	A240-304	A240-304	A240-304
16 SET BOLT	A193-B8	A193-B8	A193-B8	A193-B8	A193-B8
17 WASHER	A240-304	A240-304	A240-304	A240-304	A240-304
18 SNAP RING	CARBON STEEL	316SS	316SS	316SS	CARBON STEEL
19 NAME PLATE	A240-304	A240-304	A240-304	A240-304	A240-304
20 LOCKING PLATE	A240-304	A240-304	A240-304	A240-304	A240-304
21 ANTI STATIC	316SS	316SS	316SS	316SS	316SS

Selection of Ball Valves

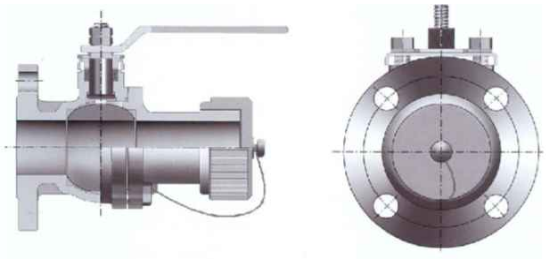
□ floating Type Ball Valves of Full & Reduced Bore



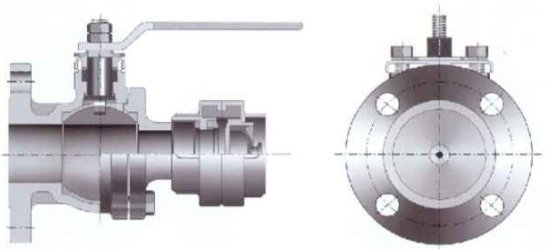
□ floating Type Hose Ball Valves of Framo type



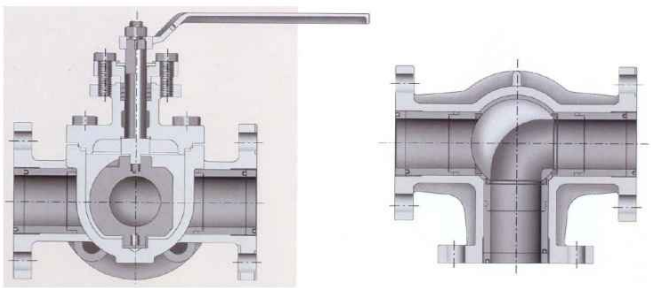
□ floating Type Hose Ball Valves of Cap type



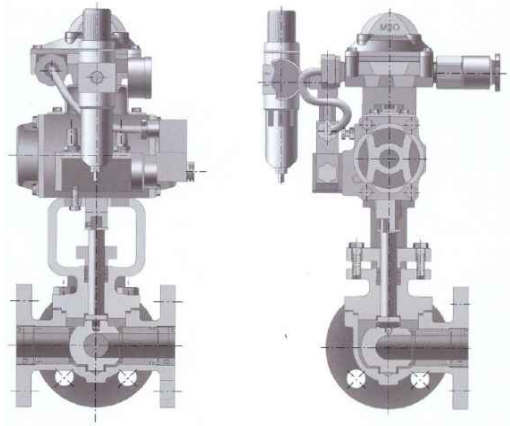
□ floating Type Hose Ball Valves of Storz Coupling Type

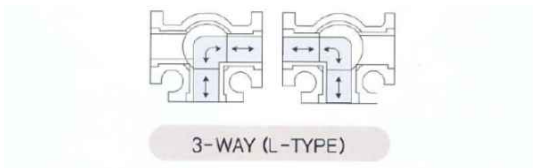


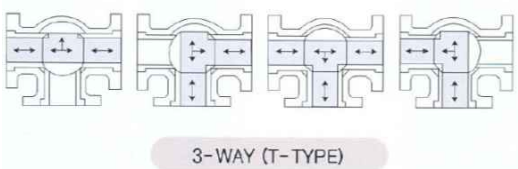
□ 3-Way Type Ball valve (T-Type)



□ 3-Way Type Ball valve (T-Type)







* Note : Any Type of ball valves, large & size, Please contact to business department.

If Requirement customer, installation in accordance with the face to face of JIS & ASME B16,10, API 6D

Features

The performance pressure seal bonnet gate valves

Pressure seal bonnet gate valves have same application features as bolted bonnet valves shown on the page. The major difference is that the bonnet is designed for high-pressure, high-temperature service.

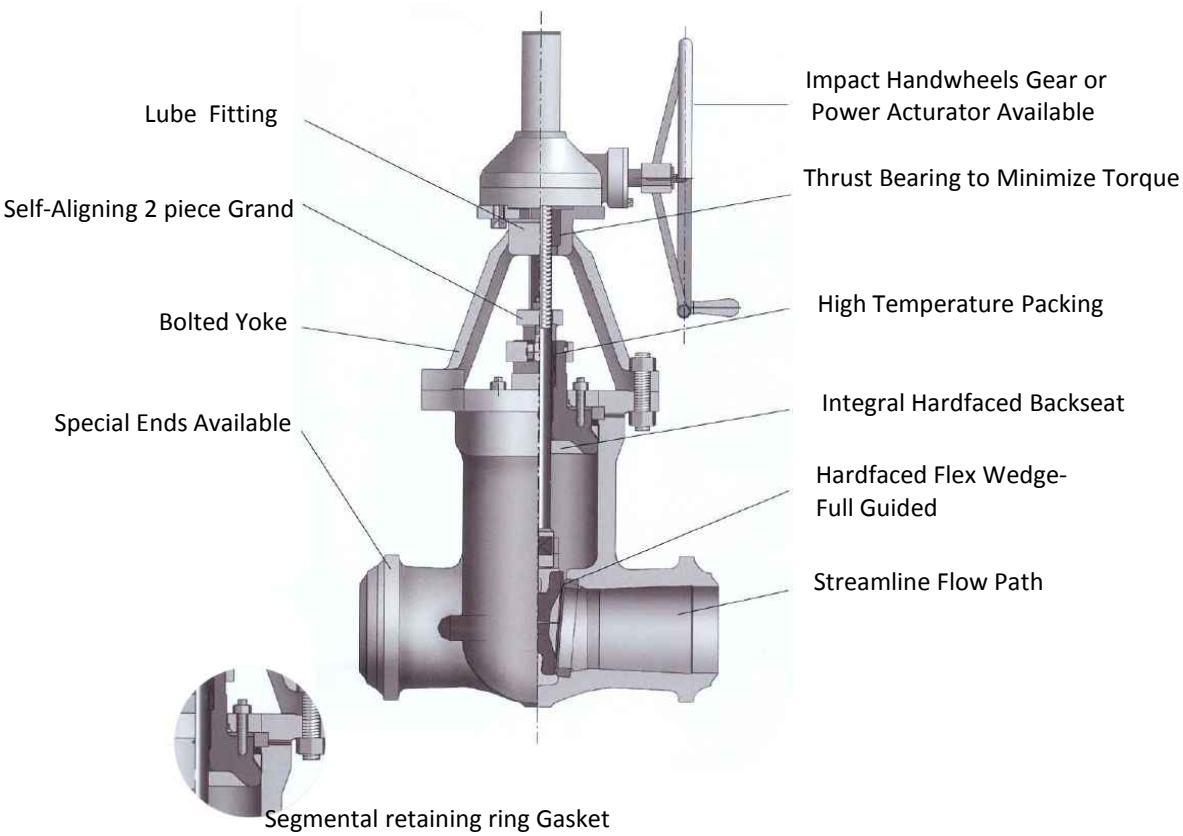
The pressure seal bonnet joint eliminates the body/bonnet flanges reducing weight and simnplifying the application of exterior insulation. Contrary to bonnet valves. Internal pressure applied to a pressure seal valves forces the sealing elements into tighter contact the higher the internal pressure he tighter the seal.

Gate valves may be installed without consideration for the direction of flow. They are not recommended for use in a partially open, throttling position because erosion, noise and execessive wear can occur. Gate valves installations should always be made with consideration for the potential of bonnet over-pressurization caused by fluids which may become entrapped in the bonnet of a closed valve. Where this possibility exists, it is the user's responsibility to insure that proper ventinq is installed.

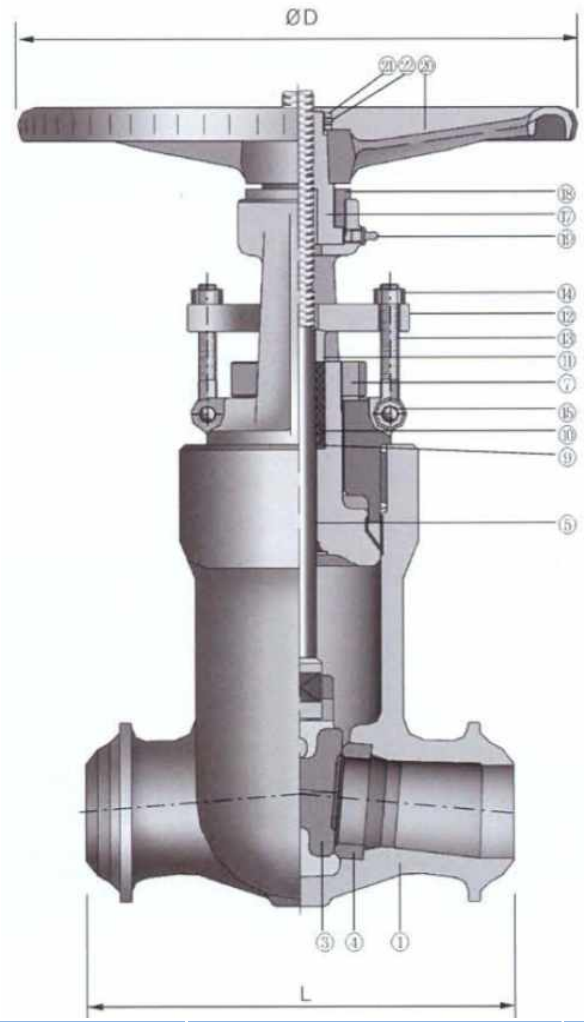
DONG-A VALVE cast steel pressure seal valves comply with the design and test requirements of ASME B16.34 and the installation dimensions of ASME B16.10.

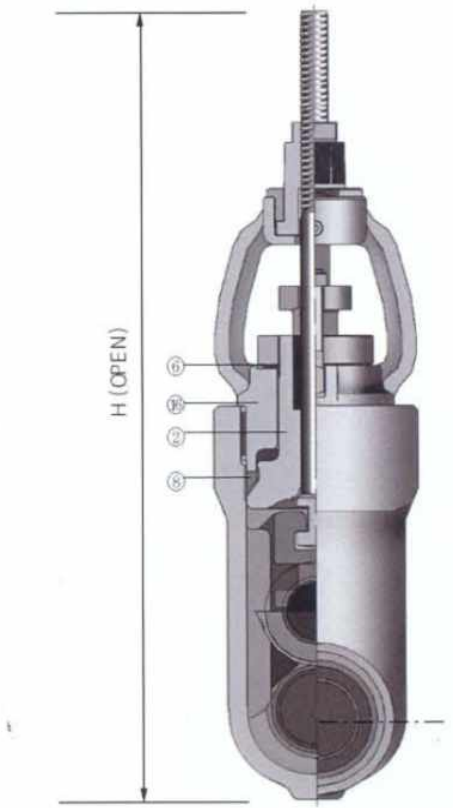
All DONG-A VALVE pressure seal gate valves have the features shown below.

They are engineered to provide convenience, durability and maintainability.



General Description of PSB Gate Valves





No	PART NAME	CARBON STEEL		ALLOY STEEL			S STEEL
		WCB	LCB	WC6	WC9	C5	CF 8M
1	BODY	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351-CF8M
2	BONNET	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351-CF8M
3	DISK	WCB + 13CR	LCB + 304S	WC6 + 13CR	WC9 + 13CR	C5 + 13CR	A351-CF8M
4	SEAT RING	A105 + STL#6	304S + STL#6	304S + STL#6	304S + STL#6	304S + STL#6	316S + STL#6
5	STEM	A479 Gr 410	A276-304	A479 Gr 410	A479 Gr 410	A479 Gr 410	A276-316
6	WASHER	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	A240 Gr304
7	BONNET NUT	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	A240 Gr304
8	GASKET	SOFT STEEL	304SS	304SS	304SS	304SS	316SS
9	PACKING RING	A479 Gr 410	A276-304	A479 Gr 410	A479 Gr 410	A479 Gr 410	A276-316
10	PACKING	GRIPHITE(CENTER RINGS) + CARBON FIBER(TOP & BOTTOM RINGS)					
11	GLAND RING	A479 Gr 410	A276-304	A479 Gr 410	A479 Gr 410	A479 Gr 410	A276-316
12	GLAND FLANGE	A105/WCB	A105/WCB	A105/WCB	A105/WCB	A105/WCB	A351-CF8
13	GLAND BOLT	A307B	A307B	A307B	A307B	A307B	A194 GrB8
14	GLAND NUT	A563A	A563A	A563A	A563A	A563A	A194 Gr8
15	PIN	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	304SS
16	YOKE	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351-CF8M
17	SLEEVE	A439 Gr D2C	A439 Gr D2C	A439 Gr D2C	A439 Gr D2C	A439 Gr D2C	A439 Gr D2C
18	SLEEVE GLAND	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	304SS
19	GREASE NIPPLE	STEEL	STEEL	STEEL	STEEL	STEEL	BRASS
20	HAND WHEEL	A395	A395	A395	A395	A395	A395
21	WHEEL NUT	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	304SS
22	SET SCREW	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	304SS

CLASS 600

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(BW)	inch	7	8.5	10	12	15	18	23	28	32	35
	mm	178	216	254	305	381	457	584	711	813	889
L(RF)	inch	11.5	13	14	17	20	22	26	31	33	35
	mm	292	330	356	432	508	559	660	787	838	889
H	inch	19.49	20.47	22.05	27.56	32.57	35.04	41.34	50.79	57.09	63.78
	mm	495	520	560	700	827	890	1,050	1,290	1,450	1,620
D	inch	7.87	8.82	9.84	13.98	15.75	17.72	19.69	27.95	31.5	31.5
	mm	200	224	250	355	400	450	500	710	800	800

CLASS 900

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(BW)	inch	8.5	10	12	14	17	20	26	31	36	39
	mm	216	254	305	356	432	508	660	787	914	991
L(RF)	inch	14.5	16.5	15	18	22	24	29	33	38	40.5
	mm	368	419	381	457	559	610	737	838	965	1,029
H	inch	22.44	23.23	24.02	28.54	32.53	35.63	43.9	55.31	62.99	67.32
	mm	570	590	610	725	826	905	1,115	1,405	1,600	1,710
D	inch	9.84	9.84	12.4	13.98	15.75	17.72	19.69	19.69	27.95	31.5
	mm	250	250	315	355	400	450	500	500	710	800

CLASS 1500

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(BW)	inch	8.5	10	12	16	19	22	28	34	39	42
	mm	216	254	305	406	483	559	711	864	991	1,067
L(RF)	inch	14.5	16.5	18.5	21.5	26.5	27.75	32.75	39	44.5	49.5
	mm	368	419	470	546	673	705	832	991	1,130	1,257
H	inch	22.44	23.23	26.77	31.3	34.45	39.76	43.11	50.98	55.9	59.45
	mm	570	590	680	795	875	1,010	1,095	1,295	1,420	1,510
D	inch	9.84	9.84	13.98	15.75	17.72	19.69	27.95	27.95	31.5	31.5
	mm	250	250	355	400	450	500	710	710	800	800

CLASS 2500

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(BW)	inch	11	13	14.5	18	21	24	30	36	41	44
	mm	279	330	368	457	533	610	762	914	1,041	1,118
L(RF)	inch	17.75	20	22.75	26.5	31.25	36	40.25	50	56	
	mm	451	508	578	673	794	914	1,022	1,270	1,422	-
H	inch	24.8	24.8	25.79	30.37	35.31	36.02	47.83	55.51	59.45	
	mm	630	630	655	771	897	915	1,215	1,410	1,510	-
D	inch	12.4	13.98	15.75	19.69	19.69	27.95	31.5	31.5	31.5	
	mm	315	355	400	500	500	710	800	800	800	-

DESCRIPTION OF Pressure Seal Cover Swing Check Valves

The performance pressure seal cover swing check valves

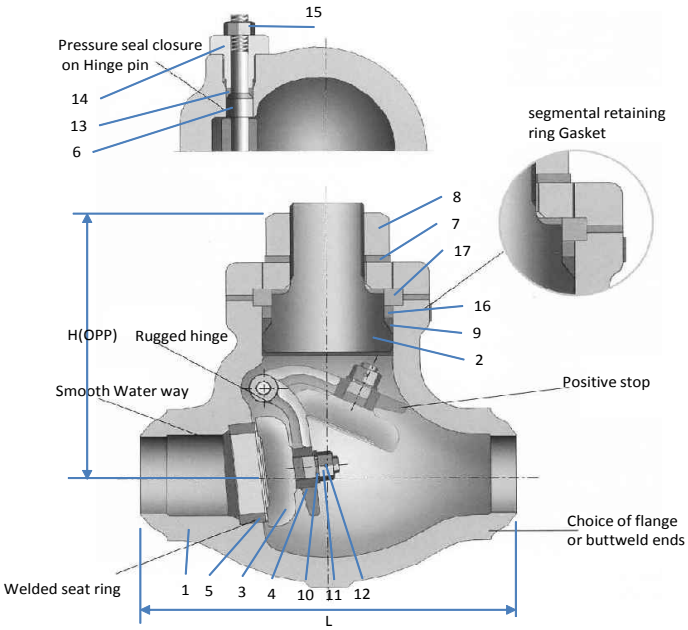
Pressure seal bonnet swing check valves have the same application features as bolted bonnet valves shown on this page.The major difference is that the bonnet is designed for high-pressure, high-temperature service.

Swing check valves are best suited for moderate velocity applications. Either too low or too high a velocity can seriously damage the valve's internals. Valve damage can also be caused by rapid and frequent flow reversals, pulsations or execessive turbulence.

Swing check valves sre designed for intallation in horizontal lines. They may also be used in vertical lines when the flow is upward under the disc.

DONG-A VALVE cast steel pressure seal valves comply with the design and test requirements of ASME B16.34 and the installation dimensions of ASME B16.10.

All DONG-A VALVE pressure seal swing check valves have the feature shown below. They are engineered to provide convenience, durability and maintainability.



No	PART NAME	CARBON STEEL		ALLOY STEEL			S STEEL
		WCB	LCB	WC6	WC9	C5	CF 8M
1	BODY	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351-CF8M
2	COVER	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351-CF8M
3	DISK	WCB + 13CR	LCB + 304S	WC6 + 13CR	WC9 + 13CR	C5 + 13CR	A351-CF8M
5	SEAT RING	A105+STL#6	304SS+STL#6	304SS+STL#6	304SS+STL#6	304SS+STL#6	316SS+STL#6
6	HINGE PIN	A479 Gr 410	A276-304	A479 Gr 410	A479 Gr 410	A479 Gr 410	A276-304
7	COVER WASHER	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	A240 Gr304
8	COVER NUT	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	A240 Gr304
9	GASKET	SOFT IRON	304SS	304SS	304SS	304SS	316SS
10	DISK WASHER	304SS	304SS	304SS	304SS	304SS	316SS
11	DISK NUT	A194 Gr 8	A194 Gr 8	A194 Gr 8	A194 Gr 8	A194 Gr 8	A194 Gr 8M
12	SPLIT PIN	304SS	304SS	304SS	304SS	304SS	316SS
13	HINGE GASKET	304SS	304SS	304SS	304SS	304SS	316SS
14	HINGE RETAINER	304SS	304SS	304SS	304SS	304SS	316SS
15	HINGE NUT	A194 Gr 2H	A194 Gr 8	A194 Gr 8	A194 Gr 8	A194 Gr 8	A194 Gr 9
16	GASKET RING	304SS	304SS	304SS	304SS	304SS	316SS
17	RETAINER RING	CARBON STEEL	CARBON STEEL	304SS	304SS	304SS	304SS

CLASS 600

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(BW)	inch	7	8.5	10	12	15	18	23	28	32	35
	mm	178	216	254	305	381	457	584	711	813	889
L(RF)	inch	11.5	13	14	17	20	22	26	31	33	35
	mm	292	330	356	432	508	559	660	787	838	889
H	inch	9.25	10.24	11.22	12.2	13.5	15.16	19.09	21.26	23.62	26.77
	mm	235	260	285	310	343	385	485	540	600	680

CLASS 900

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(BW)	inch	8.5	10	12	14	17	20	26	31	36	39
	mm	216	254	305	356	432	508	660	787	914	991
L(RF)	inch	14.5	16.5	15	18	22	24	29	33	38	40.5
	mm	368	419	381	457	559	610	737	838	965	1,029
H	inch	9.45	10.43	12.2	13.58	14.25	15.75	20.08	22.44	24.61	28.54
	mm	240	265	310	345	362	400	510	570	625	725

CLASS 1500

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(BW)	inch	8.5	10	12	16	19	22	28	34	39	42
	mm	216	254	305	406	483	559	711	864	991	1,067
L(RF)	inch	14.5	16.5	18.5	21.5	26.5	27.75	32.75	39	44.5	49.5
	mm	368	419	470	546	673	705	832	991	1,130	1,257
H	inch	22.44	23.23	26.77	31.3	34.45	39.76	43.11	50.98	55.9	59.45
	mm	570	590	680	795	875	1,010	1,095	1,295	1,420	1,510

CLASS 2500

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(BW)	inch	11	13	14.5	18	21	24	30	36	41	44
	mm	279	330	368	457	533	610	762	914	1,041	1,118
L(RF)	inch	17.75	20	22.75	26.5	31.25	36	40.25	50	56	
	mm	451	508	578	673	794	914	1,022	1,270	1,422	-
H	inch	9.84	11.02	13.78	15.75	16.53	17.72	21.26	24.12	26.97	
	mm	250	280	350	400	420	450	540	613	685	-

General Description of PSB Globe Valves

Features

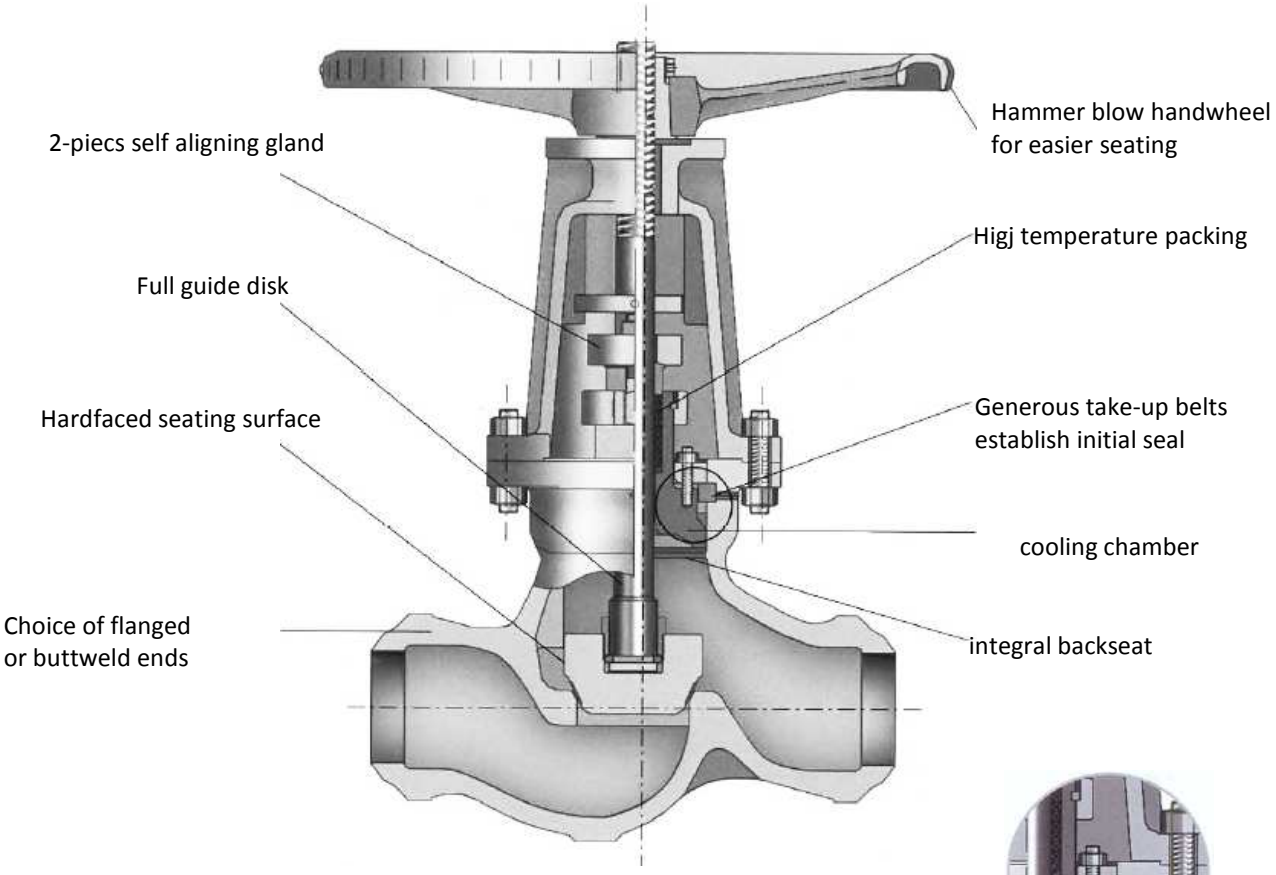
The performance pressure seal bonnet gate valves

Pressure seal bonnet globe valves have same application features as bolted bonnet valves shown on the page. The major difference is that the bonnet is designed for high-pressure, high-temperature service.

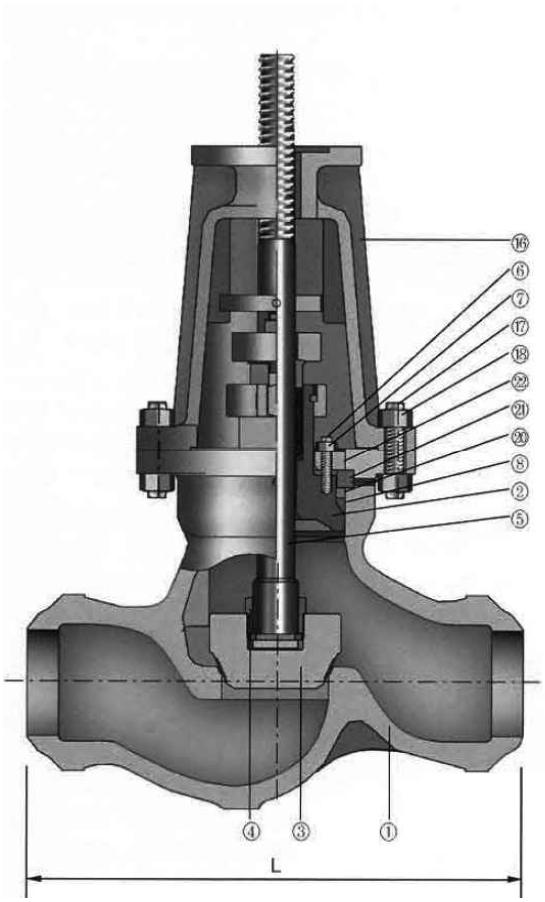
The pressure seal bonnet joint eliminates the body/bonnet flanges reducing weight and simnplifying the application of exterior insulation. Contrary to bolted bonnet valves. Internal pressure applied to a pressure seal valves forces the sealing elements into tighter contact the higher the internal pressure, the tighter the seal.

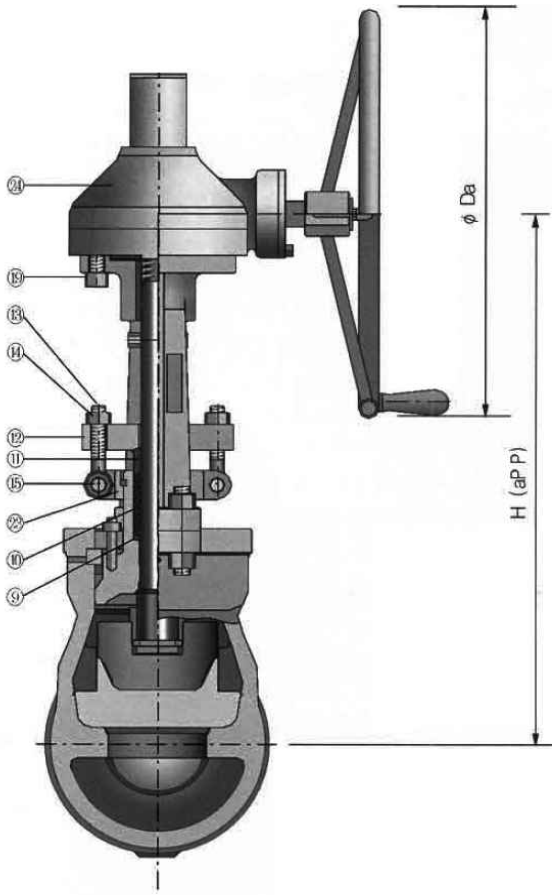
DONG-A VALVE cast steel pressure seal valves comply with the design and test requirements of ASME B16.34 and the installation dimensions of ASME B16.10.

All DONG-A VALVE pressure seal gate valves have the features shown below. They are engineered to provide convenience, durability and maintainability.



Segmental retaining ring Gasket





◎ Standard Material Specifications

No	PART NAME	CARBON STEEL		ALLOY STEEL			S STEEL
		WCB	LCB	WC6	WC9	C5	CF 8M
1	BODY	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351-CF8M
2	BONNET	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351-CF8M
3	DISK	WCB + 13CR	LCB + 304S	WC6 + 13CR	WC9 + 13CR	C5 + 13CR	A351-CF8M
4	DISK GLAND	A479 Gr 410	A276-304	A479 Gr 410	A479 Gr 410	A479 Gr 410	A276-316
5	STEM	A479 Gr 410	A276-304	A479 Gr 410	A479 Gr 410	A479 Gr 410	A276-316
6	BONNET BOLT	A193-GrB7	A320 Gr L7	A193-Gr B16	A193-Gr B16	A193-Gr B16	A193-Gr B8
7	BONNET NUT	A194-Gr2H	A194 Gr4	A194 Gr4	A194 Gr4	A194 Gr4	A194-Gr B8
8	GASKET	SOFT STEEL	304SS	304SS	304SS	304SS	316SS
9	PACKING RING	A479 Gr 410	A276-304	A479 Gr 410	A479 Gr 410	A479 Gr 410	A276-316
10	PACKING	GRIPHITE(CENTER RINGS) + CARBON FIBER(TOP & BOTTOM RINGS)					
11	GLAND RING	A479 Gr 410	A276-304	A479 Gr 410	A479 Gr 410	A479 Gr 410	A276-316
12	GLAND FLANGE	A105/WCB	A105/WCB	A105/WCB	A105/WCB	A105/WCB	A351-CF8
13	GLAND BOLT	A307B	A307B	A307B	A307B	A307B	A193 GrB8
14	GLAND NUT	A563A	A563A	A563A	A563A	A563A	A194 Gr8
15	PIN	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	304SS
16	YOKE	A216 Gr WCB	A352 Gr LCB	A217 Gr WC6	A217 Gr WC9	A217 Gr C5	A351-CF8M
17	YOKE BOLT	A193 Gr B7	A193 Gr B7	A193 Gr B7	A193 Gr B7	A193 Gr B7	A193 Gr B8
18	YOKE NUT	A194 Gr 2H	A194 Gr 2H	A194 Gr 2H	A194 Gr 2H	A194 Gr 2H	A194 Gr8
19	MOUNTING BOLT	A193 Gr B7	A193 Gr B7	A193 Gr B7	A193 Gr B7	A193 Gr B7	A193 Gr B7
20	GASKET RING	304SS	304SS	304SS	304SS	304SS	316SS
21	RETAINER RING	CARBON STEEL	CARBON STEEL	304SS	304SS	304SS	316SS
22	BONNET PLATE	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	304SS
23	GLAND BOLT CLAMP	A216 Gr WCB	A216 Gr WCB	A216 Gr WCB	A216 Gr WCB	A216 Gr WCB	A351-CF8
24	GEAR ASSY	OPTION					

General Description of PSB Globe Valves

CLASS 600

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(RF) L(BW)	inch	11.5	13	14	17	20	22	26	31	33	35
	mm	292	330	356	432	508	559	660	787	838	889
H	inch	21.26	24.41	25.98	28.94	37.55	44.09	47.64	53.94	56.1	61
	mm	540	620	660	735	954	1,120	1,210	1,370	1,425	1,549
D	inch	9.84	12.4	13.98	17.72	17.72	17.72	19.69	31.5	31.5	31.5
	mm	250	315	355	450	450	450	500	800	800	800

CLASS 900

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(RF) L(BW)	inch	14.5	16.5	15	18	22	24	29	33	38	40.5
	mm	368	419	381	457	559	610	737	838	965	1,029
H	inch	23.82	24.8	27.95	32.48	38.65	43.5	48.62	54.72	61.42	61
	mm	605	630	710	825	982	1,105	1,235	1,390	1,560	1,549
D	inch	12.4	13.98	13.98	15.74	19.69	19.69	27.56	31.5	31.5	31.5
	mm	315	355	355	400	500	500	700	800	800	800

CLASS 1500

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(RF) L(BW)	inch	8.5	10	12	16	19	22	28	34	39	42
	mm	216	254	305	406	483	559	711	864	991	1,067
H	inch	14.5	16.5	18.5	21.5	26.5	27.75	32.75	39	44.5	49.5
	mm	368	419	470	546	673	705	832	991	1,130	1,257
D	inch	22.44	23.23	26.77	31.3	34.45	39.76	43.11	50.98	55.9	59.45
	mm	570	590	680	795	875	1,010	1,095	1,295	1,420	1,510

CLASS 2500

size	inch	2	2½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L(RF) L(BW)	inch	17.75	20	22.75	26.5	31.25	36	40.25	50	56	
	mm	451	508	578	673	794	914	1,022	1,270	1,422	-
H	inch	24.02	28.35	29.53	37.4	45.55	49.21	66.34	72.83	78.35	
	mm	610	720	750	950	1,157	1,250	1,685	1,850	1,990	-
D	inch	13.98	17.72	19.69	27.56	27.56	27.56	31.5	31.5	31.5	
	mm	355	450	500	700	700	700	800	800	800	-

The Features of Pressure Seal

The basic operation of this kind of valves, where the seal is achieved from the pressure exertred by the fluid flowing through the valves, is as follows :

Internal pressure forces the bonnet upwards against the gasket creating force in the areas of contact between the gasket and bonnet (wedge shape area). And between the gasket and the body (valves passage area).

See fig 1. The quantity of the seal between the surfaces depends upon to basic considerations, these being the surface quantoty of the areas in contact, and the degree of force(load per unit area) which holds them together.

its easier to achieve seal from the two gasket surfaces where a seal is made (gasket bonnet and gasket body) in the gasket bonne contact area, in comparison to the larger component of the force exerted by the pressure inside, and more than sufficient to provide a tight seal.

Leak most commonly arise at the contact surface between the gasket and body. The area where the body is in cntact with the joint (Fig. 2) is covered with stainless steel, and this improves surface quality and avoids corrosion problems.

The force actuating between the contact joint body surfaces is the horizontal component of force perpendicular to the contact surface between the bevelled surfaces of the joint and bonnet.

The eficiency of the seal between the gasket and bode is determined basically by the gasket angle, which in turn determines the horizontal force component that will act upon them. The smaller the gasket angle, the greater the horizontal component is, and hence, the shaper the angle on the bevelled surface, the graster the horizontal component, and the better the seal.

A gasket designed with a 25º angle(Fig. 3) will turn into radial force, a greater component of the force exerted by the pressure from the line on the bonnet, than a gasket designed with an angle of 30º,40º (Fig.4). Moreover in order to achieve large unitary loads, the surface upon which the force is exerted may be reduces, with checks being perfomed to ensure that the surface is sufficient to support the load without cracking.

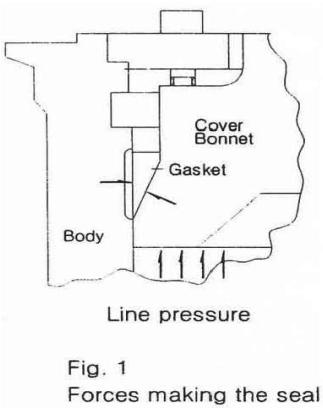


Fig. 1
Forces making the seal

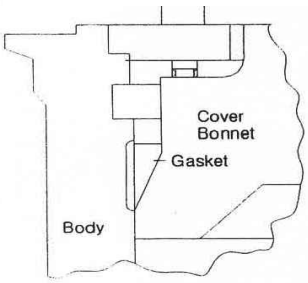
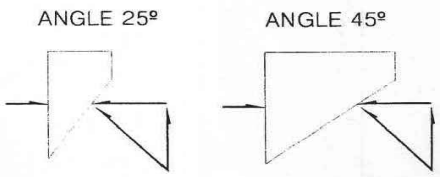


Fig. 2



When a pressure seal joint is required to seal over a large range of pressure, there may be difficulties. A gasket which is sufficiently small so as to seal under a pressure of 500psi, may not support 2,500psi. A way to overcome this problem is to design the gasket bonnet contact surface to have a difference of one degree between them(fig. 5)

Before the gasket is tightend, only its edge is in contact with the bonnet (fig6). Under pressure, one part of the gasket will deform and enter into contact with the bonnet(fig. 7). A careful design of the gasket pressure seal angle will prevent those more serious difficulties found with large angle gasket (30º ~ 40º). With narrow gasket angle (25º), a tight seal can be achieve by applying little pressure, and once the seal has been made, it will stay tight regardless of line conditions. Certain tests performed with narrow gasket (15º~ 20º), showed that the seal become so tight that it was impossible to remove the gasket. A gasket of approximately 25º is found to produce a seal that can be easily dismantled.

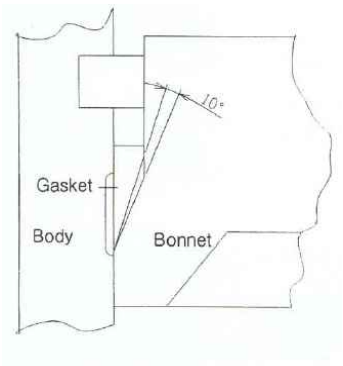


Fig. 5

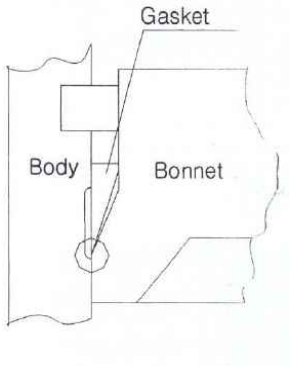


Fig. 6

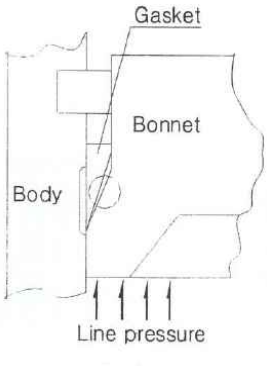
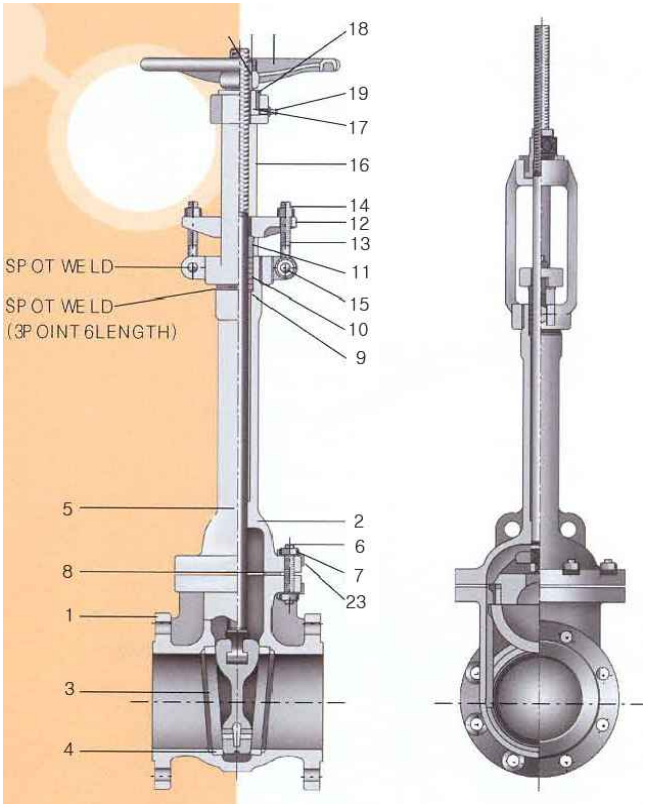


Fig. 7

Gate Valve of Cryogenic Using



CLASS	RANGE
150	1/2" Over
300	1/2" Over
600	1/2" Over

End connection

- R.F FLANGED ENDS
- B.W ENDS
- R.T.J FLANGED ENDS

Specification

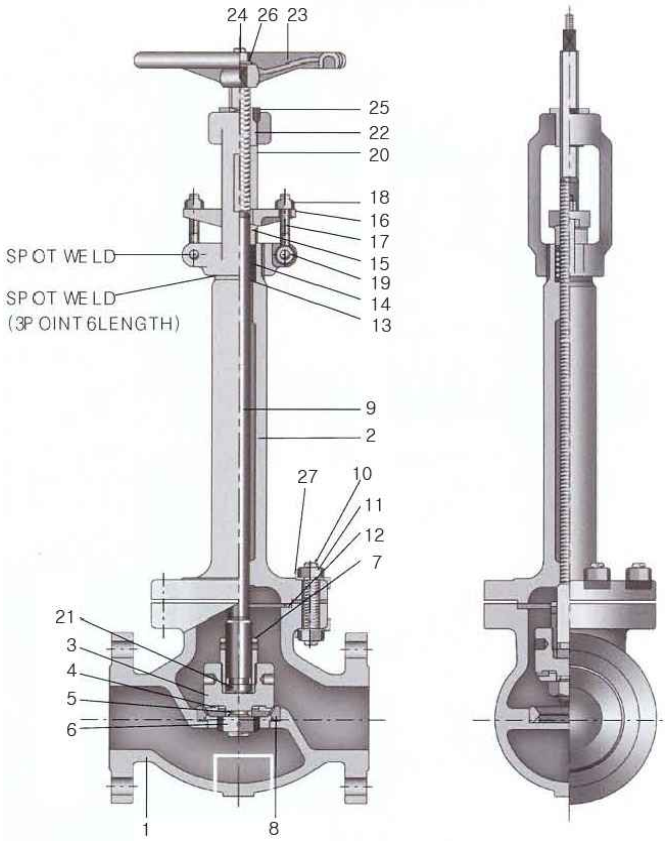
Face to face	API6D / ASME B16.10
Flange dimension	ASME B16.5
Wall thickness	ASME B16.34
Test	API 598, BS6364

* Not specified large size, Please contact to business department.

□ Standard Material Specifications

PARTS \ ASTM Design		A351				REMARK
		CF8	CF8M	CF3	CF3M	
1	BODY	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
2	BONNET	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
3	DISK	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
4	SEAT RING	316SS+STL	316SS+STL	316SS+STL	316LSS+STL	
5	STEM	A276-316	A276-316	A276-316	A276-316L	
6	BONNET BOLT	A320 B8M	A320 B9M	A320 B10M	A320 B11M	
7	BONNET NUT	A194 8M	A194 9M	A194 10M	A194 11M	
8	GASKET	SPIRAL WOUND	SPIRAL WOUND	SPIRAL WOUND	SPIRAL WOUND	
9	PACKING RING	A276-316	A276-316	A276-316	A276-316L	
10	PACKING RING	PTFE or Griphite	PTFE or Griphite	PTFE or Griphite	PTFE or Griphite	
11	GRAND RING	A276-316	A276-316	A276-316	A276-316L	
12	GRAND PLATE	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
13	EYE BOLT	A193-B8M	A193-B9M	A193-B10M	A193-B11M	
14	EYE BOLT NUT	A194 8M	A194 9M	A194 10M	A194 11M	
15	EYE BOLT PIN	316SS	316SS	316SS	316L SS	
16	YOKE	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
17	SLEEVE	A494 D2C	A494 D3C	A494 D4C	A494 D5C	
18	SLEEVE GLAND	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
19	GREESE NIPPLE	316SS	316SS	316SS	316SS	
20	HAND WHEEL	A395	A395	A395	A395	
21	HAND WHEEL NUT	316SS	316SS	316SS	316L SS	
22	SET SCREW	316SS	316SS	316SS	316L SS	
23	STOPPER	316SS	316SS	316SS	316L SS	

Globe Valve of Cryogenic Using



CLASS	RANGE
150	1/2" Over
300	1/2" Over
600	1/2" Over

End connection

- R.F FLANGED ENDS
- B.W ENDS
- R.T.J FLANGED ENDS

Specification

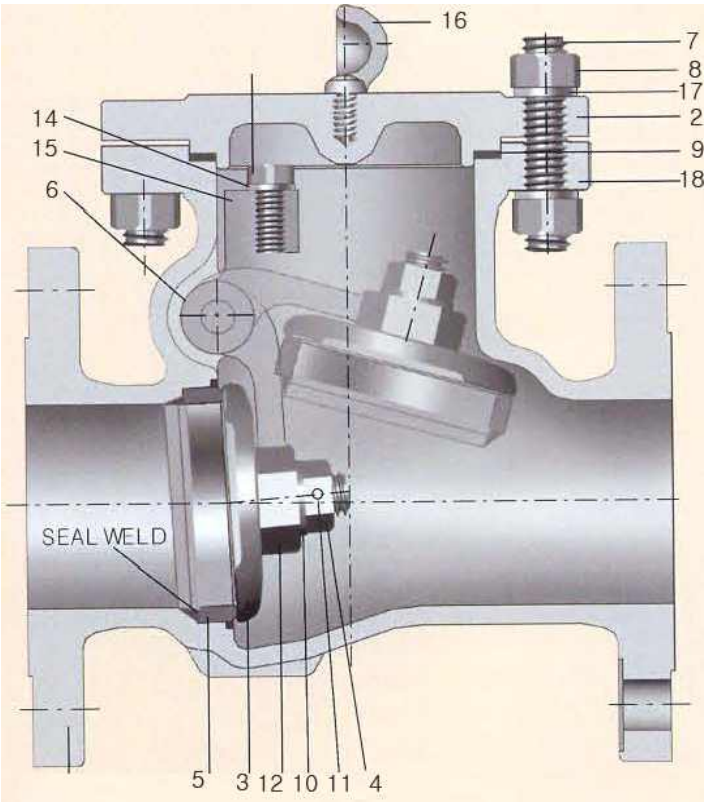
Face to face	ASME B16.10
Flange dimension	ASME B16.5
Wall thickness	ASME B16.34
Test	API 598, BS6364

* Not specified large size, Please contact to business department.

□ Standard Material Specifications

PARTS \ ASTM Design		A351				REMARK
		CF8	CF8M	CF3	CF3M	
1	BODY	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
2	BONNET	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
3	DISK	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
4	DISK SEAT	KEL-F or PTFE	KEL-F or PTFE	KEL-F or PTFE	KEL-F or PTFE	
5	SEAT GLAND	S316SS	S316SS	S316SS	S316LSS	
6	SEAT NUT	S316SS	S316SS	S316SS	S316LSS	
7	DISK GLAND	S316SS	S316SS	S316SS	S316LSS	
8	SEAT RING	S316SS	S316SS	S316SS	S316LSS	
9	SETM	A276-316	A276-316	A276-316	A276-316L	
10	BONNET BOLT	A320 B8M	A320 B8M	A320 B8M	A320 B8M	
11	BONNET NUT	A194 8M	A194 8M	A194 8M	A194 8M	
12	GASKET	SPIRAL WOUND	SPIRAL WOUND	SPIRAL WOUND	SPIRAL WOUND	
13	PACKING RING	A276-316	A276-316	A276-316	A276-316L	
14	PACKING	PTFE	PTFE	PTFE	PTFE	
15	GRAND RING	A276-316	A276-316	A276-316	A276-316L	
16	GRAND PLATE	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
17	EYE BOLT	A193 8M	A193 8M	A193 8M	A193 8M	
18	EYE BOLT NUT	A194 8M	A194 8M	A194 8M	A194 8M	
19	EYE BOLT PIN	316SS	316SS	316SS	316L SS	
20	YOKE	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
21	STOPPER	316SS	316SS	316SS	316SS	
22	SLEEVE	A439-D2C	A439-D2C	A439-D2C	A439-D2C	
23	HANDWHEEL	A395	A395	A395	A395	

Swing Check Valve of Cryogenic Using



CLASS	RANGE
150	1/2" Over
300	1/2" Over
600	1/2" Over

End connection

- R.F FLANGED ENDS
- B.W ENDS
- R.T.J FLANGED ENDS

Specification

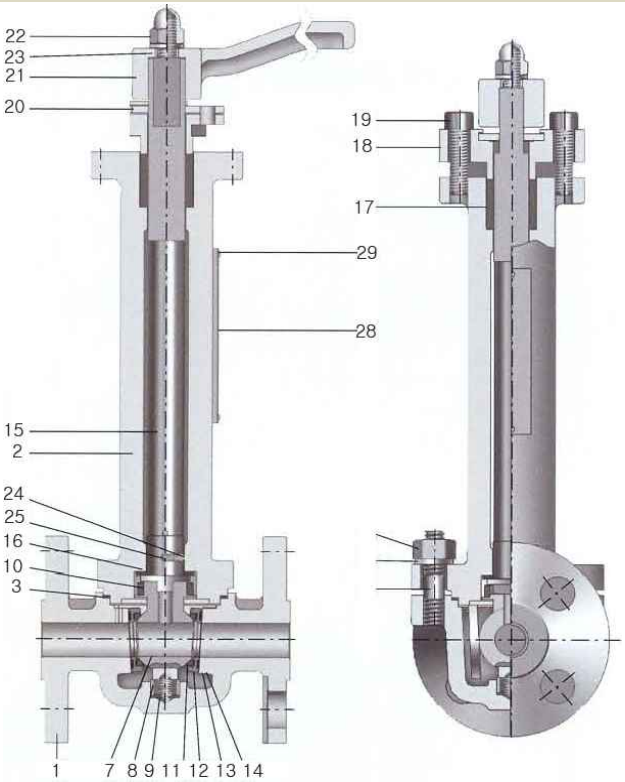
Face to face	API6D / ASME B16.10
Flange dimension	ASME B16.5
Wall thickness	ASME B16.34
Test	API 598, BS6364

* Not specified large size, Please contact to business department.

□ Standard Material Specifications

PARTS \ ASTM Design		A351				REMARK
		CF8	CF8M	CF3	CF3M	
1	BODY	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
2	COVER	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
3	DISK	A351-CF8+STL	A351-CF8M+STL	A351-CF3+STL	A351-CF3M+STL	
4	DISK NUT	A194 8M	A194 8M	A194 8M	A194 8M	
5	SEAT RING	316SS+STL	316SS+STL	316SS+STL	316L SS+STL	
6	HINGE PIN	A276-316	A276-316	A276-316	A276-316L	
7	COVER BOLT	A320 B8M	A320 B8M	A320 B8M	A320 B8M	
8	COVER NUT	A194 8M	A194 8M	A194 8M	A194 8M	
9	COVER GASKET	SPIRAL WOUND	SPIRAL WOUND	SPIRAL WOUND	SPIRAL WOUND	
10	DISK WASHER	A240 316	A240 316	A240 316	A240 316L	
11	SPLIT PIN	316SS	316SS	316SS	316SSL	
12	ARM	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
13	HINGE BOLT	A193-B8M	A193-B8M	A193-B8M	A193-B8M	
14	HINGE SPRING WASHER	316SS	316SS	316SS	316L SS	
15	HINGE	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
16	LIFTING EYE BOLT	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
17	SPRING WASHER	304SS	304SS	316SS	316L SS	
18	NAME PLATE	304SS	304SS	316SS	316L SS	

Top Entry Ball Valves of Cryogenic Using



CLASS	RANGE
150	1/2" Over
300	1/2" Over
600	1/2" Over

End connection

- R.F FLANGED ENDS
- B.W ENDS
- R.T.J FLANGED ENDS

Specification

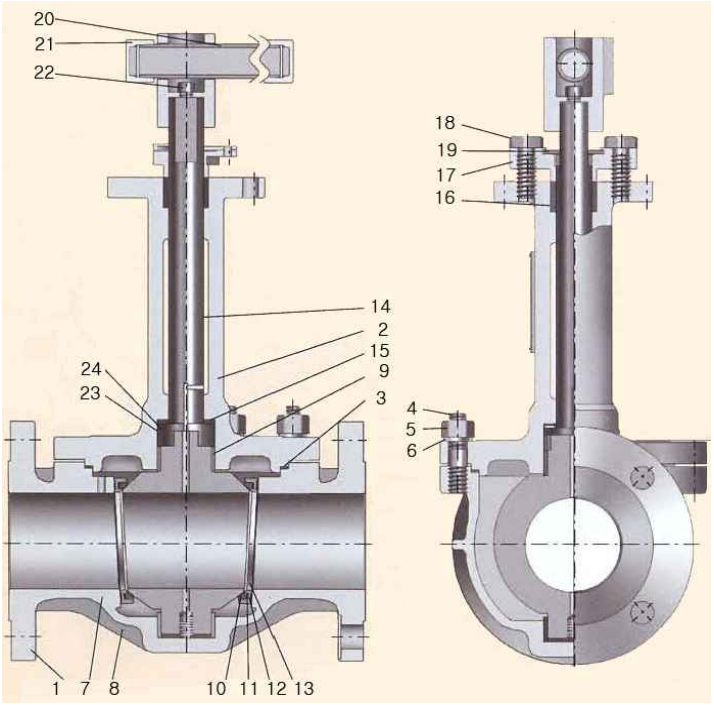
Face to face	API6D / ASME B16.10
Flange dimension	ASME B16.5
Wall thickness	ASME B16.34
Test	API 598, BS6364

* Not specified large size, Please contact to business department.

□ Standard Material Specifications

PARTS		ASTM Design	A351				REMARK
			CF8	CF8M	CF3	CF3M	
1	BODY		A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
2	CAP		A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
3	CAP GASKET		GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	
4	CAP BOLT		A32B B8M	A32B B8M	A32B B8M	A32B B8M	
5	CAP NUT		A194 8M	A194 8M	A194 8M	A194 8M	
6	SPRING WASHER		S316SS	S316SS	S316SS	S316LSS	
7	BALL		A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
8	TRUNNION BEARING		KEL-F	KEL-F	KEL-F	KEL-F	
9	BALL THRUST		GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	
10	RETAINER RING		S316SS	S316SS	S316SS	S316LSS	
11	SEAT		KEL-F	KEL-F	KEL-F	KEL-F	
12	BOTTOM SEAL		GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	
13	SEAT HOLDER		S316SS	S316SS	S316SS	S316LSS	
14	HOLDER SEAL		GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	
15	STEM		A276-316	A276-316	A276-316	A276-316L	
16	THRUST SEAL		GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	
17	PACKING		GRIPHITE	GRIPHITE	GRIPHITE	GRIPHITE	
18	GLAND FLANGE		A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
19	GLAND BOLT		A193-B8M	A193-B8M	A193-B8M	A193-B8M	
20	STOPPER		A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
21	LEVER		A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
22	HEX CAP PIN		316SS	316SS	316SS	316L SS	
23	SPRING WASHER		316SS	316SS	316SS	316L SS	
24	ANTISTATIC BALL		316SS	316SS	316SS	316L SS	
25	ANTISTATIC SPRING		316SS	316SS	316SS	316L SS	

Top Entry Ball Valves of Cryogenic Using



CLASS	RANGE
150	1/2" Over
300	1/2" Over
600	1/2" Over

End connection

- R.F FLANGED ENDS
- B.W ENDS
- R.T.J FLANGED ENDS

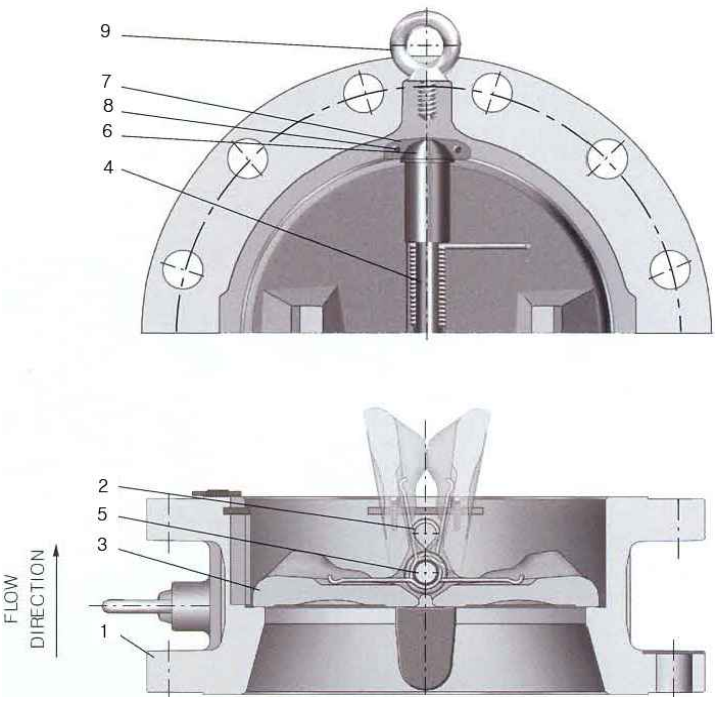
Specification

Face to face	API6D / ASME B16.10
Flange dimension	ASME B16.5
Wall thickness	ASME B16.34
Test	API 598, BS6364

* Not specified large size, Please contact to business department.

□ Standard Material Specifications

PARTS \ ASTM Design		A351				REMARK
		CF8	CF8M	CF3	CF3M	
1	BODY	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
2	CAP	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
3	CAP GASKET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	
4	CAP BOLT	A320 B8M	A320 B8M	A320 B8M	A320 B8M	
5	CAP NUT	A194 8M	A194 8M	A194 8M	A194 8M	
6	SPRING WASHER	S316SS	S316SS	S316SS	S316LSS	
7	BALL	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
8	TRUNNION BEARING	KEL-F	KEL-F	KEL-F	KEL-F	
9	RETAINER RING	KEL-F	KEL-F	KEL-F	KEL-F	
10	SEAT	KEL-F	KEL-F	KEL-F	KEL-F	
11	BOTTOM SEAL	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	
12	SEAT HOLDER	S316SS	S316SS	S316SS	S316LSS	
13	HOLDER SEAL	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	
14	STEM	A276-316	A276-316	A276-316	A276-316L	
15	THRUST SEAL	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	GRIPHITE SHEET	
16	PACKING	GRIPHITE	GRIPHITE	GRIPHITE	GRIPHITE	
17	GLAND FLANGE	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
18	GLAND BOLT	A193-B8M	A193-B8M	A193-B8M	A193-B8M	
19	STOPPER	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
20	LEVER	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	
21	HEX CAP PIN	316SS	316SS	316SS	316L SS	
22	SPRING WASHER	316SS	316SS	316SS	316L SS	
23	ANTISTATIC BALL	316SS	316SS	316SS	316L SS	
24	ANTISTATIC SPRING	316SS	316SS	316SS	316L SS	



CLASS	RANGE
150	2" Over
300	2" Over
600	2" Over

End connection

- R.F FLANGED ENDS
- R.T.J FLANGED ENDS

Specification

Face to face	API6D / ASME B16.10
Flange dimension	ASME B16.5
Wall thickness	ASME B16.34
Test	API 598, BS6364

* Not specified large size, Please contact to business department.

□ Standard Material Specifications

PARTS \ ASTM Design		A351				REMARK
		CF8	CF8M	CF3	CF3M	
1	BODY	A351-CF8	CF8M+STL	CF3+STL	A351-CF3M	
2	STOP PIN	A276-316	A276-316	A276-316	A276-316L	
3	DISK	CF8+STL	CF8M+STL	CF3+STL	CF3M+STL	
4	SPRING	INCONEL X750	INCONEL X750	INCONEL X750	INCONEL X750	
5	DISK PIN	A276-316	A276-316	A276-316	A276-316L	
6	PIN RETAINER	A351-CF8	CF8M+STL	CF3+STL	A351-CF3M	
7	STOPPER	A240-316	A240-316	A240-316	A240-316L	
8	SET SCREW	316SS	316SS	316SS	316L SS	
9	LIFT EYE BOLT	A182 F304	A182 F304	A182 F316	A182 F316L	

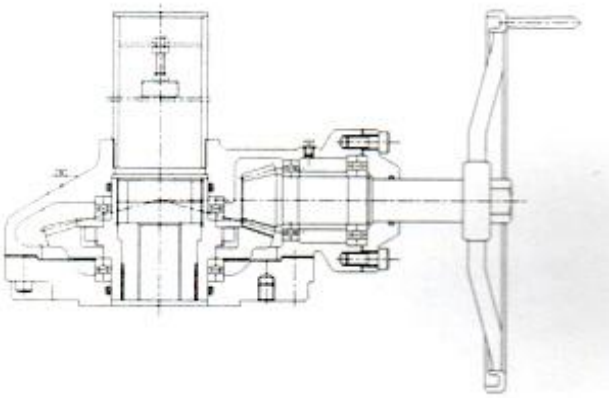
Bevel Gear Acturator, Chainwheels, Electric moter actuators

Bevel Gear Acturator

Auxiliary gearing is often desirable to facilitate the operation of large size valves required to close against high pressure. Namsung Cast Steel Valves can be furnished with a fully enclosed light and maintenance free bevel gear actuators

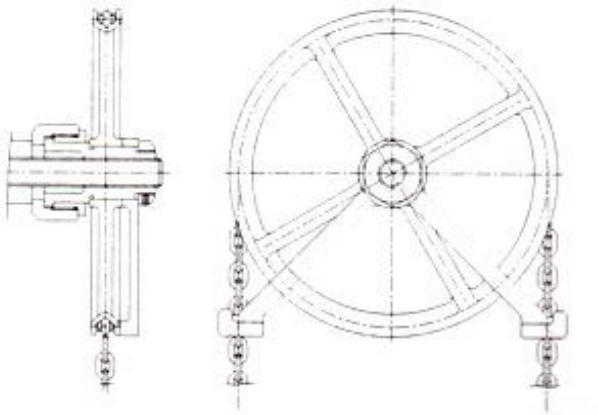
Inquires or order for valves with gear ctuators should inclide the following information.

* Size and figure number o valve
* Service media, pressure and temperature
* maximum pressure against which valve must close
* Any handwheel torque or ril pull limitation
* Desired orietation of handwheel to stem
* Desired orientation of handwheel to pipe run
* Limitations, if any, on the type or brand of actuator



Chainwheels

Chainwheels can be furnished complete with chainwheel and chain guide. They are means of safe and convenient floor operation of valves in overhead or inaccessible locations



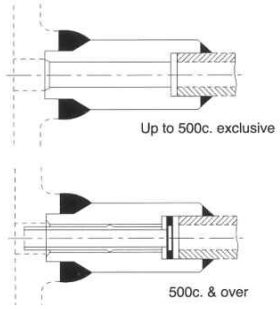
Electric moter actuators

Electic Motor Actuators are available for valves which are in accessibly located, or where emergency may require rapid, positive operation from a remote point. Namsung can supplies electric motor actuators for each type of Namsung Cast Steel Valves when required. Show on this page are examples of various available actuators.

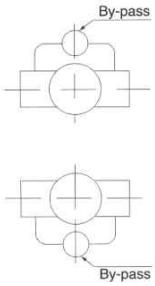
Inquires or order for valves with gear ctuators should inclide the following information.

* Size and figure number of valve
* Service media, pressure and temperature
* maximum pressure against which valve must close
* Desired step speed or closing time
* Desired orientation of handwheel to pipe run
* Frequency of dperation
* Electric power available (Voltage,Frequency & Phases)
* Nema type of electrical enclosure
* Reversing controller specifications
* control station specifications

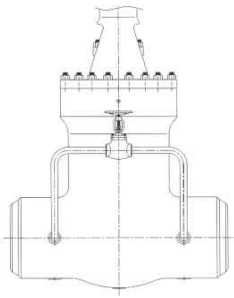
■ BY-PASS LOCATIONS

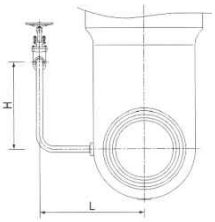


■ BY-PASS CONNECTIONS

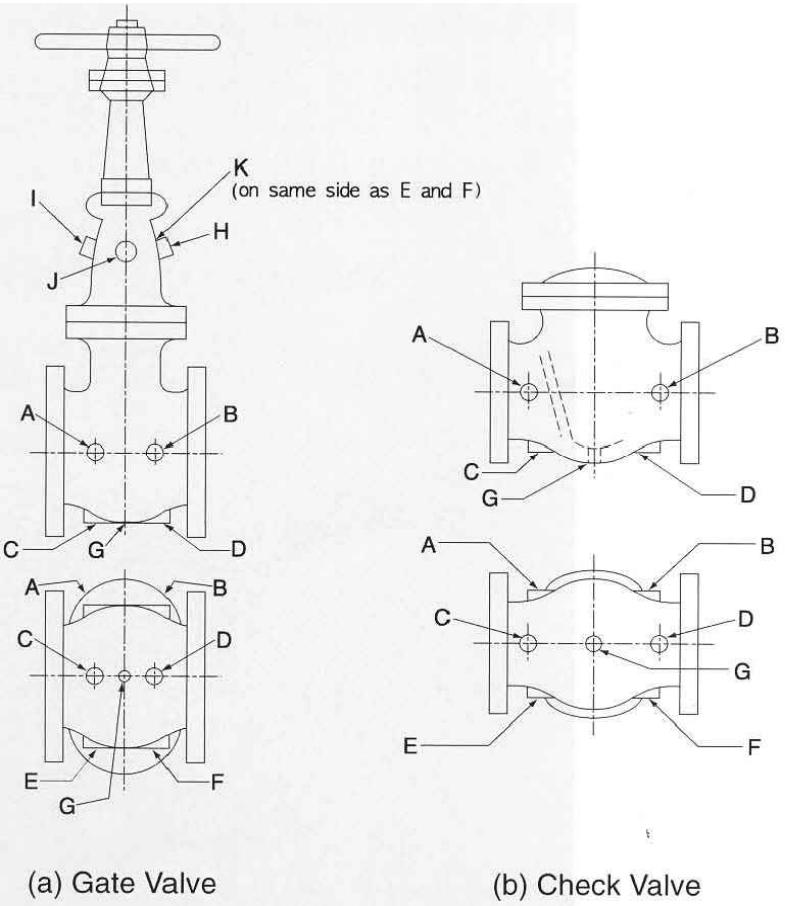


■ BY-PASS SIZES & DIMENSIONS

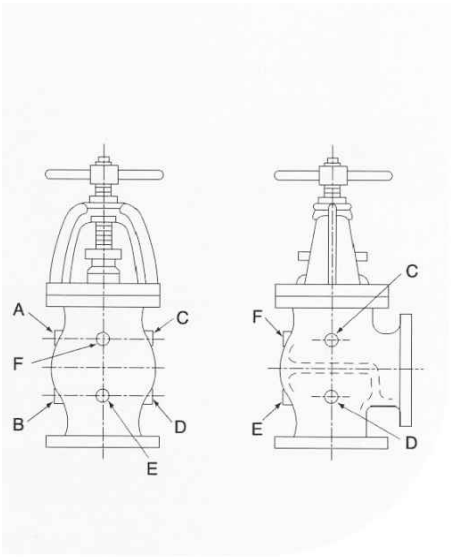




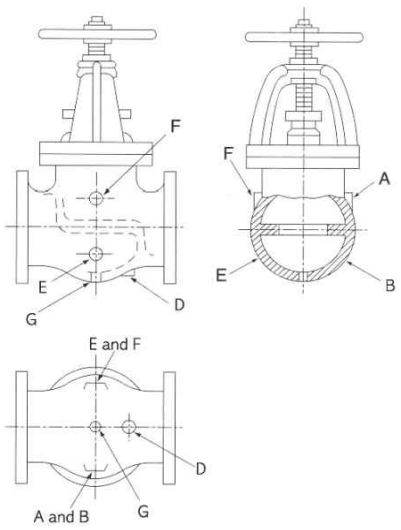
CLASS		1500							2500						
Main Valve Size		8	10	12	14	16	18	20	6	8	10	12	14	16	18
L	mm	305	335	370	390	445	500	560	290	350	390	450	450	500	550
	inch	12.01	13.19	14.57	15.35	17.52	19.69	22.05	11.42	13.78	16.35	17.72	17.72	19.69	21.65
H	mm	400	420	520	570	650	670	700	420	430	510	600	700	750	800
	inch	15.75	16.54	20.47	22.44	25.69	26.38	27.56	16.54	16.93	20.08	23.62	27.56	29.53	31.50
By-pass Size (NPS)		3/4	1	1	1	1	1	1	3/4	3/4	1	1	1	1	1



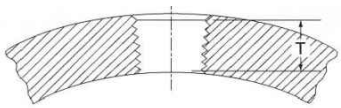
(a) Gate Valve (b) Check Valve (c) Ball Valve



(d) Angle Valve



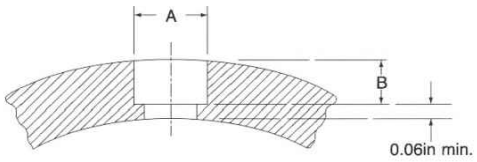
(e) Globe Valve



Conn. Size, NPS	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Length of Thread T, in. [Note (1)]	0.41	0.53	0.55	0.68	0.71	0.72	0.76

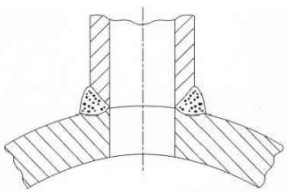
NOTE:
(1) In no case shall the effective length of thread T be less than that shown in table above. These lengths are equal to the effective thread length of American National Standard External Pipe Threads(ANSI/ASME B1.20.1).

THREAD LENGTH FOR AUXILIARY CONNECTIONS

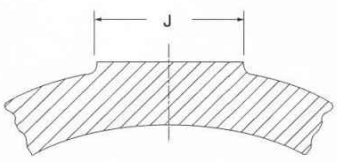


Conn. Size, NPS	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Min. Dia. of Socket A, in.	0.690	0.855	1.065	1.330	1.675	1.915	2.406
Min. Depth. of Socket B, in.	0.19	0.19	0.25	0.25	0.25	0.25	0.31

SOCKET WELDING FOR AUXILIARY CONNECTIONS



BUTT WELDING FOR AUXILIARY CONNECTIONS



Conn. Size, NPS	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Dia. of Boss, J, in	1.25	1.50	1.75	2.12	2.50	2.75	3.38

BOSSES FOR AUXILIARY CONNECTIONS

AI Quality Best Price

DONG-A VALVE

DONG-A VLAVE IND., CO.

Address : 1579-3 Songjung-dong, Kangseo-gu, Busan, Republic of Korea

TEL. +82-51-831-1503

FAX. +82-51-831-1509

Web Site : www.donga-valve.com

e-mail. da_valve@donga-valve.com