

OKV VALVES



BRONZE VALVES
CAST IRON VALVES
CAST STEEL VALVES
STAINLESS STEEL VALVES
STRAINERS

OKV

OK KWANG ENGINEERING CO., LTD

GREETINGS

IT IS A GREAT PLEASURE TO TAKE THIS OPPORTUNITY TO INTRODUCE
OK KWANG ENGINEERING CO., LTD. TO YOU.

SINCE IT'S FOUNDATION IN 1988 OUR COMPANY HAS PLAYED AN
IMPORTANT ROLE IN THE MARINE VALVES INDUSTRY IN KOREA.

THE FOCUS OF OUR MANAGEMENT STRATEGY HAS BEEN ALWAYS ON
STRICT QUALITY CONTROL, CONTINUING TECHNICAL DEVELOPMENT
AND IMPROVEMENT OF PRODUCTIVITY.

WE HAVE PLACED EMPHASIS ON THE TECHNOLOGICAL STANDARD OF
OUR MACHINERY AND CONSTANT RENEWAL OF EQUIPMENTS AND
FACILITIES WHICH ENABLE US TO MANUFACTURE THOSE PRODUCTS
IN ACCORDANCE OF BOTH OUR CUSTOMER AND OURSELVES.

WITH MUCH APPRECIATION TO ALL THOSE WHO HAVE GIVEN US
ENCOURAGEMENT IN MANY WAYS, OK KWANG VALVE AND IT'S ENTIRE
PERSONNEL PLEDGE OUR BEST EFFORTS TO MEET OUR OWN GOAL
AND THEREBY MATCH THE EXPECTATION OF OUR GROWING
CUSTOMER.



BRIEF HISTORY

- APR 1988 ESTABLISHED OK KWANG METAL VALVE AT #59-6, CHEONGHAK-DONG, YOUNGDO-KU, PUSAN, KOREA. AND PRODUCED OF BRONZE CASTING.
- DEC 1992 TAKE OVER SE-WOONG ENGINEERING AND MOVED IN TO THE NEW FACTORY AT #547-29, DONGSAM-DONG, YOUNGDO-KU, PUSAN, AND PRODUCED BRONZE VALVE.
- JAN 1996 MOVED IN TO THE NEW FACTORY #278-29 AND COMPANY NAME CHANGED TO KO KWANG VALVE CO.,LTD.
- NOV 1996 TAKE OVER DAE-DONG COMPANY AND PRODUCED CAST STEEL VALVE, CAST IRON VALVE, AND STRAINER.
- JAN 1997 COMBINATION DAE-DONG COMPANY WITH OK KWANG VALVE CO., LTD. AND MOVED #278-13 HAKJANG-DONG, SASANG-KU, PUSAN, DEVELOPED FOR BRONZE, CAST IRON, CAST STEEL, STRAINER AND SHIPBUILDING PRODUCTS AS SYNTHETIC VALVE MANUFACTURER.
- JUL 1997 REGISTERED TO HANLLA HEAVY INDUSTRY CO., LTD.
- OCT 1997 REGISTERED TO DAEWOO HEAVY INDUSTRY CO., LTD.
- JUN 1998 REGISTERED TO HYUNDAI HEAVY INDUSTRY CO., LTD.
- NOV 1998 REGISTERED TO MITSUBISHI NAGASKI SHIPYARD IN, JAPAN
- MAY 1999 REGISTERED TO KUWAIT OIL COMPANY IN KUWAIT.
- JAN 1999 COMPANY NAME CHANGED TO OK KWANG ENGINEERING CO., LTD.
- MAR 1999 APPROVAL ISO9002
- AUG 1999 APPROVAL OF MANUFACTURE CERTIFICATE(BRONZE CASTING)
(LR, DNV, GL, BV, KR)
- MAY 2000 TYPE APPROVAL OF MANUFACTURER(ABS)

C O N T E N T S

PAGE	MATERIAL	PRESSURE(kg/cm ² , PSI)	A R T I C L E	JIS ST'D &
11	BRONZE	5K/16k	GLOBE VALVES	F7301 F7303
12	BRONZE	5K/16k	SCREW-DOWN CHECK GLOBE VALVES	F7351 F7409
13	BRONZE	5K/16k	ANGLE VALVES	F7302 F7304
14	BRONZE	5K/16k	SCREW-DOWN CHECK ANGLE VALVES	F7352 F7410
15	BRONZE	5K/10k	HOSE VALVES(15 AND 25A)	F7334
16	BRONZE	5K/10k	HOSE VALVES(40A)	F7334
17	BRONZE	5K/10k	HOSE VALVES(50A AND 65A)	F7334
18	BRONZE	5K/10k	RISING STEM GATE VALVES	F7367 F7368
19	BRONZE	5K/10k	SWING CHECK V/V FLANGED COCK	F7371 F7381
20	BRONZE	16K/20k	COCKS FOR MARINE USE GLOBE VALVES FOR MARINE USE	F7387 F7388
21	BRONZE	20k	ANGLE VALVES FOR MARINE USE PRESSURE GAUGE COCKS	F7389 F7343
22	BRONZE OR CAST STEEL	10k	MARINE FUEL OIL TANK SELF-CLOSING DRAIN VALVES	F7398
23	BRONZE OR CAST STEEL	10k	MARINE FUEL OIL TANK EMERGENCY SHUT OFF VALVES	F7399
24	BRONZE	5K/10k	HOSE CONNECTIONS AND FITTINGS SELF CLOSING GATE VALVE HEADS FOR SHORT SOUNDING PIPE	F7335 F3019
25	BRONZE	5K	SHIP'S FOOT VALVES VERTICAL STORM VALVES	F3056 F3059
26	BRONZE	10k	GLOBE VALVES ANGLE VALVES	B2026 B2027
27	BRONZE	10k	GATE VALVES	B2028
28	CAST IRON	5K/10k/16K	GLOBE VALVES	F7305 F7307 F7309
29	CAST IRON	5K/10k	SCREW-DOWN CHECK GLOBE VALVES	F7353 F7375
30	CAST IRON	5K/10k/16K	ANGLE VALVES	F7306 F7308 F7310
31	CAST IRON	16K 5K	SCREW-DOWN CHECK GLOBE VALVES SCREW-DOWN CHECK ANGLE VALVES	F7377 F7354
32	CAST IRON	10K/16k	SCREW-DOWN CHECK ANGLE VALVES	F7376 F7378
33	CAST IRON	5K/10k	GATE VALVES	F7363 F7364
34	CAST IRON	16K 5K	GATE VALVES LIFT CHECK GLOBE VALVES	F7369 F7358
35	CAST IRON	5K/10k	SWING CHECK VALVES	F7372 F7373
36	CAST IRON	5K/10k	HOSE GLOBE VALVES HOSE ANGLE VALVES	F7333 F7333
37	CAST STEEL	5K/10k/20K	GLOBE VALVES	F7311 F7319 F7313
38	CAST STEEL	10k 10K	HULL GLOBE VALVES SCREW-DOWN CHECK GLOBE VALVES	7365 7471
39	CAST STEEL	20K 10K	SCREW-DOWN CHECK GLOBE VALVES HULL ANGLE VALVES	7473 7350
40	CAST STEEL	5K/10k/20K	ANGLE VALVES	7312-7320 7314
41	CAST STEEL	10k/20K	SCREW-DOWN CHECK ANGLE VALVES	F7472 F7474
42	CAST STEEL	10K 10K	GATE VALVES HULL GATE VALVES	FF7366 F7360
43	STAINLESS STEEL	10K	CARGO RISING STEM TYPE GATE VALVES	OKV7366
44	CAST STEEL	5K	SCREW-DOWN VERTICAL STORM VALVES SCREW-DOWN ANGLE STORM VALVES	F3060 OKV3060
45	CAST IRON	5K	CAN WATER FILTERS SMALL SIZE WATER STRAINERS	F7121 F7223
46	CAST IRON	5K	SIMPLEX OIL STRAINERS DUPLEX OIL STRAINERS	F7209 F7202
47	CAST IRON	5K	DUPLEX OIL STRAINERS(H TYPE) SMALL SIZE DUPLEX OIL STRAINERS	F7208 F7224
48	CAST IRON	5K	MUD BOXES Y-TYPE STRAINERS FOR MARINE USE	F7203 F7220

C O N T E N T S

PAGE	MATERIAL	PRESSURE(kg/cm ² , PSI)	A R T I C L E	JIS ST' D &
49	CAST IRON MAILEABLE IRON	5K	CYLINDRICALSIGHT GLASSES GLOBE VALVES	F7218 F7321
50	CAST IRON BRONZE	5K	GOOSE NECK AIR PIPE HEADS BALL FLOAT TYPE BALL FLOAT VALVES	F3012 OKV BF
51	CARBON STEEL	5K	STEEL PLATE CYLINDRICAL WATER FILTER FOR MARINE USE	F7226
52	CARBON STEEL		SHIP'S DECK STAND FOR CONTROLLING VALVES	F3024
53	BRONZE	CLASS 150	NRS GATE VALVE	ANSI B16.10 B16.24
54	BRONZE	CLASS 300	NRS GATE VALVE	"
55	BRONZE	150/300PSI	BRONZE GLOBE VALVES	OKV7301/3
56	BRONZE	150PSI	BRONZE GATE VALVES BRONZE ANGLE VALVES	OKV7368 OKV7302
57	BRONZE	CLASS 150/300	OS&Y GATE VALVE	ANSI B16.10 B16.24
58	BRONZE	CLASS 150/300	GLOBE VALVE	"
59	BRONZE	CLASS 125	SWING CHECK	"
60	CAST IRON	CLASS 125	OS&Y GATE VALVE	ANSI B16.10, B16.1
61	CAST IRON	CLASS 125	NRS GATE VALVE	"
62	CAST IRON	CLASS 250	OS&Y GATE VALVE	"
63	CAST IRON	CLASS 125	GLOBE VALVE	"
64	CAST IRON	CLASS 250	GLOBE VALVE	"
65	CAST IRON	CLASS 125	SWING CHECK VALVE	"
68	CAST IRON	CLASS 250	SWING CHECK VALVE	"
69	CAST STEEL	CLASS 150/300	OS&Y GATE VALVE	ANSI B16.10, B16.5
72	CAST STEEL	CLASS 600/900	OS&Y GATE VALVE	"
73	CAST STEEL	CLASS 150/300	GLOBE VALVE	"
76	CAST STEEL	CLASS 600/900	GLOBE VALVE	"
77	CAST STEEL	CLASS 150/300	SWING CHECK	"
78	CAST STEEL	CLASS 600/900	SWING CHECK	"
80	CAST STAINLESS STEEL		KNIFE GATE VALVE	
81	BRONZE, IRON	CLASS 150/300/600	IRON, STEEL, STAINLESS STEEL DUO-CHECK VALVES	
82	CAST BRONZE	CLASS 150/300	BALL VALVE	ANSI B16.24
83	CAST STEEL	CLASS 150/300	BALL VALVE	ANSI B16.5
84	CAST STEEL	CLASS 600	BALL VALVE	"
85	CAST STEEL	CLASS 150	3-WAY BALL VALVE	"
94			BUTTERFLY VALVE	
95				
96			SAFETY VALVE	
108				
109-119			PRESSURE REDUCING VALVE	
120			LEVEL CONTROL VALVE	
122			2&3-WAY PISTON CONTROL VALVE	
123-125			AUTO WATER STRAINER	
126-128			DUPLEX STRAINER	
129-134			BUCKET STRAINER	
135-136			T TYPE STRAINER	
137			TEMPORARY STRAINER	
138-140			Y-TYPE STRAINER	
141			FLOW RATES FOR STRAINER	
142-143			WIRE MESH SELECTION CHART	
144			WROUGHT STEEL BUTT-WELDING FITTINGS	
145			FITTINGS	
146			FLANGES	



Scope of Quality Approval

The following Company

OK KWANG ENGINEERING CO., LTD.

The Company has been approved for the following scope of operation:

Design, Manufacture, Sale and Servicing of Marine Valves

Scope of approval: **NACE 17, Basic metals and fabricated metal products**

Date of Certificate Issue: 05th January 2004

Certificate Valid until: 05th January 2007

Certificate Number: DKQ-1051

Authorized

D.A. Smith

Date

06th January 2004

DAS CERTIFICATION LTD.

Company Number: 3384526
6 Amber Court, Crich Lane,
Belper,
Derbyshire DE56 1 HG
Telephone: +44(0)1773 828586



127-A

Certificate

Germanischer Lloyd

**Zulassung
von Werkstoffherstellern**

**Approval
of Materials Manufacturers**

Hiermit wird bescheinigt, daß die Firma
This is hereby certified that the works of

OK KWANG ENGINEERING CO., LTD.
Pusan
Korea

einer Zulassungsprüfung nach den Vorschriften des Germanischer Lloyd unterzogen wurde und für die Herstellung folgender Erzeugnisse zugelassen ist:
has been subjected to an approval test in accordance with the Society's Rules with satisfactory results and is approved for the manufacture of the following products:

**Copper alloy castings for marine valve bodies of grade CAC 408 (BC 8)
acc. to JIS H 5120 (JIS H 5111)**

Die Zulassung erfolgt unter der Voraussetzung, daß alle Erzeugnisse, die zum Bau von Schiffen und Anlagen mit Klasse des Germanischer Lloyd bestimmt sind, die Vorschriften des Germanischer Lloyd in jeder Hinsicht erfüllen.
The approval is granted provided that all products intended to be used for the construction of ships or installations classed with Germanischer Lloyd comply in every respect with the Society's Rules and Regulations.

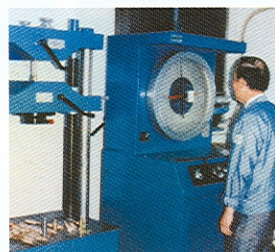
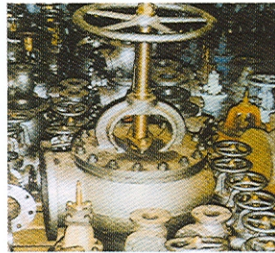
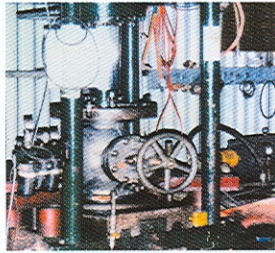
Zulassungsbescheinigung Nr. WZ 649 HH
Certificate of approval No.

Diese Bescheinigung ist gültig bis: August 31, 2002
This Certificate is valid until:

Hamburg, 17.08.1999
Pusan and date of issue

Germanischer Lloyd

D. Heinz C. Kassel



ABS
The Approved Society

Certificate No. 00-BK51485-X Port of PUSAN, KOREA

Date: 10 MAY 2000

This is to Certify THAT A REPRESENTATIVE OF THIS BUREAU DID, AT THE REQUEST OF OK KWANG ENGINEERING CO., LTD. ATTEND THEIR PLANT AT PUSAN, KOREA ON 10 MAY 2000, IN ORDER TO CARRY OUT AN INITIAL SURVEY OF THE FACILITIES AND ASSOCIATED QUALITY PROCEDURES, AND THAT THE FACILITY IS CONSIDERED CAPABLE OF PRODUCING AN ACCEPTABLE UNIFORM PRODUCT, AND THAT THE EQUIPMENT LISTED ON THE ATTACHMENT IS ELIGIBLE TO BECOME PART OF A CLASSED VESSEL AND TO BE PLACED ON THIS BUREAU'S LIST OF TYPE APPROVED EQUIPMENT, SUBJECT TO ANNUAL PLANT SURVEYS BY A REPRESENTATIVE OF THIS BUREAU AND RENEWAL OF THIS CERTIFICATE AFTER 5 YEARS.

AUDIT	DATE	SURVEYOR'S SIGNATURE
INITIAL	10 MAY 2000	<i>[Signature]</i>
FIRST ANNUAL	12 MAY 2001	<i>[Signature]</i>
SECOND ANNUAL		
THIRD ANNUAL		
FOURTH ANNUAL		

This Certificate evidences compliance with one or more of the Rules, codes, standards or other criteria of American Bureau of Shipping for a statutory, industrial or other purpose. It is not intended to be used for the use of the Bureau, its customers, its clients, or other authorized entities. This Certificate is governed by the terms and conditions on the reverse side hereof.

Form ABS 101 (1998)

BUREAU VERITAS
Marine Division

CERTIFICATE OF WORKS APPROVAL

No. SMS-IV PSN/11211/A0
for BV MCODE II Survey

This is to certify that: **OK KWANG ENGINEERING CO., LTD.**

is approved for BV Made II Survey, as per the provisions of Rule Note NR 320 R1 for the product / process / service range:

Bronze Castings
- Grade: JIS H5111-BC8 or ASTM B62
- Max. unit weight: 500 kg

with reference to the following Rules and/or Regulations:

BV Rules vol. Material Section 8-44

The Approval is conditional upon:

- inspections being witnessed by Bureau Veritas Surveyors for I+o products.

The Approval is valid until: **31st December 2002**

At: **PUSAN, KOREA** on: **29th December 1998**

for BUREAU VERITAS

C. U. HONG

Date on	Periodic Homologation surveys, where relevant					
	1	2	3	4	5	6
carried out on						
Signature	N. A.					

Any person in a position to sign this document is deemed to warrant a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in this document, and in conformity with any activities for which it may provide.

This certificate is delivered in compliance with the latest applicable Rules and within the scope of the General Conditions of the BUREAU VERITAS Marine Division, listed hereon.

**APPROVAL CERTIFICATE
FOR MANUFACTURING PROCESS**
제조법승인증서

Certificate No.: BSN8090-CU001 Date of Approval: 28 Sep., 1998

Product: Castings

Manufacturer: Ok Kwang Valve Co., Ltd.
278-13, Hapjung-dong, Sasang-shi, Busan, Korea

Product Description: Bronze Castings: 605 (KS D 6002)

Intended for: Marine Valve Body

Approval Conditions: Product certificate required.

THIS IS TO CERTIFY that the manufacturing process for the above-mentioned product has been approved in accordance with the relevant requirements of this Society's Rules and/or of the recognized standards and entered in the "List of Approved Manufacturer and Type Approved Equipment".

Pl. 2, Ch. 1, Art. 702 of the Rules for Classification, Steel Ships (1998)

This Certificate is valid until the 27 th day of Sep., 2003.
Issued at Taqjon, Korea on 28 Sep., 1998.

KOREAN REGISTER OF SHIPPING

[Signature]
S. J. Lim
Manager of Machinery Dept.

Any significant changes to facilities and/or manufacturing process may withdraw the Society's approval.

AC - 10/93 - 01

Lloyd's Register

Certificate No: MD00/2321/0002/7b

OK Kwang Engineering Co., Ltd.
278-13 Hapjung-dong
Sasang-shi
Pusan
Korea

has been approved as a manufacturer in accordance with the requirements of Lloyd's Register for:

Copper Alloy Castings for Valves, Levers, Buoys and Fittings

This approval is subject to compliance with the Rules for the Manufacture, Testing and Certification of Materials. The full details of the processes and grades to which this approval applies are given in the Appendix of this certificate.

Lloyd's Register is to be notified of any change that may affect the validity of this Certificate.

This Certificate is issued to the above manufacturer and is valid until the date given below.

Valid Until: 26 April 2005
Date of Issue: 14 May 2002

Lloyd's Register of Shipping
71 Fenchurch Street, London EC3A 8BS

NOTICE - This certificate is subject to the terms and conditions overleaf

Lloyd's Register

DNV

DET NORSKE VERITAS
APPROVAL OF MANUFACTURER
CERTIFICATE

This is to certify that

OK KWANG ENGINEERING CO., LTD., PUSAN, KOREA

Is an approved manufacturer for

COPPER ALLOY CASTINGS FOR MACHINERY AND EQUIPMENT

In accordance with

DET NORSKE VERITAS' RULES FOR CLASSIFICATION Pt.2

The approval is subject to compliance with Det Norske Veritas' Rules for Classification and the following particulars:

Alloy types: BC2 and BC6 according to JIS H5111

Valid until: 2003-04-30

Held: 09-04-07
for Det Norske Veritas AS

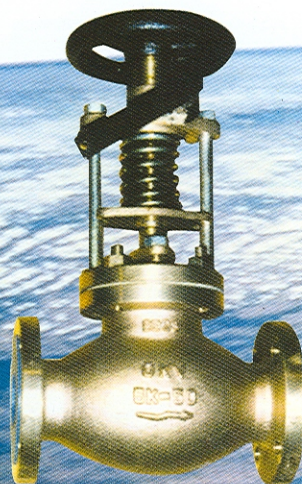
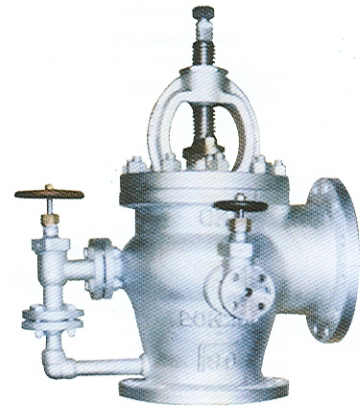
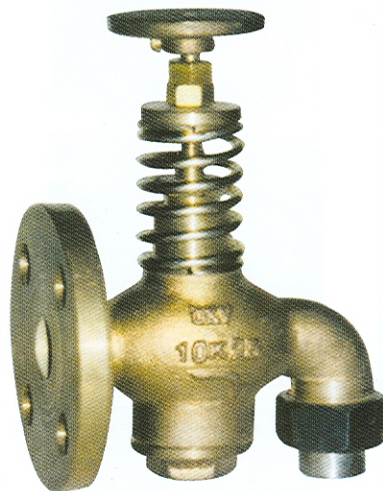
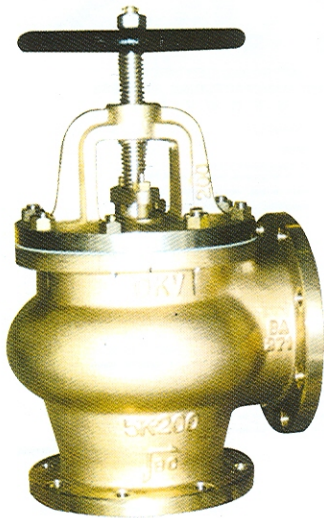
[Signature]
J. O. Nilsen
Head of Section,
Materials and Production Technology

[Signature]
B. Andersen

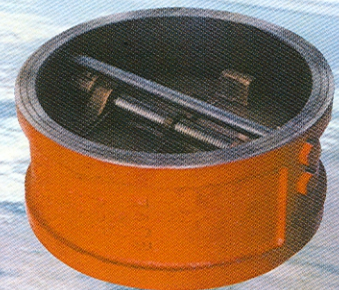
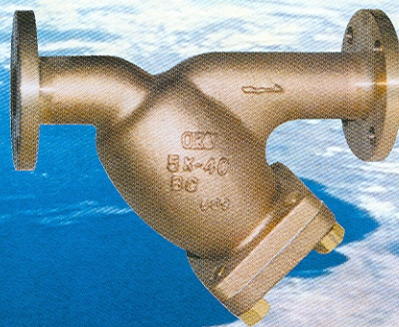
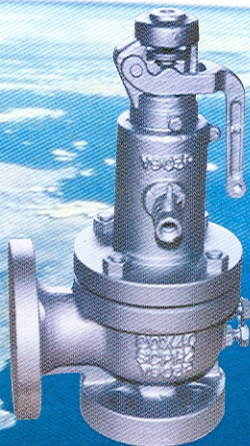
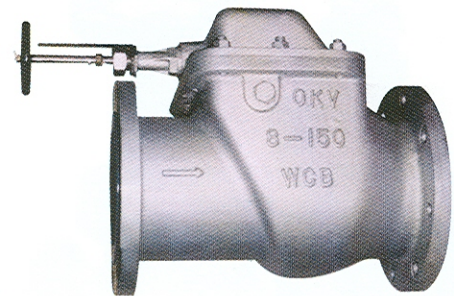
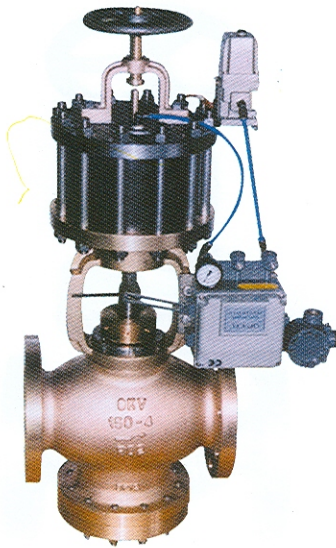
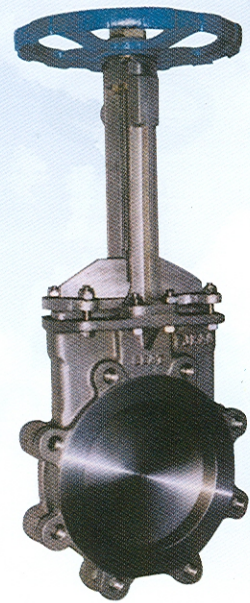
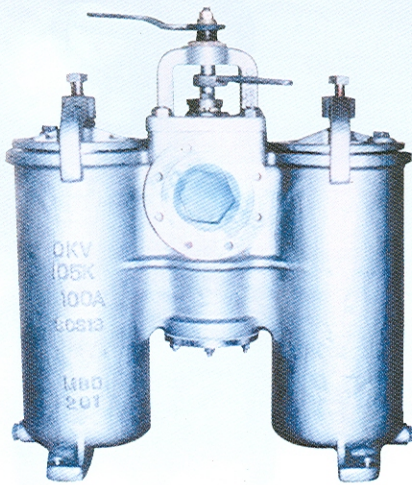
DET NORSKE VERITAS AS, VERITASHOVEN 1, N-1322 HJORVIK, NORWAY. TEL: +47 57 37 36 00. TELEFAX: +47 57 37 37 11. Form No. 20/94 Issue: January 96

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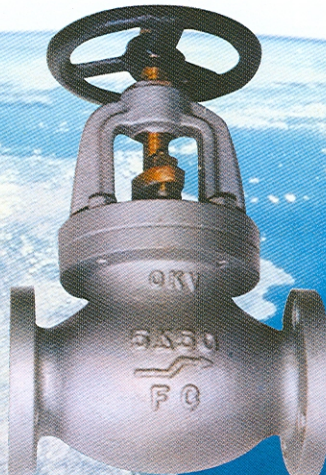
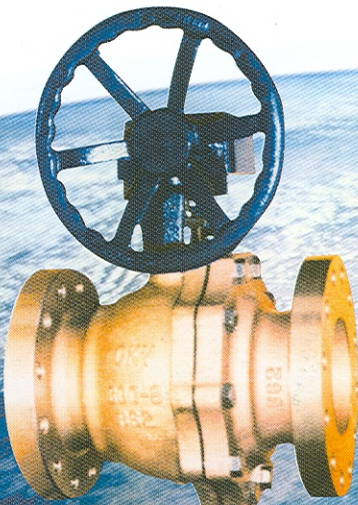
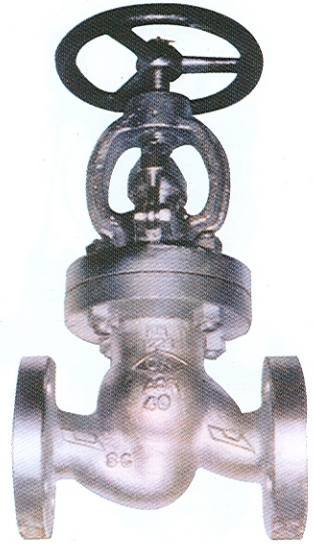
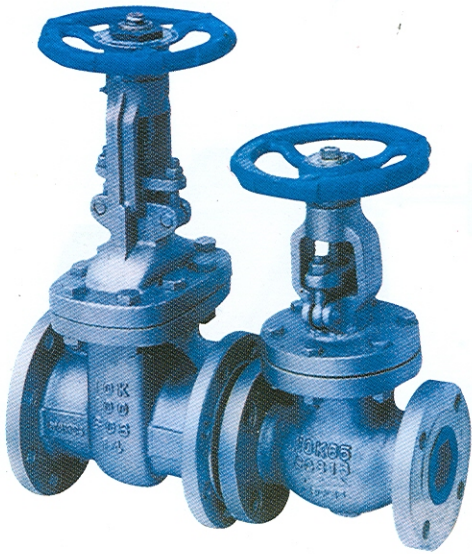
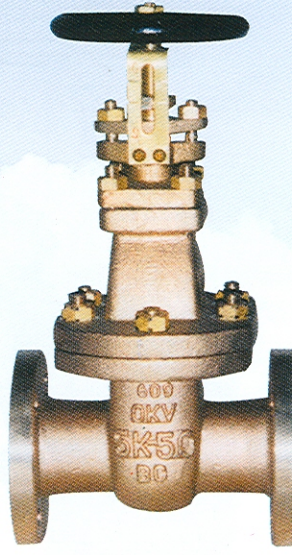
Products



Products



Products

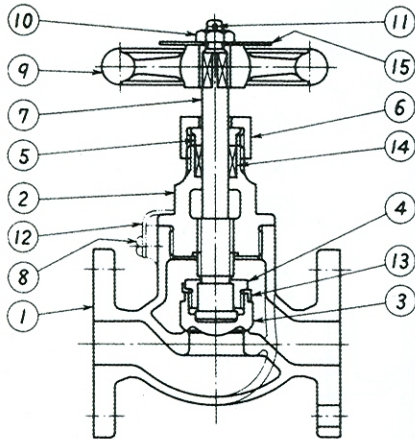


MARINE BRONZE 5kg/cm² GLOBE VALVES

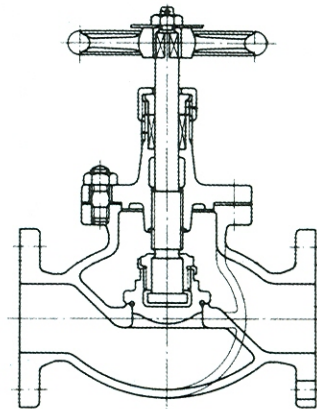
JIS F 7301

MARINE BRONZE 16kg/cm² GLOBE VALVES

JIS F 7303



(5K-15A AND 40A)



(5K-50A AND 65A)

■ DIMENSIONS

Unit : mm

RATING	SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5kgf/cm ² (F7351)	15	100	80	60	4-12	130	80	2.02
	20	110	85	65	4-12	140	100	2.86
	25	120	95	75	1-12	160	125	3.54
	32	140	115	90	4-15	170	125	5.00
	40	160	120	95	4-15	190	140	6.48
	50	210	130	105	4-15	235	140	11.70
	65	250	155	103	4-15	260	160	17.00
16kgf/cm ² (F7409)	15	110	95	70	4-15	130	80	2.76
	20	120	100	75	4-15	140	100	3.72
	25	130	125	90	4-19	160	125	5.20
	32	160	135	100	4-19	170	125	6.91
	40	180	140	105	4-19	190	140	8.43

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Disc	Bronze or Brass
4	Valve disc nut	Brass
5	Packing gland	Brass
6	Gland nut	Brass
7	Stem	Brass
8	Set Screw	Brass
9	Handwheel	Cast Iron
10	Hexagon nut	Brass
11	Split pin	Brass
12	Lock plate	Brass
13	Disc lock washer	Brass
14	Packing	Teflon
15	Name plate	Brass & Al

■ TEST PRESSURE (kgf/cm²)

RATING	5	16
SHEEL HYD' TEST	10.5	33
SEAT HYD' TEST	7.7	24.2

■ FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

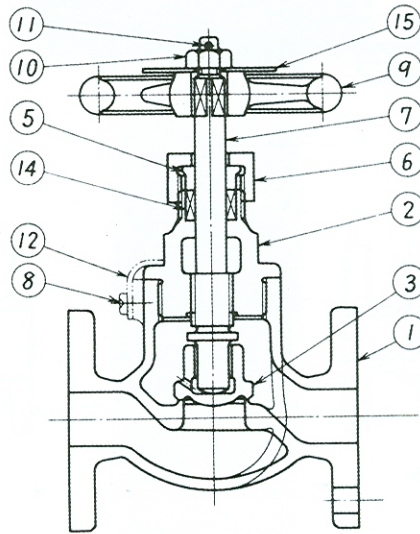
FLUID CONDITION	RATING	
STEAM UP TO 205°C	5	16
AIR, GAS, OIL AND PULSATION WATER	5	16
NON SHOCK WATER	7	22

MARINE BRONZE 5kg/cm² SCREW-DOWN CHECK GLOBE VALVES

JIS F 7351

MARINE BRONZE 16kg/cm² SCREW-DOWN CHECK GLOBE VALVES

JIS F 7409



■ DIMENSIONS

Unit : mm

RATING	SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5kgf/cm ² (F7351)	15	100	80	60	4-12	130	80	1.96
	20	110	85	65	4-12	140	100	2.77
	25	120	95	75	1-12	160	125	3.41
	32	140	115	90	4-15	170	125	4.86
	40	160	120	95	4-15	190	140	6.30
16kgf/cm ² (F7409)	15	110	95	70	4-15	130	80	2.70
	20	120	100	75	4-15	140	100	3.63
	25	130	125	90	4-19	160	125	5.09
	32	160	135	100	4-19	170	125	6.77
	40	180	140	105	4-19	190	140	8.25

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Disc	Bronze or Brass
5	Packing gland	Brass
6	Gland nut	Brass
7	Stem	Brass
8	Set Screw	Brass
9	Handwheel	Cast Iron
10	Hexagon nut	Brass
11	split pin	Brass
12	Lock plate	Brass
14	Packing	Teflon
15	Name plate	Brass & Al

■ TEST PRESSURE (kgf/cm²)

RATING	5	16
SHEEL HYD' TEST	10.5	33
SEAT HYD' EST	7.7→4	24.2→4

■ FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

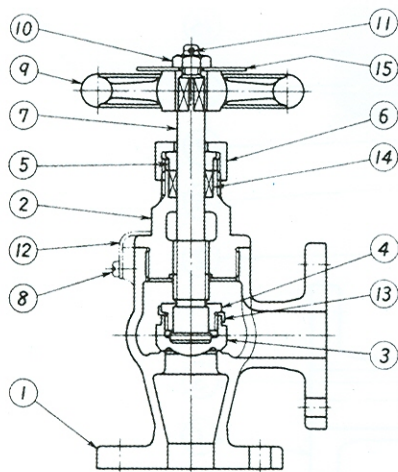
FLUID CONDITION	RATING	5	16
STEAM UP TO 205			
AIR, GAS, OIL AND PULSATION WATER	5		16
NON SHOCK WATER	7		22

MARINE BRONZE 5kg/cm² ANGLE VALVES

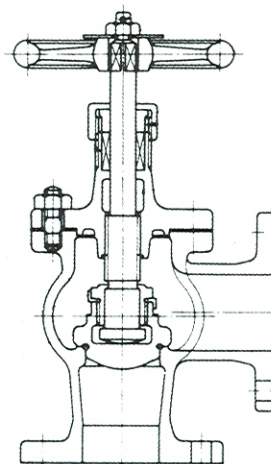
JIS F 7302

MARINE BRONZE 16kg/cm² ANGLE VALVES

JIS F 7304



(5K-15A AND 40A)



(5K-50A AND 65A)

■ DIMENSIONS

Unit : mm

RATING	SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5kgf/cm ² (F7302)	15	50	80	60	4-12	120	80	1.98
	20	60	85	65	4-12	130	100	2.73
	25	65	95	75	1-12	145	125	3.44
	32	80	115	90	4-15	150	125	4.77
	40	85	120	95	4-15	165	140	5.99
	50	100	130	105	4-15	200	140	10.10
16kgf/cm ² (F7304)	15	70	95	70	4-15	120	80	2.73
	20	75	100	75	4-15	130	100	3.65
	25	85	125	90	4-19	145	125	5.16
	32	95	135	100	4-19	150	125	6.72
	40	100	140	105	4-19	165	140	8.13

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Disc	Bronze or Brass
4	Valve disc nut	Brass
5	Packing gland	Brass
6	Gland nut	Brass
7	Stem	Brass
8	Set Screw	Brass
9	Handwheel	Cast Iron
10	Hexagon nut	Brass
11	Split pin	Brass
12	Lock plate	Brass
13	Disc lock washer	Brass
14	Packing	Teflon
15	Name plate	Brass & Al

■ TEST PRESSURE (kgf/cm²)

RATING	5	16
SHEEL HYD' TEST	10.5	33
SEAT HYD' TEST	7.7	24.2

■ FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

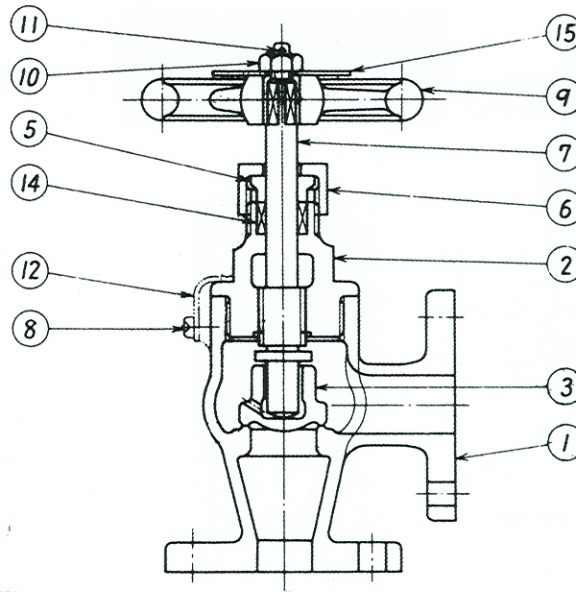
FLUID CONDITION	RATING	
STEAM UP TO 205°C	5	16
AIR, GAS, OIL AND PULSATION WATER	5	16
NON SHOCK WATER	7	22

MARINE BRONZE 5kg/cm² SCREW-DOWN CHECK ANGLE VALVES

JIS F 7352

MARINE BRONZE 16kg/cm² SCREW-DOWN CHECK ANGLE VALVES

JIS F 7410



■ DIMENSIONS

Unit : mm

RATING	SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5kg/cm ² (F7352)	15	50	80	60	4-12	120	80	1.92
	20	60	85	65	4-12	130	100	2.64
	25	65	95	75	1-12	145	125	3.30
	32	80	115	90	4-15	150	125	4.63
	40	85	120	95	4-15	165	140	5.81
16kgf/cm ² (F7410)	15	70	95	70	4-15	120	80	2.67
	20	75	100	75	4-15	130	100	3.56
	25	85	125	90	4-19	145	125	5.02
	32	95	135	100	4-19	150	125	6.58
	40	100	140	105	4-19	165	140	7.95

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Disc	Bronze or Brass
5	Packing gland	Brass
6	Gland nut	Brass
7	Stem	Brass
8	Set Screw	Brass
9	Handwheel	Cast Iron
10	Hexagon nut	Brass
11	Split pin	Brass
12	Lock plate	Brass
14	Packing	Teflon
15	Name plate	Brass or Al

■ TEST PRESSURE (kgf/cm²)

RATING	5	16
SHEEL HYD' TEST	10.5	33
SEAT HYD' TEST	7.7 → 4	24.2 → 4

■ FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

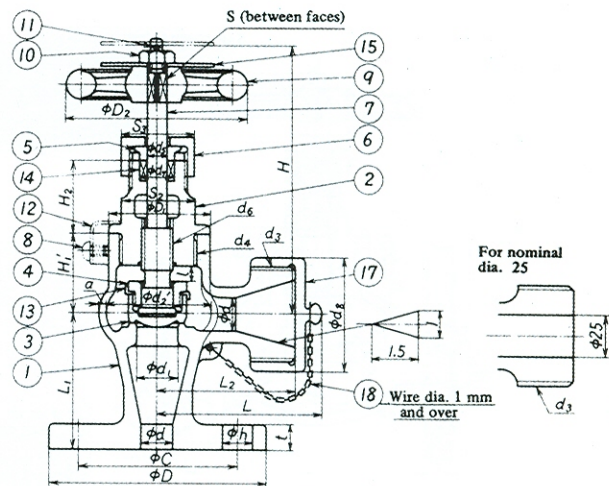
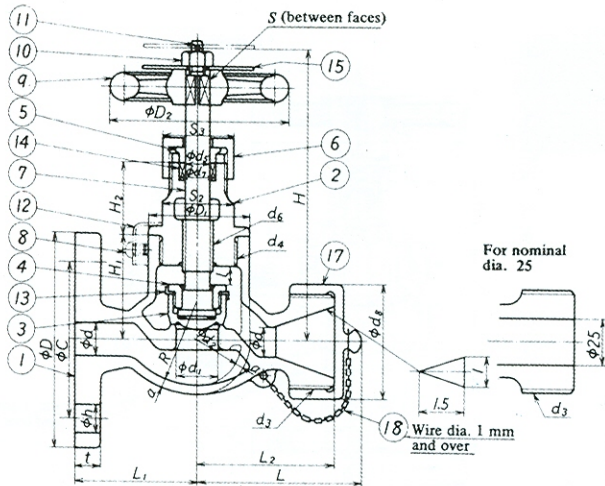
FLUID CONDITION	RATING	
STEAM UP TO 205°C	5	16
AIR, GAS, OIL AND PULSATION WATER	5	16
NON SHOCK WATER	7	22

MARINE BRONZE 5/10kg/cm² HOSE VALVES

JIS F 7334

● **GLOBE TYPE 15A And 25A**

● **ANGLE TYPE 15A And 25A**



■ **GLOBE TYPE**

RATING	SIZE	THREAD	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5K	15	M42×2	80	60	4-12	130	80	2.51
10K			95	70	4-15	130	80	2.76
5K	25		95	75	1-12	160	125	3.55
10K			125	90	4-19	160	125	4.15

■ **ANGLE TYPE**

RATING	SIZE	THREAD	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5K	15	M42×2	80	60	4-12	120	80	2.41
10K			95	70	4-15	120	80	2.72
5K	25		95	75	1-12	145	125	3.44
10K			125	90	4-19	145	125	4.04

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Disc	Bronze or Brass
4	Disc nut	Brass
5	Packing gland	Brass
6	Gland nut	Brass
7	Stem	Brass
8	Set Screw	Brass
9	Handwheel	Cast Iron
10	Hexagon nut	Brass
11	Split pin	Brass
12	Bonnet lock plate	Brass
13	Disc lock washer	Brass
14	Packing	Teflon
15	Name plate	Brass
17	Cap	Bronze or Brass
18	Chain	Brass or Al

■ **TEST PRESSURE (kgf/cm²)**

RATING	5	10
SHEEL HYD' TEST	10.5	21
SEAT HYD' TEST	7.7	15.4
COUPLER	7	14

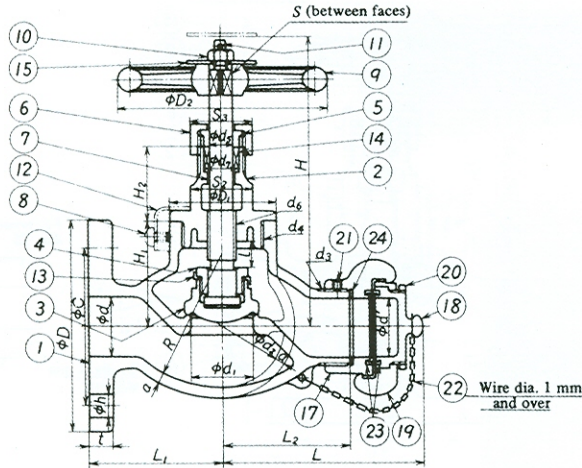
■ **FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)**

FLUID CONDITION	RATING	5	10
STEAM OF 205°C AND UNDER		5	10
AIR, PULSATION WATER		5	10
NON SHOCK WATER		7	14

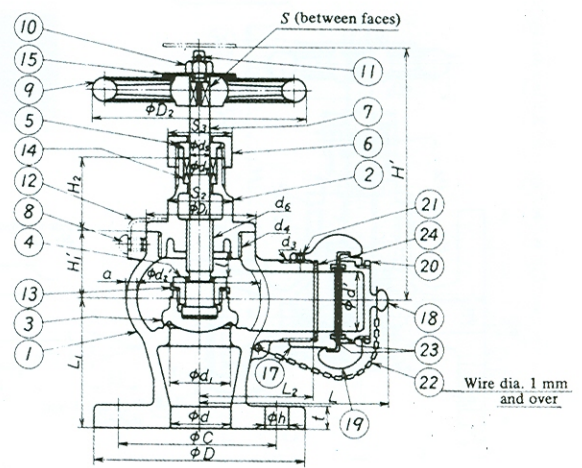
MARINE BRONZE 5/10kg/cm² HOSE VALVES

JIS F 7334

● **GLOBE TYPE 40A**



● **ANGLE TYPE 40A**



■ **GLOBE TYPE**

RATING	SIZE	THREAD	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5K	40	M52×2	120	95	4-15	190	140	6.26
10K			140	105	4-19	190	140	8.43

■ **ANGLE TYPE**

RATING	SIZE	THREAD	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5K	40	M58×2	120	95	4-15	165	140	5.91
10K			140	105	4-19	164	140	8.19

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Disc	Bronze or Brass
4	Disc nut	Brass
5	Packing gland	Brass
6	Gland nut	Brass
7	Stem	Brass
8	Set Screw	Brass
9	Handwheel	Cast Iron
10	Hexagon nut	Brass
11	Split pin	Brass
12	Bonnet lock plate	Brass
13	Disc washer	Brass
14	Packing	Teflon
15	Name plate	Brass or Al
16	Seat ring	Bronze
17	Base connection	Bronze
18	Cap	Bronze or Brass
19	Coupling ring	Bronze
20	set ring	Bronze
21	Set screw	Brass
22	Chain	Brass
23	Gasket	Rubber
24	Gasket	Rubber

■ **TEST PRESSURE (kgf/cm²)**

RATING	5	10
SHEEL HYD' TEST	10.5	21
SEAT HYD' TEST	7.7	15.4
COUPLER	7	14

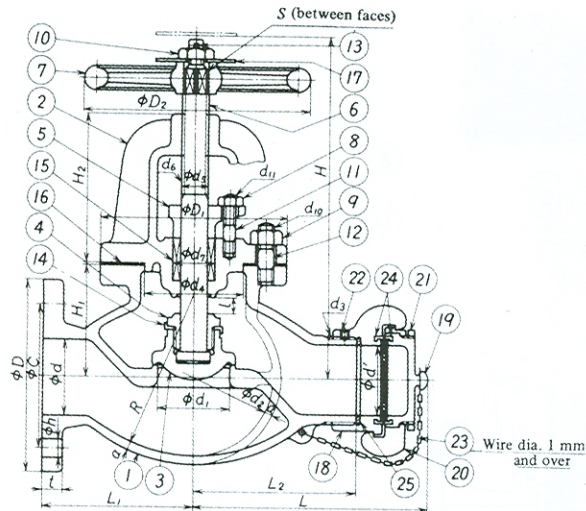
■ **FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)**

FLUID CONDITION	RATING	5	10
STEAM OF 205°C AND UNDER		5	10
AIR, PULSATION WATER		5	10
NON SHOCK WATER		7	14

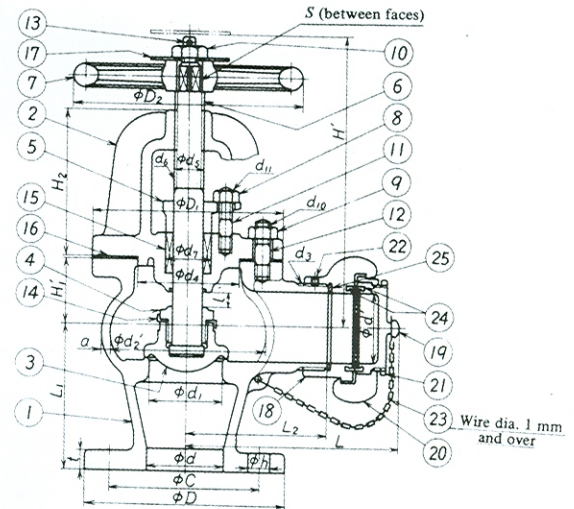
MARINE BRONZE 5/10kg/cm² HOSE VALVES

JIS F 7334

■ **GLOBE TYPE 50A AND 65A**



■ **ANGLE TYPE 50A AND 65A**



■ **GLOBE TYPE**

RATING	SIZE	THREAD	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5K	50	M64×2	130	105	4-15	255	160	12.9
10K			155	120	4-19	270	160	15.4
5K	65	M80×2	155	130	4-15	280	160	26.41
10K			175	140	4-19	295	200	27.8

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Disc	Bronze or Brass
4	Disc nut	Brass
5	Packing gland	Brass
6	Stem	Brass
7	Handwheel	Cast Iron
8	Hexagon nut	Brass
9	Hexagon nut	Brass
10	Hexagon nut	Brass
11	Stud	Brass
12	Stud	Brass
13	Split pin	Brass
14	Disc lock washer	Brass
15	Packing	Teflon
16	Gasket	Asbestos
17	Name plate	Brass or Al
18	Base connection	Bronze
19	Cap	Bronze or Brass
20	Coupling ring	Bronze
21	Set ring	Bronze
22	Set screw	Brass
23	Chain	Brass
24	Gasket	Rubber
25	Gasket	Rubber

■ **ANGLE TYPE**

RATING	SIZE	THREAD	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5K	50	M64×2	130	105	4-15	255	160	11.0
10K			155	120	4-19	240	160	14.3
5K	65	M80×2	155	130	4-15	240	160	21.85
10K			175	140	4-19	255	200	23.0

■ **TEST PRESSURE (kgf/cm²)**

RATING	5	10
SHEEL HYD' TEST	10.5	21
SEAT HYD' TEST	7.7	15.4
COUPLER	7	14

■ **FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)**

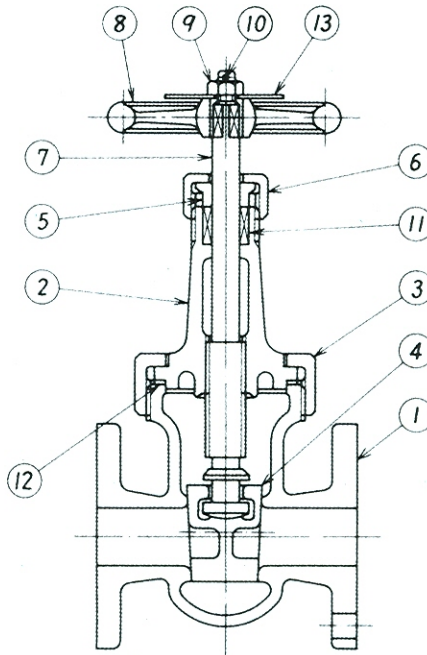
FLUID CONDITION	RATING	5	10
STEAM OF 205°C AND UNDER		5	10
AIR, PULSATION WATER		5	10
NON SHOCK WATER		7	14

MARINE BRONZE 5kg/cm² RISING STEM GATE VALVES

JIS F 7367

MARINE BRONZE 10kg/cm² RISING STEM GATE VALVES

JIS F 7368



■ DIMENSIONS

Unit : mm

RATING	SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
			DIA	PCD	BOLT HOLE			
5kgf/cm ² (F7367)	15	90	80	60	4-12	175	80	2.29
	20	100	85	65	4-12	200	80	2.98
	25	110	95	75	1-12	220	100	4.10
	32	130	115	90	4-15	250	100	5.79
	40	140	120	95	4-15	290	125	7.78
10kgf/cm ² (F7368)	15	100	95	70	4-15	175	80	2.96
	20	110	100	75	4-15	200	80	3.89
	25	120	125	90	4-19	220	100	5.82
	32	140	135	100	4-19	250	100	7.52
	40	150	140	105	4-19	290	125	9.71

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Bonnet nut	Bronze or Brass
4	Disc	Bronze or Brass
5	Packing gland	Brass
6	Packing gland nut	Brass
7	Stem	Brass
8	Handwheel	Cast Iron
9	Hexagon nut	Brass
10	Split pin	Brass
11	Packing	Teflon
12	Name plate	Brass or Al

■ TEST PRESSURE (kgf/cm²)

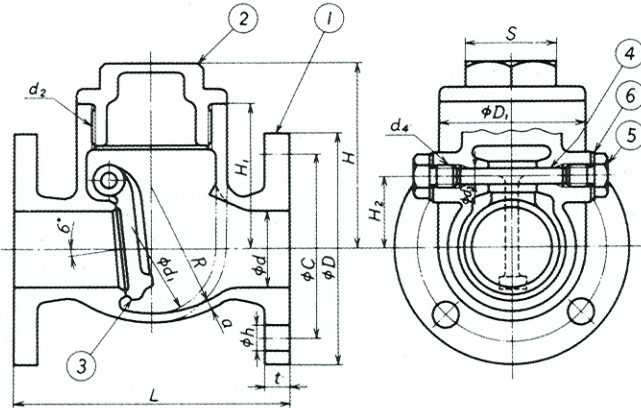
RATING	5	10
SHEEL HYD' TEST	10.5	21.0
SEAT HYD' TEST	7.7	15.4

■ FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

FLUID CONDITION	RATING	
	5	10
STEAM	2	2
OIL AND PULSATION WATER	5	10
NON SHOCK WATER OF 120°C AND UNDER	7	14

MARINE BRONZE 5kg/cm² SWING CHECK VALVES

JIS F 7371



WORKING PRESSURE		5 kg/cm ²
TEST PRESSURE	BODY	10.5
	SEAT	7.7→4

■DIMENSIONS

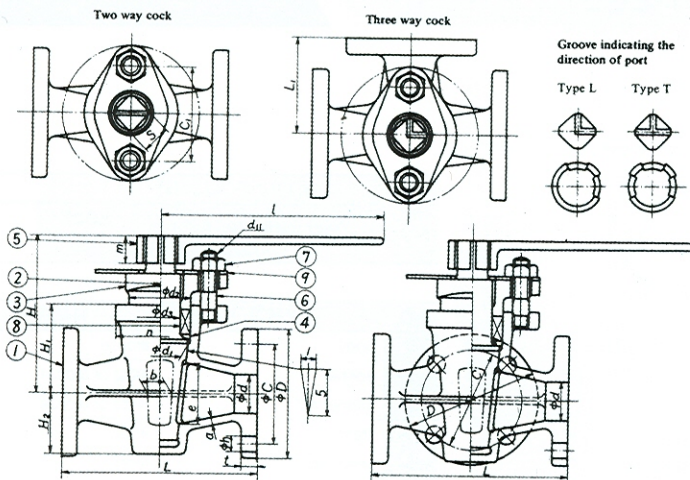
Unit : mm

SIZE	FACE TO FACE	FLANGE			HEIGHT	WEIGHT (kg)
		DIA	PCD	BOLT HOLE		
25	110	95	75	4-12	69	2.24
32	130	115	90	4-15	79	3.07
40	140	120	95	4-15	93	4.34

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Disc	Bronze or Brass
4	Hinge pin	Brass
5	Plug	Brass
6	Gasket	Teflon

MARINE BRONZE 5kg/cm² FLANGED COCKS

JIS F 7381



WORKING PRESSURE		5 kg/cm ²
TEST PRESSURE	BODY	7.5
	SEAT	5.5

■DIMENSIONS

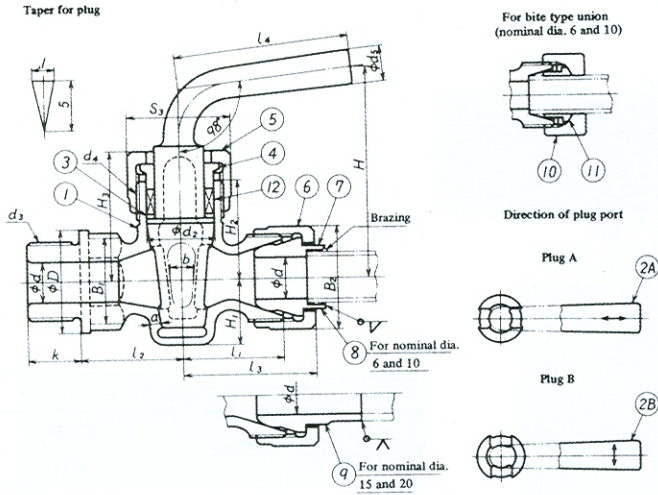
Unit : mm

RATING	SIZE	FACE TO FACE	FLANGE			HEIGHT	WEIGHT (kg)	
			DIA	PCD	BOLT HOLE		TWO	THREE
5kgf/cm ²	25	130	95	75	4-12	105	3.13	3.81
	32	160	115	90	4-15	125	5.02	6.13
	40	170	120	95	4-15	135	6.66	7.93
(F7381)	50	190	130	105	4-15	163	10.0	11.8
	65	220	155	130	4-15	201	16.7	19.0

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Plug	Bronze
3	Packing gland	Brass
4	Seat ring	Brass
5	Handle	Steel
6	Stud	Brass
7	Hexagon nut	Brass
8	Packing	Asbestos
9	Name plate	Brass or Al

BRONZE 16kg/cm² COCKS FOR MARINE USE

JIS F 7387



WORKING PRESSURE			16kg/cm ²
TEST PRESSURE	6-10A	PLUG	22.0
		BODY	30.0
	15-20A	PLUG	17.6
		BODY	24.0

■ DIMENSIONS

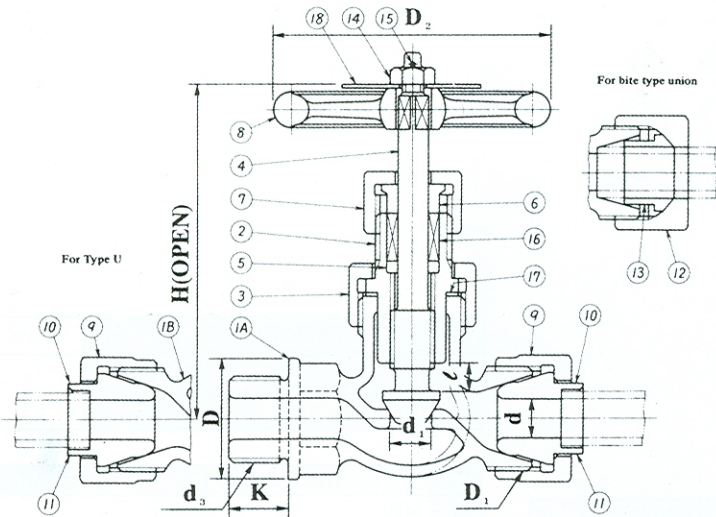
Unit : mm

Nominal dia.	Pipe out dia.		d	l ₁	l ₂	Ap-prox. l ₃	Threads d ₃	K	D	Ap-prox. H	Threads d ₂
	copper pipe	steel pipe									
6	8	10.5	6	28	28	37	M20×1.5	12	28	65	M24×2
	10										
10	15	17.3	10	40	35	52	M24×2	16	34	73	M30×2
15	20	21.7	15	45	45	58	M30×2	22	42	92	M39×2
20	25	27.2	20	50	50	65	M36×2	24	48	104	M42×2

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Plug	Bronze or Brass
3	Seat ring	Brass
4	Packing gland	Brass
5	Gland nut	Brass
6	Union nut	Brass
7	Nipple for copper pipe	Brass
8	Nipple for steel pipe	Steel
9	Union nut	Brass or Bronze
10	Sleeve	Brass
11	Packing	Teflon

BRONZE 20kg/cm² GLOBE VALVES FOR MARINE USE

JIS F 7388



■ DIMENSIONS

Unit : mm

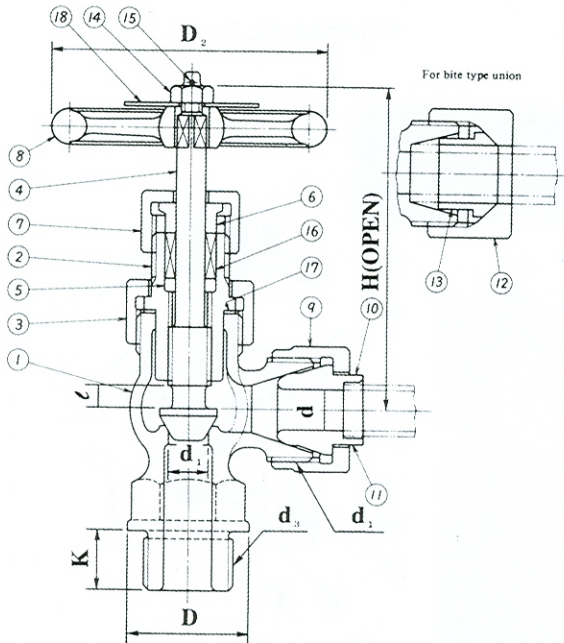
Nominal dia.	Pipe out dia.		d	d ₁	Threads d ₃	K	D	Height (Approx.) (fully opened) H	Lift l	Hand-wheel D ₂	Threads D ₁
	copper pipe	steel pipe									
6	8	10.5	6	8	M20×1.5	12	28	100	5.5	63	M27×2
	10										
10	15	17.3	10	12	M24×2	16	34	115	7.5	80	M30×2

WORKING PRESSURE			20kg/cm ²
TEST PRESSURE	BODY		42
	SEAT		30.8

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Brass or Bronze
3	Bonnet nut	Brass or Bronze
4	stem	Brass
5	Seat ring	Brass
6	Packing gland	Brass
7	Gland nut	Brass
8	Handwheel	Brass
9	Union nut	Brass
10	Nipple for copper pipe	Brass
11	Nipple for steel pipe	Steel
12	Union nut	Brass or Bronze
13	Sleeve	Brass
14	Hexagon nut	Brass
15	Split pin	Brass
16	Packing	Teflon
18	Name plate	Brass

BRONZE 20kg/cm² ANGLE VALVES FOR MARINE USE

JIS F 7389



WORKING PRESSURE		20kg/cm ²
TEST PRESSURE	BODY	42
	SEAT	30.8

NO.	PARTS	MATERIAL
1	Body	Bronze
2	Bonnet	Bronze or Brass
3	Bonnet nut	Bronze or Brass
4	stem	Brass
5	Seat ring	Bronze
6	Packing gland	Brass
7	Gland nut	Brass
8	Handwheel	Cast iron
9	Union nut	Brass
10	Nipple for copper pipe	Brass
11	Nipple for steel pipe	Steel
12	Union nut	Brass or Bronze
13	Sleeve	Brass
14	Hexagon nut	Brass
15	Split pin	Brass
16	Packing	Teflon
17	Name plate	Brass

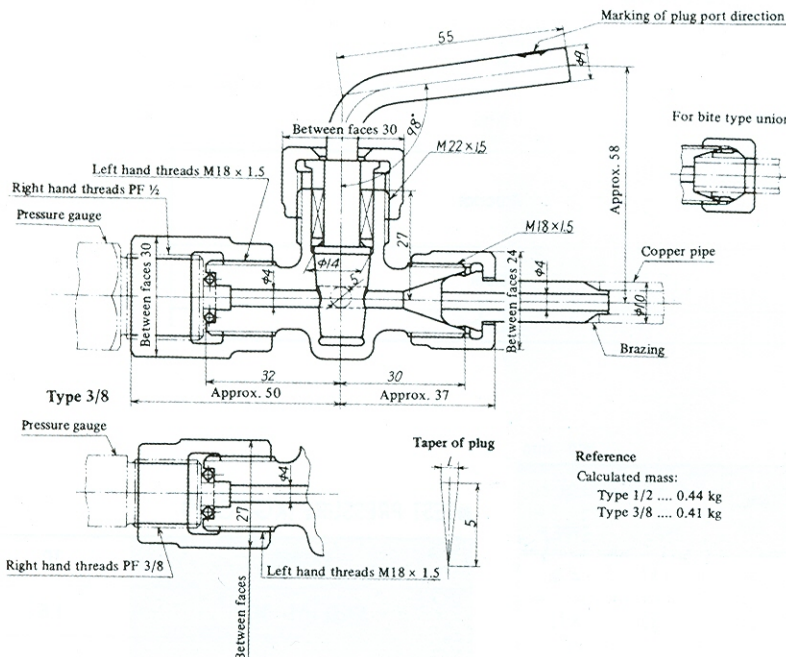
■ DIMENSIONS

Unit : mm

Nominal dia.	Pipe out dia.		d	d ₁	Threads d ₃	K	D	Height (Approx.) (fully opened) H	Lift l	Hand-wheel D ₂	Threads d ₁
	copper pipe	steel pipe									
6	8	10.5	6	8	M20×1.5	12	28	100	5.5	63	M27×2
	10										
10	15	17.3	10	12	M24×2	16	34	115	7.5	80	M30×2

BRONZE 20kg/cm² PRESSURE GAUGE COCKS.

JIS F 7343



WORKING PRESSURE		20kg/cm ²
TEST PRESSURE	BODY	30
	SEAT	22

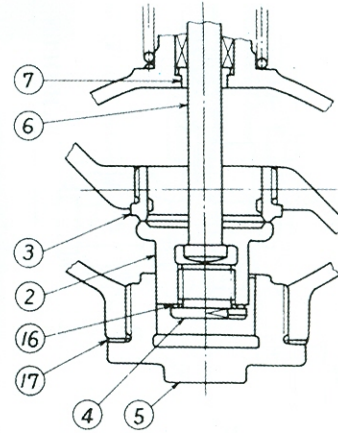
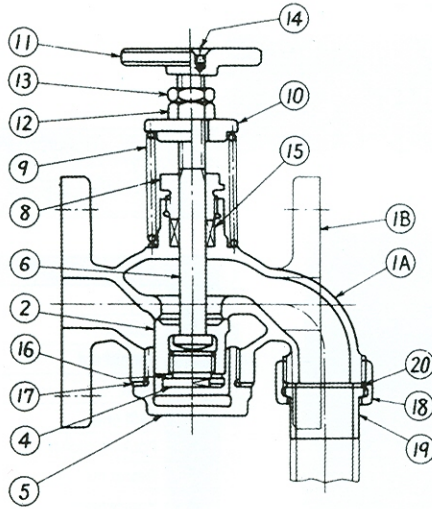
NO.	PARTS	MATERIAL
1	Body	Bronze
2	Plug	Brass
3	Gland nut	Brass
4	Type 1/2 union nut	Brass
5	Union nut for nipple	Brass
6	Packing gland	Brass
7	seat ring	Brass
8	Nipple	Brass
10	Packing	Teflon
14	Type 3/8 union nut	Brass
15	Union nut	Brass
16	Sleeve	Brass

MARINE FUEL OIL TANK SELF CLOSING DRAIN VALVES

JIS F 7398

For nominal dia 25mm and 40mm

For nominal dia 50mm



No.	Parts	Material	
		For nominal dia. 25mm & 40mm	For nominal dia. 50mm
1 A	Body (Type U)	Bronze	Cast Steel
1 B	Body (Type F)		
2	Disc	Bronze or Brass	
3	Valve seat	-	
4	Plug	Bronze or Brass	
5	Bonnet	Bronze or Brass	Cast Steel
6	Stem	Brass	
7	Packing bush	-	
8	Packing gland	Brass	
9	Spring	Spring Steel	
10	Spring support	Bronze or Brass	Steel
11	Handle		
12	Hexagon nut	Brass	
13	Hexagon nut	Brass	
14	Cross-Recessed Flat Head Machine Screws	Brass	
15	Packing	Asbestos	
16	Gasket		
17	Gasket		
18	Union nut	Steel	
19	Nipple	Steel	
20	Gasket	Asbestos	

■ DIMENSIONS

Unit : mm

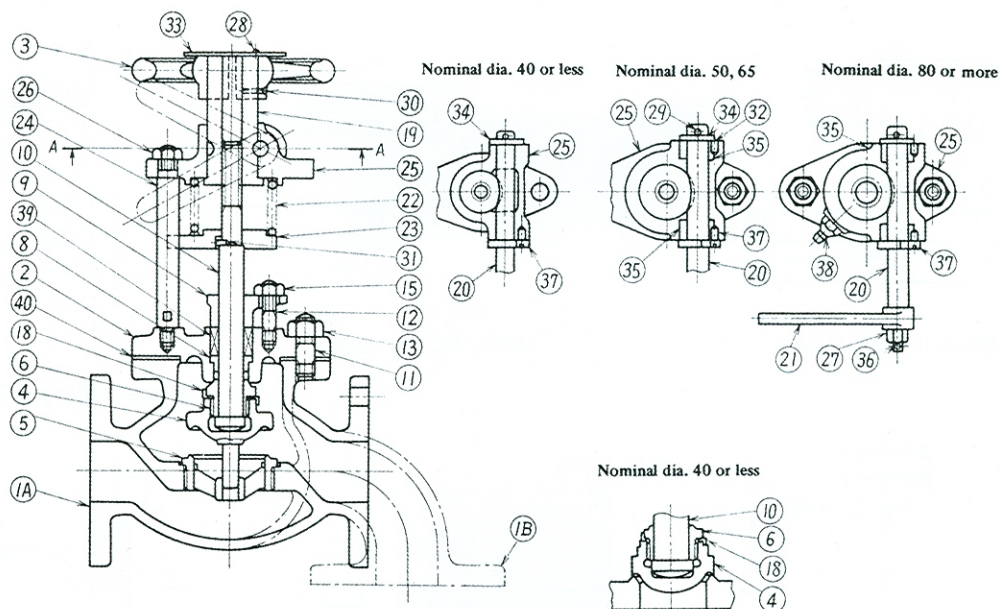
SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)	
		DIA	PCD	BOLT HOLE			TYPE U	TYPE F
25	130	125	90	4-19	130	70	3.87	4.70
40	180	140	105	4-19	165	80	7.43	8.10
50	220	155	120	4-19	195	80	12.2	12.4

■ TEST PRESSURE (KGF/CM²)

RATING	10
SHEEL HYD' TEST	1.5
SEAT HYD' TEST	1.1

MARINE FUEL OIL TANK EMERGENCY SHUT OFF VALVES

JIS F 7399



No.	Component	Material.			No.	Component	Material.		
		Nominal dia. 40 or less	Nominal dia. 50 and 65	Nominal dia. 80 or more			Nominal dia. 40 or less	Nominal dia. 50 and 65	Nominal dia. 80 or more
1 A	Body (A-Type)				22	Spring	Spring Steel		
1 B	Body (B-type)	Bronze	Cast Steel		23	Spring support	bronze	Steel	
2	Bonnet				24	Stay			
3	Hand wheel	Cast iron			25	Support bush for stem	Bronze	Steel	
4	Disc	Bronze or Brass	Stainless		26	Hexagon nut	Steel		
5	Valve seat	-			27	Hexagon nut	Steel		
6	Disc nut	Brass	Stainless		28	Machine screw	Steel		
8	Bonnet bush	-	Bronze or Brass		29	Split pin	Brass		
9	Packing gland	Bronze			30	Machine screw	Steel		
10	Stem	Brass	Stainless		31	Lock pin	Steel		
11	Stud bolt				32	Set screw	-	Steel	
12	Stud bolt	Steel			33	Name plate	Brass or Al		
13	Hexagon nut				34	Washer	Steel		
15	Hexagon nut	Brass			35	Bush	-	Brass	
18	Disc lock washer	Brass	Stainless		36	Split pin	Steel		
19	Bush for stem lift	Brass			37	Set screw	Steel		
20	Operating spindle	Steel	Stainless		38	Grease nipple	-		
21	Lever	Steel			39	Packing	Asbestos		
					40	Gasket	Asbestos		

■ DIMENSIONS

Unit : mm

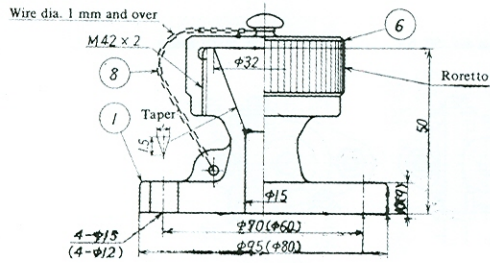
SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)	
		DIA	PCD	BOLT HOLE			A ₁	B ₁
25	130	125	90	4-19	265	125	8.5	8.8
40	170	140	105	4-19	310	140	12.7	13.0
50	220	155	120	4-19	335	160	20.9	21.8
65	270	175	140	4-19	395	180	30.5	32.1
80	300	185	150	8-19	420	180	35.4	37.5
100	350	210	175	8-19	510	224	55.6	59.2

■ TEST PRESSURE (kgf/cm²)

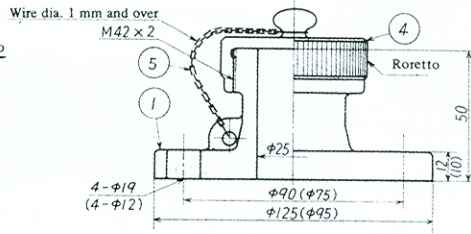
RATING	10
SHEEL HYD' TEST	7
SEAT HYD' TEST	2

MARINE BRONZE HOSE CONNECTIONS AND FITTINGS

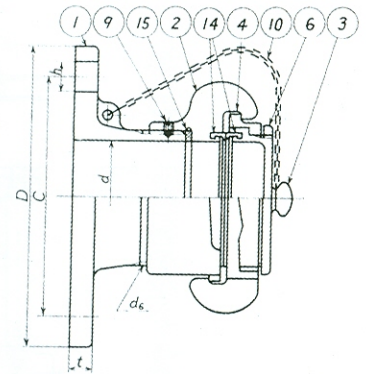
JIS F 7335



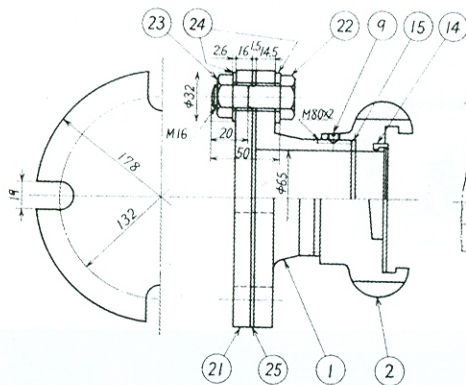
Base Fitting 15A



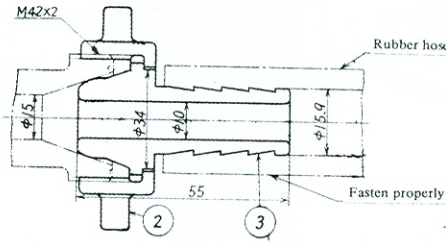
Base Fitting 25A



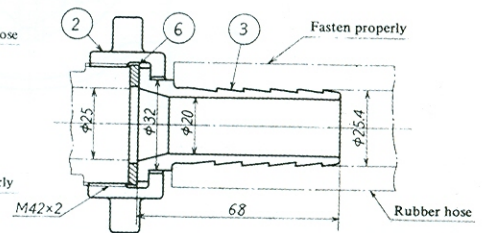
Base Fitting 40A And 65A



International Shore Connections



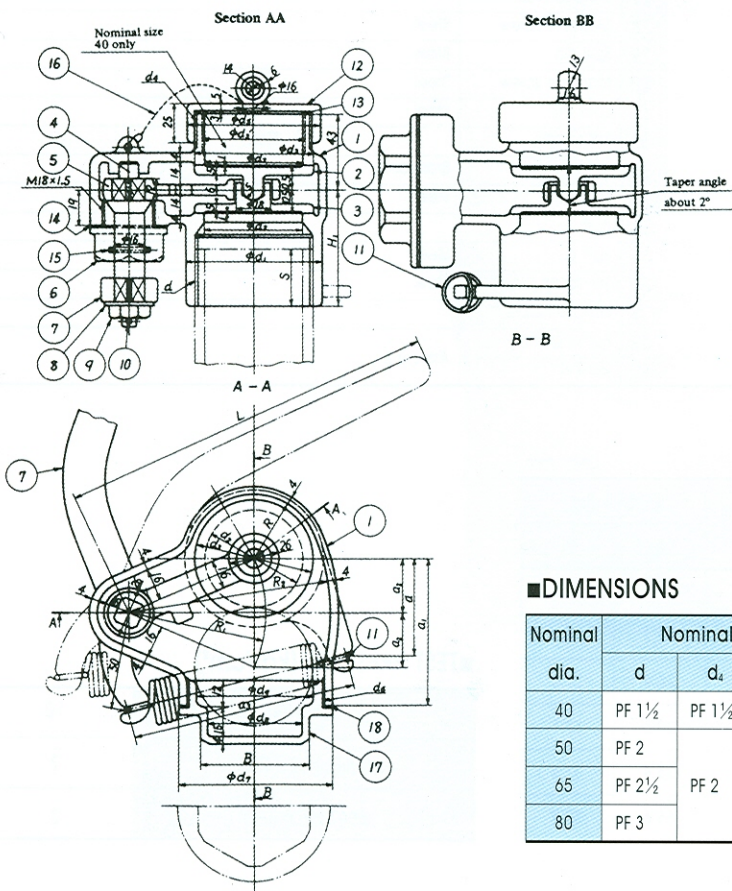
Rubber Hose Connection 15A



Rubber Hose Connection 25A

Self Closing Gate Valve Heads For Short Sounding Pipe

JIS F 3019



■ TEST PRESSURE (kgf/cm²)

BODY	3
FACING SURFACE	2

■ DIMENSIONS

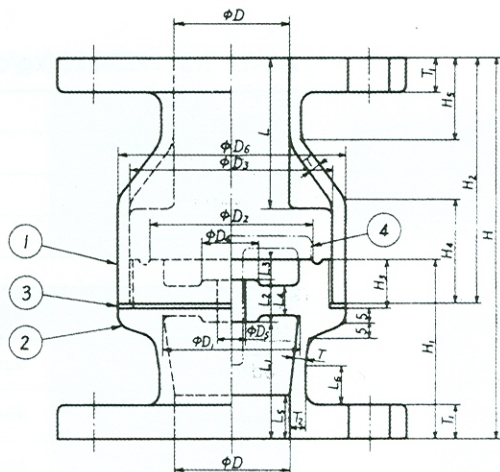
Unit : mm

Nominal	Nominal size		
	dia.	d	d _s
40	PF 1½	PF 1½	M 60 × 2
50	PF 2		
65	PF 2½	PF 2	M 70 × 2
80	PF 3		

NO	Parts	Material
1	BODY	BRONZE
2	VALVE	BRONZE
3	VALVE	BRONZE
4	SPIDLE FOR HANDLE	BRASS
5	LEVER	BRONZE
6	PACKING GLAND	BRONZE
7	HANDLE	CAST IRON
8	WASHER	BRASS PLATF
9	HEXAGON NUT	BRASS
10	SPLIT PIN	BRASS
11	COIL SPRING	PWB
12	CAP	BC6
13	GASKET	RUBBER
14	GASKET	RUBBER
15	PACKING	RUBBER
16	CHAIN	BRASS
17	COVER	BRONZE
18	GASKET	RUBBER

SHIP'S FOOT VALVES

JIS F 3056



■ DIMENSIONS

Unit : mm

SIZE	FACE TO FACE	FLANGE		
		DIA	PCD	BOLT HOLE
40	130	120	95	4-15
50	142	130	105	4-15
80	194	180	145	4-19

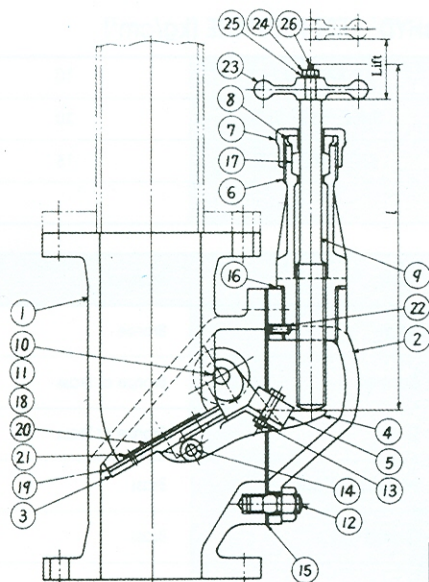
■ Test Pressure (kgf/cm²)

BODY	2
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NO	Parts	Material
1	BODY(UPPER)	BRONZE
2	BODY(LOWER)	BRONZE
3	GASKET	RUBBER
4	VALVE	BRONZE

MARINE BRONZE VERTICAL STORM VALVES

JIS F 3059



■ DIMENSIONS

Unit : mm

SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
		DIA	PCD	BOLT HOLE			
50	210	130	105	4-15	290	63	8.5
65	240	155	130	4-15	290	63	11.5
80	260	180	145	4-19	290	63	15.6
100	280	200	165	8-19	290	63	22.6
125	330	235	200	8-19	290	63	30.6
150	360	265	230	8-19	290	63	36.6

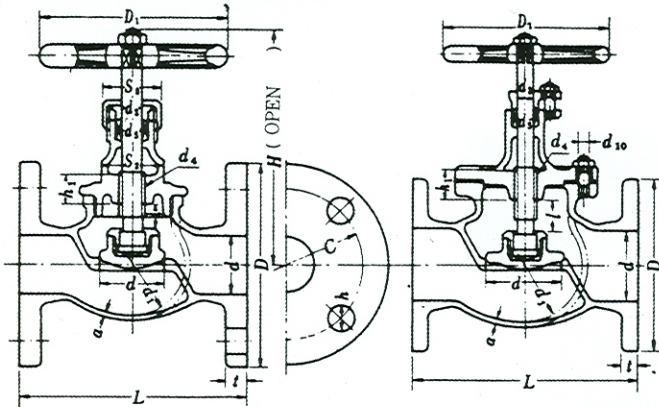
■ TEST PRESSURE (kgf/cm²)

BODY	5.1
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NO	Parts	Material
1	BODY	BRONZE
2	COVER	CAST STEEL
3	VALVE PLATE	CAST STEEL
4	CLOSING ARM	BRONZE
5	COUNTER WEIGHT	PLUMBUM
6	SPINDLE BOX	BRONZE
7	PACKING GLAND NUT	BRONZE
8	PACKING GLAND	BRONZE
9	SPINDLE	BRASS
10	VALVE AXIL	BRASS
11	BOLT AND NUT	BRASS
12	BOLT AND NUT	BRASS
13	BOLT AND NUT	BRASS
14	GASKET	ASBESTOS
15	GASKET	ASBESTOS
16	PACKING	ASBESTOS
17	GASKET	TEFLON
18	GASKET	RUBBER
19	SET PLATE FOR GASKET	BRASS
20	SET SCREW FOR GASKET	BRASS
21	SET SCREW	BRASS
22	HANDLE	CAST IRON
23	HEXAGON NUT	BRASS
24	WASHER	BRASS
25	SPLIT PIN	BRASS

BRONZE 10kg/cm² FLANGE TYPE GLOBE VALVES

JIS B 2026



SIZE 15A AND 65A

SIZE 8A AND 100A

■ DIMENSIONS

SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
		DIA	PCD	BOLT HOLE			
15	85	95	70	4-15	110	63	2.1
20	95	100	75	4-15	125	80	3.2
25	110	125	90	4-19	140	100	4.5
32	130	135	100	4-19	170	125	6.4
40	150	140	105	4-19	180	125	7.5
50	180	155	120	4-19	205	140	9.8
65	210	175	140	4-19	240	180	13.5
80	240	185	150	8-19	275	200	18.0
100	280	210	175	8-19	345	250	30

Unit : mm

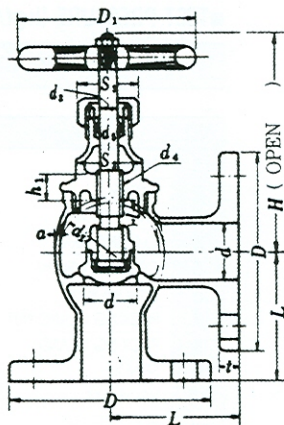
■ HYD' TEST PRESSURE (kg/cm²)

RATING	10
SHEEL HYD' TEST	20
SEAT HYD' TEST	15

PARTS	Material
Body	Bronze
Bonnet	Bronze or Brass
Disc	Bronze or Brass
Packing Gland	Brass
Gland nut	Brass
Stem	Brass
Hand wheel	Cast iron
Hexagon nut	Brass
Packing	Teflon

BRONZE 10kg/cm² FLANGE TYPE ANGLE VALVES

JIS B 2027



■ DIMENSIONS

SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
		DIA	PCD	BOLT HOLE			
15	62	95	70	4-15	110	63	2.1
20	65	100	75	4-15	125	80	3.2
25	80	125	90	4-19	140	100	4.5
32	85	135	100	4-19	170	125	6.4
40	90	140	105	4-19	180	125	7.5
50	100	155	120	4-19	205	140	9.5
65	105	175	140	4-19	240	180	13.0

Unit : mm

■ HYD' TEST PRESSURE (kg/cm²)

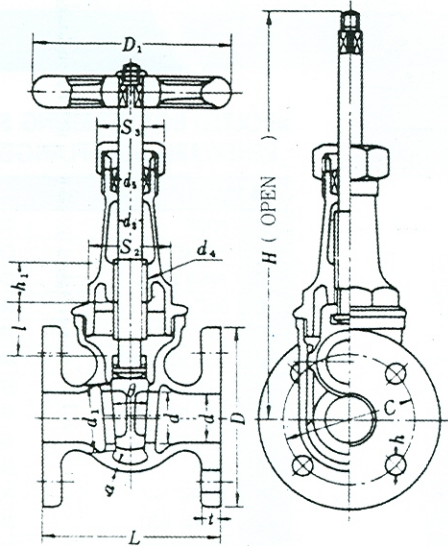
RATING	10
SHEEL HYD' TEST	20
SEAT HYD' TEST	15

Parts	Material
Body	Bronze
Bonnet	Bronze or Brass
Disc	Bronze or Brass
Packing Gland	Brass
Gland nut	Brass
Stem	Brass
Hand wheel	Cast iron
Hexagon nut	Brass
Packing	Teflon

BRONZE 10kg/cm² FLANGE TYPE GATE VALVES

JIS B 2028

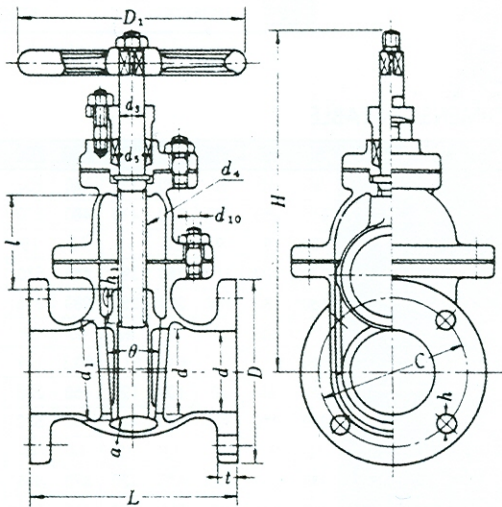
SIZE 25A AND 50A



■HYD' TEST PRESSURE (kg/cm²)

RATING	10
SHEEL HYD' TEST	20
SEAT HYD' TEST	15

SIZE 60A AND 80A



Parts	Material
Body	Bronze
Bonnet	Bronze or Brass
Disc	Bronze or Brass
Packing Gland	Brass
Gland nut	Brass
Stem	Brass
Hand wheel	Cast iron
Hexagon nut	Brass
Packing	Teflon

■DIMENSIONS

Unit : mm

SIZE	FACE TO FACE	FLANGE			HEIGHT	HANDLE DIA	WEIGHT (kg)
		DIA	PCD	BOLT HOLE			
25	100	125	90	4-19	205	100	5
32	110	135	100	4-19	245	125	6.5
40	125	145	105	4-19	275	125	8
50	140	155	120	4-19	225	140	11
65	170	175	140	4-19	260	180	19.5
80	190	185	150	8-19	295	200	23

MARINE CAST IRON 5kg/cm² GLOBE VALVES

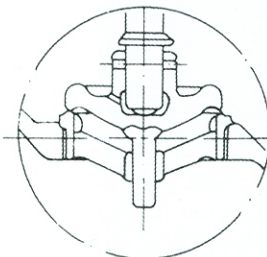
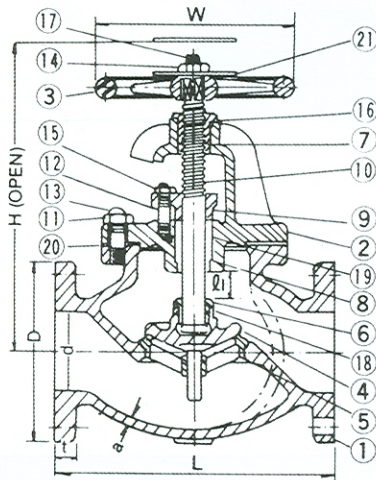
JIS F 7305

MARINE CAST IRON 10kg/cm² GLOBE VALVES

JIS F 7307

MARINE CAST IRON 16kg/cm² GLOBE VALVES

JIS F 7309



Screw Down Check Globe

■BOLTED BONNET RISING STEM RENEWABLE SEAT FLANGED ENDS

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	HAND WHEEL	CAST IRON
4	DISC	BRONZE OR STAINLESS STEEL
5	SEAT RING	BRONZE OR STAINLESS STEEL
6	DISC LOCK NUT	BRONZE OR STAINLESS STEEL
7	YOKE BUSHING	BRONZE
8	BONNET BUSHING	BRONZE OR STAINLESS STEEL
9	PACKING GLAND	BRONZE
10	STEM	BRASS OR STAINLESS STEEL
11	BONNET NUT	ROLLED STEEL
12	GLAND BOLT	BRASS
13	BONNET BOLT	ROLLED STEEL
14	HANDWHEEL NUT	BRASS
15	GLAND NUT	BRASS
16	SET SCREW	ROLLED STEEL
17	SPLIT PIN	BRASS
18	LOCK WASHER	BRASS OR STAINLESS STEEL
19	PACKING	GRAPHITED ASBESTOS
20	GASKET	GRAPHITED ASBESTOS
21	NAME PLATE	BRASS

■FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

Rating	Max. Working Pressure(kgf/cm ²)								
	5		10		16				
	Up to 200	250-300	350-400	Up to 200	Over 250	50-200			
Fluid condition	B Trim	S Trim	B Trim	B Trim	S Trim	B Trim	S Trim	B Trim	S Trim
Steam up to 230°C	-	5	-	10	-	16	-	16	-
Steam up to 205°C	5	-	-	-	-	16	-	-	-
Saturated Steam	-	-	10	-	5	-	-	-	-
Air and gas	5	-	-	-	-	16	-	-	-
Oil and Pulsation Water	5	-	-	10	-	16	-	-	-
Non shock Water up to 120°C	7	6	14	10	10	22	-	-	-

■TEST PRESSURE (kgf/cm²)

Rating	5		10		16
Size	Up to 300	350-400	Up to 200	Over 250	50-200
Shell Hydraulic Test	10.5	9	24	20	38
Seat Hydraulic Test	7.7	6.6	15	11	23

■DIMENSION TABLE

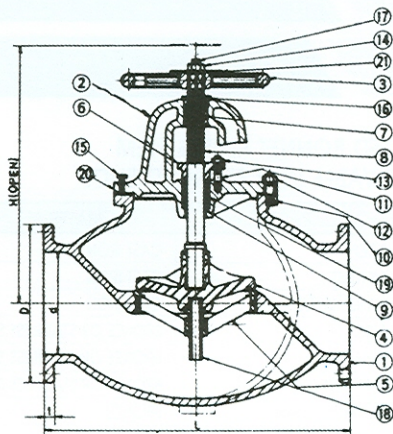
(Unit : mm, Weight:kg)

Rating	SIZE	50	65	80	100	125	150	200	250	300	350	400
5kgf/cm ² (JIS F 7305)	d	50	65	80	100	125	150	200	250	300	335	380
	L	210	250	280	340	410	480	570	740	840	940	1050
	a	8	9	9	10	11	12	15	16	17	18	20
	H	270	300	310	360	390	445	530	650	740	840	940
	W	160	180	180	224	250	280	315	355	400	500	630
	Weight I	14.7	21.3	27.7	40.8	57.6	80.3	139	246	377	462	647
10kgf/cm ² (JIS F 7307)	d	50	65	80	100	125	150	200	250	300		
	L	220	270	300	350	420	490	570	740	840		
	a	10	11	11	12	13	14	17	20	22		
	H	285	310	320	370	420	470	555	680	770		
	W	160	200	200	250	280	315	355	450	500		
	Weight I	19.9	28.7	32.4	48.7	73.1	104	162	304	458		
16kgf/cm ² (JIS F 7309)	d	50	65	80	100	125	150	200				
	L	220	270	300	350	430	500	570				
	a	10	11	12	13	15	16	19				
	H	285	310	340	385	425	510	630				
	W	160	200	224	250	315	355	455				
	Weight I	19.6	28.3	40.4	56.9	89.5	123	188				

Remarks : 1. The flanges shall conform to 5kgf/cm² of JIS B2211, 10kgf/cm² of JIS B2212 and 20kgf/cm² JIS B2213.
 2. The name plate shall be specified by purchaser as required.
 3. The calculated mass are of values in class "B".

Marine Cast Iron 5kg/cm² Screw-Down Check Globe Valves

JIS F 7353



■ DIMENSIONS Unit : mm

SIZE	H	D	L	t
50	270	130	210	16
65	290	155	250	18
80	300	180	280	18
100	350	200	340	20
125	380	235	410	20
150	430	265	480	22
200	505	320	570	24

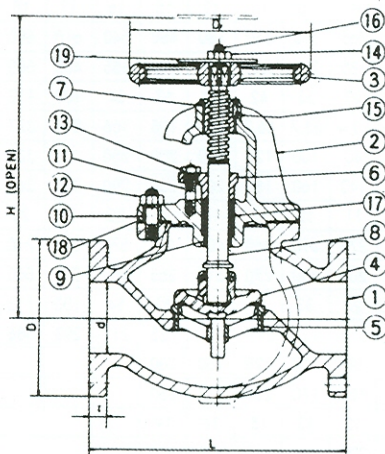
WORKING PRESSURE		5kg/cm ²
TEST PRESSURE	BODY	10.5
	SEAT	7.7→4

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	HANDWHEEL	CAST IRON
4	DISC	BRONZE
5	SEAT RING	BRONZE
6	PACKING GLAND	BRONZE
7	YOKE BUSHING	BRONZE
8	STEM	BRASS OR STAINLESS STEEL
9	BONNET BUSHING	BRASS
10	BONNET STUD BOLT	ROLLED STEEL
11	GLAND BOLT	BRASS
12	BONNET STUD NUT	ROLLED STEEL
13	GLAND NUT	BRASS
14	HANDWHEEL NUT	BRASS
15	BOLT	BRASS
16	SET SCREW	ROLLED STEEL
17	SPLIT PIN	BRASS
18	DISC GUIDE	BRONZE
19	PACKING	GRAPHITED ASBESTOS
20	GASKET	ASBESTOS
21	NAME PLATE	BRASS

CONDITION OF FLUID	MAXIMUM WORKING PRESSURE (kg/cm ²)		
	NOMINAL DIA 200MM AND UNDER		NOMINAL DIA 250MM
	"B" GROUP	"S" GROUP	
STEAM OF 230°C AND UNDER	-	5	-
STEAM OF 205 AND UNDER	5		
AIR, GAS, OIL AND PULSATION WATER		5	
NON-SHOCK WATER 120 AND UNDER		7	

MARINE CAST IRON 10kg/cm² SCREW-DOWN CHECK GLOBE VALVES

JIS F 7375



■ Dimensions Unit : mm

SIZE	H	D	d	D ₁	t	L
50	285	155	50	155	20	220
65	305	175	65	175	22	270
80	315	185	80	190	22	300
100	360	210	100	215	24	350
125	410	250	125	260	24	420
150	455	280	150	285	26	490
200	530	330	200	335	26	570

WORKING PRESSURE		10kg/cm ²
TEST PRESSURE	BODY	21
	SEAT	15.4→4

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	HANDWHEEL	CAST IRON
4	DISC	BRONZE
5	SEAT RING	BRONZE
6	PACKING GLAND	BRONZE
7	YOKE BUSHING	BRONZE
8	STEM	BRASS OR STAINLESS STEEL
9	BONNET BUSHING	BRASS
10	BONNET STUD BOLT	ROLLED STEEL
11	GLAND BOLT	BRASS
12	BONNET STUD NUT	ROLLED STEEL
13	GLAND NUT	BRASS
14	HANDWHEEL NUT	BRASS
15	SET SCREW	ROLLED STEEL
16	SPLIT PIN	BRASS
17	PACKING	GRAPHITED ASBESTOS
18	GASKET	ASBESTOS
19	NAME PLATE	BRASS

CONDITION OF FLUID	MAXIMUM WORKING PRESSURE (kg/cm ²)	
	"B" GROUP	"S" GROUP
STEAM OF 205°C AND UNDER	-	10
STEAM OF 230°C AND UNDER	10	
AIR, GAS, OIL AND PULSATION WATER		10
NON-SHOCK WATER 120°C AND UNDER		14

MARINE CAST IRON 5kg/cm² ANGLE VALVES

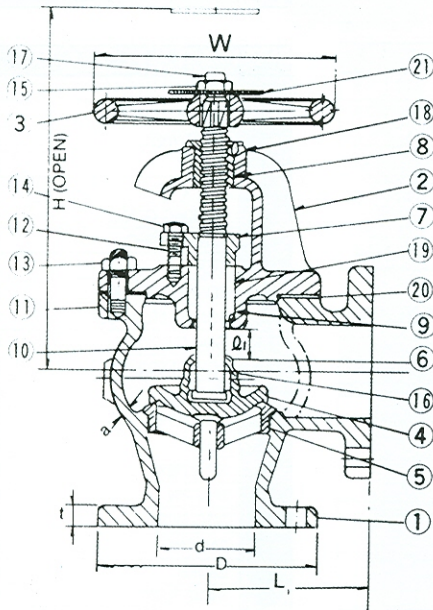
JIS F 7306

MARINE CAST IRON 10kg/cm² ANGLE VALVES

JIS F 7308

MARINE CAST IRON 16kg/cm² ANGLE VALVES

JIS F 7310



**■BOLTED BONNET RISING STEM
RENEWABLE SEAT FLANGED ENDS**

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	HAND WHEEL	CAST IRON
4	DISC	BRONZE OR STAINLESS STEEL
5	SEAT RING	BRONZE OR STAINLESS STEEL
6	DISC NUT	BRONZE OR STAINLESS STEEL
7	PACKING GLAND	BRONZE
8	YOKE BUSHING	BRONZE
9	BONNET BUSHING	BRONZE
10	STEM	BRASS OR STAINLESS STEEL
11	BONNET STUD BOLT	ROLLED STEEL
12	GLAND BOLT	BRASS
13	BONNET STUD NUT	ROLLED STEEL
14	GLAND NUT	BRASS
15	HANDWHEEL NUT	BRASS
16	LOCK WASHER	ROLLED STEEL
17	SPLIT PIN	BRASS
18	SET SCREW	BRASS OR STAINLESS STEEL
19	PACKING	GRAPHITED ASBESTOS
20	GASKET	ASBESTOS
21	NAME PLATE	BRASS

■FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

Fluid condition	Max. Working(kgf/cm ²)									
	Rating 5		Rating 10				Rating 16			
	Size	Time	Size	Time	Size	Time	Size	Time	Size	Time
Steam up to 230°C	-	5	-	10	-	16	-	16	-	16
Steam up to 205°C							16			
Saturated Steam	5		10				5			
Air and gas	5						16			
Oil and Pulsation Water	5		10				16			
Non shock Water up to 120°C	7	6	14	14	10	10	22			

■TEST PRESSURE (kgf/cm²)

Rating	5			10		16
Size	Up to 300	350-450	Over 450	Up to 200	Over 250	50~200
Shell HYD Test	10.5	9	7.5	21	20	33
Seat HYD Test	7.7	6.6	5.5	15.4	11	24.2

■DIMENSION TABLE

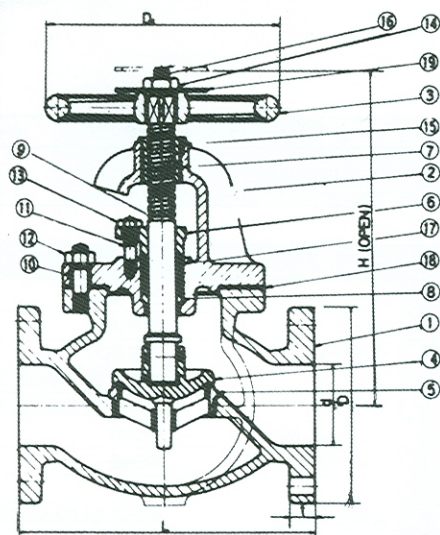
(Unit : mm, Weight : kg)

Rating	SIZE	50	65	80	100	125	150	200	250	300	350	400
5kgf/cm ² (JIS F 7306)	d	50	65	80	100	125	150	200	250	300	335	380
	L ₁	100	115	130	150	170	190	220	275	310	360	395
	α	8	9	9	10	11	12	15	16	17	18	20
	H	240	225	265	310	330	380	450	540	610	690	770
	W	160	180	180	224	250	280	315	355	400	500	630
	ℓ ₁	17	22	27	33	42	50	67	84	100	112	1270
10kgf/cm ² (JIS F 7308)	Weight I	12.9	18.2	23.4	33.7	46.2	63.4	105	166	243	327	459
	d	50	65	80	100	125	150	200	250	300	335	380
	L ₁	120	130	140	160	180	205	230	290	320	360	420
	α	10	11	11	12	13	14	17	20	22	24	26
	H	255	270	275	315	360	405	475	570	645	710	790
	W	160	200	200	250	280	315	355	450	500	560	630
16kgf/cm ² (JIS F 7310)	ℓ ₁	17	22	27	33	42	50	67	84	100	112	127
	Weight I	18.2	25.4	27.4	40.6	69.9	81.0	125	211	293	386	544
	d	50	60	80	100	125	150	200				
	L ₁	120	130	150	170	200	225	250				
	α	10	11	12	13	15	16	19				
	H	255	270	295	330	390	435	540				
16kgf/cm ² (JIS F 7310)	W	160	200	224	250	315	355	450				
	ℓ ₁	17	22	27	33	42	50	67				
	Weight I	18.0	25.0	35.7	49.2	76.1	103	155				

Remarks : 1. The flanges shall conform to 5kgf/cm² of JIS B2211, 10kgf/cm² of JIS B2212 and 20kgf/cm² JIS B2213.
 2. The name plate shall be specified by purchaser as required.
 3. The calculated mass are of values in class "B".

MARINE CAST IRON 16kg/cm² SCREW-DOWN CHECK GLOBE VALVES

JIS F 7377



■ DIMENSIONS Unit : mm

SIZE	H	D	†	L
50	285	155	20	220
65	305	175	22	270
80	335	200	24	300
100	375	225	26	350
125	440	270	26	430
150	500	305	28	500

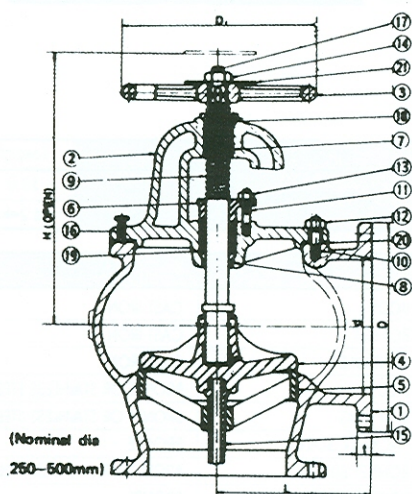
WORKING PRESSURE		16kg/cm ²
TEST PRESSURE	BODY	33.0
	SEAT	24.2→4

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	HANDWHEEL	CAST IRON
4	DISC	BRONZE OR STAINLESS STEEL
5	SEAT RING	BRONZE OR STAINLESS STEEL
6	PACKING GLAND	BRONZE
7	YOKE BUSHING	BRONZE
8	BONNET BUSHING	BRONZE AND STAINLESS STEEL
9	STEM	BRASS AND STAINLESS STEEL
10	BONNET STUD BOLT	ROLLED STEEL
11	GLAND BOLT	BRASS GLAND
12	BONNET NUT	ROLLED STEEL
13	GLAND NUT	BRASS
14	HANDWHEEL NUT	BRASS
15	SET SCREW	ROLLED STEEL
16	SPLIT PIN	BRASS
17	PACKING	GRAPHITED ASBESTOS
18	GASKET	ASBESTOS
19	NAME PLATE	BRASS

CONDITION OF FLUID	MAXIMUM WORKING PRESSURE (kg/cm ²)	
	"B" GROUP	"S" GROUP
STEAM OF 230°C AND UNDER	-	16
STEAM OF 205°C AND UNDER	16	16
AIR, GAS, OIL AND PULSATION WATER	16	
NON-SHOCK WATER 120°C AND UNDER	22	

MARINE CAST IRON 5kg/cm² SCREW-DOWN CHECK ANGLE VALVES

JIS F 7354



■ DIMENSIONS Unit : mm

SIZE	H	D	d	D ₁	†	L
50	240	130	50	160	16	100
65	245	155	65	180	18	115
80	255	180	80	180	18	130
100	300	200	100	224	20	150
125	320	235	125	250	20	170
150	365	265	150	280	22	190
200	425	320	200	315	24	220
250	510	385	250	395	26	275
300	585	430	300	455	28	310
350	660	480.5	335	515	30	360
400	730	40	380	570	30	395
450	835	605	430	635	30	440
500	915	655	480	700	32	485

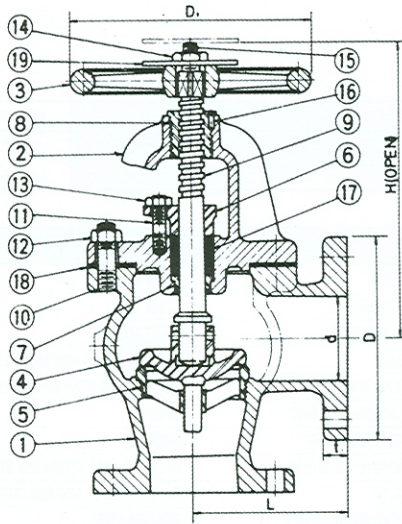
NOMINAL DIA(mm)	TEST PRESSURE (kg/cm ²)	
	BODY	SEAT
300 AND UNDER	10.5	7.7→4
350, 400	9.0	6.6→4
450, 500	7.5	5.5→4

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	HANDWHEEL	CAST IRON
4	DISC	BRONZE
5	SEAT RING	BRONZE
6	PACKING GLAND	BRONZE
7	YOKE BUSHING	BRONZE
8	BONNET BUSHING	BRASS
9	STEM	BRASS OR STAINLESS STEEL
10	BONNET STUD BOLT	ROLLED STEEL
11	GLAND BOLT	BRASS
12	BONNET STUD NUT	ROLLED STEEL
13	GLAND NUT	BRASS
14	HANDWHEEL NUT	BRASS
15	DISC GUIDE	BRONZE
16	BOLT	BRASS
17	SPLIT PIN	BRASS
18	SET SCREW	ROLLED STEEL
19	PACKING	GRAPHITED ASBESTOS
20	GASKET	ASBESTOS
21	NAME PLATE	BRASS

CONDITION OF FLUID	MAXIMUM WORKING PRESSURE (kg/cm ²)				
	NOMINAL DIA 200mm AND UNDER		250-300mm	350-400mm	450-500mm
	"B" GROUP	"S" GROUP	"B" GROUP		
STEAM OF 230°C AND UNDER	-	5	-	-	
STEAM OF 205°C AND UNDER	5	5	-	-	
AIR AND GAS	5		-	-	
OIL AND PULSATION WATER	5		5	4	
NON-SHOCK WATER 120°C AND UNDER	7		6	5	

MARINE CAST IRON 10kg/cm² SCREW-DOWN CHECK ANGLE VALVES

JIS F 7376



■ DIMENSIONS

Unit : mm

SIZE	H	D	d	D ₁	t	L
50	225	155	50	160	20	120
65	260	175	65	200	22	130
80	270	185	80	200	22	140
100	305	210	100	250	24	160
125	350	250	125	280	24	180
150	390	280	150	315	26	205
200	450	330	200	355	26	230

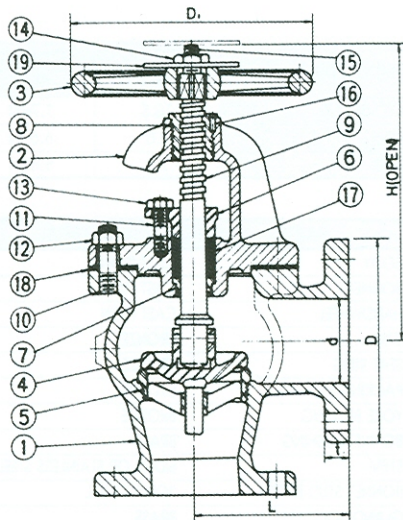
CONDITION OF FLUID	MAXIMUM WORKING PRESSURE (kg/cm ²)	
	"B" GROUP	"S" GROUP
STEAM OF 230°C AND UNDER	-	10
STEAM OF 205°C AND UNDER	10	
AIR, GAS, OIL AND PULSATION WATER	10	
NON-SHOCK WATER 120°C AND UNDER	22	

WORKING PRESSURE	10kg/cm ²	
TEST PRESSURE	BODY	21.0
	SEAT	15.4→4

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	HANDWHEEL	CAST IRON
4	DISC	BRONZE OR STAINLESS STEEL
5	SEAT RING	BRONZE OR STAINLESS STEEL
6	PACKING GLAND	BRONZE
7	YOKE BUSHING	BRONZE
8	STEM	BRASS
9	BONNET BUSHING	BRONZE OR STAINLESS STEEL
10	BONNET STUD BOLT	ROLLED STEEL
11	GLAND BOLT	BRASS OR STAINLESS STEEL
12	BONNET STUD NUT	ROLLED STEEL
13	GLAND NUT	BRASS
14	HANDWHEEL NUT	BRASS
15	SPLIT PIN	BRASS
16	SET SCREW	ROLLED STEEL
17	PACKING	GRAPHITED ASBESTOS
18	GASKET	ASBESTOS
19	NAME PLATE	BRASS

MARINE CAST IRON 16kg/cm² SCREW-DOWN CHECK ANGLE VALVES

JIS F 7378



■ DIMENSIONS

Unit : mm

SIZE	H	D	d	D ₁	t	L
50	225	155	50	160	20	120
66	260	175	65	200	22	130
80	290	200	80	224	24	150
100	320	225	100	250	26	170
125	375	270	125	315	26	200
150	425	305	150	355	28	225

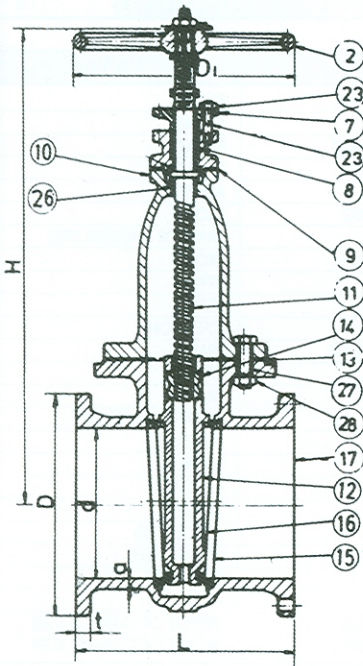
CONDITION OF FLUID	MAXIMUM WORKING PRESSURE (kg/cm ²)	
	"B" GROUP	"S" GROUP
STEAM OF 230°C AND UNDER	-	16
STEAM OF 205°C AND UNDER	16	
AIR, GAS, OIL AND PULSATION WATER	16	
NON-SHOCK WATER 120°C AND UNDER	22	

WORKING PRESSURE	16kg/cm ²	
TEST PRESSURE	BODY	33.0
	SEAT	24.2→4

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	HANDWHEEL	CAST IRON
4	DISC	BRONZE OR STAINLESS STEEL
5	SEAT RING	BRONZE OR STAINLESS STEEL
6	PACKING GLAND	BRONZE
7	BONNET BUSHING	BRONZE OR STAINLESS STEEL
8	YOKE BUSHING	BRONZE
9	STEM	BRASS OR STAINLESS STEEL
10	BONNET STUD BOLT	ROLLED STEEL
11	GLAND BOLT	BRASS
12	BONNET STUD NUT	ROLLED STEEL
13	GLAND NUT	BRASS
14	HANDWHEEL NUT	BRASS
15	SPLIT PIN	BRASS
16	SET SCREW	ROLLED STEEL
17	PACKING	GRAPHITED ASBESTOS
18	GASKET	ASBESTOS
19	NAME PLATE	BRASS

MARINE CAST IRON 5kg/cm² GATE VALVES

JIS F 7363



■ DIMENSIONS

Unit : mm

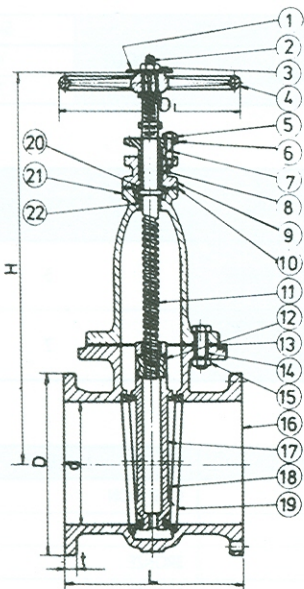
SIZE	H	D	d	D ₁	t	L
50	285	130	50	125	16	180
65	330	155	65	140	18	190
80	380	180	80	160	18	200
100	430	200	100	180	20	230
125	495	235	125	200	20	250
150	560	265	150	224	22	270
200	680	320	200	280	24	290
250	800	385	250	355	26	330
300	920	430	300	400	28	370
350	1000	480	335	450	30	410
400	1100	540	380	500	30	470

NOMINAL DIA(mm)	TEST PRESSURE (kg/cm ²)	
	SEAT	SEAT
400 OR LESS	7.7	10.5
450-600	5.5	7.5

NO	PARTS	MATERIAL
1	INDICATOR	BRONZE
2	HANDWHEEL	CAST IRON
3	THRUST BALL BEARING	-
4	BUSHING	BRONZE
5	BEVEL GEAR	CAST IRON
6	KEY	CARBON STEEL
7	PACKING GLAND	BRONZE
8	PACKING	GRAPHITED ASBESTOS
9	GASKET	ASBESTOS
10	BONNET	CAST IRON
11	STEM	BRASS OR STAINLESS STEEL
12	DISC	CAST IRON
13	GASKET	ASBESTOS
14	SCREWED PIECE	BRONZE
15	BODY SEAT RING	BRONZE OR STAINLESS STEEL
16	DISC SEAT RING	BRONZE OR STAINLESS STEEL
17	BODY	CAST IRON
18	INDICATOR STEM	BRASS
19	CAP FOR YOKE	CAST TSEEL
20	YOKE	CAST IRON
21	SET SCREW	CARBON STEEL
22	HEXAGON NUT	BRASS
23	NUT	BRASS
24	BOLT	BRASS
25	PIN	BRASS
26	PACKING BUSH	BRONZE
27	BONNET STUD BOLT	ROLLED STEEL
28	BONNET NUT	BRASS

MARINE CAST IRON 10kg/cm² GATE VALVES

JIS F 7364



■ DIMENSIONS

Unit : mm

SIZE	H	D	d	D ₁	t	L
50	300	155	50	140	20	200
65	350	175	65	160	22	220
80	400	185	80	180	22	230
100	450	210	100	200	24	250
125	520	250	125	224	24	270
150	580	280	150	250	26	290
200	700	380	200	315	26	320
250	80	400	250	400	30	380
300	960	445	300	450	32	440
350	1050	490	335	500	34	500
400	1150	560	380	560	36	590
500	-	657	480	-	40	710
600	-	795	580	-	44	850

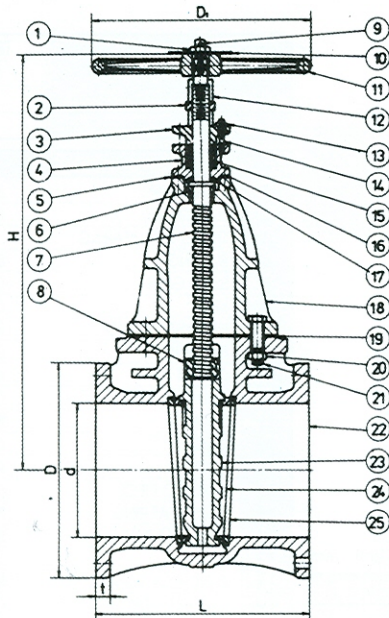
NOMINAL DIA(mm)	TEST PRESSURE (kg/cm ²)	
	SEAT	SEAT
400 OR LESS	15.4	21.0
450-600	13.2	18.0

NO	PARTS	MATERIAL
1	MANE PLATE	BRASS
2	SPLIT PIN	BRASS
3	HANDWHEEL NUT	BRASS
4	HANDWHEEL	CAST IRON
5	GLAND NUT	BRASS
6	PACKING GLAND	BRONZE
7	GLAND BOLT	BRASS
8	PACKING	GRAPHITED ASBESTOS
9	STUFFING BOX	CAST IRON
10	GASKET	ASBESTOS
11	STEM	BRASS OR STAINLESS STEEL
12	SCREWED BUSH	BRONZE
13	GASKET	ASBESTOS
14	BONNET BOLT	ROLLED STEEL
15	BONNET NUT	ROLLED STEEL
16	BODY	CAST IRON
17	DISC	CAST IRON
18	DISC SEAT RING	BRONZE OR STAINLESS STEEL
19	BODY SEAT RING	BRONZE OR STAINLESS STEEL
20	GUIDE BUSH	BRONZE
21	BONNET	CAST IRON
22	GUIDE BUSH	BRONZE

FLUID CONDITION	MAXIMUM WORKING PRESSURE (kg/cm ²)		
	SIZE BELOW 200mm	SIZE 250-400mm	SIZE 450-600mm
SATURATED STEAM CONDITION	5	3	
OIL AND PULSATION WATER	10		
NON-SHOCK WATER BELOW 120°C	14	12	

MARINE CAST IRON 16kg/cm² GATE VALVES

JIS F 7369



■ DIMENSIONS

Unit : mm

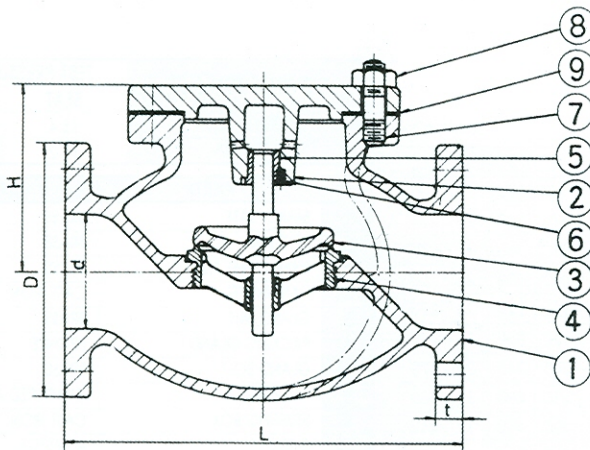
SIZE	H	D	d	D ₁	t	L
300	1010	480	300	560	36	490
350	1070	540	350	560	38	540
400	1185	605	380	630	42	610

WORKING PRESSURE		16kg/cm ²
TEST PRESSURE	BODY	24
	SEAT	17.6

NO	PARTS	MATERIAL
1	HANDWHEEL NUT	BRASS
2	INDICATOR	BRONZE
3	PACKING GLAND	BRONZE
4	STUFFING BOX	CAST IRON
5	GASKET	ASBESTOS
6	GUIDE BUSHING	BRONZE
7	STEM	BRASS OR STAINLESS STEEL
8	SCREWED PIECE	BRONZE
9	SPLIT PIN	BRASS
10	NAME PLATE	BRASS
11	HANDWHEEL	CAST IRON
12	INDICATOR PLATE	BRASS
13	GLAND NUT	BRASS
14	GLAND BOLT	BRASS
15	PACKING	GRAPHITED ASBESTOS
16	GASKET	ASBESTOS
17	GUIDE BUSH	BRONZE
18	BONNET	CAST IRON
19	GASKET	ASBESTOS
20	BONNET NUT	ROLLED STEEL
21	BONNET BOLT	ROLLED STEEL
22	BODY	CAST IRON
23	DISC	CAST IRON
24	DISC SEAT RING	BRONZE OR STAINLESS STEEL
25	BODY SEAT RING	BRONZE OR STAINLESS STEEL

MARINE CAST IRON 5kg/cm² LIFT CHECK GLOBE VALVES

JIS F 7358



■ DIMENSIONS

Unit : mm

SIZE	H	D	d	t	L
50	107	130	50	16	210
65	124	155	65	18	250
80	129	180	80	18	280
100	146	200	100	20	340
125	166	235	125	20	410
150	188	265	150	22	480

WORKING PRESSURE		5kg/cm ²
TEST PRESSURE	BODY	10.5
	SEAT	7.7 → 4

CONDITION OF FLUID	MAX. WORKING PRESSURE
OIL AND PULSATION WATER	5
NON-SHOCK WATER 120°C AND UNDER	7

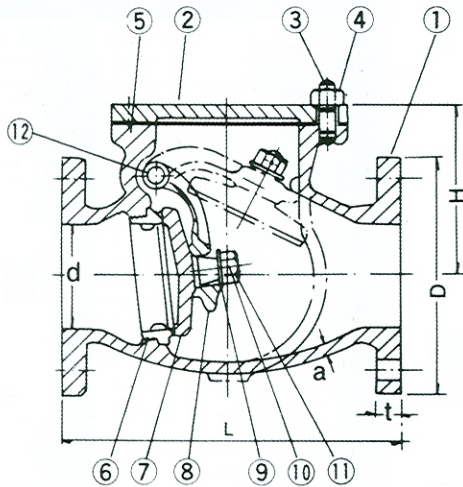
NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	DISC	BRONZE
4	SEAT RING	BRONZE
5	BONNET BUSHING	BRONZE
6	SET SCREW	ROLLED STEEL
7	BONNET STUD BOLT	ROLLED STEEL
8	BONNET NUT	ROLLED STEEL
9	GASKET	ASBESTOS

MARINE CAST IRON 5kg/cm² SWING CHECK VALVES

JIS F 7372

MARINE CAST IRON 10kg/cm² SWING CHECK VALVES

JIS F 7373



**BOLED BONNET
RENEWABLE SEAT FLANGED ENDS**

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	BONNET STUD BOLT	ROLLED STEEL
4	BONNET NUT	ROLLED STEEL
5	GASKET	ASBESTOS
6	BODY SEAT RING	BRONZE
7	DISC	BRONZE
8	ARM	BRONZE
9	WASHER	BRASS
10	SPLIT PIN	BRASS
11	HEXAGON NUT	BRASS
12	HINGE PIN	BRASS

FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

Rating	Max. Working Pressure	
	Fluid Condition	5
Oil and Pulsation Water	5	10
non-Shock Water up to 120°C	7	14

TEST PRESSURE (kgf/cm²)

Rating	5	10
Seat HYD ¹ Test	10.5	21
Seat HYD ² Test	7.7 → 4	15.4 → 4

DIMENSION TABLE

(Unit : mm, weight : kg)

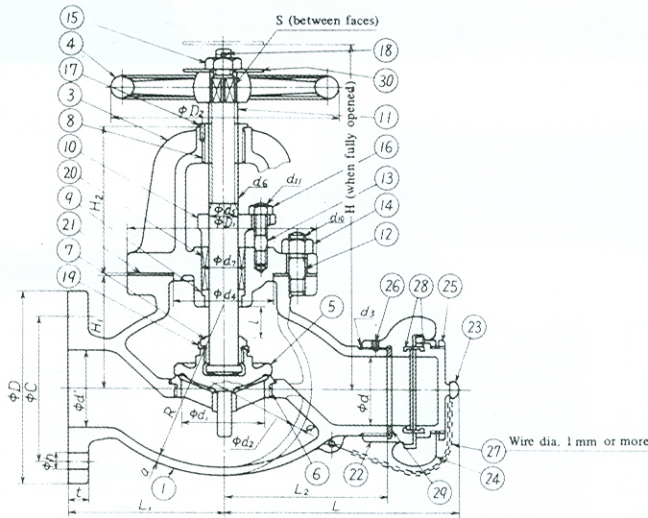
Rating	Size	50	65	80	100	125	150	200	250	300
5kgf/cm ² (JIS F 7372)	d	50	65	80	100	125	150	200	250	300
	L	190	220	250	280	330	380	460	550	690
	a	8	9	9	10	11	12	15	16	17
	H	97	119	129	146	171	198	235	290	385
	Weight	9.1	13.9	19.1	27.1	39.0	53.7	94.4	150	288
10kgf/cm ² (JIS F 7373)	d	50	65	80	100	125	150	200	250	300
	L	210	240	270	300	350	400	480	622	698
	a	10	11	11	12	13	14	17	20	22
	H	109	126	136	153	180	205	242	330	385
	Weight	13.6	20.0	23.0	31.0	49.2	64.9	103	206	295

Remarks : 1. The flanges shall conform to 5kgf/cm² of JIS B 2211 and 10kgf/cm² of JIS B 2212.

2. Nominal size above 300 of JIS F 7372 and nominal size 250, 300 of JIS F 7373 is KS standard.

MARINE CAST IRON 5/10kg/cm² HOSE GLOBE VALVES

JIS F 7333



FLUID CONDITION	MAXIMUM WORKING PRESSURE (kg/cm ²)	
	NOMINAL PRESSURE 5kg/cm ²	NOMINAL PRESSURE 10kg/cm ²
PULSATION WATER UNDER	5	10
NON-SHOCK WRTER OF 120°C AND UNDER	7	14

■ DIMENSIONS

Unit : mm

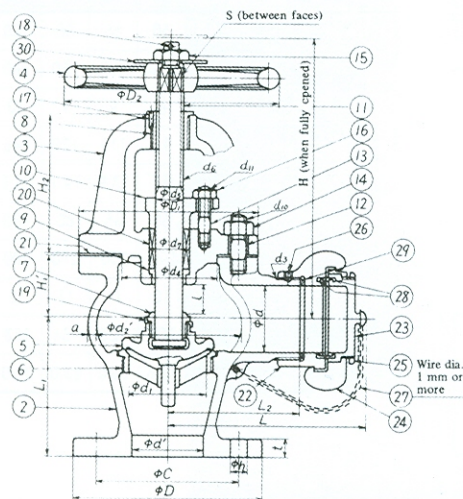
SIZE	PRESSURE	H	D	d	D ₁	t	L	L ₁
50	5kg/cm ²	270	130	50	160	16	165	105
50	10kg/cm ²	285	155	50	160	20	170	110
65	10kg/cm ²	310	175	65	200	22	200	135

TEST PRESSURE	NOMINAL PRESSURE	
	5kg/cm ²	10kg/cm ²
BODY	10.5	21
SEAT	7.7	15.4

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	SEAT RING	BRONZE
3	COUPLING	BRONZE
4	GASKET	ASBESTOS
5	COUPLING	BRONZE
6	CHAIN	BRASS
7	GASKET	ASBESTOS
8	CAP	BRONZE
9	RING	BRONZE
10	GASKET	ASBESTOS
11	SET SCREW	BRASS
12	DISC	BRONZE
13	BONNET STUD BOLT	ROLLED STEEL
14	BONNET NUT	ROLLED STEEL
15	GLAND BOLT	BRASS
16	GLAND NUT	BRASS
17	STEM	BRASS
18	NAME PLATE	BRASS
19	SPLIT PIN	BRASS
20	LOCK WASHER	BRASS
21	GLAND NUT	BRPMZE
22	GASKET	ASBESTPS
23	BONNET BUSHING	BRPMZE
24	PACKING	GRAPHITED ASBESTOS
25	PACKING GLAND	BRONZE OR BRASS
26	YOKE BUSHING	BRONZE
27	BONNET	CAST IRON
28	SET SCREW	ROLLED STEEL
29	HANDWHEEL	CAST IRON
30	HANDWHEEL NUT	BRASS

MARINE CAST IRON 5/10kg/cm² HOSE ANGLE VALVES

JIS F 7333



FLUID CONDITION	MAXIMUM WORKING PRESSURE (kg/cm ²)	
	NOMINAL PRESSURE 5kg/cm ²	NOMINAL PRESSURE 10kg/cm ²
PULSATION WATER UNDER	5	10
NON-SHOCK WRTER OF 120°C AND UNDER	7	14

■ DIMENSIONS

Unit : mm

SIZE	PRESSURE	H	D	d	D ₁	t	L	L ₁
50	5kg/cm ²	240	130	50	160	16	155	100
50	10kg/cm ²	255	155	50	160	20	170	120
65	10kg/cm ²	270	175	65	200	22	185	130

TEST PRESSURE	NOMINAL PRESSURE	
	5kg/cm ²	10kg/cm ²
BODY	10.5	21
SEAT	7.7	15.4

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	SEAT RING	BRONZE
3	COUPLING	BRONZE
4	GASKET	ASBESTOS
5	COUPLING	BRONZE
6	CHAIN	BRASS
7	GASKET	ASBESTOS
8	CAP	BRONZE
9	RING	BRONZE
10	GASKET	ASBESTOS
11	SET SCREW	BRASS
12	DISC	BRONZE
13	BONNET STUD BOLT	ROLLED STEEL
14	BONNET NUT	ROLLED STEEL
15	GLAND BOLT	BRASS
16	GLAND NUT	BRASS
17	STEM	BRASS
18	NAME PLATE	BRASS
19	SPLIT PIN	BRASS
20	LOCK WASHER	BRASS
21	GLAND NUT	BRPMZE
22	GASKET	ASBESTPS
23	BONNET BUSHING	BRPMZE
24	PACKING	GRAPHITED ASBESTOS
25	PACKING GLAND	BRONZE OR BRASS
26	YOKE BUSHING	BRONZE
27	BONNET	CAST IRON
28	SET SCREW	ROLLED STEEL
29	HANDWHEEL	CAST IRON
30	HANDWHEEL NUT	BRASS

MARINE CAST STEEL 5kg/cm² GLOBE VALVES

JIS F 7311

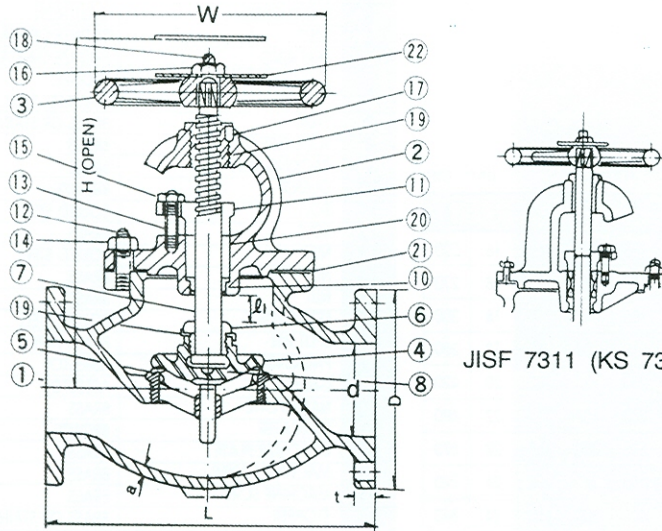
MARINE CAST STEEL 10kg/cm² GLOBE VALVES

JIS F 7319

MARINE CAST STEEL 20kg/cm² GLOBE VALVES

JIS F 7313

■BOLTED BONNET RISING STEM
RENEWABLE SEAT FLANGED ENDS



JIS F 7311 (KS 7311)

NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	HAND WHEEL	CAST IRON
4	DISC	BRONZE OR STAINLESS STEEL
5	BODY SEAT	BRONZE OR STAINLESS STEEL
6	DISC GLAND	BRONZE OR STAINLESS STEEL
7	STEM	BRASS OR STAINLESS STEEL
8	WHASER	ALLOY TOOL STEEL
9	BUSH	BRONZE
10	PACKING RING	BRONZE OR STAINLESS STEEL
11	PACKING GLAND	BRONZE
12	BONNET BOLT	ROLLED STEEL
13	PACKING GLAND BOLT	ROLLED STEEL
14	BONNET NUT	ROLLED STEEL
15	PACKING GLAND NUT	ROLLED
16	HANDLE NUT	BRASS
17	SET SCREW	ROLLED STEEL
18	SPLIT PIN	BRASS WIRE
19	DISC STOPPER	BRASS PLATE OR STAINLESS STEEL
20	PACKING	ASBESTOS
21	GASKET	ASBESTOS
22	NAME PLATE	BRASS PLATE

■FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

Fluid condition	Rating	Max. Working Pressure		
		5	10	20
Steam 400°C				23
Steam 350°C				26
Steam 300°C			10	29
Steam up to 220°C				
Air, Gas, Oil and Pulsation Water	* 5		12	
Non-Shock Water up to 120°C	7		14	34

* With out Air, Gas

■TEST PRESSURE (kgf/cm²)

Rating	5	10	20
Shell Hydraulic Test	10.5	21.0	51.0
Seat Hydraulic Test	7.7	15.4	37.4

■DIMENSIONS TABLE

Unit : mm, Weight : kg

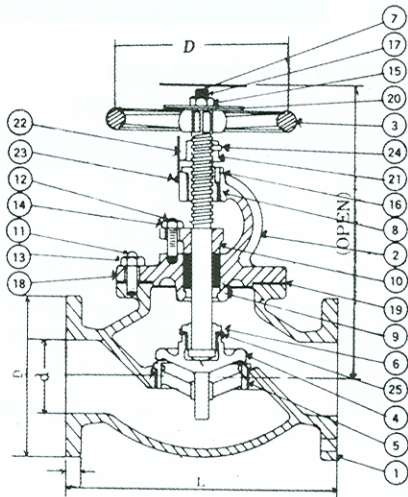
Rating	SIZE	50	65	80	100	125	150	200	250	300	
5kgf/cm ² (JIS F 7311)	d	50	65	80	100	125	150	200	250	300	
	L ₁	210	250	280	340	410	480	570	740	840	
	a	8	9	9	10	11	12	15	17	18	
	H	270	300	310	360	390	445	530	795	930	
	W	160	180	180	224	250	280	315	355	400	
200 KS 7311)	ℓ ₁	17	22	27	33	42	50	67	138	165	
	Weight I	16.2	23.4	30	45	63	88	153	230	309	
	10kgf/cm ² (JIS F 7319)	d	50	65	80	100	125	150	200	250	300
		L ₁	220	270	300	350	420	490	570	740	840
		a	8	9	9	11	12	13	15	16	17
H		270	300	310	355	415	470	565	645	735	
W		160	200	200	250	280	315	355	400	450	
20kgf/cm ² (JIS F 7313)	ℓ ₁	17	22	27	33	42	50	67	83	100	
	Weight I	17.9	26.0	29.8	44.7	70.3	96.4	159	257	370	
	d	50	65	80	100	125	150	200	250		
	L ₁	230	270	300	350	430	500	560	660		
	a	9	10	11	13	14	16	17	19		
	H	305	345	385	440	500	550	630	725		
	W	200	224	250	280	315	365	450	560		
	ℓ ₁	24	30	35	43	52	61	68	83		
	Weight I	21.6	30.4	43.5	62.3	94.8	132	204	336		

Remarks : 1. The flanges shall conform to 5kgf/cm² of JIS B 2211, 10kgf/cm² of JIS B 2212 and 20kgf/cm² JIS B 2214.

- The name plate shall be specified by purchaser as required.
- JIS F7313 20kg/cm² for Flanged shall be Made Raised Facing.
- nominal size below 200 of JIS F7311 is KS standard.
- The calculated mass are of values in class "S".

MARINE CAST STEEL 10kg/cm² HULL GLOBE VALVES

JIS F 7365



■ DIMENSIONS

Unit : mm

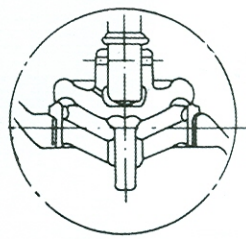
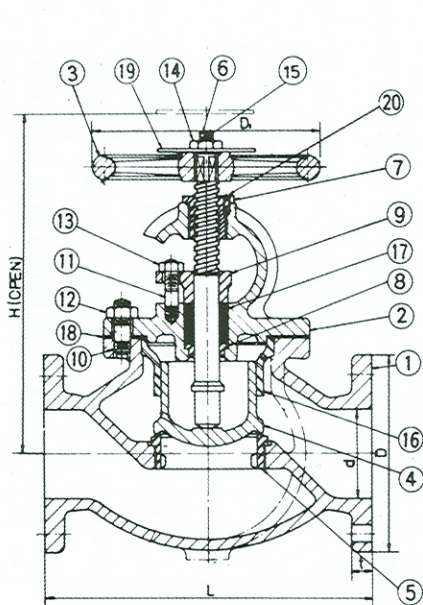
SIZE	H	D	d	D ₁	t	L
50	285	155	50	160	16	220
65	320	175	65	200	18	270
80	335	185	80	200	18	300
100	385	210	100	250	18	350
125	455	250	125	280	20	420
150	515	280	150	315	22	490
200	630	330	200	355	22	570
250	725	400	250	400	24	740
300	835	445	300	450	24	840

WORKING PRESSURE		10kg/cm ²
TEST PRESSURE	BODY	15
	SEAT	11

NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	HAND WHEEL	CAST IRON
4	DISC	BRONZE OR STAINLESS STEEL
5	SEAT RING	BRONZE OR STAINLESS STEEL
6	DISC GLAND	BRONZE
7	STEM	STAINLESS STEEL
8	YOKE SLEEVE	BRASS OR STAINLESS STEEL
9	PACKING RING	BRASS
10	GLAND	BRONZE
11	BOLT	ROLLED STEEL
12	BOLT	BRASS
13	NUT	ROLLED STEEL
14	NUT	BRASS
15	NUT	BRASS
16	SET SCREW	ROLLED STEEL
17	SPLIT PIN	BRASS WIRE
18	PACKING	ASBESTOS
19	GASKET	ASBESTOS
20	NAME PLATE	BRASS
21	INDICATOR	BRONZE
22	INDICATOR PLATE	BRASS
23	MACHINE SCREW	BRASS
24	MACHINE SCREW	BRASS
25	STOPPER	BRASS OR STAINLESS STEEL

MARINE CAST STEEL 10kg/cm² SCREW-DOWN CHECK GLOBE VALVES

JIS F 7471



Screw Down Check Globe
SIZE 50A TO 200A

■ DIMENSIONS

Unit : mm

SIZE	H	D	d	D ₁	t	L
50	265	155	50	160	16	220
65	295	175	65	200	18	270
80	300	185	80	200	18	300
100	345	210	100	250	18	350
125	405	250	125	280	20	420
150	455	280	150	315	22	490
200	545	330	200	355	22	570

WORKING PRESSURE		10kg/cm ²
TEST PRESSURE	BODY	15.4
	SEAT	15.4 → 4

FLUID CONDITION	MAXIMUM WORKING PRESSURE (kg/cm ²)
STEAM OF 350°C	10
STEAM OF AND UNDER 220°C	12
AIR, GAS, OIL, AND PULSATION WATER	
NON-SHOCK WATER OF 120°C AND UNDER	14

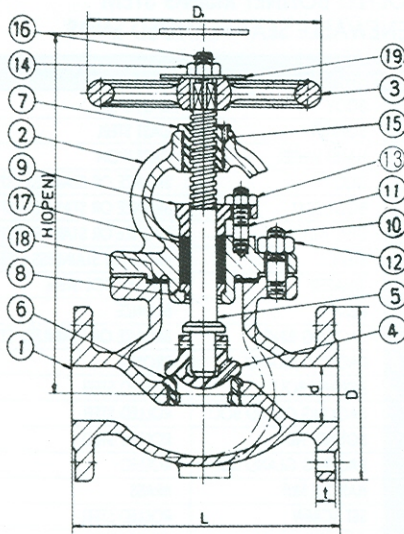
NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	HAND WHEEL	CAST IRON
4	DISC	STAINLESS STEEL
5	SEAT RING	STAINLESS STEEL
6	STEM	STAINLESS STEEL
7	YOKE BUSH	BRASS
8	PACKING RING	STAINLESS STEEL
9	PACKING GLAND	BRONZE
10	BOLT	ROLLED STEEL
11	BOLT	ROLLED STEEL OR BRASS
12	NUT	ROLLED STEEL OR BRASS
13	NUT	ROLLED STEEL OR BRASS
14	NUT	BRASS
15	SPLIT PIN	BRASS WIRE
16	GUIDE	STAINLESS OR BRONZE
17	PACKING	GRAPHITED ASBESTOS
18	GASKET	ASBESTOS
19	NAME PLATE	BRASS PLATE
20	SET SCREW	ROLLED STEEL

MARINE CAST STEEL 20kg/cm² SCREW-DOWN CHECK GLOBE VALVES

JIS F 7473

WORKING PRESSURE		20kg/cm ²
TEST PRESSURE	BODY	51
	SEAT	37.4 → 10

FLUID CONDITION	MAXIMUM WORKING PRESSURE (kg/cm ²)
STEAM OF 350°C	26
STEAM OF 300°C	29
STEAM OF 220°C AND UNDER	31
AIR, GAS, OIL, AND PULSATION WATER	



■ DIMENSIONS

Unit : mm

SIZE	H	D	d	D ₁	t	L
32	265	135	32	160	18	190
40	280	140	40	160	18	200
50	295	155	50	200	18	230
65	330	175	65	224	20	270
80	370	200	80	250	22	300
100	420	225	100	280	24	350
125	475	270	125	315	26	430
150	525	305	150	355	28	500
200	605	350	200	455	30	560
250	700	430	250	560	34	660

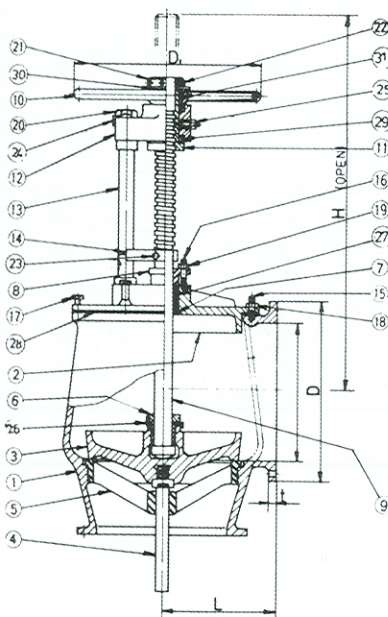
NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	HAND WHEEL	CAST IRON(BELOW 150mm) CAST STEEL(ABOVE 200mm)
4	DISC	STAINLESS STEEL
5	STEM	STAINLESS STEEL
6	SEAT RING	STAINLESS STEEL
7	YOKE BUSH	BRASS
8	PACKING RING	STAINLESS STEEL
9	PACKING GLAND	BRONZE
10	BOLT	CARBON STEEL
11	BOLT	ROLLED STEEL
12	NUT	CARBON STEEL
13	NUT	ROLLED STEEL
14	NUT	BRASS
15	SET SCREW	ROLLED STEEL
16	SPLIT PIN	BRASS WIRE
17	PACKING	GRAPHITED ASBESTOS
18	GASKET	ASBESTOS
19	NAME PLATE	BRASS PLATE

MARINE CAST STEEL 10kg/cm² HULL ANGLE VALVES

JIS F 7350

FLUID CONDITION	MAX. WORKING PRESSURE (kg/cm ²)		
	NOMINAL DIA 200mm AND UNDER	NOMINAL DIA 200-300mm	350 ABOVE
SEA WATER	10	10	2

WORKING PRESSURE		20kg/cm ²
TEST PRESSURE	BODY	51
	SEAT	37.4 → 10



■ DIMENSIONS

Unit : mm

SIZE	H	D	D ₁	t	L
50	255	155	160	16	120
80	290	185	200	18	140
100	330	210	250	18	160
150	445	280	315	22	205
200	700	330	355	22	230
250	835	400	400	24	290
300	970	445	450	24	320
400	1130	560	600	28	350
600	1630	795	900	32	500
800	2115	1020	1250	36	650

NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	DISC	BRONZE OR STEEL
4	DISC GUIDE	BRASS OR STAINLESS
5	SEAR RING	BRONZE OR STAINLESS STEEL
6	DISC LOCK NUT	BRONZE OR STAINLESS
7	PACKING BUSH	BRONZE OR STAINLESS STEEL
8	PACKING GLAND	BRONZE
9	STEM	BRASS OR STAINLESS
10	HANDWHEEL	CAST IRON
11	BUSH	BRONZE
12	YOKE	BRASS OR STAINLESS STEEL
13	BAR	CARBON STEEL
14	STOPPER FOR STEM	CARBON STEEL
15	BONNET STUD BOLT	ROLLED STEEL
16	GLAND STUD BOLT	ROLLED STEEL
17	JACK BOLT	BRASS
18	BONNET NUT	ROLLED STEEL
19	CLAND NUT	BRASS
20	HEXAGON NUT	BRASS
21	HANDWHEEL NUT	BRASS
22	SET SCREW	ROLLED STEEL
23	TAPER PIN	STAINLESS STEEL
24	WASHER	ROLLED STEEL
25	GREASE NIPPLE	BRASS
26	STOPPER PIN	BRASS OR STAINLESS STEEL
27	PACKING	GRAPHITED ASBESTOS
28	GASKET	ASBESTOS
29	THRUST BEARING	-
30	NAME PLATE	BRASS PLATE
31	KEY	CARBON STEEL

MARINE CAST STEEL 5kg/cm² ANGLE VALVES

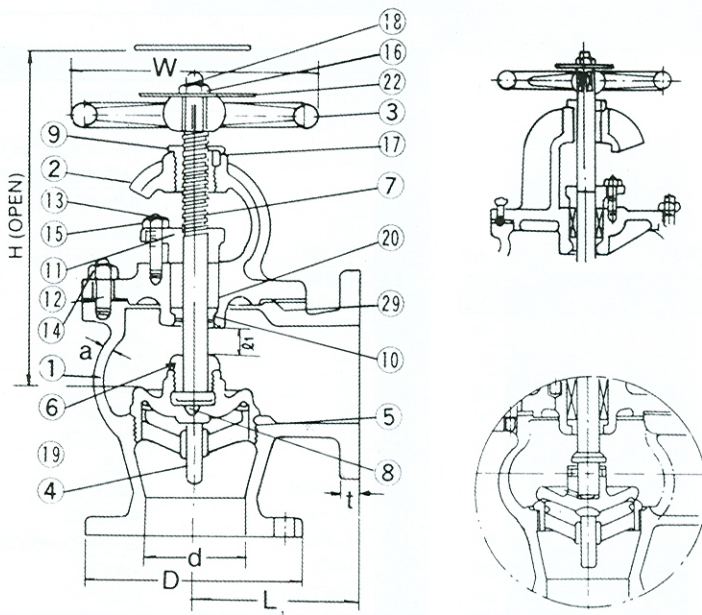
JIS F 7312

MARINE CAST STEEL 10kg/cm² ANGLE VALVES

JIS F 7320

MARINE CAST STEEL 20kg/cm² ANGLE VALVES

JIS F 7314



■BOLTED BONNET RISING STEM RENEWABLE SEAT FLANGED ENDS

NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	HAND WHEEL	CAST IRON
4	DISC	BRONZE OR STAINLESS STEEL
5	BODY SEAT	BRONZE OR STAINLESS STEEL
6	DISC NUT	BRONZE OR STAINLESS STEEL
7	STEM	BRASS OR STAINLESS STEEL
8	WHASER	ALLOY TOOL STEEL
9	BUSH	BRONZE
10	PACKING RING	BRONZE OR STAINLESS STEEL
11	PACKING GLAND	BRONZE
12	BONNET BOLT	ROLLED STEEL
13	PACKING GLAND BOLT	ROLLED STEEL
14	BONNET NUT	ROLLED STEEL
15	PACKING GLAND NUT	ROLLED
16	HANDLE NUT	BRASS
17	SET SCREW	ROLLED STEEL
18	SPLIT PIN	BRASS WIRE
19	DISC STOPPER	BRASS PLATE OR STAINLESS STEEL
20	PACKING	ASBESTOS
21	GASKET	ASBESTOS
22	NAME PLATE	BRASS PLATE

■FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

Fluid condition	Rating	Max. Working Pressure		
		5	10	20
Steam 400°C				23
Steam 350°C				26
Steam 300°C			10	29
Steam up to 220°C			12	31
Air, Gas, Oil and Pulsation Water	* 5			
Non-Shock Water up to 120°C	7		14	34

* Without Air, Gas.

■TEST PRESSURE (kgf/cm²)

Rating	5	10	20
Shell Hydraulic Test	10.5	21.0	51.0
Seat Hydraulic Test	7.7	15.4	37.4

■DIMENSION TABLE

Unit : mm, Weight : kg

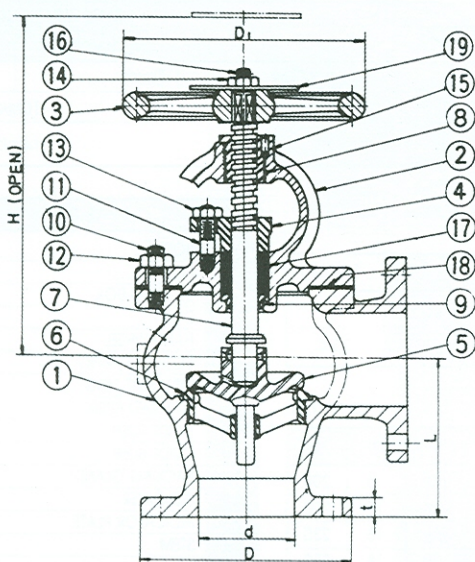
Rating	SIZE	50	65	80	100	125	150	200	250	300	
5kgf/cm ² (JIS F 7312)	d	50	65	80	100	125	150	200	250	300	
	L ₁	100	115	130	150	170	190	220	275	310	
	a	8	9	9	10	11	12	15	17	18	
	H	240	255	265	310	330	380	450	645	750	
	W	160	180	180	224	250	280	315	355	400	
200 KS 7311)	ℓ ₁	17	22	27	33	42	50	67	138	165	
	Weight I	12.9	18.2	23.4	33.7	46.2	63.4	105	178	275	
	10kgf/cm ² (JIS F 7320)	d	50	65	80	100	125	150	200	250	300
		L ₁	120	130	140	160	180	205	230	290	320
		a	8	9	9	11	12	13	15	16	17
H		240	260	265	300	350	400	480	535	610	
W		160	200	200	250	280	315	355	400	450	
20kgf/cm ² (JIS F 7314)	ℓ ₁	17	22	27	33	42	50	67	83	100	
	Weight I	16.3	23.0	25.3	37.0	57.1	77.2	116	188	256	
	d	50	65	80	100	125	150	200	250		
	L ₁	125	135	150	170	200	225	280	310		
	a	9	10	11	13	14	16	17	19		
(JIS F 7314)	H	275	305	340	385	440	485	540	620		
	W	200	224	250	280	315	365	450	560		
	ℓ ₁	24	30	35	43	52	61	68	83		
	Weight I	20.0	26.9	38.9	54.4	79.9	111	181	283		

Remarks : 1. The flanges shall conform to 5kgf/cm² of JIS B 2211, 10kgf/cm² of JIS B 2212 and 20kgf/cm² JIS B 2214.

- The name plate shall be specified by purchaser as required.
- JIS F 7313 20kg/cm² for Flanged shall be Made Raised Facing.
- nominal size up to 200 of JIS F7312 is KS standard.
- The calculated mass are of values in class "S".

MARINE CAST STEEL 10kg/cm² SCREW DOWN CHECK ANGLE VALVES

JIS F 7472



■DIMENSIONS

Unit : mm

SIZE	H	D	d	D ₁	f	L
50	235	155	50	160	16	120
65	250	175	65	200	18	130
80	255	185	80	200	18	140
100	290	210	100	250	18	160
125	340	250	125	280	20	180
150	385	280	150	315	22	205
200	460	330	200	355	22	230

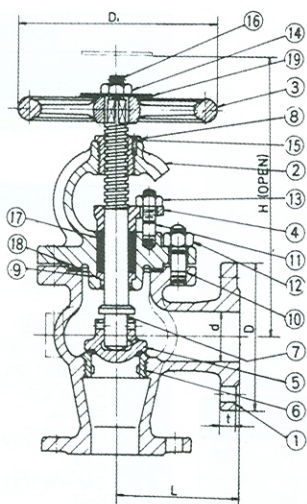
WORKING PRESSURE		10kg/cm ²
TEST PRESSURE	BODY	
	SEAT	INLET SIDE
		OUTLET SIDE

FLUID CONDITION	MAX. WORKING PRESSURE (kg/cm ²)
STEAM OF 300°C	10
STEAM OF 220°C AND UNDER	12
AIR, GAS, OIL AND PULSATION WATER	
NON-SHOCK WATER OF 120°C AND UNDER	14

NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	HAND WHEEL	CAST IRON
4	PACKING GLAND	BRONZE
5	DISC	STAINLESS STEEL
6	SEAT RING	STAINLESS STEEL
7	STEM	STAINLESS STEEL
8	YOKE SLEEVE	BRASS
9	PACKING RING	STAINLESS STEEL
10	BOLT	ROLLED STEEL
11	BONT	ROLLED STEEL OR BRASS
12	NUT	ROLLED STEEL OR BRASS
13	NUT	ROLLED STEEL OR BRASS
14	NUT	BRASS
15	SET SCREW	ROLLED STEEL
16	SPLIT PIN	BRASS WIRE
17	PACKING	ASBESTOS
18	GASKET	ASBESTOS
19	NEME PLATE	BRASS PLATE

Marine Cast Steel 20kg/cm² Screw Down Check Angle Valves

JIS F 7474



■DIMENSIONS

Unit : mm

SIZE	H	D	d	D ₁	f	L
32	240	135	32	160	18	100
40	255	140	40	160	18	110
50	270	155	50	200	18	125
65	295	175	65	224	20	135
80	325	200	80	250	22	150
90	354	210	90	280	24	160
100	365	225	100	280	24	170
125	415	270	125	315	26	200
150	460	305	150	355	28	225
200	520	350	200	450	30	280
250	595	430	250	560	34	310

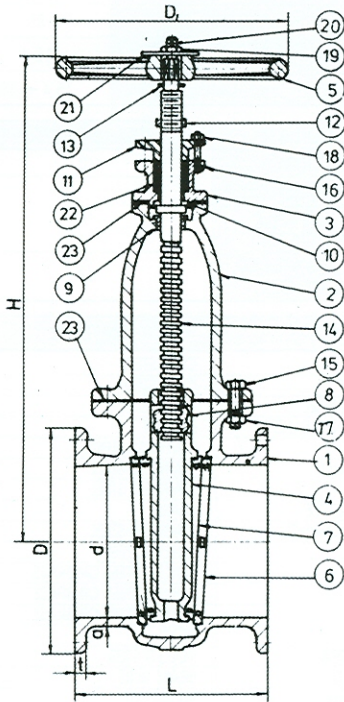
WORKING PRESSURE		20kg/cm ²
TEST PRESSURE	BODY	
	SEAT	INLET SIDE
		OUTLET SIDE

FLUID CONDITION	MAX. WORKING PRESSURE
STEAM OF 350°C	26
STEAM OF 300°C	29
STEAM OF 220°C AND UNDER AIR, GAS, OIL AND PULSATION WATER	31
NON-SHOCK WATER OF 120°C AND UNDER	34

NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	HAND WHEEL	CAST IRON(CBELOW 150mm) CAST STEEL(BOVE 200mm)
4	PACKING GLAND	BRONZE
5	DISC	STAINLESS STEEL
6	SEAT RING	STAINLESS STEEL
7	STEM	STAINLESS STEEL
8	YOKE SLEEVE	BRASS
9	PACKING RING	STAINLESS STEEL
10	BOLT	CARBON STEEL
11	BOLT	ROLLED STEEL
12	NUT	CARBON STEEL
13	NUT	ROLLED STEEL
14	NUT	BRASS
15	SET SCREW	ROLLED STEEL
16	SPLIT PIN	BRASS WIRE
17	PACKING	ASBESTOS
18	GASKET	ASBESTOS
19	NEME PLATE	BRASS PLATE

MARINE CAST STEEL 10kg/cm² GATE VALVES

JIS F 7366



FLUID CONDITION	MAX. WORKING PRESSURE	
	200mm AND UNDER	250mm AND ABOVE
SATURATED STEAM	7kg/cm ²	5kg/cm ²
OIL AND PULASTION WATER	10kg/cm ²	
NON-SHOCK WATER OF 120°C AND UNDER.	14kg/cm ²	

WORKING PRESSURE	10kg/cm ²	
TEST PRESSURE	BODY	21
	SEAT	15.4

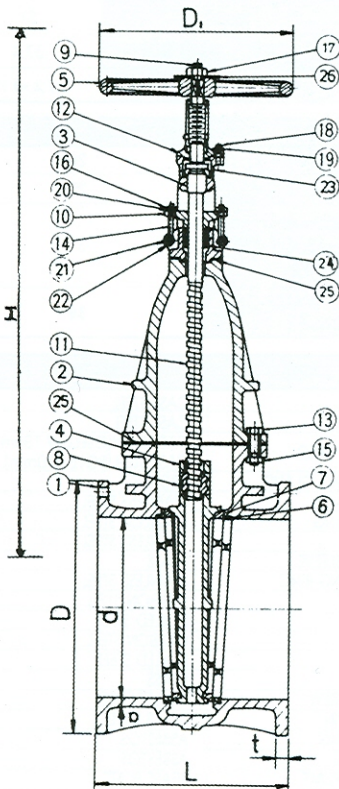
■ DIMENSIONS Unit : mm

SIZE	H	D	d	D ₁	t	L
50	300	155	50	50	16	200
65	350	175	65	65	18	220
80	400	185	80	80	18	230
100	450	210	100	100	18	250
125	520	250	125	125	20	270
150	580	280	150	150	22	290
200	700	330	200	200	22	310
250	840	400	250	250	24	340
300	960	445	300	300	24	380
350	1050	490	335	335	26	420
400	1150	560	380	380	28	480

NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	STUFFING BOX	CAST STEEL
4	DISC	CAST STEEL
5	HAND WHEEL	CAST IRON
6	BODY SEAT RING	BRONZE OR STAINLESS STEEL
7	DISC SEAT RING	BRONZE OR STAINLESS STEEL
8	SCREWED BUSH	BRONZE
9	GUIDE BUSH	BRONZE
10	GUIDE BUSH	BRONZE
11	PACKING GLAND	BRONZE
12	INDICATOR	BRONZE
13	INDICATOR PLATE	BRONZE
14	STEM	BRASS OR STAINLESS
15	BOLT	ROLLED STEEL
16	BOLT	BRASS
17	NUT	ROLLED STEEL
18	NUT	BRASS
19	NUT	BRASS
20	SPLIT PIN	BRASS
21	NAME PLATE	BRASS
22	PACKING	ASBESTOS OR BY ORDERING
23	GASKET	ASBESTOS OR BY ORDERING

MARINE CAST STEEL 10kg/cm² HULL GATE VALVES

JIS F 7360



WORKING PRESSURE	10kg/cm ²	
TEST PRESSURE	BODY	15
	SEAT	11.0

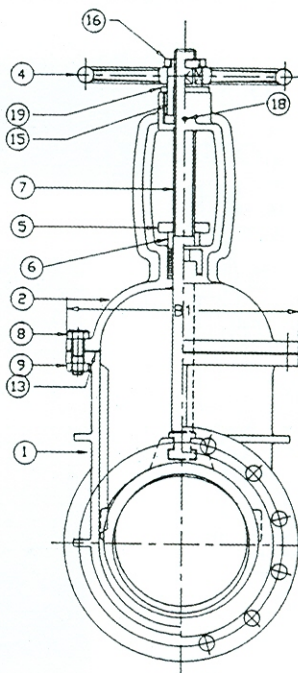
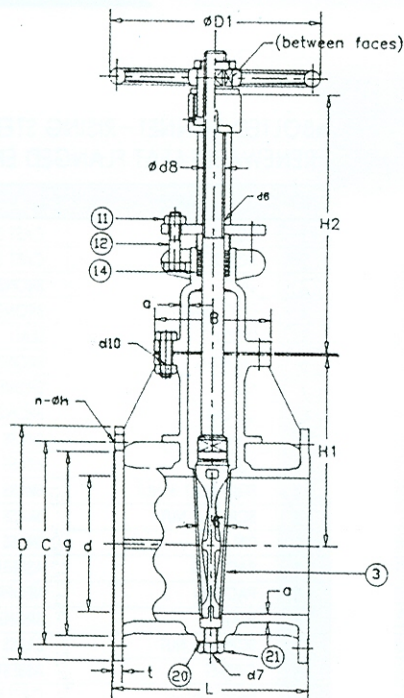
■ DIMENSIONS Unit : mm

SIZE	H	D	d	D ₁	t	L
450	1300	620	430	450	30	450
500	1420	675	480	500	30	500
550	1550	745	530	500	32	550
600	1650	795	580	500	32	600
650	1750	845	630	560	34	650
700	1850	905	680	560	34	700
750	1950	970	730	630	36	750
800	2050	1020	780	630	36	800

NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	GUIDE BUSH	CAST STEEL
4	DISC	CAST STEEL
5	HAND WHEEL	CAST IRON
6	BODY SEAT RING	BRONZE OR STAINLESS STEEL
7	DISC SEAT RING	BRONZE OR STAINLESS STEEL
8	SCREW BUSH	BRONZE
9	SPLIT PIN	BRASS
10	PACKING GLAND	BRONZE
11	STEM	BRASS OR STAINLESS STEEL
12	CAP FOR YOKE	CAST STEEL
13	BOLT	ROLLED STEEL
14	SWING BOLT	STAINLESS STEEL
15	NUT	ROLLED STEEL
16	NUT	BRASS
17	NUT	BRASS
18	STUD BOLT	ROLLED STEEL
19	NUT	ROLLED STEEL
20	WASHER	BRASS
21	PIN	BRASS
22	PIN	BRASS
23	GREASE NIPPLE	
24	PACKING	ASBESTOS OR BY ORDERING
25	GASKET	ASBESTOS OR BY ORDERING
26	NAME PLATE	BRASS

CARGO RISING STEM 10kg/cm² TYPE GATE VALVES

OKV 7366



WORKING PRESSURE		10kg/cm ²
TEST PRESSURE	BODY	24
	SEAT	16

No.	Parts	Material	Material
1	BODY	SCS13	SUS316L
2	BONNET	SCS13	SUS316L
3	DISC	SCS13	SUS316L
4	HAND WHEEL	FC20	FC200
5	PACKING GLAND	SCS13	SUS316L
6	PACKING GLAND RING	SUS304	SUS316L
7	STEM	SUS304	SUS316L
8	HEXAGON BOLT	SUS304	SUS316L
9	HEXAGON NUT	SUS304	SUS316L
10	RING BUSH	SUS304	SUS316L
11	HEXAGON NUT	SUS304	SUS316L
12	HEXAGON BOLT	SUS304	SUS316L
13	GASKET	TEFLON	TEFLON
14	PACKING	TEFLON	TEFLON
15	SCREWED BONNET BUSH	FCD45	MN
16	HEXAGON NUT	SUS304	MN
18	NIPPLE	BC 6	BC
19	BONNET BUSH	SUS304	SUS316L
20	GASKET	TEFLON	TEFLON
21	DRAIN PLUG	SUS403	SUS316L

■ DIMENSIONS

Unit : mm

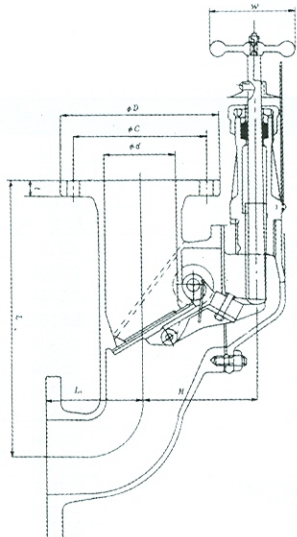
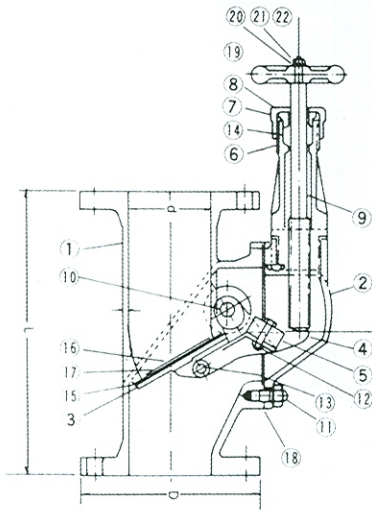
Mark Size	d	L	Flange 10K					D1	Body & Bonnet					Stem		d7	d10
			D	C	g	n-∅h	t		a	H1	H2	B	B1	d6	d8		
50A	50	200	155	120	98	4-19	16	125	8	100	165	126	160	18×6	18	M16	M12
65A	65	220	175	140	118	4-19	18	140	9	120	180	136	178	20×6	20	M20	M12
80A	80	230	185	150	128	8-19	18	160	9	130	200	140	200	22×5	22	M20	M12
100A	100	250	210	175	151	8-19	18	200	11	161	221	144	220	TW26	26	M24	M16
125A	125	270	250	210	182	8-23	20	224	12	170	270	154	246	TW28	28	M24	M16
150A	150	290	280	240	212	8-23	22	250	13	240	275	154	278	TW30	30	M24	M16
200A	200	310	330	290	262	12-23	22	315	15	280	380	172	340	TW32	32	M24	M16
250A	250	340	400	355	324	12-25	24	400	17	310	505	200	404	TW36	36	30	M24
300A	300	380	445	400	370	16-25	24	450	19	355	550	225	480	TW40	40	30	M24

MARINE CAST STEEL 5kg/cm² SCREW-DOWN VERTICAL STORM VALVES

JIS F 3060

MARINE CAST STEEL 5kg/cm² SCREW-DOWN ANGLE STORM VALVES

OKV 3060



**■BOLTED BONNET-RISING STEM
RENEWABLE SEAT FLANGED ENDS**

NO	PARTS	MATERIAL
1	BODY	CAST STEEL
2	BONNET	CAST STEEL
3	DISC	BRONZE
4	DISC LEVER	BRONZE
5	WEIGHT	LEAD
6	BUSHING	BRONZE
7	NUT	BRONZE
8	GLAND	BRONZE
9	SPINDLE	BRASS
10	PLUG	BRASS
11	STUD BOLT & NUT	BRASS
12	SCREW & NUT	BRASS
13	PIN	BRASS
14	PACKING	ASBESTOS
15	PACKING	NEOPRONE
16	PLATE	BRONZE OR BRASS PLATE
17	SCREW & NUT	BRASS
18	GASKET	ASBESTOS
19	HAND WHEEL	CAST IRON
20	NAME PLATE	BRASS
21	HANDLE NUT	BRASS
22	SPLIT PIN	BRASS WIRE

■DIMENSIONS

(Unit : mm, Weight : kg)

Rating	SIZE	d	L	L1	D	t	α	H	W	weight
5kgf/cm ² (JIS F 3060)	50	50	210	-	130	14	8	131	100	11.6
	65	65	240	-	155	14	9	141	100	16.6
	80	80	260	-	180	14	9	155	125	21.7
	100	100	280	-	200	16	10	171	125	29.7
	125	125	330	-	235	16	11	195	125	43.7
	150	150	360	-	265	18	12	212	125	52.7
5kgf/cm ² (OKV S 3060)	50	50	170	90	130	14	8	131	100	13.9
	65	65	200	110	155	14	9	141	100	19.9
	80	80	220	120	180	14	9	155	125	26.0
	100	100	250	130	200	16	10	171	125	35.6
	125	125	270	150	235	16	11	195	125	52.4
	150	150	310	165	265	18	12	212	125	63.2

■FLUID CONDITION & MAX. WORKING PRESSURE (kgf/cm²)

Fluid condition	Max. Working Pressure
Non-Shock Water	5

■TEST PRESSURE (kgf/cm²)

Shell Hydraulic Test	5.1
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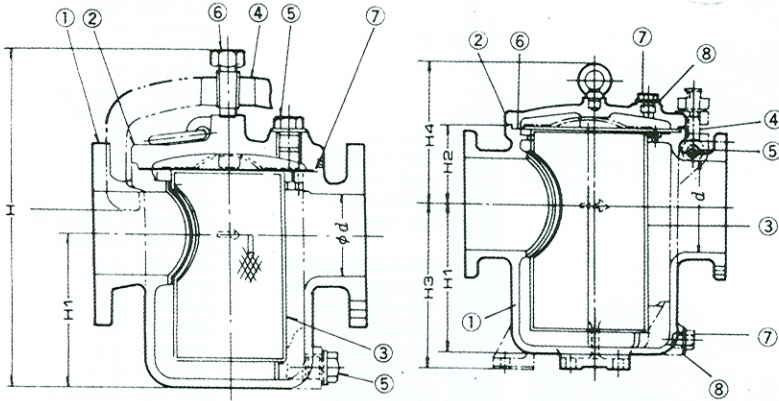
Remarks : 1. The flanges shall conform to 5kgf/cm² of JIS B 2211
2. The name plate shall be specified by purchaser as required.

MARINE CAN WATER FILTERS

JIS F 7121

Nominal Dia. 25~100

Nominal Dia. 125~400



■DIMENSIONS

Unit : mm, Weight : kg

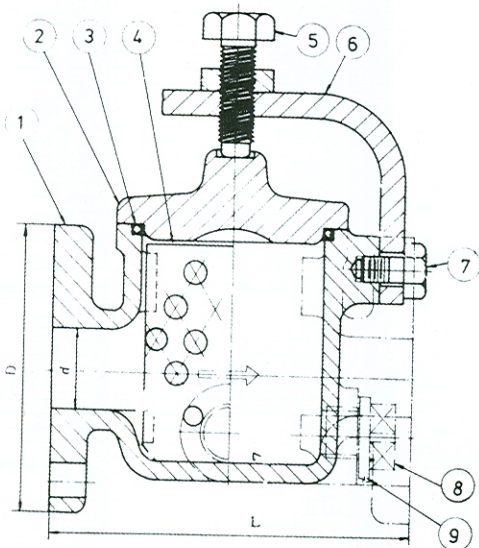
SIZE	40	50	65	80	100	125	150	200	225	250	300	350	400
d	40	50	65	80	100	125	150	200	225	250	300	350	400
L	190	200	250	270	320	400	460	550	600	680	760	820	880
φ	7	8	9	9	10	12	13	15	16	17	18	19	20
H ₁	85	100	135	152	185	235	290	350	385	450	515	575	645
H ₂	213	238	304	336	400	482	573	661	732	824	917	1026	1131
P						260	310	380	420	480	540	590	650
P ₁						80	90	100	120	140	160	180	200
Weight	8.4	10.3	18.5	24	35.6	62	89	141	178	246	321	428	518

WORKING PRESSURE	2 kg/cm ²
TEST PRESSURE	3 kg/cm ²

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	COVER	CAST IRON
3	FILTER CYLINDER	ROLLED STEEL
4	GLAND	ROLLED STEEL
5	FILTER CYLINDER	ROLLED STEEL
6	RING	BRASS STEEL
7	HANDLE	CARBON STEEL
8	YOKE OF BOLT	BRONZE STEEL
9	DRAIN PLUG	STAINLESS STEEL
10	SET SCREW	ASBESTOS
11	GASKET	ROLLED STEEL
12	FILTER CYLINDER	ROLLED STEEL
13	DRAIN PLUG	ROLLED STEEL
14	GASKET	ASBESTOS
15	FILTER CYLINDER	ROLLED STEEL

MARINE SMALL SIZE WATER STRAINERS

JIS F 7223



■DIMENSIONS

Unit : mm

SIZE	d	L	D
25	25	150	95
32	32	150	115
40	40	180	120

WORKING PRESSURE	2 kg/cm ²
TEST PRESSURE	3 kg/cm ²

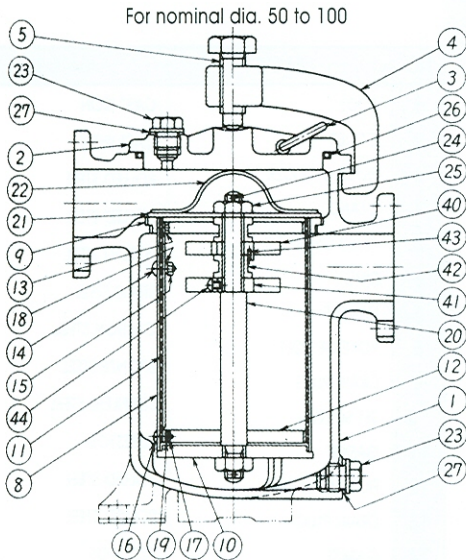
FLUID CONDITION	MAX. WORKING PRESSURE(kg/cm ²)
WATER OF NORMAL TEMPERATURE	2

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	"O" RING	SYNTHETIC RUBBER
4	STRAINER PLATE	ROLLED STEEL
5	YOKE OF BOLT	BRASS
6	YOKE OF COVER	ROLLED STEEL
7	BOLT OF YOKE	ROLLED STEEL
8	PLUG	BRASS
9	GASKET	ASBESTOS

Marine Simplex Oil Strainers

JIS F 7209

TEST PRESSURE	7.5kg/cm ²
FLUID CONDITION	MAXIMUM WORKING PRESSURE(kg/cm ²)
OIL OF 80°C AND UNDER	5



■ DIMENSIONS Unit : mm

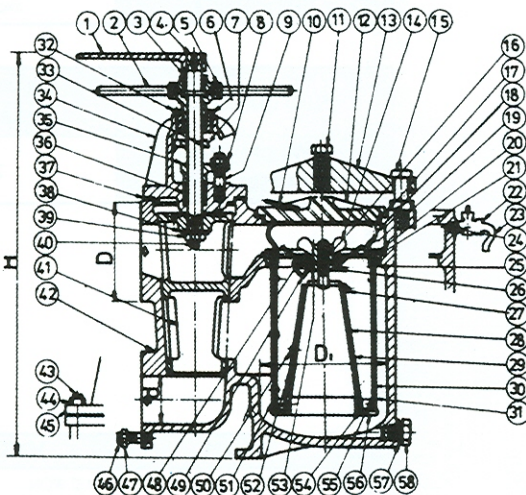
SIZE	H	D	d	D ₁
50	395	130	50	160
65	495	155	65	200
80	525	180	80	230
100	630	200	100	265
125	745	235	125	285
150	825	265	150	300
200	970	320	200	360
250	1140	385	250	440
300	1220	430	300	470

NO	PARTS	MATERIAL
1	BODY	JIS G 5501-FC 20
2	COVER	JIS G 5501-FC 20
3	RING	JIS G 3101-SS 41
4	YOKE	JIS G 3101-SS 41
		JIS G 4051-S 25 C OR
		JIS G 5502-FCD 40
5	YOKE BOLT	JIS G 3101-SS 41
8	FILTER CYLINDER	JIS G 3101-SS 41
9	FILTER CYLINDER GLAND	JIS G 3101-SS 41
10	BOTTOM PLATE	JIS G 3101-SS 41
11	WIRE GAUZE	JIS H 3260-C 2700 W OR
		JIS G 4309-SUS 304 W
12	WIRE GAUGE HOLDER	JIS G 3101-SS 41
13	HEXAGON HEAD BOLT	JIS G 3101-SS 41
14	PAN HEAD SCREW	JIS G 3101-SS 41
15	HEXAGON NUT	JIS G 3101-SS 41
16	PAN HEAD SCREW	JIS G 3101-SS 41
17	HEXAGON NUT	JIS G 3101-SS 41
18	SPRING WASHER	JIS G 3506-SWRH 42 B
19	SPRING WASHER	JIS G 3506-SWRH 42 B
20	MAGNET HOLDING BAR	JIS G 3101-SS 41
21	FILTER CYLINDER HOLDER	JIS G 3101-SS 41
22	HANDLE	JIS G 4801-SUP 3
23	DRAIN PLUG	JIS G 3101-SS 41
24	SPLIT PIN	JIS G 3505-SWRM
25	HEXAGON NUT	JIS G 3101-SS 41
26	O RING	JIS B 2401-CLASS 1-A OR CLASS 4-D
27	GASKET	JIS F 7102
40	MAGNET	MAGNETIC STEEL
41	MAGNET HOLDING PLECE	JIS H 3250-C 3771 BD
42	MAGNET HOLDER	JIS H 5111-BC 6
43	SET PIN	JIS G 3101-SS 41
44	PAN HEAD SCREW	JIS H 3260-C 2700 W

MARINE DUPLEX OIL STRAINERS

JIS F 7202

FLUID CONDITION	MAXIMUM WORKING PRESSURE
OIL OF 80°C AND UNDER	4kg/cm ²



■ DIMENSIONS

Unit : mm

SIZE	H	D	d	D ₁
50	526	130	50	160
65	616	155	65	200
80	696	180	80	230
100	784	200	100	270
125	981	235	125	330

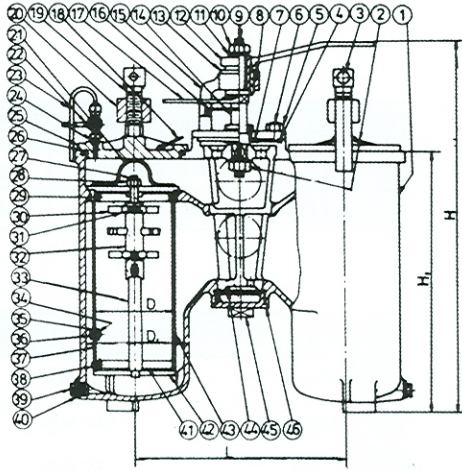
NO	PARTS	MATERIAL
1	COCK HANDLE	CARBON STEEL
2	COCK CONTROLLING HANDLE	ROLLED STEEL
3	SCREWED BUSH	BRONZE
4	COCK STEM	ROLLED STEEL
5	CONTROL SCREW	BRONZE
6	SCREWED BUSH	BRONZE
7	COCK STOPPER	ROLLED STEEL
8	HEXAGON NUT	ROLLED STEEL
9	GLAND BOLT	BRASS
10	RING	ROLLED STEEL
11	YOKE BOLT	ROLLED STEEL
12	BODY COVER	CAST IRON
13	YOKE	CARBON STEEL
14	HORN NUT	CARBON STEEL
15	SUPPORT BOLT	ROLLED STEEL
16	SCREWED STEM	ROLLED STEEL
17	GASKET	ASBESTOS
18	HANDLE AND FILTER CYLINDER HOLDER	SPRING STEEL
19	MAGNET	MAGNETIC STEEL
20	INSIDE CYLINDER SUPPORT BUSH	ROLLED
21	FILTER CYLINDER BUSH	ROLLED STEEL
22	VENT SPOLTING COCK	ROLLED STEEL
23	VENT SPOLTING PIPE	STEEL OR COPPER PIPE
24	GASKET	ASBESTOS
25	WASHER	ROLLED STEEL
26	SUPPORT PIECE	ROLLED STEEL
27	WIRE GAUGE HOLDER	ROLLED STEEL
28	FILTER INSIDE CYLINDER	ROLLED STEEL
29	INSIDE CYLINDER WIRE GAUGE	BRASS WIRE OR STAINLESS STEEL WIRE
30	OUTSIDE CYLINDER WIRE GAUGE	BRASS WIRE OR STAINLESS STEEL WIRE
31	FILTER OUTSIDE CYLINDER	ROLLED STEEL
32	SET SCREW	ROLLED STEEL
33	PIN	CARBON STEEL
34	YOKE	CAST IRON
35	PACKING GLAND	CAST IRON GRAPHITED
36	PACKING	ASBESTOS
37	GASKET	ASBESTOS
38	WASHER	ROLLED STEEL
39	HEXAGON NUT	ROLLED STEEL
40	SPLIT PIN	BRASS
41	COCK PLUG	BRONZE
42	BODY	CAST IRON
43	STUD BOLT	ROLLED STEEL
44	HEXAGON NUT	BRASS
45	BONNET	CAST IRON
46	STUD BOLT	ROLLED STEEL
47	HEXAGON NUT	BRASS
48	PIN FOR CHAIN	CARBON STEEL
49	CHAIN	BRASS
50	WIRE GAUGE HOLDER SCREW	BRASS
51	WIRE GAUGE HOLDER	ROLLED STEEL
52	WIRE GAUGE HOLDER	ROLLED STEEL
53	CHAIN BUSH	HARD DRAWN STEEL WIRE
54	WIRE GAUGE HOLDER	ROLLED STEEL
55	WIRE GAUGE HOLDER	ROLLED STEEL
56	PLATE	ROLLED STEEL
57	GASKET	ASBESTOS
58	DRAIN PLUG	ROLLED STEEL

Marine Duplex Oil Strainers(H Type)

JIS F 7208

Inspection

- a) Hydraulic inspection for the body : 7kg/cm²
- b) Watertight inspection for the cock : 4kg/cm²



FLUID CONDITION	MAXIMUM WORKING PRESSURE(kg/cm ²)
OIL OF 80°C AND UNDER	4

■ DIMENSIONS

Unit : mm

SIZE	d	L ₁	H ₁	L ₃	H ₂	H ₃	H ₄
40A	40	180	479	260	219	66	322
50A	50	180	479	260	219	66	322
65A	65	215	581	324	272	85	405
80A	80	245	669.5	380	312	102	470
100A	100	285	800.5	456	371	126	565
125A	125	330	953.5	544	430	157	675
150A	150	410	1299	680	516	201	818
200A	200	490	1520	820	645	245	1020

NO	PARTS	BRONZE	CAST IRON	DUCT IRON
1	BODY	BRONZE	CAST IRON	DUCT IRON
2	BONNET	BRONZE	CAST IRON	DUCT IRON
3	BONNET	BRONZE	CAST IRON	DUCT IRON
4	COVER	BRONZE	CAST IRON	DUCT IRON
5	COCK	BRONZE	BRONZE	BRONZE
6	STEM	BRASS	CARBON STEEL	CARBON STEEL
7	HANDLE	BRONZE	ROLLED STEEL	ROLLED STEEL
8	HANDLE	BRONZE	ROLLED STEEL	ROLLED STEEL
9	YOKE OF BONNET	STAINLESS STEEL	DUCT IRON	DUCT IRON
10	RING	BRASS	CARBON STEEL	CARBON STEEL
11	HANDLE	BRASS	CARBON STEEL	CARBON STEEL
12	SLEEVE	BRASS	ROLLED STEEL	ROLLED STEEL
13	SLEEVE	BRONZE	BRONZE	BRONZE
14	O-RING GLAND	BRONZE	CAST IRON	CAST IRON
15	FILTER	BRASS	CARBON STEEL	CARBON STEEL
24	PLUG	BRASS	CARBON STEEL	CARBON STEEL
25	POST BOLT	BRASS	CARBON STEEL	CARBON STEEL
26	STUD BOLT	BRASS	CARBON STEEL	CARBON STEEL
27	STUD BOLT	BRASS	CARBON STEEL	CARBON STEEL
28	NUT	BRASS	CARBON STEEL	CARBON STEEL
29	NUT	BRASS	CARBON STEEL	CARBON STEEL
30	NUT	BRASS	CARBON STEEL	CARBON STEEL
37	AIRVENT PLUG	BRASS	CARBON STEEL	CARBON STEEL
38	O-RING	N.B.R	N.B.R	N.B.R
39	O-RING	N.B.R	N.B.R	N.B.R
40	GASKET	ASBESTOS	ASBESTOS	ASBESTOS
41	GASKET	TEFLON	TEFLON	TEFLON
42	GASKET	TEFLON	TEFLON	TEFLON
43	NUT	BRASS	CARBON STEEL	CARBON STEEL
44	SIDE PLATE	BRASS	CARBON STEEL	CARBON STEEL
45	MACHINE SCREW	BRASS	BRASS	BRASS
46	NUT	BRASS	CARBON STEEL	CARBON STEEL
50	NUT	BRASS	CARBON STEEL	CARBON STEEL
51	STUD BOLT	BRASS	CARBON STEEL	CARBON STEEL

MARINE SMALL SIZE DUPLEX OIL STRAINERS

JIS F 7224

Inspection

The strainers shall be tested as follows :

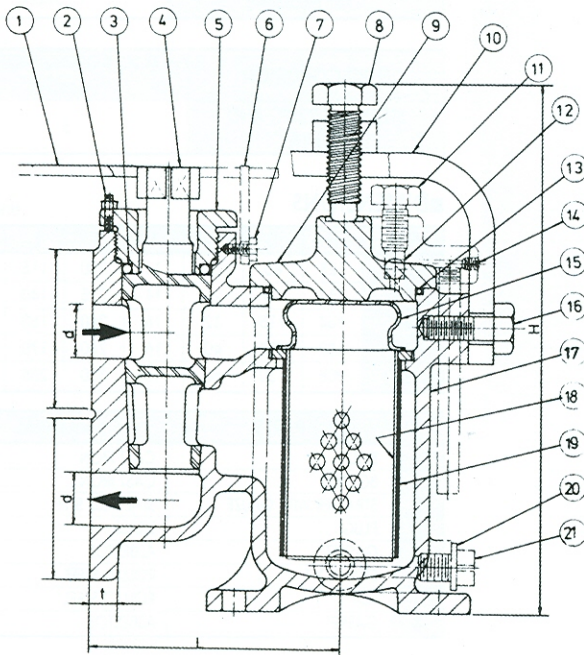
- a) Hydraulic inspection for the body : 7kg/cm²
- b) Watertight inspection for cock plug : 4kg/cm²

FLUID CONDITION	MAX. WORKING PRESSURE(kg/cm ²)
OIL OF 120°C AND UNDER	4

■ DIMENSIONS

Unit : mm

SIZE	H	L	d	t
50	250	167	25	14
65	315	211	32	16
80	330	241	40	16



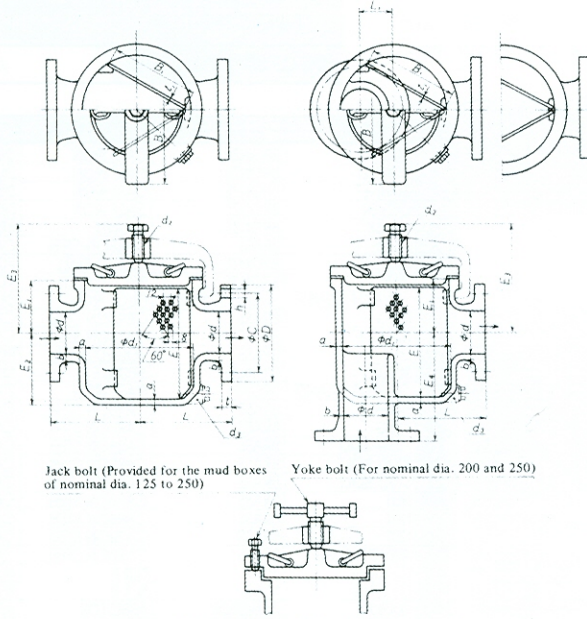
NO	PARTS	MATERIAL
1	HANDLE	ROLLED STEEL
2	BOLT AND NUT	ROLLED STEEL
3	"O" RING	SYNTHETIC RUBBER
4	COCK PLUG	BRONZE
5	PACKING GLAND	CAST IRON
6	STOPPER	STEEL PLATE
7	HEXAGON HEAD BOLT	ROLLED STEEL
8	YOKE BOLT	ROLLED STEEL
9	COVER	CAST IRON
10	YOKE OF COVER	ROLLED STEEL
11	AIR VALVE KEEP BOLT	ROLLED STEEL
12	BALL	STEEL BALL
13	"O" RING	SYNTHETIC RUBBER
14	MACHINE SCREW	ROLLED STEEL
15	HANDLE & STRAINER CYLINDER HOLDER	CARBON STEEL
16	YOKE BOLT	ROLLED STEEL
17	BODY	CAST IRON
18	STRAINER CYLINDER	ROLLED STEEL
19	GAUGE WIRE	BRASS WIRE
20	GASKET	ASBESTOS
21	SCREW PLUG	ROLLED STEEL

MARINE MUD BOXES

JIS F 7203

TYPE S

TYPE L



Jack bolt (Provided for the mud boxes of nominal dia. 125 to 250)

Yoke bolt (For nominal dia. 200 and 250)

Bolt holes of flanges shall straddle body centre lines.

■DIMENSIONS

Unit : mm

SIZE	L	D	d	t
50	120	130	50	16
65	150	155	65	18
80	160	180	80	18
100	190	200	100	20
125	235	235	125	20
150	280	265	150	22
200	330	320	200	24
250	380	385	250	26

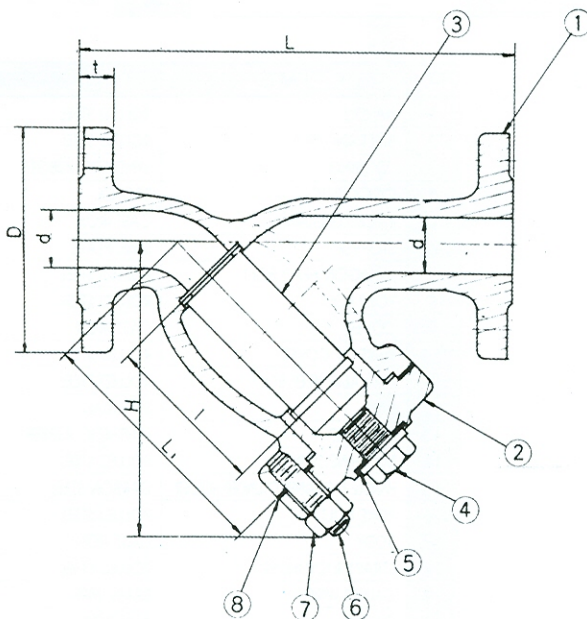
The mud boxes shall be classified as shown in following table

CLASS	APPLICATION	NOMINAL DIA. (mm)
TYPE S	MAIN BILGE PIPE LINE	50~200
TYPE L	STRAIGHT TAIL PIPE	50~250

NO	PARTS	MATERIAL
1	BODY(S-TYPE)	CAST IRON
2	BODY(L-TYPE)	CAST IRON
3	COVER	CAST IRON
4	YOKE OF COVER	CARBON STEEL
5	STRAINER PLATE	STEEL PLATE
6	YOKE BOLT	BRASS
7	SUPPORTING BOLT	ROLLED STEEL
8	PLUG	BRASS
9	RING	ROLLED STEEL
10	GASKET	ASBESTOS
11	GASKET	ASBESTOS

CAST IRON Y TYPE STRAINERS FOR MARINE USE

JIS F 7220



WORKING PRESSURE	5kg/cm ²
TEST PRESSURE	10.5kg/cm ²

FLUID CONDITION	MAX. WORKING PRESSURE (kg/cm ²)kg
STEAM OF 220°C AND UNDER	5

■DIMENSIONS

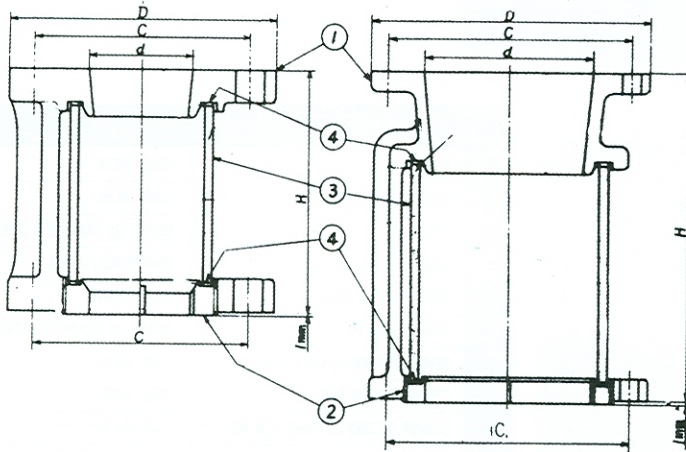
Unit : mm

SIZE	H	D	d	t	L	L ₁	l
20	128	85	20	14	200	115	80
25	153	95	25	14	225	140	95
32	164	115	32	16	260	150	105
40	180	120	40	16	280	170	120
50	208	130	50	16	320	205	150

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BONNET	CAST IRON
3	STRAINER WIRE GAUZE	STAINLESS STEEL
4	PLUG	BRASS
5	GASKET	ASBESTOS
6	STUD BOLT	ROLLED STEEL
7	NUT	ROLLED STEEL
8	GASKET	ASBESTOS

MARINE CYLINDRICAL SIGHT GLASSES

JIS F 7218



TEST PRESSURE(kg/cm ²)	1.5kg/cm ²
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NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	COVER	BRONZE
3	CYUNDRICAL GLASS	ACRYLIC RESIN
4	GASKET	ASBESTOS OR NBR

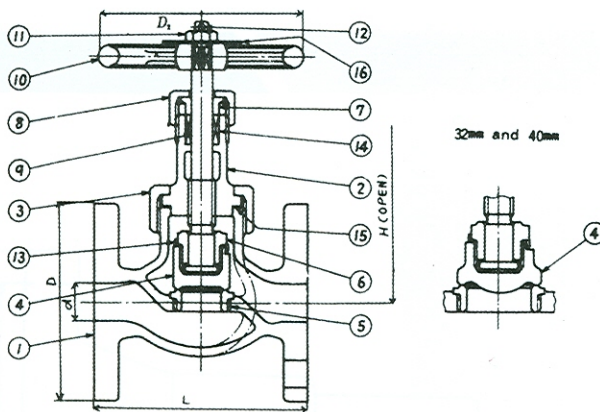
■ DIMENSIONS

Unit : mm

SIZE	d	H	D	C
25	25	90	95	75
32	32	100	115	90
40	40	100	120	95
50	50	115	130	105
65	65	160	155	130
80	80	180	180	145
100	100	210	200	165
125	125	245	235	200
150	150	310	265	230
200	200	380	320	280

MARINE MALLEABLE IRON 5kg/cm² GLOBE VALVES

JIS F 7321



TEST PRESSURE	BODY	10.5
	SEAT	7.7

FLUID CONDITION	MAXIMUM WORKING PRESSURE (kg/cm ²)	
	CLASS B	CLASS S
STEAM OF 300	-	5
STEAM OF 220 AND UNDER	-	6
STEAM OF 205 AND UNDER	5	
AIR, GAS, OIL AND PULSATION WATER		
NON-SHOCK WATER OF 120 AND UNDER	7	

NO	PARTS	MATERIAL
1	BODY	MALLEABLE IRON
2	BONNET	MALLEABLE IRON
3	UNION NUT	MALLEABLE IRON
4	DISC	BRONZE OR STAINLESS STEEL
5	SEAT RING	BRONZE OR STAINLESS STEEL
6	DISC GLAND	BRONZE OR STAINLESS STEEL OR BRASS
7	PACKING GLAND	BRONZE OR STAINLESS STEEL OR BRASS
8	GLAND NUT	BRONZE OR STAINLESS STEEL OR BRASS
9	STEM	BRASS OR STAINLESS STEEL
10	HAND WHEEL	CAST IRON
11	NUT	BRASS
12	SPLIT PIN	BRASS
13	LOCK WASHER	BRASS OR STAINLESS STEEL
14	PACKING	ASBESTOS
15	GASKET	ASBESTOS
16	NAME PLATE	BRTASS

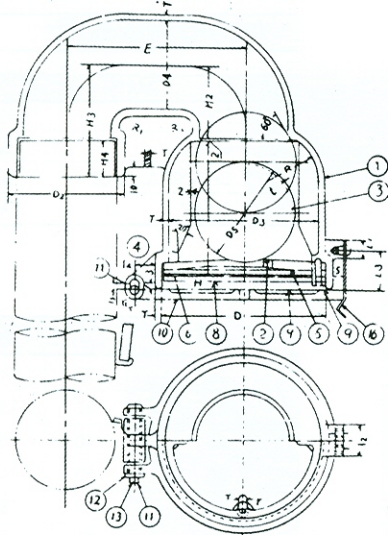
■ DIMENSIONS

Unit : mm

SIZE	d	L	D	H	D ₂
15	15	100	80	145	80
20	20	110	85	160	100
25	25	120	95	185	125
32	32	140	115	195	125
40	40	160	120	215	140

GOOSE NECK AIR PIPE HEADS BALL FLOAT TYPE

JIS F 3012



■DIMENSIONS

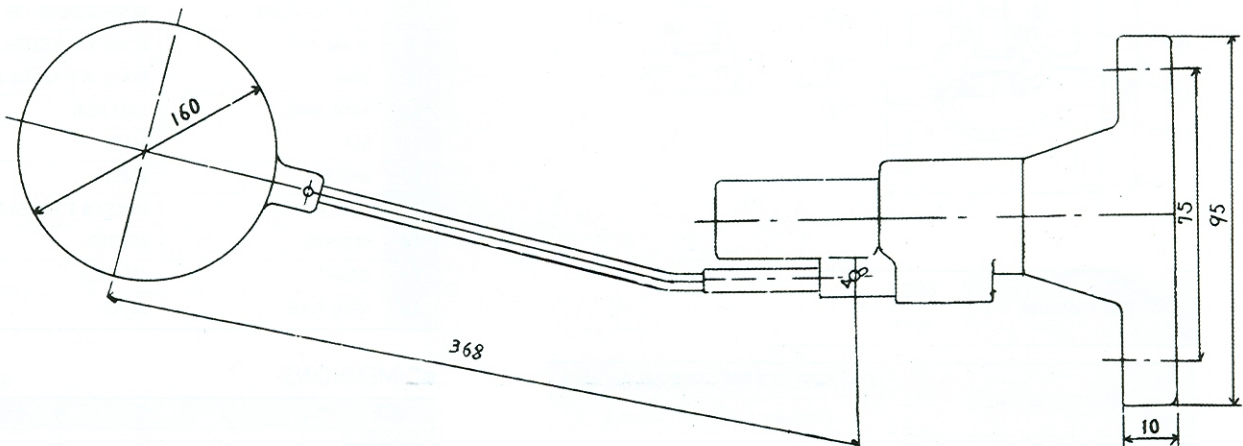
Unit : mm

SIZE	D	D ₁	D ₂	H	H ₁	H ₂	E
50	PT2	128	73	30	97	60	146
65	PT2½	128	89	30	97	60	154
80	PT3	146	101	30	110	70	170
100	PT3	180	129	33	136	85	204
125	PT5	232	156	39	177	105	244

NO	PARTS	MATERIAL
1	BODY	CAST IRON
2	BODY(BEND PIECE)	CAST IRON
3	BALL	BRASS OR STAINLESS STEEL
4	GASKET FOR BALL	SYNTHETIC PUBBER
5	SUPPORT FOR BALL	CAST IRON
6	GAUZE WIRE NUT	BRASS OR STAINLESS STEEL
7	UPPER SECURING RING FOR NET	CAST IRON
8	CRIMPED WIRE NET	STEEL WIRE
9	LOWER SECURING RING FOR NET	CAST IRON
10	COVER	MALLEABLE BLACK CASTING
11	PIN	BRASS ROD
12	WASHER	BRASS PLATE
13	SPLIT PIN	BRASS WIRE
14	STUD BOLT AND HEXAON NUT	STEEL ROD
15	GASKET	SYNTHETIC RUBGER
16	PLATE SPRING	PHOSPOR BRONZE PLATE
17	MACHINE SCREW	BRASS

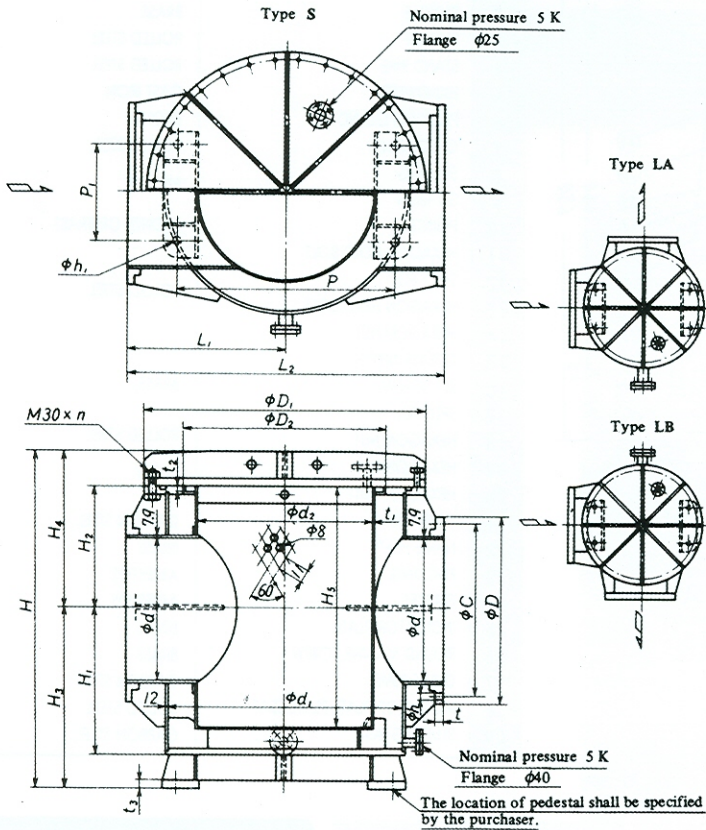
MARINE BRONZE BALL FLOAT VALVES

OKV BF



Steel Plate Cylindrical Water Filters for Marine use

JIS F 7226



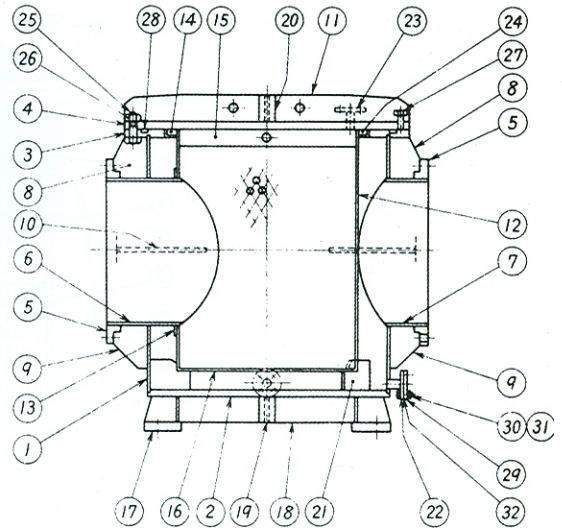
Bolt holes of inlet and outlet flanges shall straddle body centre lines.

Test and Inspection

The water filters shall be subjected to the following items of inspection in accordance with JIS F 7200.

- (1) Material inspection
- (2) Welding inspection
- (3) Visual inspection
- (4) Dimensional inspection
- (5) Assembly inspection
- (6) Hydraulic inspection

The water filters shall be tested under the test pressure of 0.74 MPa(7.5kgf/cm²)



NO	PARTS	MATERIAL
1	BODY	CARBON STEEL
2	BOTTOM PLATE	CARBON STEEL
3	BODY FLANGE	CARBON STEEL
4	COVER	CARBON STEEL
5	INLET & OUTLET FLANGES	CARBON STEEL
6	INLET PIPE	CARBON STEEL
7	OUTLET PIPE	CARBON STEEL
8	RIB	CARBON STEEL
9	RIB	CARBON STEEL
10	RIB	CARBON STEEL
11	RIB FOR COVER	CARBON STEEL
12	STRAINER CYLINDER	CARBON STEEL
13	FRAME PLANKING	CARBON STEEL
14	COLLAR	CARBON STEEL
15	SUSPENSION PLATE	CARBON STEEL
16	BOTTOM PLATE	CARBON STEEL
17	PEDESTAL	CARBON STEEL
18	STIFFENER	CARBON STEEL
19	STIFFENER	CARBON STEEL
20	BOSS	CARBON STEEL
21	SUPPORT PLATE	CARBON STEEL
22	DRAIN PIPE AND FLANGES	CARBON STEEL
23	AIR VENT PIPE AND FLANGE	CARBON STEEL
24	LOCK PLATE	CARBON STEEL
25	HEXAGON HEAD BOLT	CARBON STEEL
26	HEXAGON NUT	BRASS
27	TAP BOLT	BRASS
28	O-RING	RUBBER
29	BLANK FLANGE	CARBON STEEL
30	HEXAGON HEAD BOLT	CARBON STEEL
31	HEXAGON NUT	CARBON STEEL
32	GASKET	ASBESTOS

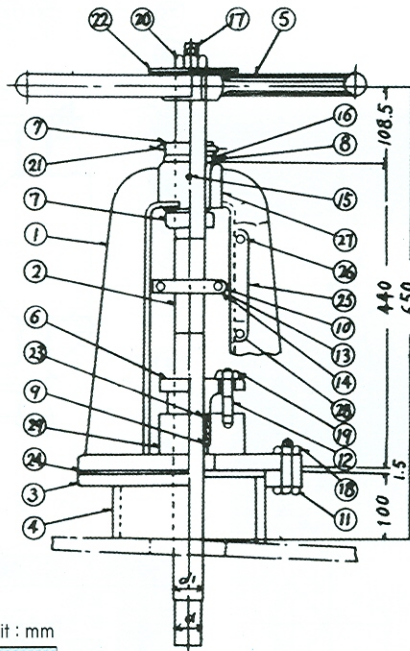
■ DIMENSIONS

Nominal dia.	d	L ₁	L ₂	Flange					Filter cylinder								Pedestal				Reference								
				Bolt hole			Nominal dia. of bolt	t	D ₁	d ₁	H	H ₁	H ₂	H ₃	H ₄	n	d ₂	H ₅	t ₁	D ₂		t ₂	P	P ₁	Bolt hole			Area of filler holes (approx.)	Calculated mass (kg)
				D	P.C. dia.	No.																			h	h ₁	No.		
450	431.4	520	1040	605	555	16	25	M22	24	930	740	1225	540	440	665	560	24	553	880	4.5	605	16	660	310	27	4	26	4	724
500	492.2	565	1130	655	605	20	25	M22	24	1010	820	1325	573	475	720	605	24	616	950	4.5	671	16	730	344	27	4	26	3.8	908
550	543.0	610	1220	720	665	20	27	M24	26	1090	900	1390	615	500	755	635	24	680	1000	4.5	735	16	800	380	27	4	26	3.7	1070
600	593.8	655	1310	770	715	20	27	M24	26	1175	980	1475	651	530	800	675	32	744	1060	4.5	803	19	870	410	27	4	26	3.5	1270
650	644.6	705	1410	825	770	24	27	M24	26	1265	1070	1530	676	550	830	700	32	807	1100	4.5	870	19	950	450	33	4	32	3.4	1480
700	695.4	750	1500	875	820	24	27	M24	26	1340	1148	1595	705	575	865	730	32	870	1150	6	940	19	1030	480	33	4	32	3.2	1670
750	746.2	800	1600	945	880	24	33	M30	28	1430	1230	1640	725	590	890	750	32	934	1180	6	1010	22	1095	515	33	4	32	3.1	1960
800	797.0	850	1700	995	930	24	33	M30	28	1510	1314	1670	737	600	905	765	32	998	1200	6	1080	22	1170	550	33	4	32	3	2320

- Remarks :
- 1. The flanges shall conform to nominal pressure 5 K of JIS B 2220.
 - 2. The threads of M 30 shall conform to JIS B 0205.
 - 3. The weld leg length of critical parts of body shall, as a rule, be 1.5 times the plate thickness.

SHIP'S DECK STAND FOR CONTROLLING VALVES

JIS F 3024



■DIMENSIONS

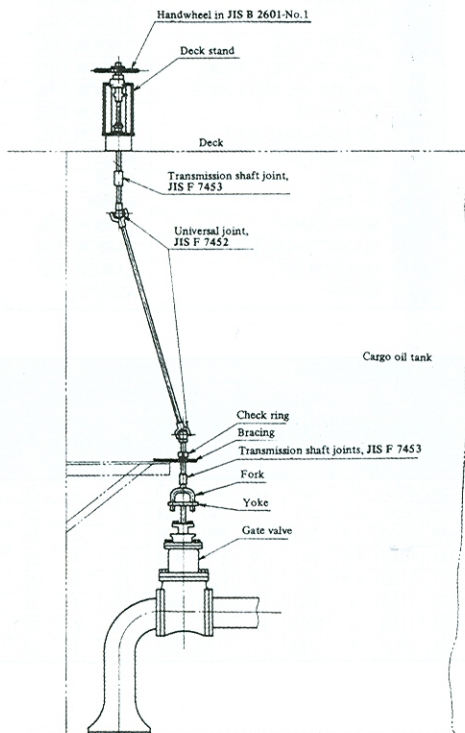
Unit : mm

SIZE	d	d ₁
25	25	32
32	32	38
38	38	42
42	42	45

NO	PARTS	MATERIAL
1	BODY	ROLLED STEEL
2	SPINDLE	BRASS
3	PLANGE	ROLLED STEEL
4	STAND PIPE	ROLLED STEEL
5	HANDWHEEL	CAST IRON
6	PACKING GLAND	BRONZE
7	CHECK RING	ROLLED STEEL
8	SET RING	BRONZE
9	SET RING	BRONZE OR BRASS
10	POINTER	BRONZE OR BRASS
11	HEXAGON HEAD BOLT	ROLLED STEEL
12	STUD BOLT	ROLLED STEEL
13	HEXAGON HEAD BOLT	ROLLED STEEL
14	HEXAGON NUT	ROLLED STEEL
15	GREASE NIPPLE	BRASS
16	SET SCREW	BRASS
17	SPLIT PIN	ROLLED STEEL
18	HEXAGON NUT	ROLLED STEEL
19	HEXAGON NUT	BRASS
20	HEXAGON NUT	BRASS
21	TAPER PIN	CARBON STEEL
22	NAME PLATE	BRASS
23	PACKING	ASBESTOS
24	GASKET	ASBESTOS
25	INDICATOR PLATE	BRASS
26	ROUND MAHINE SCREW	BRASS
27	GUIDE RING	CARBON STEEL
28	INDICATOR PLATE PLATE SEAT	ROLLED STEEL
29	STUFFING BOX	CARBON STEEL

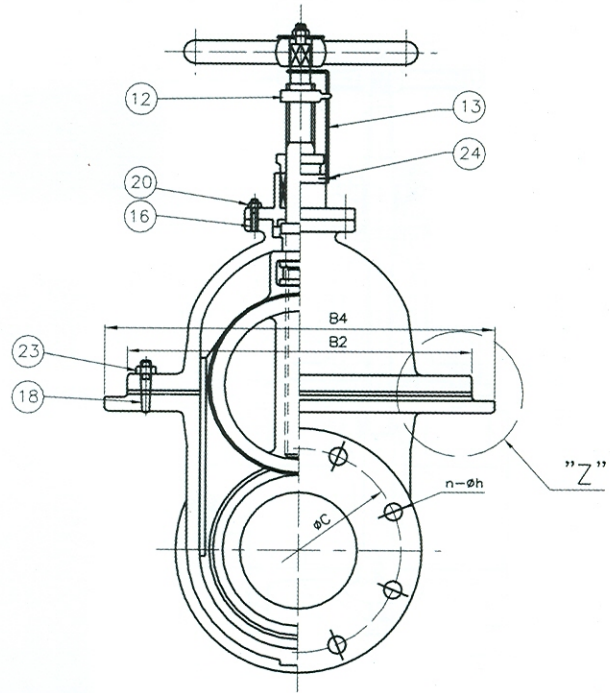
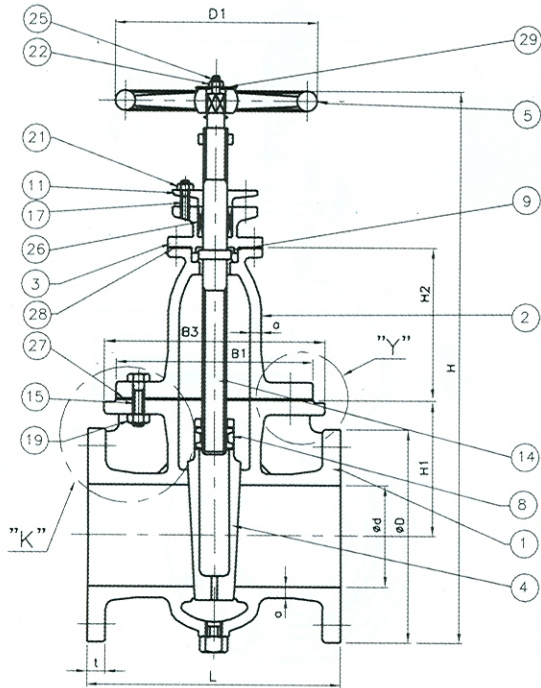
FITTINGS OF MANUAL REMOTE CONTROL GEARS

JIS F 3026



**FOR CARGO OIL TANK VALVE
IN SMALL SHIPS**

BRONZE GATE VALVE CLASS 150 (NRS)



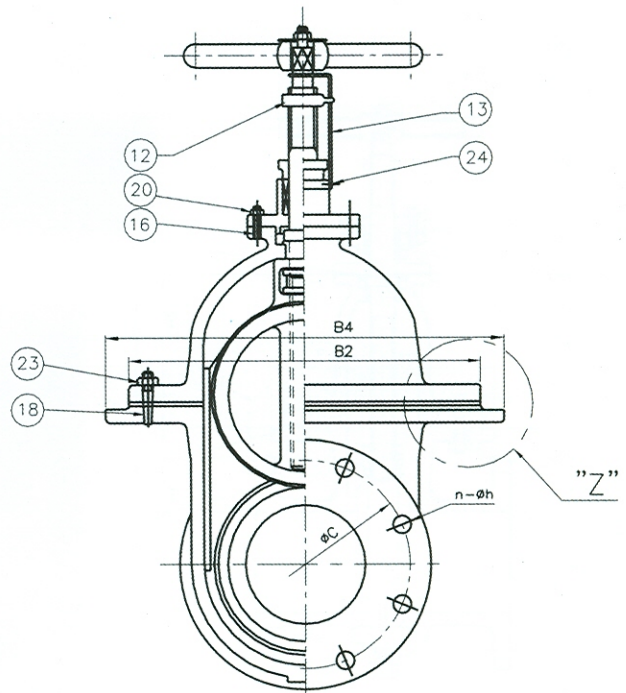
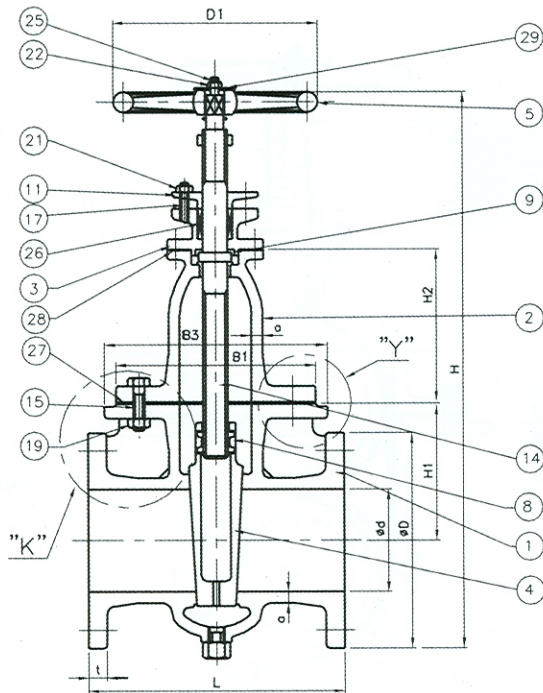
NO.	PARTS	MATERIAL	NO.	PARTS	MATERIAL
1	BODY	ASTM B62	17	STUD BOLT	ASTM B16
2	BONNET	ASTM B62	18	TAPER PIN	ASTM B16
3	STUFFING BOX	ASTM B62	19	HEXAGON NUT	ASTM B16
4	DISC	ASTM B62	20	HEXAGON NUT	ASTM B16
5	HANDWHEEL	ASTM A126CL. B	21	HEXAGON NUT	ASTM B16
8	SCREWED PIECE	ASTM B62	22	HEXAGON NUT	ASTM B16
9	GUIDE BUSH	ASTM B62	23	HEXAGON NUT	ASTM B16
11	PACKING GLAND	ASTM B62	24	CROSS RECESSED PAN HEAD MACHINE SCREW	BRASS
12	INDICATOR	ASTM B62	25	SPLIT PIN	BRASS
13	INDICATOR PLATE	ASTM B124	26	PACKING	TEFLON
14	STEM	ASTM B124	27	GASKET	NON-ASBESTOS
15	HEXAGON BOLT	ASTM B16	28	GASKET	NON-ASBESTOS
16	STUD BOLT	ASTM B16	29	NAME PLATE	BRASS

■DIMENSIONS

Unit : mm

Mark Size	d	D1	L	FLANGE				H	BODY & BONNET								STEM		
				D	C	n-øh	t		α	H1	H2	B1	B2	B3	B4	d6	d8	S	
2"(50A)	50	140	177.8	152.4	120.6	4-19	12.7	300	9	85	91	150	160	-	-	TW18	18	12	
2-1/2"(65A)	65	160	190.5	177.8	139.7	4-19	14.3	350	10	95	115	167	192	-	-	TW20	20	14	
3"(80A)	80	180	203.5	190.5	152.4	4-19.5	15.9	400	10	120	122	175	212	-	-	TW22	22	14	
4"(100A)	100	200	228.6	228.6	190.5	8-19	17.5	450	11	140	141	195	245	-	-	TW24	24	17	
5"(125A)	125	22	254.0	254.0	215.9	8-22	19.1	520	13	160	171	215	285	-	-	TW26	26	19	
6"(150A)	150	250	266.7	279.4	241.6	8-22	20.6	580	14	180	194	228	320	-	-	TW28	28	22	
8"(200A)	200	315	292.1	342.9	298.4	8-22	23.8	700	16	220	248	265	400	-	-	TW32	32	22	
10"(250A)	250	400	330.2	406.4	361.9	12-25	25.4	840	18	255	319	320	488	-	-	TW38	38	30	
12"(300A)	300	450	355.6	482.6	431.8	12-25	27.0	960	20	290	377	350	560	375	585	TW42	42	30	
14"(350A)	335	500	381.0	533.4	476.2			1050	22	315	418	375	615	415	655	TW44	44	32	
16"(400A)	380	560	406.4	596.9	539.7			1150	24	350	464	415	690	475	750	TW48	48	36	
18"(450A)	430		431.8	635.0	577.8				27	375	524	455	770	525	840	TW52	52		
20"(500A)	480		457.2	698.5	635.0				30	410	580	500	855	590	945	TW55	55		
22"(550A)	530	720		-	-			1700	33	445	634	550	945	655	1050	TW58	58	38	
24"(600A)	580		508.0	812.8	749.3				36	475	699	595	1035	715	1155	TW62	62		

BRONZE GATE VALVE CLASS 300(NRS)



NO.	PARTS	MATERIAL	NO.	PARTS	MATERIAL
1	BODY	ASTM B62	17	STUD BOLT	ASTM B16
2	BONNET		18	TAPER PIN	ASTM B16
3	STUFFING BOX		19	HEXAGON NUT	ASTM B16
4	DISC		20	HEXAGON NUT	ASTM B16
5	HANDWHEEL	ASTM A126CLB	21	HEXAGON NUT	ASTM B16
8	SCREWED PIECE	ASTM B62	22	HEXAGON NUT	ASTM B16
9	GUIDE BUSH	ASTM B62	23	HEXAGON NUT	ASTM B16
11	PACKING GLAND	ASTM B62	24	CROSS RECESSED PAN HEAD MACHINE SCREW	BRASS
12	INDICATOR	ASTM B62	25	SPLIT PIN	BRASS
13	INDICATOR PLATE	ASTM B124	26	PACKING	TEFLON
14	STEM	ASTM B124	27	GASKET	NON-ASBESTOS
15	HEXAGON BOLT	ASTM B16	28	GASKET	NON-ASBESTOS
16	STUD BOLT	ASTM B16	29	NAME PLATE	BRASS

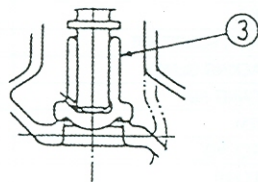
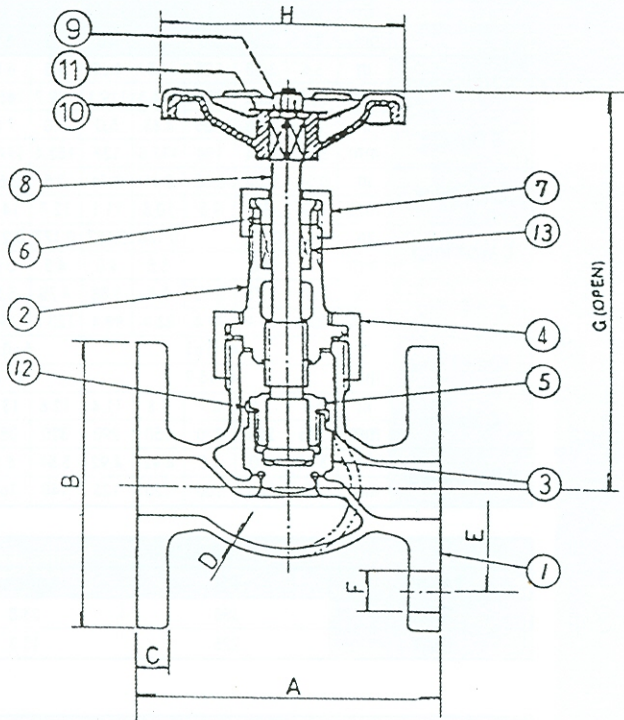
■DIMENSIONS

Unit : mm

Mark Size	d	D1	L	FLANGE				H	BODY & BONNET						STEM			
				D	C	n-φh	t		α	H1	H2	B1	B2	B3	B4	d6	d8	S
2"(50A)	50	140	216.0	165.1	127.0	8-19.0	19.0	300	9	85	91	150	160	-	-	TW18	18	12
2-1/2"(65A)	65	160	241.3	190.5	149.2	8-22.2	20.6	350	10	95	115	167	192	-	-	TW20	20	14
3"(80A)	80	180	282.4	209.6	168.3	8-22.2	22.2	400	10	120	122	175	212	-	-	TW22	22	14
4"(100A)	100	200	304.8	254.0	200.0	8-23.0	27.0	450	11	140	141	195	245	-	-	TW24	24	17
5"(125A)	125	224	381.0	279.4	234.9	8-23.0	28.4	520	13	160	171	215	285	-	-	TW26	26	19
6"(150A)	150	250	403.4	317.5	269.9	12-23.0	30.0	580	14	180	194	228	320	-	-	TW28	28	22
8"(200A)	200	315	419.0	381.0	330.2	12-26.0	35.0	700	16	220	248	265	400	-	-	TW32	32	22
10"(250A)	250	400	457.2	445.0	387.3	16-29.0		840	18	255	319	320	488	-	-	TW38	38	30
12"(300A)	300	450	501.7	520.0	450.8	16-32.0		960	20	290	377	350	560	375	585	TW42	42	30
14"(350A)	335	500	762.0	585.0	514.3	20-32.0		1050	22	315	418	375	615	415	655	TW44	44	32
16"(400A)	380	560	838.2	650.0	571.5	24-35.0		1150	24	350	464	415	690	475	750	TW48	48	36
18"(450A)	430		914.4	711.0	628.6	24-35.0			27	375	524	455	770	525	840	TW52	52	
20"(500A)	480		990.6	775.0	685.8	24-35.0			30	410	580	500	855	590	945	TW55	55	
22"(550A)	530	720		-	-	-		1700	33	445	634	550	945	655	1050	TW58	58	38
24"(600A)	580			915.0	812.8	24-42.0			36	475	699	595	1035	715	1155	TW62	62	

ANSI 150psi/300psi BRONZE GLOBE VALVES

HYD ^g TEST PRESSURE		
RATING	PSI	kgf/cm ²
SHELL	350	23.8
SEAT	225	15.3



■ DIMENSIONS (150 PSI)

Valve size	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	15	20	25	32	40	50	65	80
A End to End	in	3.31	3.75	4.19	4.56	5.31	6.0	6.75	7.94
	mm	84.1	95.3	106.4	115.9	134.9	152.4	171.45	201.6
B Out dia	in	3.5	3.88	4.25	4.63	5.0	6.0	7.0	7.5
	mm	88.9	99.4	108	117.5	127	152.4	177.8	190.5
C Fig Thick	in	0.31	0.34	0.38	0.41	0.44	0.5	0.56	0.63
	mm	7.9	8.7	9.5	10.3	11.1	12.7	14.3	15.9
D Wall Thick	in	0.118		0.138	0.157	0.177	0.217	0.238	
	mm	3.0		3.5	4.0	4.5	5.5	6.0	
E P.C Dia	in	2.38	2.75	3.13	3.5	3.88	4.75	5.5	6.0
	mm	60.3	69.9	79.4	83.9	98.4	120.7	139.7	152.4
F Size of Holes	in	4-0.63				4-0.75			
	mm	4-15.9				4-19			
G Height	in	5.1	5.5	6.3	6.7	7.5	8.3	9.3	10.2
	mm	130	140	160	170	190	210	235	260
H Handwheel	in	3.15	4.0	4.0	4.92	4.92	5.51	6.3	7.09
	mm	80	100	100	125	125	140	160	180

HYD ^g TEST PRESSURE		
RATING	PSI	kgf/cm ²
SHELL	700	48
SEAT	450	30

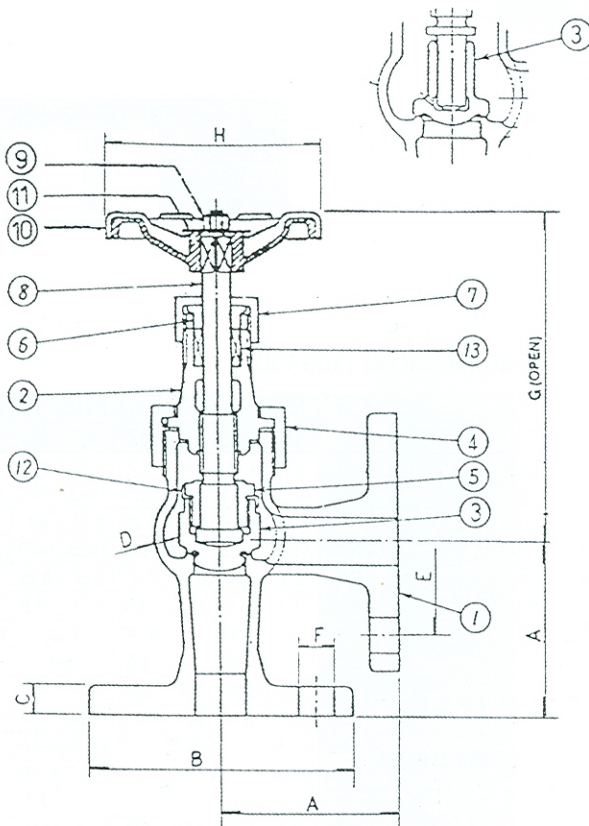
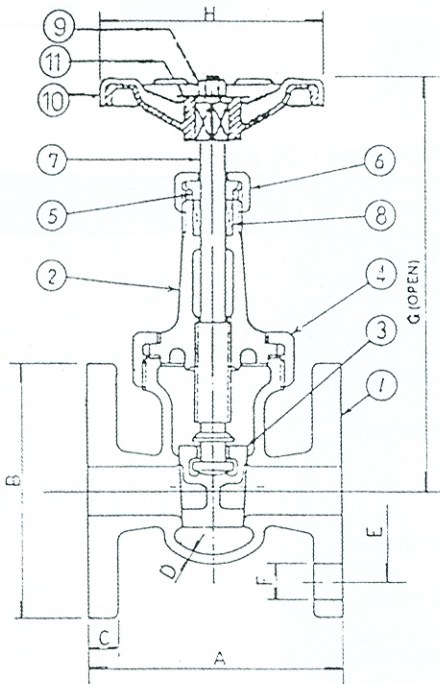
■ DIMENSIONS (300 PSI)

valve size	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	15	20	25	32	40	50	65	80
A End to End	in	4.0	4.75	5.38	6.0	7.25	8.0	9.0	10.0
	mm	101.6	120.7	136.5	152.4	184.2	203.2	228.6	254
B Out dia	in	3.75	4.63	4.88	5.25	6.13	6.5	7.5	8.25
	mm	95.3	117.5	123.8	133.4	155.6	165.1	190.5	209.6
C Fig Thick	in	0.5	0.53	0.59	0.63	0.69	0.75	0.81	0.88
	mm	12.7	13.5	15.1	15.9	17.5	19.0	20.6	22.2
D Wall Thick	in	0.157		0.197	0.236	0.256	0.276		
	mm	4.0		5.0	6.0	6.5	7.0		
E P.C Dia	in	2.63	3.25	3.5	3.88	4.5	5.0	5.88	6.63
	mm	66.7	82.6	88.9	98.4	114.3	127.0	149.2	168.3
F Size of Holes	in	4-0.63	4-0.75		4-0.88	8-0.75	8-0.88		
	mm	4-15.9	4-19.0		4-22.2	8-19.0	8-22.2		
G Height	in	5.1	5.5	6.3	6.7	7.5	8.3	9.3	10.2
	mm	130	140	160	170	190	210	235	260
H Handwheel	in	3.15	4.0	4.0	4.92	4.92	5.51	6.3	7.09
	mm	80	100	100	125	125	140	160	180

NO	PARTS	Material
1	BODY	Bronze
2	BONNET	Bronze Forged Brass
3	DISC	Bronze Forged Brass
4	UNION BONNET NUT	Bronze Forged Brass
5	DISC NUT	Brass
6	PACKING GLAND	Brass
7	BONNET NUT	Brass Forged Brass
8	STEM	Brass
9	HEX NUT	Brass
10	HANDLE	Cast iron
11	NAME PLATE	Aluminum
12	LOCK PLATE	Brass Rod
13	PACKING	Teflon

ANSI 150psi BRONZE GATE VALVES

ANSI 150psi BRONZE ANGLE VALVES



■ DIMENSIONS (GATE VALVES)

valve size	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	15	20	25	32	40	50	65	80
A End to End	in	3.5	3.88	4.25	4.5	4.69	5.5	6.5	7.5
	mm	88.9	98.4	108	114.3	119.1	139.7	165.1	190.5
B Out dia	in	3.5	3.88	4.25	4.63	5.0	6.0	7.0	7.5
	mm	88.9	98.4	108	117.5	127	152.4	177.8	190.5
C Fig Thick	in	0.31	0.34	0.38	0.41	0.44	0.5	0.56	0.63
	mm	7.9	8.7	9.5	10.3	11.1	12.7	14.3	15.9
D Wall Thick	in	0.118		0.138		0.157	0.177	0.217	0.238
	mm	3.0		3.5		4.0	4.5	5.5	6.0
E P.C Dia	in	2.38	2.75	3.13	3.5	3.88	4.75	5.5	6.0
	mm	60.3	69.9	79.4	83.9	98.4	120.7	139.7	152.4
F Size of Holes	in	4-0.63				4-0.75			
	mm	4-15.9				4-19			
G Height	in	6.9	7.8	8.7	9.8	11.4	12.6	13.8	15.0
	mm	175	200	220	250	290	320	350	380
H Handwheel	in	3.15	4.0	4.0	4.92	4.92	5.51	6.3	7.09
	mm	80	100	100	125	125	140	160	180

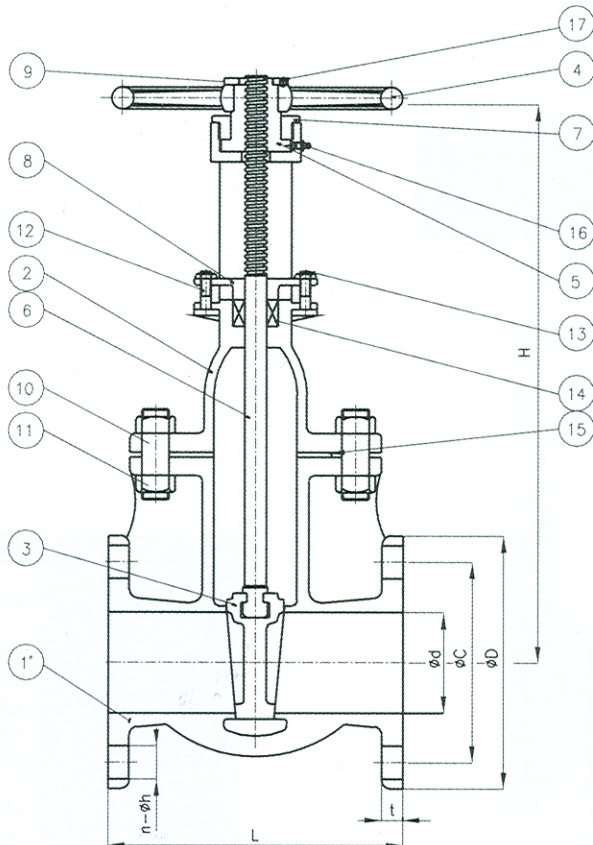
HYD' TEST PRESSURE		
RATING	PSI	kgf/cm ²
SHELL	350	23.8
SEAT	225	15.3

NO	PARTS	Material
1	BODY	BRONZE
2	BONNET	BRONZE OR FORGED BRASS
3	DISC	BRONZE OR BRASS
4	UNION BONNET NUT	BRONZE OR BRASS
5	PACKING GLAND	BRASS
6	BONNET NUT	BRONZE OR FORGED BRASS
7	STEM	BRASS
8	PACKING	TEFLON
9	HEX NUT	BRASS
10	HANDLE	CAST IRON
11	NAME PLATE	ALUMINUM

■ DIMENSIONS (ANGLE VALVES)

valve size	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	15	20	25	32	40	50	65	80
A End to End	in	2.17	2.36	2.63	2.88	3.19	3.75	4.31	4.63
	mm	55	60	66.7	73	81	95.25	109.5	117.5
B Out dia	in	3.5	3.88	4.25	4.63	5.0	6.015	7.0	7.5
	mm	88.9	98.4	108	117.5	127	152.4	177.8	190.5
C Fig Thick	in	0.31	0.34	0.38	0.41	0.44	0.5	0.56	0.63
	mm	7.9	8.7	9.5	10.3	11.1	12.7	14.3	15.9
D Wall Thick	in	0.118		0.138		0.157	0.177	0.217	0.238
	mm	3.0		3.5		4.0	4.5	5.5	6.0
E P.C Dia	in	2.38	2.75	3.13	3.5	3.88	4.75	5.5	6.0
	mm	60.3	69.9	79.4	83.9	98.4	120.7	139.7	152.4
F Size of Holes	in	4-0.63				4-0.75			
	mm	4-15.9				4-19			
G Height	in	5.1	5.5	6.3	6.7	7.5	8.3	9.3	10.2
	mm	130	140	160	170	190	210	235	260
H Handwheel	in	3.15	4.0	4.0	4.92	4.92	5.51	6.3	7.09
	mm	80	100	100	125	125	140	160	180

BRONZE GATE VALVE CLASS 150/300 (OS & Y)



INTEGRAL BACK SEAT
 APPLICABLE STANDARD
 ANSI B16.24
 MSS-SP-6/8/25/82

NO	PARTS	MATERIAL
1	BODY	ASTM B62
2	BONNET	
3	DISC	
4	HANDWHEEL	ASTM A126CLB
5	YOKE SLEEVE	ASTM B62
6	STEM	ASTM B124
7	YOKE NUT	ASTM B62
8	GLAND FLANGE	ASTM B62
9	HANDWHEEL NUT	C/S 1020
10	BONNET STUD	ASTM B16
11	BONNET NUT	ASTM B16
12	GLAND BOLT	ASTM B16
13	GLAND NUT	ASTM B16
14	PACKING	NON-ASBESTOS
15	GASKET	NON-ASBESTOS
16	GREASE NIPPLE	BRASS
17	SET SCREW	BRASS

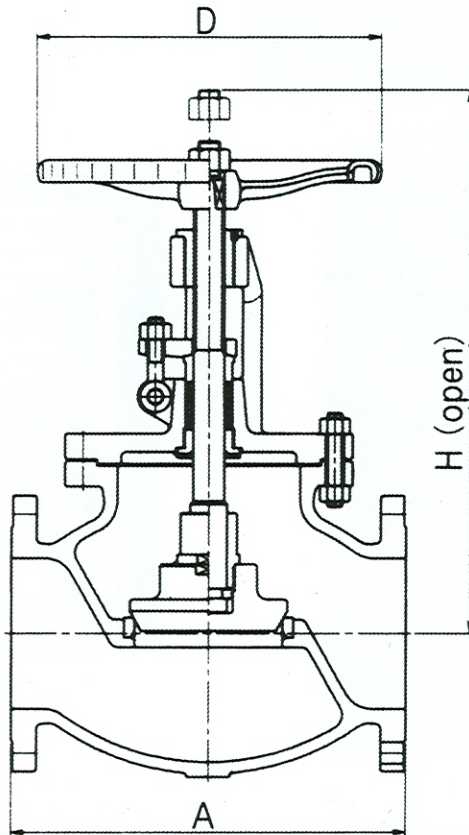
■ DIMENSIONS

Unit : mm

Mark Size-150	d	L	FLANGE				H	ØD2
			D	C	n-Øh	t		
50A(2")	50.8	177.8	152.4	120.7	4-Ø19.0	12.7	292	180
65A(2-1/2")	63.5	190.5	177.8	139.7	4-Ø19.0	14.3	375	180
80A(3")	76.2	203.2	190.5	152.4	4-Ø19.0	15.9	408	200
100A(4")	101.6	228.6	228.6	190.5	8-Ø19.0	17.5	511	224
125A(5")	127	254.0	254.0	215.9	8-Ø22.0	19.1	613	250
150A(6")	152.4	266.7	279.4	241.3	8-Ø22.0	20.6	722	279
200A(8")	203.2	292.1	342.9	298.5	8-Ø22.0	23.8	905	315
250A(10")	254	330.2	406.4	362.0	12-Ø25.0	25.4	1138	356
300A(12")	304.8	355.6	482.6	431.8	12-Ø25.0	27.0	1336	400

Mark Size-300	d	L	FLANGE				H	ØD2
			D	C	n-Øh	t		
50A(2")	50.8	216.0	165	127.0	8-Ø19	19.0	292	180
65A(2-1/2")	63.5	241.3	191	149.2	8-Ø23	20.6	375	180
80A(3")	76.2	282.4	210	168.3	8-Ø23	22.2	408	200
100A(4")	101.6	304.8	254	200.0	8-Ø23	27.0	511	224
125A(5")	127	381.0	279	234.9	8-Ø23	28.4	613	250
150A(6")	152.4	403.4	316	269.9	8-Ø23	30.0	722	279
200A(8")	203.2	419.0	381	330.2	12-Ø23	35.0	905	315
250A(10")	254	457.2	445	387.3	16-Ø29		1138	356
300A(12")	304.8	501.9	520	450.8	16-Ø32		1336	400

BRONZE GLOBE VALVE CLSS 150/300



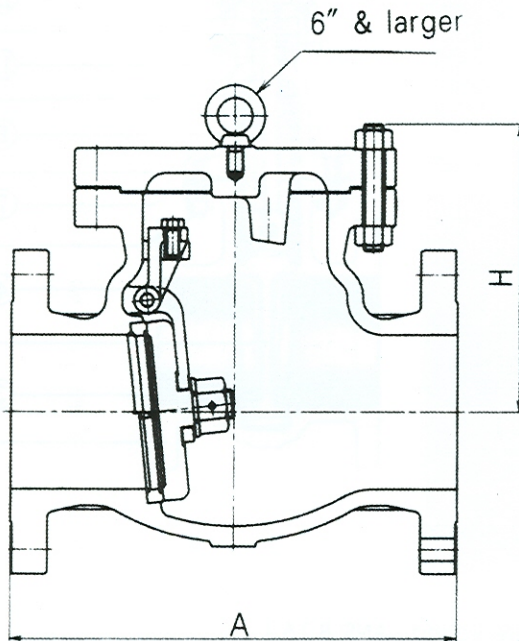
PARTS	MATERIAL
BODY	
BONNET	ASTM B62
DISC	
STEM	ASTM B124
SEAT RING	ASTM B62
DISC	ASTM B62
HANDWHEEL	ASTM A126CLB
YOKE SLEEVE	ASTM B62
BONNET BUSH	ASTM B62
GLAND RING	ASTM B62
GLAND PLATE	ASTM B62
BONNET BOLT/NUT	ASTM B16
GLAND BOLT/NUT	ASTM B16
WHEEL NUT	C/S 1020
PACKING	NON-ASBESTOS
GASKET	NON-ASBESTOS
NAME PLATE	STEEL

■ DIMENSIONS

SIZE-150	inch	2	2-1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
A	inch	8.0	8.5	9.5	11.5	16.0	19.5	24.5	27.5
	mm	203	216	241	292	406	495	622	698
H	inch	13.2	15.0	16.0	18.3	21.6	25.1	28.8	32.4
	mm	335	380	406	465	548	637	732	823
D	inch	7.9	9.8	9.8	9.8	14.0	15.7	22.0	24.0
	mm	200	250	250	250	355	400	560	610

SIZE-300	inch	2	2-1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
A	inch	10.5	11.5	12.5	14.0	17.5	22.0	24.5	28.0
	mm	267	292	318	356	444	559	622	711
H	inch	13.2	15.7	16.9	20.9	26.4	30.7	34.6	37.6
	mm	335	400	428	530	671	780	878	955
D	inch	7.9	9.8	9.8	14.0	17.7	22.0	24.0	24.0
	mm	200	250	250	355	450	560	610	610

BRONZE SWING CHECK VALVE CLASS 150/300



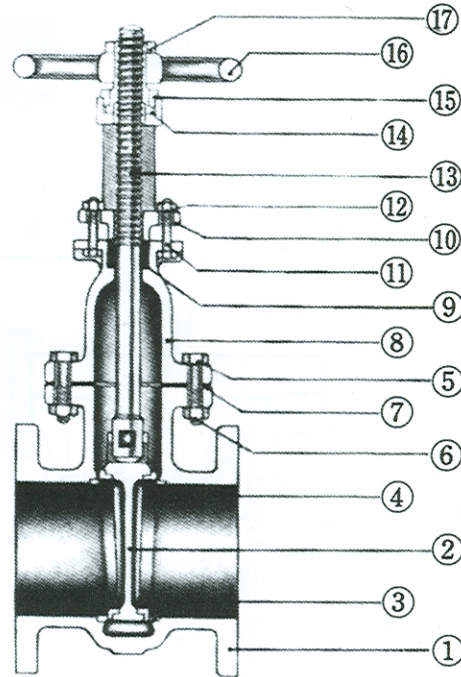
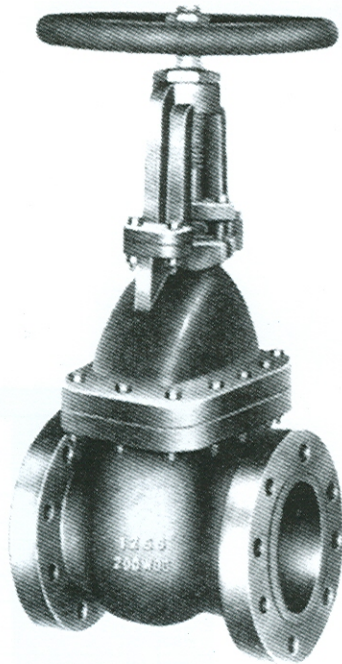
PARTS	MATERIAL
BODY	
COVER	ASTM B62
DISC	
SEAT RING	ASTM B62
DISC NUT	ASTM B16
DISC WASHER	ASTM B16
SPLIT PIN	ASTM B16
ARM	ASTM B62
HINGE	ASTM B16
HINGE PIN	ASTM B16
HINGE BOLT	ASTM B16
COVER BOLT/NUT	ASTM B16
GASKET	NON-ASBESTOS
EYE BOLT	ASTM B16
NAME PLATE	STEEL

■ DIMENSIONS

SIZE-150	inch	2	2-1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
A	inch	8.0	8.5	9.5	11.5	14.0	19.5	24.5	27.5
	mm	203	216	241	292	356	495	622	698
H	inch	5.7	6.1	6.6	7.7	9.4	11.1	13.5	15.7
	mm	144	156	168	195	238	283	344	400

SIZE-300	inch	2	2-1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
A	inch	10.5	11.5	12.5	14.0	17.5	21.0	24.5	28.0
	mm	267	292	318	356	444	533	622	711
H	inch	6.3	7.0	7.6	8.7	11.0	13.2	16.0	17.3
	mm	160	177	194	222	280	336	380	440

CAST IRON GATE VALVE CLASS 125 (OS & Y)



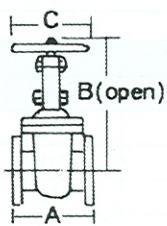
■PRESSURE-Temperature Rating : ANSI B 16.1

NO.	PARTS	MATERIAL	ASTMspecc	NO.	PARTS	MATERIAL	ASTMspecc
1	BODY	CAST IRON	A126 CIB	9	PACKING *2	ASBESTOS	-
2A	WEDGE *1	CAST IRON	A126 CIB	10	PACKING GLAND	CAST IRON	A126 CIB
2B	WEDGE	CAST IRON	A126 CIB	11	GLAND BOLT	CARBON STEEL	A307 Gr B
3A	BODY SEAT RING	BRONZE	B62	12	GLAND NUT	CARBON STEEL	A307 Gr B
3B	BODY SEAT RING	CAST IRON	A126 CIB	13A	STEM	BRASS	B124 C37700
4A	WEDGE SEAR RING	BRONZE	B62	13B	STEM	CARBON STEEL	A108
4B	WEDGE SEAR RING	CAST IRON	A126 CIB	14	YOKE SLEEVE	BRONZE	B62
5	BONNET BOLT	CARBON STEEL	A307 Gr B	15	SLEEVE GLAND	BRONZE	B62
6	BONNET NUT	CARBON STEEL	A307 Gr B	16	HANDWHEEL	CAST IRON	A126 CIB
7	GASKET *2	ASBESTOS	-	17	HANDWHEEL NUT	CARBON STEEL	A307 GrB
8	BONNET	CAST IRON	A126 CIB				

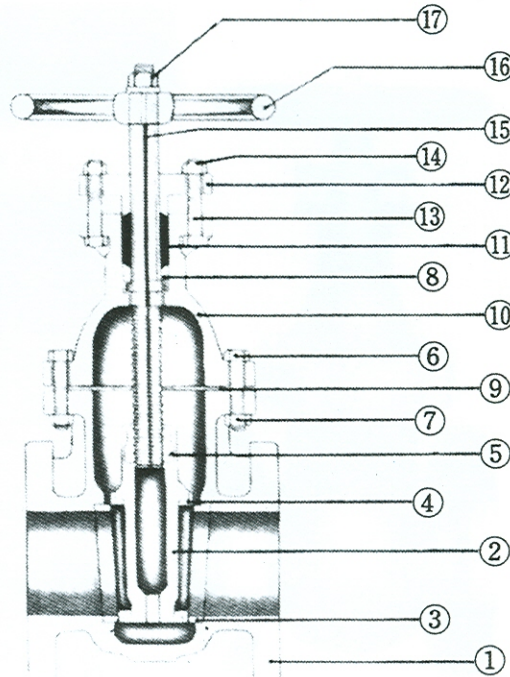
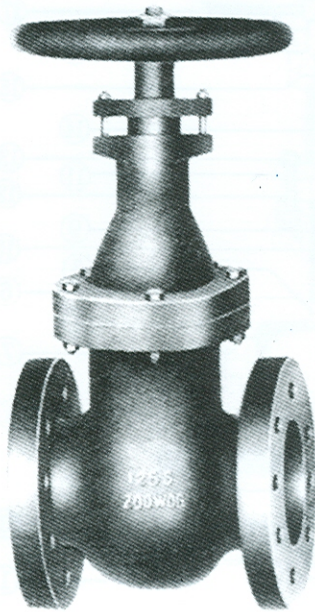
*1, sizes 20" thru 3" are all bronze wedges, sizes 4" thru 24" made with cast iron wedge with bronze wedge face rings.
 *2, asbestos free packing, gasket available on request.

■DIMENSIONS

SIZE	inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	inch	7	7.5	8	9	10	10.5	11.5	13	14	15	16	17	18	20
	mm	177.8	190.5	203.2	228.6	254	266.7	292.1	330.2	355.6	381	406.4	431.8	457.2	508
H	inch	13.86	16.54	18.70	22.91	26.18	30.24	38.35	47.64	55.51	65.5	74.5	82.5	91	107.5
	mm	352	420	475	582	665	768	974	1210	1410	1663.7	1892.3	2095	2311.4	2730.5
D	inch	7.87	7.87	8.82	9.84	11.02	11.81	13.98	15.75	17.72	19.69	22.05	24.80	27.95	31.50
	mm	200	200	224	250	280	300	355	400	450	500	560	630	710	800



CAST IRON GATE VALVE CLASS 125 (NRS)



■PRESSURE-Temperature Rating : ANSI B 16.1

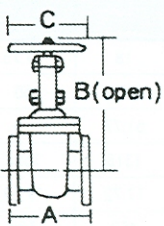
NO.	PARTS	MATERIAL	ASTMspec	NO.	PARTS	MATERIAL	ASTMspec
1	BODY	CAST IRON	A126 CIB	9	GASKET **	ASBESTOS	-
2A	WEDGE *1	CAST IRON	A126 CIB	10	BONNET	CAST IRON	A126 CIB
2B	WEDGE	CAST IRON	A126 CIB	11	PACKING *2	ASBESTOS	-
3A	BODY SEAT RING	BRONZE	B62	12	PACKING GLAND	CAST IRON	A126 CIB
3B	BODY SEAT RING	CAST IRON	A126 CIB	13	GLAND BOLT	CARBON STEEL	A307 Gr B
4A	WEDGE SEAT RING	BRONZE	B62	14	GLAND NUT	CARBON STEEL	A307 Gr B
4B	WEDGE SEAT RING	CAST IRON	A126 CIB	15A	STEM	BRASS	B124 C37700
5	WEDGE BUSHING	BRONZE	B62	15B	STEM	CARBON STEEL	A108
6	BONNET BOLT	CARBON STEEL	A307 Gr B	16	HANDWHEEL	CAST IRON	A126 CIB
7	BONNET NUT	CARBON STEEL	A307 Gr B	17	HANDWHEEL NUT	CARBON STEEL	A307 Gr B
8	STEM BUSHING	BRONZE	B62				

*1, sizes 2" thru 3" are all bronze wedges, sizes 4" thru 16" made with cast iron wedge with bronze wedge face rings.

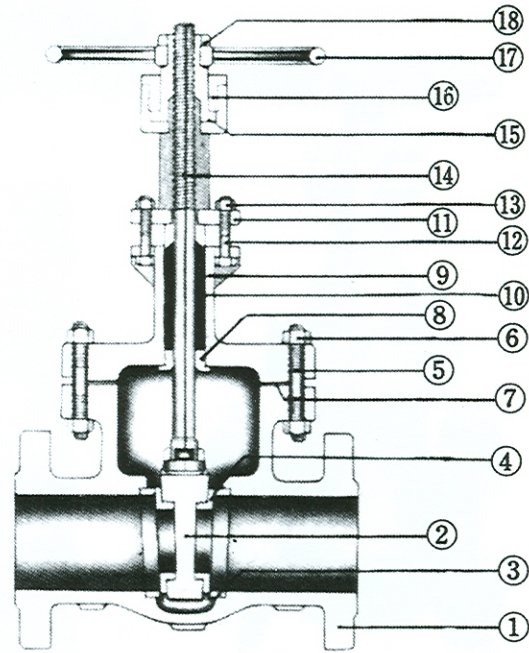
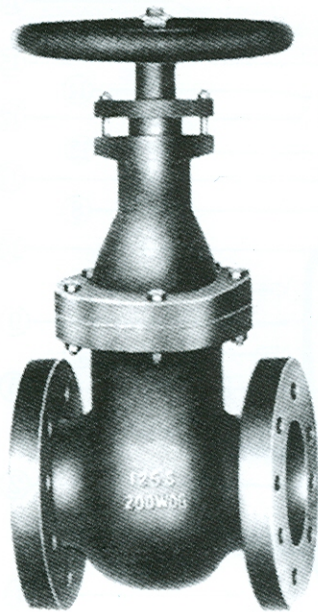
*2, asbestos free packing, gasket available on request.

■DIMENSIONS

VALVE SIZE	inch	2	2-1/2	3	4	5	6	8	10	12	14	16
	mm	50	65	80	100	125	150	200	250	300	350	400
A, End to End	inch	7	7.5	8	9	10	10.5	11.5	13	14	15	16
	mm	177.8	190.5	203.2	228.6	254	266.7	292.1	330.2	355.6	381	406.4
B, Height	inch	11.81	12.99	14.96	16.93	19.29	22.05	25.59	30.32	34.84	40.38	45.75
	mm	300	330	380	430	490	560	650	770	885	1026	1162
C, Handwheel	inch	7.87	7.87	8.82	9.84	11.02	11.81	13.98	15.75	17.72	19.60	22.05
	mm	200	200	224	250	280	300	355	400	450	500	560



CAST IRON GATE VALVE CLASS 250(OS & Y)



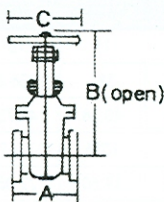
■PRESSURE–Temperature Rating : ANSI B 16.1

NO.	PARTS	MATERIAL	ASTMspec	NO.	PARTS	MATERIAL	ASTMspec
1	BODY	CAST IRON	A126 CIB	11	PACKING GLAND	CAST IRON	A126 CIB
2	WEDGE *1	CAST IRON	A126 CIB	12	GLAND BOLT	CARBON STEEL	A307 Gr B
3	BODY SEAT RING	BRONZE	B62	13	GLAND NUT	CARBON STEEL	A307 Gr B
4	WEDGE SEAT RING	BRONZE	B62	14	STEM	BRASS	B124 C37700
5	BONNET BOLT	CARBON STEEL	A307 Gr B	15	YOKE SLEEVE	BRONZE	B62
6	BONNET NUT	CARBON STEEL	A307 Gr B	16	SLEEVE GLAND	BRONZE	B62
7	GASKET *2	ASBESTOS	-	17	HANDWHEEL	CAST IRON	A126 CIB
8	BACK SEAT RING	BRONZE	B62	18	HANDWHEEL NUT	CARBON STEEL	A307 Gr B
9	BONNET	CAST IRON	A126CIB				
10	PACKING *2	ASBESTOS	-				

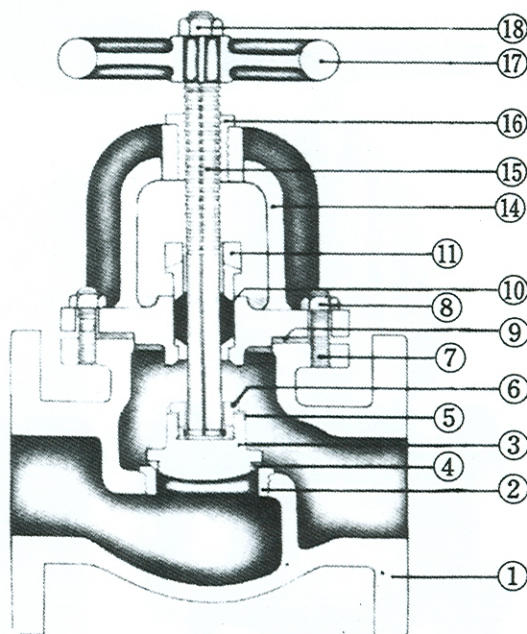
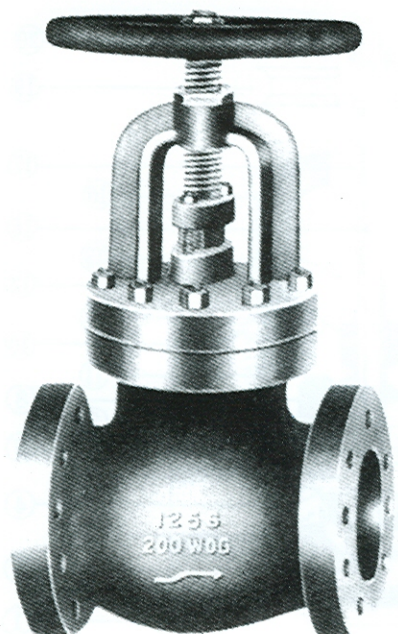
*1, sizes 2" thru 3" are all bronze wedges, sizes 4" thru 12" made with cast iron wedge with bronze wedge face rings.
 *2, asbestos free packing, gasket available on request.

■DIMENSIONS

VALVE SIZE	inch	2	2-1/2	3	4	5	6	8	10	12
	mm	50	65	80	100	125	150	200	250	300
A, Face to face	inch	8.5	9.5	11.13	12	15	15.88	16.5	18	19.75
	mm	215.9	241.3	282.7	304.8	381	403.4	419.1	457.2	500
B, Height	inch	16.93	18.4	21.38	26.10	31.5	34.33	45.5	51.77	60
	mm	430	468	543	663	800	872	1156	1315	1524
C, Handwheel	inch	8.82	8.82	9.84	11.81	11.81	13.98	15.75	17.72	19.69
	mm	224	224	250	300	300	355	400	450	500



CAST IRON GLOBE VALVE CLASS 125(OS & Y)



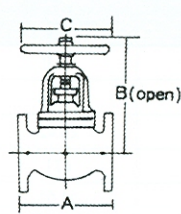
■ **PRESSURE-Temperature Rating : ANSI B 16.1**

NO.	PARTS	MATERIAL	ASTMspec	NO.	PARTS	MATERIAL	ASTMspec
1	BODY	CAST IRON	A126 CIB	9	GASKET *2	ASBESTOS	-
2A	BODY SEAT RING	BRONZE	B62	10	PACKING *2	ASBESTOS	-
2B	BODY SEAT RING	CAST IRON	A126 CIB	11	PACKING GLAND	CAST IRON	A126 CIB
3A	DISC *1	CASR IRON	A126 CIB	12	GLAND BOLT(not shown)	CARBON STEEL	A307 Gr B
3B	DISC	CAST IRON	A126 CIB	13	GLAND NUT(not shown)	CARBON STEEL	A307 Gr B
4A	DISC SEAT RING	BRONZE	B62	14	BONNET		A126 CIB
4B	DISC SEAT RING	CAST IRON	A126 CIB	15A	STEM	BRASS	B124 C37700
5	STOPPER	BRASS	B36	15B	STEM	CARBON STEEL	A108
6	DISC GLAND	BRONZE	B62	16	YOKE BUSHING	BRONZE	B62
7	BONNET BOLT	CARBON STEEL	A307 Gr B	17	HANDWHEEL	CAST IRON	A126 CIB
8	BONNET NUT	CARBON STEEL	A307 Gr B	18	HANDWHEEL NUT	CARBON STEEL	A307 Gr B

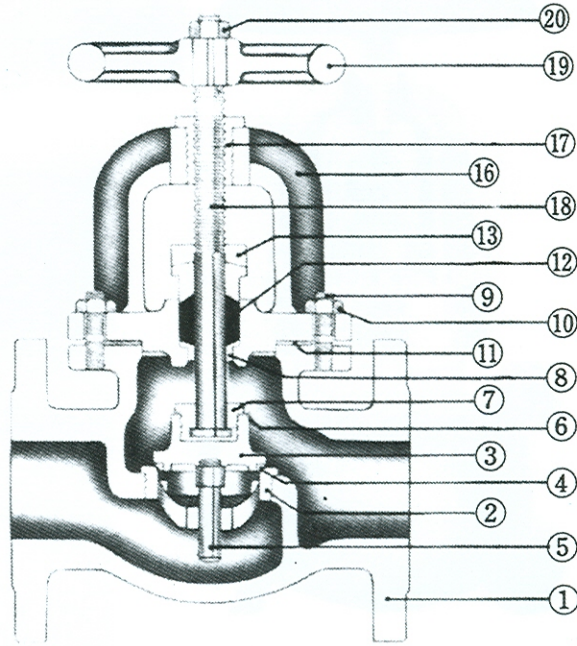
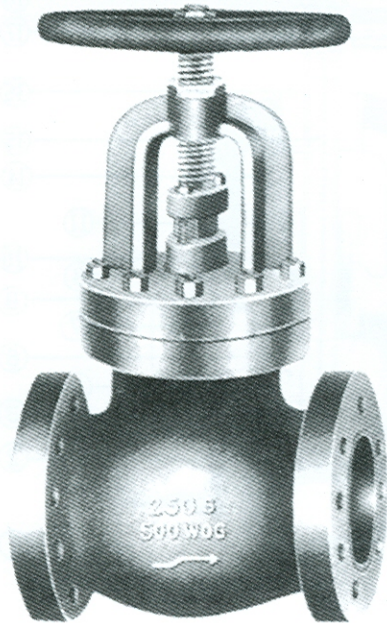
*1, sizes 2" have all bronze disc, sizes 2 1/2" thru 8" made with cast iron disc with bronze disc face ring.
 *2, asbestos free packing, gasket available on request.

■ **DIMENSIONS**

VALVE SIZE	inch	2	2-1/2	3	4	5	6	8	10
	mm	50	65	80	100	125	150	200	250
A, Face to face	inch	8.0	8.5	9.5	11.5	13.0	14.0	19.5	24.5
	mm	203.2	215.9	241.3	292.1	330.2	355.6	495.3	622.3
B, Height	inch	10.8	12.2	13.4	15.4	18.1	20.3	24	27
	mm	275	310	340	390	460	515	610	686
C, Handwheel	inch	7	8	9	11	12.4	14	18	-
	mm	180	200	224	280	315	355	450	-



CAST IRON GLOBE VALVE CLASS 250 (OS & Y)



■PRESSURE–Temperature Rating : ANSI B 16.1

NO.	PARTS	MATERIAL	ASTMspec	NO.	PARTS	MATERIAL	ASTMspec
1	BODY	CAST IRON	A126 CIB	11	GASKET *2	ASBESTOS	-
2	BODY SEAT RING	BRONZE	B62	12	PACKING *2	ASBESTOS	-
3	DISC *1	CAST IRON	A126 CIB	13	PACKING GLAND	CAST IRON	A126 CIB
4	DISC SEAT RING	BRONZE	B62	14	GLAND BOLT(not shown)	CARBON STEEL	A307 Gr B
5	DISC GUIDE	BRONZE	B62	15	GLAND NUT(not shown)	CARBON STEEL	A307 Gr B
6	STOPPER	BRASS	B36	16	BONNET	CST IRON	A126 CIB
7	DISC GLAND	BRONZE	B62	17	YOKE BUSHING	BRONZE	B62
8	PACKING RING	BRONZE	B62	18	HAND	BRASS	B124 C37700
9	BONNET BOLT	CARBON STEEL	A307 Gr B	19	HANDWHEEL	CAST IRON	A126 CIB
10	BONNET NUT	CARBON STEEL	A307 Gr B	20	HANDWHEEL NUT	CARBON STEEL	A307 Gr B

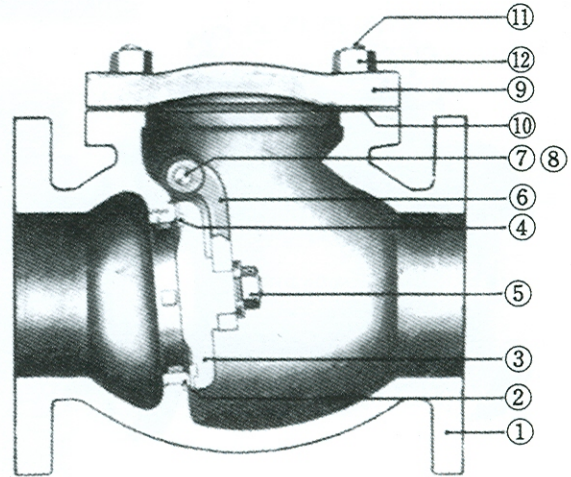
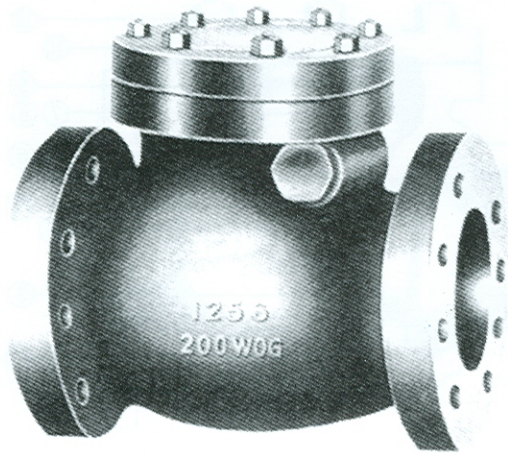
*1, sizes 2" have all bronze disc, sizes 2 1/2" thru 8" made with cast iron disc with bronze disc face ring.

*2, asbestos free packing, gasket available on request.

■DIMENSIONS

VALVE SIZE	inch	2	2-1/2	3	4	6	8
	mm	50	65	80	100	150	200
A, Face to face	inch	10.5	11.5	12.5	14.0	17.5	21.0
	mm	266.7	292.1	317.5	355.6	444.5	533.4
B, Height	inch	10.31	13.56	15.67	16.5	23.50	26.42
	mm	262	344	398	419	597	671
C, Handwheel	inch	8.82	9.84	11.02	13.98	17.72	22.05
	mm	224	250	280	355	450	560

CAST IRON SWING CHECK VALVE CLASS 125



■PRESSURE–Temperature Rating : ANSI B 16.1

NO.	PARTS	MATERIAL	ASTMspec	NO.	PARTS	MATERIAL	ASTMspec
1	BODY	CAST IRON	A126 CIB	7A	HANGER PIN	BRASS	B16
2A	BODY SEAT RING	BRONZE	B62	7B	HANGER PIN	CARBON STEEL	A108
2B	BODY SEAT RING	CAST IRON	A126 CIB	8A	PLUG(not shown)	BRASS	B16
3A	DISC *1	CAST IRON	A126 CIB	8B	PLUG(not shown)	CARBON STEEL	A108
3B	DISC	CAST IRON	A126 CIB	9	GASKET *3	ASBESTOS	–
4A	DISC SEAT RING	BRONZE	B62	10	BONNET	CAST IRON	A126 CIB
4B	DISC SEAT RING	CAST IRON	A126 CIB	11	BONNET BOLT	CARBON STEEL	A307 Gr B
5A	DISC NUT	BRASS	B16	12	BONNET NUT	CARBON STEEL	A307 Gr B
5B	DISC NUT	CARBON STEEL	A307 Gr B				
6A	HANGER *2	BRONZE	B16				
6B	HANGER	DUCTILE IRON	A395				

*1, sizes 2" thru 4" are all bronze discs, sizes 5" thru 12" made with cast iron disc with bronze face rings.

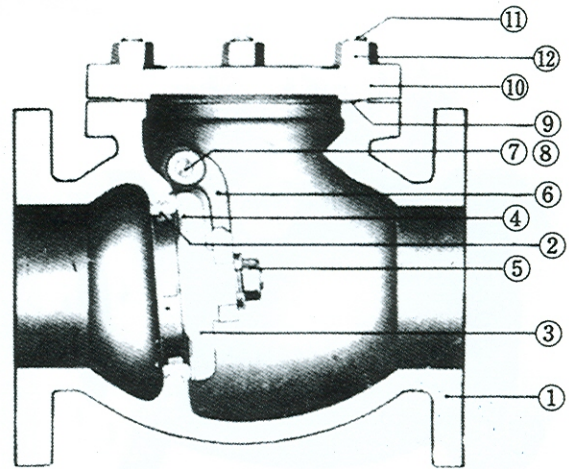
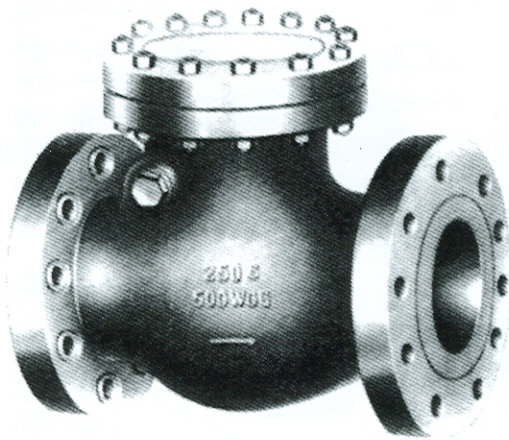
*2, 10" thru 12" are cast iron ASTM A126 class B

*3, asbestos free available on request.

■DIMENSIONS

VALVE SIZE	inch	2	2-1/2	3	4	5	6	8	10	12
	mm	50	65	80	100	125	150	200	250	300
A, Face to Face	inch	8.0	8.5	9.5	11.5	13.0	14.0	19.5	24.5	27.5
	mm	203.2	215.9	241.3	292.1	330.2	355.6	495.3	622.3	698.5
B, Height	inch	4.72	5.32	6.10	6.69	7.87	8.86	10.0	12	16.14
	mm	120	135	155	170	200	225	254	305	410

CAST IRON SWING CHECK VALVE CLASS 250



■PRESSURE-Temperature Rating : ANSI B 16.1

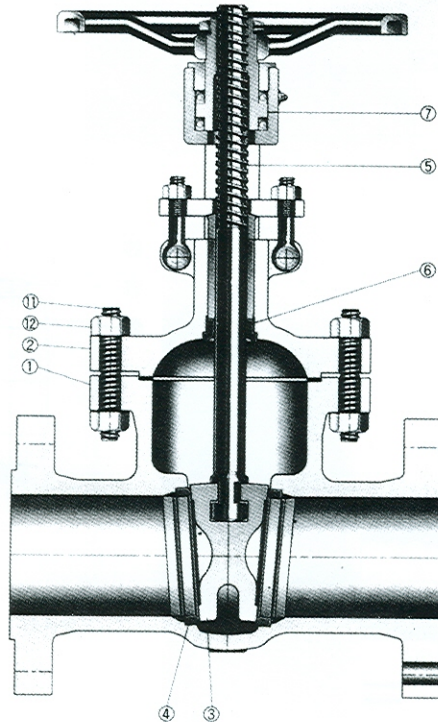
NO.	PARTS	MATERIAL	ASTMspec	NO.	PARTS	MATERIAL	ASTMspec
1	BODY	CAST IRON	A126 CIB	7	HANGER PIN	BRASS	B16
2	BODY SEAT RING	BRONZE	B62	8	PLUG(not shown)	BRASS	B16
3	DISC *1	CAST IRON	A126 CIB	9	BONNET	CAST IRON	A126 CIB
4	DISC SEAT RING	BRONZE	B62	10	GASKET **2	ASBESTOS	-
5	DISC NUT	BRASS	B16	11	BONNET BOLT	CARBON STEEL	A307 Gr B
6	HANGER	BRONZE	B62	12	BONNET NUT	CARBON STEEL	A307 Gr B

*1, sizes 2" thru 4" are all bronze discs, sizes 5" thru 8" made with cast iron disc with bronze face rings.
 **2, asbestos free available on request.

■DIMENSIONS

VALVE SIZE	inch	2	2-1/2	3	4	6	8
	mm	50	65	80	100	150	200
A, Face to Face	inch	10.5	11.5	12.5	14.0	17.5	21.0
	mm	266.7	292.1	317.5	355.6	444.5	533.4
B, Height	inch	5.24	6.30	7.20	8.46	10.43	13.07
	mm	133	160	183	215	265	332

CAST STEEL BOLTED BONNET GATE VALVES

**① BODY**

The body is in cast steel and is carefully designed in all its details. The basic dimension, i.e. wall thickness, face to face and flange comply with the relevant API and ANSI standards. The body-to-bonnet flange is normally circular, except in the 150 lb Class which is oval. The sealing surface for connection to the bonnet are flat finish in the 150 lb Class recessed in the 300 lb Class or may be ring joint in the 600 lb Class and above. The body is threaded for renewable seats. Bosses are provided for drain taps or by-pass piping.

② BONNET

The bonnet is in cast steel. It is machined to accept the yoke sleeve and incorporates a stuffing box dimension in accordance with the API standard.

③ WEDGE

The wedge is part of the trim. It is in cast stainless and alloy steel for diameters up to 10" and in case steel for larger valves. It is connected to the stem by means of a T-joint. The guides on each side of the wedge are machined for proper alignment with the body guides. Special attention is given to the seating surface which are ground and lapped to insure a perfectly tight seal.

④ SEAT RINGS

The seat rings are part of the trim. They are completely threaded outside and notched on their inner surface to ease installing and dismantling. special attention is given to the sealing surface which are ground and lapped for a lapped for a perfectly tight seal.

⑤ STEM

The stem is part of the trim. The stem is provided with a T-head. A ground backseat is provided to ensure a perfectly tight seat to the stuffing box when the valve is fully open. The stem is ground to minimize friction and prevent damage to gland packing. The threading is trapezoidal ACME type. Dimensions comply with the API 600 standard.

⑥ BONNET BUSHING

The bonnet bushing or backseat is part of the trim. Special attention is given both to its machining and heat treatment to insure a proper seat.

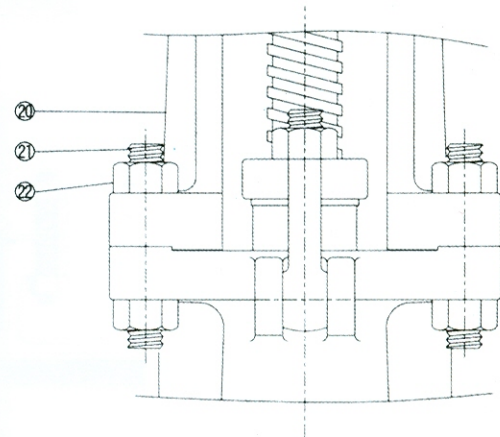
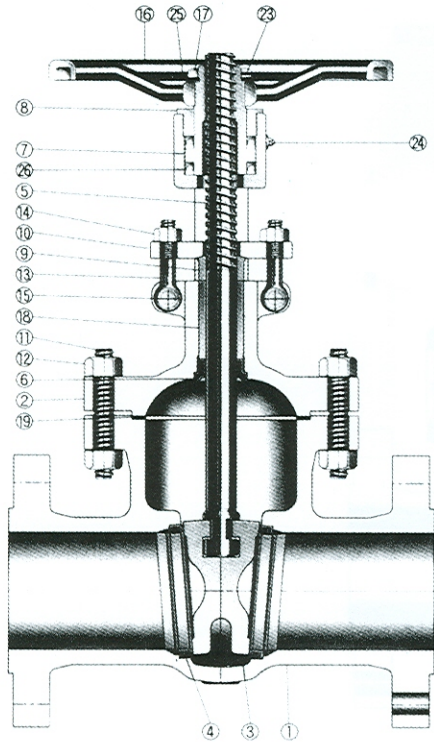
⑦ YOKE SLEEVE

The yoke sleeve is made from cast austenitic ductile iron having high resistance to wear and a high melting point. It is designed to permit removal from the bonnet or the yoke while the valve in in service. Gate valves 6" 600 lb. Class and above are fitted with a ball thrust bearing.

⑪, ⑫ BONNET BOLTING

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

CAST STEEL GATE VALVES

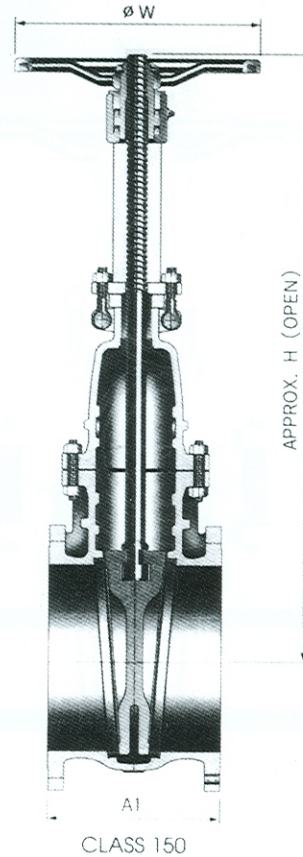
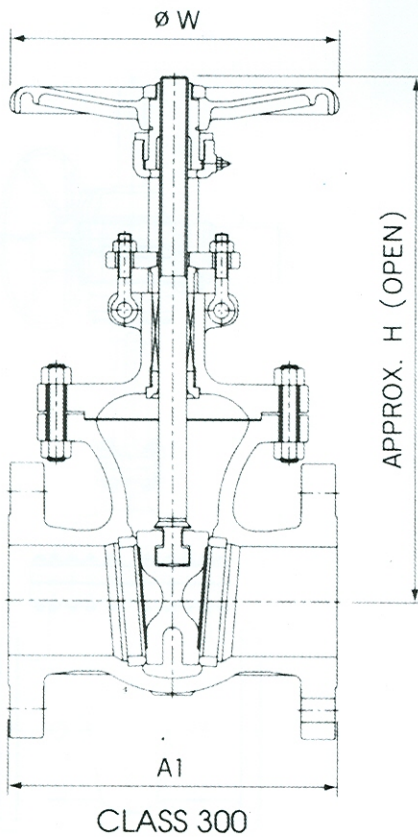


NOTE 1. Size 10" & larger : body material with trim material overlaid
2. Packing & gasket material : customer's requirements

NO	PARTS	ASTM SPECIFICATIONS					
		LOW TEMP. SERVICE		HIGH TEMP. SERVICE			STANDARD
1	BODY	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	A216-WCB
2	BONNET	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	A216-WCB
3	WEDGE	A351-CF8	A351-CF8	A217-CA15	A217-CA15	A217-CA15	A217-CA15
4	BODY SEAR RING	A182-F304+HF	A182-F304+HF	A182-F11+HF	A182-F11+HF	A182-F5a+HF	A108-CS1020+HF
5	STEM	A276-304	A276-304	A276-410	A276-410	A276-410	A276-410
6	BACK SEAR RING	A276-304	A276-304	A276-410	A276-410	A276-410	A276-410
7	YOKE SLEEVE	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C
8	YOKE CAP	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
9	PACKING GLAND	A276-304	A276-304	A276-410	A276-410	A276-410	A276-410
10	GLAND FLNGE	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D
11	BONNET BOLT	A320-L7	A320-L7	A193-B16	A193-B16	A193-B16	A193-B7
12	BONNET NUT	A194-4	A194-4	A194-4	A194-4	A194-4	A194-2H
13	GLAND BOLT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
14	GLAND NUT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
15	HINGE PIN	A108-C/S1020	A108-C/S1020	A108-CS/1020	A108-CS/1020	A108-CS/1020	A108-CS/1020
16	HAND WHEEL	A536	A536	A536	A536	A536	A536
17	HAND WHEEL NUT	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED
18	PACKING	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
19	GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
20	YOKE	A352-LCB/A216-WCB	A352-LCB/A216-WCB	A217-WC6/A216-WCB	A217-WC9/A216-WCB	A217-C5/A216-WCB	A216-WCB
21	YOKE BOLT	A193-B7	A193-B7	A193-B7	A193-B7	A193-B7	A193-B7
22	YOKE NUT	B194-2H	B194-2H	A194-2H	A194-2H	A194-2H	A194-2H
23	SET SCREW	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
24	GREASE NIPPLE	B16	B16	B16	B16	B16	B16
25	NAME PLATE	AL/A240-304	AL/A240-304	AL/A240-304	AL/A240-304	AL/A240-304	AL/A240-304
26	BEARING	A295-52100	A295-52100	A295-52100	A295-52100	A295-52100	A295-52100

CAST STEEL GATE VALVES BOLTED BONNET

CLASS 150 / 300



■ GATE 150LB DIMENSIONS

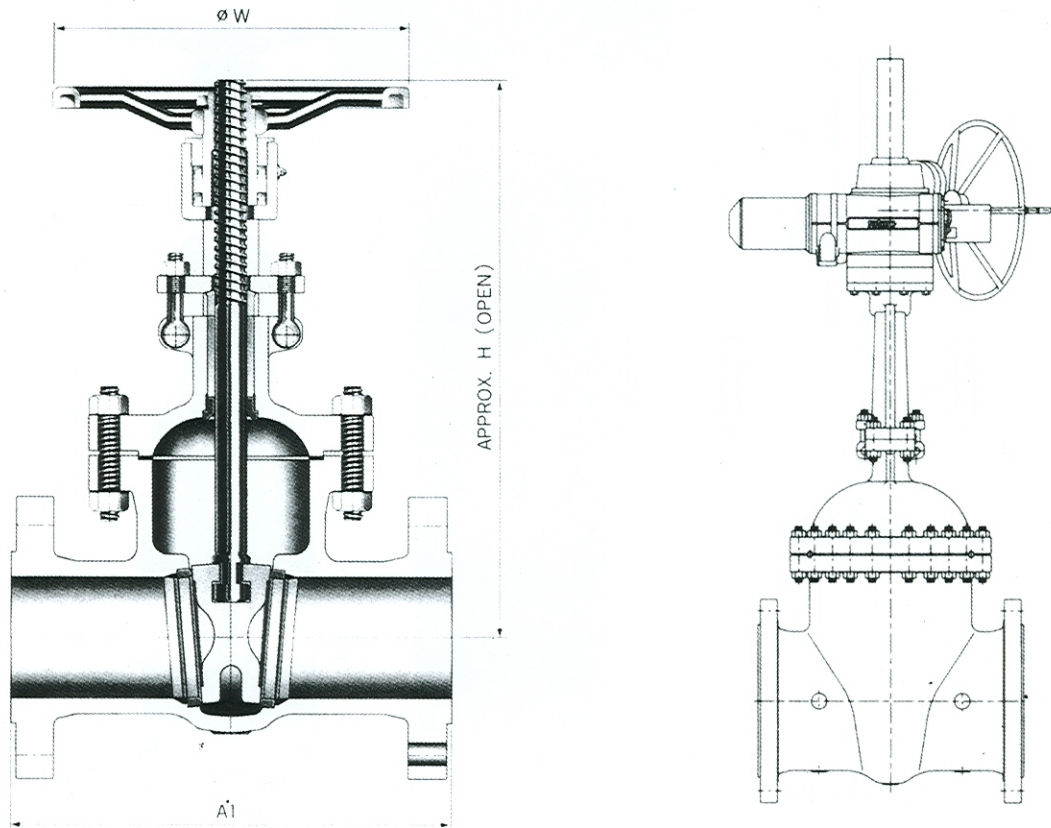
SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	28	30	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900
A1	inch	7	7.5	8	9	10.5	11.5	13	14	15	16	17	18	20	24	24	28
	mm	178	191	203	229	267	292	330	356	381	406	432	457	508	610	610	711
H	inch	15.75	16.14	18.50	20.87	30.39	39.17	46.26	55.12	60.24	69.29	76.77	84.25	99.21	113	125	142.5
	mm	400	410	470	530	772	995	1175	1400	1530	160	1950	2140	2520	2870	3175	3620
ϕW	inch	7.87	7.87	8.82	9.84	12.4	13.98	15.75	17.72	19.69	27.95	27.95	31.5	31.5	31.5	31.5	31.5
	mm	200	200	224	250	315	355	400	450	500	710	710	800	800	800	800	800

■ GATE 300LB DIMENSIONS

SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	28	30	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900
A1	inch	8.5	9.5	11.12	12	15.87	16.5	18	19.75	30	33	36	39	45	53	55	68
	mm	216	241	282	305	403	419	457	502	762	838	914	991	1143	1346	1397	1727
H	inch	16.93	19.09	21.06	25.59	35.04	42.91	51.18	56.89	70.08	77.17	84.45	98.62	110.04	126	142	165.5
	mm	430	485	535	650	890	1090	1300	1445	1780	1960	2145	2505	2795	3200	3607	4204
ϕW	inch	7.87	7.87	8.82	9.84	13.98	15.75	19.69	19.69	27.95	27.95	31.5	31.5	31.5	31.5	31.5	31.5
	mm	200	200	224	250	355	400	500	500	710	710	800	800	800	800	800	800

GATE VALVES BOLTED BONNET

CLASS 600/900



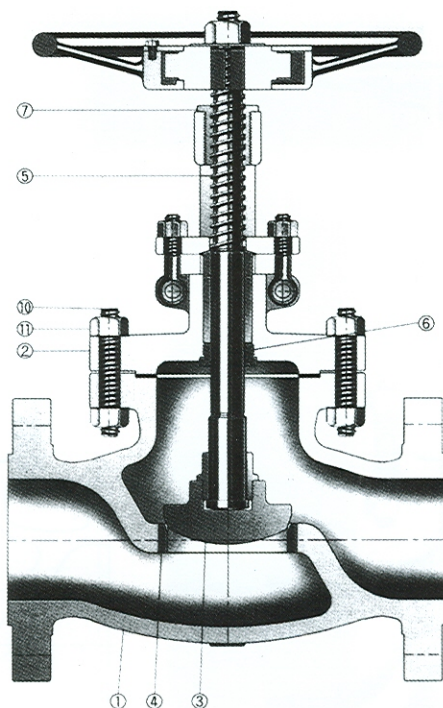
■ GATE 600LB DIMENSIONS

SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	28	30
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750
A1	inch	11.5	13	14	17	22	26	31	33	35	39	43	47	55	61	65
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1549	1651
H	inch	22.05	23.62	24.41	28.74	38.98	46.57	55.12	63.39	70.47	78.35	84.65	94.09	117.52	138.5	151.2
	mm	560	600	620	730	990	1183	1400	1610	1790	1990	2150	2390	2985	3518	3840
φW	inch	8.82	9.84	12.4	13.98	17.72	19.69	27.95	27.95	31.5	31.5	31.5	31.5	31.5	31.5	31.5
	mm	224	250	315	355	450	500	710	710	800	800	800	800	800	800	800

■ GATE 900LB DIMENSIONS

SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1	inch	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48	52	61
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
H	inch	22.44	24.02	24.80	31.89	41.34	53.54	55.51	66.93	74.41	77.95	84.65	93.70	117.50
	mm	570	610	630	810	1050	1360	1410	1700	1890	1980	2150	2380	2985
φW	inch	9.84	9.84	12.4	13.98	17.72	19.69	19.69	27.56	31.5	31.5	31.5	31.5	31.5
	mm	250	250	315	355	450	500	500	700	800	800	800	800	800

CAST STEEL BOLTED BONNET GLOBE VALVES

**① BODY**

The Body is in cast steel. The basic dimension, i.e. wall thickness, face to face and flange comply with the relevant API and ANSI standards. The body-to-bonnet flange is circular and the sealing surface for connection to the bonnet are recessed in the 150lb and 300lb class or may be ring joint in the high classes. The body is threaded for renewable seats. Bosses are provided for drain taps or by-pass piping.

② BONNET

The bonnet is in cast steel. It is machined to accept the yoke sleeve and incorporates a stuffing box dimension in accordance with the API standard.

③ DISC

The disc is part of the trim. It is in cast stainless steel for diameters up to 8 and in cast steel for larger valves. It is normally supplied of the flat, tapered or plug type or, on request, of the parabolic regulating type, always free to rotate on the stem. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

④ SEAT RING

The seat rings is part of the trim. Its outer diameter is threaded and its bore is notched to ease installing and dismantling. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

⑤ STEM

The stem is part of the trim. A ground backseat is provided to ensure a perfectly tight seal to the stuffing box when the valve is fully open. The stem is attached to the disc by means of a threaded ring which allows the disc to rotate. The stem is ground to minimize friction and prevent damage to gland packing

⑥ BONNET BUSHING

The bonnet bushing or backseat is part of the trim. special attention is give to its machining and heat treatment to insure a proper seat for gland repacking under pressure. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

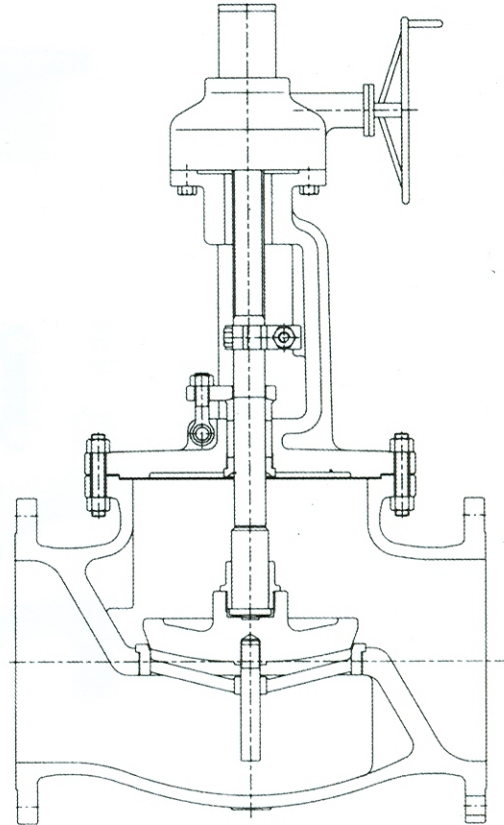
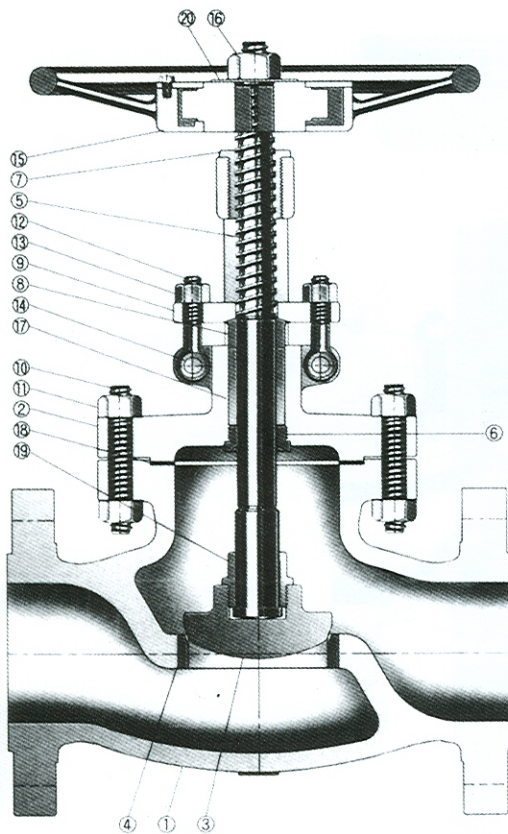
⑦ YOKE SLEEVE

The yoke sleeve is made from cast austenitic ductile iron having high resistance to wear and a high melting point. It is screwed into the bonnet and properly sized to withstand the stresses which develop when opening and closing the valve

⑩, ⑪ BONNET BOLTING

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

CAST STEEL GLOBE VALVES



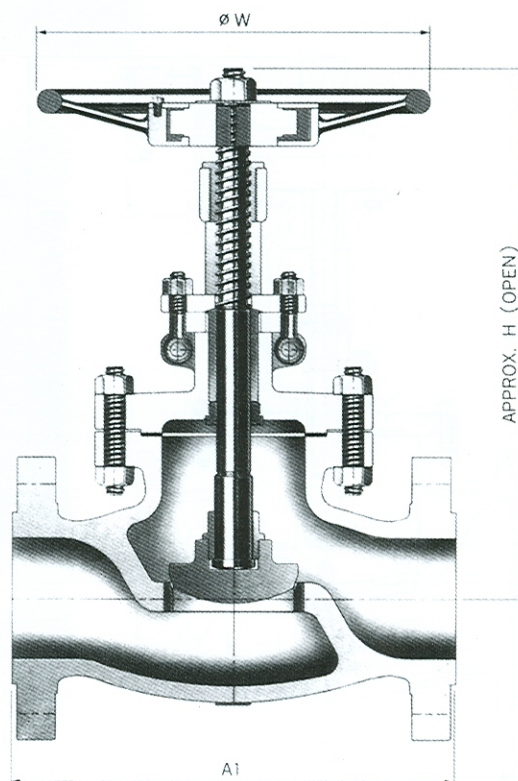
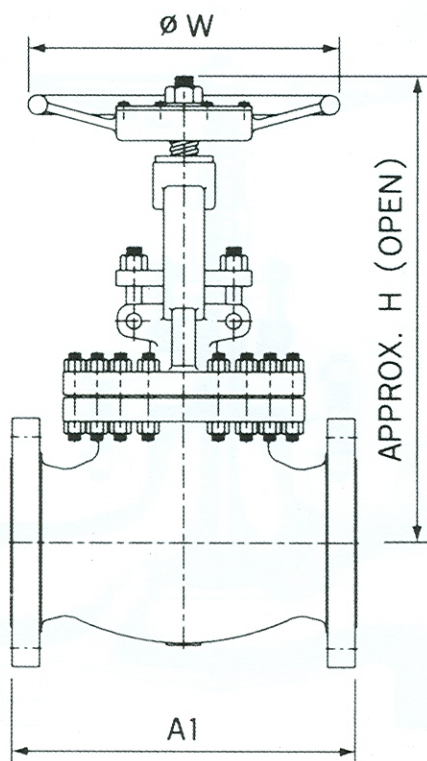
NOTE

1. Size 10" & larger : body material with trim maerial overlaged
2. Size 8" & larger : bottom guide type
3. Packing & gasket material : customer's requirements

NO	PARTS	ASTM SPECIFICATIONS					
		LOW TEMP. SERVICE		HIGH TEMP. SERVICE			STANDARD
1	BODY	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	A216-WCB
2	BONNET	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	A216-WCB
3	DISC	A351-CF8	A351-CF8	A217-CA15	A217-CA15	A217-CA15	A217-CA15
4	BODY SEAR RING	A182-F304+HF	A182-F304+HF	A182-F11+HF	A182-F11+HF	A182-F5a+HF	A108-C/S1020+HF
5	STEM	A276-304	A276-304	A276-410	A276-410	A276-410	A276-410
6	BACK SEAT RING	A276-304	A276-304	A276-410	A276-410	A276-410	A276-410
7	YOKE SLEEVE	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C
8	PACKING GLAND	A276-304	A276-304	A276-410	A276-410	A276-410	A276-410
9	GLAND FLNGE	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D
10	BONNET BOLT	A320-L7	A320-L7	A193-B16	A193-B16	A193-B16	A193-B7
11	BONNET NUT	A194-4	A194-4	A194-4	A194-4	A194-4	A194-2H
12	GLAND BOLT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
13	GLAND NUT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
14	HINGE PIN	A108-C/S1020	A108-C/S1020	A108-CS/1020	A108-CS/1020	A108-CS/1020	A108-CS/1020
15	HAND WHEEL	A536	A536	A536	A536	A536	A536
16	HAND WHEEL NUT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
17	PACKING	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
18	GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
19	DISC LOCK NUT	A276-304	A276-304	A276-410	A276-410	A276-410	A276-410
20	NAME PLATE	AL/A240-304	AL/A240-304	AL/A240-304	AL/A240-304	AL/A240-304	AL/A240-304

CAST STEEL GLOBE VALVES BOLTED BONNET

CLASS 150/300



■BB GLOBE 150LB DIMENSIONS

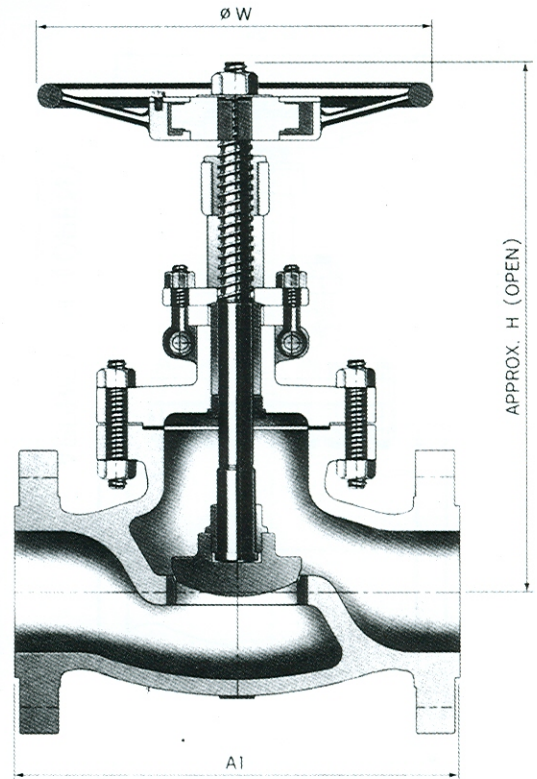
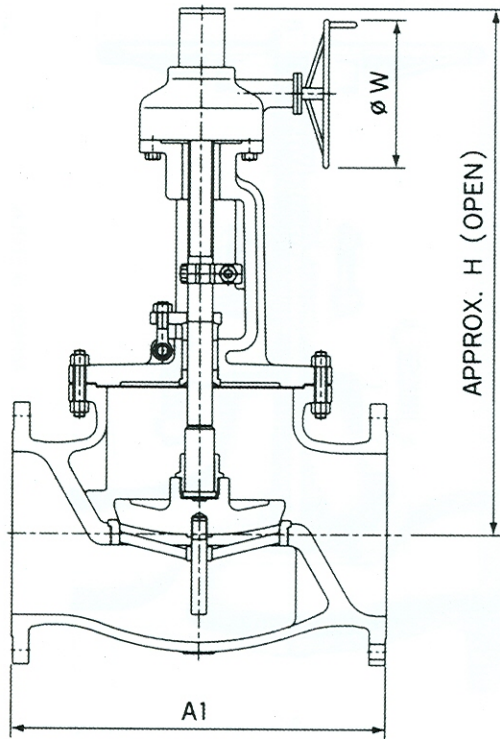
SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18
	mm	50	65	80	100	150	200	250	300	350	400	450
A1	inch	8	8.5	9.5	11.5	16	19.5	24.5	27.5	31	36	38.5
	mm	203	216	241	292	406	495	622	699	787	914	987
H	inch	14.57	15.35	17.32	18.11	20.47	25.59	31.50	35.04	40.94	46.85	53.94
	mm	370	390	440	460	520	650	800	890	1040	1190	1370
ϕW	inch	7.87	7.87	8.82	9.84	12.4	13.98	15.75	17.72	19.69	27.95	27.95
	mm	200	200	224	250	315	355	400	450	500	710	710

■BB GLOBE 300LB DIMENSIONS

SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16
	mm	50	65	80	100	150	200	250	300	350	400
A1	inch	10.5	11.5	12.5	14	17.5	22	24.5	28	33	34
	mm	267	292	318	356	445	559	622	711	838	864
H	inch	15.75	17.32	18.50	22.05	28.35	33.86	41.73	51.18	57.09	62.99
	mm	400	440	470	560	720	860	1060	1300	1450	1600
ϕW	inch	7.87	7.87	9.84	12.4	13.98	15.75	19.69	19.69	27.95	27.95
	mm	200	200	250	315	355	400	500	500	710	710

CAST STEEL GLOBE VALVES BOLTED BONNET

CLASS 600/900



■BB GLOBE 600LB DIMENSIONS

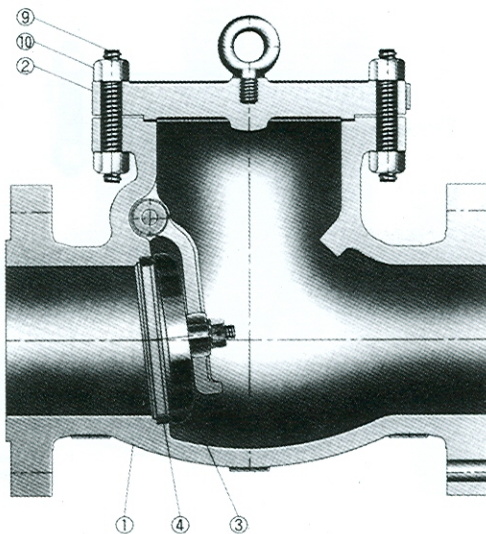
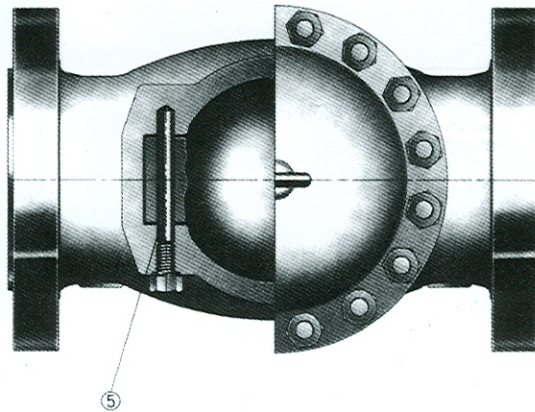
SIZE	inch	2	2-1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
A1	inch	11.5	13	14	17	22	26	31	33
	mm	292	330	356	432	559	660	787	838
H	inch	20.47	22.44	23.62	31.50	39.76	47.24	55.12	59.84
	mm	520	570	600	800	1010	1200	1400	1520
ϕW	inch	9.84	12.4	13.98	17.72	17.72	19.69	31.5	31.5
	mm	250	315	355	450	450	500	800	800

■BB GLOBE 900LB DIMENSIONS

SIZE	inch	2	2-1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
A1	inch	14.5	16.5	15	18	24	29	33	38
	mm	368	419	381	457	610	737	838	965
H	inch	22.05	23.23	25.20	31.89	41.34	53.54	61.81	66.93
	mm	560	590	640	810	1050	1360	1570	1700
ϕW	inch	12.4	13.98	13.98	15.75	19.69	27.56	31.5	31.5
	mm	315	355	355	400	500	700	800	800

CAST STEEL BOLTED COVER

SWING CHECK VALVES

**① BODY**

The body is in cast steel, carefully designed to keep pressure drops to a minimum. A wide opening on top of the body permits easy inspection and maintenance. The basic dimension, i.e. wall thickness, face to face and flanges, comply with the relevant API and ANSI standards. The body-to-cover flange is circular. The body is threaded for a renewable seats and an integral over-travel stop is incorporated for the disc. Bosses are provided for drain taps or by-pass piping.

② COVER

The cover is in cast steel. The sealing surface for the connection to the body are recessed in the 150 and 300 class and ring joint in the higher classes.

③ DISC

The disc is part of the trim. The back side has a threaded stud for attachment to the hinge with a stainless steel nut and split pin to insure a strong connection. the seating face is ground and lapped, for a perfectly tight seal.

④ BODY SEAT RING

The seat ring is part of the trim. Its outer diameter is threaded and its bore is notched to ease installing and dismantling. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

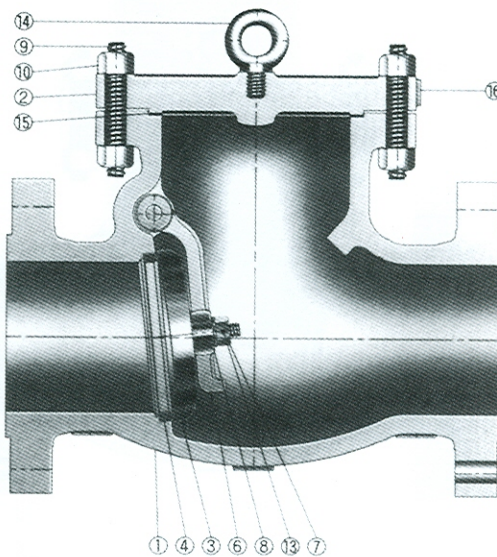
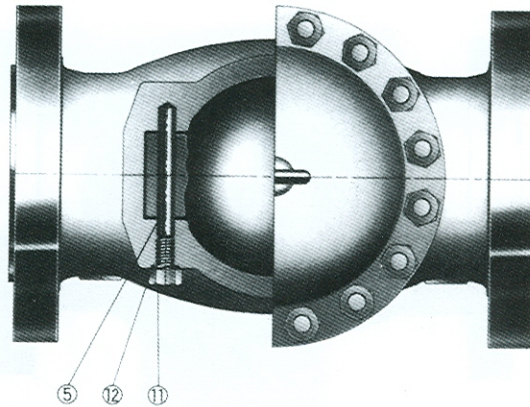
⑥ HINGE PIN

The hinge pin is part of the trim. The hinge pin is retained in the body by threaded plugs and sealed by metallic or non-asbestos gaskets. The pin can be easily removed for maintenance of the valve.

⑨, ⑩ COVER BOLTING

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

CAST SWING CHECK VALVES

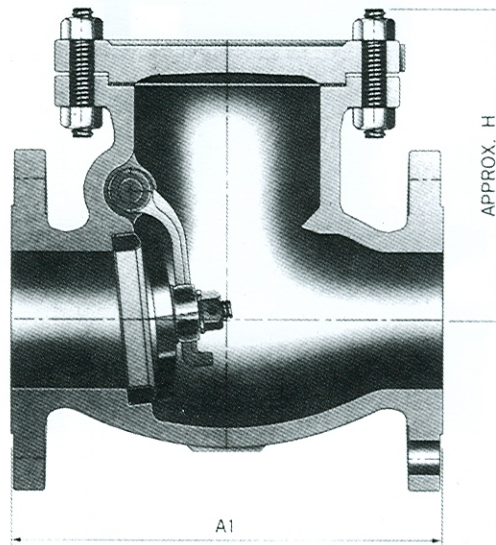
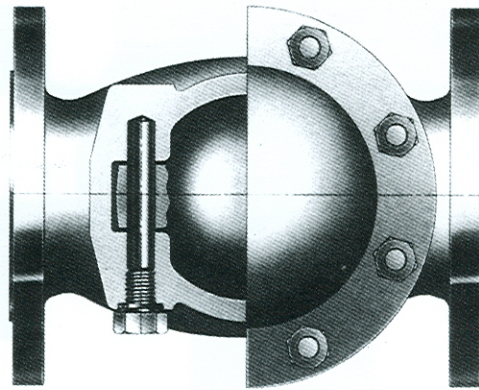


NOTE 1. Size 10" & larger : body material with trim maerial overlaid
 2. gasket material : customer' s requirements

NO	PARTS	ASTM SPECIFICATIONS					
		LOW TEMP. SERVICE		HIGH TEMP. SERVICE			STANDARD
1	BODY	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	A216-WCB
2	COVER	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	A216-WCB
3	DISC	A351-CF8	A351-CF8	A217-CA15	A217-CA15	A217-CA15	A217-CA15
4	BODY SEAT RING	A182-F304+HF	A182-F304+HF	A182-F11+HF	A182-F22+HF	A182-F5a+HF	A108-C/S1020+HF
5	HINGE PIN	A276-304	A276-304	A276-410	A276-410	A276-410	A276-410
6	ARM	A352-LCB	A352-LCB	A217-WC6	A217-WC9	A217-C5	A216-WC8
7	DISC NUT	A194-8	A194-8	A194-8	A194-8	A194-8	A194-8
8	WASHER	A240-304	A240-304	A240-304	A240-304	A240-304	A240-304
9	COVER BOLT	A320-L7	A320-L7	A193-B16	A193-B16	A193-B16	A193-B7
10	COVER NUT	A194-4	A194-4	A194-4	A194-4	A194-4	A194-2H
11	PLUG BOLT	A276-304	A276-304	A276-304	A276-304	A276-304	A307-B
12	PLUG GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
13	SPLIT PIN	A580-304	A580-304	A580-304	A580-304	A580-304	A580-304
14	EYE BOLT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
15	GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
16	NAME PLATE	AL/A240-304	AL/A240-304	AL/A240-304	AL/A240-304	AL/A240-304	AL/A240-304

CAST STEEL SWING CHECK VALVES BOLTED COVER

CLASS 150/300



■BC SW-CH 150LB DIMENSIONS

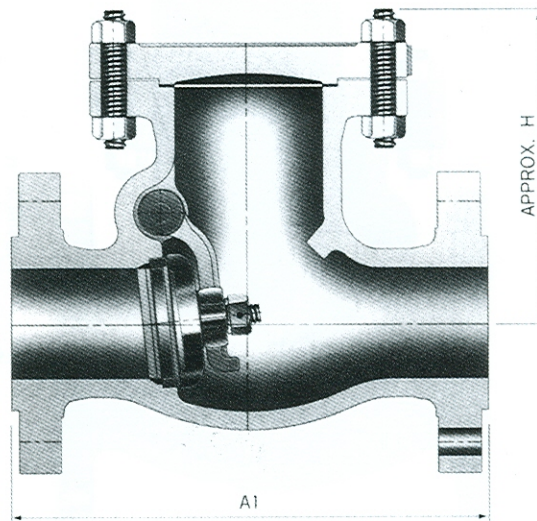
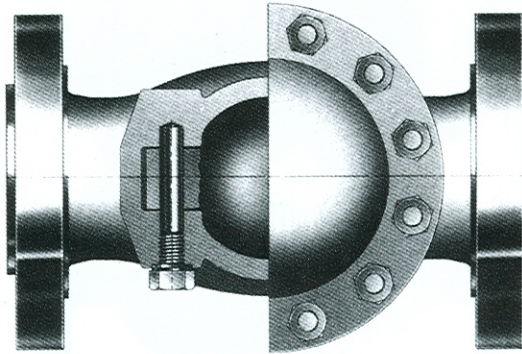
SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	28	30	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900
A1	inch	8	8.5	9.5	11.5	14	19.5	24.5	27.5	31	34	38.5	38.5	51	57	60	77
	mm	203	216	241	292	356	495	622	699	787	864	978	978	1295	1448	1524	1956
H	inch	5.51	6.30	6.69	8.27	9.84	11.02	12.60	12.99	15.55	17.72	20.87	22.44	26.38	35.24	36.42	45.28
	mm	140	160	170	210	250	280	320	330	395	450	530	570	670	895	925	1150

■BC SW-CH 300LB DIMENSIONS

SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	28	30	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900
A1	inch	10.5	11.5	12.5	14	17.5	21	24.5	28	33	34	38.5	40	53	59	62.75	82
	mm	267	292	318	356	445	533	622	711	838	864	978	1016	1346	1499	1594	2083
H	inch	6.30	6.69	7.28	9.06	11.61	13.58	15.35	17.52	18.50	20.08	21.46	23.62	27.17	36.42	37.99	49.21
	mm	160	170	185	230	295	345	390	445	470	510	545	600	690	925	965	1250

CAST STEEL SWING CHECK VALVES BOLTED COVER

CLASS 600/900



■BC SW-CH 600LB DIMENSIONS

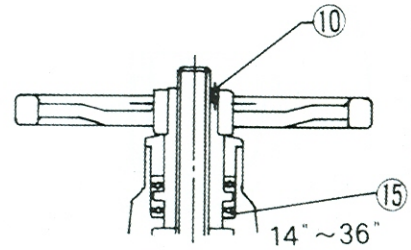
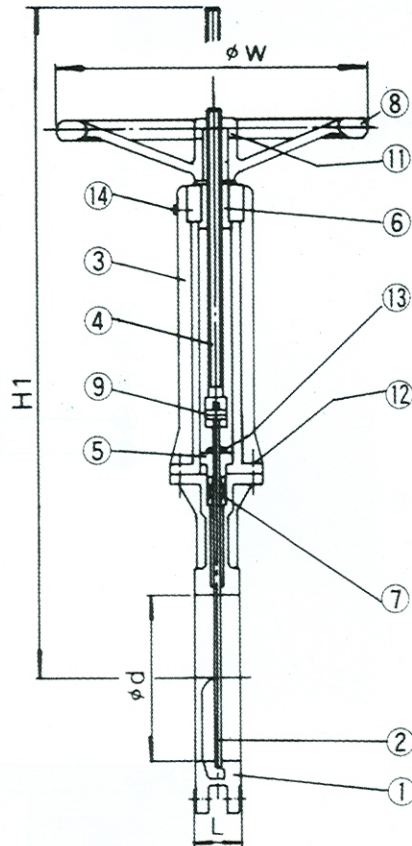
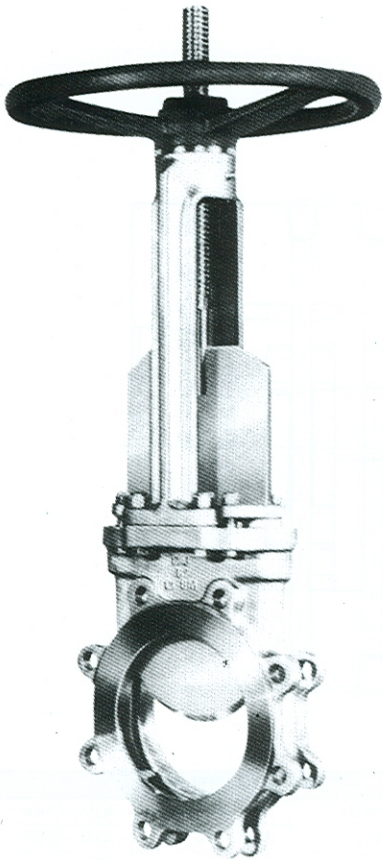
SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	28	30
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750
A1	inch	11.5	13	14	17	22	26	31	33	35	39	43	47	55	63	65
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1600	1651
H	inch	7.50	7.87	9.50	10.10	12.65	14.96	17.55	18.50	21.75	26.50	27.75	29.55	31.50	34.5	38.5
	mm	191	200	241	257	321	380	446	470	552	673	705	751	800	876	978

■BC SW-CH 900LB DIMENSIONS

SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1	inch	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48	52	61
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
H	inch	7.87	9.06	9.384	11.42	12.99	16.14	18.31	20.47	22.83	27.48	28.43	31.42	33.27
	mm	200	230	250	290	330	410	465	520	580	698	722	798	845

CAST STAINLESS STEEL KNIFE GATE VALVE

METAL SEATED ALL STAINLESS



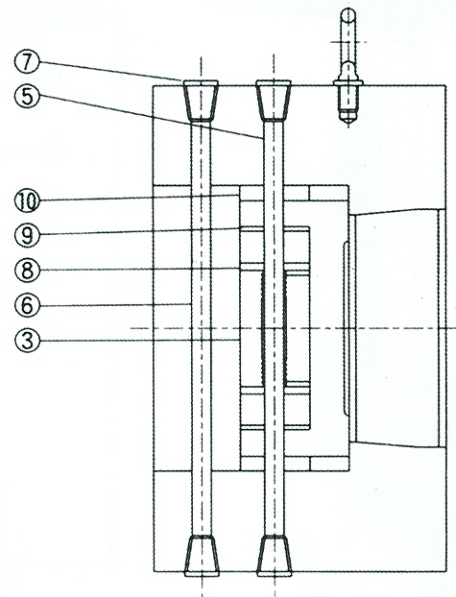
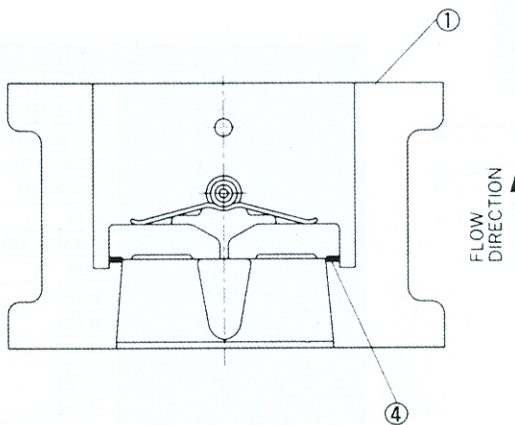
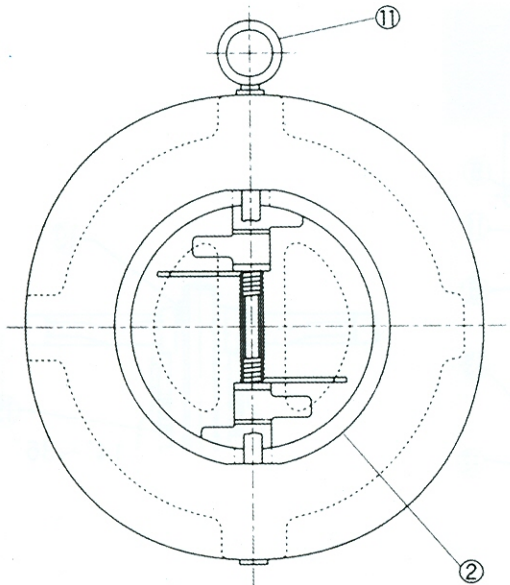
NO	PARTS	MATERIAL
1	BODY	CF8M(316) CG8M(317)
2	GATE	SS 316, SS317
3	YOKE	CF8 (SS304)
4	STEM	SS304, SS316
5	GLAND	CF8 (SS304)
6	SLEEVE	B148
7	PACKING	ASBESTOS, TEFLON
8	HAND WHEEL	A536
9	PIN BOLT & NUT	SS 304
10	SLEEVE GLAND	SS 304
11	WHEEL NUT	SS 304
12	YOKE BOLT & NUT	SS 304
13	GLAND BOLT & NUT	SS 304
14	GREASE NIPPLE	B62-Cr, PLATING
15	BEARING	THRUST BALL
	FACE to FACE	MSS SP-81
	FLANGE DIMENSION	ANSI B 16.5
	TESTING	MSS SP-81

■ DIMENSIONS

SIZE	inch	2	3	4	6	8	10	12	14	16	18	20	24	30	36
	mm	50	80	100	150	200	250	300	350	400	450	500	600	750	900
L	inch	1.88	2.00	2.00	2.25	2.75	2.75	3.00	3.00	3.50	3.50	4.50	4.50	5.50	6.00
	mm	48	51	51	57	70	70	76	76	89	89	114	114	140	152
ϕD	inch	1.87	2.56	3.56	5.56	7.56	9.56	11.31	12.81	14.67	16.68	18.68	22.73	28.73	34.74
	mm	47	65	90	141	192	243	287	325	371	424	474	577	730	882
H1	inch	16.37	18.12	20.25	28.75	32.25	41.00	44.50	53.12	57.50	57.50	71.87	83.12	101.62	121.75
	mm	416	460	514	730	819	1041	1130	1349	1460	1714	1825	2111	2581	3092
ϕW	inch	10	10	10	14	14	18	18	20	20	24	24	30	30	32
	mm	250	250	250	355	355	450	450	510	510	610	610	760	760	810

DUO-CHECK VALVE

CAST BRONZE, IRON, STEEL, STAINLESS STEEL



NO	PARTS	MATERIAL		
		A216-WCB	A351-CF8	A351-CF8M
1	BODY	A216-WCB	A351-CF8	A351-CF8M
2	PLATE DISC	A351-CF8	A351-CF8	A351-CF8M
3	SPRING	A276-304	A276-304	A276-316
4	SEAT	A216-WCB+HF	A351-CF8	A351-CF8M
5	HINGE PIN	A276-304	A276-304	A276-316
6	STOP PIN	A276-304	A276-304	A276-316
7	PLUG	A307-8	A276-304	A276-316
8	BEARING	TEFLON	TEFLON	TEFLON
9	BEARING	TEFLON	TEFLON	TEFLON
10	BEARING	TEFLON	TEFLON	TEFLON
11	EYE BOLT	A307-B	A307-B	A307-B

FEATURES & ADVANTAGES

1. Compact Water Design

Extremely light weight and economical compared with traditional flanged type. swing-check valve.

2. Prevention of Water hammer

The sensitive spring incorporated in the valve closes the valve plate before reverse flow occurs preventing water hammer and giving complete pipe line protection even in high head installations.

3. Complete Freedom of Installation

Space saving design simplifies installation. furthermore, Duo-Check Valves can be installed in any position and at any angle allowing rationalized piping layout.

4. Long Service Life

Duo-Check Valves incorporate teflon spring bearings to minimize spring wear and assure long service life.

5. Smooth Operation

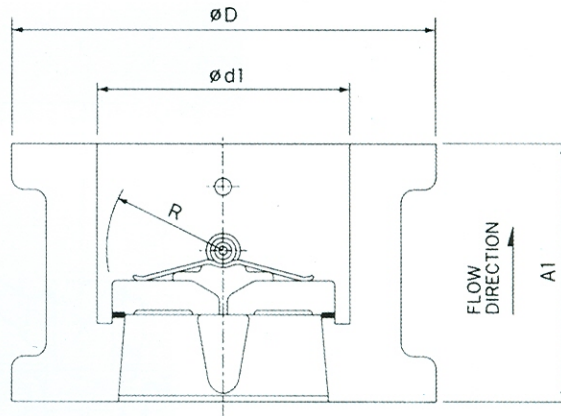
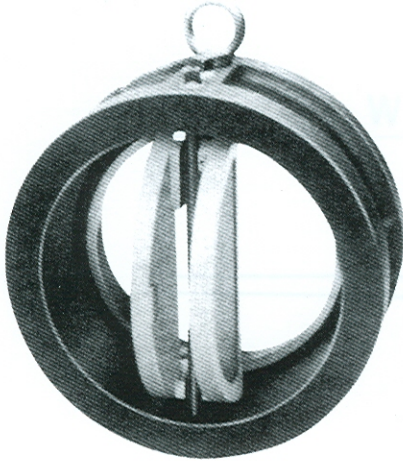
Teflon Bearings minimize friction for smooth valve plate operation.

6. Tight Sealing

Shock-easening and tight sealing effect ensured by resilient seat.

CAST BRONZE, IRON, STEEL, STAINLESS STEEL DUO-CHECK VALVE

CLASS 150/300/600



■ DIMENSIONS (DUO-CHECK 150LB)

SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1	inch	2.36	2.64	2.87	2.87	3.86	5.00	5.75	7.13	7.24	7.48	7.99	8.62	8.74
	mm	60	67	73	73	98	127	146	181	184	190	203	219	222
ϕD	inch	4.13	4.88	5.39	6.89	8.74	10.98	13.39	16.14	17.72	20.24	21.61	23.86	28.27
	mm	105	124	137	175	222	279	340	410	450	514	549	606	718
$\phi d1$	inch	2.36	2.87	3.50	4.49	6.61	8.62	10.75	12.76	14.02	15.98	17.99	20.00	24.02
	mm	60	73	89	114	168	219	273	324	356	406	457	508	610
R	inch	1.06	1.30	1.61	2.13	3.11	4.02	4.96	5.98	6.69	7.68	8.62	9.61	11.50
	mm	27	33	41	54	79	102	126	152	170	195	219	244	292

■ DIMENSIONS (DUO-CHECK 300LB)

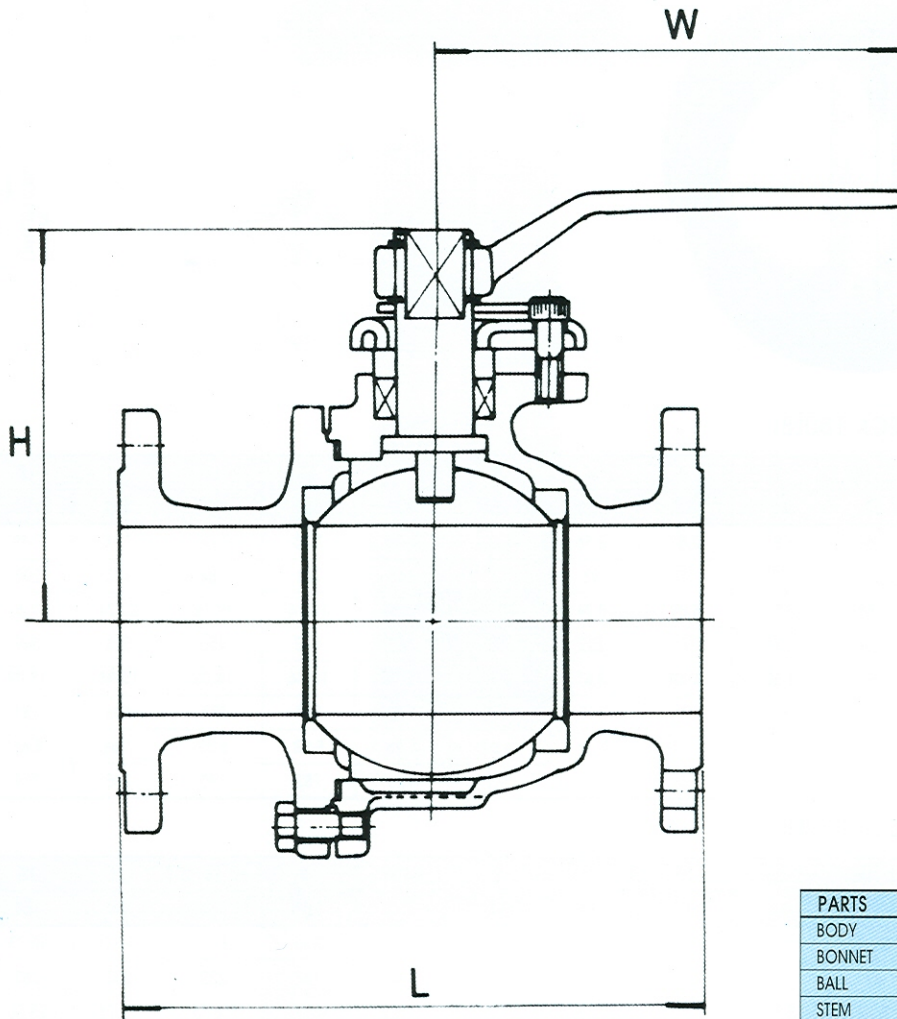
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	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1	inch	2.36	2.64	2.87	2.87	3.86	5.00	5.75	7.13	8.74	9.13	10.35	11.50	12.52
	mm	60	67	73	73	98	127	146	181	222	232	263	292	318
ϕD	inch	4.37	5.12	5.87	7.13	9.88	12.13	14.25	16.61	19.13	21.26	23.50	25.75	30.51
	mm	111	130	149	181	251	308	362	422	486	540	597	654	775
$\phi d1$	inch	2.36	2.87	3.50	4.49	6.61	8.62	10.75	12.76	14.02	15.98	17.99	20.00	24.02
	mm	60	73	89	114	168	219	273	324	356	406	457	508	610
R	inch	1.06	1.30	1.61	2.13	3.11	4.02	4.96	5.98	6.69	7.68	8.62	9.61	11.50
	mm	27	33	41	54	79	102	126	152	170	195	219	244	292

■ DUO-CHECK 600LB

SIZE	inch	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1	inch	2.36	2.64	2.87	3.11	5.35	6.50	8.39	9.02	8.74	12.01	14.29	14.49	17.24
	mm	60	67	73	79	136	165	213	229	222	305	363	368	438
ϕD	inch	4.37	5.12	5.87	7.60	10.51	12.60	15.75	17.99	19.13	22.24	24.13	26.89	31.14
	mm	111	130	149	193	267	320	400	457	486	565	613	683	791
$\phi d1$	inch	2.36	2.87	3.50	4.49	6.61	8.62	10.75	12.76	14.02	15.98	17.99	20.00	24.02
	mm	60	73	89	114	168	219	273	324	356	406	457	508	610
R	inch	1.06	1.30	1.61	2.13	3.11	4.02	4.96	5.98	6.89	7.80	8.98	9.76	11.61
	mm	27	33	41	54	79	102	126	152	175	198	228	248	295

CAST BRONZE BALL VALVE

CLASS 150/300



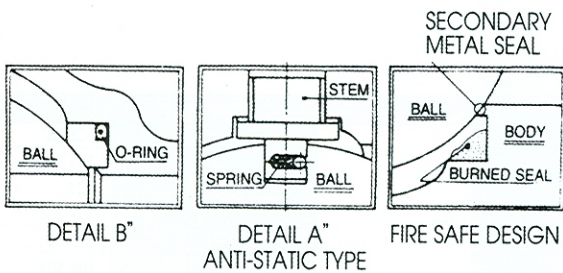
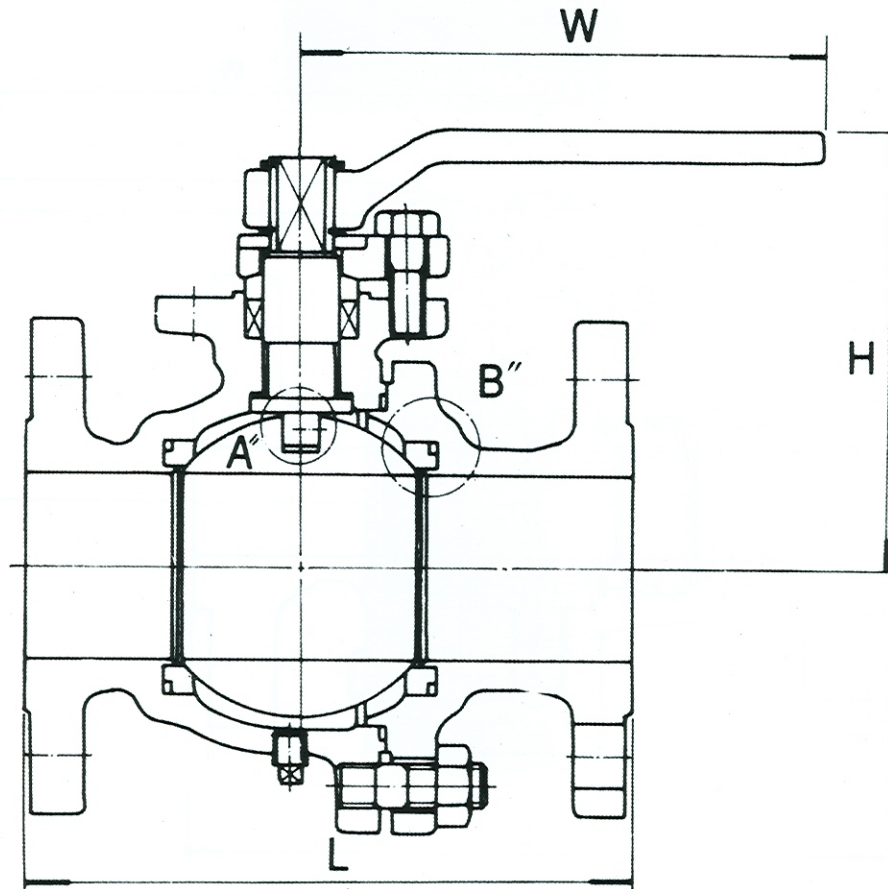
PARTS	MATERIAL
BODY	BC6
BONNET	
BALL	SUS
STEM	
SEAT RING	TEFLON
GLAND RING	SUS 304
GLAND FLANGE	BC6
HAND LEVER	FCD 40
STOPPER	SUS 304
BONNET BOLT&NUT	BRASS
GLAND BOLT	BRASS
SNAP RING	CARBON TOOL STEEL
PACKING	TEFLON
GASKET	TEFLON

■ DIMENSIONS

SIZE	inch	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	16
	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400
10K (150#)	L	108	117	127	140	165	178	190	203	229	356	393	457	533	610	686	762
	H	67	72	80	95	105	118	133	153	183	220	265	310	580	630	650	720
	W	130	130	160	230	230	230	320	370	450	600	600	800	GEAR OPERATOR			
20K (300#)	L	140	152	165	178	190	216	241	283	305	381	403	502	568	648	762	838
	H	70	80	80	100	115	135	150	165	205	240	280	350	590	655	680	750
	W	130	130	160	230	230	230	320	370	450	600	600	800	GEAR OPERATOR			

CAST STEEL BALL VALVE (Fire Safe, Anti-Static Type)

CLASS 150/300



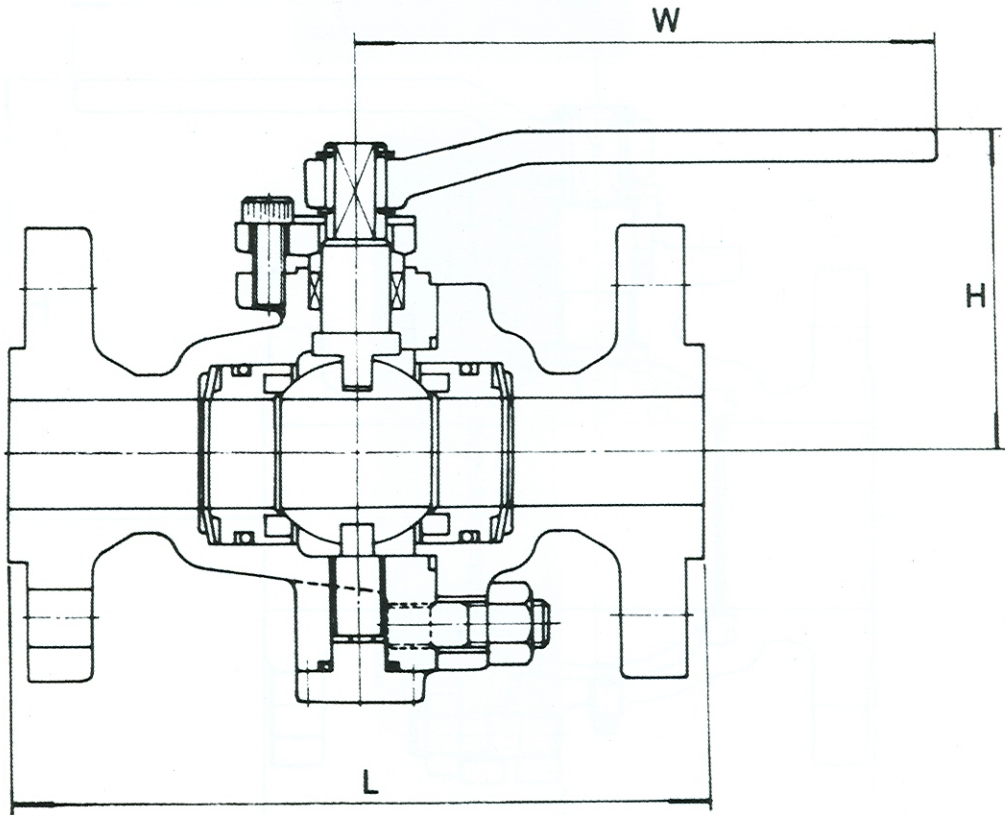
PARTS	MATERIAL	PARTS	MATERIAL
BODY	SCS	BONNET BOLT & NUT	SUS 304
BONNET		GLAND BOLT	SUS 304
BALL		SNAP RING	CARBON TOOL STEEL
STEM	SUS	PACKING	TEFLON
SEAT RING	TEFLON	GASKET	TEFLON
GLAND RING	SUS 304	STEM BEARING	STD
GLAND FLANGE	SUS 13	O-RING	VITON
HAND LEVER	FCD 40	DRAIN PLUG	SCS
STOPPER	SUS 304		

DIMENSIONS

SIZE	inch	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	16
	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400
10K (150#)	L	108	117	127	140	165	178	190	203	229	356	393	457	533	610	686	762
	H	67	72	80	95	105	118	133	153	183	220	265	310	580	630	650	720
	W	130	130	160	230	230	230	320	370	450	600	600	800	GEAR OPERATOR			
20K (300#)	L	140	152	165	178	190	216	241	283	305	381	403	502	568	648	762	838
	H	70	80	80	100	115	135	150	165	205	240	280	350	590	655	680	750
	W	130	130	160	230	230	230	320	370	450	600	600	800	GEAR OPERATOR			

CAST BRONZE, STEEL BALL VALVE - CAST STEEL BALL VALVE

CLASS 600



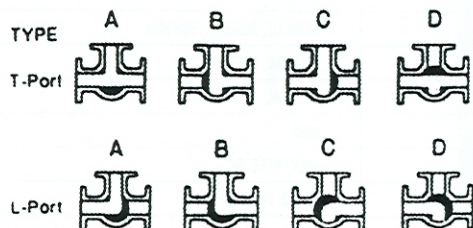
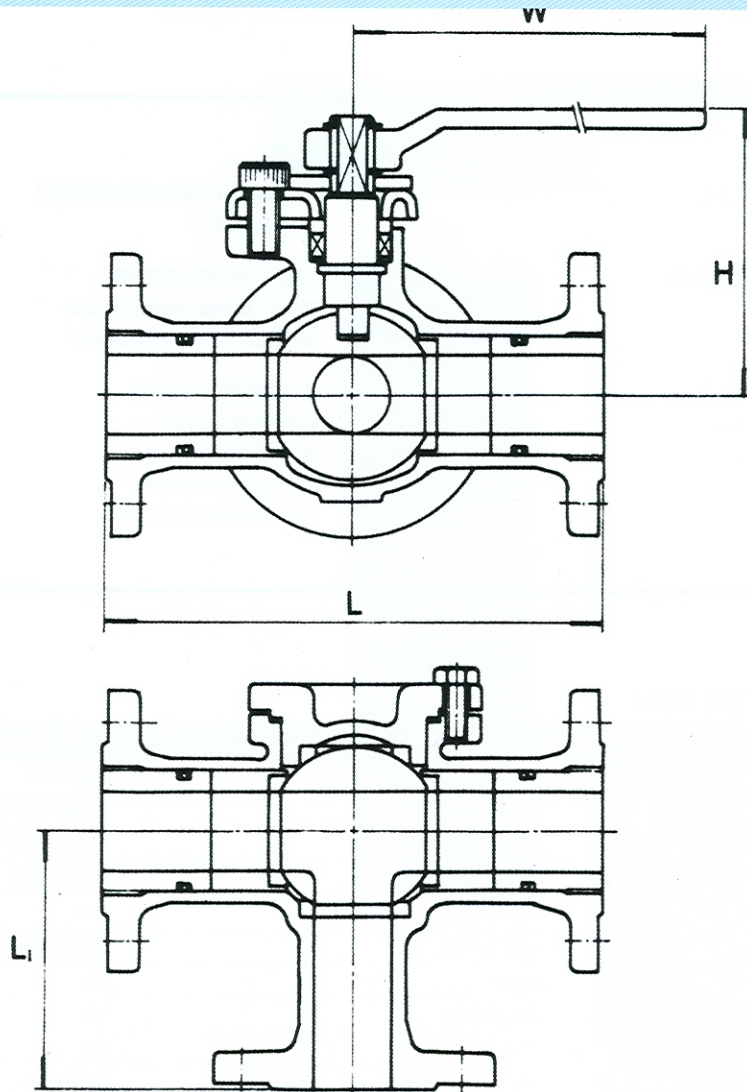
PARTS	MATERIAL	PARTS	MATERIAL
BODY	SCS	HAND LEVER	FCD 40
BONNET		STOPPER	SUS 304
BODY CAP		SPRING	SCS
BALL		BONNET BOLT & NUT	SUS 304
BALL SUPPORT		GLAND BOLT	SUS 304
STEM		BODY CAP BOLT	SUS 304
RETAINER		SNAP RING	CARBON TOOL STEEL
SEAT RING	TEFLON	O-RING	VITON
GLAND RING	SUS 304	PACKING	TEFLON
GLAND FLANGE	SUS 13	GASKET	TEFLON

■ DIMENSIONS

SIZE	inch	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	16
	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400
40K (600#)	L	165	190	216	229	241	292	330	356	432	508	559	660	787	838	889	-
	H	70	80	119	133	153	160	183	192	220	235	285	370	615	680	710	-
	W	160	160	230	230	370	370	450	450	500	590	590	GEAR OPERATOR				

CAST BRONZE, STEEL BALL VALVE - CAST STEEL 3-WAY BALL VALVE

CLASS 150



PARTS	MATERIAL	PARTS	MATERIAL
BODY	SCS	STOPPER	SCS 13
BONNET		BONNET BOLT	SUS 304
BALL		GLAND BOLT	SUS 304
STEM		STEM RING	SUS 304
RETAINER		SNAP RING	CARBON TOOL STEEL
SEAT RING	TEFLON	O-RING	VITON
GLAND RING	SUS 304	PACKING	TEFLON
GLAND FLANGE	SCS 13	GASKET	TEFLON
HAND LEVER	FCD 40		

■ DIMENSIONS

SIZE	inch	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	16
	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400
10K (150#)	L	-	165	165	200	200	218	240	290	360	410	497	590	-	-	-	-
	L1	-	82.5	82.5	100	100	109	120	145	180	205	250	295	-	-	-	-
	H	-	76	84	120	148	160	178	190	205	230	275	400				
	W	-	160	230	230	230	320	370	450	500	600	600	GEAR OPERATOR				

BUTTERFLY VALVE

STANDARD SPECIFICATION

1. PRODUCTION RANGE--SIZE
40A to 1000A (1 1/2"~40")

2. MAXIMUM WORKING PRESSURE
10kgf/cm²

3. FLANGE CLASS
KS/JIS 5kgf/cm², 10kgf/cm², 20kgf/cm²
ANSI 125LB, 150LB, 300LB

4. OPERATING TEMPERATURE RANGE
-30°C to +120°C

5. TEST -- HYDRO PRESSURE
BODY : 1.5X max-working pressure
SEAT : 1.0X max-working pressure

6. STANDARD MATERIALS
BODY : CAST IRON (FC)
DISC : STAINLESS STEEL (SCS)
SEAT : NITRILE RUBBER (NBR)
STEM : STAINLESS STEEL (SUS)

BUTTERFLY VALVE CONSTITUTION TABLE

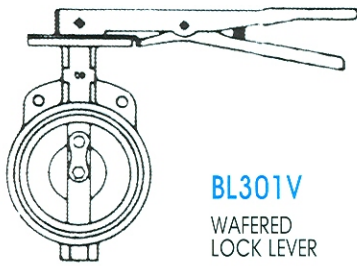
NO	PARTS	SPECIFIC CHARACTER	MATERIAL
1	BODY	CAST IRON	FC20, FC25
		DUCTILE IRON	FCD40, FCD45
		CARBON STEEL	SCPH2, (WCB)
		STAINLESS STEEL	SCS13, SCS14
		CARBON STEEL	SS41
2	DISC	STAINLESS STEEL	SCS13, SCS14
		BRONZE	BC6
		CARBON STEEL	SS41
3	SEAT	NITRILE BUTADIENE	NBR
		ETHYLENE PROPYLENE	EPDM(E.P.T)
		SILICONE	SI
		VITON	FPM
		CHLOROPER	CR
		TEFLON	PTFE
4	STEM	STAINLESS STEEL	SUS410, SUS316, SUS304
5	DISC BOLT	STAINLESS STEEL	SUS304, SUS316
6	GLAND-BUSH	RESIN	ACETAL
7	PACKING	RUBBER, ASBESTOS	NBR
8	O-RING & BUSH	RUBER, TEFLON, BRONZE	NBR, PTFE, BC
	GEAR BOX	CAST IRON	FC20, FCD40
		DUCTILE IRON	

BUTTERFLY VALVE

TYPE

- GENERAL
- LUG
- FLANGE
- HIGH-PERFORMANCE, LOCK LEVER, WORM GEAR
- PNEUMATIC CYLINDER
- ELECTRIC MOTOR
- CHAIN WHEEL & DAMPER

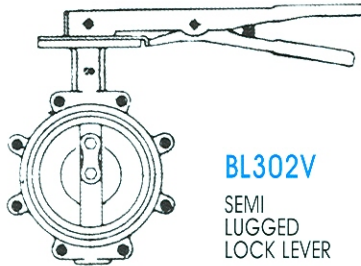
k : kgf/cm²



BL301V

WAFERED
LOCK LEVER

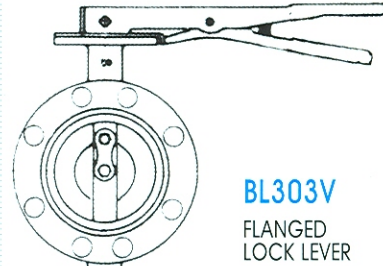
- Dia : 40A~200A(1 1/2"~8")
- Use Pressure : 5K, 10K, 125LBS, 150LBS



BL302V

SEMI
LUGGED
LOCK LEVER

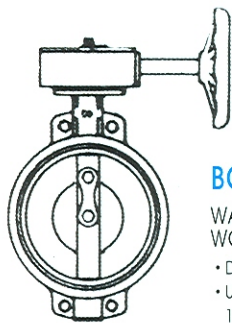
- Dia : 50A~150A(2"~6")
- Use Pressure : 5K, 10K, 125LBS, 150LBS



BL303V

FLANGED
LOCK LEVER

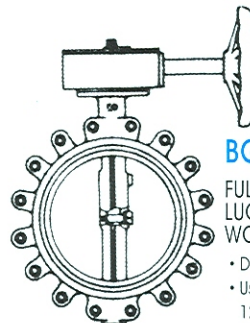
- Dia : 50A~150A(2"~6")
- Use Pressure : 5K, 10K, 125LBS, 150LBS



BG301V

WAFERED
WORM GEAR

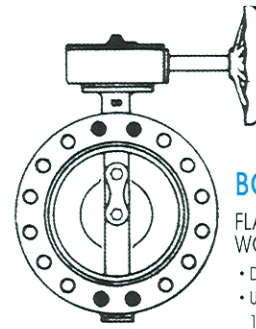
- Dia : 200A~1000A(8"~40")
- Use Pressure : 5K, 10K, 125LBS, 150LBS



BG302V

FULL
LUGGED
WORM GEAR

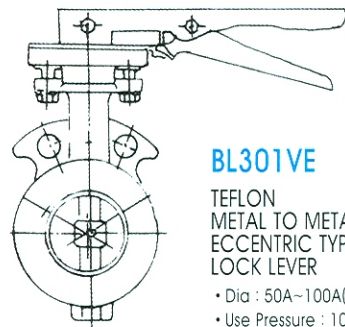
- Dia : 200A~400A(8"~16")
- Use Pressure : 5K, 10K, 125LBS, 150LBS



BG303V

FLANGED
WORM GEAR

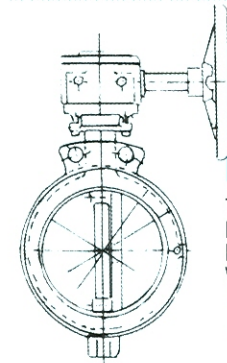
- Dia : 200A~400A(8"~16")
- Use Pressure : 5K, 10K, 125LBS, 150LBS



BL301VE

TEFLON
METAL TO METAL
ECCENTRIC TYPE
LOCK LEVER

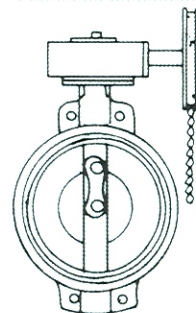
- Dia : 50A~100A(2"~4")
- Use Pressure : 10K, 16K, 20K, 150LBS, 300LBS



BG301VE

TEFLON
METAL TO METAL
ECCENTRIC TYPE
WORM GEAR

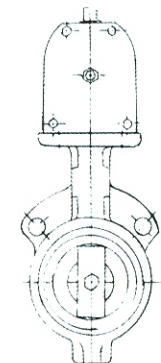
- Dia : 125A~400A(5"~16")
- Use Pressure : 10K, 16K, 20K, 125LBS, 300LBS



BC304V

WAFERED
CHAIN WHEEL
OPERATED

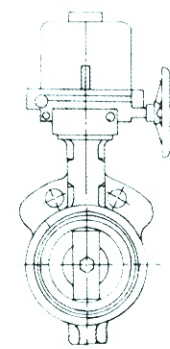
- Dia : 200A~1,000A(8"~40")
- Use Pressure : 5K, 10K, 125LBS, 150LBS



BP305V

PNEUMATIC
CYLINDER
MOUNTING TYPE
WAFERED

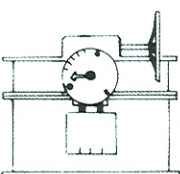
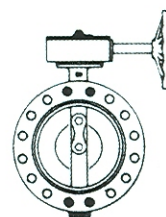
- Dia : 50A~400A(2"~16")
- Use Pressure : 5~10K,



BM306V

WAFERED
MOTOR ACTUATOR

- Dia : 50A~400A(2"~16")
- Use Pressure : 5~10K,



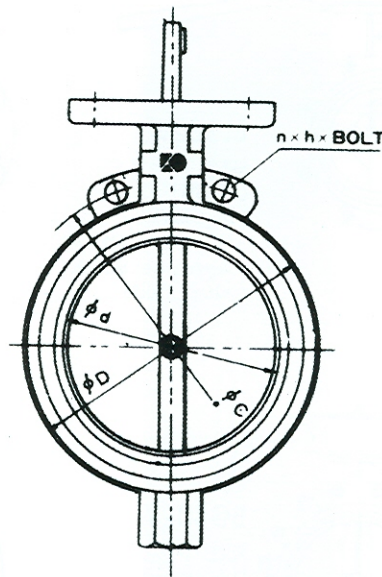
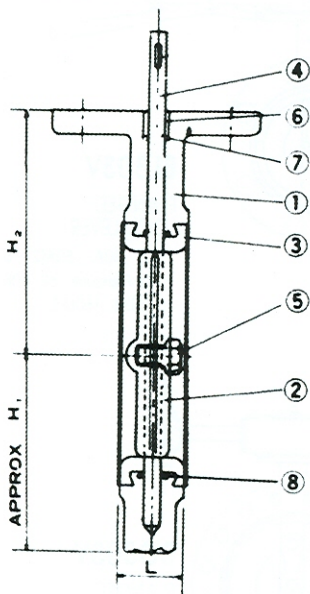
BDG307V

DAMPER B/F VALVE

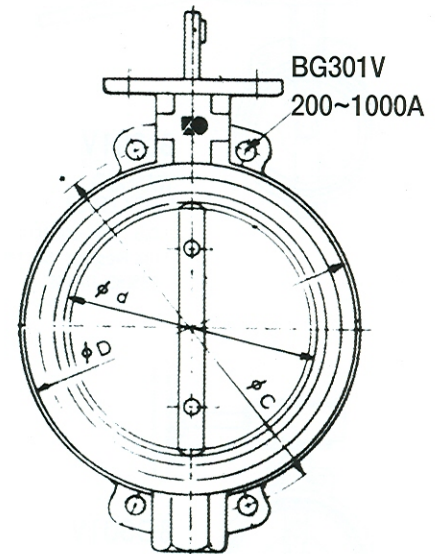
- Dia : 40A~400A(1 1/2"~16")
- Use Pressure : 2.5~5K,

BUTTERFLY VALVE

GENERAL TYPE



BL301V
50~200A



BG301V
200~1000A

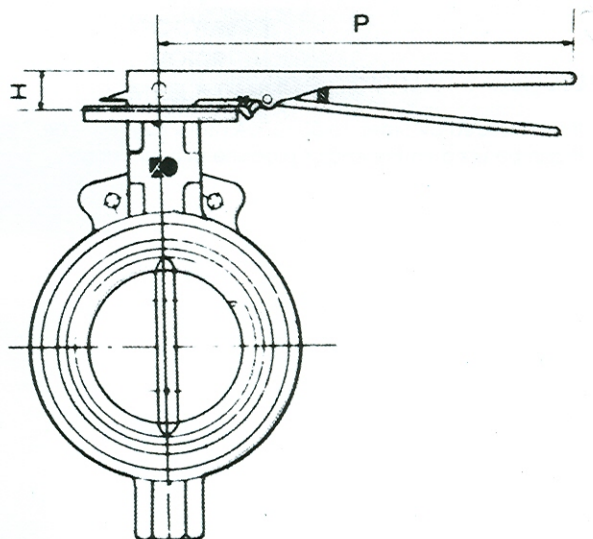
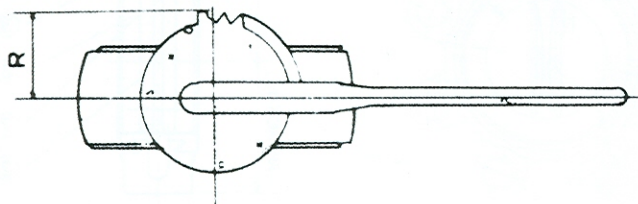
■ DIMENSIONS

SIZE		d	L	H ₁	H ₂	KS. JIS. 5K		KS. JIS. 10K		ANSI 125. 150LBS	
inch	mm					C	n x h x BOLT	C	n x h x BOLT	C	n x h x BOLT
2	50	52	41	72	130	105	4 x 15 x M12	120	4 x 19 x M16	120.6	4 x 19 x U ⁵ / ₈ "
2 1/2	65	65	44	76	130	130	4 x 15 x M12	140	4 x 19 x M16	139.7	4 x 19 x U ⁵ / ₈ "
3	80	80	44	82	143	145	4 x 19 x M16	150	8 x 19 x M16	152.4	4 x 19 x U ⁵ / ₈ "
4	100	100	51	100	160	165	8 x 19 x M16	175	8 x 19 x M16	190.5	8 x 19 x U ⁵ / ₈ "
5	125	125	53	111	177	200	8 x 19 x M16	210	8 x 23 x M20	215.9	8 x 22 x U ³ / ₄ "
6	150	150	53	134	191	230	8 x 19 x M16	240	8 x 23 x M20	241.3	8 x 22 x U ³ / ₄ "
8	200	198	64	163	217	280	8 x 23 x M20	290	12 x 23 x M20	298.4	8 x 22 x U ³ / ₄ "
10	250	248	64	218	267	345	12 x 23 x M20	355	12 x 25 x M22	361.9	12 x 25 x U ¹ / ₂ "
12	300	298	76	249	295	390	12 x 23 x M20	400	16 x 25 x M22	431.8	12 x 25 x U ¹ / ₂ "
14	350	327	81	271	324	435	12 x 25 x M22	445	16 x 25 x M22	476.2	12 x 29 x U1"
16	400	387	104	331	369	495	16 x 25 x M22	510	16 x 27 x M24	539.7	16 x 29 x U1"
18	450	438	114	354	406	555	16 x 25 x M22	565	20 x 27 x M24	577.8	16 x 32 x U1 1/8"
20	500	477	125	403	462	605	20 x 25 x M22	620	20 x 27 x M24	635.0	20 x 32 x U1 1/8"
24	600	560	155	475	562	715	20 x 27 x M24	730	24 x 33 x M30	749.3	20 x 35 x U1 1/4"

BUTTERFLY VALVE

MANUAL

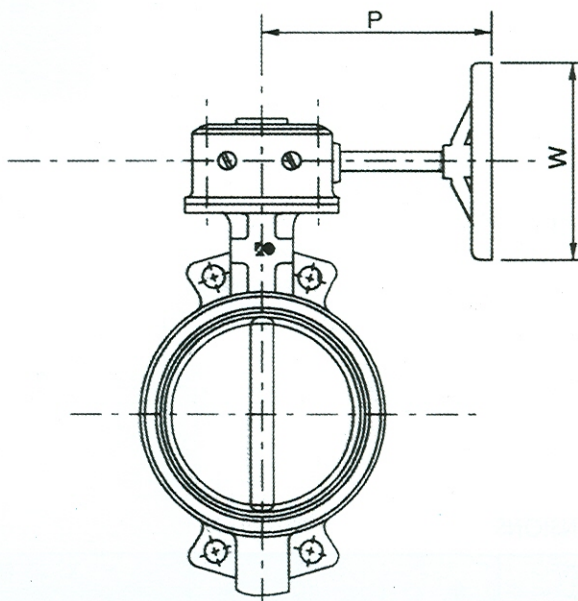
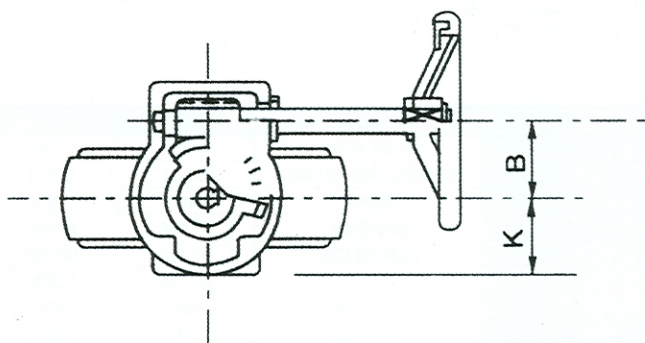
- **LOCK LEVER**—Lock Lever Type is made in small size(50–200A) in large quantities. The weight is rather light, and with lever and North Plate made specially, convenient for flux control as well as opening and shutting



DIMENSIONS

SIZE	inch	2	2-1/2	3	4	5	6	8
	mm	50	65	80	100	125	150	200
H	mm	30	30	30	30	30	30	30
P	mm	205	205	205	265	265	265	265
R	mm	57	57	57	57	59	59	59

- **WORM GEAR** – Worm Gear Type is made from small size to large size(200–1000A) This type can be operated in large size by a little energy This is produced in large quantities



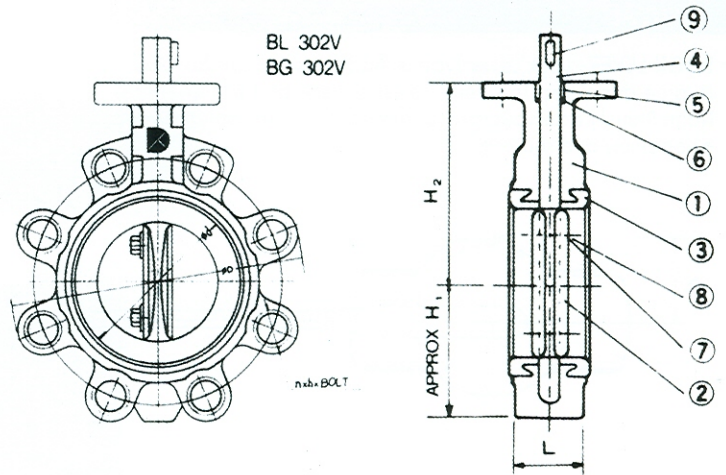
DIMENSIONS

SIZE	inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
B	mm	37	37	37	37	49	49	49	65	65	65	92	92	110	110
K	mm	49	49	49	49	53	53	53	65	65	65	95	95	118	118
P	mm	130	130	130	130	160	160	210	210	270	270	330	330	330	330
W	mm	150	150	150	150	190	190	250	250	300	300	400	400	400	400

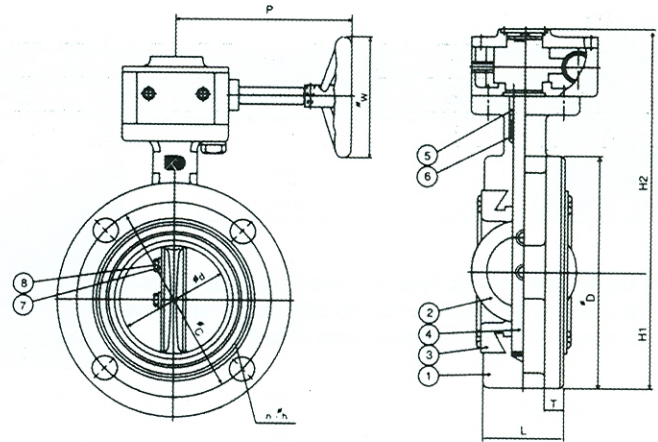
BUTTERFLY VALVE

• LUG(SEMI & FULL) TYPE

It is produced by order, to 50–300A as full Lagged Type.
It can be used on the end of pipe line without Flange.



It is produced to 200–450m/m, as general type, also manufactured to be able to install each actuator



NO.	PARTS	MATERIALS	KS	JIS
1	BODY	CAST IRON	GC20	FC20
2	DISC	STAINLESS STEEL CASTING	SSC 13	SCS 13
		BRONZE	BrC	BC
3	SEAT RING	ELASTOMER	EPT/NBR	EPT/NBR
4	STEM	STAINLESS STEEL	STS 304	SUS 304
5	BUSHING	ACETAL	ACETAL	ACETAL
6	O-RING	ELASTOMER	NBR	NBR
7	O-RING	ELASTOMER	NBR	NBR
8	BOLT	STAINLESS STEEL	STS 304	SUS 304
9	KEY	CARBON STEEL	SM45C	S45C

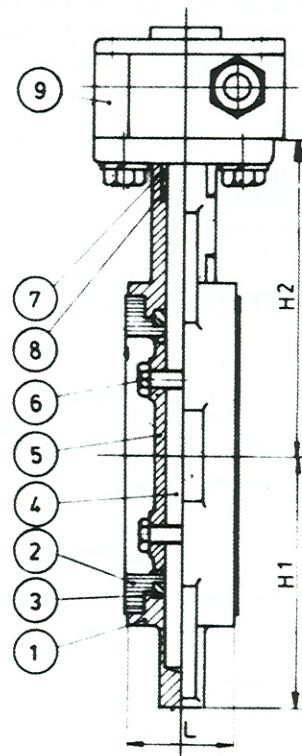
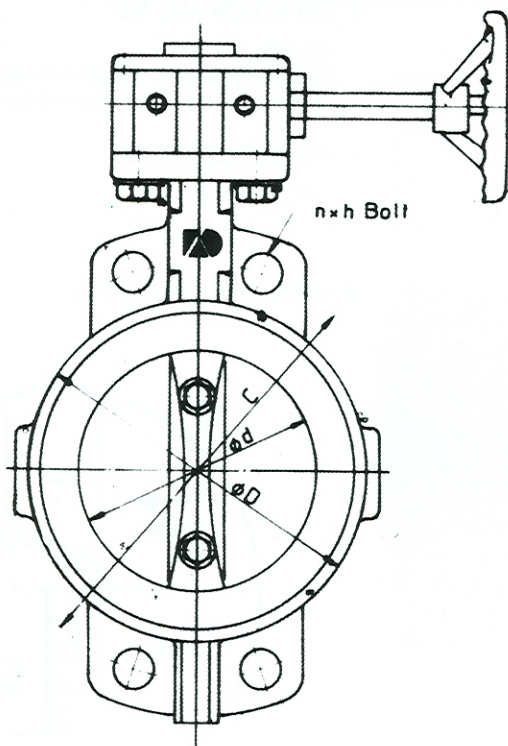
■ DIMENSIONS

SIZE		d	L	H ₁	H ₂	KS. JIS. 5K		KS. JIS. 10K		ANSI 125. 150LBS	
inch	mm					C	n × h × BOLT	C	n × h × BOLT	C	n × h × BOLT
2	50	52	41	72	130	105	4 × 15 × M12	120	4 × 19 × M16	120.6	4 × 19 × U ⁵ / ₈ "
2½	65	65	44	76	130	130	4 × 15 × M12	140	4 × 19 × M16	139.7	4 × 19 × U ⁵ / ₈ "
3	80	80	44	82	143	145	4 × 19 × M16	150	8 × 19 × M16	152.4	4 × 19 × U ⁵ / ₈ "
4	100	100	51	100	160	165	4 × 19 × M16	175	8 × 19 × M16	190.5	8 × 19 × U ⁵ / ₈ "
5	125	125	53	111	177	200	8 × 19 × M16	210	8 × 23 × M20	215.9	8 × 22 × U ³ / ₄ "
6	150	150	53	134	191	230	8 × 19 × M16	240	8 × 23 × M20	241.3	8 × 22 × U ³ / ₄ "
8	200	198	64	163	217	280	8 × 23 × M20	290	12 × 23 × M20	298.4	8 × 22 × U ³ / ₄ "
10	250	248	64	218	267	345	12 × 23 × M20	355	12 × 25 × M22	361.9	12 × 25 × U ¹ / ₂ "
12	300	298	76	249	295	390	12 × 23 × M20	400	16 × 25 × M22	431.8	12 × 25 × U ¹ / ₂ "

BUTTERFLY VALVE

• **DOUBLE BODY(TEFLON TYPE) TYPE**

- It is produced by order, to 50-500A
- It is installed on medicine-resistance and food line and special pipe-laying
- It can be chosen property of Body an Disc what you want



NO.	PARTS	MATERIALS	KS	JIS	SPECIAL
1	BODY	CAST IRON	GC20	FC20	SCS, FCD, SC.
2	SEAT	TEFLON	PTFE	PTFE	
3	SEAT RING	ELASTOMER	NBR/EPT	NBR/EPT	
4	STEM	STAINLESS STEEL	STS 304, STS 410	SUS 304, SUS 410	SUS 316
5	DISC	STAINLESS STEEL CASTING	SSC 13	SCS 13	SCS 14
6	BOLT	STAINLESS STEEL	STS 304	SUS 304	
7	BUSHING	ACETAL	ACETAL	ACETAL	
8	O-RING	ELASTOMER	NBR	NBR	
9	GEAR BOX	CAST IRON	GC 20	FC 20	FCD

■ **DIMENSIONS**

SIZE		d	L	D	H ₁	H ₂	KS, JIS, 5K		KS, JIS, 10K		ANSI 125, 150LBS	
inch	mm						C	n × h × BOLT	C	n × h × BOLT	C	n × h × BOLT
2	50	53.6	41	100	72	130	105	4 × 15 × M12	120	4 × 19 × M16	120.6	4 × 19 × U ³ / ₈ "
2 1/2	65	66.5	44	112	76	130	130	4 × 15 × M12	140	4 × 19 × M16	139.7	4 × 19 × U ³ / ₈ "
3	80	81.5	44	126	82	143	145	4 × 19 × M16	150	8 × 19 × M16	152.4	4 × 19 × U ³ / ₈ "
4	100	101.5	51	153	100	160	165	4 × 19 × M16	175	8 × 19 × M16	190.5	8 × 19 × U ³ / ₈ "
5	125	126.5	53	182	111	177	200	8 × 19 × M16	210	8 × 23 × M20	215.9	8 × 22 × U ³ / ₄ "
6	150	151.5	53	210	134	191	230	8 × 19 × M16	240	8 × 23 × M20	241.3	8 × 22 × U ³ / ₄ "
8	200	199.5	64	255	163	217	280	8 × 23 × M20	290	12 × 23 × M20	298.4	8 × 22 × U ³ / ₄ "
10	250	252	64	328	218	267	345	12 × 23 × M20	355	12 × 25 × M22	361.9	12 × 25 × U ³ / ₄ "
12	300	300.5	76	374	249	295	390	12 × 23 × M20	400	16 × 25 × M22	431.8	12 × 25 × U ³ / ₄ "

BUTTERFLY VALVE

TWO VALVE SEATS TEFLON(GRAPHITE)& METAL

1. DESIGN FEATURE

This innovative advancement in valve design is also compact and light weight, making it economical and convenient

1. No leakage about high pressure, high temperature.
2. Seat-ring change possible the place of your use.
3. The seating surface of seat-ring to disc is so little touch and low operating torque.

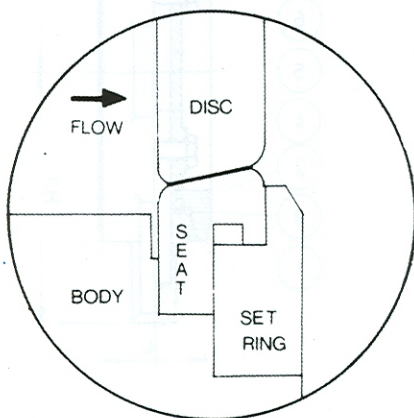
2. STANDARD SPECIFICATIONS

Size : 50A to 400A(2~16")

Flanges : JIS 10kgf/cm², 16kgf/cm², 20kgf/cm²

ANSI 150lbs 300lbs

● P.T.F.E TYPE (-50~230°C)



3. VALVE SEATS

1. A Teflon seat ring
2. A metal seat ring for specific fluids

4. INSPECTION AND TEST

API 598

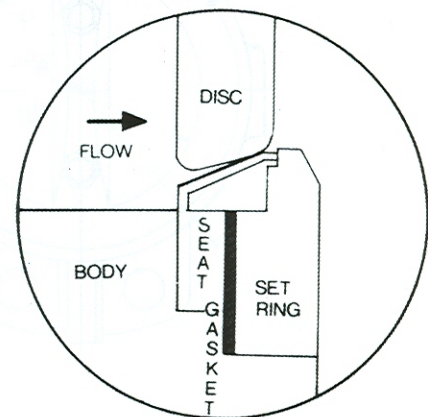
Body test pressure : 15kgf/cm²(10k)-30kgf/cm²(20k)

Seat test pressure : 11kgf/cm²(10k)-22kgf/cm²(20k)

5. TEMPERATURE RANGE

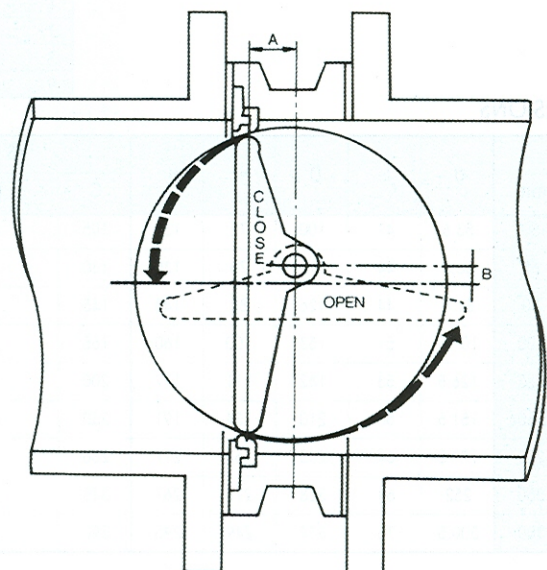
-50°C~450°C

● METAL TYPE (MAX 450°C)



DOUBLE ECCENTRIC MECHANISM

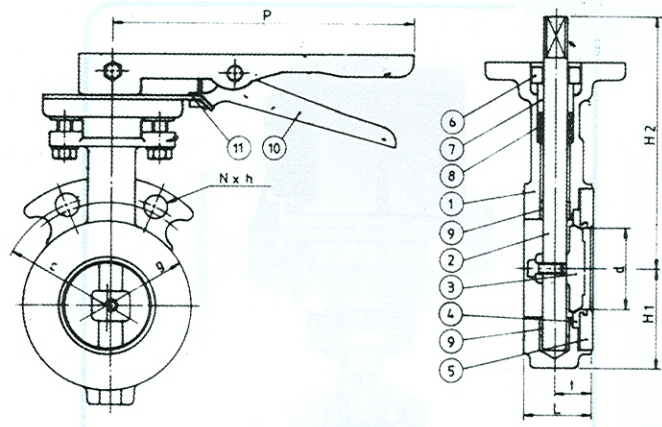
This allows friction-free contact between the body and the seat. Since the rotation axis(stem) of the valve disc is shifted from the center by a distance of the width of A and B, a cam effect is produced which prevents wearing of the seal surface, lessens seating torque and offers longer service life and easy operation.



BUTTERFLY VALVE

ASSEMBLY

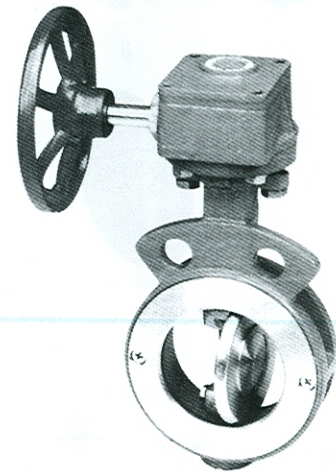
● LOCK LEVER



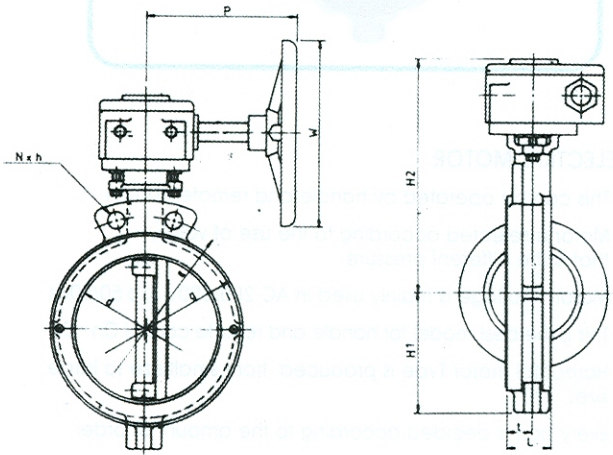
● BL301VE



● BG301VE



● WORM GEAR-BG301VE



NO.	PARTS	SPECIFIC CHARACTER	MATERIAL
1	BODY	CARBON STEEL, STAINLESS STEEL	SCPH ₂ (WCB), SCS 13, SCS 14
2	STEM	STAINLESS	SUS 410, SUS 304, SUS 316
3	DISC	STELL	SCS 13, SCS 14
4	SEAT	TEFLON, STAINLESS STEEL	SUS 316
5	SET RING	STEEL FLATE	SS 41
6	GLAND	STAINLESS STEEL	SCS 13, SCS 14
7	GLAND RING	BRONZE	BC6
8	PACKING	TEFLON, ASBESTOR	
9	BUSHING	BRONZE - TEFLON	BC6
10	LEVER	STEEL PLATE	SS41

■ DIMENSIONS-LOCK LEVER

TYPE	SIZE		JIS 20K FLANGE				BUTTERFLY VALVE DIMENSION					
	mm	inch	g	c	N	h	L	t	d	H1	H2	P
LEVER	50	2	97	120	8	19	43	25	40	61.5	166	205
	65	2-1/2	140	140	8	19	46	25	55	67	171	205
	80	3	125	160	8	23	46	25	70	74	184	205
	100	4	150	185	8	23	52	25	94	84	201	265

■ DIMENSIONS-WORM GEAR

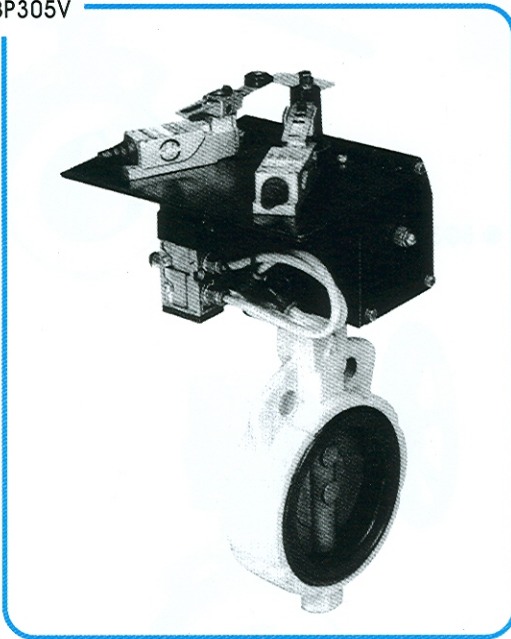
TYPE	SIZE		JIS 20K FLANGE				BUTTERFLY VALVE DIMENSION						
	mm	inch	g	c	N	h	L	t	d	H1	H2	P	w
GEAR	125	5	174	225	8	25	56	31	119	111	250	160	190
	150	6	210	260	12	25	56	31	144	124	272	160	190
	200	8	264	305	12	25	60	35	195	161	315	220	250

BUTTERFLY VALVE

AUTOMATIC TYPE

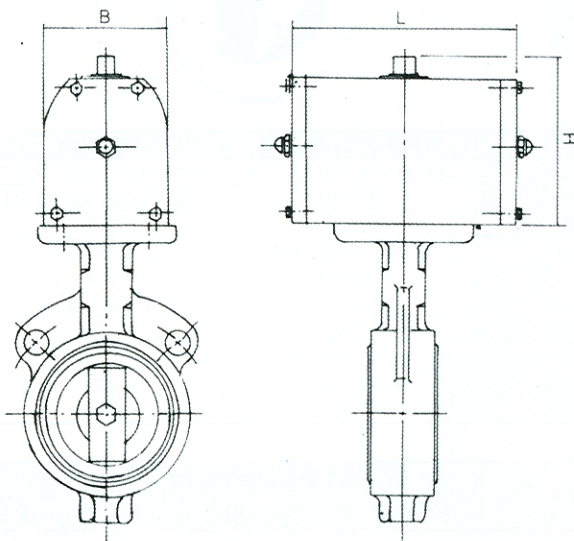
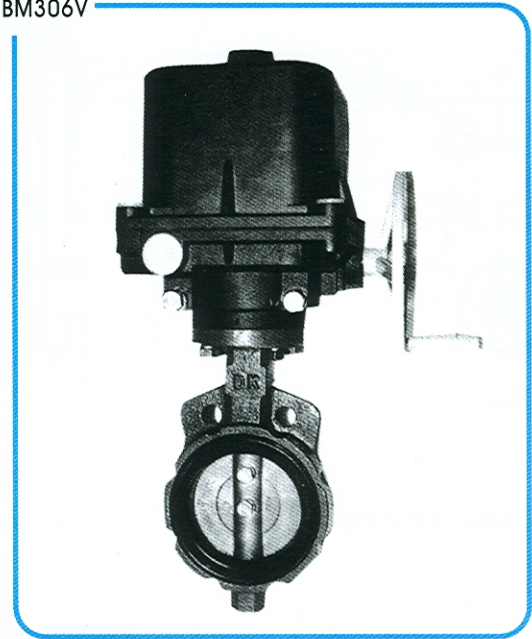
● PNEUMATIC CYLINDER

BP305V



● ELECTRIC MOTOR

BM306V



-Retain angle $90^\circ \pm 1.5^\circ$
 -Max-Working Pressure : 10kg/cm²

● ELECTRIC MOTOR

- This can be operated by handle and remote control
- Motor is selected according to the use of valve, that is the different pressure.
- Motor's voltage is mainly used in AC 200/220V 3/φ 50/60Hz
- This is the best model for handle and remote control On-Off
- Horizontal motor Type is produced. from small size to large size.
- Every part is decided according to the amount of order.

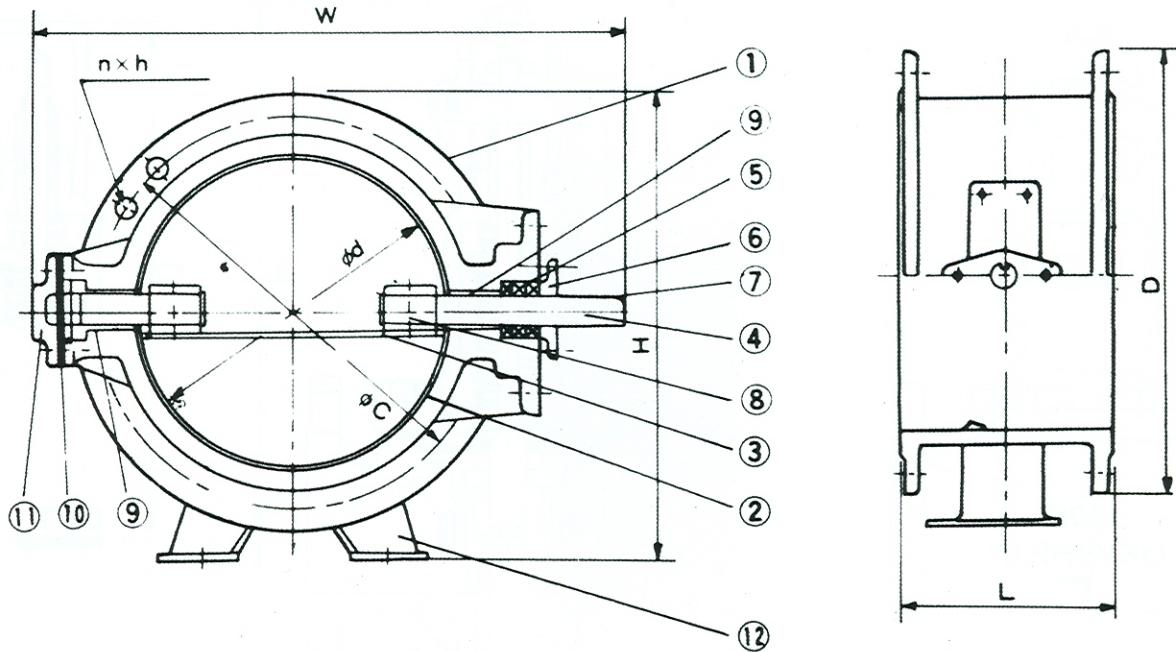
■ DIMENSIONS

SIZE	inch	2	2-1/2	3	4	5	6	8	10	12
	mm	50	65	80	100	125	150	200	250	300
H	mm	86	117	117	117	150	150	170	215	215
L	mm	120	155	155	155	190	190	230	290	290
B	mm	65	85	85	85	110	110	123	172	172

BUTTERFLY VALVE

FLANGE TYPE

● CONSTRUCTION



- It is produced from 250A large size, as Flange type.
- It is used in water works and general large size works.

- Flange rating is KS D 4309(KS. JIS. 5K, 10K)
- Lay-length of valve is the dimension of KS B 2333.

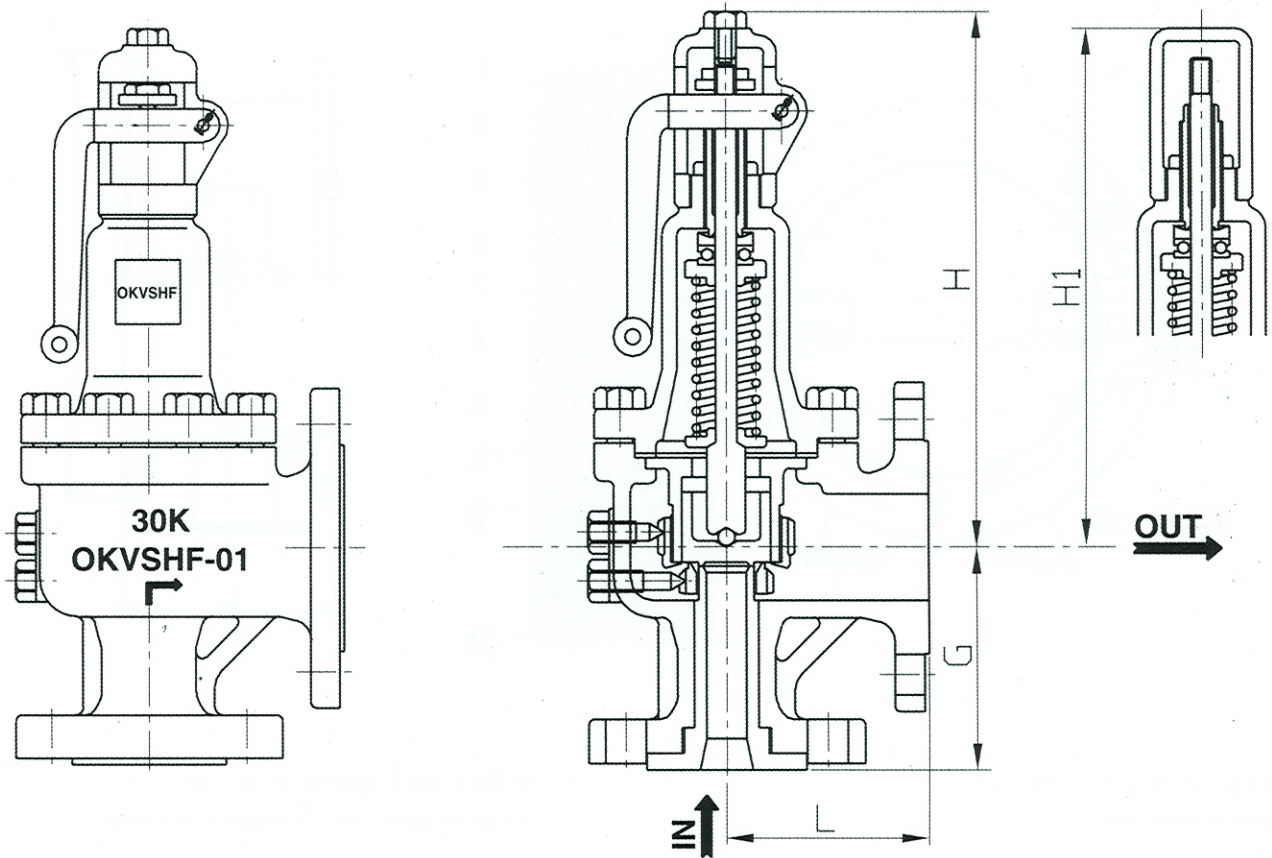
■ DIMENSIONS

NO	PARTS	MATERIAL	KS	JIS	NO	PARTS	MATERIAL	KS	JIS
1	BODY	CAST IRON	GC 20	FC 20	4	SHAFT	STAINLESS STEEL	STS 304	SUS 304
		DUCTILE IRON	GCD	FCD	5	PACKING	ASBESTOS SPLIT V-PACKING		
		STEEL PLATE	SS41	SS41			O-RING	NBR	NBR
2	BODY SEAT DISC SEAT (No. 2, 3)	BRONZE CASTING	BC	BC	6	PACKING GLAND	CAST IRON	GC 20	FC 20
		ELASTOMER	NBR	NBR	7	KEY	CARBON STEEL	SM 45C	S45C
		STAINLESS STEEL	SSC 13	SCS 13	8	TAPER PIN NUT	STAINLESS STEEL	STS 304	SUS 304
		STEEL PLATE	SS 41	SS41	9	BUSHING	BRONZE CASTING	BC	BC
DUCTILE IRON	GCD	FCD	OILES NO 250	RESIN					
3	DISC	CARBON STEEL	SC 42	SC42	10	PACKING	ASBESTOS		
		STAINLESS STEEL	SSC 13	SCS 13	11	BOTTOM COVER	CAST IRON	GC 20	FC 20
		STEEL PLATE	SS 41	SS41	12	SUPPORT	STEEL PLATE	SS 41	SS41

SAFETY & SAFETY – RELIEF VALVE

MODEL, OKVSHF-01

● HIGH & FULL LIFT TYPE



■ SPECIFICATION

APPLICABLE FLUID	STEAM, AIR & LIQUID
APPLICABLE PRESS	1~30kg/cm ² , G
FLUID TEMPERATURE	220°C
END CONNECTION(INLET)	KS-B-6216(JIS-B-8210) 10K, 16K, 20K, 30K, FF & RF
END CONNECTION(OUTLET)	KS(JIS) 10K, 16K, 20K, 30K, FF & RF

■ MATERIAL

BODY	CAST STEEL, BRONZE
TRIM	STAINLESS STEEL, BRONZE
DISC & SEAT : STELLITE WELDING (ABOVE 30K WITH SETTING PRESS)	

■ DIMENSIONS

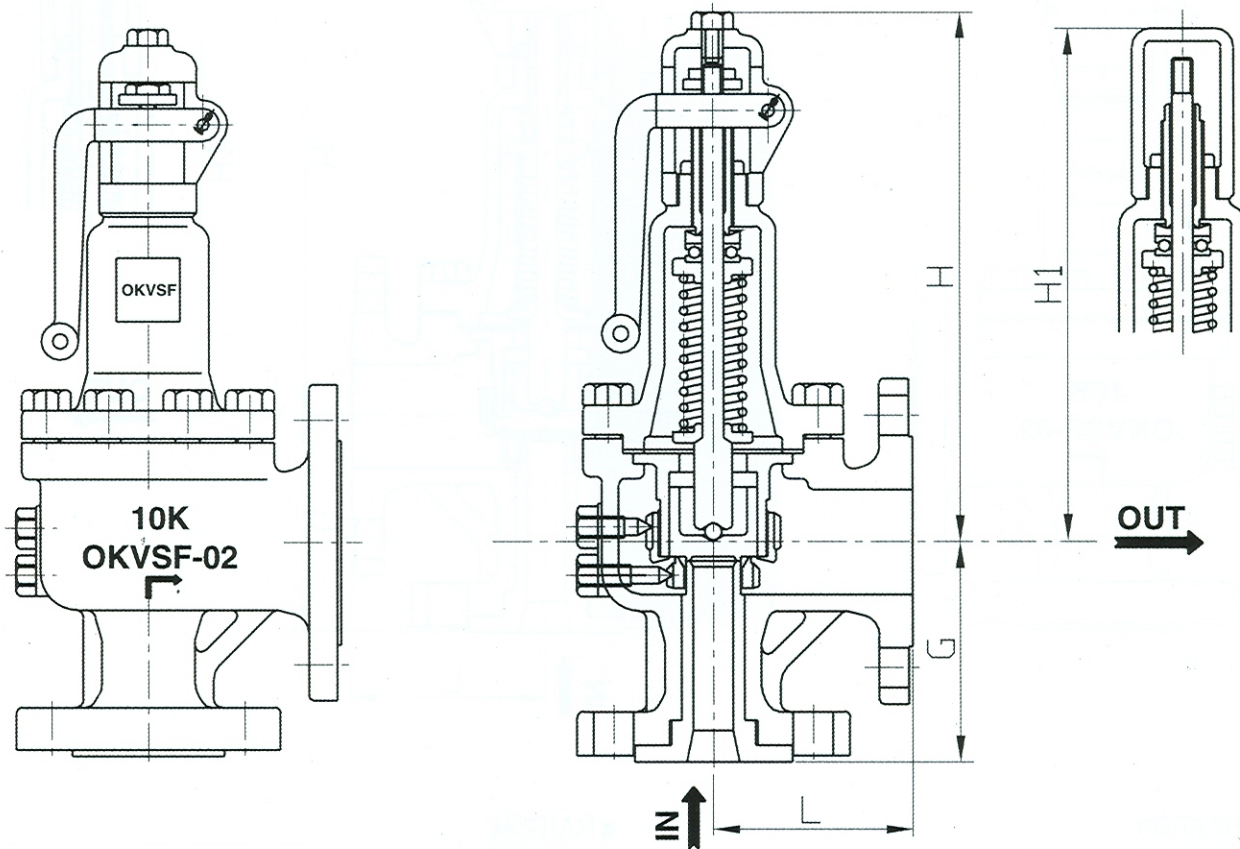
N · D	L	G	H	H1	WEIGHT(kg)
15 × 25A	90	85	235	200	12
20 × 25A	90	88	260	220	12.5
25 × 40A	95	100	275	240	13
25 × 50A	95	105	275	240	13.7

unit : mm

SAFETY & SAFETY – RELIEF VALVE

MODEL, OKVSF-02

● FULL BORE TYPE



■ SPECIFICATION

APPLICABLE FLUID	STEAM, AIR & LIQUID
APPLICABLE PRESS	1~16kg/cm ² , G
FLUID TEMPERATURE	220°C
END CONNECTION(INLET)	KS-B-6216(JIS-B-8210) 10K, 16K, 20K, 30K, FF & RF
END CONNECTION(OUTLET)	KS(JIS) 10K, 16K, 20K, 30K, FF & RF

■ MATERIAL

BODY	CAST STEEL, BRONZE
TRIM	STAINLESS STEEL, BRONZE
DISC & SEAT : STELLITE WELDING (ABOVE 16K WITH SETTING PRESS)	

■ DIMENSIONS

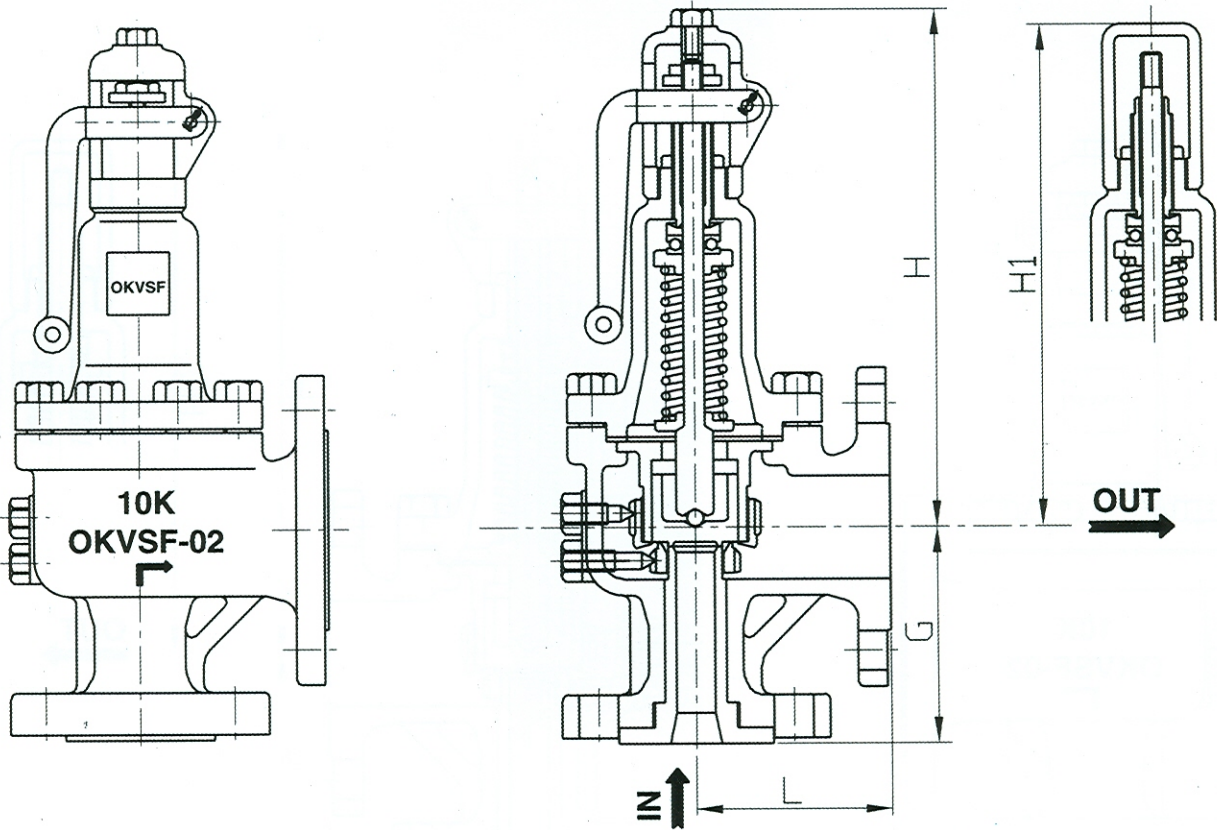
unit : mm

N · D	L	G	H	H1	WEIGHT(kg)
15 × 25A	90	85	235	200	12
20 × 25A	90	88	260	220	12.5
25 × 40A	95	100	275	240	13
25 × 50A	95	105	275	240	13.7

SAFETY & SAFETY – RELIEF VALVE

MODEL, OKVSF-02

● FULL BORE TYPE



■ SPECIFICATION

APPLICABLE FLUID	STEAM, AIR & LIQUID
APPLICABLE PRESS	1~20kg/cm ² , G
FLUID TEMPERATURE	220°C
END CONNECTION(INLET)	KS-B-6216(JIS-B-8210) 10K, 16K, 20K, 30K, FF & RF
END CONNECTION(OUTLET)	KS(JIS) 10K, 16K, 20K, 30K, FF & RF

■ MATERIAL

BODY	CAST STEEL, BRONZE, NOD CASTING IRON
TRIM	STAINLESS STEEL, BRONZE
DISC & SEAT : STELLITE WELDING (ABOVE 16K WITH SETTING PRESS)	

■ DIMENSIONS

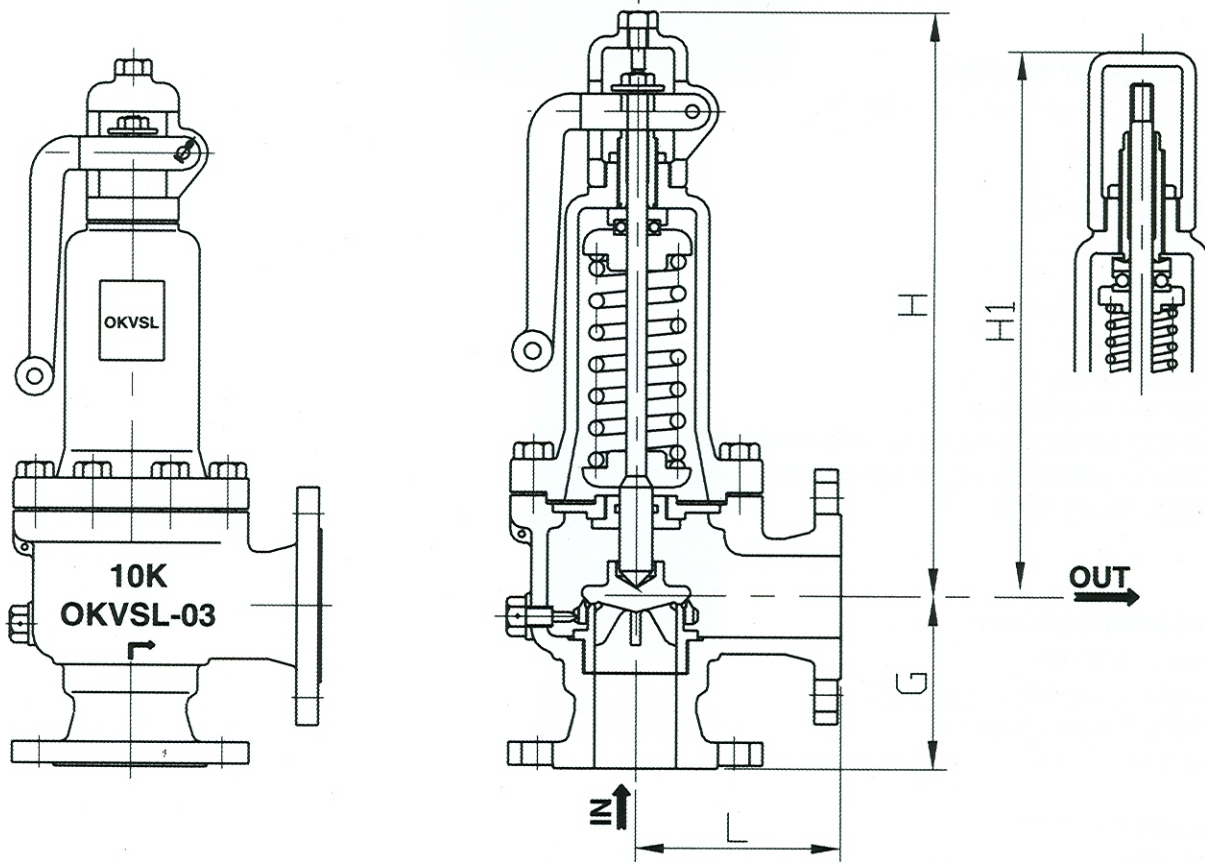
unit : mm

N · D	L	G	H	H1	WEIGHT(kg)
40 × 50	120	110	345	310	24.0
40 × 65	120	115	345	310	27.0
50 × 80	135	130	363	328	35.0
65 × 100	150	150	435	400	56.0
80 × 100	170	165	535	500	76.0
80 × 125	175	180	545	510	76.0
100 × 150	200	200	625	550	129.0
125 × 200	225	220	720	620	270.0
150 × 200	255	240	810	710	310.0
200 × 250	280	270	890	790	360.0

SAFETY & SAFETY – RELIEF VALVE

MODEL, OKVSL-03

● **LOW LIFT TYPE.**



■ **SPECIFICATION**

APPLICABLE FLUID	STEAM, AIR & LIQUID
APPLICABLE PRESS	1~20kg/cm ² , G
FLUID TEMPERATURE	220°C
END CONNECTION(INLET)	KS(JIS) 10K, 16K, 20K, FF & RF
END CONNECTION(OUTLET)	KS(JIS) 10K FF

■ **MATERIAL**

BODY	CAST IRON, NOD CASTING IRON, BRONZE, CAST STEEL
TRIM	STAINLESS STEEL, BRONZE
DISC & SEAT : STELLITE WELDING (ABOVE 16K WITH SETTING PRESS)	

■ **DIMENSIONS**

unit : mm

N · D	L	G	H	H1	WEIGHT(kg)
15 × 15	65	70	220	180	3.0
20 × 20	70	75	225	185	4.0
25 × 25	80	85	250	215	5.6
32 × 32	95	90	315	275	12.0
40 × 40	105	95	330	290	15.0
50 × 50	125	105	365	315	22.0
65 × 65	140	120	410	360	30.0
80 × 80	170	130	445	415	46.0
100 × 100	195	150	533	470	
125 × 125	210	180	710	640	

SAFETY & SAFETY – RELIEF VALVE

Calculation Data for Safety & Safety – RELIEF VALVE

1. FOR LIQUID (API RP 520 CODE)

$$Q = \frac{84 \times A \times K \times KP \times KW \times KV \sqrt{1.25P - PB}}{\sqrt{G}}$$

Q : CAPACITY(L/MIN)

A : EFFECTIVE DISCHARGE AREA(mm²)

LOW LIFT A = 2.22DL – D = SEAT DIA.

L = LIFT

FULL BORE A = 0.785D² – D = THROAT DIA.

P = SET PRESSURE(kg/cm²)

PB : BACK PRESSURE(kg/cm²) – 0

K : COEFFICIENT OF DISCHARGE – 0.62

KP : CAPACITY CORRECTION FACTOR DUE TO OVER PRESSURE 10% – 0.6

KW : CAPACITY CORRECTION FACTOR FOR VISCOSITY – 1.0

G : SPECIFIC GRAVITY (WATER : 1)

2. FOR AIR (ASME CODE V III)

W : CAPACITY $1/\sqrt{M/TZ} \times 0.9$

W : CAPACITY (Kg/H – NM/H = Kg/H $\times \frac{22.4}{29}$)

A : EFFECTIVE DISCHARGE AREA(mm²)

LOW LIFT A = 3.14DL – D = SEAT DIA.

L = LIFT

FULL BORE A = 0.785D² – D = THROAT DIA.

P1 : (SET. PRESS. \times 1.1) + ATM. PRESS. (1.0)

T : ABSOLUTE TEMP.(°K) – 273 + REQ'D TEMP

M : MOLECULAR WEIGHT

C : CONSTANT FOR AIR WHICH IS A FUNCTION OF THE RATIO OF – 2.34
SPECIFIC HEAT

K : COEFFICIENT OF DISCHARGE – 0.864

Z : COMPRESSIBILITY FACTOR – 1.0

3. FOR SAT STEAM (ASME CODE V III)

W : 0.5145 \times A(P+1) \times K \times C \times 0.9

W : CAPACITY (Kg/H)

A : EFFECTIVE DISCHARGE AREA

LOW LIFT A = 3.14DL – D = SEAT DIA.

L = LIFT

FULL BORE A = 0.785D² – D = THROAT DIA.

P : RELIEVING PRESS. – SET. PRESS. \times 1.03

K : COEFFICIENT OF DISCHARGE – 0.864

SAFETY & SAFETY – RELIEF VALVE

4. THROAT DIA, SEAT DIA & LIFT FOR LOW LIFT SAFETY & SAFETY – RELIEF VALVE.

NOM. BORE DESCRIPTION	15	20	25	40	50	65	75	100	125	150
SEAT. DIA.	15	20	25	40	50	65	75	100	125	150
LIFT	0.4	0.5	0.7	1.0	1.3	1.7	1.9	2.5	3.2	3.8
EFFECTIVE AREA										
2.22DL	13.3	22.2	38.0	88.8	144.3	245.3	316.3	555.0	888.0	1265.4
3.14DL	18.8	31.4	54.9	125.6	204.1	346.9	447.4	785.0	1256.0	1789.8
0.785D ²	176.6	314.0	490.6	1256.0	1962.5	3316.6	4415.6	7850.0	12265	17662

5. THROAT DIA & LIFT FOR FULL BORE SAFETY & SAFETY – RELIEF VALVE.

NOM. BORE DESCRIPTION	15/25	20/40	25/40	40/65	50/80	65/100	80/125	100/150	125/200	150/200
SEAT. DIA.	15	20	25	35	45	58	71	88	111	134
THROAT DIA	11	15	19	30	38	49	51	76	95	115
LIFT	2.8	3.8	5.0	7.5	9.5	12.5	15.5	19.0	24.0	29.0
EFFECTIVE AREA										
0.785D ²	94.9	176.6	283.3	706.5	1133.5	1884.7	2920.9	4534.1	7084.6	10381.6

6. MOLECULAR WEIGHT FOR VAPOR.

SO ₂	64.07
Ar	39.94
NH ₃	17.03
CO	28.01
HCL	36.47
CL ₂	70.91
N ₂ O ₄	92.02
-	28.97
O ₂	32.00
H ₂	2.016
CO ₂	44.01
N ₂	28.02

Ne	20.18
He	4.003
H ₂ O	18.016
C ₂ H ₂	26.04
C ₂ H ₆ O	58.08
C ₂ H ₅ NH ₂	93.13
C ₄ H ₁₀	58.12
C ₂ H ₆	30.07
C ₂ H ₅ OH	46.07
C ₂ H ₄	28.05
C ₂ H ₃ CL	64.52
CH ₃ COOH	60.05

NOMINAL BLOW – OFF VOLUME SETTING

The coefficient according to steam properties

Temp(°C) Absolute Pressure (MPa)(kg/cm ²)	Saturation Temp	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700		
5(0.5)	1.055	0.996	0.972	0.951	0.931	0.913	0.896	0.879	0.864	0.846	0.835	0.822																	
10(1.0)	0.978	0.981	0.983	0.960	0.938	0.919	0.901	0.884	0.868	0.853	0.838	0.825																	
15(1.5)	0.977	0.976	0.970	0.972	0.947	0.925	0.906	0.888	0.872	0.856	0.841	0.828																	
20(2.0)	0.972	0.967	0.964	0.964	0.955	0.932	0.912	0.893	0.876	0.860	0.845	0.830	0.817	0.804	0.792	0.780	0.768												
25(2.5)	0.969		0.961	0.961	0.961	0.937	0.918	0.898	0.880	0.863	0.848	0.833	0.819	0.806	0.793	0.782	0.770												
30(3.0)	0.967		0.962	0.962	0.957	0.949	0.924	0.903	0.885	0.867	0.851	0.836	0.822	0.808	0.795	0.783	0.774	0.763	0.748	0.742	0.730	0.721	0.712	0.703	0.695	0.687	0.679		
40(4.0)	0.965			0.958		0.954	0.934	0.915	0.894	0.875	0.857	0.841	0.826	0.813	0.799	0.787	0.775	0.763	0.755	0.744	0.735	0.725	0.715	0.705	0.696	0.688	0.680		
50(5.0)	0.966					0.955	0.953	0.927	0.904	0.884	0.865	0.848	0.832	0.817	0.803	0.790	0.778	0.766	0.755	0.747	0.737	0.723	0.717	0.708	0.697	0.689	0.681		
60(6.0)	0.968					0.962	0.953	0.941	0.911	0.891	0.872	0.854	0.838	0.822	0.808	0.794	0.781	0.769	0.758	0.747	0.739	0.729	0.719	0.710	0.698	0.690	0.682		
70(7.0)	0.971						0.958	0.954	0.924	0.901	0.881	0.861	0.844	0.827	0.812	0.798	0.785	0.772	0.761	0.749	0.739	0.731	0.721	0.708	0.702	0.691	0.683		
80(8.0)	0.975						0.967	0.956	0.937	0.912	0.888	0.868	0.850	0.833	0.817	0.802	0.789	0.776	0.763	0.752	0.741	0.731	0.719	0.710	0.701	0.692	0.684		
90(9.0)	0.980							0.962	0.957	0.926	0.897	0.876	0.856	0.838	0.822	0.807	0.792	0.779	0.766	0.754	0.743	0.733	0.722	0.711	0.702	0.693	0.685		
100(10.0)	0.986							0.971	0.961	0.936	0.909	0.883	0.863	0.844	0.827	0.811	0.796	0.782	0.769	0.757	0.745	0.735	0.724	0.712	0.703	0.695	0.686		
120(12.0)	0.999								0.975	0.964	0.926	0.903	0.876	0.857	0.838	0.818	0.805	0.789	0.775	0.762	0.750	0.739	0.728	0.718	0.706	0.697	0.688		
140(14.0)	1.016								1.002	0.980	0.956	0.920	0.893	0.868	0.846	0.828	0.811	0.797	0.782	0.768	0.755	0.743	0.732	0.721	0.711	0.699	0.691		
160(16.0)	1.036									1.000	0.988	0.942	0.907	0.883	0.858	0.838	0.819	0.803	0.787	0.774	0.760	0.748	0.736	0.725	0.714	0.704	0.693		
180(18.0)	1.063									1.038	1.004	0.972	0.929	0.895	0.873	0.848	0.828	0.810	0.794	0.779	0.766	0.752	0.740	0.728	0.717	0.707	0.697		
200(20.0)	1.094										1.028	1.006	0.953	0.914	0.885	0.861	0.835	0.818	0.801	0.786	0.770	0.757	0.744	0.732	0.720	0.710	0.700		
220(22.0)	1.129										1.072	1.033	0.982	0.932	0.900	0.872	0.849	0.827	0.808	0.793	0.777	0.761	0.749	0.736	0.724	0.713	0.702		
240(24.0)												1.059	1.016	0.958	0.915	0.885	0.861	0.837	0.815	0.797	0.783	0.766	0.752	0.740	0.727	0.716	0.705		
260(26.0)												1.099	1.055	0.982	0.935	0.899	0.871	0.848	0.825	0.804	0.786	0.772	0.756	0.741	0.731	0.719	0.708		
280(28.0)												1.167	1.096	1.013	0.956	0.913	0.883	0.853	0.834	0.811	0.793	0.776	0.762	0.747	0.735	0.720	0.710		
300(30.0)													1.132	1.047	0.977	0.931	0.895	0.867	0.838	0.821	0.799	0.781	0.763	0.753	0.735	0.724	0.715		
320(32.0)													1.169	1.089	1.009	0.952	0.908	0.877	0.849	0.824	0.805	0.787	0.770	0.753	0.742	0.729	0.714		
340(34.0)														1.136	1.032	0.968	0.923	0.888	0.859	0.835	0.812	0.792	0.775	0.757	0.746	0.729	0.718		
360(36.0)														1.191	1.063	0.989	0.941	0.899	0.869	0.842	0.818	0.798	0.790	0.761	0.750	0.734	0.723		
380(38.0)															1.098	1.016	0.956	0.913	0.878	0.850	0.823	0.804	0.785	0.765	0.750	0.739	0.726		
400(40.0)															1.137	1.037	0.972	0.927	0.888	0.858	0.832	0.807	0.790	0.769	0.754	0.742	0.729		
420(42.0)																1.064	0.995	0.944	0.901	0.868	0.839	0.815	0.792	0.774	0.758	0.745	0.729		
440(44.0)																1.092	1.012	0.954	0.914	0.876	0.846	0.821	0.800	0.779	0.762	0.748	0.731		
460(46.0)																1.122	1.035	0.971	0.924	0.888	0.854	0.828	0.805	0.785	0.766	0.753	0.738		

► Reference : The mid-volume of pressure & temperature in this table is calculated according Proportional method.

CAPACITY DATA – FOR WATER

- MODEL NO. :
- FLUID : WATER
- TYPE : FULL BORE TYPE

APPLIED RULE : API RP520(LIQUID)

$$Q = \frac{84 \times A \times K \times K_p \times K_w \times K_v \times \sqrt{1.25P - P_b}}{\sqrt{G}}$$

Q : Relieving capacity(L/min)

A : Effective discharge area(cm²)

- P = Set pressure (Kgf/cm²G)
- P_b = Back pressure (Kgf/cm²G)
- K = Coefficient of discharge (0.62)
- K_p = Capacity correction factor due to back pressure
- K_w = Capacity correction factor due to back pressure(1.0)
- K_v = Capacity correction for viscosity (1.0)
- G = Specific gravity (WATER : 1.0)

Site	5A × 25A	20A × 25A	25A × 65A	40A × 65A	50A × 80A	65A × 100A	80A × 125A	100A × 150A	125A × 200A	150A × 200A
	15mm	15mm	19mm	30mm	38mm	49mm	61mm	76mm	95mm	115mm
THROAT DIA										
AREA(mm ²)										
pressure(kgf/cm ² G)										
1	33.19	61.73	99.04	246.93	396.18	658.55	1920.84	1584.71	2476.29	3628.49
2	46.94	87.30	140.07	349.21	560.28	931.33	1443.68	2241.12	3502.00	5131.46
3	57.49	106.92	171.55	427.70	686.20	1140.64	1768.15	2744.80	4289.50	6284.72
3.5	62.09	115.49	185.30	461.96	741.18	1232.03	1909.82	2964.72	4632.71	6788.28
4	66.38	123.46	198.09	493.86	792.36	1317.10	2041.68	3169.42	4952.57	7256.97
4.5	70.41	130.95	210.11	523.82	840.42	1390.00	2165.53	3361.68	5253.00	7697.18
5	74.21	138.04	221.47	552.15	885.88	1472.56	2282.67	3543.52	5537.15	8113.54
5.5	77.84	144.78	232.28	579.10	929.12	1544.44	2394.08	3716.48	5807.41	8509.56
6	81.30	151.21	242.61	604.85	970.43	1613.11	2500.54	3881.74	6065.64	8887.94
7	87.81	163.33	262.05	653.32	1048.19	1742.36	2700.89	4192.75	6551.64	9600.07
8	93.87	174.61	280.14	698.42	1120.56	1862.66	2887.37	4482.24	7004.00	10262.91
8.4	96.19	178.92	287.06	715.67	1148.23	1908.66	2958.67	4592.93	7176.96	10516.35
9	99.57	185.20	297.13	740.79	1188.53	1975.65	3062.52	4754.14	7428.86	10855.46
10	104.95	195.22	313.21	780.86	1252.82	2082.52	3228.18	5011.30	7830.71	11474.28
11	110.08	204.74	328.49	818.97	1313.97	2184.16	3385.74	5255.89	8212.91	12034.33
12	114.97	213.85	343.10	855.39	1372.40	2281.28	3536.29	5489.60	8578.11	12569.45
13	119.67	222.58	357.11	890.32	1428.44	2374.43	3680.69	5713.76	8928.38	13082.70
14	124.18	230.98	370.59	923.93	1482.36	2464.07	3819.63	5929.45	9265.41	13576.55
15	128.54	239.09	383.60	956.36	1534.39	2550.55	3953.69	6137.56	9590.62	14053.07
16	132.76	246.93	396.18	987.72	1584.71	2634.20	4083.36	6338.84	9905.15	14513.95
17	136.84	254.53	408.37	1018.12	1633.48	2715.27	4209.03	6533.93	10209.99	14960.63
18	140.81	261.91	420.21	1047.67	1680.84	2794.00	4331.05	6723.36	10793.88	15394.37
19	144.67	269.09	431.72	1076.34	1726.90	2870.55	4449.74	6907.60	11074.29	15816.21
20	148.43	276.08	442.94	1104.30	1771.76	2945.12	4655.33	7087.05	11074.29	16227.09

CAPACITY DATA – FOR WATER

- MODEL NO. :
- FLUID : WATER
- TYPE : FULL BORE TYPE

APPLIED RULE : HIGH TEMP LIQUID VESSEL CODE

$$W = 50.4 \times C \times A(P1 - P2) \times G$$

*SEA WATER : $W \times 1.025$

FUEL OIL : $W \times 0.95$

LUBE OIL : $W \times 0.9$

• W = Kg/Hr

• P1 = SET. P $\times 1.25$

• G = 1.0

• A = THROAT AREA (mm²)

• C = 0.62

• P2 = 0

Size	15A x 25A	20A x 25A	25A x 40A	40A x 65A	50A x 80A	65A x 100A	80A x 125A	100A x 150A	125A x 200A	150A x 200A
THROAT DIA	11mm	15mm	19mm	30mm	38mm	49mm	61mm	76mm	95mm	115mm
AREA (mm ²)	95.03	176.71	283.53	706.86	1134.11	1886.11	2922.47	4536.46	7088.23	10386.89
pressure (kg/cm ²)										
1	3320	6173.6	9905.5	24695.1	39621.6	65868.8	102100.4	158487.3	247636.7	362879.8
2	4695.2	8730.8	14008.5	34924.1	56033.5	93138.4	144391.7	224134.8	350211.2	513189.5
3	5750.4	10692.9	17156.8	42773.2	68626.7	114070.8	176843.0	274507.9	428919.4	628526.2
3.5	6211.2	11549.7	18531.5	46200.3	74125.3	123210.6	191012.3	296502.5	463285.9	678885.9
4	6639.9	12347.2	19810.9	49390.2	79243.3	131717.6	204200.7	316974.5	495273.4	725759.6
4.5	7042.8	13096.2	21012.7	52386.2	84050.2	140542.5	216587.6	336202.2	425316.8	769784.3
5	7423.7	13804.6	22149.4	55219.9	88596.7	148144.8	228303.4	354388.3	553732.5	811423.9
5.5	7786.1	14478.4	23230.4	57915.1	92920.7	155375.6	239446.6	371685.5	580759.6	851028.5
6	8132.3	15122.2	24263.4	60490.4	97052.7	162284.5	250093.8	388212.9	606583.6	888870.3
7	8783.9	16333.8	26207.5	65337.1	104829.0	175287.3	270132.2	419317.8	655185.2	960089.6
8	9390.4	17461.6	28016.9	69848.3	112066.9	187389.9	288783.4	448269.6	700422.4	1026379.0
8.4	9622.3	17892.8	28708.9	71573.2	114834.4	192017.6	295914.9	459339.7	717719.4	1051725.5
9	9959.9	18520.8	29716.5	74085.3	118864.9	198757.1	306301.1	475461.7	742910.1	1088639.3
10	10498.8	19522.6	31323.9	78092.7	125294.6	209508.4	322869.7	501180.7	783096.1	1147526.6
11	11011.2	20475.5	32852.8	81904.4	131410.1	219734.2	338628.6	525642.7	821318.1	1203636.1
12	11500.8	21385.9	34313.6	85546.3	137253.4	229504.9	353686.0	549015.9	857838.7	1257052.4
13	11970.4	22259.2	35714.8	89039.4	142857.8	238876.3	368128.1	571433.9	892866.9	1308381.6
14	12422.3	23099.5	37062.9	92400.6	148250.6	247893.7	382024.6	593004.9	926571.7	1357771.8
15	12858.3	23910.2	38363.8	95643.7	153453.9	256594.3	395433.0	613818.5	959092.9	1405427.3
16	13279.9	24694.4	39621.9	98780.4	158486.5	265009.6	408401.5	633948.9	990546.9	1451519.1
17	13688.7	25454.4	40841.4	101820.5	163364.2	273165.5	420970.6	653459.7	1021032.3	1496191.7
18	14085.6	26192.4	42025.5	104772.4	168100.4	280184.9	433175.2	672404.4	1050633.6	1539568.5
19	14471.5	26910.1	43177.1	107643.4	172706.8	288787.4	445045.2	690829.9	1079423.4	1581756.3
20	14847.5	27609.2	44298.8	110439.8	177193.4	296289.6	456606.7	708776.5	1107465.1	1622847.7

CAPACITY DATA – FOR STEAM

- MODEL NO. :
- FLUID : STEAM
- TYPE : FULL BORE TYPE

APPLIED RULE : KR (BOILER, ECONOMIZER, SUPERHEATER ETC)

- W = Kg/Hr
- C = 280° BELOW(1.0)
- A = THROAT AREA : mm²
- K = 2.5

$$W = \frac{(1.03P + 1)}{K} \times A \times C$$

Size	15A × 25A	20A × 25A	25A × 40A	40A × 65A	50A × 80A	50A × 100A	80A × 125A	100A × 150A	125A × 200A	150A × 200A
THROAT DIA	11mm	15mm	19mm	30mm	38mm	49mm	61mm	76mm	95mm	115mm
AREA(mm ²)	95.03	176.71	283.53	706.86	1134.11	1885.11	2922.47	4536.46	7088.23	10386.89
pressure(kg/cm ² G)	2	3	4	4.4	5	6	6.6	7	7.7	8
	116.3	216.3	347.0	865.2	1388.2	2308.2	3577.1	5552.6	8675.9	12713.6
	155.5	289.1	463.9	1156.4	1855.4	3085.1	4781.2	7421.7	11596.3	16992.9
	194.6	361.9	580.7	1447.7	2322.7	3862.0	5985.2	9290.7	14516.7	21272.4
	210.3	391.0	627.4	1564.1	2509.6	4172.8	6466.8	10038.3	15684.4	22984.1
	233.8	434.7	697.5	1767.2	2789.9	4638.9	7189.3	11159.7	17437.1	25551.8
	272.9	507.5	814.3	2030.1	3257.2	5415.9	8393.3	13028.7	20357.4	29831.2
	296.4	551.2	884.4	2204.8	3537.5	5882.0	9115.8	14150.1	22109.6	32398.8
	312.1	580.3	931.1	2321.3	3724.4	6192.8	9597.4	14897.7	23277.8	34110.6
	339.5	631.3	1012.9	2525.2	4051.5	6736.6	10440.2	16206.1	25321.9	37106.1
	351.2	653.1	1047.9	2612.6	4191.7	6969.7	10801.5	16766.8	26198.1	38389.9
	390.4	725.9	1164.7	2903.8	4688.9	7746.6	12005.5	18635.8	29118.5	42669.3
	429.5	798.7	1281.6	3195.0	5126.2	8523.5	13209.6	20504.8	32038.8	46948.7
	468.7	871.5	1398.4	3486.2	5593.4	9300.5	14413.6	22373.8	34959.2	51228.1
	5507.8	944.3	1515.2	3777.5	6060.7	10077.4	15617.7	24242.8	37879.5	55507.5
	546.9	1017.1	1632.0	4068.7	6279.9	10854.3	16821.7	26111.9	40799.9	59786.9
	586.2	1089.9	1748.8	4359.9	6995.2	11631.2	18025.8	27980.9	43720.2	64066.3
	625.3	1162.8	1865.6	4651.1	7462.4	12408.2	19229.9	29849.9	46640.6	68345.7
	664.5	1235.6	1982.4	4942.4	7929.7	13185.1	20433.9	31718.9	49560.9	72625.1
	703.6	1308.4	2099.3	5233.6	8396.9	13962.0	21637.9	33587.9	52481.3	76904.5
	742.8	1381.2	2216.1	5524.8	8864.2	14738.9	22842.0	35456.9	55401.6	81183.9
	781.9	1453.9	2332.9	5816.0	9331.5	15515.9	24046.1	37325.9	58321.9	85463.3
	821.1	1526.8	2449.7	6107.3	9798.7	16292.8	25250.1	39195.0	61242.3	89742.7
	860.2	1599.6	2566.5	6398.5	10265.9	17069.7	26454.2	41046.0	64162.6	94022.1
	899.4	1672.4	2683.3	6689.7	10732.2	17846.6	27658.3	42933.1	67083.0	98301.5

CAPACITY DATA – FOR STEAM

- MODEL NO. :
- FLUID : STEAM
- TYPE : FULL BORE TYPE

APPLIED RULE : JIS B 8210 & KS B 6216

$$W = 0.5145 \times A \times (1.03P + 1) \times K \times C \times 0.9$$

- W = Kg/Hr
- C = 1.0(SAT. STEAM)
- A = THROAT AREA (mm²)
- K = 0.864

Size	15A × 25A	20A × 25A	25A × 40A	40A × 65A	50A × 80A	65A × 100A	80A × 125A	100A × 150A	125A × 200A	150A × 200A
THROAT DIA	11mm	15mm	19mm	30mm	38mm	49mm	61mm	76mm	95mm	115mm
AREA(mm ²)	95.03	176.71	283.53	706.86	1134.11	1885.11	2922.47	4536.46	7088.23	10386.89
pressure(kg/cm ² G)	2	3	4	4.4	5	6	6.6	7	7.7	8
2	116.3	216.3	347.1	865.4	1388.4	2308.6	3577.8	5553.7	8677.6	12715.9
3	155.5	289.2	463.9	1156.6	1855.8	3085.7	4782.1	7423.0	11598.5	16996.2
4	194.7	361.9	580.8	1447.9	2323.1	3862.7	5986.3	9292.4	14519.4	21276.4
4.4	210.3	391.1	627.5	1564.4	2510.0	4173.6	6468.1	10040.2	15687.8	22988.4
5	233.8	434.8	697.6	1739.2	2790.4	4639.8	7190.6	11161.8	17440.3	25556.6
6	272.9	507.6	814.5	2030.5	3257.8	5416.9	8394.9	13031.2	20361.2	29836.8
6.6	296.5	551.3	884.6	2205.3	3538.2	5883.1	9117.5	14152.8	22113.8	32404.9
7	312.1	580.4	931.3	2321.8	3725.1	6193.9	9599.2	14900.5	23282.1	34116.9
7.7	339.6	631.4	1013.1	2525.7	4052.3	6737.9	10442.2	16209.1	25326.8	37113.1
8	351.3	653.2	1048.1	2613.1	4192.5	6971.0	10803.5	16769.9	26203.0	38397.2
9	390.5	726.1	1164.9	2904.3	4659.8	7748.1	12007.8	18639.3	29123.9	42677.4
10	429.6	798.9	1281.8	3195.6	5127.1	8525.2	13212.1	20508.7	32044.8	46957.6
11	468.8	871.7	1398.6	3486.9	5994.5	9302.2	14416.3	22378.0	34965.7	51237.8
12	507.9	944.5	1515.5	3778.2	6061.8	10079.3	15620.6	24247.4	37886.6	55517.9
13	547.9	1017.3	1632.3	4069.5	6529.2	10856.4	16824.9	26116.8	40807.5	59798.2
14	586.3	1090.2	1749.1	4360.7	6996.5	11633.4	18029.2	27986.2	43728.4	64078.4
15	625.4	1162.9	1865.9	4652.0	7463.9	12410.5	19233.5	29855.5	46649.3	68358.6
16	664.6	1235.8	1982.8	4943.3	7931.2	13187.6	20437.8	31724.9	49570.2	72638.8
17	703.7	1308.6	2099.7	5234.6	8398.5	13964.6	21642.0	33594.3	52491.1	76918.9
18	742.9	1381.4	2216.5	5525.9	8865.9	14741.7	22846.3	35463.6	55412.0	81199.2
19	782.5	1464.2	2333.3	5817.1	9333.2	15518.8	24050.6	37333.0	58332.9	85479.4
20	821.2	1527.1	2450.2	6108.4	9800.6	16295.9	25254.9	39202.4	61253.8	89759.6
21	860.4	1599.9	2567.0	6399.7	10267.9	17072.9	26459.2	41071.8	64174.7	94039.8
22	899.5	1672.7	2683.8	6690.9	10735.2	17850.0	27663.5	42941.1	67095.6	98320.0

CAPACITY DATA – FOR AIR

- MODEL NO. :
- FLUID : AIR
- TYPE : FULL BORE TYPE

APPLIED RULE : JIS B 8210 & KS B 6216

- W = Kg/Hr
- M = 28.967(Free Air)
- C = 2.65
- T = 273+20
- K = 0.975
- P = SetPr × 1.1 + 1

$$W = C = K \times A \times P \sqrt{\frac{M}{T}} \times 0.9$$

$$Nm^3 / Hr = \frac{22.4}{M.W(28.967)} \times Kg/Hr$$

Size	15A × 25A	20A × 25A	25A × 40A	40A × 65A	50A × 80A	65A × 100A	80A × 125A	100A × 150A	125A × 200A	150A × 200A
THROAT DIA	11mm	15mm	19mm	30mm	38mm	49mm	61mm	76mm	95mm	115mm
AREA(mm ²)	95.03	176.71	283.53	706.86	1134.11	1885.11	2922.47	4536.46	7088.23	10386.89
pressure(10 ⁵ cm ² /G)	146.1	271.3	435.3	1085.3	1741.4	2894.5	4487.3	6965.4	10883.5	15948.4
2	222.7	413.5	663.4	1653.8	4410.6	6837.7	6837.7	10613.8	16584.4	24302.3
3	299.2	555.6	891.4	2222.4	3565.6	5926.7	9188.2	14262.5	22285.3	32656.2
4	375.7	697.7	1119.5	2790.9	4477.8	7442.9	11538.6	17911.1	27986.1	41010.0
4.4	406.4	754.5	1210.7	3018.3	4842.6	8019.3	12478.8	19370.5	30266.5	44351.6
5	452.3	839.8	1347.5	3359.4	5389.8	8959.0	13889.1	21559.6	33686.9	49363.9
6	528.8	981.9	1575.5	3927.9	6302.0	10475.2	16239.6	25208.2	39387.9	57717.8
7	605.4	1124.1	1803.6	4496.4	7214.2	11991.3	18590.0	28856.7	45088.7	66071.7
7.7	658.9	1223.6	1963.2	4894.3	7852.7	13502.6	20235.4	31410.7	49079.3	71919.5
8	681.9	1266.6	2031.6	5064.9	8126.3	13507.5	20940.5	32505.3	50789.6	74425.6
8.8	743.1	1379.9	2214.0	5519.2	8856.0	14720.4	22820.9	35424.1	55350.3	81108.8
9	758.4	1408.3	2259.6	5633.4	9038.4	15023.6	23290.9	36153.9	56490.5	82779.5
9	834.9	1550.4	2487.7	6201.9	9956.6	16539.8	25641.4	39302.4	62191.4	91533.4
11	911.5	1692.6	2715.7	6770.4	10862.7	18055.9	27991.9	43451.0	67892.2	99487.3
12	988.1	1834.5	2943.7	7338.9	11774.8	19572.0	30342.4	47099.5	73593.1	107841.2
13	1064.6	1976.8	3171.8	7907.4	12686.9	21088.2	32692.8	50748.1	79293.9	116195.1
14	1141.1	2118.9	3399.8	8475.9	13599.1	22604.3	35043.3	54396.6	84994.9	124549.0
15	1217.7	2261.1	3627.8	9044.5	14511.2	24120.5	37393.8	58045.2	90695.3	132902.9
16	1294.2	2403.2	3855.9	9612.9	15423.4	25636.6	39744.2	61693.7	96396.6	141256.8
17	1370.7	2545.3	4083.9	10181.5	16335.5	27152.8	42094.7	65342.3	102097.5	149610.7
18	1447.3	2687.4	4311.9	10749.9	17247.6	28668.9	44445.2	68990.8	107798.3	157964.6
19	1523.8	2829.5	4539.6	11318.5	18159.8	30185.0	46795.6	72639.4	113400.2	166318.5
20	1600.4	2971.7	4768.0	11887.0	19071.9	31701.2	49146.1	76287.9	119200.1	174672.4
21	1676.9	3113.8	4996.1	12455.5	19984.0	33217.3	51496.5	79936.5	124900.9	183026.3

CAPACITY DATA—FOR STEAM

- MODEL NO. :
- FLUID : AIR
- TYPE : FULL BORE TYPE

APPLIED RULE : JIS B 8210 & KS B 6216

- W = Kg/Hr
- K = 0.975
- M = 28.967

- C = 2.65
- A = Set Pr × 1.1 + 1
- T = 273+20

$$W = C = K \times A \times P \sqrt{\frac{M}{T}} \times 0.9$$

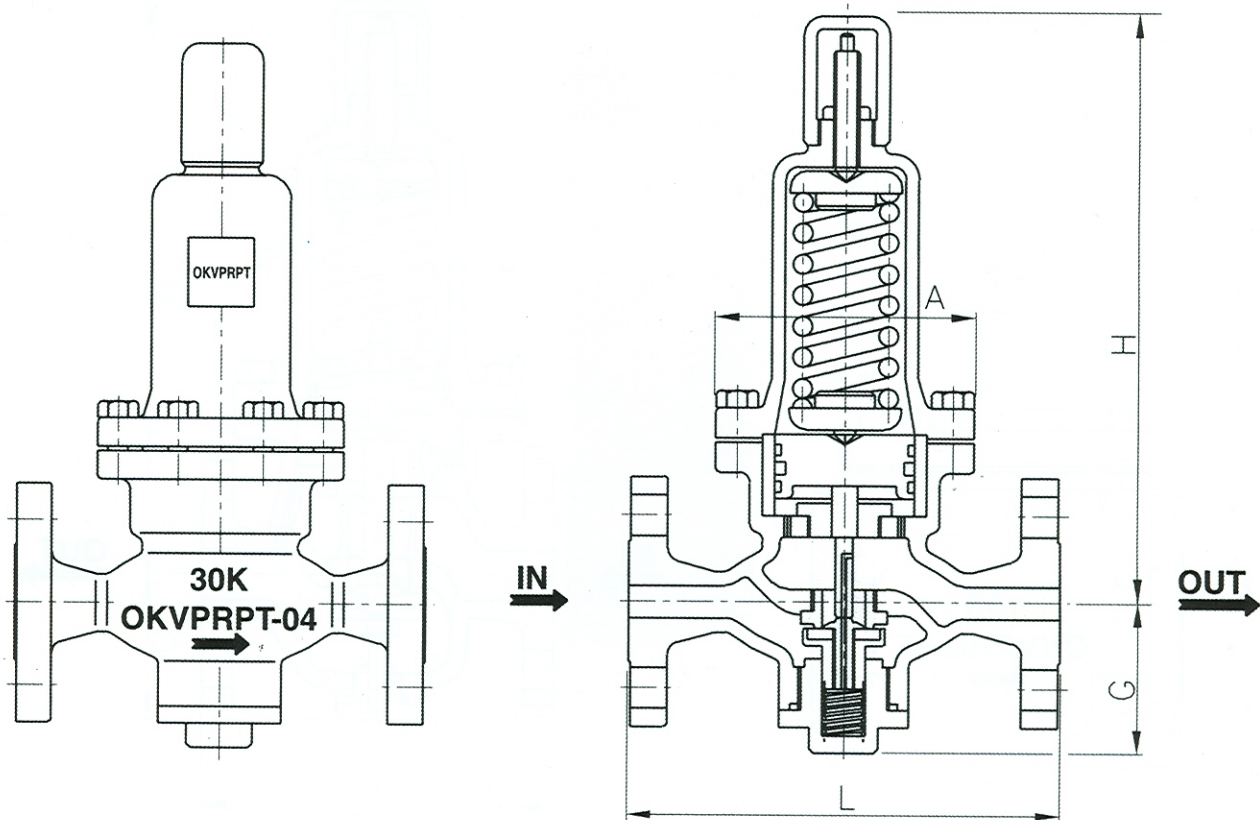
$$(\text{FREE AIR}) \text{ Nm}^3 / \text{Hr} = \frac{22.4}{M.W(28.967)} \times \text{Kg/Hr}$$

Size	15A × 25A	20A × 25A	25A × 40A	40A × 65A	50A × 80A	65A × 100A	80A × 125A	100A × 150A	125A × 200A	150A × 200A
THROAT DIA	11mm	15mm	19mm	30mm	38mm	49mm	61mm	76mm	95mm	115mm
AREA(mm ²)	95.03	176.71	283.53	706.86	1134.11	1885.11	2922.47	4536.46	7088.23	10386.89
pressure(kg/cm ² G)										
22	1750.9	3255.9	5224.1	13024.0	20896.2	34733.5	53847.0	83585.0	130608.0	191380.2
23	1827.4	3398.0	5452.1	13592.5	21808.0	36249.6	56197.5	87233.6	136302.7	199734.1
24	1903.8	3540.2	5680.2	14161.0	22720.4	37765.8	58547.9	90882.2	142003.6	208088.0
25	1980.2	3682.3	5908.2	14729.5	23632.6	39281.9	60898.4	94530.7	147704.5	216441.9
26	2056.7	3824.4	6136.2	15298.1	24544.7	40798.1	63248.9	98179.3	153405.3	224795.8
27	2133.1	3966.5	6364.3	15866.6	25456.8	42314.2	65599.3	101827.8	159106.2	233149.7
28	2209.5	4108.7	6592.3	16435.1	26368.9	43830.3	67949.8	105476.4	164807.1	241503.6
29	2285.9	4250.8	6820.3	17003.6	27281.1	45346.5	70300.3	109124.9	170507.9	249857.5
30	2362.4	4392.9	7048.4	17572.1	28193.2	46862.6	72650.7	112773.5	176208.8	258211.4
31	2438.8	4535.0	7276.4	18140.6	29105.4	48378.8	75001.2	116422.0	181909.7	266565.3
32	2515.2	4677.1	7504.4	18709.1	30017.5	49894.9	77351.7	120070.6	187610.6	274919.2
33	2591.7	4819.3	7732.5	19277.6	30929.7	51411.1	79702.1	123719.1	193311.5	283273.1
34	2668.1	4961.4	7960.5	19846.1	31841.8	52927.2	82052.6	127367.7	199012.3	291626.9
35	2744.5	5103.5	8188.6	20414.6	32753.9	54443.3	84403.0	131016.2	204713.2	299980.1

PRESSURE REDUCING VALVE

MODEL, OKVPRPT-04

● PISTON TYPE



■ SPECIFICATION

APPLICABLE FLUID	AIR & GAS
END CONNECTION	KS(JIS) 10K, 16K, 20K, 30K, 40K
PRIMARY PRESSURE RANGE	10 TO 40Kgf/cm ² .G
SECONDARY PRESSURE RANGE	2.0 TO 20Kgf/cm ² .G
FLUID TEMPERATURE	BELOW 80°C

■ MATERIAL

BODY	CAST STEEL
TRIM	STAINLESS STEEL
REDUCING RATE : MAX 15 : 1.	

■ DIMENSIONS

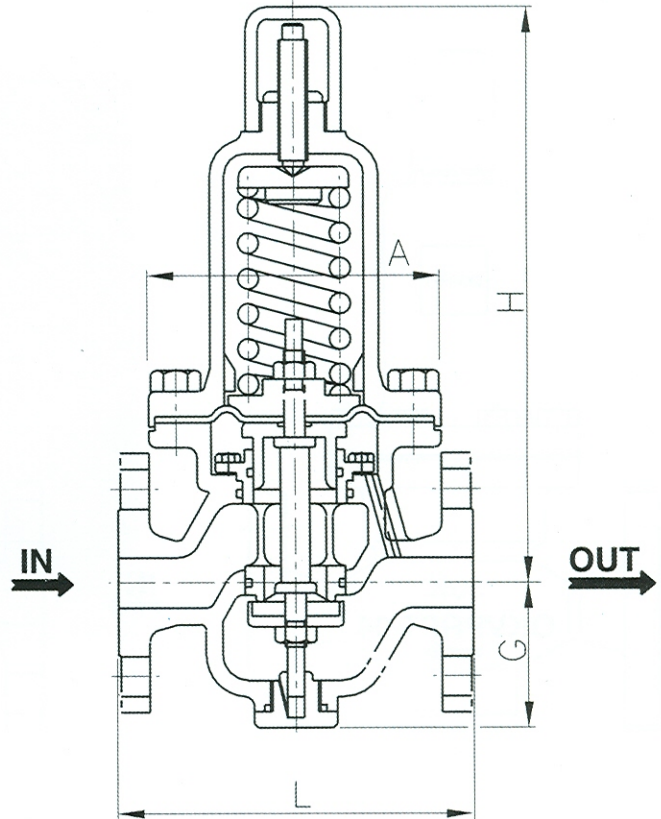
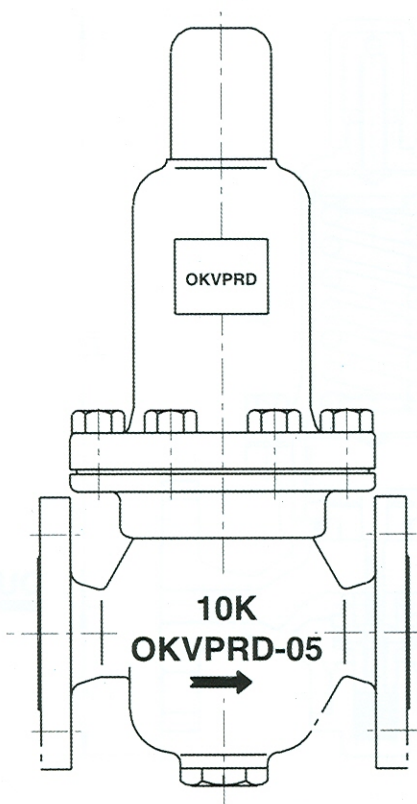
unit : mm

N · D	A	L	G	H	Cv	WEIGHT(Kg)
15A	120	210	70	272	1.0	16.5
20A	130	210	80	280	2.5	17.5
25A	140	220	85	290	4.0	18.0
32A	160	250	85	335	6.3	27.0
40A	160	254	100	340	8	28.2

PRESSURE REDUCING VALVE

MODEL, OKVPRD-05

● DIAPHRAGM TYPE



■ SPECIFICATION

APPLICABLE FLUID	WATER & OIL
END CONNECTION	KS(JIS) 10K, 16K
PRIMARY PRESSURE RANGE	MAX 16Kgf/cm ² .G
SECONDARY PRESSURE RANGE	1.0~3.5, 3.0~7.0, 7.0~10.0Kgf/cm ² .G
FLUID TEMPERATURE	BELOW 60°C

■ MATERIAL

BODY	CAST STEEL, BRONZE, NOD CASTING IRON
TRIM	STAINLESS STEEL, BRONZE

■ DIMENSIONS

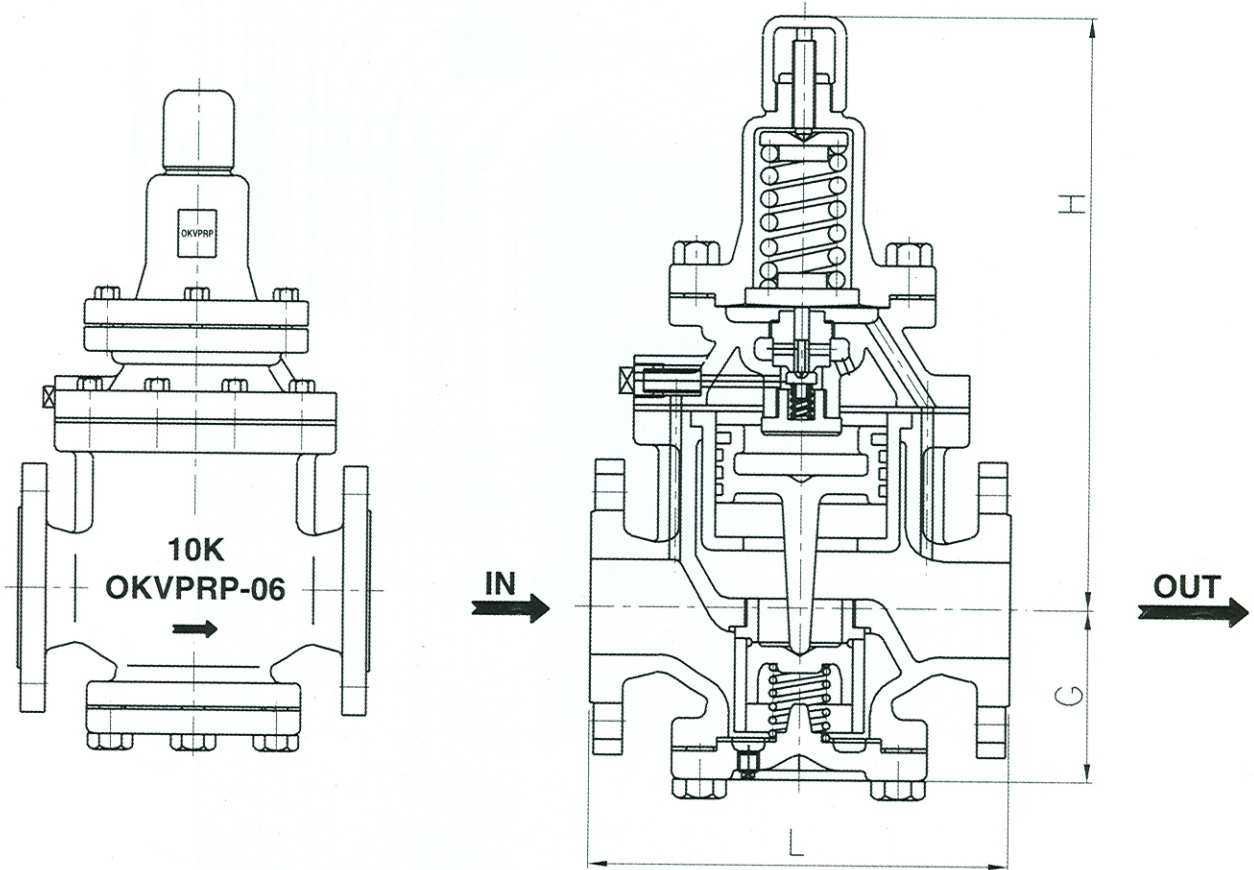
unit : mm

N · D	A	L	G	H	Cv	WEIGHT(Kg)
15A	124	156	55	260	1.0	9.5
20A	142	160	65	265	2.0	10.0
25A	150	170	70	276	3.5	10.5
32A	170	190	80	335	5.5	17.0
40A	170	190	80	335	8.0	18.0
50A	184	220	90	380	14	20.0

PRESSURE REDUCING VALVE

MODEL, OKVPRP-06

● PILOT TYPE



■ SPECIFICATION

APPLICABLE FLUID	STEAM, AIR & LIQUID
APPLICABLE PRESS	1~20Kgf/cm ² .G
FLUID TEMPERATURE	220°C
END CONNECTION	KS(JIS) 10K, 16K, 20K, FF & RF

■ MATERIAL

BODY	CAST IRON, NOD CAST IRON, BRONZE, CAST STEEL
TRIM	STAINLESS STEEL, BRONZE

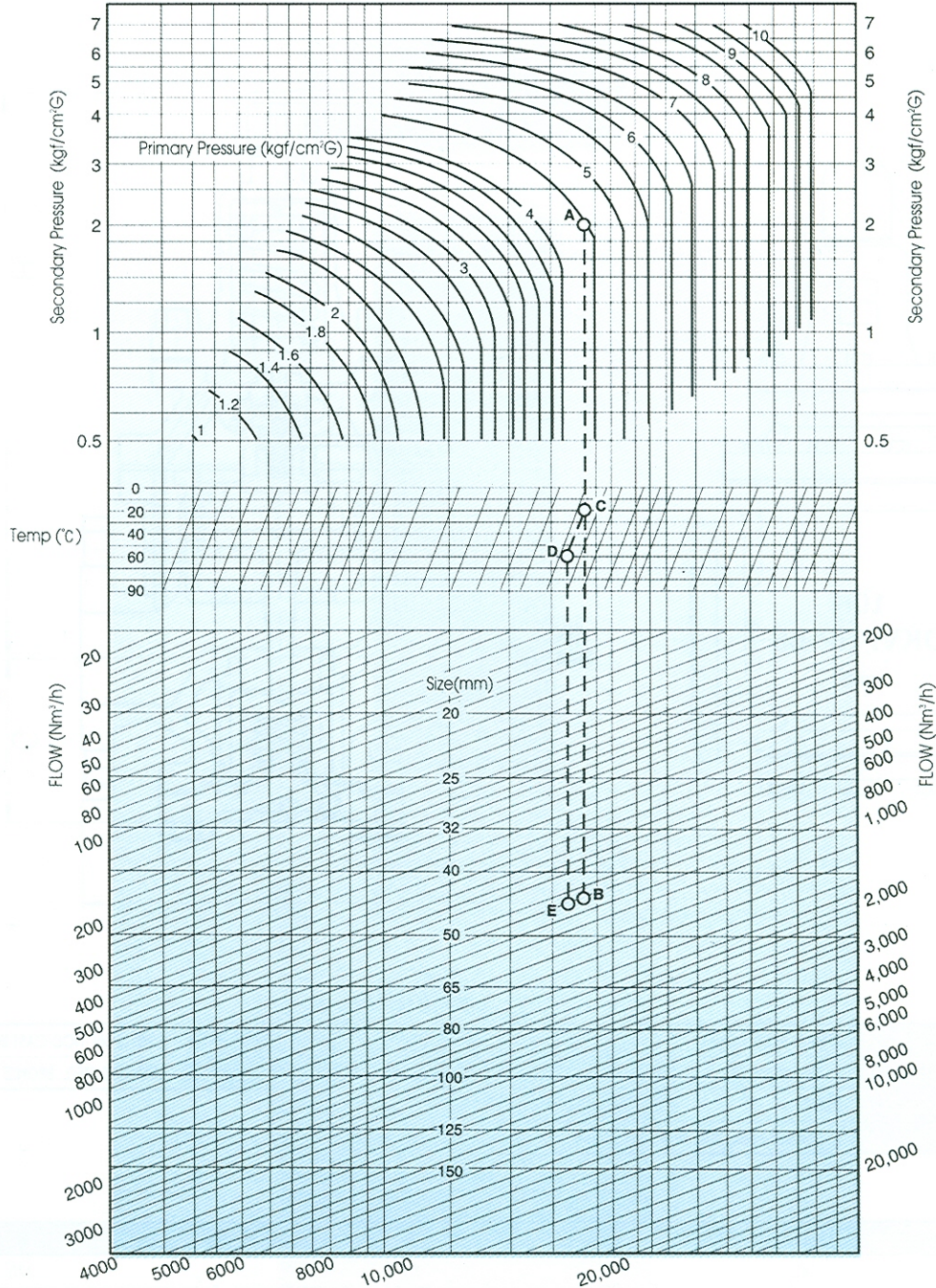
■ DIMENSIONS

unit : mm

N · D	L	G	H
15 × 15	140	70	270
20 × 20	140	75	270
25 × 25	150	80	280
32 × 32	160	80	290
40 × 40	190	85	300
50 × 50	122	115	320
65 × 65	260	120	310
80 × 80	290	138	330
100 × 100	330	165	382
125 × 125	350	175	425
150 × 150	430	207	490

PRESSURE REDUCING VALVE

PRPT TYPE. SELECTION CHART OF PRESSURE REDUCING VALVE'S NOMINAL DIA FOR LIQUID.



● **The way to use the chart**

Secondary PRESS REGULATING VALVE(FOR AIR)

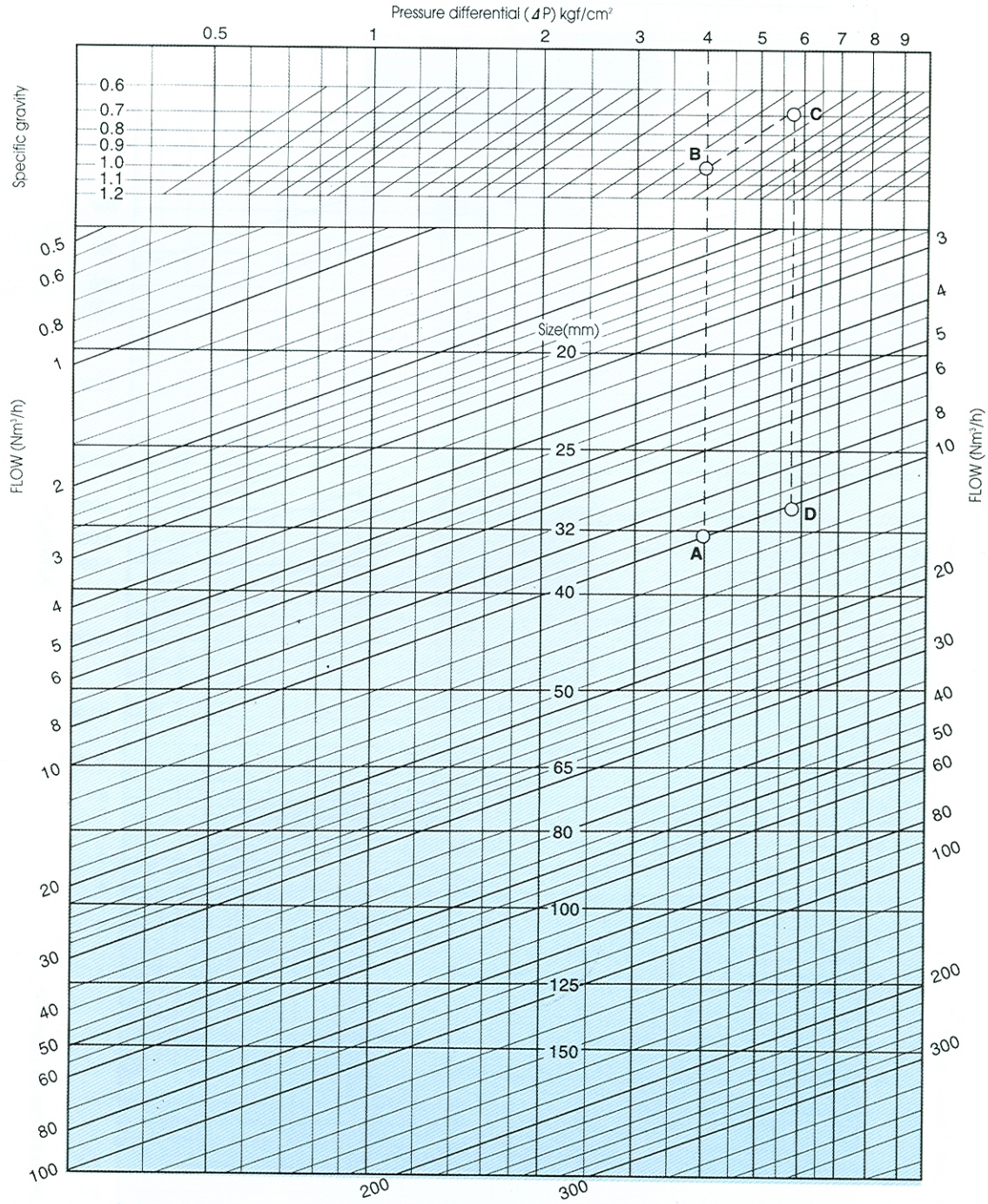
A. Obtain the size of valves in the chart from primary pressure 4kgf/cm²G, secondary pressure 2kgf/cm²G, and temperature 20°C with flow 800Nm³/h
 Obtain a cross point "A" on the vertical line down from primary pressure 44kgf/cm²G with horizontal line of secondary pressure 2kgf/cm²G and obtain a cross point "B" on the vertical line down from the point "A" with the line of Flow 800Nm³/h. As this point "B" is between size 40 and 50mm, select larger size 50mm.

B. Under the same condition, obtain a cross point "C" on the vertical line down from the point "A" with the horizontal line of temperature 60°C, and obtain a point "D" by moving to the parallel line of temperature 60°C.
 Obtain a cross point "E" on the vertical line down from the point "D" with the line of Flow 800Nm³/h. As the point "E" is between 40 and 50mm, select larger size 50mm.



PRESSURE REDUCING VALVE

PRD TYPE. SELECTION CHART OF PRESSURE REDUCING VALVE'S NOMINAL DIA FOR LIQUID.



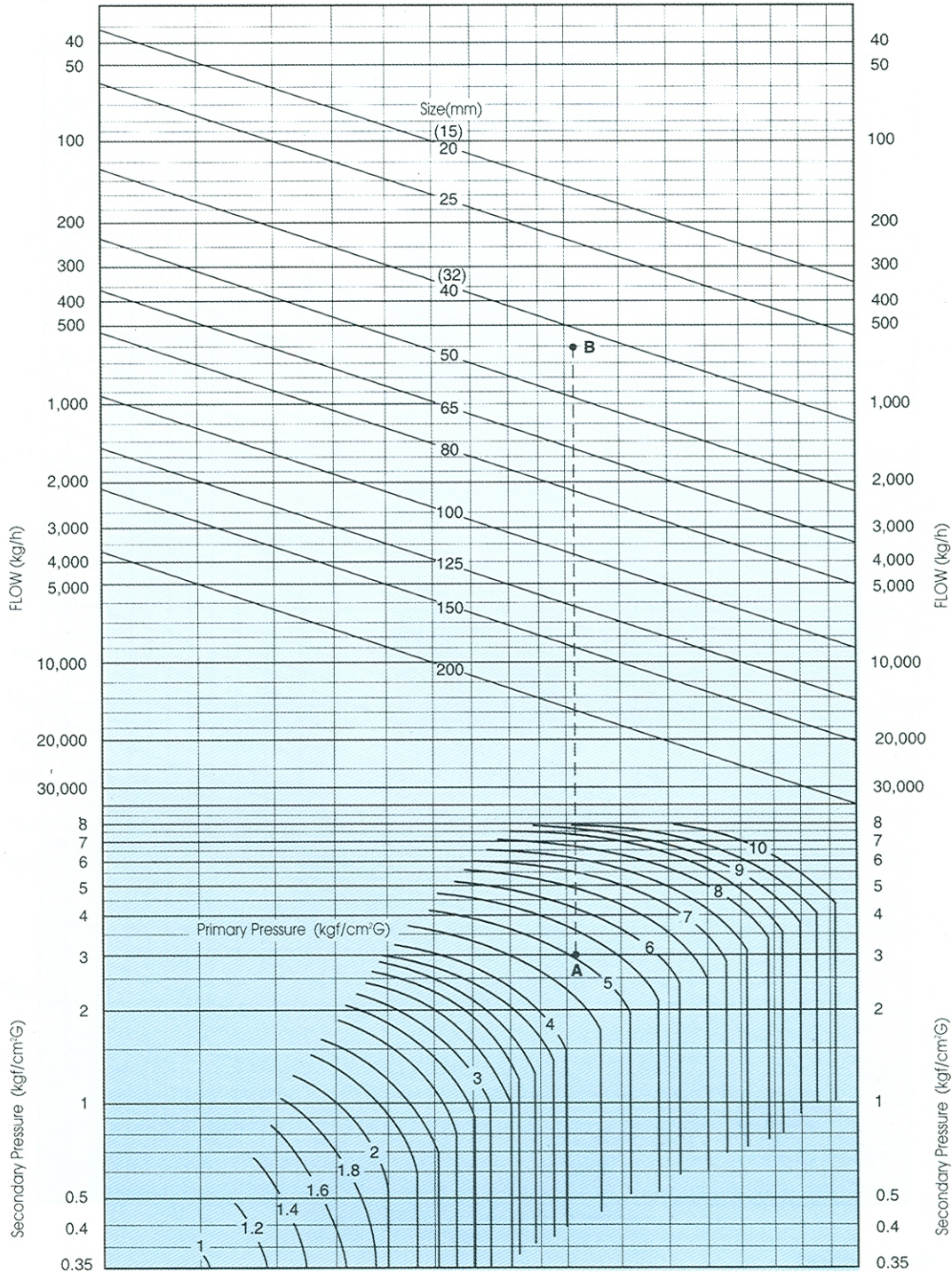
● **The way to use the chart**

PRIMARY PRESS REGULATING VALVE(FOR LIQUID)

A. Obtain the size of valves in the chart from Valve Inlet pressure 5kgf/cm²G, Back Pressure 1kgf/cm²G, and Specific gravity 1.0(water) with Flow 10m³/h. In this case, Pressure differential is 5-1=4kgf/cm²G. Obtain a cross point "A" on the vertical line down from Pressure differential(ΔP)-4kgf/cm²G(the point "B")with the horizontal line of Flow 10cm³/h. As the point "A" is between 32 and 40mm, select larger side 40mm.

B. In case of specific gravity 0.7(water) under the same condition, obtain a cross point "C" by tracing down vertically from pressure differential of 4kgf/cm²G up to hte point "B", of which specific gravity is 1.0(water), and then by moving to the parallel line of the point "C" obtain a cross point "D" by Flow 10m³/h. As the point "D" is between 25 and 32mm, select larger size 32mm.

PRESSURE REDUCING VALVE



● Valve size selecting chart

ex) Where

Primary Pressure: 5kgf/cm²G , Secondary Pressure: 3kgf/cm²G,
Saturating Steam Flow 600kg/h

- 1) Obtain a cross point "A" on the parallel line of primary pressure 5kgf/cm²G with the vertical line of secondary pressure 3kgf/cm²G. Obtain a cross point "B" on the vertical line of point "A" with the point "B" of Flow 600kg/h.

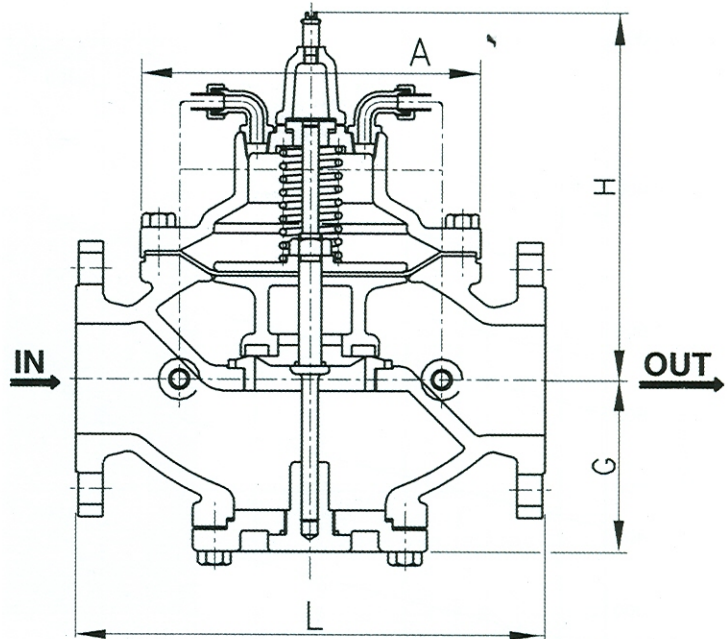
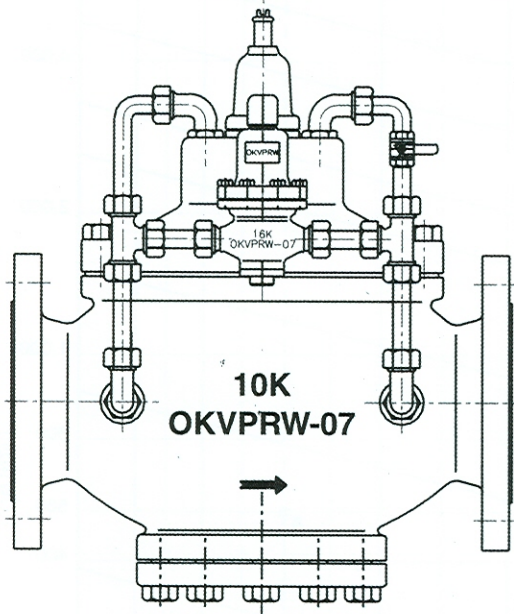
- 2) We can decide valve size at the poin "B".

As the valve size is between 40 and 50mm, there will not be any over-charge in the piping line with size 50mm.

WATERING VALVE(Pr. REDUCING VALVE)

MODEL, OKVPRW-07

● DIAPHRAGM TYPE



■ SPECIFICATION

APPLICABLE FLUID	WATER
END CONNECTION	KS(JIS) 10K, 16K
INLET PRESSURE RANGE	0.5~16Kgf/cm ² G
FLUID TEMPERATURE	BELOW 5~60°C

■ MATERIAL

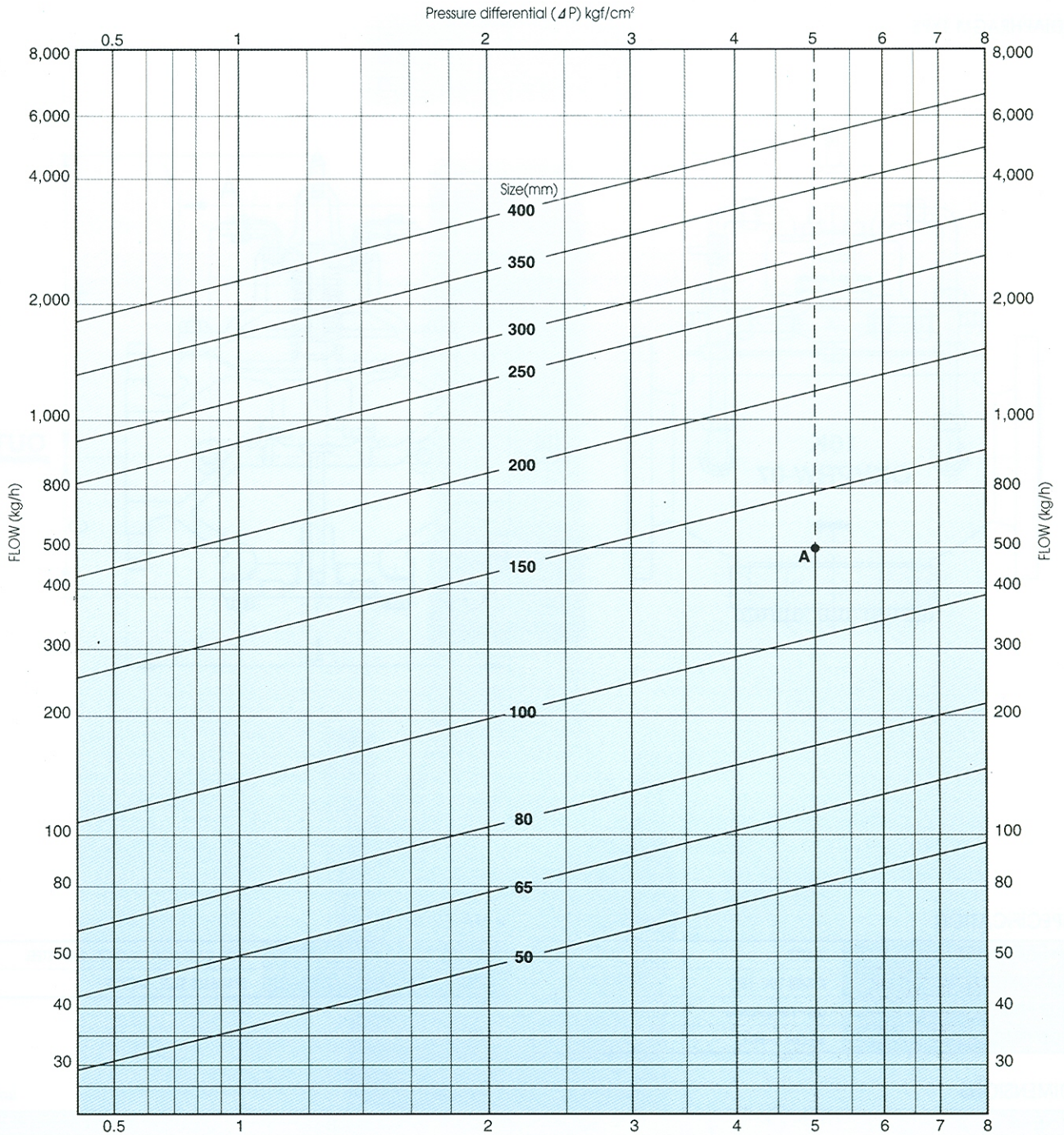
BODY	NOD CAST IRON, BRONZE, CAST STEEL
TRIM	STAINLESS STEEL, BRONZE

■ DIMENSIONS

unit : mm

N · D	L	G	H	Cv
50A	240	97	200	40
65A	290	100	225	63
80A	340	125	263	90
100A	360	140	297	160
125A	420	167	315	250
150A	510	165	345	360
200A	600	225	400	640
250A	740	260	460	1000

WATERING VALVE



● Valve size selecting chart

ex) Where

Primary Pressure: 6kgf/cm²G,
 Secondary Pressure: 1kgf/cm²G, Flow 500m³/h

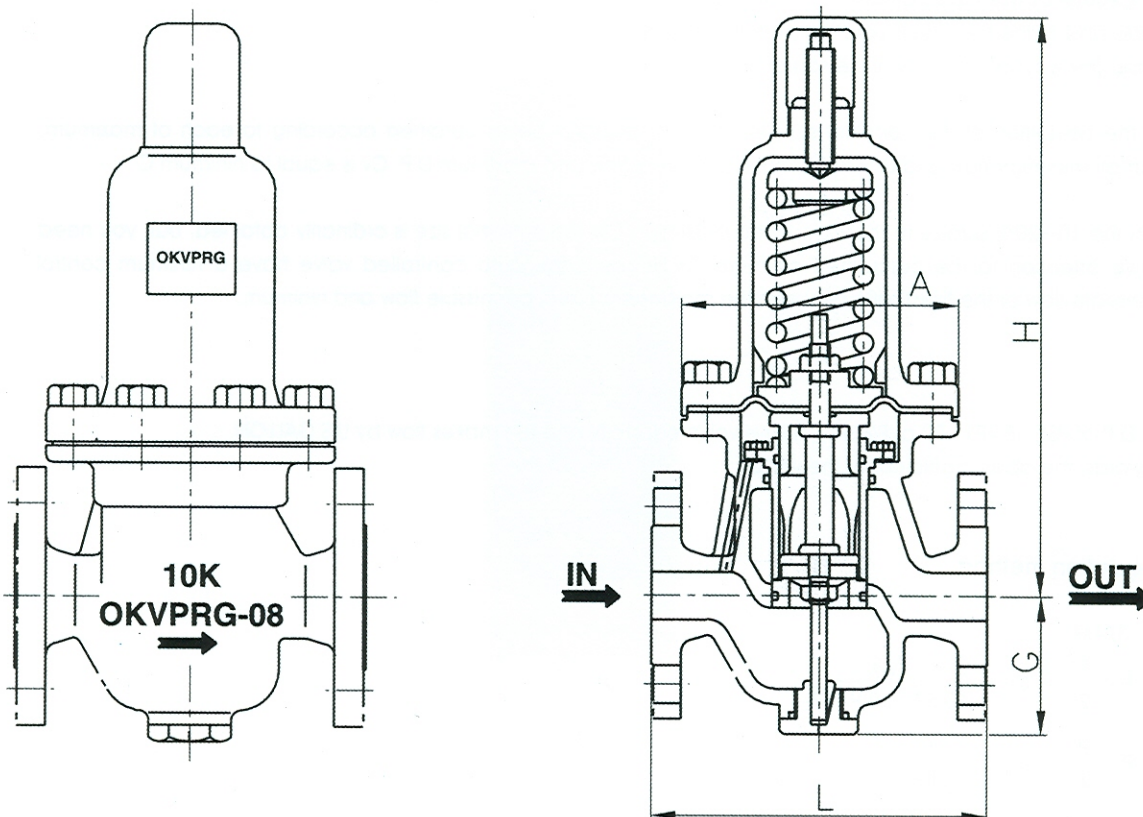
1) Owing to primary Pressure 6kgf/cm²G and Secondary Pressure 1kgf/cm²G Pressure differential(ΔP=P₁-P₂)is 5kgf/cm²

- 2) Obtain a cross point "A" on the line of parallel line of Pressure Differential 5kgf/cm² with the vertical line of Flow 500m³/h
- 3) As the point "A" is between 100 and 150mm size, there will not be any over-charge with size 150mm

PRIMARY PRESS REGULATING VALVE

MODEL, OKVPRG-08

● DIAPHRAGM TYPE



■ SPECIFICATION

APPLICABLE FLUID	WATER & OIL
END CONNECTION	KS(JIS) 10K, 16K
PRIMARY PRESSURE RANGE	MAX 16Kgf/cm ² .G
SETTING PRESSURE RANGE	1.0~3.5, 3.0~7.0, 7.0~10.0Kgf/cm ² .G
FLUID TEMPERATURE	BELOW 60°C

■ MATERIAL

BODY	CAST STEEL, BRONZE, NOD CASTING IRON
TRIM	STAINLESS STEEL, BRONZE

■ DIMENSIONS

unit : mm

N · D	A	L	G	H	Cv	WEIGHT(Kg)
15A	124	156	55	260	1.0	9.5
20A	142	160	65	265	2.0	10.0
25A	150	170	70	275	3.5	10.5
32A	170	190	80	335	5.5	17.0
40A	170	190	80	335	8.0	18.0
50A	184	220	90	380	14	20.0

PRIMARY PRESS REGULATING VALVE

● CALCULATION DATA FOR PRESS REGULATING V/V

Calculation data for nominal size (the way to obtain Cv by calculation)

1. The procedure of the calculation

decide the kind of the fluid, calculate the nominal size by that.

in this case, the way to calculate is the same as followed.

1-1. for the calculation of the nominal size, each Cv is ordinarily being obtained according to each of maximum, normal, minimum flow and D. P in the case of minimal flow and maximum D.P, Cv is equal to minimum C

1-2. given the 10-20% surplus to the calculated maximum Cv, the nominal size is ordinarily obtained. but, you need to give attention to the calculated minimum Cv because the auto controlled valve have a minimum control permissible flow or the fixed ratio between the maximum control permissible flow and minimum.

2. Cv?

from the D.P of PSI($\Delta P = P_1 - P_2$ or $P_2 - P_1$), that is valve capacity one ton makes flow by U.S.GALLON.

in other words, the ability coefficient of the valve

3. Cv Calculation method

3-1. For STEAM

$$\Delta P < \frac{P_1}{2} \rightarrow C_v = \frac{WK}{13.67 \sqrt{\Delta P(P_1 + P_2)}}$$

$$\Delta P \geq \frac{P_1}{2} \rightarrow C_v = \frac{WK}{11.9P_1}$$

3-2. For GAS

$$\Delta P < \frac{P_1}{2} \rightarrow C_v = \frac{Q}{287} \frac{G(273+t)}{\sqrt{\Delta P(P_1 + P_2)}}$$

$$\Delta P \geq \frac{P_1}{2} \rightarrow C_v = \frac{Q \sqrt{G(273+t)}}{248P_1}$$

3-3. For LIQUID

$$C_v = \frac{1.167V \sqrt{G}}{\sqrt{P_1 - P_2}}$$

W:Maximum flow(Kg/h)

V:Maximum flow(M³)

P₁:Input pressure

P₂:Output pressure Kgf/cm²

$\Delta P = P_1 - P_2$ (Kgf/cm²)

G=Gravity(Water=1)(Air=1)

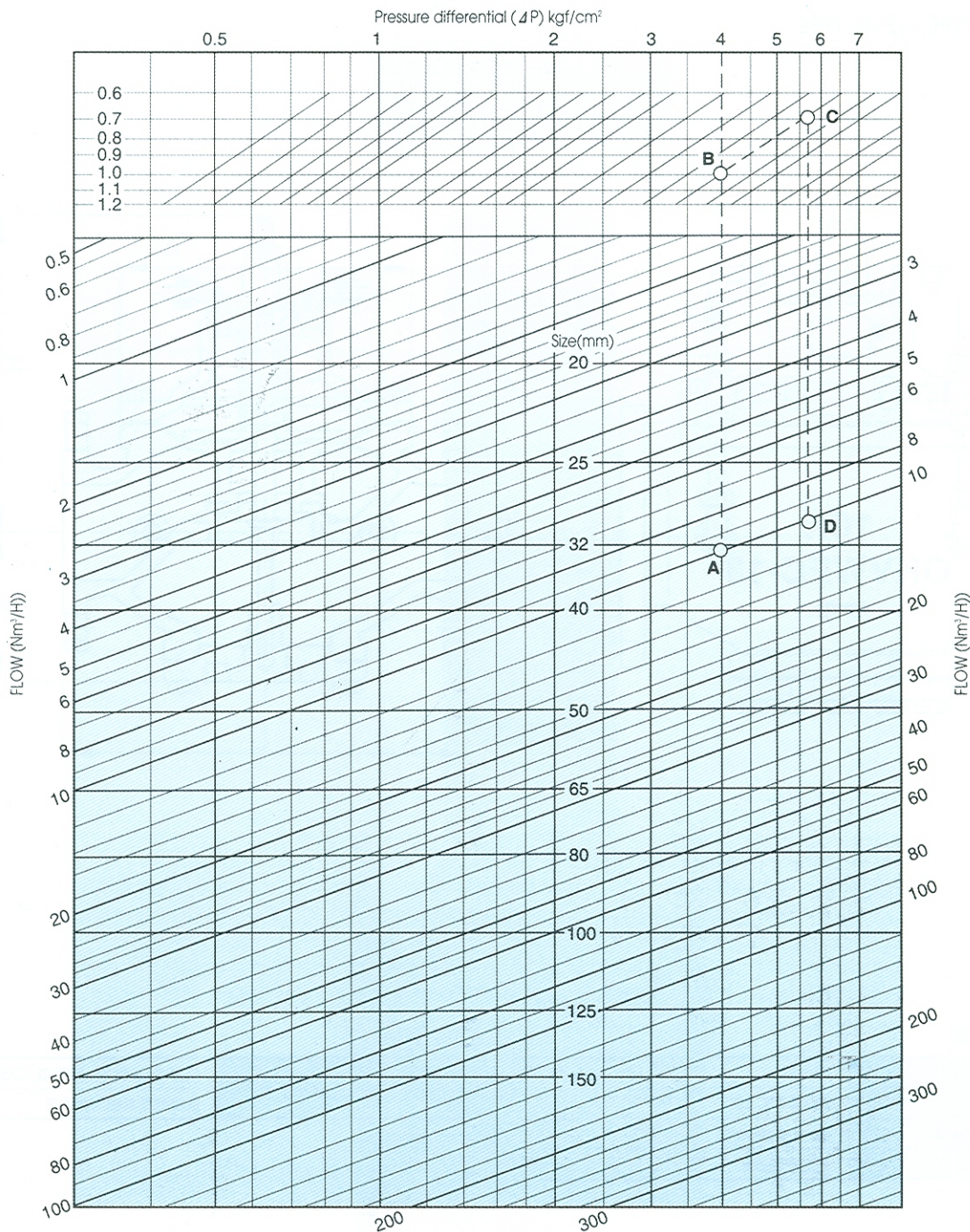
K:1+(0.0013 Overheat degree C)

Q:Maximum flow(NM³/H)-15° C 760mmHg)

t:temp(° C)

PRIMARY PRESS REGULATING VALVE

PRG TYPE, SELECTION CHART OF PRIMARY PRESS REGULATING VALVE'S NOMINAL DIA FOR LIQUID.



● **The way to use the chart**
PRIMARY PRESS REGULATING VALVE(FOR LIQUID)

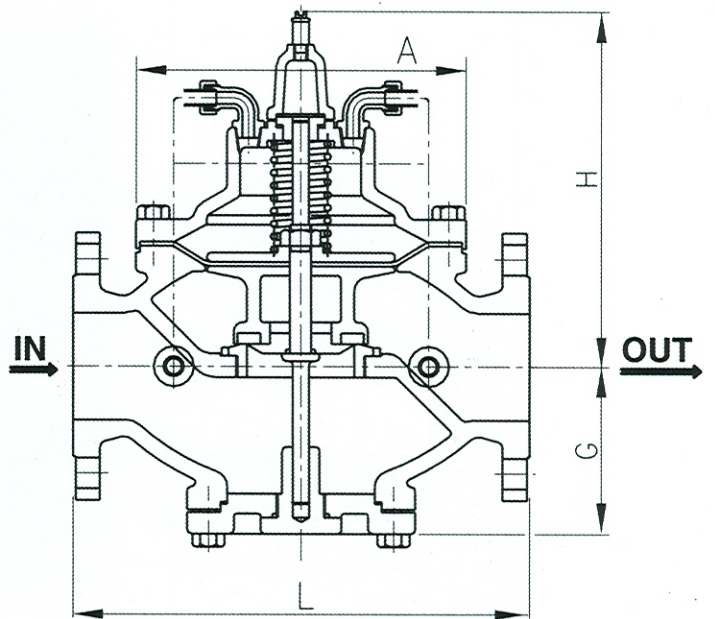
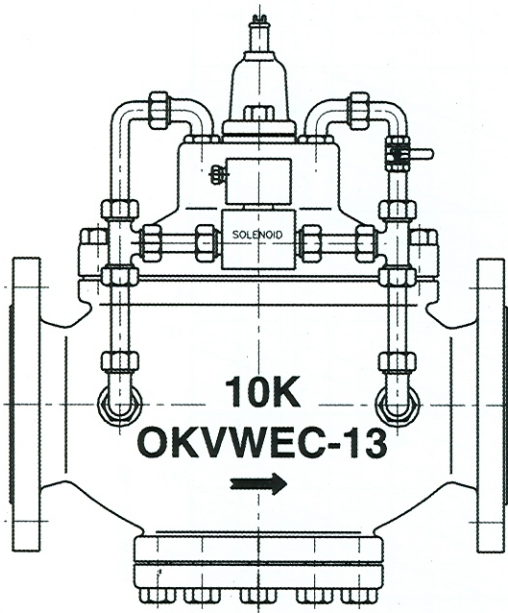
A. Obtain the size of valves in the chart from Valve Inlet Pressure 5Kgf/cm²G, Back Pressure 1Kgf/cm²G, and Specific gravity 1.0(water) with Flow 10m³/h. In this case, Pressure differential is 5-1=4Kgf/cm²G. Obtain a cross point "A" on the vertical line down from Pressure differential(ΔP)-4Kgf/cm²G(the point "B") with the horizontal line of Flow 10m³/h. As the point "A" is between 32 and 40mm, select larger side 40mm.

B. In case of specific gravity 0.7(water) under the same condition, obtain a cross point "C" by tracing down vertically from pressure differential of 4kgf/cm²G up to the point "B", of which specific gravity is 1.0(water), and then by moving to the parallel line of the point "C" obtain a cross point "D" by Flow 10m³/h. As the point "D" is between 25 and 32mm, select larger size 32mm.

LEVEL CONTROL(AUTO WATER) VALVE

MODEL, OKVWEC-13 / OKVWLC-14

● SOLENOID TYPE / LEVEL TYPE



■ SPECIFICATION

APPLICABLE FLUID	WATER
END CONNECTION	KS(JIS) 10K, 16K
INLET PRESSURE RANGE	0.5~16Kgf/cm ² G
FLUID TEMPERATURE	BELOW 5~60°C

■ MATERIAL

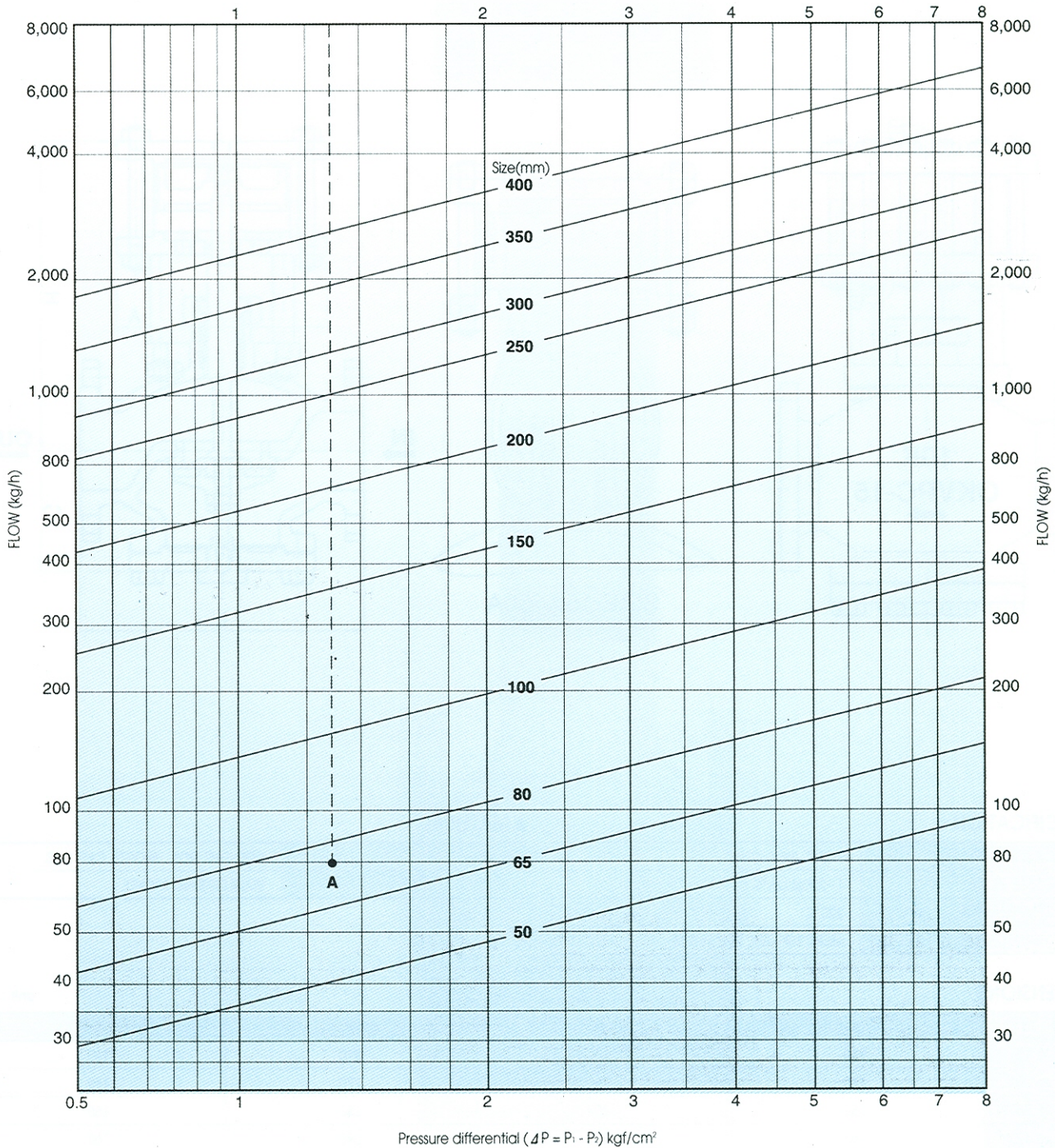
BODY	NOD CAST IRON, BRONZE, CAST STEEL
TRIM	STAINLESS STEEL, BRONZE

■ DIMENSIONS

unit : mm

N · D	L	G	H	Cv
50A	240	97	200	40
65A	290	100	225	63
80A	340	125	263	90
100A	360	140	279	160
125A	420	167	315	250
150A	510	195	345	360
200A	600	225	400	640
250A	740	260	460	1000

LEVEL CONTROL(AUTO WATER) VALVE



● Valve size selecting chart

ex) Where

Primary Pressure: 1.5kgf/cm²G, Secondary Pressure: 0kgf/cm²G,
Flow : 80Ton/hr

1) Owing to primary pressure 1.5kgf/cm²G and Secondary pressure 0kgf/cm²G, Pressure differential (ΔP) is 1.5-0=1.5(kgf/cm²)

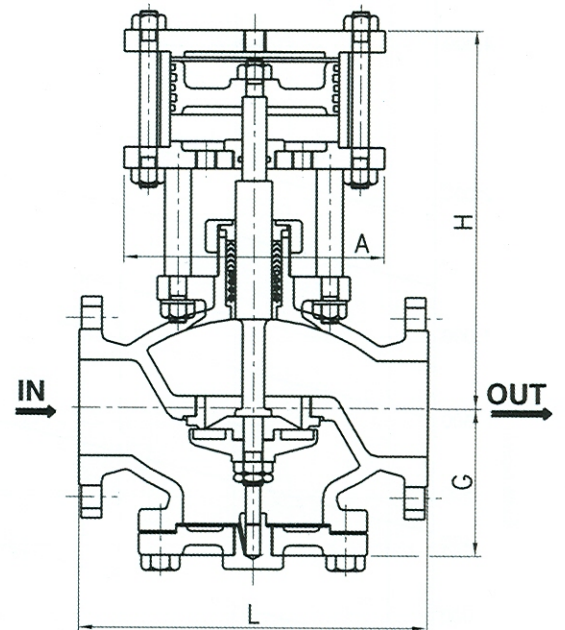
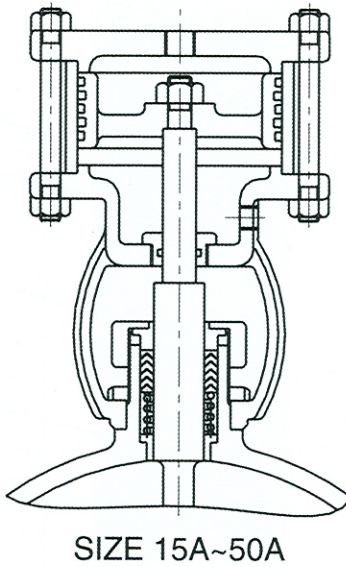
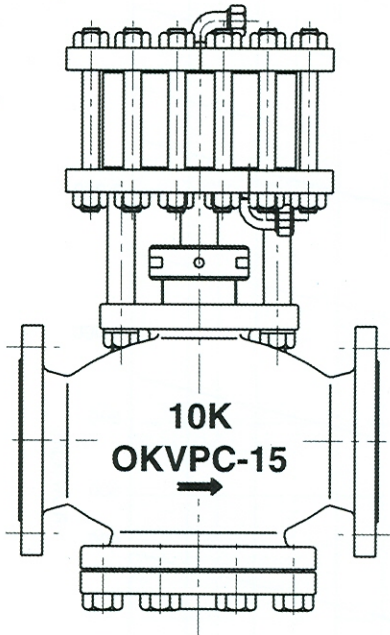
2) Obtain a cross point "A" on the line of parallel line of Pressure Differential 1.5kgf/cm² with the vertical line of Flow 80ton/hr

3) As the point "A" is between 65mm and 80mm size, there will not be any over charge with size 80mm

2 & 3-WAY PISTON CONTROL VALVE

MODEL, OKVPC-15

● 2-WAY TYPE / 3-WAY TYPE



■ SPECIFICATION

APPLICABLE FLUID	STEAM, AIR & LIQUID
APPLICABLE PRESS	1~20Kgf/cm ² G
FLUID TEMPERATURE	220° C
END CONNECTION	KS(JIS) 10K, 16K, 20K, FF & RF

■ MATERIAL

BODY	NOD CAST IRON, BRONZE, CAST STEEL
TRIM	STAINLESS STEEL, BRONZE

■ DIMENSIONS

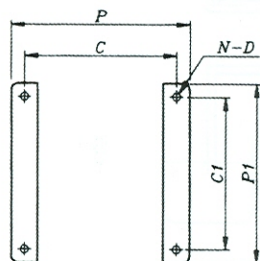
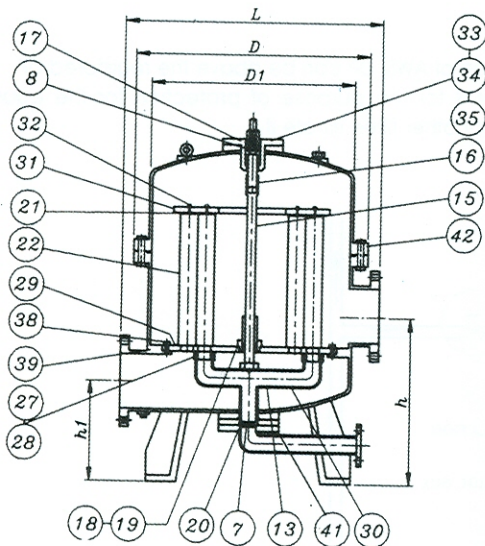
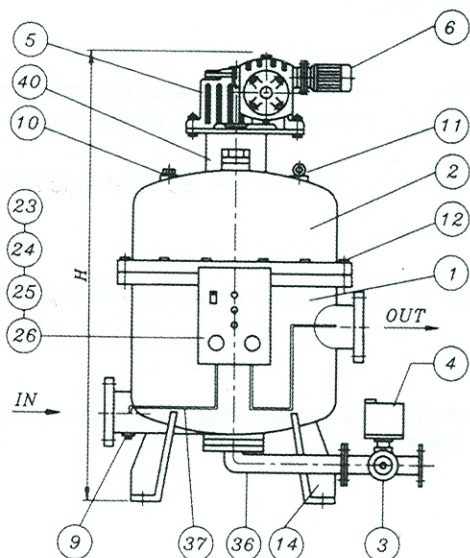
unit : mm

N · D	L	G	H	A
15 × 15	140	70	270	140
20 × 20	140	75	270	140
25 × 25	150	80	280	150
32 × 32	160	80	290	160
40 × 40	190	85	300	170
50 × 50	220	115	320	190
65 × 65	260	120	310	200
80 × 80	290	138	330	215
100 × 100	330	165	382	280
125 × 125	350	175	425	305
150 × 150	430	207	490	370

AUTO WATER STRAINER

MODEL, OKVAWS-01

- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
ANSI-150 lb, etc.



DETAIL OF FOOT "A"

■ MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SS400	1
2	COVER	SS400	1
3	BALL VALVE	SCS13	1
4	ELECTRIC	-	1
5	REDUCTION BOX	-	1
6	GEARED MOTOR	-	1
7	THRUST BEARING	SUS304	1
8	MECHANICAL SEAL	RUBBER	1
9	DRAIN PLUG	SF450	1
10	VENT PLUG	SF450	1
11	EYE BOLT	SF450	2
12	STUD BOLT & NUT	SCM3	-
13	DRAIN PORT	SUS304	1
14	FOOT	SS400	2
15	MAIN SHAFT	SUS304	1
16	SPLINE	SUS304	1
17	GREASE PACKING	SUS304	1
18	SEAL	RUBBER	2
19	GUIDE BUSH	-	1
20	SEAL	SUS304	1
21	UPPER GUIDE CAP	SUS304	-
22	SCREEN	SUS304	-
23	CONTROL BOX	-	1
24	D.P. SWITCH	-	1
25	ELECTRIC PARTS	-	-
26	PRESSURE GAUGE	-	2
27	DRAIN PORT	SUS304	2
28	SPRING	SUS304	2
29	BOTTOM GUIDE	SUS304	-
30	BOTTOM PLATE	SUS304	1
31	UPPER PLATE	SUS304	1
32	PUSH BOLT	SUS304	-
33	PACKING	-	-
34	SEAL	-	2
35	HOUSING	SUS304	1
36	DRAIN PIPE	SUS304	1
37	DIFFERENCE PIPE	COPPER	2
38	FIX BOLT	SUS304	-
39	SEAT	SUS304	1
40	GEAR BOX STAND	SS400	2
41	DRAIN PORT HOUSING	SUS304	-
42	BODY FLANGE	SS400	-

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

AUTO WATER STRAINER

MODEL, OKVAWS-1

● AUTO WATER STRAINER OPEATION

Open the cover and switch on the MAIN SWITCH.

1. MANUAL POERATION

Put the SELECT SWITCH at MANUAL and the machine will be operating you push OFF SWITCH.

2. AUTO OPERATION

While you put SELECT SWITCH in the position of AUTO, the AWS operates repeatedly in every registered time by the timer and when DP is higher than the registered pressure due to the abruptly increase foreign material, D/P SWITCH senses that, operates automatically, operates continuously by the time of return to the normal condition.

Therefore except for special occasion, use it with SELECT SWITCH on AUTO because this machine also operates automatically in case of the abrupt environment change, you can protect the machine.

3-1. OPERATION FOR TIME

Put SELECT SWITCH on AUTO and AWS operates scording to the delay time by the previously registered OFF TIMER and the operating time by ON TIMER.

3-2. OPERATION FOR DP(difference pressure)

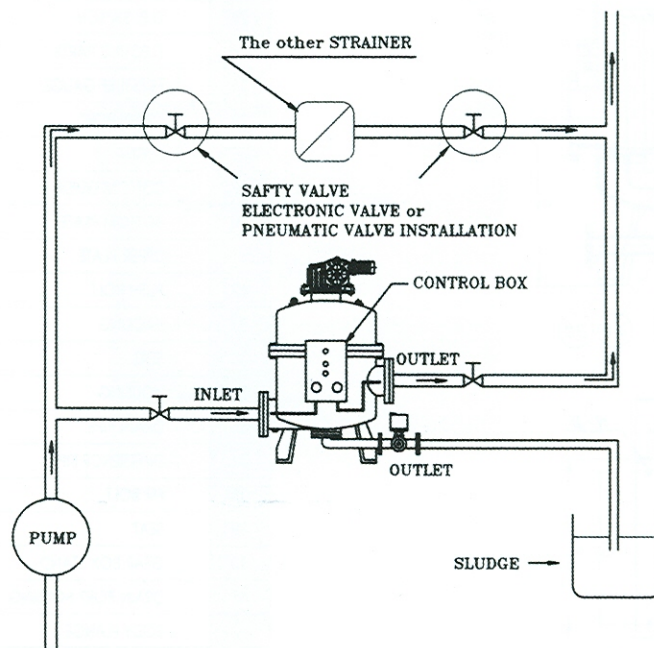
Put SELECT SWITCH on AUTO and the foreign material is accumulated in FILTER ELEMENT, AWS operates when DP is above the pressure registered at DP SWITCH, and then operates as much as time registered at ON TIMER.

● THE INSTALLMENT OF THE SAFETY VALVE FOR AWS

In the case of the impossibility of the reverse cleaning owing to the malfunction of AWS, DP can be above the registered DP.

In that case, the safety belt of additionally installed BY PAEE PIPE operates for the purpose of protection for the equipment consecutive fluid supply in the line of the line, and then send the fluid to the another filter, filtrate it.

At this time you can identify the existence of the malfunction and check AWS.



The Installment System of the AWS

AUTO WATER STRAINER

MODEL, OKVAWS-1

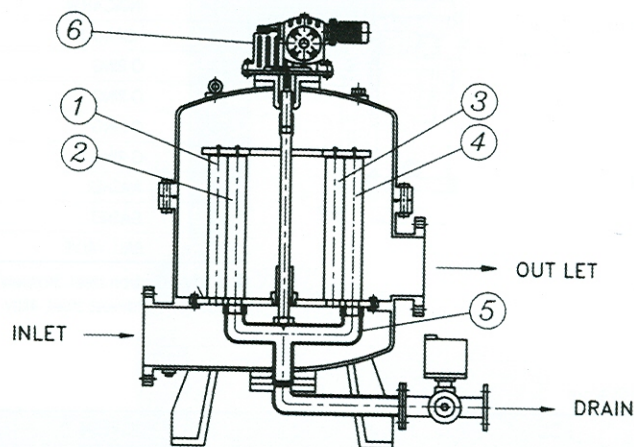
■ DIMENSIONS

unit : mm

NO	H	h	h1	L	C	C1	P	P1	N-D	D	D1
50A	1060	300	175	520	290	290	350	350	4-19	450	350
65A	1160	330	180	570	310	310	370	370	4-19	470	370
80A	1240	350	195	600	350	350	410	410	4-19	530	410
100A	1260	400	210	650	400	400	460	460	4-19	580	460
125A	1360	450	230	700	450	450	510	510	4-19	640	510
150A	1460	510	285	750	495	495	555	555	4-19	686	555
200A	1550	610	310	800	520	520	600	600	4-24	750	600
250A	1600	690	340	900	620	620	700	700	4-24	850	700
300A	1700	800	400	1100	820	820	900	900	4-24	1050	900
350A	1800	880	430	1200	900	900	1000	1000	4-28	1150	1000
400A	2000	974	470	1400	1100	1100	1200	1200	4-28	1350	1200
450A	2100	1054	500	1500	1200	1200	1300	1300	4-28	1450	1300
500A	2300	1174	570	1700	1400	1400	1500	1500	4-33	1650	1500
550A	2500	1254	600	1800	1500	1500	1600	1600	4-33	1750	1600

* DIMENSION OF KS, JIS 10kg/cm² FLANGED.

● OPERATION PRINCIPLES OF AWS



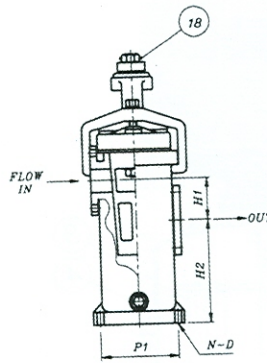
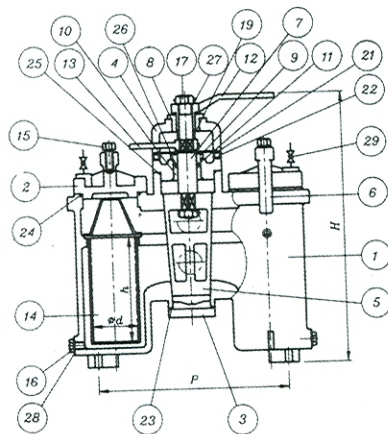
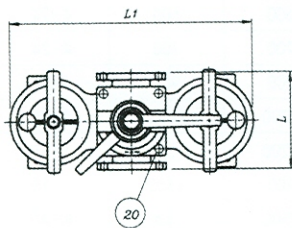
- As usual, the fluid goes through INLET, goes through the filter installed at ①③, stored fully in the AWS, goes out to OUTLET.
At this time, the strainer valve at the filter ②④ connected with strainer pipe is close ordinarily, therefore the fluid cannot flow into strainer pipe.
So, the foreign material in the fluid be supposed to accumulation the filter ①③
- Gradually strainer pipe ⑤ spins round by the moter operation ⑥ while the operation of autotimer, starting switch, DP and then strainer pipe ⑤ fits into the position of the filter ①③, the fluid flows into OUTLET where the several filter is installed toward ②④.
At the some time, the strainer valve installed at the end of strainer pipe will be open, the foreign material is taken out toward pipe with high presure by the pressed fluid pressure.
At this time, the fluid prses through the filter at operation, goes through the filter ①③ into the opposite direction according to opening the strainer valve connented with ①③, the fluid pressure pressed within AWS, finally pushes out the foreign material in the filter.
- AWS operated by way of 1, 2 can push out the foreign material without stopping the drain line. By this principle, AWS is adopted, used in the drain line with condition requiring the cntinuous operation of the drain line.

STRAINER

DUPLEX STRAINER – Casting

MODEL, OKVDSC-01

- YOKE TYPE
- KS, JIS-5kg/cm², 10kg/cm²
ANSI-150 lb



■ MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	FC200	1
2	SIDE COVER	FC200	2
3	LOWER COVER	FC200	1
4	COCK COVER	FC200	1
5	COCK	BC6	1
6	YOKE	SC480	2
7	SHAFT	SS400	1
8	YOKE BUSH	BS	1
9	GLAND	BS	1
10	GLOBE	BS	1
11	THRUST	BS	1
12	LIFT HANDLE	SC480	1
13	CHANG LEVER	SC480	1
14	SCREEN	SUS304	2
15	HEX BOLT	SNB7	2
16	PLUG	SF450	2
17	NUT	SM45C	1
18	SPLIT PIN	SUS304	2
19	SLEEVE	SS400	1
20	STUD BOLT	SNB7	4
21	INDICATOR	BSP1	1
22	HEX BOLT	SNB7	2
23	O RING	NBR	1
24	O RING	NBR	2
25	O RING	NBR	1
26	O RING	NBR	1
27	WASHER	SS400	1
28	GASKET	TEFLON	2
29	BALL VALVE	BC6	2

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

■ DIMENSIONS • DIMENSION OF KS, JIS 10kg/cm²

unit : mm

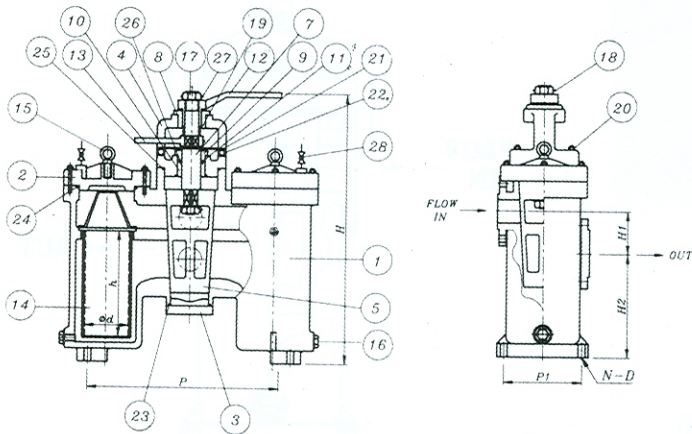
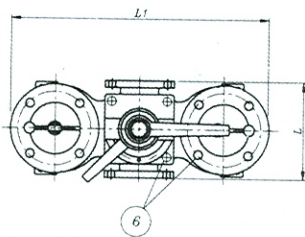
SIZE	BODY					SCREEN		SUPPORT		
	H	H1	H2	L	L1	h	d	P	P1	N-D
15A	330	40	123	141	282	110	∅48	220	100	4-12
20A	330	40	123	141	282	110	∅48	220	100	4-12
25A	330	40	123	141	282	110	∅48	220	100	4-12
32A	415	55	159	164	372	140	∅76	280	135	4-15
40A	415	55	159	164	372	140	∅76	280	135	4-15
50A	495	66	219	188	414	220	∅86	310	155	4-1
65A	590	85	272	223	514	270	∅118	380	190	4-19
80A	675	102	312	253	600	310	∅137	452	214	4-19
100A	780	126	371	293	702	370	∅165	525	254	4-23
125A	952	157	430	338	852	485	∅195	544	305	4-23
150A	1299	201	516	418	1046	560	∅230	720	365	4-23
200A	1520	245	645	494	1250	730	∅270	860	430	4-27
250A	1620	295	700	578	1500	800	∅310	1180	540	4-30

STRAINER

DUPLEX STRAINER – Casting

MODEL, OKVDSC-02

- BOLT TYPE
- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
ANSI-150 lb, 300 lb, etc.



MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SC480	1
2	SIDE COVER	SC480	2
3	LOWER COVER	SC480	1
4	BONNET	SC480	1
5	COCK	BC6	1
6	STUD BOLT	SNB7	-
7	SHAFT	SS400	1
8	YOKE BUSH	BS	1
9	GLAND	BS	1
10	GLOBE	BS	1
11	THRUST	BS	1
12	LIFT HANDLE	SC480	1
13	CHANG LEVER	SC480	1
14	SCREEN	SUS304	2
15	EYE BOLT	SNB7	2
16	PLUG	SF450	2
17	NUT	SM45C	1
18	SPLIT PIN	SUS304	2
19	SLEEVE	SS400	1
20	STUD BOLT	SNB7	4
21	INDICATOR	BSP1	1
22	HEX BOLT	SNB7	2
23	O RING	NBR	1
24	O RING	NBR	2
25	O RING	NBR	1
26	O RING	NBR	1
27	WASHER	SS400	1
28	BALL VALVE	BC6	2

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

DIMENSIONS • DIMENSION OF KS, JIS 10kg/cm²

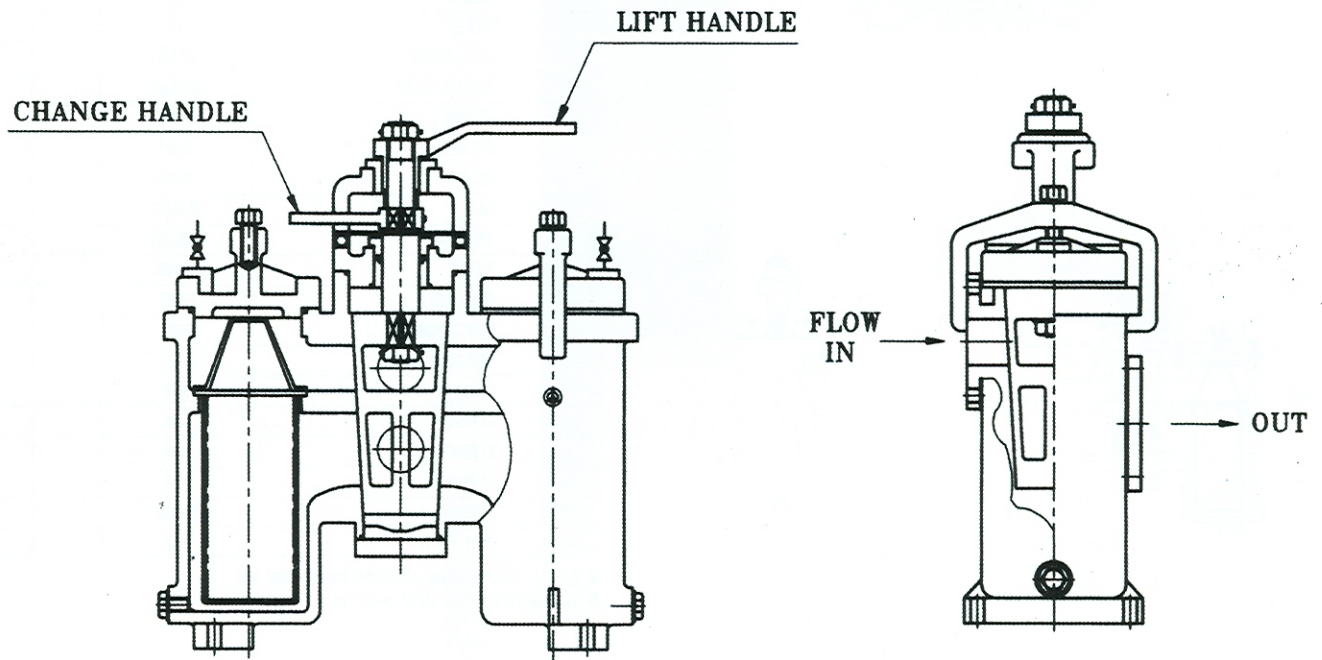
unit : mm

SIZE	BODY					SCREEN		SUPPORT		
	H	H1	H2	L	L1	h	d	P	P1	N-D
15A	330	40	125	160	345	110	Ø48	240	105	4-12
20A	330	40	125	160	345	110	Ø48	240	105	4-12
25A	330	40	125	160	345	110	Ø48	240	105	4-12
32A	415	55	162	190	430	140	Ø76	305	150	4-15
40A	415	55	162	190	430	140	Ø76	305	150	4-15
50A	495	66	225	205	480	220	Ø86	335	175	4-15
65A	590	85	280	235	575	270	Ø118	405	215	4-19
80A	675	102	318	265	645	310	Ø137	465	225	4-19
100A	780	126	377	300	713	370	Ø165	515	260	4-23
125A	952	157	430	338	852	485	Ø195	544	305	4-23
150A	1299	201	516	418	1046	560	Ø230	720	365	4-23
200A	1520	245	645	494	1250	730	Ø270	860	430	4-27
250A	1620	295	700	578	1500	800	Ø310	1180	560	4-30

STRAINER**DUPLEX STRAINER – Casting****MODEL, OKVDSC-02**

- KS, JIS-5kg/cm², 10kg/cm², 20kg/cm², 30kg/cm², etc.
ANSI-150 lb, 300 lb, etc.

The two housing is connected with one line in the DOULEX TYPE STRAINER. As the selectively fluid filtering structure using COCK-HANDLE, you can remove the foreign material without stopping filtering. It is the filter that you can supply the fluid into PIPE LINE conconvectively.



● THE WAY TO USE

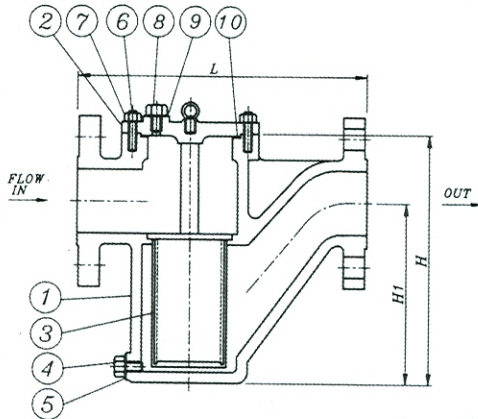
1. Turn LIFT HANDLE counter clockwise until CHANGE HANDLE starts.
2. Turn CHANGE HANDLE completely toward filtering place.
3. Tighten LIFT HANDLE clockwise properly (Weakly being tighten gives rise to LEAK)
4. Open the cover marked with CROSS, indicating the arrow directing, on the INDICATE PLATE and clean the filter.

STRAINER

BUCKET STRAINER – Casting

MODEL, OKVBSC-01

- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SC480	1
2	COVER	SC480	1
3	SCREEN	SUS304	1
4	DRAIN PLUG	SF450	1
5	GASKET	TEFLON	1
6	STUD BOLT	SNB7	-
7	NUT	SM45C	-
8	VENT PLUG	SF450	1
9	GASKET	TEFLON	1
10	GASKET	TEFLON	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

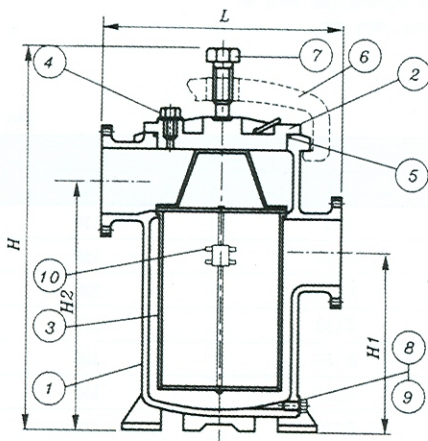
DIMENSIONS

unit : mm

SIZE	25A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
L	180	225	255	317	351	408	445	515	662	795	930
H	150	185	235	283	321	372	439	531	677	844	1030
H1	100	120	155	197	226	262	317	391	520	643	780

MODEL, OKVBSC-02

- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	FC200	1
2	COVER	FC200	1
3	SCREEN	SUS304	1
4	VENT PLUG	SF450	1
5	O RING	NBR	1
6	YOKE	SC480	1
7	HEX BOLT	SNB7	1
8	DRAIN PLUG	SF450	1
9	GASKET	TEFLON	2
10	MAGNETIC	-	4

- Body : carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

DIMENSIONS

unit : mm

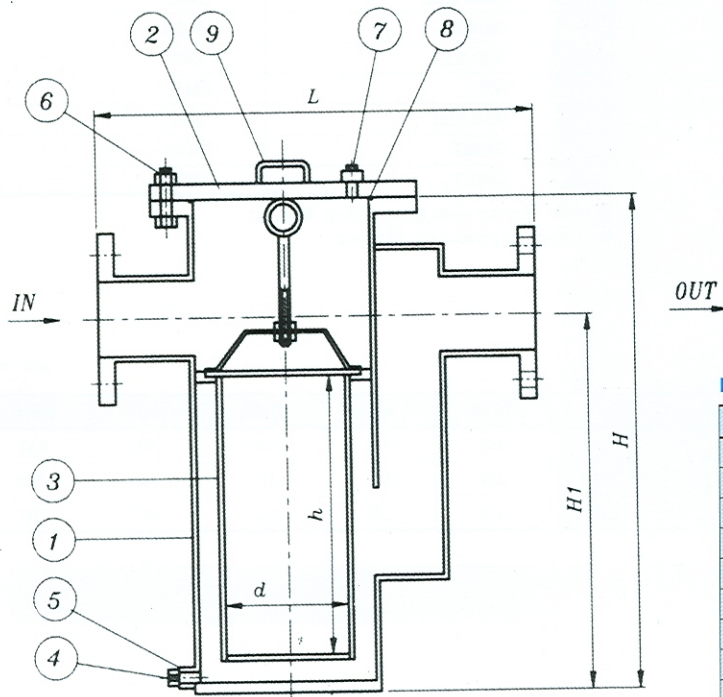
SIZE	25A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
L	190	260	280	340	370	420	450	470	570	700	800
H	240	315	420	520	550	655	745	825	970	1140	1220
H1	91	145	212	273	283	340	373	410	475	529	542
H2	123	188	258	340	356	430	482	540	630	729	772

STRAINER

BUCKET STRAINER – Welded Construction

MODEL, OKVBSW-01

- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



■ MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SS400	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	DRAIN PLUG	SF450	1
5	GASKET	TEFLON	1
6	BOLT, NUT	SNB7 / SM45C	-
7	VENT PLUG	SF450	1
8	O RING	NBR	1
9	HANDLE	SS400	2

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

■ DIMENSIONS • DIMENSION OF KS, JIS 10kg/cm²

unit : mm

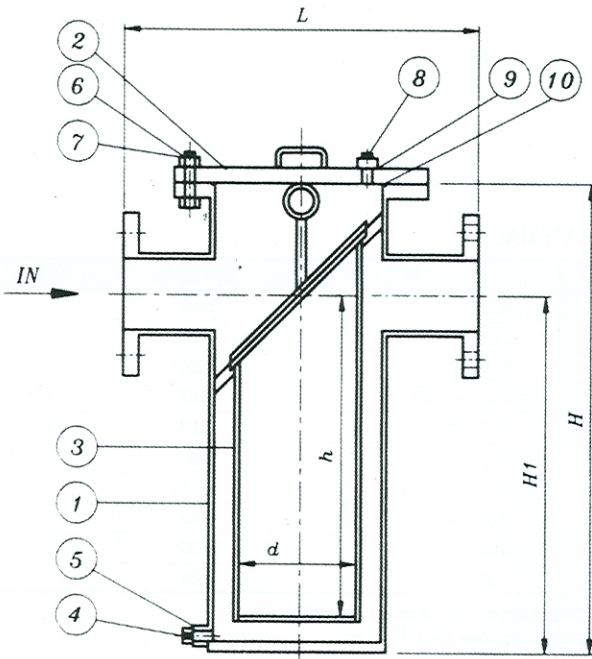
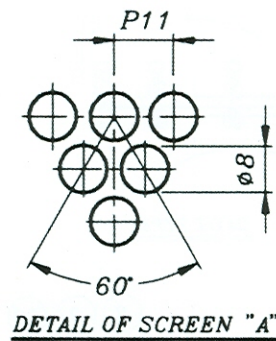
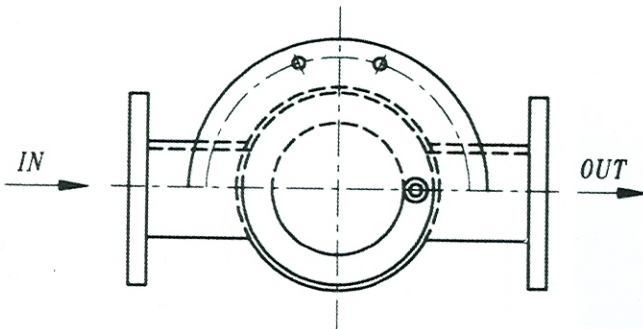
SIZE	BODY			SCREEN	
	L	H	H1	d1	h
50A	370	375	235	Ø85	130
65A	410	440	280	Ø110	160
80A	450	530	360	Ø110	220
100A	520	590	400	Ø150	240
125A	560	695	485	Ø150	300
150A	620	760	540	Ø200	330
200A	710	1000	740	Ø240	470
250A	860	1140	840	Ø320	530
300A	950	1410	1060	Ø340	720
350A	1000	1550	1170	Ø400	800
400A	1100	1720	1320	Ø440	920
450A	1200	1940	1510	Ø480	1000
500A	1360	2130	1670	Ø560	1120
600A	1550	2460	1950	Ø640	1370

STRAINER

BUCKET STRAINER – Welded Construction

MODEL, OKVBSW-02

- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



200A or LESS

MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SS400	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	DRAIN PLUG	SF450	1
5	GASKET	TEFLON	1
6	STUD BOLT	SNB7	-
7	NUT	SM45C	-
8	VENT PLUG	SF450	1
9	GASKET	TEFLON	1
10	O RING	NBR	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

DIMENSIONS • DIMENSION OF KS, JIS 10kg/cm²

unit : mm

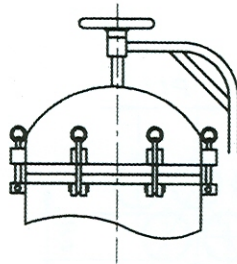
SIZE	BODY			SCREEN	
	L	H	H1	d	h
50A	350	430	300	Ø80	250
80A	400	520	350	Ø100	300
100A	500	570	370	Ø140	320
150A	580	800	550	Ø180	500
200A	650	1040	760	Ø220	700

STRAINER

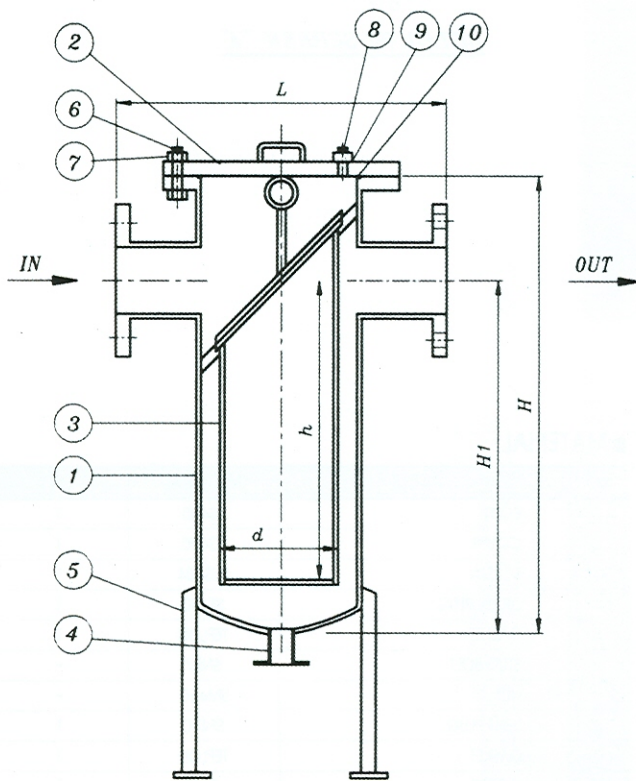
BUCKET STRAINER – Welded Construction

MODEL, OKVBSW-03

- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



DAVIT TYPE



250A or Large

■ MATERIAL

NO.	PARTS	MATERIAL	Q'TY
1	BODY	SS400	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	DRAIN FLANGE	SS400	2
5	SUPPORTS	SS400	3
6	STUD BOLT	SNB7	-
7	NUT	SM45C	-
8	VENT PLUG	SF450	1
9	GASKET	TEFLON	1
10	O RING	NBR	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

■ DIMENSIONS • DIMENSION OF KS, JIS 10kg/cm²

unit : mm

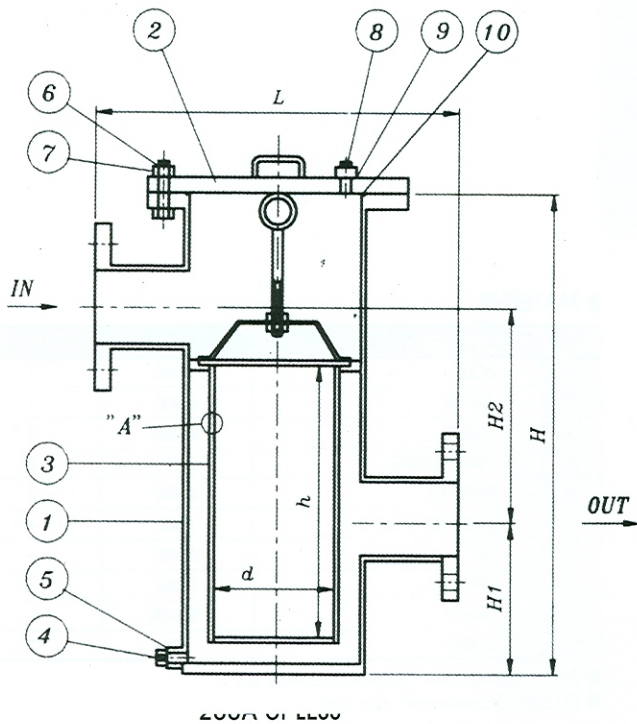
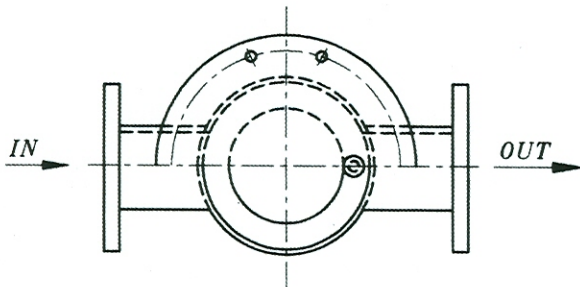
SIZE	BODY			SCREEN	
	L	H	H1	d	h
250A	800	1200	850	∅300	750
300A	850	1420	1020	∅340	900
350A	950	1650	1200	∅380	1050
400A	1000	1900	1400	∅420	1250
450A	1200	2100	1550	∅460	1400
500A	1200	2200	1600	∅540	1450
600A	1400	2450	1800	∅620	1600

STRAINER

BUCKET STRAINER – Welded Construction

MODEL, OKVBSW-04

- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SS400	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	DRAIN FLANGE	SS400	2
5	SUPPORTS	SS400	3
6	STUD BOLT	SNB7	-
7	NUT	SM45C	-
8	VENT PLUG	SF450	1
9	GASKET	TEFLON	1
10	O RING	NBR	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

DIMENSIONS • DIMENSION OF KS, JIS 10kg/cm²

unit : mm

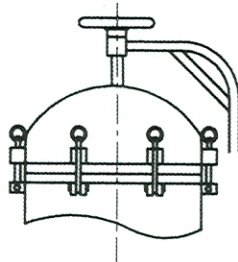
SIZE	BODY				ELEMENT	
	L	H	H1	H2	d	h
50A	360	360	110	140	Ø85	130
65A	380	400	120	160	Ø110	160
80A	400	470	150	190	Ø130	220
100A	460	540	170	210	Ø150	240
125A	480	620	210	250	Ø170	300
150A	520	700	230	280	Ø200	330
200A	580	950	350	340	Ø240	470

STRAINER

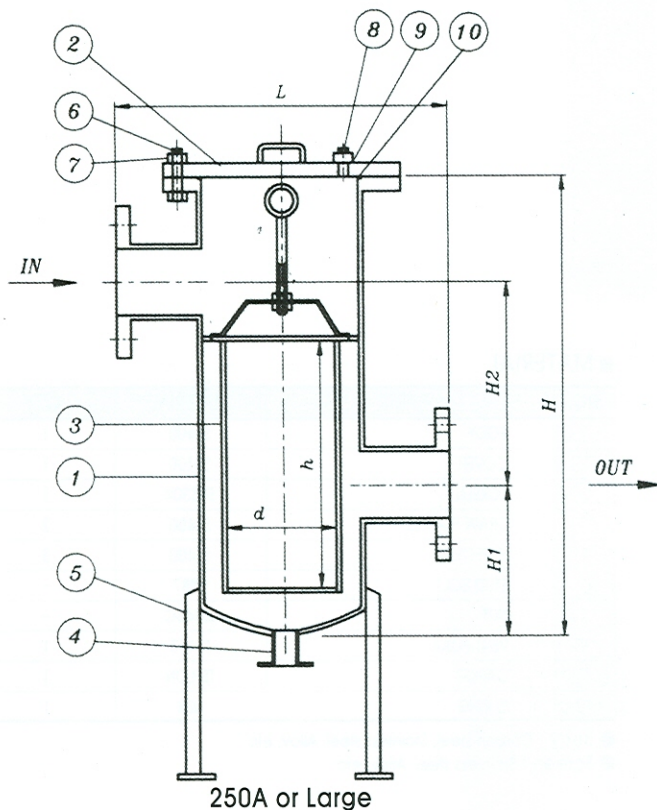
BUCKET STRAINER – Welded Construction

MODEL, OKVBSW-05

- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



DAVIT TYPE



■ MATERIAL

NO.	PARTS	MATERIAL	Q'TY
1	BODY	SS400	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	DRAIN FLANGE	SS400	2
5	SUPPORTS	SS400	3
6	STUD BOLT	SNB7	-
7	NUT	SM45C	-
8	VENT PLUG	SF450	1
9	GASKET	TEFLON	1
10	O RING	NBR	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

■ DIMENSIONS • DIMENSION OF KS, JIS 10kg/cm²

unit : mm

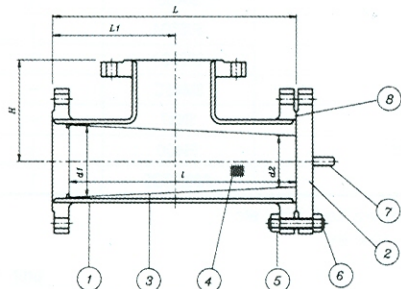
SIZE	BODY				ELEMENT	
	L	H	H1	H2	d	h
250A	700	1060	440	380	Ø320	530
300A	760	1310	620	430	Ø340	720
350A	820	1520	770	470	Ø400	880
400A	900	1640	800	520	Ø440	920
450A	960	1840	900	600	Ø480	1050
500A	1000	1900	970	650	Ø560	1120
600A	1180	2390	1200	750	Ø640	1370

STRAINER

T TYPE STRAINER

MODEL, OKVTSW-01

- Flange Type
- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SS400	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	MESH	SUS304	1
5	NUT	SM45C	-
6	STUD BOLT	SNB7	-
7	COVER HANDLE	SS400	1
8	GASKET	TEFLON	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

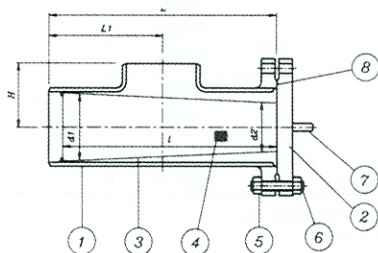
DIMENSIONS • DIMENSION OF KS, JIS 10kg/cm²

unit : mm

SIZE	BODY				SCREEN	
	H	L	L1	d1	d2	ℓ
50A	135	300	165	∅38	∅26	270
65A	154	320	166	∅52	∅34	280
80A	167	340	173	∅60	∅40	300
100A	192	400	208	∅80	∅54	355
125A	224	470	246	∅110	∅74	420
150A	243	520	277	∅120	∅80	470
200A	290	600	310	∅170	∅114	550
250A	335	690	355	∅220	∅148	645
300A	386	820	434	∅250	∅166	770

MODEL, OKVTSW-02

- Welded Construction
- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SS400	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	MESH	SUS304	1
5	NUT	SM45C	-
6	STUD BOLT	SNB7	-
7	COVER HANDLE	SS400	1
8	GASKET	TEFLON	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

DIMENSIONS • DIMENSION OF KS, JIS 10kg/cm²

unit : mm

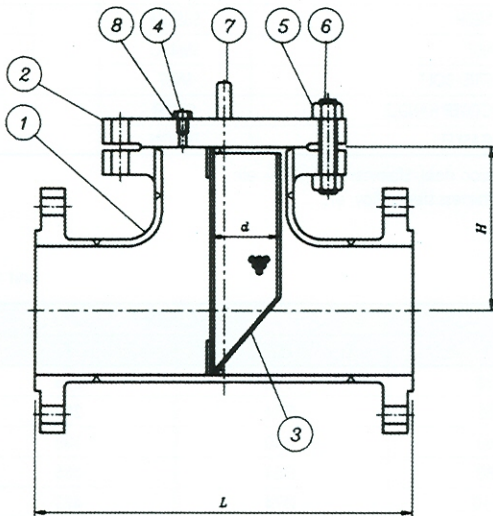
SIZE	BODY				SCREEN	
	H	L	L1	d1	d2	ℓ
50A	135	300	165	∅38	∅26	270
65A	154	320	166	∅52	∅34	280
80A	167	340	173	∅60	∅40	300
100A	192	400	208	∅80	∅54	355
125A	224	470	246	∅110	∅74	420
150A	243	520	277	∅120	∅80	470
200A	290	600	310	∅170	∅114	550
250A	335	690	355	∅220	∅148	645
300A	386	820	434	∅250	∅166	770

STRAINER

T TYPE STRAINER

MODEL, OKVTSW-03

- Flange Type
- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
ANSI-150 lb, 300 lb, etc.



■ MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SS400	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	MESH	SUS304	1
5	NUT	SM45C	-
6	STUD BOLT	SNB7	-
7	COVER HANDLE	SS400	1
8	GASKET	ASBESTOS	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

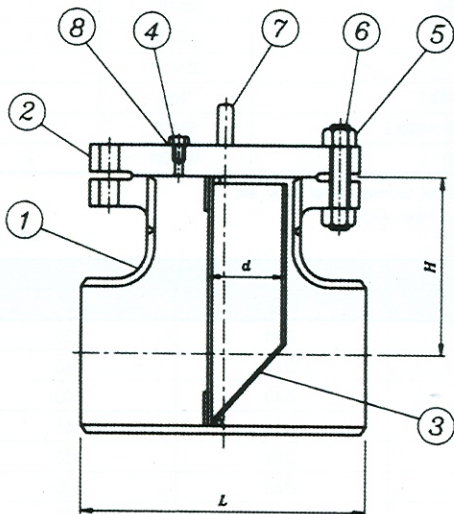
■ DIMENSIONS

unit : mm

SIZE	BODY		SCREEN
	H	L	d
50A	135	300	25
65A	154	320	30
80A	167	340	35
100A	192	400	50
125A	224	470	60
150A	243	520	75
200A	290	600	95
250A	335	690	120
300A	386	820	145

MODEL, OKVTSW-04

- Welded Constuction
- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
ANSI-150 lb, 300 lb, etc.



■ MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	SS400	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	MESH	SUS304	1
5	NUT	SM45C	-
6	STUD BOLT	SNB7	-
7	COVER HANDLE	SS400	1
8	GASKET	ASBESTOS	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

■ DIMENSIONS

unit : mm

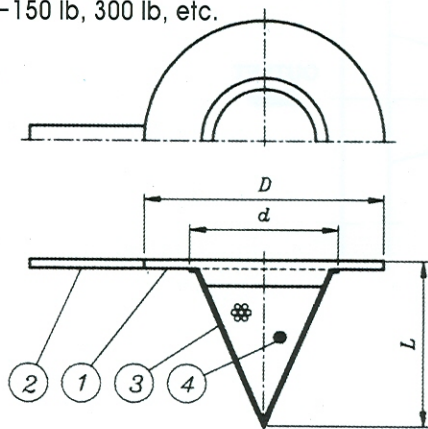
SIZE	BODY		SCREEN
	H	L	d
50A	135	300	25
65A	154	320	30
80A	167	340	35
100A	192	400	50
125A	224	470	60
150A	243	520	75
200A	290	600	95
250A	335	690	120
300A	386	820	145

STRAINER

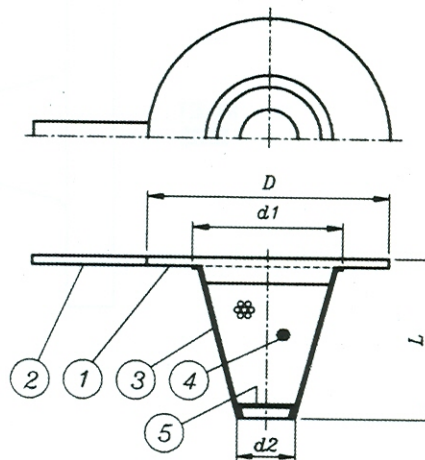
TEMPORARY STRAINER

MODEL, OKVTSW-03

- Con Type
- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



A-TYPE



B-TYPE

MATERIAL

A- Type

NO.	PARTS	MATERIAL	QTY
1	FLANGE	SUS304	1
2	HANDLE	SUS304	1
3	CAN	SUS304	1
4	WIRE MESH	SUS304	1

B-Type

NO.	PARTS	MATERIAL	QTY
1	FLANGE	SUS304	1
2	HANDLE	SUS304	1
3	CAN	SUS304	1
4	WIRE MESH	SUS304	1
5	BOTTOM PLATE	SUS304	1

● Body : Carbon steel, Stainless steel, Alloy, etc

● Screen : Stainless steel, Alloy, etc

DIMENSIONS

A- Type

unit : mm

SIZE	BODY		
	D	d	L
15A	55	Ø13	25
20A	60	Ø18	30
25A	71	Ø23	40
32A	81	Ø30	45
40A	86	Ø36	50
50A	101	Ø46	60
65A	121	Ø58	70
80A	131	Ø70	80
100A	156	Ø92	100
125A	187	Ø115	120
150A	217	Ø135	140
200A	267	Ø185	190
250A	330	Ø230	230
300A	375	Ø270	270

DIMENSIONS

B-Type

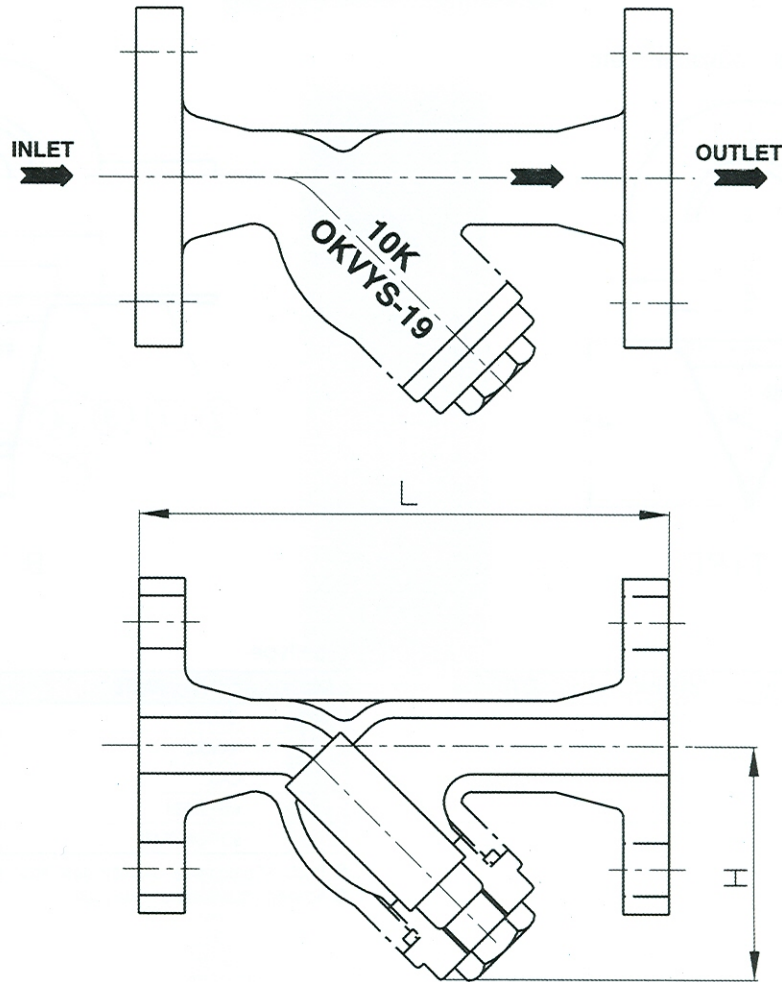
unit : mm

SIZE	BODY			
	D	d1	d2	L
15A	55	Ø13	-	25
20A	60	Ø18	-	30
25A	71	Ø23	Ø10	40
32A	81	Ø30	Ø15	45
40A	86	Ø36	Ø20	50
50A	101	Ø46	Ø25	60
65A	121	Ø58	Ø30	70
80A	131	Ø70	Ø40	80
100A	156	Ø92	Ø55	100
125A	187	Ø115	Ø70	120
150A	217	Ø135	Ø90	140
200A	267	Ø185	Ø100	190
250A	330	Ø230	Ø120	230
300A	375	Ø270	Ø140	270

STRAINER

Y-STRAINER

MODEL, OKVYSC-01



■ SPECIFICATION

APPLICABLE FLUID	AIR, STEAM & LIQUID
END CONNECTION	JIS 10K, 16K
FLUID TEMPERATURE	BELOW 220° C

■ MATERIAL

BODY	NOD CAST IRON, BRONZE, CAST STEEL
TRIM	STAINLESS STEEL, STEEL

■ DIMENSIONS

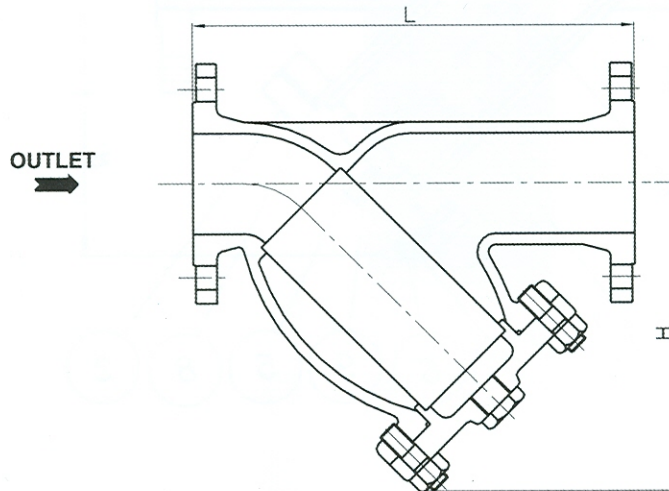
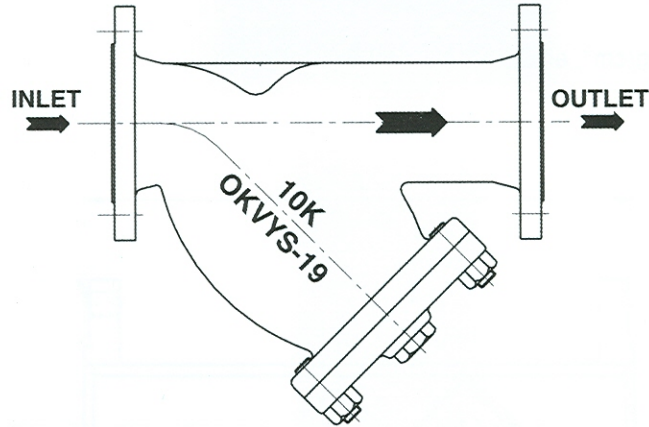
unit : mm

N - D	L	H	DRAIN CONNECTION
15A	150	67	PT 3/8"
20A	150	80	PT 3/8"
25A	170	106	PT 1/2"
32A	200	115	PT 1/2"
40A	206	127	PT 1/2"

STRAINER

Y-STRAINER

MODEL, OKVTSC-02



SPECIFICATION

APPLICABLE FLUID	AIR, STEAM & LIQUID
END CONNECTION	JIS 10K, 16K, 20K
FLUID TEMPERATURE	BELOW 220° C

MATERIAL

BODY	NOD CAST IRON, BRONZE, CAST STEEL
TRIM	STAINLESS STEEL, STEEL

DIMENSIONS

unit : mm

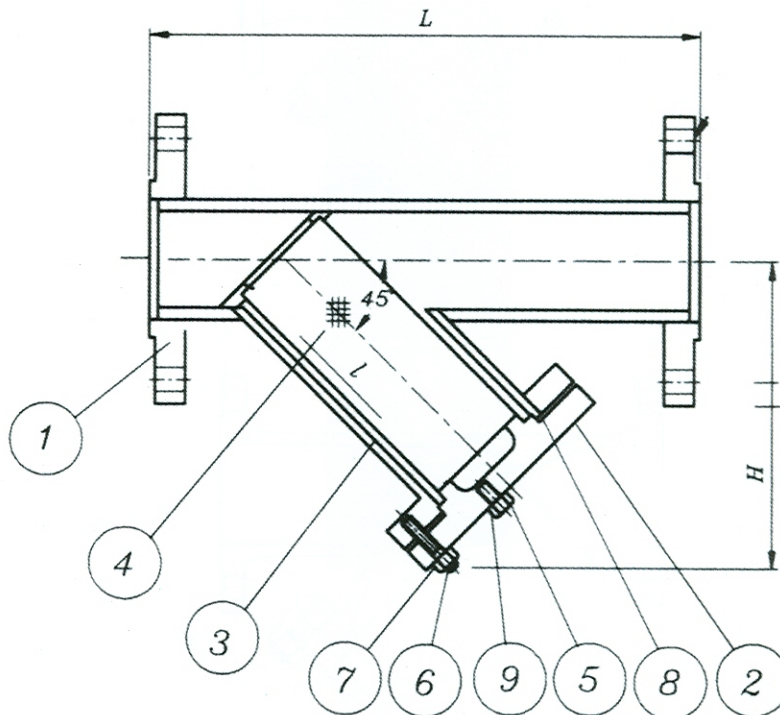
N · D	L	H	DRAIN CONNECTION
50A	260	160	PT 1/2"
65A	300	200	PT 3/4"
80A	340	235	PT 3/4"
100A	355	245	PT 1"
125A	400	295	PT 1"
150A	460	345	PT 1"
200A	574	370	PT 1"
250A	670	490	PT 1"
300A	754	580	PT 1"
350A	902	707	PT 1"
400A	1014	741	PT 1"

STRAINER

Y TYPE STRAINER – Welded Consturction

MODEL, OKVYSW-01

- KS, JIS-10kg/cm², 20kg/cm², 30kg/cm², etc.
- ANSI-150 lb, 300 lb, etc.



MATERIAL

NO.	PARTS	MATERIAL	QTY
1	BODY	STPG	1
2	COVER	SS400	1
3	SCREEN	SUS304	1
4	MESH	SUS304	1
5	DRAIN PLUG	SF450	1
6	STUD BOLT	SN57	-
7	NUT	SM45C	-
8	GASKET	ASBESTOS	1
9	GASKET	TEFLON	1

- Body : Carbon steel, Stainless steel, Alloy, etc
- Screen : Stainless steel, Alloy, etc

DIMENSIONS

SIZE	25A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
L	270	280	290	320	350	400	450	480	580	680	800
H	118	137	160	176	210	250	285	357	432	550	645

unit : mm

STRAINER

FLOW RATES IN PIPES REFERENCE

■ DIMENSIONS • STANDARD : SPPS38, SCH-40

unit : mm

SIZE		Section Area m ²	FLOW RATE IN PIPE(m ³ /hr)					
B	A		0.5m/s	1.0m/s	1.5m/s	2.0m/s	2.5m/s	3.0m/s
1/8	6	0.000040	0.072	0.114	0.216	0.288	0.360	0.432
1/4	8	0.000070	0.126	0.252	0.378	0.504	0.630	0.756
3/8	10	0.000127	0.229	0.458	0.678	0.916	1.145	1.375
1/2	15	0.000204	0.368	0.736	1.104	1.472	1.840	2.208
3/4	20	0.000360	0.648	1.296	1.994	2.592	3.240	3.888
1	25	0.000580	1.044	2.088	3.132	4.176	5.220	6.264
1-1/4	32	0.001000	1.800	3.600	5.400	7.200	9.000	10.800
1-1/2	40	0.001333	2.399	4.798	7.197	9.596	11.995	14.394
2	50	0.002180	3.924	7.848	11.772	15.696	19.620	23.544
2-1/2	65	0.003411	6.140	12.200	18.420	24.560	30.700	36.840
3	80	0.004780	8.604	17.208	25.812	34.416	43.020	51.624
4	100	0.008215	14.787	29.547	44.361	59.148	79.935	88.722
5	125	0.012588	22.659	45.318	67.977	90.636	113.295	135.954
6	150	0.017898	32.217	64.434	96.615	128.868	161.085	193.302
8	200	0.031368	56.463	112.926	169.398	222.852	282.315	338.778
10	250	0.048592	87.466	174.932	262.398	349.864	437.330	524.796
12	300	0.069664	125.369	250.792	376.188	501.584	626.980	752.376
14	350	0.087257	157.063	314.126	471.189	628.252	785.315	942.378
16	400	0.113951	205.112	410.224	615.336	820.448	1025.560	1230.672
18	450	0.144276	259.697	591.394	779.019	1038.788	1298.485	1558.182
20	500	0.179209	322.577	645.154	967.731	1290.308	1612.885	1935.462
24	600	0.282744	508.940	1017.880	1526.820	2035.760	2544.700	3053.640
28	700	0.384846	692.723	1385.446	2078.169	2770.892	3463.615	4156.338
32	800	0.502656	904.781	1809.567	2714.343	3619.124	4523.905	5428.686

STRAINER

WIRE MESH SELECTION CHART

MESH	S.W.G	WIRE DIA		OPEN AREA		% OPEN
		in	mm	in	mm	
2	12	0.104	2.6	0.396	10.06	62.7
	14	0.080	2.0	0.396	10.67	70.6
	16	0.064	1.6	0.436	11.07	76.6
	18	0.048	1.2	0.452	11.46	81.7
3	12	0.104	2.642	0.2293	5.8243	43.7
	14	0.080	2.032	0.2533	6.4343	57.7
	16	0.064	1.626	0.2693	6.8403	65.3
	18	0.048	0.219	0.2853	7.2473	73.3
4	15	0.072	1.829	0.178	4.5208	50.7
	16	0.064	1.626	0.186	4.7236	55.4
	18	0.048	1.129	0.202	5.1308	65.3
	20	0.036	0.914	0.214	5.4358	73.3
5	15	0.772	1.829	0.128	3.2508	41.0
	16	0.064	1.626	0.136	3.4538	46.2
	18	0.048	1.219	0.152	3.8608	57.8
	20	0.036	0.914	0.164	4.1658	67.2
	21	0.032	0.813	0.168	4.2668	70.6
6	16	0.064	1.626	0.1027	2.6072	38.0
	17	0.056	1.422	0.1107	208112	44.1
	18	0.048	0.219	0.1187	3.0142	50.7
	20	0.036	0.914	0.1307	3.3192	61.5
	22	0.028	0.711	0.1387	3.5222	69.3
7	17	0.056	1.422	0.0869	2.2064	37.0
	18	0.048	1.219	0.0949	2.4094	44.1
	20	0.036	0.914	0.1069	2.7144	56.0
	22	0.028	0.711	0.1149	2.9174	64.7
	23	0.024	0.610	0.1189	3.0184	69.3
8	18	0.048	0.219	0.077	1.9559	37.9
	20	0.036	0.914	0.089	2.2609	50.7
	21	0.032	0.813	0.093	2.3619	55.4
	22	0.028	0.711	0.097	2.4639	60.2
	24	0.022	0.559	0.103	2.3159	67.9
9	19	0.0400	1.0160	0.0711	1.8061	40.8
	20	0.0360	0.9140	0.0751	1.9081	45.6
	22	0.0280	0.7110	0.0831	2.111	55.8
	24	0.0220	0.5590	0.0891	2.2631	64.2
	26	0.0180	0.4570	0.0931	2.3651	70.1
	28	0.0148	0.3759	0.0961	2.4462	74.6
10	20	0.0360	0.9140	0.0640	1.6259	41.0
	21	0.0320	0.8130	0.0680	1.7269	46.2
	22	0.0280	0.7110	0.0720	1.8289	51.8
	24	0.0220	0.5590	0.0780	1.9809	60.8
	26	0.0180	0.4570	0.0820	2.0829	67.2
12	22	0.0280	0.7110	0.0553	1.4056	44.0
	23	0.0240	0.6100	0.0593	1.5066	50.6
	24	0.0220	0.5590	0.0613	1.5576	54.1
	25	0.0200	0.5030	0.0633	1.6086	57.7
	26	0.0180	0.4570	0.0653	1.6596	61.4
	28	0.0148	0.3759	0.0685	1.7407	67.6

MESH	S.W.G	WIRE DIA		OPEN AREA		% OPEN
		in	mm	in	mm	
14	22	0.0280	0.7110	0.0434	1.1032	36.9
	24	0.0220	0.5590	0.0494	1.2552	47.8
	26	0.0180	0.4570	0.0534	1.3572	55.9
	28	0.0148	0.3759	0.0566	1.4383	62.8
	30	0.0124	0.3150	0.0590	1.4992	68.2
16	32	0.0108	0.2745	0.0606	1.5399	72.00
	25	0.0200	0.5080	0.0425	1.0795	46.2
	26	0.0180	0.4570	0.045	1.1305	50.7
	27	0.0146	0.4166	0.0461	1.1709	54.4
18	28	0.0148	0.3759	0.0477	1.2116	58.3
	30	0.0124	0.3150	0.0501	1.2725	64.3
	32	0.0108	0.2743	0.0517	1.3132	68.4
	24	0.0220	0.5590	0.0335	0.8520	36.4
20	25	0.0200	0.5080	0.0355	0.9030	40.8
	26	0.0180	0.4570	0.0375	0.9540	45.6
	28	0.0148	0.3759	0.0407	1.0351	53.7
	30	0.0124	0.3150	0.0431	1.0960	60.2
	32	0.0108	0.2743	0.0447	1.1367	64.7
24	25	0.0200	0.5080	0.0300	0.7620	36.0
	26	0.0180	0.4570	0.0320	0.8130	41.0
	28	0.0148	0.3759	0.0352	0.8941	49.6
	30	0.0124	0.3150	0.0376	0.8550	56.5
	32	0.0108	0.2743	0.0392	0.9957	61.5
	26	0.0180	0.4570	0.0236	0.6013	32.1
28	27	0.0164	0.1466	0.0252	0.6417	36.6
	28	0.0148	0.3759	0.0268	0.6824	41.4
	29	0.0136	0.3454	0.0280	0.7129	45.2
	30	0.0124	0.3150	0.0292	0.7433	49.1
	31	0.0116	0.2946	0.0300	0.7637	51.8
	32	0.0108	0.2743	0.0308	0.7840	54.6
30	28	0.0148	0.3759	0.0209	0.5312	34.2
	30	0.0124	0.3150	0.0233	0.5921	42.6
	32	0.0108	0.2743	0.0249	0.6328	48.6
	34	0.0092	0.2337	0.0265	0.6734	55.1
32	31	0.0116	0.2946	0.0217	0.5520	42.4
	32	0.0108	0.2743	0.0225	0.5723	45.6
	33	0.0100	0.2540	0.0233	0.5926	48.9
	34	0.0092	0.2337	0.0241	0.6129	52.3
36	31	0.0116	0.2946	0.0198	0.4991	39.4
	32	0.0108	0.2743	0.0204	0.5194	42.6
	33	0.0100	0.2540	0.0212	0.5397	46.0
40	34	0.0092	0.2337	0.0220	0.5600	49.6
	31	0.0116	0.2946	0.0162	0.4109	34.0
	32	0.0108	0.2743	0.0170	0.4312	37.5
	33	0.0100	0.2540	0.0178	0.4515	41.1
40	34	0.0092	0.2337	0.0186	0.4718	44.8
	32	0.0108	0.2743	0.0142	0.3607	32.3
	33	0.0100	0.2540	0.0150	0.3810	36.0
	34	0.0092	0.2337	0.0158	0.4013	39.9
35	0.0084	0.2134	0.0166	0.4216	44.1	
36	0.0076	0.1930	0.0174	0.4420	48.4	

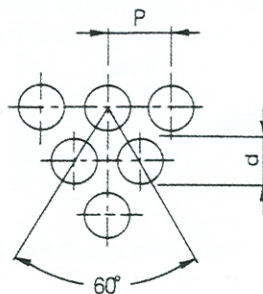
STRAINER

WIRE MESH SELECTION CHART

MESH	S.W.G	WIRE DIA		OPEN AREA		% OPEN
		in	mm	in	mm	
50	33	0.0100	0.2540	0.0100	0.2540	25.0
	34	0.0092	0.2337	0.0108	0.2743	29.2
	35	0.0084	0.2134	0.0116	0.2946	33.6
	36	0.0076	0.1930	0.0124	0.3150	38.4
	37	0.0068	0.1727	0.0132	0.3353	43.6
	38	0.0060	0.1524	0.0140	0.3556	49.0
60	35	0.0084	0.2134	0.0083	0.2099	24.8
	36	0.0076	0.1930	0.0091	0.2303	29.8
	37	0.0068	0.1727	0.0099	0.2506	35.3
	38	0.0060	0.1524	0.0107	0.2907	41.2
	39	0.0052	0.1321	0.0115	0.2912	47.6
70	36	0.0076	0.1930	0.0067	0.1698	22.0
	37	0.0068	0.1727	0.0075	0.1901	27.6
	38	0.0060	0.1524	0.0083	0.2104	33.8
	39	0.0052	0.1321	0.0091	0.2307	40.6
	40	0.0048	0.1229	0.0095	0.2409	44.2
80	37	0.0068	0.1727	0.0057	0.1448	20.8
	38	0.0060	0.1524	0.0065	0.1651	27.0
	39	0.0052	0.1321	0.0073	0.1854	34.1
	40	0.0048	0.1219	0.0077	0.1956	37.9
	41	0.0044	0.1118	0.0081	0.2057	42.0
90	39	0.0052	0.1321	0.0059	0.1501	28.2
	40	0.0048	0.1219	0.0063	0.1603	32.1
	41	0.0044	0.1118	0.0067	0.1704	36.4
	42	0.0040	0.1016	0.0069	0.1806	38.6
100	39	0.0052	0.1321	0.0048	0.1219	23.0
	40	0.0048	0.1291	0.0052	0.1321	27.0
	41	0.0044	0.1118	0.0056	0.1422	31.4
	42	0.0040	0.1016	0.0060	0.1524	36.0

MESH	S.W.G	WIRE DIA		OPEN AREA		% OPEN
		in	mm	in	mm	
110	41	0.0044	0.1118	0.0047	0.1173	26.7
	42	0.0040	0.1016	0.0051	0.1293	31.5
	43	0.0036	0.0914	0.0055	0.1395	36.6
	44	0.0032	0.0813	0.0059	0.1496	42.1
120	42	0.0040	0.1016	0.0043	0.1101	26.6
	43	0.0036	0.0614	0.0047	0.1203	31.8
	44	0.0032	0.0813	0.0051	0.1304	37.5
130	45	0.0028	0.0711	0.0055	0.1406	43.6
	42	0.0040	0.1016	0.0037	0.0938	23.1
	43	0.0036	0.1914	0.0041	0.1040	28.4
	44	0.0032	0.0813	0.0045	0.1141	34.2
140	45	0.0028	0.0711	0.0049	0.1243	40.6
	44	0.0032	0.0813	0.0039	0.1001	29.8
	45	0.0028	0.0711	0.0043	0.1103	36.2
	46	0.0024	0.0610	0.0047	0.1204	43.3
160	45	0.0028	0.0711	0.0034	0.0876	29.6
	46	0.0024	0.0610	0.0038	0.0977	37.0
	47	0.0020	0.0508	0.0042	0.1079	45.2
180	46	0.0024	0.0610	0.0032	0.0801	33.2
	47	0.0020	0.0508	0.0036	0.0903	42.0
200	47	0.0020	0.0508	0.0030	0.0762	36.0
	48	0.0016	0.0406	0.00343	0.0964	46.2
250	48	0.0016	0.0406	0.0024	0.0610	36.0

PERORATION PLATE / OPEN AREA



d : Pore diameter
 N : Porous ratio
 P : Pitch

$$N = (\pi / 4 * d^2) \sqrt{3} / 2 * P^2$$

$$= 2\pi (4\sqrt{3}) * (d / P)^2$$

$$= 0.91 * (d / P)^2$$

WROUGHT STEEL BUTT-WELDING FITTINGS

APPLICABLE SPECIFICATIONS

● KS : KOREAN INDUSTRIAL STANDARDS

- *KS B 1522* Steel Butt-Welding Pipe Fittings for Ordinary use.
- *KS B 1541* Steel Butt-Welding Pipe Fittings.
- *KS B 1542* Steel Socket-Welding Pipe Fittings.
- *KS B 1543* Steel Plate Butt-Welding Pipe Fittings.

● JIS : JAPANESE INDUSTRIAL STANDARDS

- *JIS B 2311* Steel Butt-Welding Pipe Fittings for Ordinary use.
- *JIS B 2312* Steel Butt-Welding Pipe Fittings.
- *JIS B 2313* Steel Plate Butt-Welding Pipe Fittings.
- *JIS B 2316* Steel Socket-Welding Pipe Fittings.

● ANSI : AMERICAN NATIONAL STANDARDS INSTITUTE

- *ANSI B 16.5* Pipe Flanges and Flanged Fittings.
- *ANSI B 16.9* Factory Made Wrought Steel Butt-Welding Fittings.
- *ANSI B 16.11* Forged Steel Fitting, Socket-Welding
- *ANSI B 16.25* Butt-Welding Ends.
- *ANSI B 16.28* Wrought Steel Butt-Welding Short Radius Elbow and Returns.

● ASTM : AMERICAN SOCIETY FOR TESTING AND MATERIALS

- *ASTM A 105* Forging, Carbon Steel for Piping Components.
- *ASTM A 182* Forging or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service.
- *ASTM A 234* Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.
- *ASTM A 350* Forgings Carbon and Low-Alloy Steel, Requiring Notch Toughness Testing for Piping components.
- *ASTM A 403* Wrought Austenitic Stainless Steel Piping Fittings.
- *ASTM A 420* Piping Fittings of Wrought Carbon Steel and Alloy Steel of Low-Temperature Service.

● MSS : MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY.

- *MSS SP-25* Standard Marking System for Valves, Fittings, Flanges and Unions.
- *MSS SP-43* Wrought Stainless Steel Butt-Welding Fittings.
- *MSS SP-44* Steel Pipe Line Flanges.
- *MSS SP-75* Specification for High Test Wrought Butt-Welding Fittings.
- *MSS SP-79* Socket Welding Reducer Inserts.
- *MSS SP-83* Carbon Steel Pipe Unions Socket-Welding and Threaded.
- *MSS SP-87* Factory-Made Butt-Welding Fittings for Class 1 Nuclear Piping Applications.
- *MSS SP-97* Integrally Reinforced Forged Branch Outlet Fittings-Socket Welding. Threaded and Butt-Welding Ends.

● ASME : AMERICAN SOCIETY OF MECHANICAL ENGINEERS

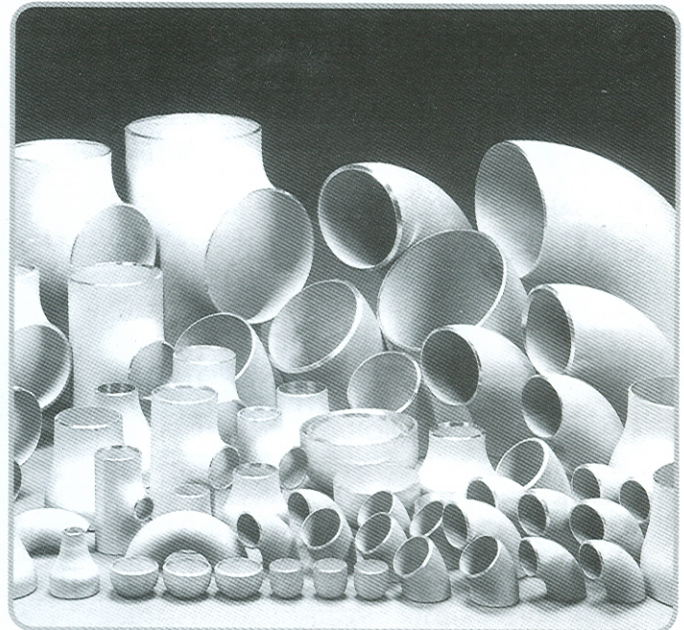
- *ASME SECTION II* Materials
- *ASME SECTION III* Subsection NCA / Division 1 / Division 2
- *ASME SECTION V* Nondestructive Examination
- *ASME SECTION VIII* Rules for Construction of Pressure Vessels / Division 1, Division 2.
- *ASME SECTION IX* Welding and Brazing Qualifications

● API : AMERICAN PETROLEUM INSTITUTE

- *API 5L* Line Pipe
- *API 5XL* High Test Line Pipe

FITTING

■ STEEL BUTT-WELDING FITTINGS / STAINLESS STEEL BUTT - WELBING PIPE FITTINGS



STANDARD SIZE FITTING

■ DIMENSIONS

- ELBOW50"~ : MITER TYPE
- TEE 24"~ : V-NECK TYPE
- REDUER 24"~: CONICAL TYPE unit : mm

	TYPE OF STEEL	ELBOWS	TEES	REDUCERS	CAPS
SEAMLESS	Carbon and alloy all schedules	1/2"~48"	1/2"~24"	1/2"~24"	1"~48"
	Stainless steel all scheduls	1/2"~48"	1/2"~24"	1/2"~24"	1"~48"
WELDED	Carbon and alloy all schedules	1/2"~48"	1/2"~24"	1/2"~24"	1"~48"
	Stainless steel all scheduls	1/2"~48"	1/2"~24"	1/2"~24"	1"~48"

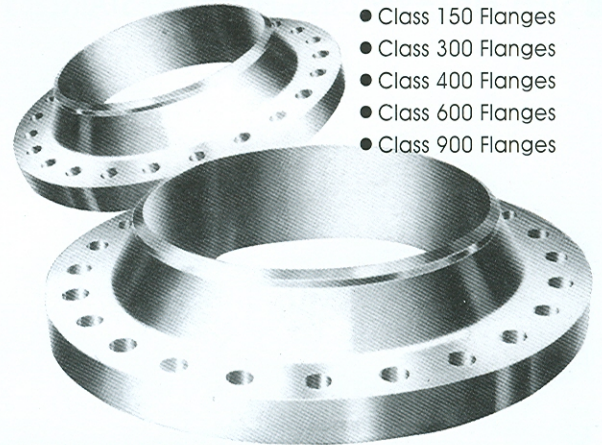
FLANGES

API FLANGES



- Class 75 Flanges
- Class 150 Flanges
- Class 300 Flanges
- Finish & Tolerance
- Material & Pressure Ratings

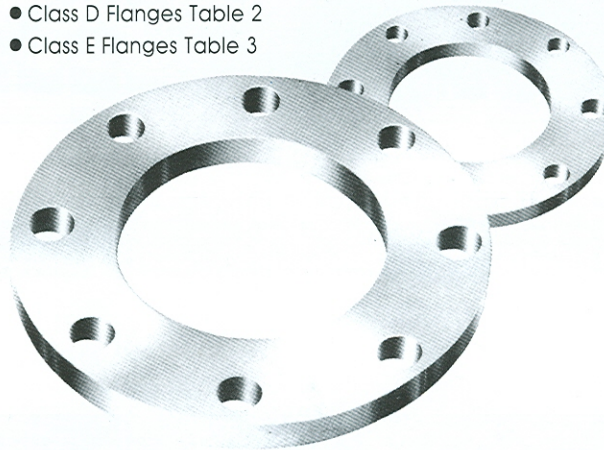
MSS FLANGES



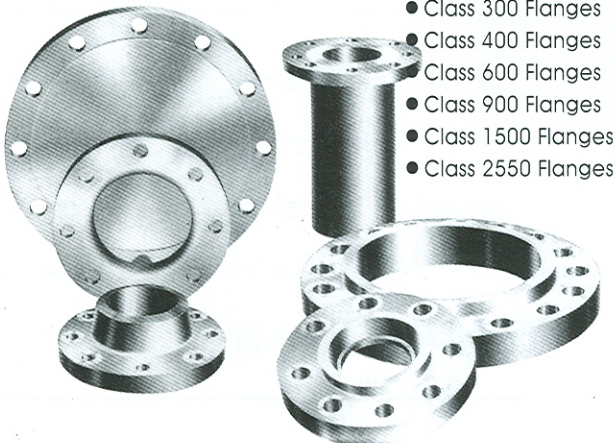
- Material Specifications
- Class 150 Flanges
- Class 300 Flanges
- Class 400 Flanges
- Class 600 Flanges
- Class 900 Flanges

AWWA FLANGES

- General Specifications
- Class B & D Flanges Table 1
- Class D Flanges Table 2
- Class E Flanges Table 3

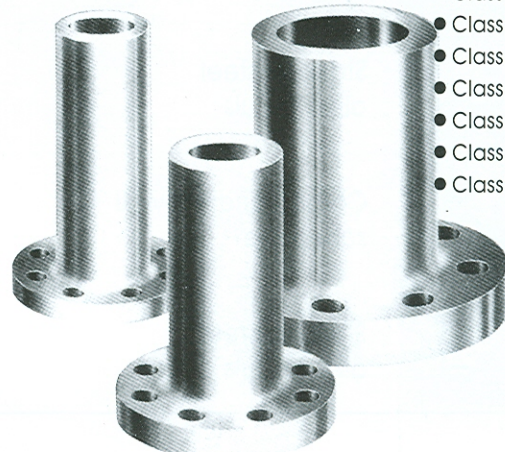


ANSI FLANGES



- Class 150 Flanges
- Class 300 Flanges
- Class 400 Flanges
- Class 600 Flanges
- Class 900 Flanges
- Class 1500 Flanges
- Class 2550 Flanges

LONG WELDING NECKS FLANGES



- Class 150 Flanges
- Class 300 Flanges
- Class 400 Flanges
- Class 600 Flanges
- Class 900 Flanges
- Class 1500 Flanges
- Class 2550 Flanges

OKV VALVES



Oil & gas



Industry

OKV

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