



FLOATING BALL VALVES

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Distributors/Agents



**GLOBAL
SupplyLine**



**AUSTRALIAN
PIPELINE VALVE®**

Local Strategic FZV Partner

Global Supply Line are sole agents Australia, NZ & PNG, large stock range, shipping worldwide. Stock lists at our website: www.globalsupplyline.com.au
Contact us: sales@globalsupplyline.com.au

FANGZHENG VALVE MANUFACTURING CO., LTD.

Version: CAT-BV-2011

Government & International Certifications

International certifications and awards verify the achievements of FZV and the dedication of our staff towards achieving our future goals.

2005 Certified API 6A

2006 Certified API 600

2000 Certified API 6D

2003 Certified ISO 14001

2003 Certified DHSAS 18001

2000 Certified ISO 9001

2002 Certified CE/PED (B+C1)

2009 Certified CE/PED (H)

2002 Certified CE/PED (ATEX)

2006 Certified PDO

2007 Certified ARAMCO

2006 Certified NIGC, NIOEC

2005 Certified TS

2006 Certified BS 6755

2006 Certified API 6FA

2004 Certified API 607



API 6A

API 600

API 6D



ISO 14001

ISO 18001

ISO 9001



CE/PED (B+C1)

CE/PED (H)

CE/PED (ATEX)



PDO

ARAMCO

NIGC

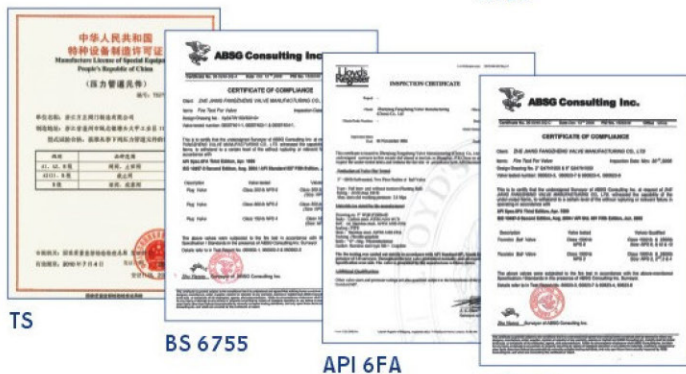


TS

BS 6755

API 6FA

API 607





WELCOME TO FZV

**FZV is your
reliable choice**

Founded in 1983, Fangzheng Valve Manufacturing Co., Ltd ("FZV") is an international high-tech enterprise and a member of the Chinese Valve Association. FZV places great emphasis on technological innovation and has been successively honoured with the Innovation Technology Fund (China national prize for advancement of science and technology) from the Ministry of Science and Technology (China).

Within the China domestic market, FZV has offices in Shanghai, Beijing, Shandong and Xi'an. We are the key supplier for PetroChina, Sinopec, Chang Qing Oilfield, Da Gang Oilfield, Da Qing Oilfield, Zhong Yuan Oilfield, Du Shan Zi Refinery, Fu Shun Petrochemical, Jiu Jiang Petrochemical, etc.

In the International market, FZV has been growing rapidly with offices in USA, the Netherlands, Saudi Arabia, Oman, Iran and Singapore. We are the approved supplier to Saudi Arabia (Aramco), Oman (Dodsai, PDO), Iran (NIOEC, NIGC, NIOC), Italy (ENI), Japan (Choyda), Thailand (PTT), Malaysia (Petronas), etc.

FZV has 9 controlling companies and 2 sub-companies. Our annual production capacity reaches 16,000 tons. Our in-house ERP system enables effective and efficient overall planning between all our factories and the respective markets. Our high level product quality is effectively controlled through high-tech manufacturing and test equipments i.e. Lloyds safe-fire equipments, ultra-low temperature and high temperature test systems, torque test systems low leakage measurement & inspection equipments.

Many of our products have been honoured with prestigious State New Technology Patents (China). These products include: Balanced pressure metal seal plug valves, self-lubricating metal plug valves, hard and soft double sealed slurry valves, long-distance transportation pipeline ball valves, long-distance transportation pipeline stopcocks and pig ball valves.

FZV Product Standards:

1. Products: Ball Valve, Gate Valve, Globe Valve, Check Valve, Plug Valve, Butterfly Valve, Slab Gate Valve, API 6A Valves and Pipes, Pig Ball Valve, Low Temperature Valve (e.g. -196°C Gate Valve, Globe Valve, Check Valve and Ball Valve)
2. Standards: ISO, API, DIN, BS & GB.
3. Materials: WCB (105), LCB (LF2), C5 (F5), WC6 (F11), WC9 (F22), CF8 (F304), CF8M (F316), 4A (F51), 5A (F53), 6A (F55), CK3MCUN (F44), Monel, Inconel, Alloy 20, Aluminum-Bronze, etc.
4. Sizes: 1/2" to 56" (DN 15 to DN 1400)
5. Pressures: Class 150 to Class 2500 (PN 16 to PN 420)
6. Temperature Range: -196°C to 650°C
7. Markets: Petroleum, Gas, Refinery, Chemical, Marine, etc.

FZV Business Principle: Honesty and customer satisfaction is number one!

FZV Strengths:

1. Strict quality control system ensures the high quality level of all our products
2. Complete manufacturing management system ensures our effective production cycles
3. Reasonable prices
4. Outstanding after-sales services

BALL VALVE SERIES

FANGZHENG VALVE

5	Code of Ball Valve Drawing Number
6 - 9	Compilation Code of Ball Valve Drawing Number
10 - 13	Floating Ball Valve
14	Integral Cast Steel Floating Ball Valve
15 - 16	API Two-Piece Cast Steel Floating Ball Valve
17	DIN Two-Piece Cast Steel Floating Ball Valve
18 - 20	Two-Piece Forged Steel Floating Ball Valve
21 - 22	Threaded Ball Valves
23 - 24	Two-Piece Threaded Floating Ball Valve
25	Three-Way Cast Steel Ball Valve

CONTENTS



Code of Ball Valve Drawing Number

VALVES

●Application

This specification is applicable to API ball valve designs.

●Procedure

Production material description is seen in 9 parts and " ", "-", "/", etc.

Trunnion-Mounted Ball Valve	Qg	-	25	-	05	-	BOM1	-	BW	-	W1	12	122	/	01	A01
A	B	C	D	E	F	G	H	I	J							

A: Valve Name	F: Valve End Connection Type
B: Valve Type Code	G: Valve Drive (Operation) Type
C: Nominal Diameter	H: Trim Material Code
D: Nominal Pressure	I: Main Parts Material Code
E: Revision Number of BOM	J: Remarks (Special Requirements) can be A01/B02; meaning 2 special requirements

●Valve Name: Comparison table of naming is divided into related materials, valve names and description of complete valve material coding.

Item	Description of Valve Type	Naming Method of Item A	Naming Method of Item B	Mnemonic Code
1	Supporting Plate Type	Trunnion-Mounted Ball Valve	Qg	QF
	Trunnion-Mounted Ball Valve	Trunnion-Mounted Ball Valve	Qz	
	Through Shaft	Trunnion-Mounted Ball Valve	Qf	
2	Floating Ball Valve	Floating Ball Valve	QLf	
		Thread Floating Ball Valve	QAf	
		Three-Piece Floating Ball Valve	Qw	
3	Fully Welded Ball Valve	Welded Ball Valve	Qwzh	
		Welded Casing Pipe Ball Valve	Qwh	
			Qs	
4	One-Piece Ball Valve	One-Piece Ball Valve	Qs	
5	Cryogenic Ball Valve	Cryogenic Trunnion Mounted Ball Valve	DQz/ DQg	
		Cryogenic Floating Ball Valve	DQf	
		Cryogenic One-Piece Ball Valve	DQs	
6	Top-Entry Ball Valve	Top-Entry Ball Valve	SQ	
7	Metal-to-Metal Ball Valve	Metal-to-Metal Floating Ball Valve	Qy	
		Metal-to-Metal Trunnion-Mounted Ball Valve	Qgy/ Qzy	
		Top-Entry Metal-to-Metal Ball Valve	SQy	
8	L-Pattern/T-Pattern Three-Way Ball Valve	Three-Way Ball Valve	LQorTQ	
9	Orbit Type Ball Valve	Orbit Type Ball Valve	GDQ	
10	GB Ball Valve	GB Ball Valve	GBQf	
			GBQz	
11	Baiting Valve	Baiting Valve	FLQf	
12	Lining Ball Valve	Lining Ball Valve	***CL	
13	*** Accessory	*** Accessory	***PJ	***PJ
Remarks	Forge and cast ball valves are not shown in item A. In item B, forging is marked with "C" e.g. CQg = forge trunnion-mounted ball valve with supporting plate, Qg = cast trunnion-mounted ball valve with supporting plate. Casting has no markings. Trunnion-mounted ball valves or ball valves with elastic components are divided into front sealing, back sealing and double sealing. In item B, there are no markings for front sealing. Back sealing is marked with "1" e.g. CQg1 = forge back sealing ball valve with supporting plate. Double sealing is marked with "2" e.g. Qz2 = cast double sealing ball valve of through axis type. Ultra low temperature ball valves are marked with "1" e.g. D1Q = ultra low temperature ball valves. CDQz = common low temperature forge ball valves.			



VALVES

Compilation Code of Ball Valve Drawing Number

● Specification for Valve Nominal Bore

Number of Item C	Corresponding Nominal Diameter		Number of Item C	Corresponding Nominal Diameter	
01	1/4"	6.5	28	16"	400
02	3/8"	10	29	18"	450
03	1/2 X 3/8"	15 X 10	30	20"	500
04	1/2"	15	31	24"	600
05	3/4 X 1/2"	20 X 15	32	6 X 4"	150 X 100
06	3/4"	20	33	28"	700
07	1 X 3/4"	25 X 20	34	30"	750
08	1"	25	35	32"	800
09	1 1/4"	32	36	36"	900
10	2 1/16"		37	8 X 6"	200 X 150
11	1 1/2 X 1"	40 X 25	38	10 X 8"	250 X 200
12	1 1/2"	40	39	12 X 10"	300 X 250
13	2"	50	40	14 X 12"	350 X 300
14	2" X 1"	50 X 25	41	16 X 12"	400 X 300
15	2 1/2"	65	42	16 X 14"	400 X 350
16	2 X 1 1/2"	50 X 40	43	18 X 16"	450 X 400
17	3"	80	44	20 X 18"	500 X 450
18	4"	100	45	24 X 20"	600 X 500
19	5"	125	46	28 X 24"	700 X 600
20	2 1/2 X 2"	65 X 50	47	30 X 24"	750 X 600
21	6"	150	48	32 X 24"	800 X 600
22	3" X 2"	80 X 50	49	32 X 28"	800 X 700
23	8"	200	50	36 X 30"	900 X 750
24	10"	250	***	***	
25	12"	300			
26	4 X 3"	100 X 80			
27	14"	350			

● Specification of Valve Nominal Pressure

Number of Item D	Corresponding Nominal Pressure	Number of Item D	Corresponding Nominal Pressure
01	125 Lb	17	2,000 psi
02	150 Lb	18	3,000 psi
03	300 Lb	19	5,000 psi
04	400 Lb	20	10,000 psi
05	600 Lb	21	150~1,500 Lb
06	900 Lb	22	6,000 psi
07	1,500 Lb	23	25.0 MPa
08	2,500 Lb	24	2,200 psi
09	800 Lb	25	***
10	1.6 MPa		
11	2.5 MPa		
12	4.0 MPa		
13	6.4 MPa		
14	10.0 MPa		
15	16.0 MPa		
16	32.0 MPa		

●Version of BOM Sheet

Number of Changing Drawing	Version Number
N/A	BOM 1
1	BOM 2
2	BOM 3

Note: BOM 1 is the original drawing and has no drawing number

●Comparison Table of Valve End Connection

Item	End Connection	Corresponding Code of Item F
1	Raised Face Flange	RF
2	RTJ Flange	RTJ
3	Flat Face	FF
4	Socket Weld	SW
5	NPT Thread	NPT
6	API 5B Thread	S
7	BSPT or Rc Thread (International circular cone inside thread 55°C)	BSPT or Rc
8	Wafer Type	WF
9	Wafer Type with RTJ Groove	WF/RTJ
10	No Water Line for Raised Face Flange	RL
11	No Water Line for Flat Face Flange	FL
12	Butt Welding	BW
13	One End Butt Welding, One End RF Flange	BW & therefore
14	One End Butt Welding, One End RTJ Flange	BW & RTJ
15	One End Socket Welding, One End NPT Thread	SW & NPT
16	GB Female Flange	MF
17	***	***

Note: 1. Main parameter of BW pipe is shown in the remarks column (pipe parameter is not shown in this version)
2. Big flange LRF is required to be shown in the remarks column (corresponding code of item F is RTJ)

●Valve Drive (Operation) Method

Corresponding Series Number of Item G	Corresponding Drive Method	Corresponding Series Number of Item G	Corresponding Drive Method
A	Lever/Handwheel	K	Pneumatic Hydraulic Actuator
B	Bevel Gear	O	ISO Top Flange
C	Chain Wheel	P	Pneumatic
D	Electric & Hydraulic Actuator	P & A	Pneumatic with Manual
E	Electric Actuator	S	Spur Gear Actuator
H	Hydraulic Actuator	W	Gear Actuator
I	Impact Handwheel	Z	Others



VALVES

Compilation Code of Ball Valve Drawing Number

● Trim Material Code

○ Trunnion-Mounted Ball Valve and Welded Ball Valve

Remarks:

For 6 digit trim code for trunnion-mounted ball valve, the 6th digit is the fastener material code

For 5 digit trim code for welded ball valve, there is no fastener material code

For 5 digit trim code for top-entry ball valve, there is no supporting plate and bottom cover

Number of Item H	Ball	Seat	Stem	Supporting Plate, Bottom Cover	Seal Ring	Shell Fastener
1	A 105 + ENP	A 105 + ENP	A 105 + ENP	A 105 + ENP	PTFE	B7/2H
2	4140 + ENP	4140 + ENP	4140 + ENP	4140 + ENP	RPTFE	B7M/2HM
3	F6a (ENP)/ 410 (ENP)	F6a (ENP)/ 410 (ENP)	F6a (ENP)/ 410 (ENP)	F6a (ENP)/ 410 (ENP)	Nylon	B8/8 (A)
4	304	304	304	304	Nylon 12	B8M/8M (A)
5	304L	304L	304L	304L	Nylon 66	L7/7
6	316	316	316	316	PEEK	L7M/7M
7	316L	316L	316L	316L	DEVLOX V	B8T/8T
8	LF2 + ENP	LF2 + ENP	LF2 + ENP	LF2 + ENP	Monel	L7/4L
9	WCB + ENP	F316 + ENP	17-4PH	17-4PH	PPL	B16/4
A	4A/F51	F51	F51	F51	Teflon	
B	Alloy 825	Alloy 825	Alloy 825	Alloy 825	POM	
C	CF8M	F6a	F6a	F6a	PCTFE	
D	CF8	F55	F55	F55		
E	Inconel 625	Inconel 625	Inconel 625	Inconel 625		
F	Monel 400	Monel 400	Monel 400	Monel 400		
G	Monel 500	Monel 500	Monel 500	Monel 500		
H	Alloy 20	Alloy 20	Alloy 20	Alloy 20		
J	A 105N/ENP	A 105N + ENP	A 105N + ENP	A 105N + ENP		
K	F55			Organic Glass		
L	F44	F44	F44	F44		
	***	***		***		

Note: 4A ball should be shown in the remarks column

○ Adopting 5 digit trim code for metal-to-metal ball valve.

Adopting 4 digit trim code for floating ball valve/top-entry ball valve, without supporting plate and bottom cover.

Number of Item H	Ball	Seat	Stem	Supporting Plate, Bottom Cover	Shell Fastener
1	A 105 + WC	A 105 + WC	A 105/ENP	A 105/ENP	B7/2H
2	A 105 + STL 6	A 105 + STL 6	4140/ENP	4140/ENP	B7M/2HM
3	F6a/410 + WC	F6a/410 + WC	F6a/410	F6a/410	B8/8 (A)
4	F6a/410 + STL 6	F6a/410 + STL 6	304	304	B8M/8M
5	WCB + WC	304 + STL	304L	304L	L7/7
6	WCB + STL 6	316 + STL	316	316	L7M/7M
7	304 + WC	304 + WC	316L	316L	B8T/8T
8	316 + WC	316 + WC	LF2 + ENP	LF2 + ENP	B16/4
9	304 + STL		17-4PH	17-4PH	L7/4L
A	316 + STL		304 + STL	F11	
B	F22 + STL	F22 + STL	F22 + ENP	F22 + ENP	
C				F91	

Compilation Code of Ball Valve Drawing Number

VALVES

○ Adopting 5 digit trim code for floating ball valve.

Adopting 4 digit trim code for one-piece ball valve and thread connection ball valve, without shell fastener.

Number of Item H	Ball	Stem	Stem Packing	Seal Ring	Shell Fastener
1	A105 + ENP	A105 + ENP	PTFE	PTFE	B7/2H
2	4140 + ENP	4140 + ENP	RPTFE	RPTFE	B7M/2HM
3	410/F6a	410/F6a	Flexible Graphite + 304	Nylon	B8/8 (A)
4	304/CF8	304	GARLOCK	Nylon 12	B8M/8M (A)
5	304L/CF3	304L	O-Ring Viton	Nylon 66	L7/7
6	316/CF8M	316	410 + Viton	PEEK	L7M/7M
7	316L/CF3M	316L	304 + Viton	DEVLON V	B8T/8T
8	LF2 + ENP	LF2 + ENP	316 + Viton	Monel	L7/4L
9	17-PH	17-4PH		PPL	B16/4
A	F51	F51		Teflon	
B	Alloy 825	Alloy 825		POM	
C	C61900	C61900		PCTFE	
D	Monel	Monel			
E	A105N+ENP	A105N+ENP			
F	F55	F55			
G	F44	F44			
H	C63200	C63200			
J	WCB + PFA	WCB + PFA			

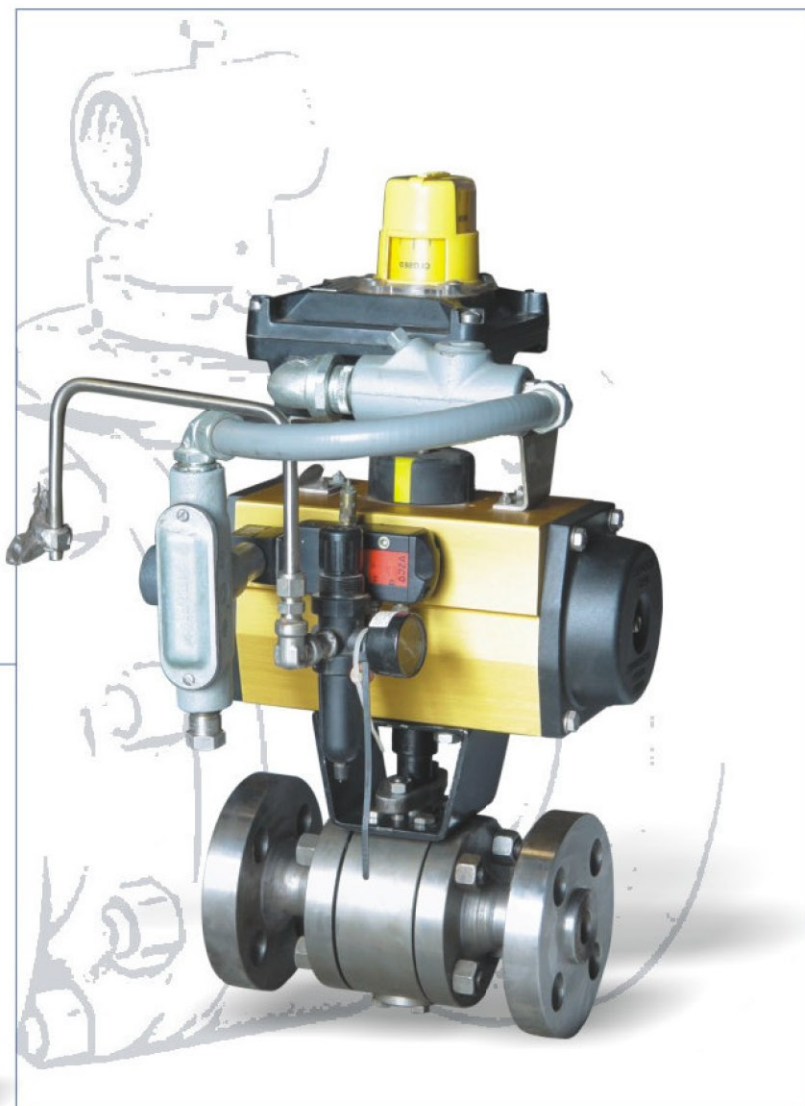
Note: Casting ball of CF8, CF3, CF8M, CF3M, 4A should be shown in remarks column

○ Main Parts Material Code

Number of Item I	01	02	03	04	05	06	07
Metal Grade	A105	WCB	WCA	WCC	WC1	WC4	WC5
Material Type	Carbon Steel Forging	Cast Stainless Steel	Cast Stainless Steel	Cast Stainless Steel	Heat Resistant Steel	Heat Resistant Steel	Heat Resistant Steel
I-Type Item Code	08	09	10	11	12	13	14
Metal Grade	WC6	WC9	C5	C12	CF3	CF3M	CF8
Material Type	Heat Resistant Steel	Heat Resistant Steel	Heat Resistant Steel	Heat Resistant Steel	Cast Stainless Steel	Cast Stainless Steel	Stainless Cast Steel
I-Type Item Code	15	16	17	18	19	20	21
Metal Grade	CF8M	LF1	LF2	LF3	LFA	LCB	LCC
Material Type	Cast Stainless Steel	Cryogenic Forging Steel	Cryogenic Forging Steel	Cryogenic Forging Steel	Cryogenic Cast Steel	Cryogenic Cast Steel	Cryogenic Cast Steel
I-Type Item Code	22	23	24	25	26	27	28
Metal Grade	LC1	LC2	LC3	F304	F304L	F316	F316L
Material Type	Cryogenic Cast Steel	Cryogenic Cast Steel	Cryogenic Cast Steel	Forge Stainless Steel	Forge Stainless Steel	Forge Stainless Steel	Forge Stainless Steel
I-Type Item Code	29	30	31	32	33	34	35
Metal Grade	410	17-4PH	Iron	Steel	C95800	Monel	Inconel 625
Material Type	Martensite Stainless	Sediment Stainless	Soft Iron	Cast Steel Cold Rolled	Copper	Special Material	Special Material
I-Type Item Code	36	37	38	39	40	41	42
Metal Grade	20#	Hastelloy B	Hastelloy C	4140	CA15	A105 + ENP	WCB + ENP
Material Type	Special Material	Special Material	Special Material	Alloy steel	Heat Resistance Steel	Surface Treatment	Surface Treatment
I-Type Item Code	43	44	45	46	47	48	49
Metal Grade	Stellite	A105N	4A	F51	Inconel 825	LF2 + ENP	WCB + DSS
Material Type	Wear Resistant Material	Surface Treatment	Special Material	Special Material	CU5MCUC	Surface Treatment	Surface Treatment
I-Type Item Code	50	51	52	53	Special Material	55	56
Metal Grade	HT200	F11	F22	A105N + ENP	54	Organic Glass	F12
Material Type	Grey Cast Iron	High Temperature Steel	High Temperature Steel	Surface Treatment	F44	Special Material	High Temperature Steel
I-Type Item Code	57	58	59	60	Special Material	62	63
Metal Grade	WCB + PFA	F55	F91	C95200	61	C61900	
Material Type	Carbon Steel Lining	Special Material	High Temperature Steel	Copper Alloy	C95500	Copper Alloy	
					Copper Alloy		

Note:

1. ENP thickness on body or trim is usually 0.03mm. Item J has no special requirements unless customer has special specifications.
2. If the body material is forging but the left body and right body materials are casting, the main materials will be: Item I = body, Item J = left/right body, A02 = distinction.



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FZV · Floating Ball Valve Series

FANGZHENG VALVE MANUFACTURING CO., LTD.

FLOATING BALL VALVE SERIES



Floating Ball Valve

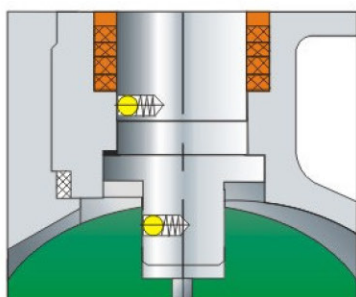
● Introduction of Floating Ball Valve

○ Application

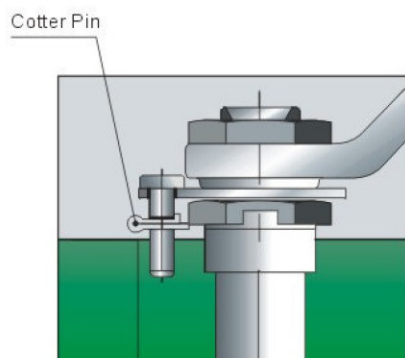
Mainly used in the storage and transportation of petroleum and natural gas. It is an open/close device to control the medium in the chemical, mining, papermaking, food and shipbuilding industries. It can be remote operated to ensure personal safety by mounting pneumatic or electric equipment.

○ Features

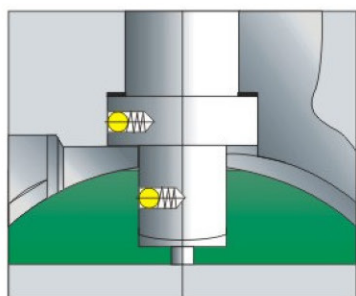
1. Locking device. Valve can be mounted with a locking device especially when installed in the field or when not permitted to open or close. Locking the valve prevents accidents from misoperations.
2. Explosion-proof stem design. Bottom-entry structure of inverted stem sealing prevents accidents caused by stem released during rising body cavity pressure. It enhances inverted sealing and ensures reliable stem sealing.
3. Fire-safe design. During fire, the soft seal will be damaged and the valve will leak, causing a bigger fire. To prevent this, double sealing seat structure is used- first soft seal, then metal seal. If the soft seal is damaged, there will be a sealing between the metal seat and ball to prevent leakage.
4. Anti-static design. This is very important in the working condition of flammable medium.
5. Standard ISO flange design. All the valve lever operations are designed with standard ISO 5211 flange. This enables customers to easily change operation methods at anytime.



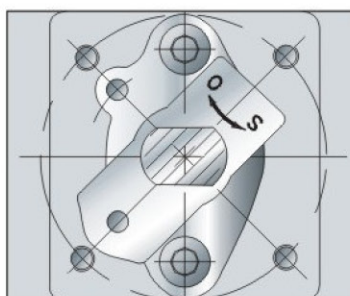
Explosion-proof stem design: Stem will not shoot out during high pressure.



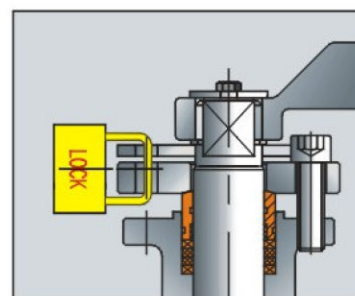
Locking device, limiting device (forge steel)



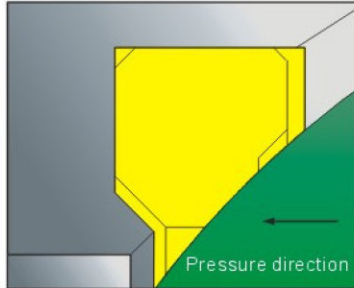
There is static conduction in ball, stem and body.



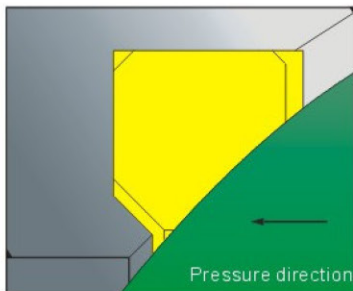
Equipped with ISO 5211 standard mounting flange.



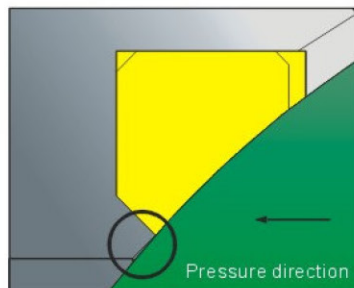
Locking device, limiting device (cast steel).



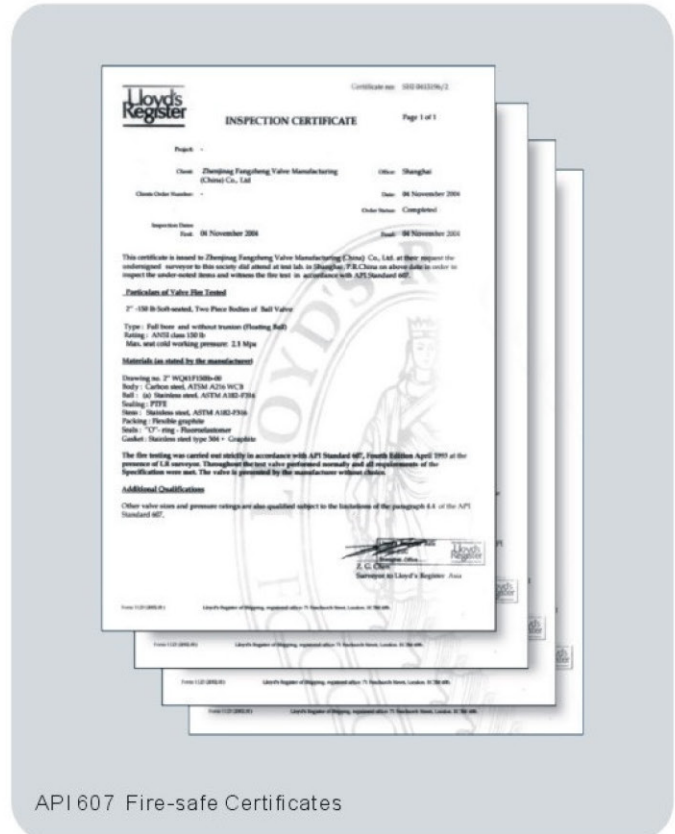
Under normal working pressure, the recurve table elastometric lip deforms slightly and makes contacts with the seat to ensure reliable sealing under low pressure.



Under high pressure, the ball and seat have full contact. Seat bears higher pressure when the bearing area increases.

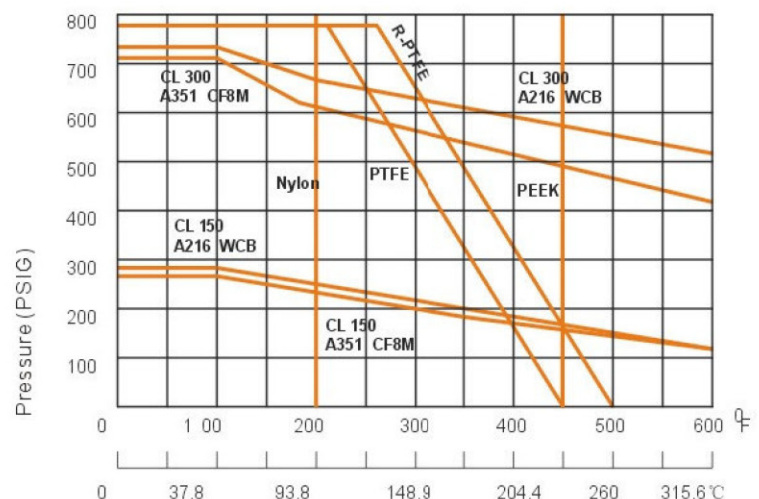


In case of fire, the secondary seat convex platform provides fire-proofing.



API 607 Fire-safe Certificates

● Pressure Temperature Curve



● Standard for Design and Manufacture:

Designed and Manufactured in accordance with:

API 608, BSEN 17292, GB/T 12237, JB/T 7745

Connection dimension in accordance with:

ASME B16.5, BSEN 1092, GB/T 12221, JB/T 79, GB/T 9113

Face-to-face in accordance with:

ASME B16.10, BSEN 558, GB/T 12221

Fire-safe design in accordance with:

API 607/6FA, JB/T 6899

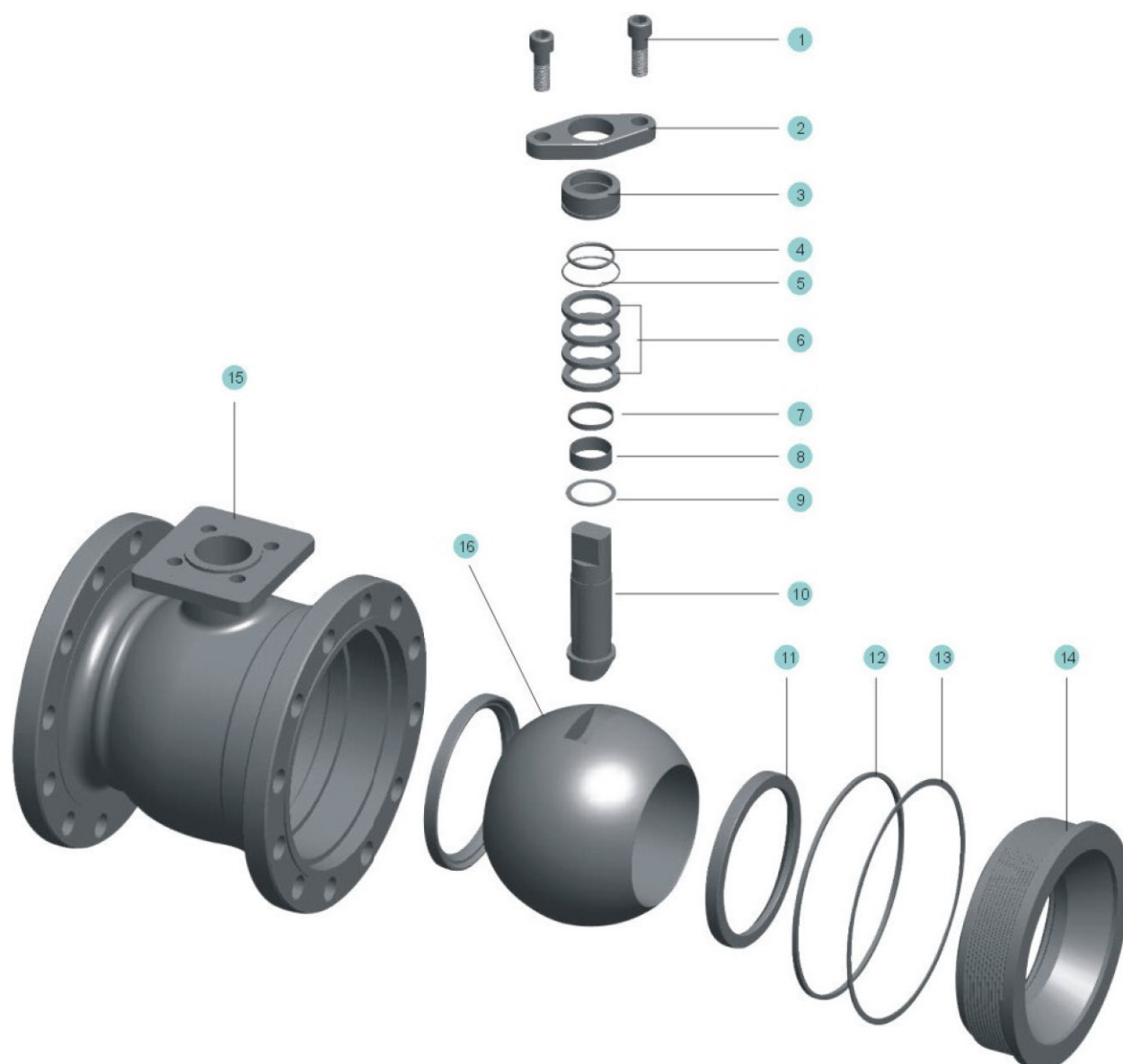
Inspected and Tested in accordance with:

BSEN 17292, ISO 5208, API 598, GB/T 13927, GB/T 9092

Sulphur resisting material:

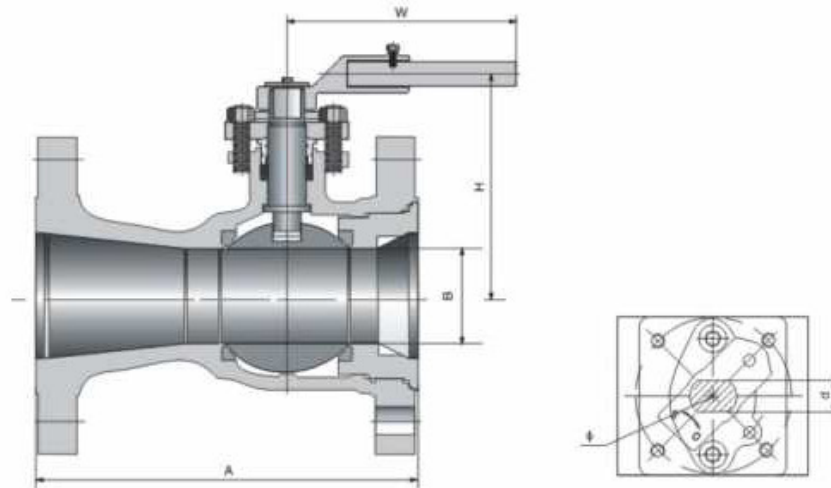
NACE MR 0175

- | | |
|---------------------------|--------------------------|
| 1 Rivet | 9 Stem Gasket |
| 2 Packing Plate | 10 Stem Gasket |
| 3 Packing Bushing | 11 Seat |
| 4 Bushing O-Ring I | 12 Body Gasket |
| 5 Bushing O-Ring II | 13 Stem Fire-safe Washer |
| 6 Stem Fire-safe Washer | 14 Bonnet |
| 7 Bushing Sliding Bearing | 15 Body |
| 8 Stem Sliding Bearing | 16 Stem Spring |





MAIN DIMENSIONS AND WEIGHT OF INTEGRATED CAST STEEL FLOATING BALL VALVE



THE MAIN DIMENSIONS AND WEIGHT

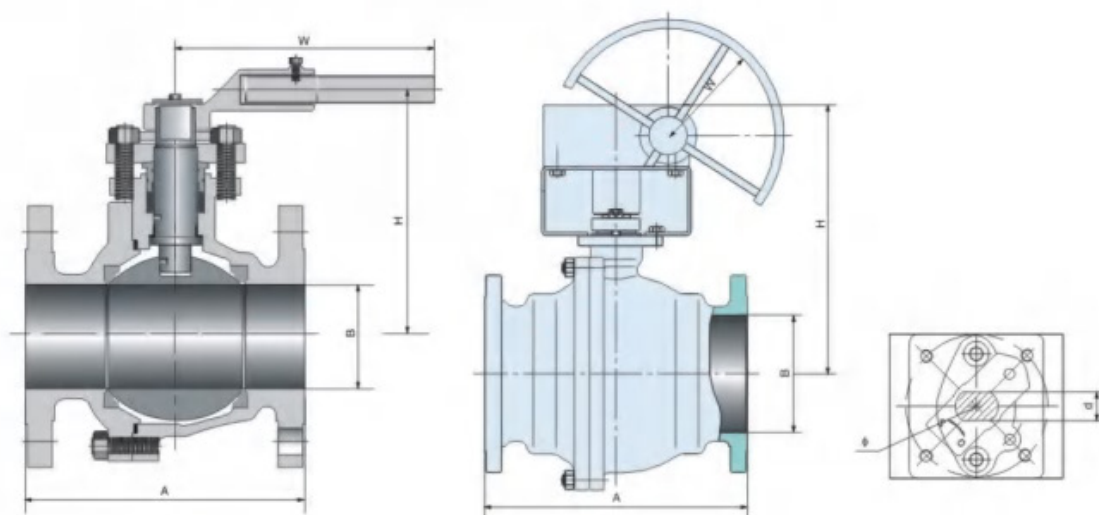
CLASS 150							
NPS inch	A mm	B mm	W mm	H mm	Φ mm	d mm	WT kg
1/2x3/8	108	13	150	63	10	6	2.5
3/4x1/2	117	13	180	84	10	6	2.9
1x3/4	127	19	180	87	12	8	4
1 1/2x1	165	32	220	102	18	12	6.8
2x1 1/2	178	38	242	137	20	14	9.2
3x2 1/2	203	60	242	167	20	14	15.8
4x3	229	76	350	205	30	20	30
6x4	267	100	460	220	30	20	53.5
8x6	292	144	550	313	40	30	82
*10x8	330	187	460	396	50	36	146

CLASS 300							
NPS inch	A mm	B mm	W mm	H mm	Φ mm	d mm	WT kg
1/2x3/8	140	13	150	66	10	6	3.5
3/4x1/2	152	13	180	84	10	6	4
1x3/4	165	19	180	87	12	8	5
1 1/2x1	191	32	220	102	18	12	10
2x1 1/2	216	38	242	137	20	14	11.2
3x2 1/2	283	60	242	167	20	14	23
4x3	305	76	350	205	30	20	40
6x4	403	100	460	220	30	20	82
8x6	419	144	550	313	40	30	125

• the worm gear operation

MAIN DIMENSIONS AND WEIGHT OF TWO-PIECES CAST STEEL FLOATING BALL VALVE

AMERICAN STANDARD TWO-PIECES CAST STEEL FLOATING BALL VALVE



THE MAIN DIMENSIONS AND WEIGHT

CLASS 150									
NPS inch	A mm	B mm	W mm	H mm	Φ mm	d mm	WT kg	T N.m	ISO TOP FLANGE
1/2	108	15	150	90	12	8	2.5	6	F03
3/4x1/2	117	15	150	90	12	8	3.1	6	F03
3/4	117	19	150	90	12	8	3.2	9	F03
1x3/4	127	19	150	90	12	8	4.8	9	F03
1	127	25	150	100	12	8	5.6	20	F04
1 1/2x1	165	25	150	100	12	8	7.0	20	F04
1 1/2	165	38	242	140	20	14	7.2	55	F07
2x1 1/2	178	38	242	140	20	14	9.7	55	F07
2	178	50	242	160	20	14	9.8	60	F07
2 1/2	191	64	242	170	20	14	16	100	F07
3x2	203	50	242	160	20	14	18	60	F07
3	203	76	350	205	30	20	20	110	F10
4x3	229	76	350	205	30	20	35	110	F10
4	229	100	460	225	30	20	35.2	140	F10
6x4	394	100	460	225	30	20	60	140	F10
6	394	152	750	320	40	30	96	600	F12
8x6	457	152	750	320	40	30	120	600	F12
8	457	204	900	370	50	36	165	1100	F14
10x8	533	204	900	370	50	36	190	1100	F14
*10	533	252	600	465	52	36	282	2000	F16

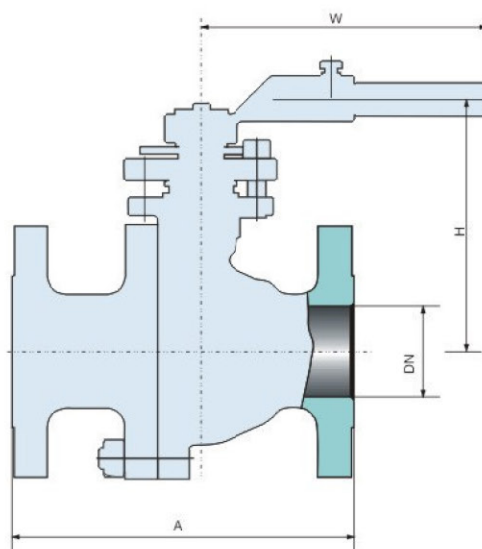
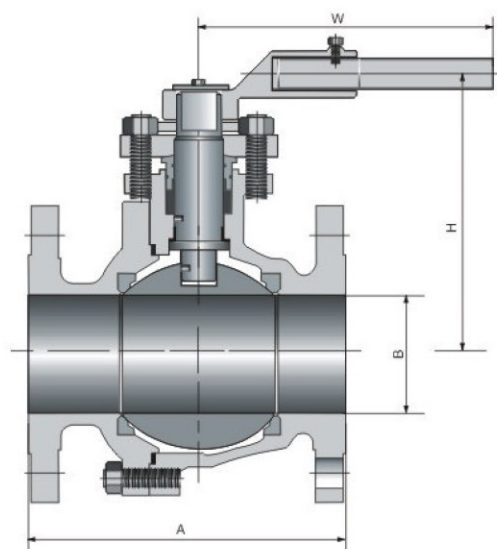
* the worm gear operation



CLASS 300									
NPS inch	A mm	B mm	W mm	H mm	Φ mm	d mm	WT kg	T N.m	ISO TOP FLANGE
1/2	140	15	150	90	12	8	2.6	9	F03
3/4x1/2	152	15	150	90	12	8	3.5	9	F03
3/4	152	19	150	90	12	8	3.8	14	F03
1x3/4	165	19	150	90	12	8	5.6	14	F03
1	165	25	150	100	12	8	6	27	F04
1 1/2x1	191	25	150	100	12	8	10.2	27	F04
1 1/2	191	38	224	140	20	14	10.5	70	F07
2x1 1/2	216	38	224	140	20	14	15	70	F07
2	216	50	224	165	20	14	16	80	F07
2 1/2	241	64	224	170	20	14	28	95	F07
3x2	283	50	224	165	20	14	31.2	80	F07
3	283	76	350	205	30	20	36	120	F10
4x3	305	76	350	205	30	20	57	120	F10
4	305	100	460	225	30	20	60	240	F10
6x4	403	100	460	225	30	20	83	240	F10
6	403	152	750	320	40	30	118	950	F12
8x6	502	152	750	320	40	30	191	950	F12
*8	502	204	900	415	50	36	236	2100	F12

CLASS 600									
NPS inch	A mm	B mm	W mm	H mm	Φ mm	d mm	WT kg	T N.m	ISO TOP FLANGE
1/2	165	13	150	90	12	8	2.8	16	F03
3/4x1/2	191	13	150	90	12	8	4	16	F03
3/4	191	19	150	90	12	8	5.3	21	F03
1x3/4	216	19	150	90	12	8	6.2	21	F03
1	216	25	150	100	12	8	7	45	F04
1 1/2x1	241	25	150	100	12	8	12.5	45	F04
1 1/2	241	38	242	140	20	14	13.6	96	F07
2x1 1/2	292	38	242	140	20	14	18.2	96	F07
2	292	50	242	160	20	14	19	130	F07
2 1/2	330	64	350	195	30	14	34	150	F10
3x2	356	50	242	160	20	14	35	130	F07
3	356	76	350	210	30	20	45	200	F07
4x3	432	76	550	209	30	20	55	340	F12
4	432	100	850	280	40	30	76	370	F12
6x4	559	100	850	280	40	30	106	370	F12

* the worm gear operation


● Main Dimension and Weight

PN 16									
DN mm	A mm	W mm	H mm	WT Kg	DN mm	A mm	W mm	H mm	WT Kg
15	130	115	85	3	80	250	310	178	23
20	140	130	90	4	100	280	330	230	35
25	150	150	100	5	125	320	600	280	52
32	165	190	105	7	150	360	800	310	76
40	180	230	126	8	200	400	1000	350	134
50	200	240	140	12	250	450	1200	400	200
65	220	280	165	17					

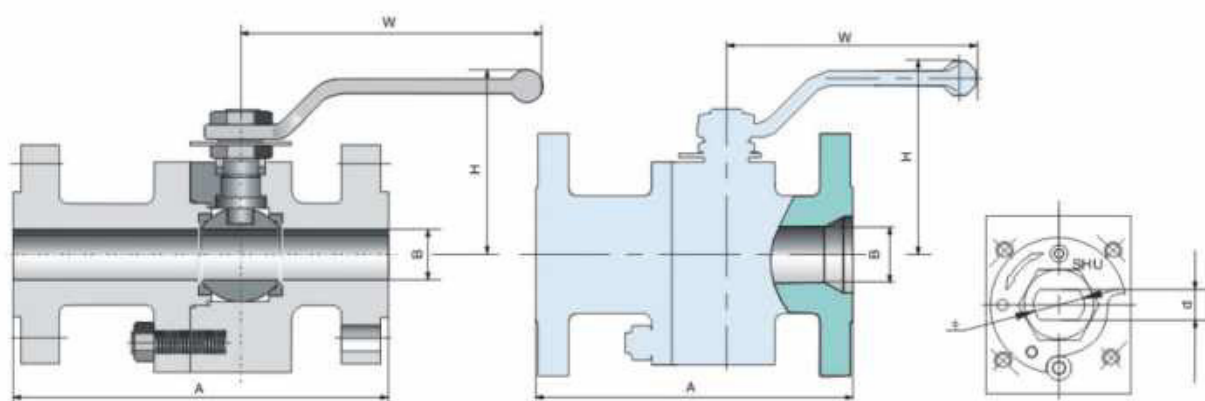
PN 25									
DN mm	A mm	W mm	H mm	WT Kg	DN mm	A mm	W mm	H mm	WT Kg
15	130	115	85	3	80	250	310	178	23
20	140	130	90	4	100	280	330	230	45
25	150	150	100	5	125	320	600	280	67
32	165	190	105	7	150	360	800	310	95
40	180	230	126	9	200	400	1000	350	170
50	200	240	140	12	250	450	1200	400	230
65	220	280	165	19					

PN 40									
DN mm	A mm	W mm	H mm	WT Kg	DN mm	A mm	W mm	H mm	WT Kg
15	130	115	85	3	65	250	280	165	20
20	140	130	90	4	80	280	310	178	29
25	150	150	100	5	100	320	330	230	48
32	180	190	105	8	125	360	600	280	68
40	200	230	126	11	150	400	800	310	98
50	220	240	142	15	200	550	1200	350	178

PN 64									
DN mm	A mm	W mm	H mm	WT Kg	DN mm	A mm	W mm	H mm	WT Kg
15	140	115	79	5	65	280	280	172	42
20	150	130	83	7	80	320	310	221	56
25	180	150	114	9	100	360	330	250	85
32	200	190	120	13	125	381	600	275	112
40	220	230	125	17	150	403	800	290	142
50	250	240	156	25	200	502	1200	330	185

PN 100									
DN mm	A mm	W mm	H mm	WT Kg	DN mm	A mm	W mm	H mm	WT Kg
15	165	250	79	6	50	292	450	156	27
20	190	300	83	8	65	330	600	172	50
25	216	400	114	11	80	356	600	220	68
32	229	400	120	15	100	432	800	250	92
40	241	450	125	20					

AMERICAN STANDARD TWO-PIECES FORGED STEEL FLOATING BALL VALVE



THE MAIN DIMENSIONS AND WEIGHT

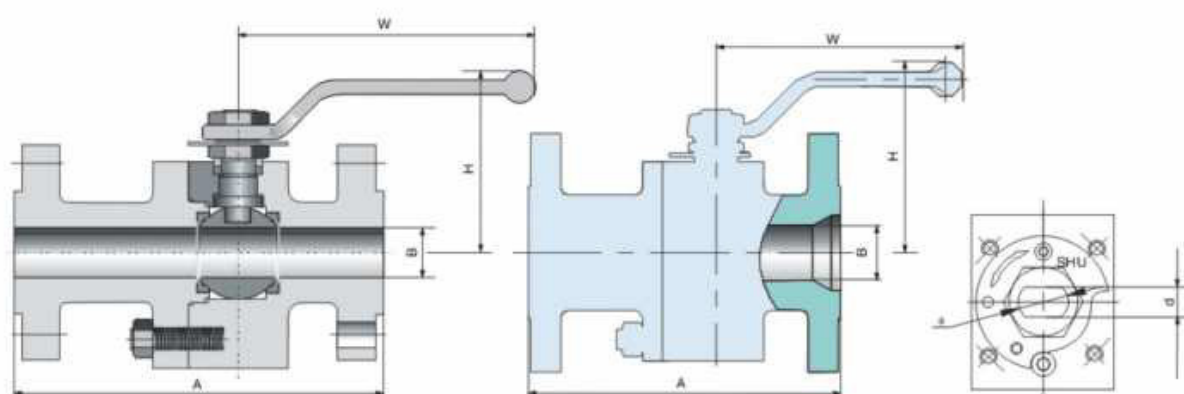
CLASS 150										
NPS inch	A mm	B mm	W mm	H mm	d mm	Φ mm	WT kg	T N.m	ISO TOP FLANGE	
1/2	108	13	160	88	8	12	2.7	3	F03	
3/4x1/2	117	13	160	88	8	12	3.2	3	F03	
3/4	117	19	160	88.5	8	12	3.2	5	F03	
1x3/4	127	19	160	88.5	8	12	4.5	5	F03	
1	127	25	260	110	11	16	6	20	F03	
1 1/4x1	140	25	260	110	12	16	8	20	F03	
1 1/2x1	165	25	260	160	22	22	7.7	11	F07	
1 1/2	165	38	330	160	14	22	12	55	F07	
2	178	50	330	170	14	22	15	60	F07	
2 1/2x2	191	50	330	170	14	22	17	60	F07	
2 1/2	191	62	330	180	16	26	19	100	F07	
3x2	203	50	330	170	14	22	20	60	F07	
3	203	76	400	190	18	27	22	120	F07	
4x3	229	76	400	190	18	27	42	120	F07	
4	229	100	400	224	28	36	46	140	F10	
6x4	394	100	400	224	28	36	80	140	F10	
6	394	150	500	260	30	40	110	600	F12	
8	457	201	600	320	34	50	175	1200	F14	
10x8	533	201	600	320	34	50	205	1200	F14	
*10	533	252	600	450	36	52	300	2000	F16	

• the worm gear operation



CLASS 300									
NPS inch	A mm	B mm	W mm	H mm	d mm	Φ mm	WT kg	T N.m	ISO TOP FLANGE
1/2x3/8	140	13	160	62	7	10	5	10	/
1/2	108	13	160	88	8	12	2.7	3	F03
3/4x1/2	117	13	160	88	8	12	3.2	3	F03
3/4	117	19	160	88.5	8	12	3.2	5	F03
1x3/4	127	19	160	88.5	8	12	4.5	5	F03
1	165	25	25	250	11	16	10	27	F04
1 1/4x1	165	25	25	250	11	16	11	27	F04
1 1/2x1	178	25	25	260	14	22	7.7	11	F07
1 1/2	191	38	38	330	14	22	18	70	F07
2	216	50	50	330	14	22	22	80	F07
2 1/2x2	241	50	50	330	14	22	23	80	F07
2 1/2	241	62	62	380	16	24	28	95	F07
3x2	283	50	50	330	14	22	30	80	F07
3	283	76	76	400	18	27	38	120	F07
4x3	305	76	76	400	18	27	52	120	F07
4	305	100	100	400	28	36	78	240	F10
6x4	403	100	100	400	28	36	100	240	F10
6	403	150	150	600	30	40	150	700	F12
8x6	502	150	150	600	30	40	180	700	F12

CLASS 600									
NPS inch	A mm	B mm	W mm	H mm	d mm	Φ mm	WT kg	T N.m	ISO TOP FLANGE
1/2x3/8									
1/2	165	13	160	80	8	12	4.5	19	
3/4x1/2	191	13	160	80	8	12	5.5	19	
3/4	191	17.5	330	145	12	18	9.5	35	
1x3/4	216	17.5	330	145	12	18	15	35	
1	216	25	330	137	12	18	17	45	F04
1 1/2x1	241	25	330	136.5	12	18	20	70	
1 1/2	241	38	330	150	16	24	18	96	F07
2x1 1/2	292	38	330	150	16	24	20	96	F07
2	292	50	400	175	18	27	22	130	F07
2 1/2x2	330	50	400	175	18	27	27	130	F07
2 1/2	330	62	400	195	20	28	28	150	F07
3x2	356	50	400	175	18	33	33	130	F07
3	356	76	600	208	28	40	40	200	F10
4x3	432	76	600	208	28	75	75	200	F10
4	432	100	600	254	32	80	80	360	F12
6x4	559	100	600	254	32	155	155	360	F12



CLASS 900

NPS inch	A mm	B mm	W mm	H mm	d mm	Φ mm	WT kg	T N.m	ISO TOP FLANGE
1/2	216	13	330	132.5	12	18	10	30	F05
3/4x1/2									
3/4	229	19	275	110	14	20	14	35	/
1x3/4	254	17.5	330	136.5	14	20	12	60	F07
1	254	25	300	120	16	22	17	70	F05
1 1/2x1	305	25	330	147	16	22	25	70	F07
1 1/2	305	38	350	140	18	26	28	140	F07
2x1 1/2	368	38	350	140	18	26	32	140	F07
2	368	50	400	175	18	27	40	200	F07

CLASS 1500

NPS inch	A mm	B mm	W mm	H mm	d mm	Φ mm	WT kg	T N.m	ISO TOP FLANGE
1/2	216	3	330	132.5	12	18	10		F05
3/4x1/2	254	17.5	330	136.5	12	18	12		F05
3/4	229	17.5	330	136.5	12	18	14		F05
1x3/4	254	17.5	330	136.5	12	18	15		F05
1	254	25	330	147	16	22	17		F05
1 1/2x1	305	25	330	147	16	22	25		F07
1 1/2	305	38	400	170	18	26	28		F07
2	371	49	500	187	18	27	40		F07

THREADED BALL VALVE

THREADED BALL VALVE SERIES



THREADED BALL VALVE

DESIGN, MANUFACTURING, AND INSPECTION STANDARDS

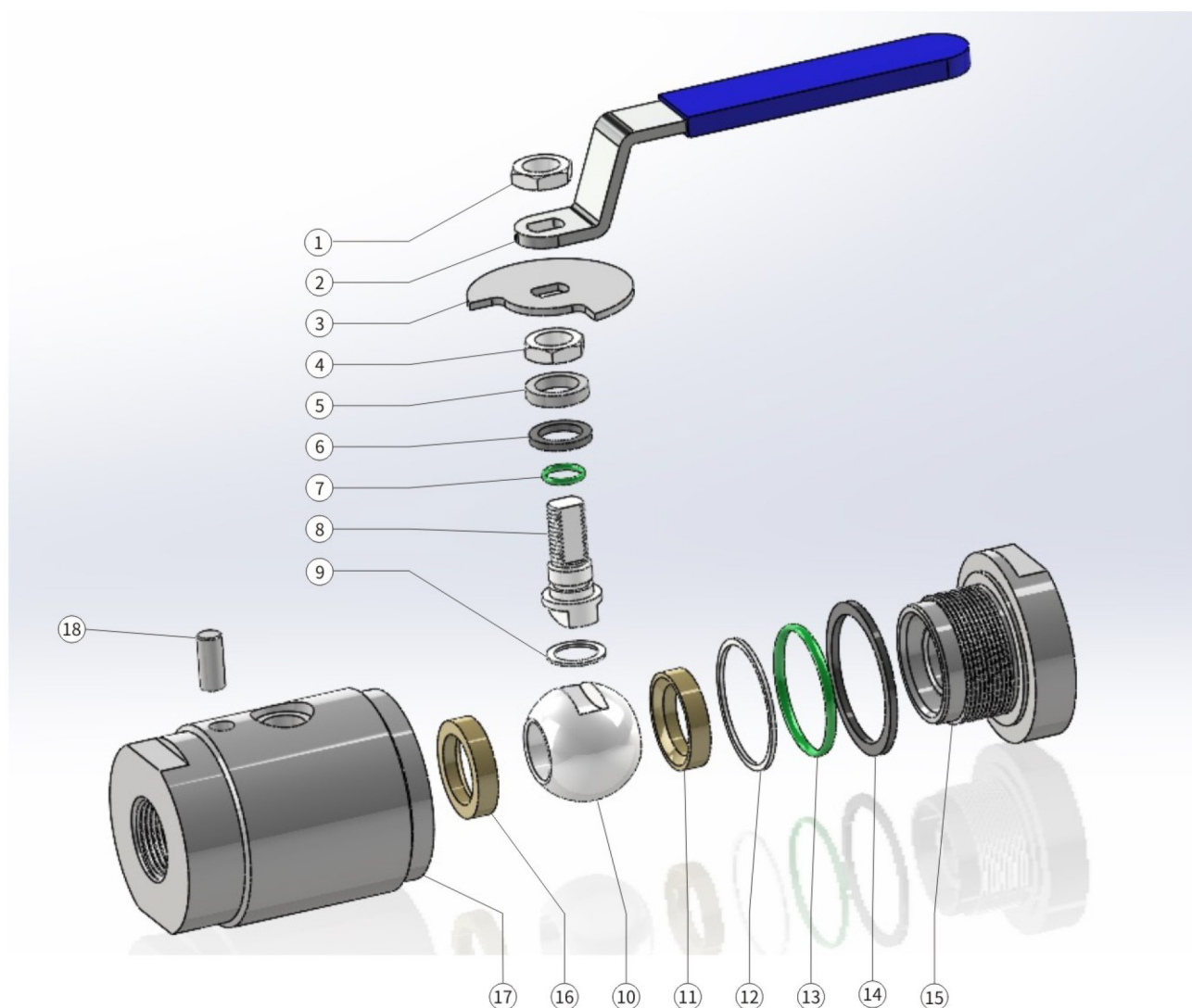
Design and manufacturing: ISO 17292、GB/T12237
End connection dimension: ASME B1.20.1

Face to face: FZV
Fire safe design: API607/6FA

Inspection and testing: API598、GB/T13927
Sulfur resistant materials: NACE MR 0175

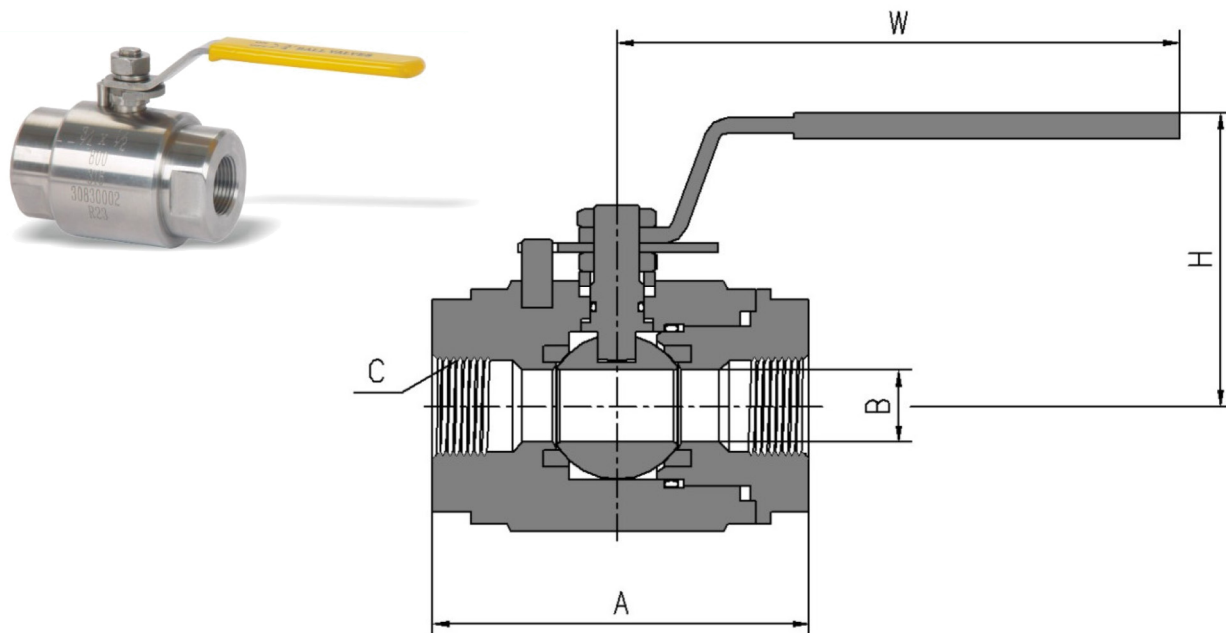
FZV THREADED BALL VALVE

- | | | | |
|--------------------|-----------------|--------------|-------------|
| ① Hex lock nut | ⑥ Packing | ⑪ Seat | ⑯ Seat |
| ② Lever | ⑦ O-ring | ⑫ Gasket | ⑰ Body |
| ③ Limit block | ⑧ Stem | ⑬ O-ring | ⑱ Lower pin |
| ④ Hex lock nut | ⑨ Thrust gasket | ⑭ Gasket | |
| ⑤ Upper gland ring | ⑩ Ball | ⑮ Body cover | |



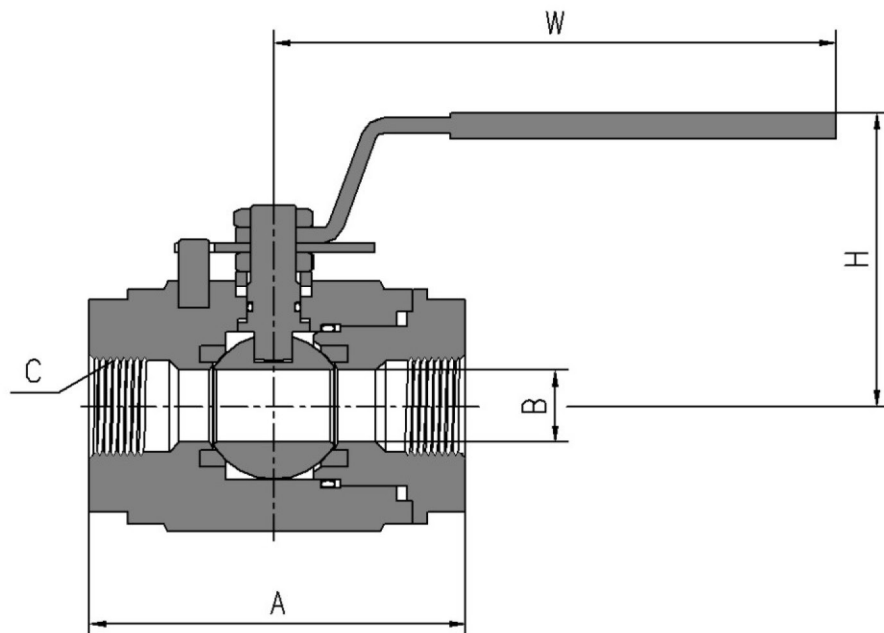


MAIN DIMENSIONS AND WEIGHT OF TWO-PIECE FEMALE THREADED FLOATING BALL VALVE



THE MAIN DIMENSIONS AND WEIGHT

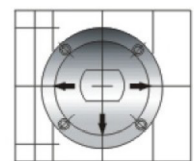
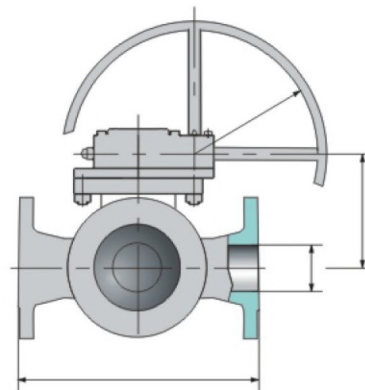
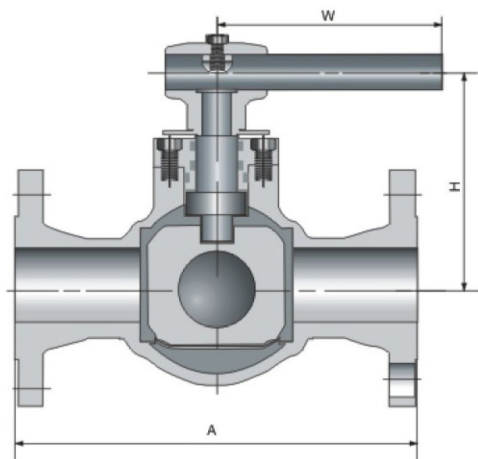
CLASS 150~CLASS 1500						
NPS inch	A mm	B mm	W mm	H mm	C	WT kg
3/8	68	10	130	65	3/8-18NPT	1.1
1/2x3/8	68	10	130	65	1/2-14NPT	1.1
1/2	73	13	130	70	1/2-14NPT	1.3
3/4x1/2	73	13	130	70	3/4-14NPT	1.3
3/4	97	17.5	160	75	3/4-14NPT	1.9
1x3/4	97	17.5	160	75	1-11.5NPT	1.9
1	105	25	220	100	1-11.5NPT	3.3
1-1/2x1	118	25	220	100	1-1/2-11.5NPT	4.1
1-1/2	133	38	250	135	1-1/2-11.5NPT	5.6
2x1-1/2	133	38	250	135	2-11.5NPT	5.6
2	148	49	290	165	2-11.5NPT	12.2
3x2	168	49	290	165	3-8NPT	13
3	250	74	-	-	3-8NPT	-



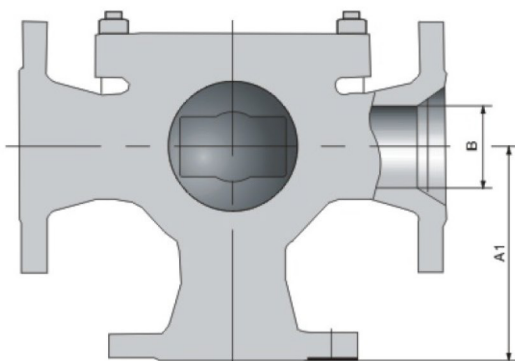
THE MAIN DIMENSIONS AND WEIGHT

CLASS 2500						
NPS inch	A mm	B mm	W mm	H mm	C	WT kg
3/8	104	10	150	65	3/8-18NPT	1.5
1/2x3/8	104	10	150	65	1/2-14NPT	1.5
1/2	104	13	150	70	1/2-14NPT	1.5
3/4x1/2	104	13	150	70	3/4-14NPT	1.5
3/4	127	17.5	180	75	3/4-14NPT	2.9
1x3/4	127	17.5	180	75	1-11.5NPT	2.9
1	135	25	250	100	1-11.5NPT	5
1-1/2x1	135	25	250	100	1-1/2-11.5NPT	5
1-1/2	143	38	300	135	1-1/2-11.5NPT	13
2x1-1/2	143	38	300	135	2-11.5NPT	13
2	160	42	370	165	2-11.5NPT	20
3x2	180	42	370	165	3-8NPT	21
3	260	62	-	-	3-8NPT	-

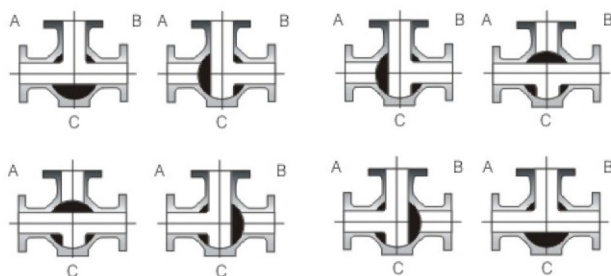
MAIN DIMENSIONS AND WEIGHT OF THREE-WAY CAST STEEL BALL VALVE



*Switch indication



Three way L-type ball valve, capable of conducting in both directions, with a 1/4 rotation of the ball body, can switch between cutting off and conducting media in both directions.



*Three-way T-type ball valve can have three or two directions simultaneously in a conducting state, and the ball can rotate 1/2 to cut off and conduct the medium.

THE MAIN DIMENSIONS AND WEIGHT

CLASS 150(PN16~20)

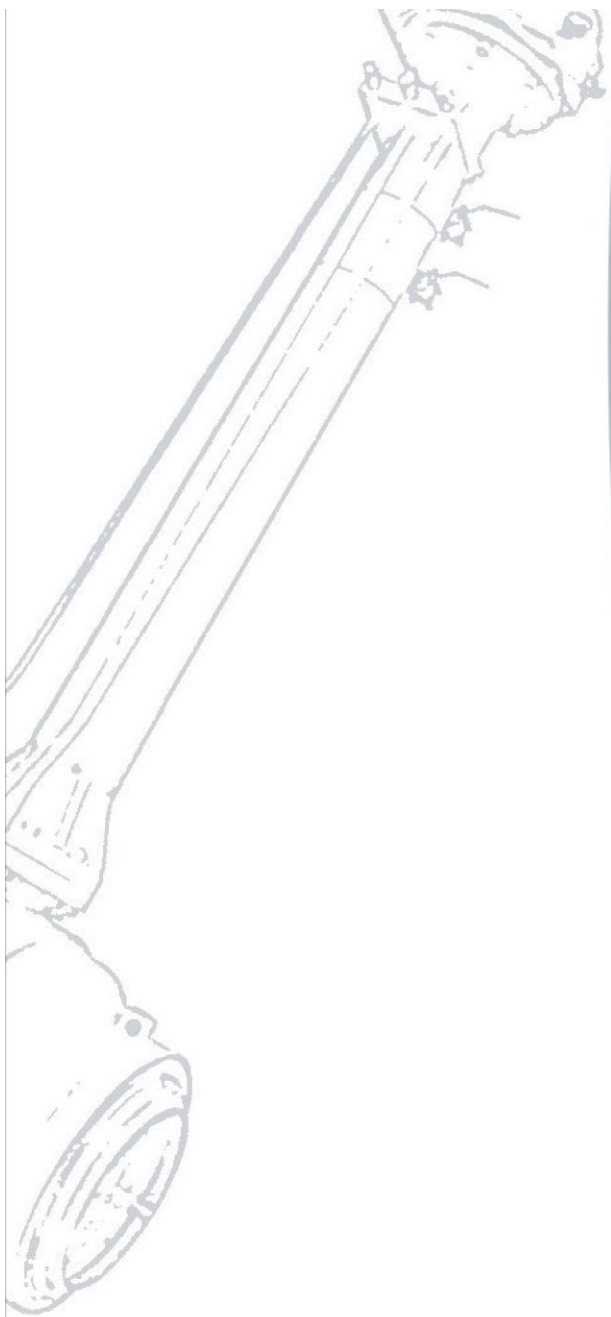
NPS inch	A mm	B mm	H mm	W mm	WT kg	T N.m
2	260	130	49	150	350	50
2 1/2	320	160	62	185	400	85
3	320	160	74	190	400	96
4	370	185	100	220	650	155
6	510	255	150	390	460	580
8	580	290	201	460	600	980
10	670	335	252	498	600	2080
12	720	360	303	540	600	3500

THE MAIN DIMENSIONS AND WEIGHT

CLASS 300(PN25~50)

NPS inch	A mm	B mm	H mm	W mm	WT kg	T N.m
2	26	130	49	150	350	70
2 1/2	320	160	62	185	400	90
3	320	160	74	190	400	120
4	370	185	100	220	650	250
6	510	255	150	390	460	1084
8	580	290	201	460	600	2244
10	670	335	252	498	600	4500
12	720	360	303	540	600	6000

* The worm gear operation



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