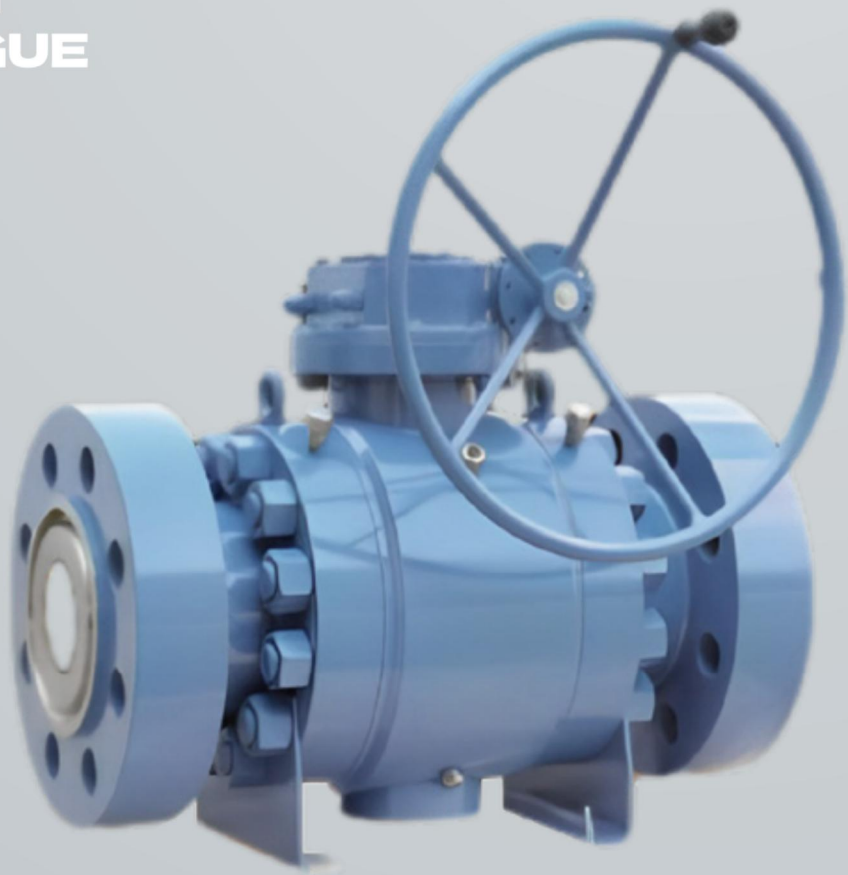


ROVV®

High Performance Ball Valve

**PRODUCT
CATALOGUE**



ROVV®



COMPANY INTRODUCTION

SHANGHAI ROGERS VALVE CO. LTD is one of the leading companies specializing in the R&D, design and manufacture of a full range of INDUSTRIAL VALVES made from premium materials, including **Ball valves, Check valves, Butterfly valves, Gate valves, Globe valves, Control valves and a wide range of related accessories.** These products find extensive applications in industries such as petrochemicals, power generation, pharmaceuticals, firefighting and heating, municipal construction, natural gas, water supply, and drainage. The company provides customers with one-stop valve solutions.

Customized design to meet specific needs is a core strength of the company. After years of cultivation, the company has developed strong capabilities in customized design and manufacturing. Extensive research and simulation of operating conditions are conducted to meet the different requirements of valve applications in special scenarios. The products are characterized by high reliability, long service life, easy maintenance, and excellent performance, meeting customer demands for **safety, environmental protection, economy, and stability.** As a result, the company has gained consistent praise and trust from its customers.

While rooted in China, the company has a global outlook. In the context of global competition, ROVV actively participates in domestic and international markets. **By enhancing its technical capabilities and service quality, the company aims to expand its market share and establish the reputation of Chinese valve brands.**

EQUIPMENT



The company focuses on the combination of Chinese craftsmanship and lean quality. **Internally, ROVV has a professional R&D and production team comprising over 80 high and intermediate-level technical personnel. Significant investment has been made to introduce automation equipment.** Externally, the company has adopted advanced manufacturing processes, professional technical experts, and modern management concepts from ROVV Machinery Manufacturing in the United States. By integrating Chinese craftsmanship with an international perspective, the company achieves a highly flexible, composite, and lean manufacturing process, as well as a networked, information-based, and intelligent manufacturing and management process, ensuring product consistency, stability, and lean quality.

Provide customers with one-stop valve solutions.



CERTIFICATES

Focusing on expertise in a single field, the company has achieved notable recognition. ROVV has obtained certifications such as **ISO 9001 Quality Management System, ISO 14001 Environmental Management System, ISO 45001 Occupational Health and Safety Management System, TS National Special Equipment Production License, API 607 Fire Certification, Russia EAC Certification, SIL Valve Safety Level Certificate, and so on.** The company has also received honors such as AAA Credit Enterprise and National Product and Service Quality Integrity Brand.



TS National Special Equipment
Production License

ISO 9001 Quality Management
System

ISO 14001 Environmental
Management System

ISO 45001 Occupational Health and
Safety Management System



SIL Valve Safety Level Certificate

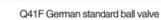
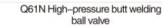
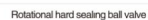
API 607 Fire Certification

ISO 15848-1 Qualification
Certificate

Russia EAC Certification

HIGH PERFORMANCE BALL VALVE MODEL

1	TYPE	Q-Ball valve
2	OPERATION	Default lever settings: 0 - Bare Shaft 2 - Electrohydraulic Actuator 3 - gear 6 - Pneumatic Actuator 8 - Gas-Liquid Linkage 9 - Electric Actuator 6S - Pneumatic Actuator with gear
3	CONNECTION	1-internal thread;2-External thread ;4-Flange ; 6C-RTJ;6-Butt welding ;7-Wafer
4	Structure	1-Floating ball cut-through; 2- Floating ball Y three-pass; 4 - Floating ball L 3 way; 5 - Floating ball T 3 way; 6 - Trunnion Mounted four way; 7 - Trunnion Mounted straight through; 8 - Trunnion Mounted T tee; 9 -Trunnion Mounted L tee
5	Seal	F-ptfe,enhanced ptfe;FS-para polystyrene;PK-PEEK; N-nylon;FC-carbon fiber;Y-tungsten cobalt alloy, Nickel,YS-special hardening.YP-ceramic
6	BODY	C-WCB,A105;CC-WCC;C5-C5;C6-WC6,F11;C9-WC9.F22. CL-LB,Lf2,LC-LC:L2-LC2;L3-LC3;P8-CF8,304;P3-CF3,304L;R8-CF8M,316;R3-CF3M,316L:Q-iron
7	BALL	C-WCB,A105;CC-WCC;C5-C5;C6-WC6,F11;C9-WC9.F22. CL-LB,Lf2,LC-LC:L2-LC2;L3-LC3;P8-CF8,304;P3-CF3,304L;R8-CF8M,316;R3-CF3M,316L:Q-iron
8	PRESSURE	PN10/Class 150-2500/ JIS 10K
9	SIZE	DN25~DN1800



TORQUE TABLE

Floating Ball Valve Torque Chart (N.M)

Diameter (mm) / Pressure (MPa)	15	20	25	40	50	65	80	100	125	150	200
1.6	3	5	10	16	25	50	65	125	250	340	485
2.5	3	5	11	18	30	60	80	140	300	400	680
4.0	5	10	24	35	50	100	150	250	450	585	996
6.4	15	30	30	80	100	200	300	400	-	-	-
10.0	19	35	68	130	190	360	460	700	-	-	-
Diameter (mm) / Pressure (MPa)	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
150	3	5	11	16	25	50	65	125	250	410	700
300	7	12	26	38	60	120	160	280	600	950	1550
400	15	30	50	90	140	240	350	540	-	-	-
600	19	35	68	130	190	360	460	770	-	-	-

Trunnion Mounted Valve Torque Chart (N.M)

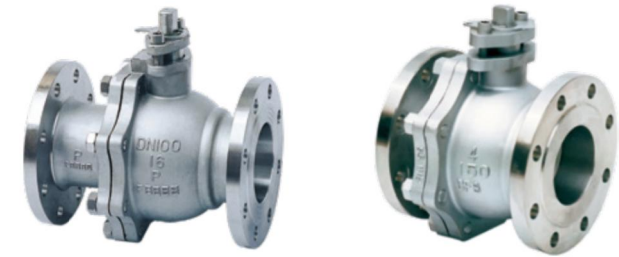
Diameter (mm) / Pressure (MPa)	15	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800
PN1.6	25	50	65	125	250	340	485	810	1310	1910	2860	4500	5860	8920	13320	24000
PN2.5	30	60	80	140	300	400	680	1140	1870	2740	4150	6500	7800	13210	19830	35420
PN4.0	50	100	150	250	450	585	996	1690	2800	4110	6300	8900	12000	20380	30670	55200
PN6.4	100	200	300	400	650	890	1500	2560	4290	6320	9750	13500	18660	31820	48020	86830
PN10.0	190	360	460	770	1050	1980	3280	5250	7200	9860	14500	19600	29000	42500	58000	82000
Diameter (mm) / Pressure (MPa)	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"
150	25	50	65	125	250	410	700	1100	1750	2600	3900	6200	7500	10500	14500	21000
300	60	120	160	280	600	950	1550	2000	3300	5000	7500	11800	14400	19600	28200	29800
400	140	240	350	540	740	1260	1910	3250	5340	7500	10000	12400	18500	29500	40500	53000
600	190	360	460	770	1050	1980	3280	5250	7200	9860	14500	19600	29000	42500	58000	62000

Three-way Ball Valve Torque Chart (N.M)

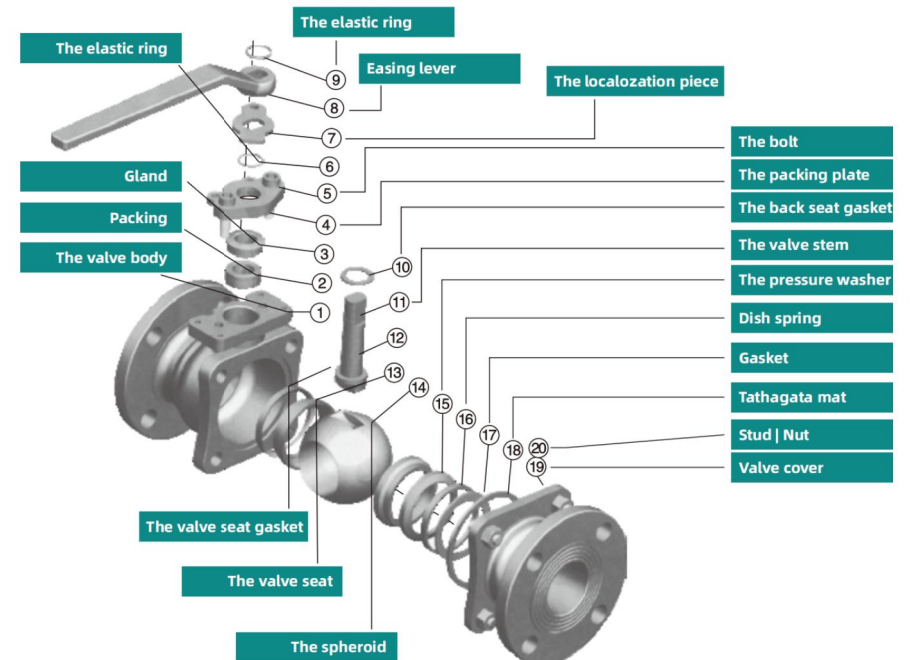
Diameter (mm) / Pressure (MPa)	15	20	25	40	50	65	80	100	125	150	200	250	300
PN1.6	5	8	15	24	35	75	100	180	350	500	730	1210	1950
PN2.5	5	8	16	27	45	90	120	210	450	600	1000	1600	2800
PN4.0	8	15	36	50	75	145	220	350	650	850	1450	2400	4200
Diameter (mm) / Pressure (MPa)	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
Class150	5	8	16	24	38	75	95	185	380	600	1050	1650	2625
Class300	8	18	38	58	90	180	240	420	900	1425	2300	3000	4950

注：以上表中所有数据均为设计数据，仅供参考

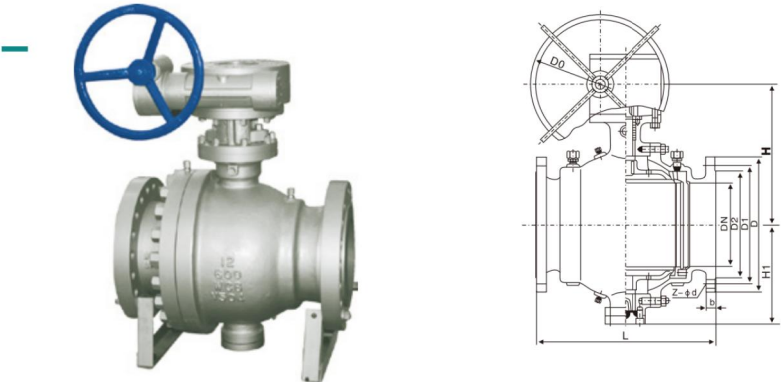
Floating ball valve



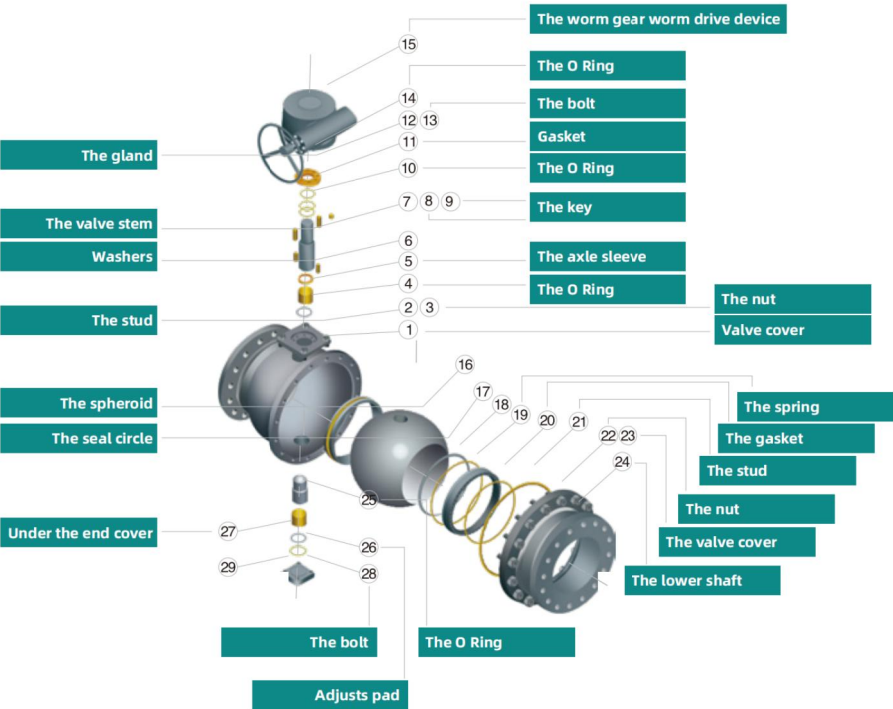
Q41 Floating ball valve



Trunnion Mounted ball valve



Q347F/H/Y Fixed ball valve



Flange connection ball valve



Specifications

Applicable medium: Water, gas, oil product, natural gas and corrosive mediums as acids, alkalis, etc.
 Driving Means: Manual, pneumatic, motor, hydro-dynamic, etc.
 Applicable Temperature: -196-350°C
 Nominal Diameter: DN15-800mm 1/2"-32"

Main Parts and Materials

NO.	Part name	Material	
		GB	ASTM
1	Body	WCB	A216-WCB
2	Spring	60Si2Mn	AISI 9260
3	Seat	PTFE	PTFE
4	Gasket	PTFE	PTFE
5	Blowoff screw	25	A105
6	"O"Ring	Rubber	Rubber
7	Bottom cover	25	A105
8	Screw nial	35	A193-B7
9	Fixed spindle	1Cr13	A276-410
10	Sling bearing	PTFE	PTFE
11	Ball	1Cr18Ni9Ti	SS304
12	Bonnet	WCB	A216-WCB
13	Seat Ring	25	A105
14	Stem	1Cr13	A276-410
15	Stud	35CrMoA	A193-B7
16	Stud	35	A194-2H
17	Cover	25	A105
18	Stuffing	PTFE	PTFE
19	Yoke	WCB	A216-WCB
20	Gland	WCB	A216-WCB
21	Key	45	AISI C 1045

Technical Specification

Design Reference	GB series	API series
Design Standard	GB/T12237	API6D ANSI B16.34
Structural Length of Flange-Connection	GB/T12221	API6D ANSI B16.10
Structural Length(Welding)	GB/T15188.1	API6D ANSI B16.10
Connecting flange	GB/T9113, JB/T79 Hg20592	ANSI B16.5, B16.47
Butt-welding ends	GB/T12224	ANSI B16.25
Test & Inspection	GB/T9092	API6D API598

Test Pressure

Pressure grade		Test pressure (MPa)	
Nominal pressure (PN)	(class)Pound	Shell test	Sealing test
1.0	—	1.5	1.1
1.6	—	2.5	1.76
2.5	—	3.8	2.75
4.0	—	6.0	4.4
6.4	—	9.6	7.04
—	150	3.0	2.2
—	300	7.3	5.6
—	600	15.0	11.0
—	10k	2.4	1.5
—	20k	5.8	4.0

American standard ball valve



Q347F/H/Y

Product implementation standard

Unit:mm

product specification	Design and code	Structural length	Connection flange	Test and inspection	Product label	Goods supply code
	GB/T12237 JB/T7745	GB/T12221 JB/T7745	JB/T79	JB/T9092	GB/T12220	JB/T7928
	API 608 API 6D	ANSI B16.10 API 6D	ANSI B16.5	API 598 API 6D	MSS SP-25 API 6D	API 608 API 6D

Product performance specification

单位Unit:mm

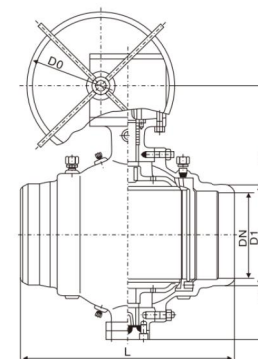
Nominal pressure (Lb)	1.6	2.5	4.0	6.4
Test pressure of crust	2.4	3.8	6.0	9.6
Sealing test (fluid)	1.8	2.8	4.4	7.0
Sealing test (gas)	0.5~0.7			
Applicable medium	C Water, oil, steam P niter acids R vinegar acids			
Applicable temperature	≤200℃			

Form of major parts material

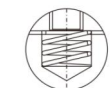
Unit:mm

Part	WCB类	CF8类	CF3类	CF8M类	CF3M类
Ball	B2-B8	A216-WCB	A315-CF8	A35-CF3	A351-CF8M
	B8以上 over	A10-1025	A182-F304L	A182-F304L	A182-F316L
Stem	A216-WCB	A351-CF8M	A351-CF3	A351-CF8M	A351-CF3M
Seat	A182-F6a	A182-F304	A182-F304L	A182-F336	A182-F316L
Seat retainer	PTFE/strengthen PTFE/NYLIN				
Spring	A105-1025	A182-F304	A182-F304L	A182-F316	A182-F316L
"O" Ring	3yc 7/17~49H				
Stud	NBR	VITON			
Nut	A193-B7	A193-B8			
	A194-2H	A194-8			

Welded ball valve



Refractory structure



Anti-static structure

Main connection and external dimensions

DN(mm) Nominal diameter	Dimension(mm)				
	L	D1	H	H1	D0
50	220	62	177	120	—
65	241	75	190	140	—
80	283	91	210	150	—
100	305	117	235	172	—
125	356	144	350	215	—
150	394	172	530	250	—
200	457	223	620	290	600
250	533	278	650	320	600
300	610	329	780	360	600
350	686	362	790	395	800
400	762	413	920	450	800
450	864	464	970	490	800
500	914	516	1100	530	800
600	1067	619	1150	590	800
700	1245	721	1850	700	800

Fully welded forged steel Trunnion Mounted ball valve



Technical Specification

Design Standard	GB/T 12237 GB/T 19672	API 6D
Face to Face	GB/T 12221	ASME B16.10
Flanged Size	GB/T 9113 JB/T 79	ASME B16.5 ASME B16.47
Test & Inspection	JB/T 9092 GB/T 19672	API 598

Notes:

1. The sizes of serial valve connecting flange ends can be designed according to customer's requirement.
2. DN > 1000 (40"), the design standard is accordance with «Specification of the length pipe valve».
3. The material of this part about the anti-sulphur type valve is GB (1Cr18Ni9) ASTM (A276-321). The material of this part about the anti-sulphur type valve is GB (1Cr18Ni9, CF8+Ni.P) ASM (182-304, CF8+Ni.P). Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Major parts material

NO.	Part name	Material	
		GB	ASTM
1	"O" Ring	Viton	Viton
2	Sealing ring	PTFE	PTFE
3	Seat*	25	A105
4	Spring	60Si2Mn	InconelX-750
5	Bolt	35CrMoA	A193-B7
6	Bonnet	25	105
7	Grease injection valve	Assembled	Assembled
8	Gasket	Graphite+stainless steel	Graphite+stainless steel
9	Stem*	1Cr13	A182-F6a
10	Gasket	Graphite+stainless steel	Graphite+stainless steel
11	Bushing	PTFE&Niocalium	PTFE&Niocalium
12	Body	25	A105
13	Ball**	304	304
14	Bushing	PTFE&Niocalium	PTFE&Niocalium
15	Stem*	1Cr13	A182-F6a
16	Gasket	Graphite+stainless steel	Graphite+stainless steel
17	Cover	25	A105
18	Packing	Flexible Graphite	Flexible Graphite
19	Yoke	WCB	A216-WCB
20	Driving	Assembled	Assembled
21	Connection set	45	AISI C 1045
22	Gland	WCB	A216-WCB
23	Fitting pin	1Cr13	A276-410
24	Blow down stoppe	25	A105

Welded steel ball valve

PN16/25, DN65-500
Fully-welded steel ball valve



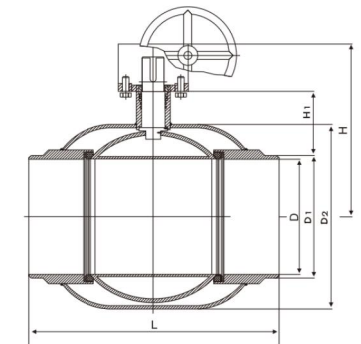
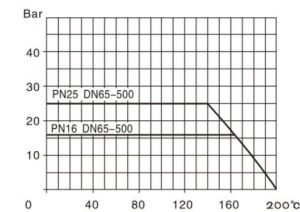
Scope of application:

Heat supply system, regional heat supply, industrial purpose and urban gas.

Medium:

Water, air, oil and other fluid without any chemical reaction with carbon steel.

Pressure and Temperature range diagram



Main connection size

DN	PN	L	D	D1 A/B	D2	H	H1	Weight (Kg)
50	25	300	50	60.3/57	108	204	58	12.1
65	25	300	65	76.1/76	133	224	72	14.9
80	25	325	80	88.9/89	159	244	79	19.8
100	25	325	100	114.3/108	193.7	289	79	31.5
125	25	350	125	139.7/133	219.1	365	109	48
150	25	400	150	168.3/159	273	422	112	75.3
200	25	530	200	219.1/219	351	520	129	144
250	25	550	250	273.0/273	425	555	138	205
300	25	650	300	323.9/325	508	637	179	267
350	25	760	350	355.6/377	610	680	197	460
400	25	840	400	406.4/426	680	750	229	620
500	25	1020	500	508/530	812	820	245	1800

Eccentric half ball valve



Q940 Electric eccentric half ball valve



PQ340F/H/Y Eccentric half ball valve

Main application

General Purpose Valve: Suitable for sewage treatment, pulp, alumina, and stringent requirements of city heating.

Special Valve for Petrochemical Industry: Applicable for crude oil, heavy oils, and various oil products, chemical industry corrosion resistance, two-phase mixed flow medium. Can withstand temperatures up to 425°C.

Special Valve for Gas: Suitable for the transportation and control of coal gas, natural gas, and liquefied gas. The structural characteristic of the product is that the sealing ring is welded with different chromium alloys, which ensures tight sealing and corrosion resistance.

Special Valve for Pulp: Suitable for liquid, solid two-phase mixed flow or liquid transport in which chemical reactions have crystal precipitation or scaling in industrial pipeline transportation. The structural characteristics of the products are that the sphere is subject to chrome molybdenum, vanadium alloy welding according to the medium and temperature requirements of the customers. The valve seat uses chromium, molybdenum alloy, chromium alloy, stainless steel alloy electrode welding to meet different pulp transport needs.

Special Valve for Coal Powder and Slag: Applicable for power plants, hydraulic slag removal or gaseous transportation pipe control. The product requires wear resistance. The sphere adopts a composite ball double metal structure, has quite high rigidity and is very wear-resistant, while the valve seat is made of all-round wear-resistant steel or full welding.

Main features

Seat Design: The valve seat is designed with an external step that matches the internal step of the valve body. This design effectively prevents phenomena such as ball and valve seat jamming, and valve seat detachment.

Large Flow Area & Non-obstruction: This is because after opening, the sphere is concealed within the valve chamber, providing an obstruction-free straight flow channel. The smooth pipeline won't result in ash accumulation or jamming, leading to smaller pressure loss and no settling of the medium within the valve chamber.

Ease of Operation: Due to the principle of eccentricity, the sphere completely detaches from the seat when opening, without any contact, thus providing a small opening and closing torque. A 90-degree turn completes the open/close operation, making operations easy and smooth.

Versatility: According to various temperatures and mediums, we produce a variety of different products that are wear-resistant, corrosion-resistant, and tolerate high temperatures.

Reliable Seal and Long Service Life: Under the action of double eccentricity, this valve tightens more when it is closed, fully achieving the purpose of good sealing. The shearing and squeezing effects between the hemisphere notchball and the seat can effectively remove scaling or dirt on the sealing surface, maintaining a good seal. When the valve is opened, the ball is completely detached from the seat, so the sealing surface is well protected. The sealing surface is wear-resistant, and there is compensation between the seat and the ball. When the seat is worn, you can turn it a little more during closure to maintain a reliable seal. Furthermore, the valve seat can be adjusted or replaced to extend service life. This is the most distinctive feature of the hemisphere valve.

Eccentric half ball valve

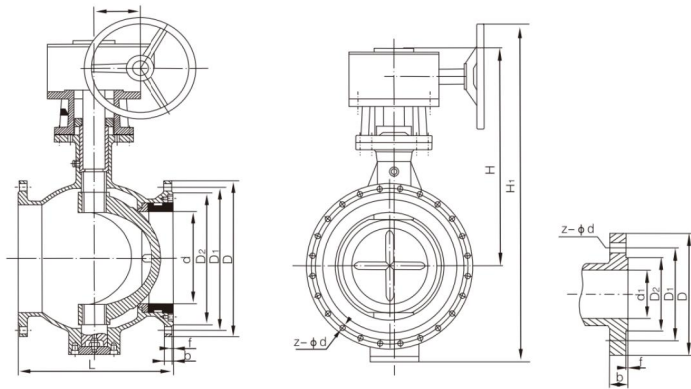
Performance

Nominal pressure	1.0	1.6	2.5	4.0	6.4	Class150	Class300
Maximum work pressure under normal temperature (Mpa)	1.0	1.6	2.5	4.0	6.4	2.0	5.0
Test pressure of crust strength (Mpa)	1.5	2.4	3.8	6.0	9.6	3.0	7.5
Test pressure of gas sealing (Mpa)	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Test pressure of high-pressure sealing (Mpa)	1.1	1.76	2.75	4.4	7.1	2.2	5.5
Leakage and seepage rate	< 0.1 × DNmm ³ /s (It is in accordance with GB/T13927-2008 standard.)						
Applicable temperature (°C)	Soft sealing: -46°C-280°C; Hard sealing: -46°C-545°C						
Applicable medium	Various medium such as natural gas, water steam, oil products, acid, alkali, coal powder, coal ash, waste slag, slurry, particle and fiber;						
Transmission mode	Worm driving, electrical transmission, pneumatic transmission and hydraulic transmission						

Major materials

Body, plate	GB	WCB	LCB	ZG1Cr18Ni9Ti	ZG0Cr18Ni12Mo2Ti	ZG15Cr1Mo1V
ASTM	A216 WCB	A352-LCB	A351 Cf8	A351 CF8M	A217 Wc9/WC6	
Ball	GB	WCB hard chrome	WCB hard chrome	1Cr18Ni9Ti Surfaces special handling	0Cr18Ni12Mo2Ti Surfaces special handling	25Cr2Mo1V Surfaces special handling
ASTM	A216 WCB+HF	A35 LCB+HF	A351 Cf8+HF	A351 CF8M+HF	A217 WC6/WC9	
Stern	GB	20Cr13	20Cr13	1Cr18Ni9Ti	0Cr18Ni12Mo2Ti	25Cr2Mo1V
ASTM	A276 420	A276 410	A276 304	A276 316	A182 F22a	
Seats	GB	Q235A+PTFE	LF2+PTFE	1Cr18Ni9Ti/PTFE	0Cr18Ni12Mo2Ti/PTFE	25Cr2Mo1V/PTFE
ASTM	A276 420/PTFE	A182 LF2+PTFE/HF	A182F 304/PTFE	A182 F316/PTFE	A182 F22a/PTFE	
Packing	GB	flexible graphite	flexible graphite	flexible graphite	flexible graphite	flexible graphite
ASTM	flexible graphite	flexible graphite	flexible graphite	flexible graphite	flexible graphite	
Bolts	GB	35CrmoA	35CrMoA	0Cr18Ni9	0Cr18Ni9	15Cr1Mo1V
ASTM	A193 B7	A193 L7	A193-B8M	A193-B8M	A193 B16	
Nuts	GB	45	45	0Cr18Ni9	0Cr18Ni9	20CrMo
ASTM	A194 2H	A194-4	194-8M	194-8M	A194-16	

Eccentric half ball valve



Main connection and external dimensions

PN(MPa) Nominal pressure	DN(mm) Nominal diameter		Dimension(mm)							
	mm	d	L Flange	D	D1	D2	H	b	f	Z-φd
H C PQ640 Y-1.0 P F R	40	32	165	145	110	85	260	16	3	4-18
	50	38	178	160	125	100	270	16	3	4-18
	65	49	190	180	145	120	280	18	3	4-18
	80	62	203	195	160	135	290	20	3	4-18
	100	74	229	215	180	155	330	20	3	8-18
	125	100	254	245	210	185	345	22	3	8-18
	150	123	267	280	240	210	370	24	3	8-23
	200	150	292	335	295	265	405	24	3	8-23
	250	200	330	390	350	320	480	26	3	12-23
	300	250	356	440	400	368	520	26	4	12-23
	350	266	450	500	460	428	570	28	4	16-23
	400	303	530	565	515	482	630	28	4	16-25
	450	334	580	615	565	532	690	30	4	20-25
	500	385	660	670	620	585	740	30	4	20-25
	600	487	680	780	725	685	840	34	5	20-30
	700	538	900	895	840	800	960	38	5	24-30
H C PQ640 Y-1.6 P F R	800	589	1000	1010	950	905	1080	42	5	24-34
	900	684	1100	1115	1050	1005	1190	38	5	28-33
	1000	779	1200	1230	1160	1080	1310	38	5	28-36
	1200	874	1300	1455	1380	1292	1420	44	5	28-39
	40	32	165	145	110	85	260	16	3	4-18
	50	38	178	160	125	100	270	16	3	4-18
	65	49	190	180	145	120	280	18	3	4-18
	80	62	203	195	160	135	290	20	3	8-18
	100	74	229	215	180	155	330	20	3	8-18
	125	100	254	245	210	185	345	22	3	8-18
	150	123	267	280	240	210	370	24	3	8-23
	200	150	292	335	295	265	405	26	3	12-23
	250	200	330	405	355	320	480	30	3	12-25
	300	250	356	460	410	375	520	30	4	12-25
	350	266	450	520	470	435	570	34	4	16-25
	400	303	530	580	525	485	630	36	4	16-30

Upper eccentric half ball valve



DYQ940F/H/Y
electric Upper eccentric half ball valve

Main application

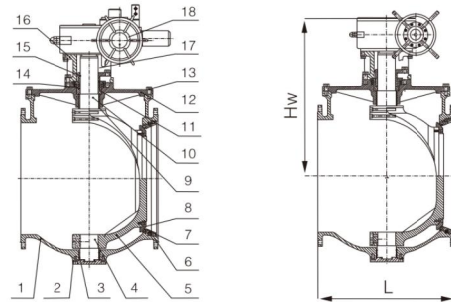
- The soft seal eccentric hemisphere valve is suitable for temperatures ranging from -46 Celsius to 280 Celsius, while the hard seal eccentric hemisphere valve is suitable for temperatures from ambient to around 600 Celsius.
- It is suitable for drain valves and control valves at the bottom of dams (in a high flow rate state). Suitable for coal dust and slag, it is used in industrial pipe transport for both liquid and solid phase mixed flow or chemical reactions in liquid transport with crystallization or scaling. Depending on the medium required by the customer and temperature requirements, the valve top is made of chromium-molybdenum, vanadium alloy, the valve seat is deposited with chromium, molybdenum alloy, chromium alloy, and stainless steel alloy to meet different slurry transport needs.
- It is suitable for valves in pump transport systems, such as pressure systems, central air conditioning systems, urban heating, and other systems with strict requirements.
- It is suitable for water supply systems, gas systems, natural gas systems, seawater, oil, alumina, and other pipeline facilities.

Main features

- Low pressure loss:** There is zero water loss when fully open, and the flow path is completely unobstructed. The interior is automatically cleaned, with a 90-degree rotation of the valve core auto-flushing the valve cavity, cleaning out debris from the medium, and ensuring that no residue is deposited inside. The ball is hemisphere-shaped, allowing for the highest flow C-value, enhancing the system efficiency of the pump and reducing erosion to a minimum.
- Resistant to particle wear:** Leveraging the double eccentric principle during closing, the ball crown only leans towards the ball seat at the final moment, avoiding friction. The seal ring welds abrasive self-lubricating alloy onto the valve seat, making it less susceptible to wear and erosion. The scissor action between the knife-edged ball mouth ball crown and valve seat provides a wiping and shearing effect, preventing scaling.
- Automatic compensation ensures reliable sealing:** Through the eccentric principle, the ball and valve seat close tighter under positive pressure for better sealing. When under reverse pressure, the floating valve seat compresses under pressure, pushing the seat against the ball — the higher the pressure, the tighter the seat is pushed up against the ball, ensuring excellent sealing. This maintains persistent tight sealing and can adapt to harsh conditions. Over long-term use, if valve seat seals are worn or damaged, the spring pressure pushes the seat against the ball, achieving good automatic compensation.
- Suitable for high flow rate mediums:** The ball is concealed on one side of the valve, forming a direct flow channel with no flow resistance. The sturdy eccentric fixing crankshaft does not vibrate or produce noise in high-flow-rate mediums.
- Long lifespan and easy toggle operation:** No easily damaged parts are present, and due to the eccentric action, the sealing surfaces of the ball and seat are completely separated during the valve opening and closing process, preventing any abrasion to the seat surface or ball crown sphere during frictionless rotation. This effectively reduces operating torque making for smooth, light operation. The valve's automatic compensation function significantly enhances valve lifespan.
- Easy maintenance:** The valve's top-mounted design allows the ball crown and supporting ball to be installed from the top. During maintenance, only the valve cover needs to be opened to lift out the ball crown and supporting ball for maintenance, and the sealing ring and other parts don't require entire valve removal from the pipeline. This brings great convenience to underground pipelines, especially for nuclear industrial ball valves.

While this valve is under maintenance, it can judiciously retain the medium in the pipeline without wasting energy, sparing users much preliminary auxiliary work, and simplifying the maintenance process. In certain scenarios, this valve can avoid affecting normal pipeline system operation during emergency repairs. As soon as the ball unit is removed and the opening quickly sealed, pressurized pipeline operation can immediately resume, minimizing loss of profits due to valve repair.

Upper eccentric half ball valve



Performance

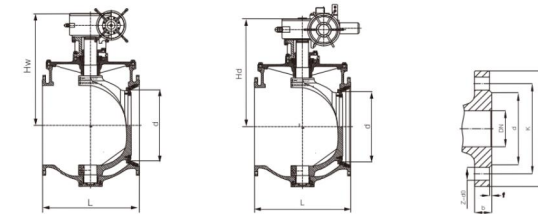
Nominal pressure (MPa)	0.6	1.0	1.6	2.5	4.0
Maximum work pressure under normal temperature (MPa)	0.6	1.0	1.6	2.5	4.0
Test pressure of crust strength (Mpa)	1.0	1.5	2.4	3.8	6.0
Test pressure of gas sealing (Mpa)	0.6	0.6	0.6	0.6	0.6
Test pressure of high-pressure sealing (Mpa)	0.7	1.1	1.76	2.75	4.4
Leakage and seepage rate	< 0.1 × DNmm ³ /s (It is in accordance with GB/T13927-2008 standard.)				
Applicable temperature (°C)	Soft sealing: -46°C~280°C; Hard sealing: -46°C~545°C				
Applicable medium	Various medium such as natural gas, water steam, oil products, acid, alkali, coal powder, coal ash, waste slag, slurry, particle and fiber;				
Transmission mode	Worm driving, electrical transmission, pneumatic transmission and hydraulic transmission				

Major materials

NO.	name	Material				
1	Valve body	WCB	LCB	ZG1Cr18Ni9Ti	ZG1Cr18Ni12Mo2Ti	ZG15Cr1Mo1V
2	Back cover	Q235A	A105	1Cr18Ni9Ti	0Cr18Ni12Mo2Ti	25Cr2Mo1V
3	Shaft sleeve	SF-1	Fb090	FB090	FB316	FB090
4	Lower valve rod	20Cr13	20Cr13	1Cr18Ni9Ti	0Cr18Ni12Mo2Ti	1Cr18Ni9Ti
5	Ball body	WCB	LCB	ZG1Cr18Ni9Ti	ZG0Cr18Ni12Mo2Ti	ZG15Cr1Mo1V
6	Pressure board	Q235A	LF2	1Cr18Ni9Ti	0Cr18Ni12Mo2Ti	25Cr2Mo1V
7	Valve seat	Q235A+PTFE/surfacing	LF2+PTFE/surfacing	1Cr18Ni9Ti/PTFE	0Cr18Ni12Mo2Ti/PTFE	25Cr2Mo1V/PTFE
8	Spherical crown	1Cr18Ni9Ti Special handling	1Cr18Ni9Ti Special handling	1Cr18Ni9Ti Special handling	0Cr18Ni12Mo2Ti Special handling	1Cr18Ni9Ti Special handling
9	Shaft sleeve	SF-1	Fb090	FB090	FB316	FB090
10	Upper valve rod	20Cr13	20Cr13	1Cr18Ni9Ti	0Cr18Ni12Mo2Ti	1Cr18Ni9Ti
11	Stuffing panel	WCB	LCB	ZG1Cr18Ni9Ti	ZG0Cr18Ni12Mo2Ti	ZG15Cr1Mo1V
12	Valve cover	WCB	LCB	ZG1Cr18Ni9Ti	ZG0Cr18Ni12Mo2Ti	ZG15Cr1Mo1V
13	Bolt	35CrMoA	35CrMoA	0Cr18Ni9	0Cr18Ni9	15Cr1Mo1V
14	Nut	45	45	0Cr18Ni9	0Cr18Ni9	20CrMo
15	Stuffing	flexible graphite	flexible graphite	flexible graphite	flexible graphite	flexible graphite
16	Pressure cover	WCB	LCB	ZG1Cr18Ni9Ti	ZG0Cr18Ni12Mo2Ti	ZG15Cr1Mo1V
17	Support	WCB	WCB	WCB	WCB	WCB
18	Electrical head	QT				

Upper eccentric half ball valve

Main connection and external dimensions



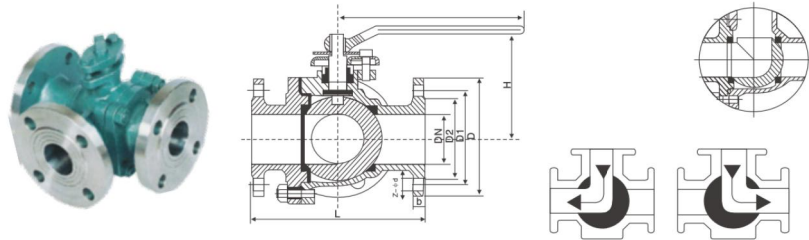
PN1.0MPa

Type	DN(mm) Nominal diameter		Dimension(mm)								
	mm	d	L	D	K	d	b	f	Z-do	Hw	Hd
DYQ340Y-1.0P H F B	50	38	178	160/165	125	100	18	2	4-φ18	270	310
	65	49	190	180/185	145	120	18	2	4-φ18	280	320
	80	62	203	195/200	160	135	20	2	4-φ18	290	330
	100	74	229	215/220	180	156	22	2	8-φ18	330	380
	125	100	254	245/250	210	184	22	2	8-φ18	345	405
	150	123	267	280/285	240	211	24	2	8-φ23	370	440
	200	150	292	335/340	295	266	24	2	8-φ23	405	470
	250	200	330	390/395	350	319	26	2	12-φ23	480	540
	300	250	390	440/445	400	370	26	2	12-φ23	520	580
	350	266	430	500/505	460	429	26	2	16-φ23	570	630
	400	303	530	565	515	480	26	2	16-φ26	630	710
	450	334	580	615	565	530	28	2	20-φ26	690	770
	500	385	660	670	620	582	28	2	20-φ26	740	820
	600	487	840	780	725	682	34	2	20-φ30	840	940
	700	538	900	895	840	794	34	5	24-φ30	960	1040
	800	589	1000	1015	950	901	36	5	24-φ33	1080	1180
	900	684	1100	1115	1050	1001	38	5	28-φ33	1190	1280
	1000	779	1200	1230	1160	1112	38	5	28-φ36	1310	1420
	1100	830	1250	1340	1270	1222	42	5	28-φ36	1390	1480
	1200	874	1300	1455	1380	1328	44	5	32-φ39	1420	1530
	1400	975	1500	1675	1590	1530	48	5	36-φ42	1540	1650
	1600	1166	1800	1915	1820	1750	52	5	40-φ48	1660	1750
	1800	1458	2000	2115	2020	1950	58	5	44-φ48	1790	1860
	2000	1570	2200	2325	2230	2150	60	5	48-φ48	1920	1990

PN1.6MPa

Type	DN(mm) Nominal diameter		Dimension(mm)								
	mm	d	L	D	K	d	b	f	Z-do	Hw	Hd
DYQ340Y-1.6P H F C R	50	38	178	160/165	125	100	18	2	4-φ18	270	310
	65	49	190	180/185	145	120	18	2	4-φ18	280	320
	80	62	203	195/200	160	135	20	2	8-φ18	290	330
	100	74	229	215/220	180	156	22	2	8-φ18	330	380
	125	100	254	245/250	210	184	22	2	8-φ18	345	405
	150	123	267	280/285	240	211	24	2	8-φ23	370	440
	200	150	292	335/340	295	266	24	2	12-φ23	405	470
	250	200	330	405	355	320	26	2	12-φ26	480	540
	300	250	390	460	410	375	28	2	12-φ26	520	580
	350	266	430	520	470	435	30	2	16-φ26	570	630
	400	303	530	580	525	485	32	2	16-φ30	630	710
	450	334	580	640	585	545	34	2	20-φ30	690	770
	500	385	660	705/715	650	605	36	2	20-φ33	740	820
	600	487	840	840	770	718	38	2	20-φ36	840	940
	700	538	900	910	840	794	40	5	24-φ36	960	1040
	800	589	1000	1020/1025	950	901	42	5	24-φ39	1080	1180
	900	684	1100	1120/1125	1050	1001	44	5	28-φ39	1190	1280
	1000	779	1200	1255	1170	1112	46	5	28-φ42	1310	1420
	1100	830	1250	1370	1280	1222	48	5	28-φ42	1390	1480
	1200	874	1300	1485	1390	1328	52	5	32-φ48	1420	1530
	1400	975	1500	1685	1590	1530	58	5	36-φ48	1540	1650
	1600	1166	1800	1930	1820	1750	64	5	40-φ55	1660	1750
	1800	1458	2000	2130	2020	1950	68	5	44-φ55	1790	1860
	2000	1570	2200	2345	2230	2150	70	5	48-φ60	1920	1990

Three-way ball valve series



Type L

Performance

Type	Nominal pressure(MPa)	Test Pressure		Working pressure (gas)	Working temperature	Applicable medium
		seal	Intensity			
Q44H-16C	1.6	1.76	2.4	1.6	≤300℃	the oil, soft drink
Q44H-16P	1.6	1.76	2.4	1.6	≤300℃	vinegar acids
Q44H-16R	1.6	1.76	2.4	1.6	≤300℃	niter acids

Major materials

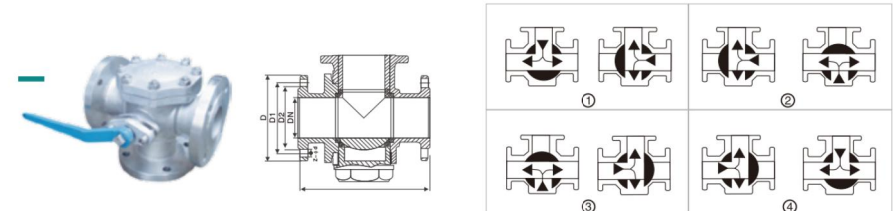
Part name	Body	Ball, Stem	Seat
Q44F-16C, Q44F-25C, Q44F-40C	WCB	2Cr13	PTFE(F4) or enhanced PTFE
Q44F-16P, Q44F-25P, Q44F-40P	ZG1Cr18Ni9Ti	1Cr18Ni9Ti	
Q44F-16R, Q44F-25R, Q44F-40R	ZG0Cr18Ni912Mo2Ti	0Cr18Ni912Mo2Ti	

Main connection and external dimensions (PN1.6MPa)

PN1.6MPa

Type	DN(mm) Nominal diameter	Dimension(mm)									
		L	L2	D	D1	D2	b	f	Z-φd	H	W
Q44F-16C P R	15	150	72	95	65	45	14	2	4-φ14	95	130
	20	160	80	105	75	55	14	2	4-φ14	110	130
	25	180	90	115	85	65	14	2	4-φ18	120	140
	32	200	100	135	100	78	16	2	4-φ18	144	180
	40	220	110	145	110	85	16	3	4-φ18	152	220
	50	240	120	160	125	100	16	3	4-φ18	182	220
	65	260	130	180	145	120	16	3	4-φ18	193	240
	80	280	140	195	160	135	20	3	8-φ18	217	270
	100	320	160	215	180	155	20	3	8-φ18	245	350
	125	380	190	245	210	185	22	3	8-φ18	282	500
	150	440	220	280	240	210	24	3	8-φ23	319	600
	200	550	260	335	295	265	26	3	12-φ23	380	1000
	250	670	310	405	355	320	30	3	12-φ25	460	1400
	300	720	370	460	410	375	30	3	12-φ25	520	1800

Three-way ball valve series



Type L

Performance

Type	Nominal pressure(MPa)	Test Pressure		Working pressure (gas)	Working temperature	Applicable medium
		seal	Intensity			
Q45F-16C	1.6	1.76	2.4	1.6	≤150℃	the oil, soft drink
Q45F-16P	1.6	1.76	2.4	1.6	≤150℃	vinegar acids
Q45F-16R	1.6	1.76	2.4	1.6	≤150℃	niter acids

Major materials

Part name	Body	Ball, Stem	Seat
Q45F-16C, Q45F-25C, Q45F-40C	WCB	2Cr13	PTFE(F4) or enhanced PTFE
Q45F-16P, Q45F-25P, Q45F-40P	ZG1Cr18Ni9Ti	1Cr18Ni9Ti	
Q45F-16R, Q45F-25R, Q45F-40R	ZG0Cr18Ni912Mo2Ti	0Cr18Ni912Mo2Ti	

Main connection and external dimensions (PN1.6MPa)

PN1.6MPa

Type	DN(mm) Nominal diameter	Dimension(mm)									
		L	L2	D	D1	D2	b	f	Z-φd	H	W
Q45F-16C P R	15	150	72	95	65	45	14	2	4-φ14	95	130
	20	160	80	105	75	55	14	2	4-φ14	110	130
	25	180	90	115	85	65	14	2	4-φ18	120	140
	32	200	100	135	100	78	16	2	4-φ18	144	180
	40	220	110	145	110	85	16	3	4-φ18	152	220
	50	240	120	160	125	100	16	3	4-φ18	182	240
	65	260	130	180	145	120	16	3	4-φ18	193	270
	80	280	140	195	160	135	20	3	8-φ18	217	350
	100	320	160	215	180	155	20	3	8-φ18	245	500
	125	380	190	245	210	185	22	3	8-φ18	282	600
	150	440	220	280	240	210	24	3	8-φ23	319	1000
	200	550	260	335	295	265	26	3	12-φ23	380	1300
	250	670	310	405	355	320	30	3	12-φ25	460	1700
	300	720	370	460	410	375	30	3	12-φ25	520	2100

Fluorine lining ball valve



Base model

base model		
Manual	Q41F ₄ Total lining	Q641F ₄ Total lining
	Q41F ₄₆ Total lining	Q641F ₄₆ Total lining
	Q41PFA Total lining	Q641PFA Total lining
Worm gear	Q341F ₄ Total lining	Q941F ₄ Total lining
	Q341F ₄₆ Total lining	Q941F ₄₆ Total lining
	Q341PFA Total lining	Q941PFA Total lining

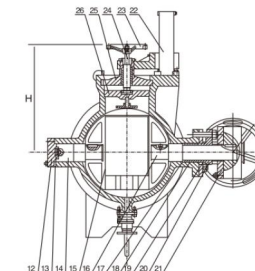
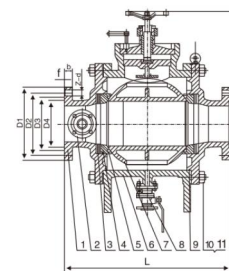
Technical standards

technical standards	
Design and manufacture	GB/T 12237
Structural Length	HG/T 3704-2003 GB/T12221 ASME B16.10
flange size	HG20592-97 ANSI B16.5a
Driving Means	Manual/Moton driving Pneumatil
Nominal pressure	0.6、1.0、1.6、2.5MPa Class150 JIS10K
Test pressure	GB/T13927-92 API598

Major materials

Part name	Carbon Steel	Stainless steel			
	C	P	R	PL	RL
Body、Bonnet	WCB	CF8	CF8M	CF3	CF3M
Ball	WCB	CF8	CF8M	CF3	CF3M
Valve seat with lining materials	FEP(F ₄₆)、PTFE(F ₄)、PFA、PO、PE				
Gland	WCB	CF8	CF8M	CF3	CF3M
Stuffing	PTFE(F ₄)				
Bolt	35	1Cr17Ni2	1Cr17Ni2	1Cr18Ni9	1Cr18Ni9
Stud	45	0Cr18Ni9	0Cr18Ni9	0Cr18Ni9	0Cr18Ni9
handle	WCB				

Pigging valve



Main application

Pigging valve is a kind of is mainly used for water,oil,natural gas long pipeline of new type clean pipe valve,as pig launching and receiving device.Can completely replace the traditional use in pig and tube as the core complex pigging transmitting and receiving device.

Main connection and external dimensions (PN1.6MPa)

150Lb:

Unit: mm

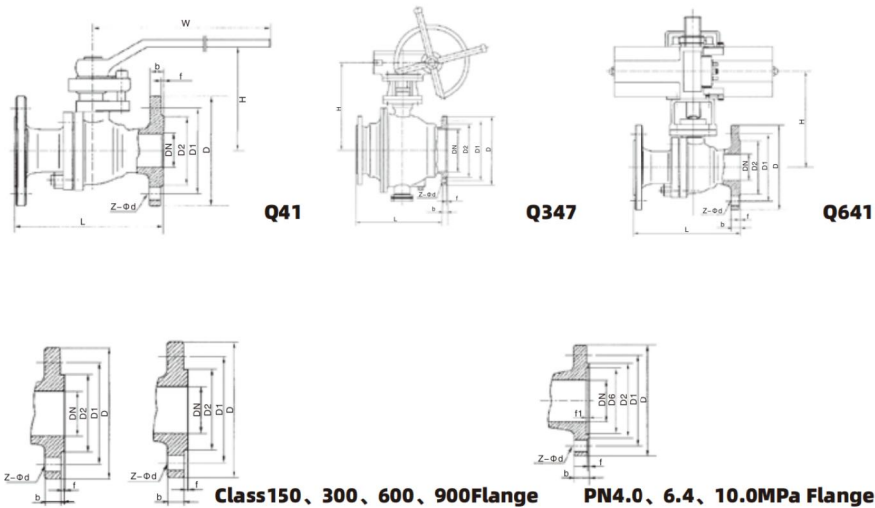
DN(in)	Long	Short	H	D1	D2	D3	f	b	z	d	Kg
2"	292	—	268	150	120.7	92	2	19.5	4	19	150
3"	356	—	304	190	152.4	127	2	24.3	4	19	208
4"	432	—	340	230	190.5	157.2	2	24.3	8	19	440
6"	559	480	393	280	215.9	215.9	2	25.9	8	22	784
8"	660	—	659	345	298.5	269.9	2	29	8	22	1160
10"	787	690	712	405	362	323.8	2	30.6	12	25	1624
12"	838	780	784	485	431	381	2	32.2	12	25	2296
14"	889	—	912	535	476.3	412.8	2	35.4	12	29	2928
16"	991	—	1016	595	539.8	468.9	2	37	16	29	3744

300Lb:

Unit: mm

DN(in)	Long	Short	H	D1	D2	D3	f	b	z	d	Kg
2"	292	—	315	165	127	92	2	22.7	8	19	175
3"	356	—	350	210	168.3	127	2	29	8	22	240
4"	432	—	390	255	200	157	2	32.2	8	22	506
6"	559	480	450	320	269.9	216	2	37	12	22	902
8"	660	—	760	380	330.0	270	2	41.7	12	25	1334
10"	787	690	820	445	387.4	324	2	48.1	16	29	1867
12"	838	780	900	520	451.8	381	2	51.3	16	32	2640
14"	889	—	1048	585	514.4	413	2	54.4	20	32	3367
16"	991	—	1168	650	571.5	470	2	57.6	20	35	4305

Form of main appearance and connection dimension



Main connection Dimension

Nominal pressure (MPa)	Nominal diameter (mm)	Dimension(mm)														Weight (Kg)		
		L		d1		D	D1	D2	b	f	Z-φd	W	H					
		RF	BW	fl-diameter	inlet-diameter								41	641	347	647	41	347
1.0	15	108	130	15	-	95	65	45	14	2	4-14	130	78	200	-	-	2.5	-
	20	117	140	20	-	105	75	-	14		4-14	170	84	205	-	-	3	-
	25	127	150	25	-	115	85	-	14		4-14	170	90	215	-	-	4.5	-
	32	140	165	32	-	135	100	78	16		4-18	200	107	240	-	-	6.5	-
	40	165	180	40	-	145	110	-	16	3	4-18	250	127	265	-	-	8.5	-
	50	178	200	50	-	160	125	-	16		4-18	250	140	275	-	-	10	15
	65	190	220	65	-	180	145	-	18		4-18	350	164	380	-	-	16	20
	80	203	250	80	65	195	160	-	20		8-18	350	177	390	-	-	19	24
	100	229	280	100	80	215	180	-	20	4	8-18	420	206	416	-	-	33	40
	125	356	320	125	100	245	210	-	22		8-18	700	292	542	-	-	542	55
	150	394	360	150	125	280	240	-	22		8-23	1000	320	575	305	572	82	113
	200	457	521	200	150	335	295	-	24		8-23	1300	365	610	398	636	140	218
	250	533	559	250	200	390	350	320	26	5	12-23	1800	420	650	495	726	-	240
	300	610	635	300	250	440	400	-	26		12-23	-	-	-	580	859	-	390
	350	686	762	350	300	500	460	-	26		16-23	-	-	-	625	927	-	510
	400	762	838	400	350	565	515	482	26		16-25	-	-	-	720	1080	-	750
	450	864	914	450	350	615	565	532	28	6	20-25	-	-	-	770	1120	-	940
	500	914	991	500	400	670	620	585	28		20-25	-	-	-	840	1150	-	1190

Form of main appearance and connection dimension

Continued form

Nominal pressure (MPa)	Nominal diameter (mm)	Dimension(mm)														Weight (Kg)			
		L		d ₁	D	D ₁	D ₂	D ₆	b	f/h	Z-φd	W	H						
		RF	BW	N-diameter (RF-BW)	N-diameter (RF-BW)							Manual	41	641	347	647	41	347	
1.6	15	108	130	15	-	95	65	45	-	14	2	4-14	130	75	200	-	-	2.5	-
	20	117	140	20	-	105	75	55	-	14		4-14	170	84	205	-	-	3	-
	25	127	150	25	-	115	85	65	-	14		4-14	170	90	215	-	-	4.5	-
	32	140	165	32	-	135	100	78	-	16		4-18	200	107	240	-	-	6.5	-
	40	180	180	40	-	145	110	85	-	16	3	4-18	250	127	265	-	-	8.5	-
	50	178	200	50	-	160	125	100	-	16		4-18	250	140	275	-	-	10	15
	65	190	220	65	-	180	145	120	-	18		4-18	350	164	380	-	-	16	20
	80	203	250	80	65	195	160	135	-	20		8-18	350	177	390	-	-	19	24
	100	229	280	100	80	215	180	155	-	20	4	8-18	420	206	416	-	-	33	40
	125	356	320	125	100	245	210	185	-	22		8-18	700	292	542	-	-	542	55
	150	394	360	150	125	280	240	210	-	24		8-23	1000	320	575	305	572	82	113
	200	457	521	200	150	335	295	265	-	26		12-23	1300	365	610	398	736	140	218
	250	533	559	250	200	405	355	320	-	30	5	12-25	1800	420	650	495	890	-	240
300	610	625	300	250	460	410	375	-	30	5	12-25	-	-	-	580	910	-	390	
350	686	762	350	300	520	470	435	-	34		16-25	-	-	-	625	1020	-	510	
400	762	838	400	350	580	525	485	-	36		16-30	-	-	-	720	1080	-	750	
450	864	914	450	350	640	585	545	-	40		20-30	-	-	-	770	1120	-	940	
500	914	991	500	400	705	650	608	-	44	6	20-34	-	-	-	840	1150	-	1190	
600	1067	1143	600	500	840	770	718	-	48		20-41	-	-	-	920	1230	-	2100	
700	1245	1346	700	600	910	840	788	-	50		24-41	-	-	-	990	1310	-	3000	
15	140	130	15	-	95	65	45	-	16		4-14	130	75	200	-	-	2.5	-	
2.5	20	152	140	20	-	105	75	55	-	16	2	4-14	170	84	205	-	-	3	-
	25	165	150	25	-	115	85	65	-	16		4-14	170	90	215	-	-	4.5	-
	32	178	180	32	-	135	100	78	-	18		4-18	200	107	240	-	-	6.5	-
	40	180	200	40	-	145	110	85	-	18		4-18	250	127	265	-	-	8.5	-
	50	216	220	50	-	160	125	100	-	20	3	4-18	250	140	275	-	-	10	15
	65	241	250	65	-	180	145	120	-	22		8-18	350	164	280	-	-	16	20
	80	283	280	80	65	195	160	135	-	22		8-18	350	177	390	-	-	20	24
	100	305	320	100	80	230	190	160	-	24		8-23	420	206	416	-	-	35	34
	125	381	360	125	100	270	220	188	-	28	4	8-25	700	292	542	-	-	542	60
	150	403	450	150	125	300	250	218	-	30		8-25	1000	320	575	305	572	92	102
	200	502	524	200	150	360	310	278	-	34		12-25	1300	365	625	398	736	175	192
	250	568	559	250	200	425	370	332	-	36		12-30	1800	420	660	495	890	-	288
	300	648	635	300	250	485	430	390	-	40	5	16-30	-	-	-	580	910	-	468
350	762	762	350	300	550	490	448	-	44	16-34		-	-	-	625	1020	-	587	
400	838	838	400	350	610	550	505	-	48	16-34		-	-	-	720	1080	-	863	
450	814	914	450	350	660	600	555	-	50	20-34		-	-	-	770	1120	-	958	
500	881	991	500	400	730	660	610	-	52	6	20-41	-	-	-	840	1150	-	1369	
600	1143	1143	600	500	840	770	718	-	56		20-41	-	-	-	920	1230	-	2415	
700	1346	1346	700	600	955	875	815	-	60		24-48	-	-	-	990	1310	-	3450	
15	140	130	15	-	95	65	45	40	16		4-14	130	75	200	-	-	3	-	
4.0	20	152	140	20	-	105	75	55	51	16	2/4	4-14	170	84	205	-	-	4	-
	25	165	150	25	-	115	85	65	58	16		4-14	170	90	215	-	-	5	-
	32	178	180	32	-	135	100	78	66	18		4-18	200	107	240	-	-	7	-
	40	190	200	40	-	145	110	85	76	18		4-18	250	127	265	-	-	9	-
	50	216	220	50	-	160	125	100	88	20	3/4	4-18	250	140	360	-	-	12	18
	65	241	250	65	-	180	145	120	110	22		8-18	350	164	380	-	-	18	23
	80	283	280	80	65	195	160	135	121	22		8-18	350	177	452	-	-	28	33
	100	320	320	100	80	230	190	160	150	24		8-23	420	206	480	-	-	479	46
	125	381	360	125	100	270	220	188	176	28	3/4,5	8-25	700	292	646	-	-	646	75
	150	403	457	150	125	300	250	218	204	30		8-25	1000	320	666	305	666	106	118
	200	502	521	200	150	375	320	282	260	38		12-30	1300	365	815	398	814	190	245
	250	568	559	250	200	445	385	345	313	42		12-34	-	-	-	485	890	-	482
	300	648	635	300	250	510	450	408	364	46	4/5	16-34	-	-	-	580	910	-	615
350	762	762	350	300	570	510	465	422	52	16-34		-	-	-	625	1020	-	930	
400	838	838	400	350	655	585	535	474	58	16-41		-	-	-	720	1080	-	110	
450	814	914	450	350	680	610	560	524	60	20-41		-	-	-	770	1120	-	1400	
500	991	991	500	400	755	670	612	576	62	5/6	20-48	-	-	-	840	1150	-	2030	
600	1143	1143	600	500	890	795	730	678	62		20-54	-	-	-	920	1230	-	2850	
700	1346	1346	700	600	995	900	835	768	68		24-54	-	-	-	990	1310	-	4250	

Form of main appearance and connection dimension

Continued form

Nominal pressure (MPa)	Nominal diameter (mm)	Dimension(mm)															Weight (Kg)		
		L		d ₁		D	D ₁	D ₂	D ₆	b	f/h	Z-Φ d	W	H					
		RF	BW	41-diameter	641-diameter									41	641	347	647	41	347
6.4	15	165	165	15	-	105	75	55	40	18	2/4	4-14	170	80	200	-	-	4.5	-
	20	191	191	20	-	125	90	68	51	20		4-18	200	89	205	-	-	6	-
	25	216	216	25	-	135	100	78	58	22		4-18	200	95	215	-	-	8	-
	32	229	229	32	-	150	110	82	66	24		4-23	250	112	240	-	-	12	-
	40	241	241	40	-	165	125	95	76	24	3/4	4-23	350	132	265	-	-	14	-
	50	292	292	50	40	175	135	105	88	26		4-23	350	145	360	-	360	18	28
	65	330	330	65	50	200	160	130	110	28		8-23	420	189	380	-	379	28	38
	80	356	356	80	65	210	170	140	121	30		8-23	420	182	452	-	452	40	58
	100	406	406	100	80	250	200	168	150	32	3/4.5	8-25	700	211	480	-	479	65	85
	125	508	508	125	100	295	240	202	176	36		8-30	1000	302	646	340	646	98	130
	150	495	495	150	125	340	280	240	204	38		8-34	1300	330	666	435	666	140	150
	200	597	597	200	150	405	345	300	260	44		12-34	-	-	-	530	736	-	287
	250	673	673	250	200	470	400	352	313	48	4/4.5	12-41	-	-	-	615	790	-	540
	300	762	762	300	250	530	460	412	364	54		16-41	-	-	-	680	870	-	780
	350	826	826	350	300	595	525	475	422	60		16-41	-	-	-	720	1020	-	1000
	400	902	902	400	350	670	585	525	474	66		16-48	-	-	-	840	1080	-	1300
	500	1054	1054	500	400	800	705	640	576	70	4/5	20-54	-	-	-	925	1200	-	2100
	600	1232	1232	600	500	930	820	750	678	76		20-58	-	-	-	980	1295	-	3400
10.0	15	165	165	15	-	105	75	55	40	20	2/4	4-14	170	80	200	-	-	5.5	-
	20	191	191	20	-	125	90	68	51	22		4-18	200	89	205	-	-	7	-
	25	216	216	25	-	135	100	78	58	24		4-18	200	95	215	-	-	10	-
	32	229	229	32	-	150	110	82	66	24		4-23	250	112	240	-	-	15	-
	40	241	241	40	-	165	125	95	76	26	3/4	4-23	350	132	265	-	-	18	-
	50	292	292	50	40	195	145	112	88	28		4-25	350	145	360	-	360	25	-
	65	330	330	65	50	220	170	138	110	32		8-25	420	189	380	-	379	32	-
	80	356	356	80	65	230	180	148	121	34		8-25	420	182	452	-	452	46	-
	100	432	432	100	80	265	210	172	150	38	3/4.5	8-30	700	211	480	-	479	75	-
	125	508	508	125	100	310	250	210	176	42		8-34	-	-	-	320	646	-	-
	150	559	559	150	125	350	290	250	204	46		12-34	-	-	-	356	666	-	150
	200	660	660	200	150	430	360	312	260	54		12-41	-	-	-	398	736	-	350
	250	787	787	250	200	500	430	382	313	60	4/4.5	12-41	-	-	-	445	790	-	590
	300	838	838	300	250	585	500	442	364	70		16-48	-	-	-	515	870	-	920
	350	889	889	350	300	655	560	498	422	76		16-54	-	-	-	550	1020	-	1100
	400	991	991	400	350	715	620	558	474	80		16-54	-	-	-	615	1080	-	1540

Form of main appearance and connection dimension

JIS: Main connection Dimension

Nominal pressure (MPa)	Nominal diameter (mm)	Dimension(mm)															Weight (Kg)		
		L		d ₁		D	D ₁	D ₂	D ₆	b	f/h	Z-Φ d	W	H					
		RF	BW	41-diameter	641-diameter									41	641	347	647	41	347
JIS10K	15	108	140	15	-	95	70	52	-	12	1	4-15	130	75	200	-	-	2	-
	20	117	152	20	-	100	75	58	-	14		4-15	170	84	204	-	-	2.5	-
	25	127	165	25	-	125	90	70	-	14		4-19	170	90	215	-	-	4.5	-
	32	140	178	32	-	135	100	80	-	16		4-19	200	107	240	-	-	6	-
	40	165	190	40	-	140	105	85	-	16		4-19	250	127	264	-	-	7.5	-
	50	178	216	50	-	155	120	100	-	16		4-19	250	140	274	-	-	9.5	-
	65	190	241	65	-	175	140	120	-	18		4-19	350	164	379	-	-	14	-
	80	203	283	80	65	185	150	130	-	18		8-19	350	177	389	-	-	19	-
	100	229	305	100	80	210	175	155	-	18	2	8-19	420	206	416	-	416	30	-
	125	356	381	125	100	250	210	185	-	20		8-23	700	292	542	-	542	58	-
	150	394	457	150	125	280	240	215	-	22		8-23	1000	320	572	305	572	88	117
	200	457	521	200	150	330	290	265	-	22		12-23	1300	365	600	398	736	150	185
	250	533	559	250	200	400	355	325	-	24		12-25	-	-	-	495	890	-	245
	300	610	635	300	250	445	400	370	-	24		16-25	-	-	-	580	910	-	395
	350	686	762	350	300	490	445	415	-	26		16-25	-	-	-	625	1020	-	516
	400	762	838	400	350	560	510	475	-	28		16-27	-	-	-	720	1080	-	756
	450	864	814	450	350	620	565	530	-	30		20-27	-	-	-	770	1120	-	958
	500	914	991	500	400	675	620	585	-	30		20-27	-	-	-	840	1150	-	1200

Continued form

Nominal pressure (MPa)	Nominal diameter (mm)	Dimension(mm)															Weight(Kg)		
		L		d ₁		D	D ₁	D ₂	D ₆	b	f/h	Z-Φ·d	W Manual	H					
		RF	BW	41-diameter	641-diameter									41	641	347	647	41	347
JIS20K	15	140	140	15	-	95	70	52	-	14	1	4-15	130	75	200	-	-	3	-
	20	152	152	20	-	100	75	58	-	16		4-15	170	84	204	-	-	4	-
	25	165	165	25	-	125	90	70	-	16		4-19	170	90	215	-	-	6	-
	32	178	178	32	-	135	100	80	-	18		4-19	200	107	240	-	-	8	-
	40	190	190	40	-	140	105	85	-	18		4-19	250	127	265	-	-	10	-
	50	216	216	50	-	155	120	100	-	18	2	8-19	250	140	360	-	-	13	-
	65	241	241	65	-	175	140	120	-	20		8-19	350	164	379	-	-	20	-
	80	283	283	80	65	200	160	135	-	22		8-23	350	177	452	-	-	32	-
	100	305	305	100	80	225	185	160	-	24		8-23	420	206	479	-	479	52	-
	125	381	381	125	100	270	225	195	-	26		8-25	700	292	646	-	466	82	-
	150	403	457	150	125	305	260	230	-	28		12-25	1000	320	666	305	666	115	138
	200	502	521	200	150	350	305	275	-	30		12-25	1300	365	815	398	814	200	230
	250	568	559	250	200	430	380	345	-	34		12-27	-	-	-	495	890	-	390
	300	648	635	300	250	480	430	395	-	36		16-27	-	-	-	580	910	-	560
350	762	762	350	300	540	480	440	-	40	16-33	-	-	-	625	1020	-	770		
400	838	838	400	350	605	540	495	-	46	16-33	-	-	-	720	1080	-	920		
450	914	914	450	350	675	605	560	-	48	20-33	-	-	-	760	1120	-	1150		
500	991	991	500	400	730	660	615	-	50	20-33	-	-	-	840	1150	-	1350		

Form of main appearance and connection dimension

API: Main connection Dimension

Nominal pressure (MPa)	Nominal diameter (mm)	Dimension(mm)																Weight (Kg)	
		L		d1		D	D1	D2	b	f	Z-Φd	W Manual	H						
		RF	BW	M-diameter	ISO-diameter								41	641	347	647	41	347	
Class 150	1/2	108	140	13	-	90	60.3	34.9	11.6	2	4-16	130	75	200	-	-	2	-	
	3/4	117	152	19	-	100	69.9	42.9	13.2		4-16	170	84	205	-	-	2.5	-	
	1	127	165	25	-	110	79.4	50.8	14.7		4-16	170	90	215	-	-	4.5	-	
	1 1/4	140	178	32	-	115	88.9	63.5	16.3		4-16	200	107	240	-	-	6	-	
	1 1/2	165	190	38	-	125	98.4	73	17.9		4-16	250	127	265	-	-	7.5	-	
	2	178	216	51	64	150	120.7	92	19.5		4-19	250	140	275	-	-	9.5	-	
	2 1/2	190	241	64	76	180	139.7	104.8	22.7		4-19	350	164	380	-	-	14	-	
	3	203	283	76	102	190	152.4	127	24.3		4-19	350	177	390	-	-	19	-	
	4	229	305	102	127	230	190.5	157.2	24.3		8-19	420	206	415	-	416	30	-	
	5	356	381	127	152	255	215.9	185.7	24.3		8-22	700	292	545	-	542	58	-	
	6	394	457	152	203	280	241.3	215.9	25.9		8-22	1000	320	575	305	572	88	117	
	8	457	521	203	254	345	298.5	269.9	29		8-22	1300	365	600	398	736	150	185	
	10	533	559	254	305	405	362	323.8	30.6		12-25	-	-	-	495	890	-	245	
	12	610	635	305	337	485	431.8	381	32.2		12-25	-	-	-	580	910	-	395	
	14	686	762	337	337	535	476.3	412.8	35.4		12-29	-	-	-	625	1020	-	516	
	16	762	838	387	387	595	539.8	469.9	37		16-29	-	-	-	720	1080	-	756	
	18	864	914	438	489	635	577.9	533.4	40.1		16-32	-	-	-	770	1120	-	958	
	20	914	991	489	594	700	635	584.2	43.3		20-32	-	-	-	840	1150	-	1200	
	24	1067	1143	594	-	815	749.3	692.2	48.1		20-35	-	-	-	920	1230	-	2100	
Class 300	1/2	140	140	13	-	95	66.7	34.9	14.7	2	4-16	130	75	200	-	-	3	-	
	3/4	152	152	19	-	115	82.6	42.9	16.3		4-19	170	84	205	-	-	5	-	
	1	165	165	25	-	125	88.9	50.8	17.9		4-19	170	90	215	-	-	6	-	
	1 1/4	178	178	32	-	135	98.4	63.5	19.5		4-19	200	107	240	-	-	8	-	
	1 1/2	190	190	38	-	155	114.3	73	21.1		4-22	250	127	265	-	-	10	-	
	2	216	216	51	-	165	127	92	22.7		8-19	250	140	360	-	-	13	-	
	2 1/2	241	241	64	-	190	149.2	104.8	25.9		8-22	350	164	380	-	-	20	-	
	3	283	283	76	64	210	168.3	127	29		8-22	350	177	455	-	-	32	-	
	4	305	305	102	76	255	200	157.2	32.2		8-22	420	206	480	-	479	52	-	
	5	381	381	127	102	280	235	185.7	35.4		8-22	700	292	645	-	646	82	-	
	6	403	457	152	127	320	269.9	215.9	37		12-22	1000	320	665	305	666	115	145	
	8	502	521	203	152	380	330.2	269.9	41.7		12-25	1300	365	818	398	814	200	240	
	10	568	559	254	203	445	387.4	323.8	48.1		16-29	-	-	-	495	890	-	400	
	12	648	635	305	254	520	450.8	381	51.3		16-32	-	-	-	580	910	-	580	
	14	762	762	337	305	585	514.4	412.8	54.4		20-32	-	-	-	625	1020	-	790	
	16	838	838	387	337	650	571.5	469.9	57.6		20-35	-	-	-	720	1080	-	940	
	18	914	914	432	337	710	628.6	533.4	60.8		24-35	-	-	-	770	1120	-	1200	
	20	991	991	483	387	775	685.8	584.2	64		24-35	-	-	-	840	1150	-	1400	
	24	1143	1143	591	483	915	812.8	692.2	70.3		24-41	-	-	-	920	1230	-	2850	

Form of main appearance and connection dimension

Continued form

Nominal pressure (MPa)	Nominal diameter (mm)	Dimension(mm)																Weight (Kg)	
		L		d ₁		D	D ₁	D ₂	b	f	Z-Φ d	W	H						
		RF	BW	M-diameter	ISO-diameter								41	641	347	647	41	347	
Class 600	1/2	165	165	13	—	95	66.7	35	14.3	7	4-16	170	80	200	—	—	5.5	—	
	3/4	191	191	19	—	115	82.6	43	15.9		4-19	200	89	205	—	—	7	—	
	1	216	216	25	—	125	88.9	51	17.5		4-19	200	95	215	—	—	10	—	
	1 1/4	229	229	32	—	135	98.4	64	20.7		4-19	250	112	240	—	—	15	—	
	1 1/2	241	241	38	—	155	114.3	73	22.3		4-22	350	132	265	—	—	18	—	
	2	292	292	51	38	165	127	92	25.4		8-19	350	145	360	—	360	25	—	
	2 1/2	330	330	64	51	190	149.2	105	28.6		8-22	420	169	380	—	379	32	—	
	3	356	356	76	64	210	168.3	127	31.8		8-22	420	182	455	—	452	46	—	
	4	432	432	102	76	275	215.9	157	38.1		8-25	700	211	480	—	479	75	—	
	6	559	559	152	127	355	292.1	216	47.7		12-29	—	—	—	435	666	—	150	
	8	660	660	200	152	420	349.2	270	55.6		12-32	—	—	—	530	736	—	350	
	10	787	787	248	200	510	431.8	324	63.5		16-35	—	—	—	615	790	—	580	
	12	838	838	298	248	560	489	381	66.7		20-35	—	—	—	680	870	—	790	
	14	889	889	327	298	605	527	413	69.9		20-38	—	—	—	720	1020	—	980	
	16	991	991	375	327	685	603.2	470	76.2		20-41	—	—	—	840	1080	—	1300	
	18	1092	1092	432	327	745	654	533	82.6		20-45	—	—	—	890	1120	—	1400	
	20	1194	1194	483	375	815	723.9	584	88.9		24-45	—	—	—	925	1200	—	2100	
	24	1397	1397	591	483	940	838.2	692	101.6		24-51	—	—	—	980	1295	—	3400	
Class 900	2	368	368	47	—	215	165.1	92	38.1	7	8-25	—	—	—	—	380	—	—	
	2 1/2	419	419	57	47	245	190.5	105	41.3		8-29	—	—	—	—	395	—	—	
	3	381	381	73	57	240	190.5	127	38.1		8-25	—	—	—	—	480	—	—	
	4	457	457	98	73	290	235	157	44.5		8-32	—	—	—	290	532	—	160	
	6	610	610	146	121	380	317.5	216	55.6		12-32	—	—	—	435	703	—	220	
	8	737	737	190	146	470	393.7	270	63.5		12-38	—	—	—	530	750	—	450	
	10	838	838	238	190	545	469.9	324	69.9		16-38	—	—	—	615	820	—	760	
	12	965	965	282	238	610	533.4	381	79.4		20-38	—	—	—	680	900	—	1050	



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