

■ API6A Slab Gate Valve



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WENZHOU KESAI VALVE CO.,LTD



Company Profile

Wenzhou Kesai Valve Co., Ltd is a leader which has 20 years experience in the design and manufacture of quality engineered and tailor made valves.

The prime markets served by Coosai are the Oil&Gas exploration and production sectors, oil field,power plants,pulp and paper mills,chemical plants,mining industry, sugar industry , and other special service industrial applications.

Coosai offers a vast production range that satisfies the most critical project requirements, manufacturing valves in a wide range of sizes (up to 5000mm),pressures classes (up to ANSI2500LB and 10000PSI),materials(Stainless steel and special alloy material)

Coosai valves are CE PED 97/23/EEC,API 6D-0749,API6A-1199,API607(fire safe) and TS certified. Coosai diaphragm pumps are CE and ATEX(EX Equipment II 2 GDC) certified.

Coosai Electric actuator is CE certified.

Coosai workshops cover an area of 12000 square meters. Total registered asset is RMB 80 million. Besides ISO9001:2008 quality management and QC system,Coosai has the capability in offering varied products by virtue of over 100 sets large scale CNC lathes,testing equipments and computerized control valve testing and calibration bench.

There is a real technical proficiency at Coosai with an organisation to produce and supply valves according to any specific requirements the customer may ask.

Coosai is dedicated to offering the best configuration and satisfy client's expectations and their eventual commitments.

We look forward to meeting all distinguished clients and industry experts and sincerely welcome all your valuable inquiries.

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API6A SLAB GATE VALVE

Coosai®

◆ The Industry Standard

Coosai slab gate valves provide proven features and low maintenance for drilling and production applications. Cooper Oil Tool Division offers the slab gate valves with the security and reliability of metal-to-metal sealing in a wide range of working pressures.

Slab valves feature a simple and reliable gate-and-seat assembly which minimizes inventory requirements and eases maintenance while still providing true metal-to-metal sealing.

These valves also offer the durability and integrity of a forged steel body and bonnet; the performance characteristics of the basic proven design;low maintenance costs and ease of service.

Slab gate valves are available in all popular bore sizes. Pressure ratings for the slab gate valve are 2000,3000,5000 and 10,000 psi.

These models of gate valves are offered in all API 6A temperature and materials classes and in product specification levels (PSL) 1 through4.

Coosai CS gate valves are also available in SSV and USV configurations to comply with API 14D and NACE MR-01-75 where applicable.Reduced hardness bonnet bolting materials can be provided without downrating the valve working pressure.



◆ Slab Gate Valve Features

★Metal-to-Metal Sealing

Sealing at gate-to-seat and seat-to-body is metal-to-metal.All gate valves feature a metal bonnet seal. Slab models in 10,000 psi pressure rating have a pressure-energized bonnet gasket.

★Simple Gate and Seat Design

One-piece seats, a solid slab gate and a single stainless steel grease retainer plate mean reliable sealing plus ease of field service.No special tools are required to replace the gate and seats.

★Improved Seat Seal Design

In addition to the metal-to-metal seal between the seats and valve body,slab gate valves incorporate a spring-loaded,pressure energized,non-elastomeric lip-seal between each seat and the body. This seal protects the metal seal surface of the seat,gate and body from damage and improves valve performance at very low pressures. Slab design includes two spring-loaded lip-seals on each seat at the seat-to-body interface.This double-seal design provides maximum protection against intrusion of particle contaminants into the valve cavity.This prevents sand particles from affecting the metal-to-metal seals between the body, seats and gate, and also prevents body erosion in drilling mud applications.

★Bidirectional Sealing

The gate-and-seat assembly seals in both directions. The gate and seats can be reversed for increased service life.

★Backseating Stem

The stem shoulder can be backseated against the bonnet to seal off the stuffing box. This allows the stem seal to be replaced while the valve is under pressure.

★Non-Rising Stem

Valve operation doesn't cause an increase in cavity pressure and doesn't displace cavity filler grease.

★Stem Seal

Cooper Oil Tool offers several stem seal design to cover the full range of temperatures, pressures and fluids encountered in wellhead and drilling manifold service. Sealing at gate-to-seat and seat-to-body is metal-to-metal. The U and J seats are elastomeric seals which are protected from the well bore fluid by a special low-friction PTFE jacket. The Varipak and HT-20 stem seals are inert, nonelastomeric, pressure-energized stem seals for use with more severe temperatures, pressures and fluids. Slab gate valves are supplied with stem seals which are compatible with the valves service ratings although substitutions are available upon request.

★Grease Injection Fitting

Body filler grease is injected easily, the stem, seat and gate are lubricated through the grease fitting which is located on the downstream side of the stem backseat for safety. No sealant or lubrication ports extend directly into the valve cavity.

★Positive Bearing Lubrication

A grease fitting located on the bearing cap provides positive bearing lubrication to ensure easy opening and closing.

★Easy Closing and Sealing

The valves close without excessive force. After the required number of closure turns, the hand-wheel should be backed off one quarter turn. The valve is then fully closed and securely sealed. An optional add-on torque multiplier is available for larger gate valves to provide easier operation.

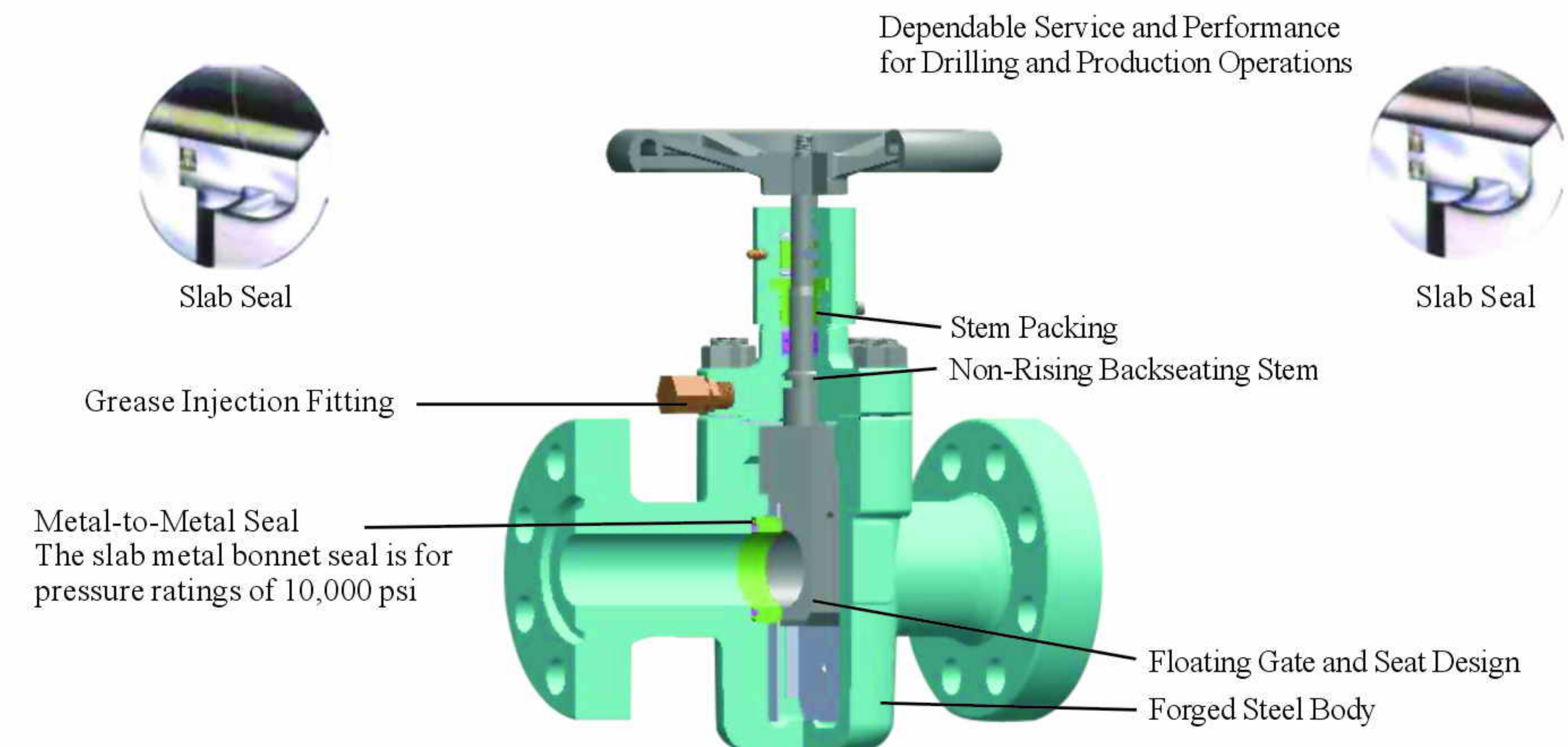
★Forged Steel Construction

The body and bonnet are constructed of forged steel for maximum reliability and safety. Forged stainless steel is also available. For severe service applications, weld-clad or corrosion-resistant alloy linings can be applied to base forgings for maximum protection for the valve's internal service area.

★Standard Coosai Actuators

Slab gate valves can be converted to automatic safety valves with the addition of a Standard Pneumatic or Hydraulic actuator or an add-on torque multiplier diaphragm or piston actuator. These actuators are available with a full range of accessories. For drilling and manifold service, Slab gate valves are available with a double-acting hydraulic actuator on a balance-stem valve

◆ Slab Gate Valve Construction



◆ Testing

Standard Coosai valves are fire tested in accordance to API and NACE standards for high temperature service applications.

Major components and materials for Coosai gate valves are subject to rigorous performance verification testing before these are supplied in Coosai valve.

All gate and seat materials and coatings are functionally tested in a 10,000 psi valve, with blow-downs at full differential pressure. The test valve is opened with a pneumatic actuator, which opens the valve much faster than hydraulic or manual operation and provides the most rigorous test condition.

All stem and gate thread materials for manual gate valves are tested in a specially designed fixture which applies both tensile and compressive loads as well external bending loads to the threaded connection as it is repeatedly torqued back and forth.

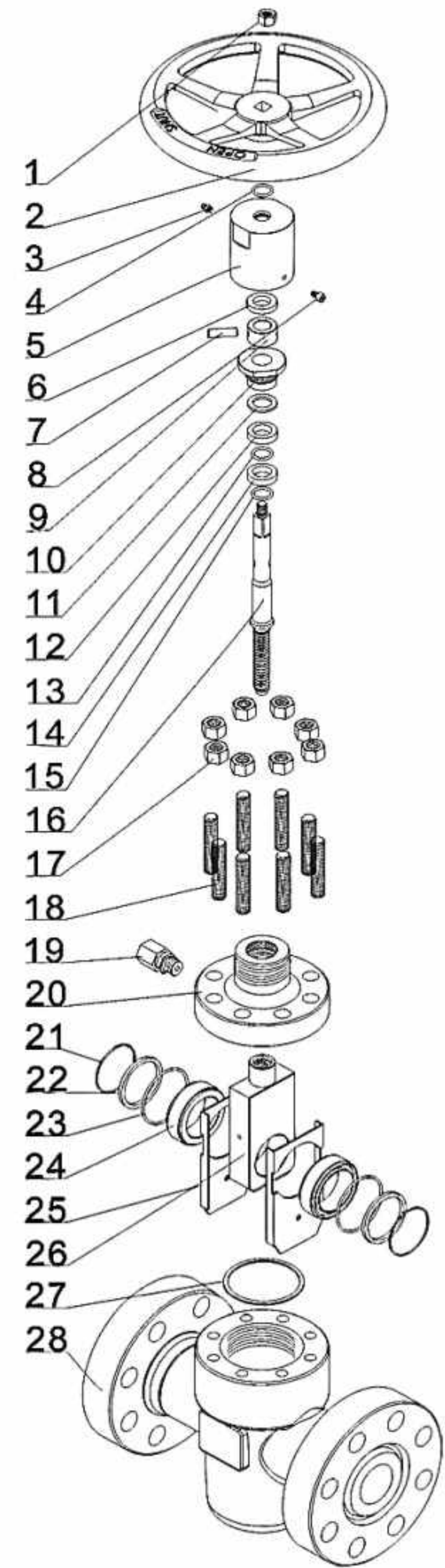
Stem packings are tested in test fixtures which allows the application of heat, subzero temperatures, pressure up to 15,000 psi and either linear or rotary stem movement.

These engineering tests have been used to verify the performance of Slab valve pressure-controlling components for many years. Acceptance criteria meets or exceeds the 200-cycle design requirement of API 6A PR-2.

Fully automated computer-controlled test equipment has been constructed to perform performance verification testing of gate valves and gate valve actuators in accordance with the recommendations of API Specification 6A



◆ Parts List

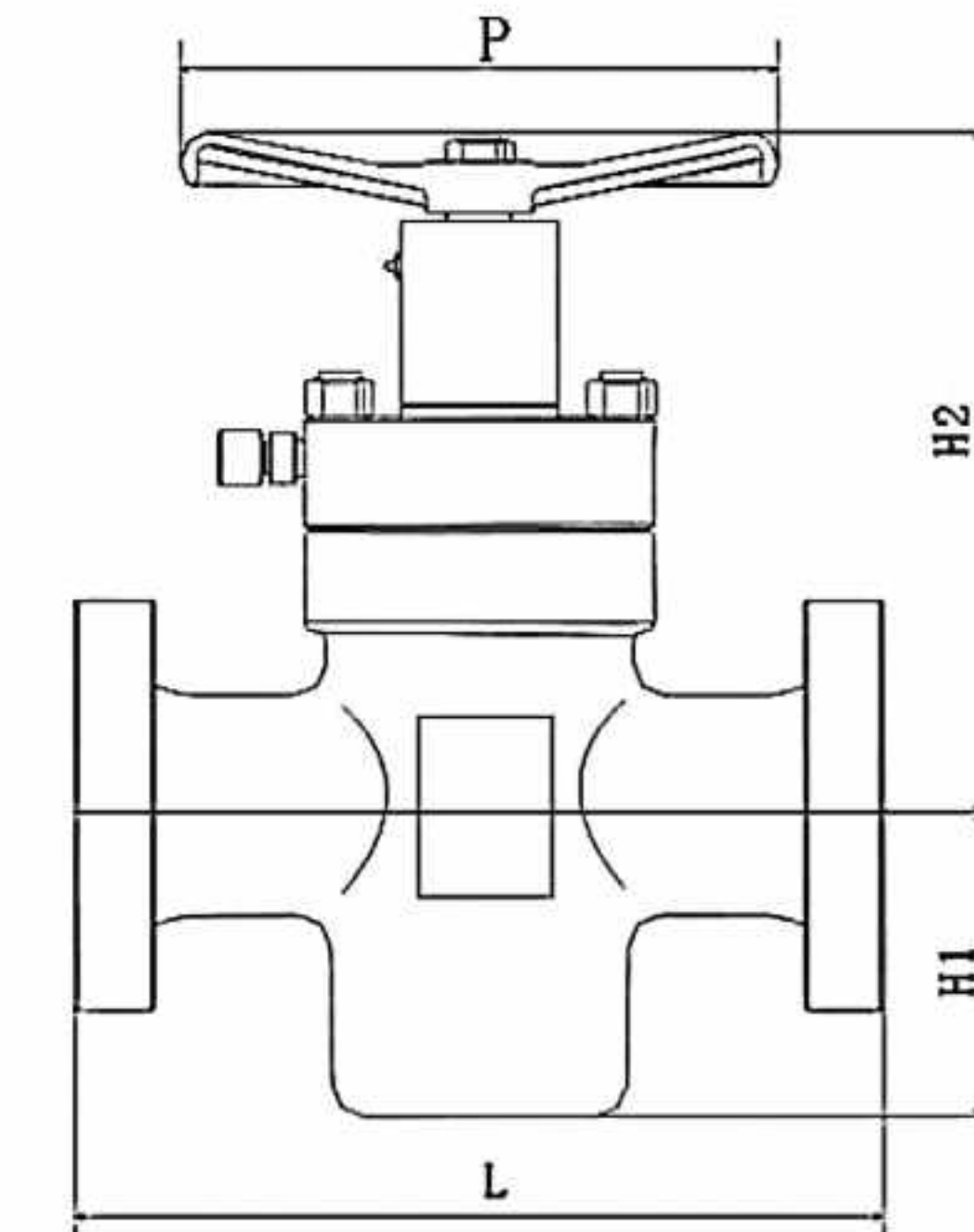


Item	Description
1	Nut
2	Handwheel
3	Grease Fitting
4	O-Ring
5	Bearing Cap
6	Bearing
7	Pin
8	Hexagon Screw
9	Drive Fets
10	Packing Gland
11	Gasket
12	Y-Ring
13	O-Ring
14	Y-Ring
15	O-Ring
16	Stem
17	Bonnet Nut
18	Bonnet Stud
19	Grease Fitting
20	Bonnet
21	O-Ring/ Wave Washer
22	Sesl Ring
23	O-Ring
24	Seat
25	Guiding plate
26	Gate
27	Bonnet Seal Ring
28	Body

◆ Standard Valve Trim Materials

API 6A Materials Classification	Body & Bonnet Material	Stem Material/Coating	Gate Material/Coating	Seat Material/Coating
AA-General Service	Low Alloy Steel	AISI 41XX Nitrided	AISI 41XX Nitrided	AISI 41XX Nitrided
BB-General Service	Low Alloy Steel	AISI 41 XX Nitrided	AISI 41 XX Nitrided	Stellite™3
CC-General Service	4A	AISI 410 SS	AISI 410 Nitrided	Stellite™3
DD-Sour Service	Low Alloy Steel	AISI 41XX Nickel-plated	AISI 41 XX Hard-faced	Stellite™3
EE-Sour Service	Low Alloy Steel	AISI 410 Nitrided	AISI 41 XX Hard-faced	Stellite™3
FF-Sour Service	4A	AISI 410 Nitrided	AISI 41 XX Hard-faced	Stellite™3
HH-Sour Service	Low Alloy Steel Clad With Alloy 625 or Solid Alloy 718	Alloy 718	Alloy 718 Hard-faced	Stellite™3

◆ External Dimensional(mm)



Pressure	NPS	L			P	H1	H2	Weight (Kg)
		Flanged	Threaded	Butt weld				
2000 PSI	2-1/16 "	295	-	-	356	133	391	89
	2-9/16 "	333	-	-	356	152	410	113
	3-1/8 "	359	-	-	356	181	484	136
	4-1/8 "	435	-	-	356	232	525	198
	6-1/8 "	562	-	-	467	327	635	453
3000 PSI	2-1/16 "	371	270	-	356	137	391	96
	2-9/16 "	422	314	-	356	165	410	125
	3-1/8 "	435	346	-	356	187	484	148
	4-1/8 "	511	-	-	467	232	525	255
	5-1/8 "	613	-	-	610	289	573	425
	6-1/8 "	613	-	-	610	327	610	566
5000 PSI	2-1/16 "	371	270	-	356	143	441	99
	2-9/16 "	422	314	-	356	165	460	130
	3-1/8 "	473	346	-	467	187	484	204
	4-1/8 "	549	-	546	467	232	525	295
	5-1/8 "	727	-	-	610	289	598	453
	6-1/8 "	737	-	-	610	327	610	657
10000 PSI	1-13/16 "	464	-	-	356	146	441	142
	2-1/16 "	521	-	-	467	149	441	156
	2-9/16 "	565	-	-	467	173	460	210
	3-1/16 "	619	-	-	610	207	478	273
	4-1/16 "	670	-	-	610	256	532	499
	5-1/8 "	737	-	-	610	333	641	991

Note: Flange end API 6B