

**WSV**®



# **PLUG VALVES**

WEIDOU LI VALVES CO., LTD.



# WEIDOU LI

The name trust for Special Alloy Valves

## Brief Introduction

The history of Weidouli dates back to 1989, the initial company named Lixin established in that year with prospective view to begin with exotic material valves manufacturing. With an increase of its production capacity and satisfaction of domestic and oversea clients' requirements, Weidouli furnished with a new modern factory filled with advance and large CNC machine facilities, fabrication, inspection and test facilities, total factory occupied area to be 43500m<sup>2</sup>.

Advanced manufacturing processes enable us to produce a wide range of valves from bars and forgings, castings. Valves can be designed, manufactured, assembled and tested in accordance with ANSI/API/ASME norms, DIN/ ISO/BS specifications, NORSOK requirements, JIS standards and tailor-made with sizes varying form 2" up to 100". Moreover, sizeable stock allows Weidouli to offer a broad selection of exotic materials, which diversify with Titanium, Nickel alloy, Zirconium, Super Duplex, Alloy 20 etc, whilst keeping production time to a minimum.

Weidouli has worked diligently in past decades to secure our advantageous industry position and become a highly respected and valuable enterprise to the area of anti-corrosive valves application and come to being an culture: Cooperate Sincerely, Create Win-win.

Weidouli will continue to play a good role and make its unceasing efforts in the valve markets with our goals in mind: Global Quality, Total Reliability.

CEO, Chengrui Xia



API 6D



TS



EAC



ATEX



API 607/6FA



ISO 15848-1



ISO9001



ISO 14001



OHSAS 18001



CE 1155

## Global Quality.Total Reliability.

Weidouli have ISO 9001/API 6D/ISO 14001/OHSAS 18001/API 607/API 6FA/CE/EAC/ATEX/ISO 15848-1/TS etc. qualifications to guarantee the realizable quality. Weidouli system includes the selection of raw material from approved vendors, and rigorous oversight of our manufacturing process that is vital to quality control. Our extensive quality control system carefully monitors our manufacturing processes to assure a product that performs to the highest industry standards. Quality assurance procedures include 100% hydrostatic and pneumatic testing of all valves in full conformance to applicable API standards and industry codes.

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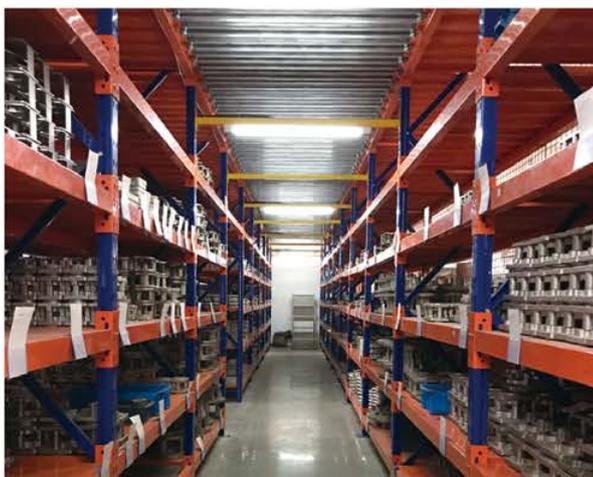
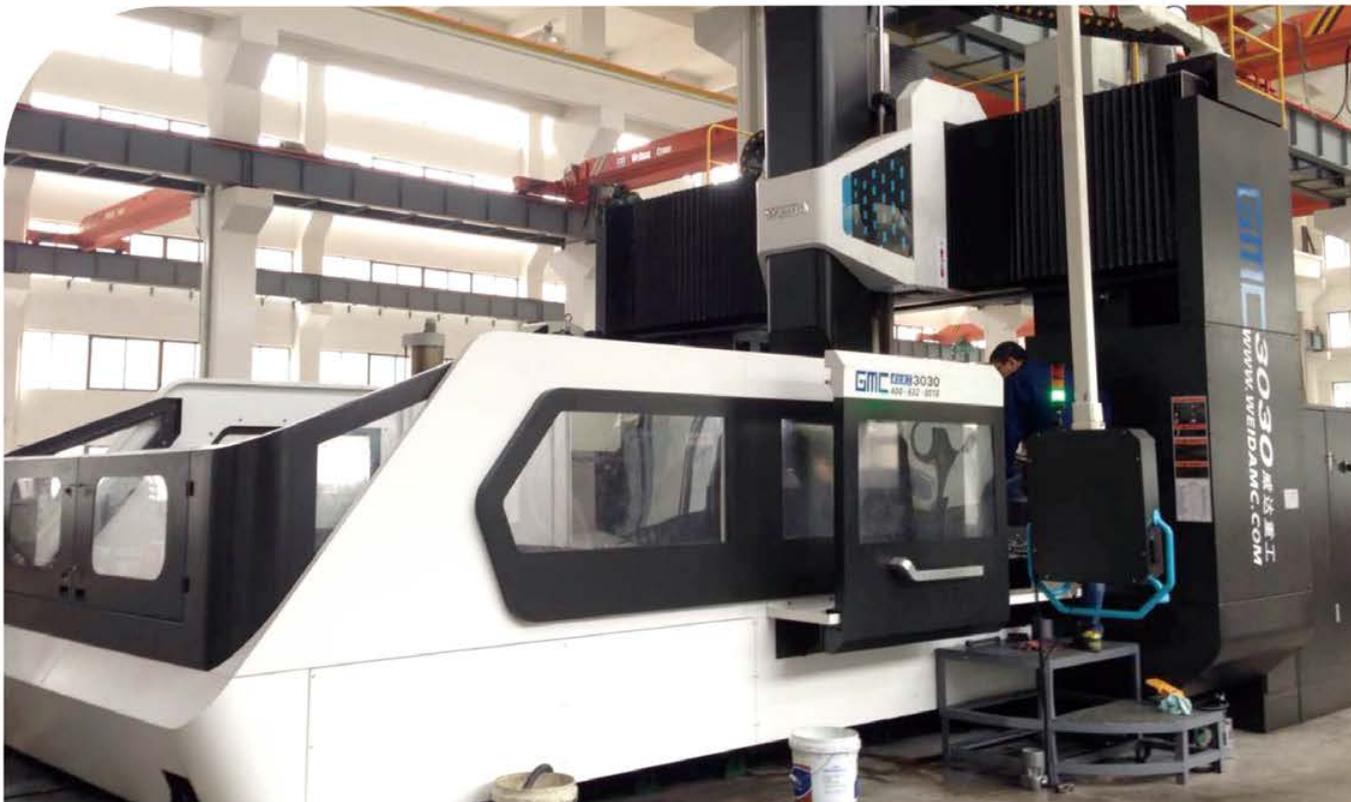


# WEIDOULI SPECIALITY



- 质量管理
- 出货检验
- 出货完成
- 信息管理
- 仓库管理
- 库存查询
- 采购入库
- 完工入库
- 车间管理
- 财务管理
- 人力资源管理
- 档案管理
- 系统维护





### **Customer Relationship Management (CRM) & Production MES System**

All daily business actions are controlled via CRM system to ensure transaction traceability and durability. The use of series number allows Weidouli the ability to not only ensure the quality of components used but to monitor and trace the fabrication process as well.

#### **CNC Machine**

Weidouli valves manufacturing plant comprises a well and equipped huge CNC machine shop with full design fabrication, inspection and test facilities.

#### **Dynamic Inventory**

By strategically prolonged cooperation with our sub suppliers, Weidouli is advantageous in price and flexible in delivery with a large scale of stocks for casting, semi-finished parts and finished valves to meet with your urgent need.



**Extensive in-house testing and laboratory facilities are available including**



- ❑ Tensile/Bend/Hardness Test/Impact Test
- ❑ Dye Penetrant
- ❑ Positive Material Identification
- ❑ Direct Alloy Analysis
- ❑ Ultrasonic thickness test
- ❑ Metallographic examination
- ❑ Chemical Analysis



**Coordinate Measuring Machine(CMM):**

CMM is a device that measures the geometry of physical objects by sensing discrete points on the surface of the object with a probe. Weidouli qualified products are well machined and controlled typically with micrometer precision.

## Extensive in-house testing and laboratory facilities are available including:

### Cleaning room

Weidouli establishes a Class 100000 Cleanroom facility for cleaning, assembly, testing and packing of Weidouli valves to be used in high purity applications. By performing these procedures in a cleanroom, Weidouli delivers valves which can be placed directly into high purity systems without the need for any component cleaning in the field, such as semiconductor, chemical, pharmaceutical and other industries which have standards for high purity,



### Dechlorination Equipment

To avoid the iron or other metal pollution on finished valves and free of corrosion, all the testing water and cleaning water are treated and stored through a dechlorination equipment owned by Weidouli.



### Special Treatment Laboratory

Vacuum hardness treatment especially for Titanium and Zirconium Treatment: Titanium stem/seat/sphere surface hardening treatment, so that a protective film formed on the surface, to improve the corrosion resistance, but also greatly relief stress and improve the surface hardness, not easy to scratch. Titanium surface with primary hardness  $HV \leq 235$  can approach to  $HV800$  after this treatment.



**PLUG VALVES** GENERAL HIGHLIGHTS

**◆ Features**

- ☆ Non-Lubrication
- ☆ Threefold stem seal system
- ☆ Zero leakage
- ☆ Cavity-free design
- ☆ 360° metal lips design
- ☆ Quick turn feature
- ☆ Anti Static design
- ☆ Fire safe
- ☆ Several patents
- ☆ Full bore & Venturi reduce bore
- ☆ Replaceable sleeve
- ☆ Bi-directional flow
- ☆ Zero dead space



ASME Flanged plug valve as citing	
Design	API 599
Testing	API 598, API 6D
Face to face dimension	ASME B16.10
Flange ends	ASME B16.5
Pressure temperature rating	AME B16.34
Visual inspection of casting	MSS-SP-55

Size/Pressure produce range		Operator
Pressure	Size	
150LB	1/2" up to 24"	1/2"~4" Lever Op. 6"~ 24" Gear OP.
300LB	1/2" up to 24"	1/2"~4" Lever Op. 6"~ 24" Gear OP.
600LB	1/2" up to 14"	1/2"~4" Lever Op. 6"~14" Gear OP.
900LB	1/2" up to 14"	1/2"~1-1/2" Lever Op. 2"~14" Gear Op.

Notes:

\*Other unspecified standards and sizes are upon request

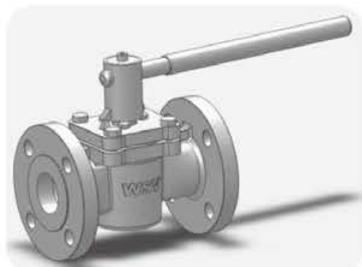
\*Other ends criterion: Threaded NPT—ASME B1.20.1; Socket weld—ASME B16.11; Butt weld—ASME B16.25; BSPP/BSPT—BS21

# PLUG VALVES

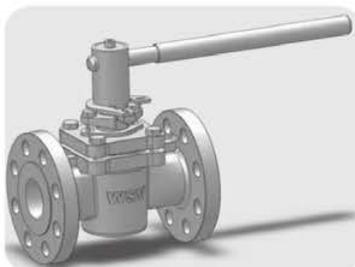
## GENERAL HIGHLIGHTS

Weidouli Valves are designed and manufactured for the process industries to handle the liquids which contains slurry and sludge or the liquids which are hazardous, corrosive etc. harsh working conditions

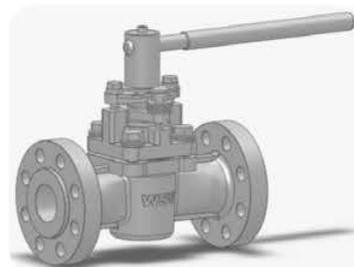
### ◆ Weidouli Non-Lubricated Sleeved Plug valves Series



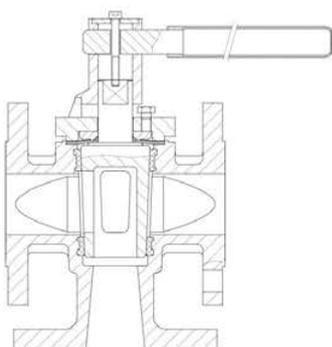
Single Gland Type Plug Valves



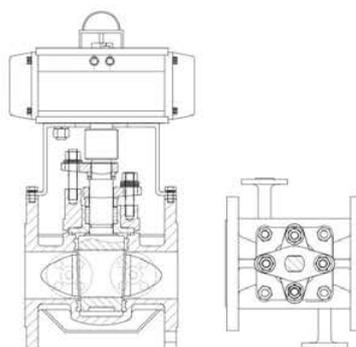
Lockable Single Gland Plug Valves



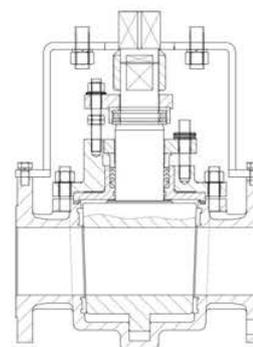
Double Glands Type Plug Valves



3 Way Plug Valves



Jacketed Plug Valves



Full Port Plug Valves

### ◆ Various Materials In order to meet various flow media requirements, the high alloys are available



Material	ASTM
Titanium	ASTM B367
Nickel	ASTM A494 C2100
Monel	ASTM M35-1
Inconel 600	ASTM A494 CY40
Inconel 625	ASTM A494 CW6MC
Hastelloy C	ASTM A494 CW12MW
Hastelloy B	ASTM N12MV
Zirconium	ASTM B752
904L	ASTM 904L
Alloy 20	ASTM A351 CN7M
254SMO	A351 CK3MCuN
DSS	A890 4A/5A/6A
Ni-Al-Br	B148 C95800
other materials are available upon request	

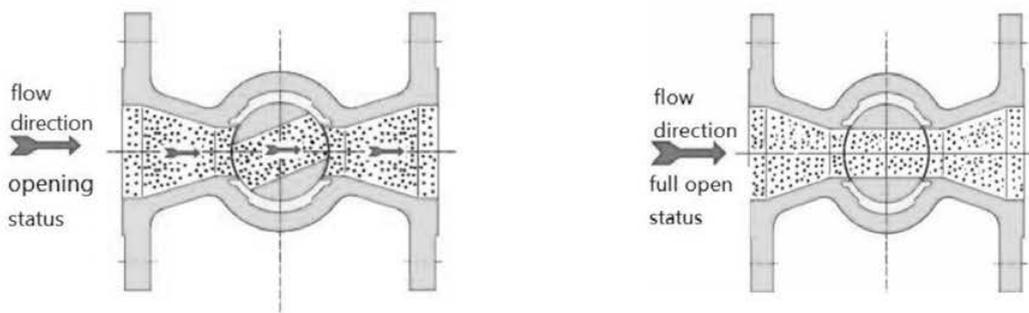
PLUG VALVES

DESIGN FEATURES

Weidouli plug valves have the advantage of deposit-free, anti-crystallization, anti-corrosion, and anti high temperature and pressure and will be the ideal product for pipe systems.

◆ Plug Valves Design Features

**No dead cavity space, No contamination:** there is no body cavities where flow media can accumulate and contaminate the flow processing. This cavity-free design also prevents sticking. Weidouli plug valves have no dead cavity space in the flow path so slurry etc. media can't accumulate anywhere in valves.

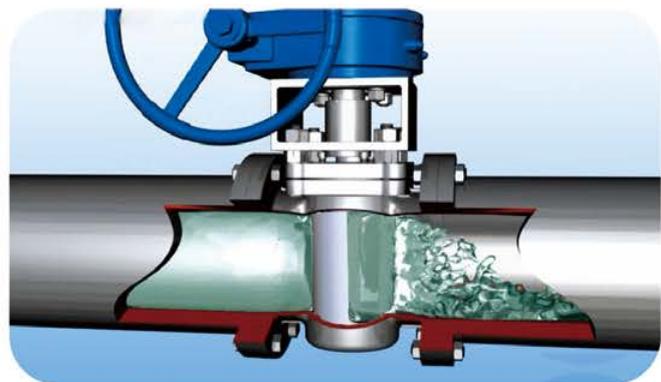


**Unparalleled Sealing Capacity:** The insert PTFE sleeve completely surrounds the plug, the sleeve provides a large and circumferential sealing surface. When open, closed, or rotating, the seal is assured. Ball or gate valve can not compete with this sealing capacity.

**Secure sealing** with no cold-flow, deformation, or rotation of the sleeve: The sleeve is securely nestled in the valve body. Raised ribs, top and bottom retention, and 360° port lips all assure sleeve containment.

**Trouble-free Online Adjusting and Easy Maintenance:** A simple turn of the top adjustment bolts keeps the sleeve sealing tight and the valve in service longer.

**No seizing, No sticking:** As the plug rotates, the 360° port lips provide a self-cleaning action to remove scaling and adhering media. Weidouli plug valves never sticking meanwhile because the teflon sleeve has nonsticking characteristics.



# PLUG VALVES

## DESIGN FEATURES

### Precision Body Machining Technology:

Precision cast body and machining through CNC facilities with tight dimensional control to assure concentricity between plug and body, which assure the stem threefold seal ability and grant low operation torque.

**Conical Plug:** Conical plug shape grants low operation torques and vertical adjustment possibility.



**Replaceable Sleeve:** Differ from other valves, the sealing sleeve and sealing gasket can be easily replaced when damaged instead of troublesome valves return and complex match grinding of sealing parts or completely replace the whole valve, that is what we say, sleeved plug valve is economical valve type, which can effectively lower cost and shorten maintenance time.

**Threefold Stem Seal System.** The zero leakage stem sealing is achieved by threefold sealing system. The primary seal is provided by the sleeve, the sealing is so tight that no leakage can be observed even without a valve cover. The secondary and tertiary seal (top seal package) are provided by a PTFE Teflon delta ring and a diaphragm. The sealing is also so tight that no leakage.

## PLUG VALVES

### DESIGN FEATURES

#### ◆ Easy Operation

Positive quarter turn is quick and easy. Full open to full close in one quarter. Easy to identify the status of on-off position by quarter turn operation.

ISO 5211 top flange mounting pad permits easy automation.

All kinds of actuators can be simply mounted on all Weidouli plug valves, pneumatic, hydraulic, electric actuators etc.



#### ◆ Zero Maintenance:

In long service operation, sleeve can wear out but adjusting bolts on the body can renew sealing by only pushing the plug down.

Adjustment during operation without special tools and without disassembly. Weidouli sleeved plug valves can be adjusted in line, helping to extend the service life.

#### ◆ Zero Leakage:

No leakage by cone shaped teflon sleeve between body and plug. The zero leakage stem sealing is achieved by the threefold stem sealing system.

#### ◆ No Dead Space

As face contact of plug and sleeve, there is no cavity in the flow path. Sludge causing seat breakage don't cumulate any where in plug valve .



# PLUG VALVES

## DESIGN FEATURES

### ◆ Fire Safe Design

Sleeved Plug valve comply with API-607 specifications for external leakage. PTFE components should be destroyed by fire, external leakage is prevented by 3 critical designs:

- A metal diaphragm overlays the secondary PTFE gasket Seal. If the PTFE is destroyed by fire, the metal diaphragm maintains the seal.
- The flexible graphite cover seal prevents the leakage would occur at the cover joint if the PTFE sleeve and diaphragm are destroyed by fire. It is nested into a machined counter-bore in the valve body. The cover bolts compress the graphite ring between the valve body and cover. Even if fire occurs, this seal is maintained.
- 360° lips Fire Safety Design: If PTFE sleeve is destroyed by fire, the plug is forced and tightly compress to full lips under the pressure of flow media, which can effectively stop fire.

### ◆ Anti-Static Design

The electrical conductance continuity between all the metallic components is guaranteed and certified. This applies in oxygen plug valve. Anti-static device there will be electrostatic charge on the plug under the friction between plug and sealing sleeve when operating the valves. Anti-static device on the valve will derive the charge on the plug to prevent electrostatic spark. Especially for fire gas transportation pipe, the anti-static design is mandatorily required, otherwise, it will get the flammable gas burned. The design is according to API 607 standard.



### ◆ Position Indicator:

A clear indication of the open and close positions ensures the consistency with the plug.

### ◆ Independent Locking Device limit the misoperation.

# PLUG VALVES

## ADJUSTING BOLTS STRUCTURE

Top cover adjusting bolts type plug valves are Weidouli's Standard Series offer unparalleled value for the applications of small size of pipelines, design features as below



### ◆ Top Cover Adjusting Bolts

External adjusting bolts in the cover provide quick and easy adjustment, which assure equilibrium to the compression of the stem and in-line seals by imparting a balance force through a metal thrust washer located under metal diaphragm. This mechanism provides a multiple seal to atmosphere and bidirectional in line seal.

### ◆ No-Lubrication Of PTFE Sleeve

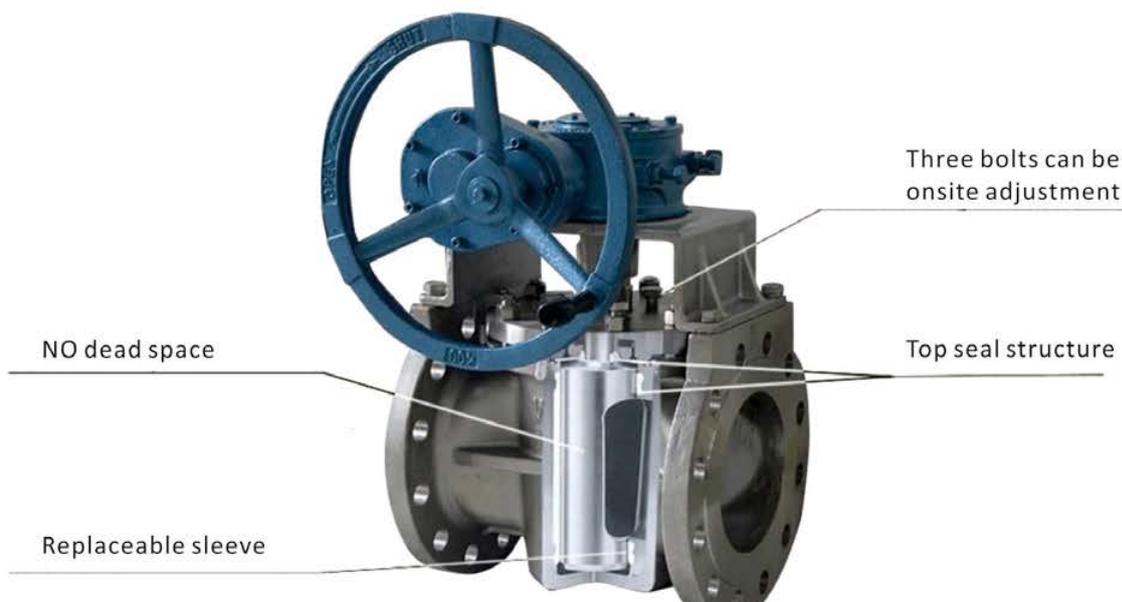
The low friction coefficient PTFE it is self-lubrication, surrounding the plug permits quick and easy operation. Costly lubrication and maintenance is eliminated.

### ◆ Threefold Stem Seal System

Primary sleeve seal: the primary stem seal is around the circumference of the plug. Flow media is prevented from reaching the stem.

Secondary gasket seal: The secondary PTFE backup seal system provides a wide comprehensive backup seal along the top edge of the plug and stem.

Tertiary packing seal: the PTFE wedge gasket or graphite gasket concentrates the sealing force of the PTFE against the valve stem for more reliable prevention of external leakage at this secondary seal.



# PLUG VALVES

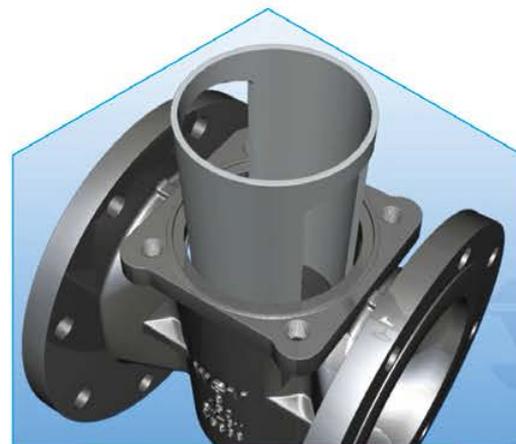
## ADJUSTING BOLTS STRUCTURE

### ◆ Venturi Body Design

Venturi type body prevents the deposition of flow media.

### ◆ Full Encapsulation And Retention Of PTFE

The internal body designs, such as precise raised ribs, 360°lips, top retention of sleeve and bottom retention of sleeve, which assure completely retention of all the leading edges of PTFE sleeve at the top, bottom and around the waterway port.



### ◆ 360° Metal Lips Design

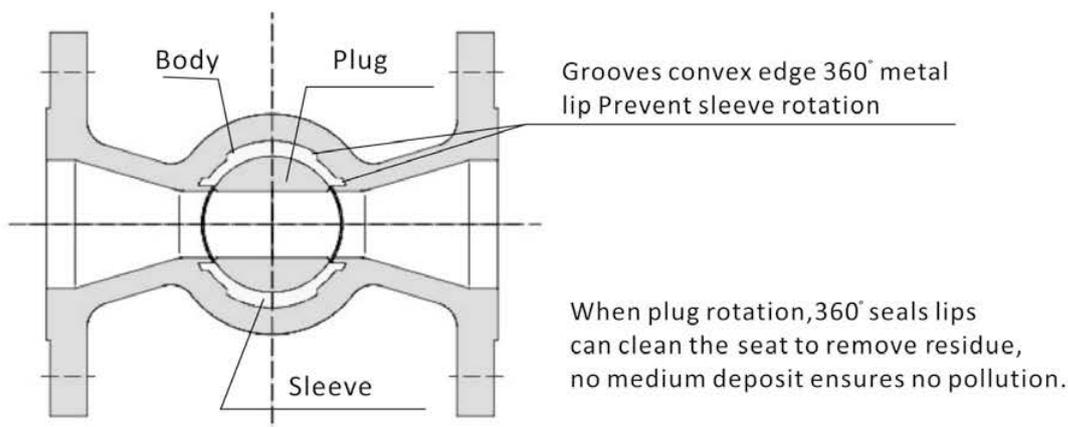
Waterway port lips design can effectively improve valve performance and extend service life by preventing sleeve cold flow and deformation, eliminating sleeve rotation in the body, breaking up and removing adhering, scaly deposits from the outer surface of the plug as it rotates; meanwhile, the tendency to expand under heat is prevented by this special design of the body interior.

The lips improve valve performance and extend service life by:

Preventing sleeve cold flow and deformation.

Eliminating sleeve rotation.

Breaking up and removing adhering, scaly deposits from the outer surface of the plug as it rotates.



### ◆ Vent Hole On Upstream Side Of Plug

The plug can be vented on the upstream side. This relieves the expansive pressure caused by the heat of the fire. Valves with vented plugs are unidirectional. An arrow stamped on the valve body indicates the flow direction.

# PLUG VALVES

## DOUBLE GLAND SEAL STRUCTURE

Weidouli patented trunnion plug valves are especially for severe applications. The valves design is with new technology, new production process and advanced material, which for the chemical, acetic acid, vinegar anhydride, smelting enterprise security and energy saving.

Weidouli's Trunnion type plug valve incorporates a plug rotating in a PTFE Sleeve locked in the body, this is our independent research and development of patented products.

### ◆ Double Gland Adjusting Design:

One gland (Nut & Stud) provides adjustment of compression of stem seal packing, and another gland (Nut & Stud) provides adjustment of plug into sleeve. These two adjustments can be separately operated, which assure the seal ability of stem, plug, and minimize the operation torque.

### ◆ Trunnion Plug Design:

Incorporating the plug rotating in the sleeve locked in the bottom of the body protects the PTFE sleeve from deformation, being scaled by the plug under high pressure and high temperature, which can effectively avoid the leakage of plug.



DOUBLE GLAND DESIGN:  
Plug gland & packing gland to realize double adjusting: Adjusting packing & plug gland to ensure packing seal, and reduce torque to easily operate.

Zirconium Material is used fore chlorhydric acid, dilute sulphuric acid and alkali processes equipment.



## PLUG VALVES DOUBLE GLAND SEAL STRUCTURE

### ◆ Live Loaded Belleville Spring

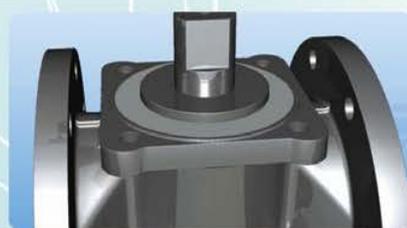
The self-adjusting function of belleville spring, utilized in nut & stud of double gland, provides a constant, uniform pressure on the stem packing and plug. This is especially important when pipe pressure and temperature is anomaly.

### ◆ Advanced Stem Threefold Sealed Design

**Primary Sleeve Seal:** The primary stem seal is around the circumference of the plug. Flow media is prevented from reaching the stem.

**Secondary Wedge Gasket Seal:** The secondary backup seal system prevents high pressure and leakage of medium, especially when the pipe pressure is anomaly.

**Tertiary V-Shaped Packing Seal:** V-Shaped PTFE packing prevents point movement with compression and sealing failure with uneven pressure. Flexible graphite incorporated with metal diaphragm for high temperature and high pressure is available on request.



### ◆ Packing Box Design

The packing box is machined between the valve body and bonnet, can completely isolate the flow media from the bonnet, achieve the valve cover material dropped from a special material to stainless steel, and reduce the cost.

### ◆ Plane Bearing

Plane bearing under plug gland can minimize the operation torque and easy operation, which reduce friction and eliminate shaft binding.

### ◆ Compact and Robust Body Design (one-piece body)

Adopting the integral body configuration instead of separated, especially on the bottom cover, avoids the leakage of these points.

### ◆ Fine Tuning of the Angel of Plug

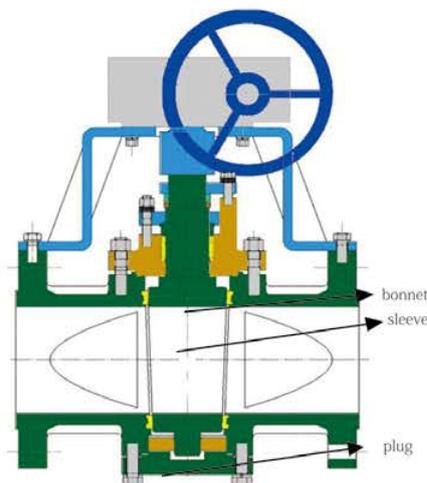
The angel of the plug is changed from 4 degrees into 6 degrees, to extend the length of the seal.

PLUG VALVES TRUNNION DOUBLE GLAND SEAL STRUCTURE INNOVATIONS

Trunnion type double plate structure patent innovations are as follows

**Innovation 1: trunnion type**

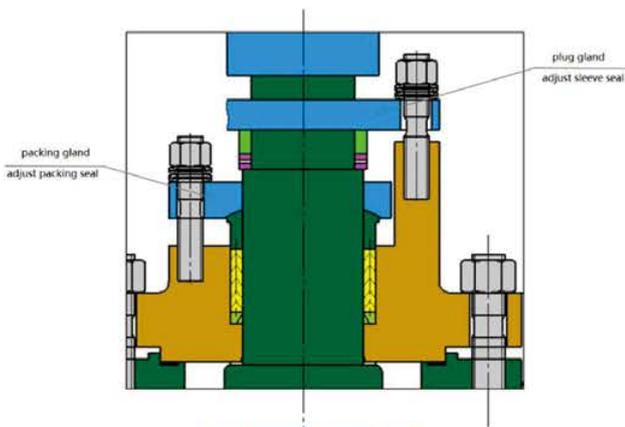
When This structure used in high temperature, high pressure, plug will not offset, and do not squeeze the seal bushing (seat), plug always at the center axis, which effectively solve the large-diameter plug seal bushing is enclosed swept out, resulting in seal leakage problem



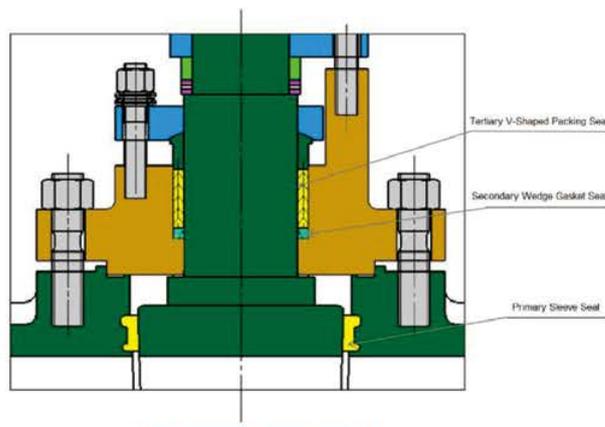
Innovation 1

**Innovation 2: Double gland structure**

Double glands adjusting seals. Packing and sleeve can be adjusted separately on site.



Innovation 2



Innovation 3

**Innovation 3: Threefold stem seal**

First: Sleeve material use imported PTFE(Temperature resistance  $\leq 260^{\circ}\text{C}$  ), it has good strength, small friction factor, small torque, reliable seals, long service life etc. advantages.

Second: FKM Viton O ring has excellent gas tightness, ozone resistance, weather resistance, good aging resistance and anti-aging properties etc. excellent sealing performance;

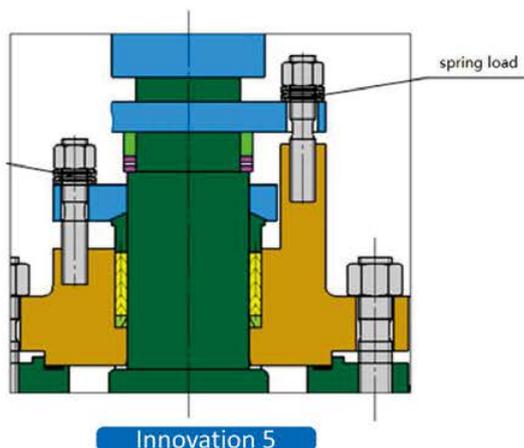
Third: Modified PTFE wedge gasket can prevent hypertension, prevent media leaks when transient pressure pipeline abnormally elevated.

Flexible graphite packing seal is with V-shaped high-purity flexible graphite + Inconel600 wire wound, it will prevent displacement and pressure points caused uneven packing failures.

# PLUG VALVES TRUNNION DOUBLE GLAND SEAL STRUCTURE INNOVATIONS

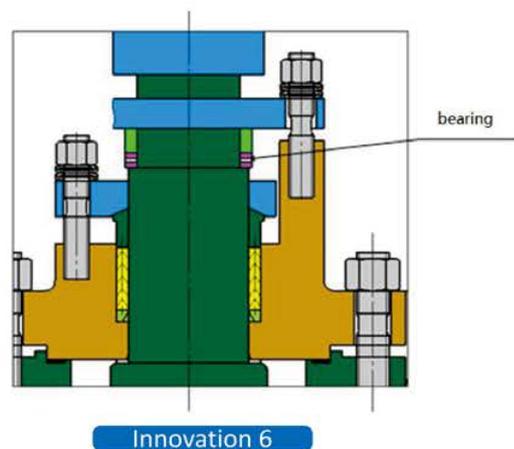
### Innovation 4: Packing box structure

Increasing a packing box between the body and bonnet and contact with the media, which can completely cut off medium in contact with the valve cover material, to achieve the valve cover material dropped from a special material to stainless steel, and reduce the cost.



### Innovation 5: Spring loading, self-adjusting

Packing and plug adjustment plate bolts with disc spring loaded, to prevent abnormal changes in pipeline pressure and temperature, can automatically compensate disc spring loaded seal, always protect valves and cocks packing seal.



### Innovation 6: Bearing under plug plate

Add bearing under plug gland, can reduce torque value.

### Innovation 7:

Gasket implanted in the body concave groove spacer lasting maintain flexibility, reliable sealing.



**PLUG VALVES WEIDOU LI PATENTS**

Extensive field research and state-of-the-art engineering have developed our featured design in plug valve series which fill the gap in domestic market. These series, which were awarded with 9 patents by State Intellectual Property Office of The People’s Republic of China, are mainly featured with anti crystallization, anti extra-corrosion, high temperature resistance and high pressure resistance and etc. This Series widely apply in metallurgy and chemical industries. As with the Weidouli’s patented plug valves, precision manufacturing and exceptional quality remain the keys to a proven record of long service life in these applications.

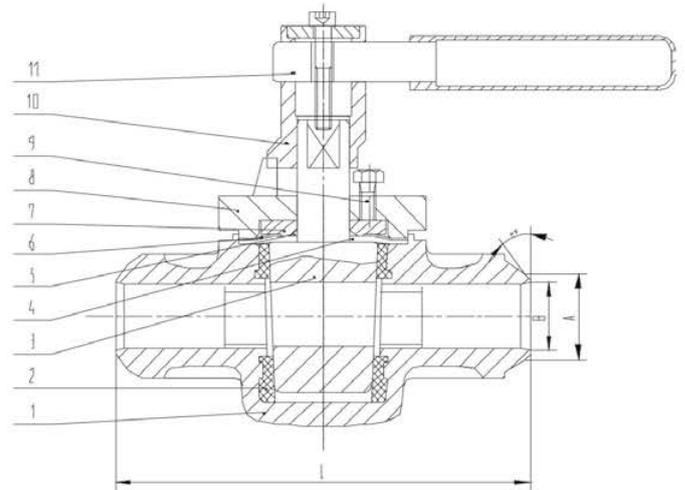
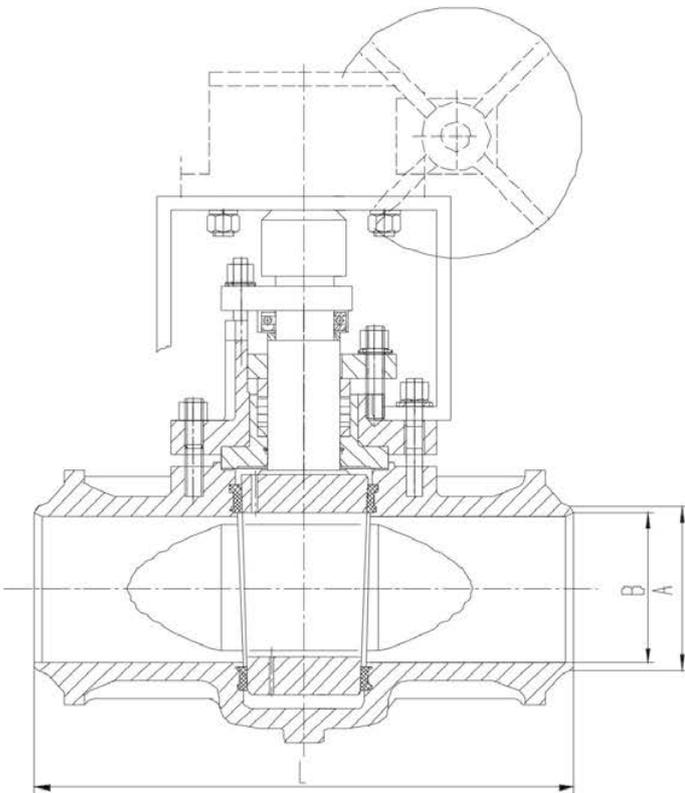


1. Trunnion Type Plug Valve for Severe Application [Patent No.: ZL200920201533.0]
2. Special Alloy Plug Valve for Severe Application [Patent No. : ZL200920190134.9]
3. Regulating Plug Valve in Special Alloy [Patent No.: ZL200920190135.3]
4. Fire Safe Plug Valve in Special Alloy [Patent No.: ZL200920190136.8]
5. Double-Groove Soft Seal Plug Valve in Hastelloy [Patent No.: ZL200620141806.3]
6. Eco-friendly Fully Enclosed Sampling Valve [Patent No.: ZL200720108254.0]
7. Lifting Plug Valve [Patent No.: ZL201220267864.6]
8. Specific Plug Valve for Hydrochloric Acid Metallurgy [Patent No.: ZL201320429929.7]
9. Anti Deposition & Anti Deviation Circular Port Plug Valve [Patent No.: ZL201420327904.0]



# PLUG VALVES

## BW ENDS DIMENSIONS



### Features:

Design standard	API 599
Face to face	ASME B16.10
Butt weld ends	ASME B16.25
Test & inspection	API 598

### \* Dimensions (mm)

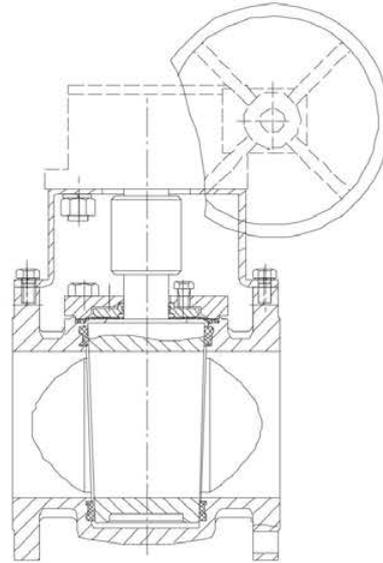
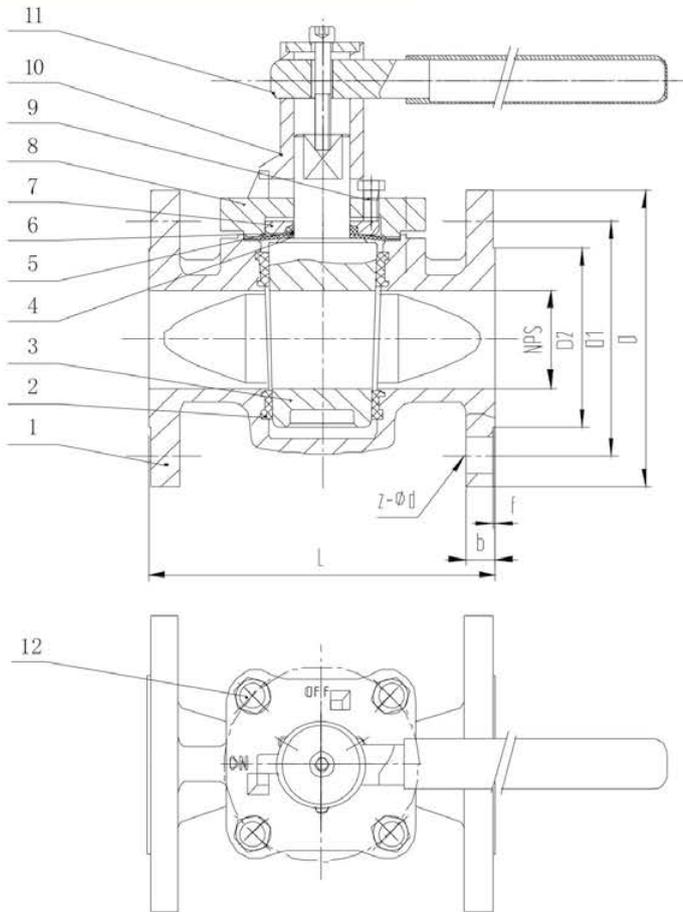
Size Inch	150LB			300LB			600LB		
	L	A	B	L	A	B	L	A	B
1/2"	140	21.3	15.5	140	21.3	15.5	165	21.3	15.5
3/4"	152	26.9	21	152	26.9	21	190	26.9	21
1"	165	33.7	27	165	33.7	27	211	33.7	27
1-1/2"	190	48.3	41	190	48.3	41	235	48.3	41
2"	210	60.3	52	210	60.3	52	285	60.3	52
3"	280	88.9	77.5	280	88.9	77.5	350	88.9	77.5
4"	300	114.3	101.5	300	114.3	101.5	425	114.3	101.5
6"	398	168.3	154	398	168.3	154	550	168.3	154
8"	415	219.1	203	415	219.1	203	650	219.1	203
10"	452	273	255	452	273	255	780	273	255
12"	497	323.9	303.5	497	323.9	303.5	830	323.9	303.5
14"	758	355.6	333.5	758	355.6	333.5	880	355.6	333.5

No.	Main parts	Alloy 20
1	Body	A351 CN7M
2	Sleeve	PTFE
3	Plug	A351 CN7M
4	Seals gasket	PTFE
5	Safety gasket	A240 316
6	Wedge gasket	Graphite
7	Adjusting gasket	A276 316
8	Bonnet	A351 CF8
9	Hexagon stud	A193 B8
10	Handle cover	A351 CF8
11	Handle lever	A351 CF8

Notes: other unspecified sizes are upon request.  
Weidouli reserves the right to change any technical design and dimensions data without prior notice

**PLUG VALVES**

**ASME FLANGED ENDS DIMENSIONS**



No.	Main parts	HastelloyC276
1	Body	A494 CW12MW
2	Sleeve	PTFE
3	Plug	A494 CW12MW
4	Seals gasket	PTFE
5	Safety gasket	A240 316
6	Wedge gasket	Graphite
7	Adjusting gasket	A276 316
8	Bonnet	A351 CF8
9	Hexagon stud	A193 B8
10	Handle cover	A351 CF8
11	Handle lever	A351 CF8
12	Hexagon bolt	A193 B8

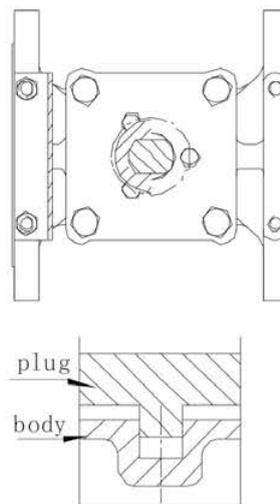
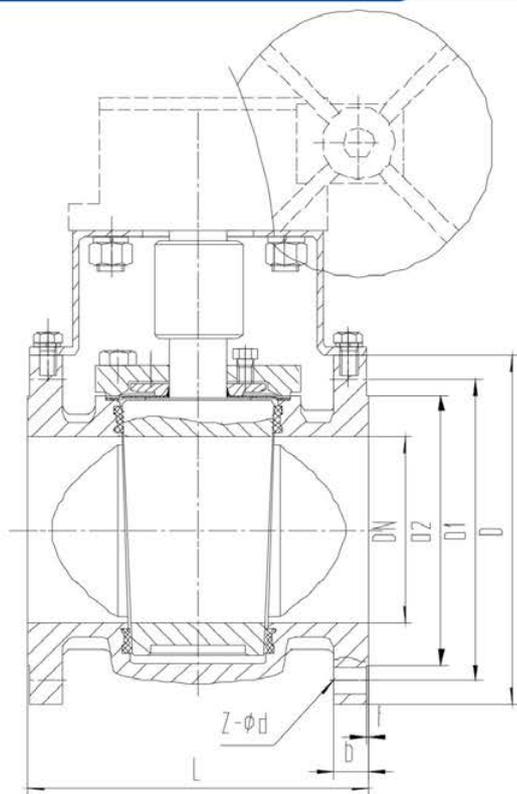
**\* Dimensions (mm)**

Size Inch	150LB							300LB							600LB						
	L	D	D1	D2	b	f	z-d	L	D	D1	D2	b	f	z-d	L	D	D1	D2	b	f	z-d
1/2"	108	89	60.5	35	12	1.6	4-15	140	95	66.5	35	15	1.6	4-15	165	95	66.5	35	22	6.4	4-15
3/4"	117	98	70	43	12	1.6	4-15	152	117	82.5	43	16	1.6	4-19	190	118	82.5	43	23	6.4	4-19
1"	127	108	79.5	51	12	1.6	4-15	165	124	89	51	18	1.6	4-19	216	124	89	51	25	6.4	4-19
1-1/2"	165	127	98.5	73	15	1.6	4-15	190	156	114.5	73	21	1.6	4-22	241	156	114.5	73	30	6.4	4-22
2"	178	152	120.5	92	16	1.6	4-19	216	165	127	92	22	1.6	8-19	292	165	127	92	33	6.4	8-19
3"	203	190	152.5	127	19	1.6	4-19	283	210	168	127	29	1.6	8-22	356	210	168	127	39	6.4	8-22
4"	229	229	190.5	157	24	1.6	8-19	305	254	200	157	32	1.6	8-22	432	273	216	157	45	6.4	8-25
6"	267	279	241.5	216	26	1.6	8-22	403	318	270	216	37	1.6	12-22	559	356	292	216	55	6.4	12-29
8"	292	343	298.5	270	29	1.6	8-22	419	381	330	270	41	1.6	12-25	660	419	349	270	63	6.4	12-32
10"	330	406	362	324	31	1.6	12-25	457	444	387.5	324	48	1.6	16-29	787	508	432	324	71	6.4	16-35
12"	356	483	432	381	32	1.6	12-25	502	521	451	381	51	1.6	16-32	838	559	489	381	74	6.4	20-35
14"	381	533	476	413	35	1.6	12-29	762	584	514.5	413	54	1.6	20-32	889	603	527	413	77	6.4	20-38

Notes: other unspecified sizes are upon request.  
Weidouli reserves the right to change any technical design and dimensions data without prior notice

# PLUG VALVES

## DIN FLANGED ENDS DIMENSIONS



valves  $\geq$  DN200 is trunnion type

### Features:

Design standard	GB/T22130
Face to face	DIN EN 558-1
Flange ends	DIN EN1092-1
Test & inspection	DIN EN12266-1

### \* Dimensions (mm)

Size	DIN PN16									DIN PN25								
	DN	L	D	D1	D2	b	f	z-d	H	W/Q	L	D	D1	D2	b	f	z-d	H
DN15	108	95	65	45	12	2	4-f 14	108	W300	140	95	65	45	16	2	4-f 14	108	W300
DN20	117	105	75	58	12	2	4-f 14	110	W300	152	105	75	58	18	2	4-f 14	110	W300
DN25	127	115	85	68	14	2	4-f 14	115	W350	165	115	85	68	18	2	4-f 14	115	W350
DN32	140	140	100	78	14	2	4-f 18	125	W350	178	140	100	78	18	2	4-f 18	115	W350
DN40	165	150	110	88	16	2	4-f 18	140	W400	190	150	110	88	18	2	4-f 18	140	W400
DN50	178	165	125	102	18	2	4-f 18	160	W450	216	165	125	102	20	2	4-f 18	160	W450
DN65	190	185	145	122	20	2	8-f 18	170	W500	241	185	145	122	22	2	8-f 18	160	W450
DN80	203	200	160	138	20	2	8-f 18	180	W550	283	200	160	138	24	2	8-f 18	180	W550
DN100	229	220	180	158	20	2	8-f 18	230	Q280	305	235	190	162	24	2	8-f 22	260	Q350
DN125	254	250	210	188	22	2	8-f 18	290	Q300	381	270	220	188	26	2	8-f 26	260	Q350
DN150	267	285	240	212	22	2	8-f 22	308	Q300	403	300	250	218	28	2	8-f 26	320	Q350
DN200	292	340	295	268	24	2	12-f 22	345	4Q50	419	360	310	278	30	2	12-f 26	375	Q450

Notes: other unspecified sizes are upon request.

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**PLUG VALVES** **HOW TO ORDER**

**VALVE CODE**

X=PLUG VALVE

1	Operation code	2	End con. code	3	Structure code	4	Seat code	5	Pressure	6	Size
3	Gear	1	FNPT end	3	Straight	F	PTFE/RPTFE	150LB~900LB	1/2"~24"		
6	Pneumatic actuator	2	MNPT end	4	3-Way T pattern			PN10~PN150	DN15~DN600		
7	Hydraulic actuator	4	Flanged end								
9	Electric actuator	6	Weld end								

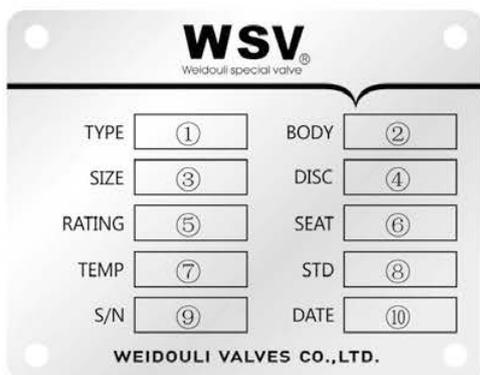
EXAMPLE: 2-Way Plug valve, 150LB, 3" , Lever operator, RF Flanged ends, PTFE Sleeve

CODE: X43F-150LB-3"						
X		4	3	F	150LB	3"
Valve code	Operation	Ends con.	Structure	Sleeve	Pressure	Size
X	Lever Op	Flange	2 Way (Straight)	PTFE	150LB	3"

Notes: The figure number system outlined below is designed to cover the most common configurations. If special features are required that are not listed below, please advise the detailed description for accurate processing.

# PLUG VALVES

## VALVE MARKINGS

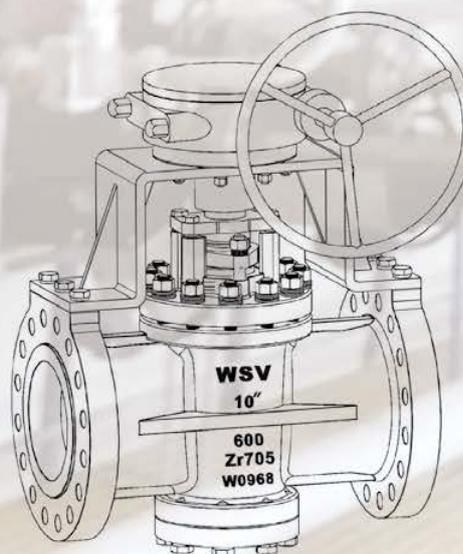


### Valve ID Tag

No.		
①	Type	Identifies valves type
②	Body Material	Identifies body metal material composition
③	Size	Identifies bore size
④	Disc Material	Identifies Plug material composition
⑤	Rating	Identifies pressure
⑥	Seat	Identifies seat material composition
⑦	Temp.	Identifies the suitable operating temperature
⑧	Standard	Identifies design standard
⑨	Serial Number	Identifies certified manufacturer's serial number
⑩	Date	Identifies valve manufacturing date

### \* Valve Markings

No.	Valve ID Components
1	Brand
2	Size
3	Rating
4	Material Code
5	Heat Number



Note: Weidouli reserves the right to modify our products for improvement without prior notice.

**PLUG VALVES MATERIAL LIST**

Material	ASTM		
	Casting	Forging	Bars
<b>Titanium &amp; Titanium Alloy</b>			
Titanium Gr.2	B367 Gr.C-2	B381 Gr.F-2	B348 Gr.2
Titanium Gr.3	B367 Gr.C-3	B381 Gr.F-3	B348 Gr.3
Titanium Gr.5	B367 Gr.C-5	B381 Gr.F-5	B348 Gr.5
Titanium Gr.6	B367 Gr.C-6	B381 Gr.F-6	B348 Gr.6
Titanium Gr.12	B367 Gr.C-12	B381 Gr.F-12	B348 Gr.12
Titanium Gr.7	B367 Pd7B	B381 Gr.F-7	B348 Gr.7
<b>Nickel</b>			
Nickel 200	A494 CZ100	B160 N02200	B160 N02200
Nickel 201		B160 N02201	B160 N02201
<b>Nickel Base Alloy</b>			
Monel 400	A494 M35-1	B564 N04400	B164 N04400
Monel K500		B865 N05500	B865 N05500
Inconel 600	A494 CY40	B564 N06600	B166 N06600
Inconel 625	A494 CW6MC	B564 N06625	B446 N06625
Incoloy 800	A351 CT15C	B564 N08800	B408 N08800
Incoloy 825	A494 CU5MCuC	B564 N08825	B425 N08825
Hastelloy B	A494 N12MV	B335 N10001	B335 N10001
Hastelloy B-2	A494 N7M	B462 N10665	B335 N10665
Hastelloy C276	A494 CW12MW	B574 N10276	B574 N10276
Hastelloy C-22	A494 CX2MW	B574 N06022	B574 N06022
Hastelloy C-4	A494 CW2M	B574 N06455	B574 N06455
Hastelloy G		B462 N06007	B581 N06007
<b>Zirconium</b>			
Zirconium 702	B752 702C	B493 R60702	B550 R60702
Zirconium 705	B752 705C	B493 R60705	B550 R60705
<b>Super Austenitic Stainless Steel</b>			
904L	904L	A182 F904L	B649 N08904
254SMO	A351 CK3MCuN	A182 F44	A276 S31254
AL-6XN	A351 CN3MN	B462 N08367	B688 N08367
ALLOY 20	A351 CN7M	B462 N08020	B473 N08020
<b>Duplex &amp; Super Duplex</b>			
Duplex S31803	A890 4A	A182 F51	A276 S31803
Super Duplex S32750	A890 5A	A182 F53	A276 S32750
Super Duplex S32760	A890 6A	A182 F55	A276 S32760
<b>Al-Bronze</b>			
Ni-Al-Br	B148 C95800/C95500		

Notes:

\*The above materials are applicable to valve body. Contact Weidouli for the valve component material. Trademarks appeared on the book: SandvikAB for SAF 2205/SAF 2507; SPECIALS METALS for Inconel, Monel, Incoloy; Haynes for Hastelloy; Allegheny Ludium for AL-6XN; Avesta for 254SMO.

\*Other materials are available upon request, such as stainless steel, etc.

## PRODUCT FIELD

### Petroleum Industry

The petroleum industry, also known as the oil industry or the oil patch, includes the global processes of exploration, extraction, refining, transporting (often by oil tankers and pipelines), and marketing of petroleum products. Weidouli designed Duplex, Ali Bronze, Titanium valves are ideal products for the downstream and upstream pipe requirements.

### Coal Chemistry

Coal Chemistry includes coal coking, gasification, liquefaction, coal refinery etc. Weidouli designed valves are mostly used for coal coking, gasification.

### Organic Chemistry

An organic compound is virtually any chemical compound that contains carbon, although a consensus definition remains elusive and likely arbitrary. Weidouli has abundant performance on such applications, such as acetic acid, PTA, Alkylation, Cyclohexanone, BDO, sec-Butyl Acetate.

### Inorganic Chemistry

Inorganic chemistry deals with the synthesis and behavior of inorganic and organometallic compounds. This field covers all chemical compounds except the myriad organic compounds (carbon based compounds, usually containing C-H bonds), which are the subjects of organic chemistry.

### New Energy

Due to worldly fast-growth, energy consumption is increasing, energy supply and demand gap is increasing as well. Therefore, development of new energy becomes the main subjects for all around the world. New energy, is based on the new technology, the system development and utilization of renewable energy, such as nuclear energy, solar energy, ocean energy and so on.

### Environmental Water Treatment

Water treatment is any process that makes water more acceptable for a specific end-use. The end use may be drinking, industrial water supply, irrigation, river flow maintenance, water recreation or many other uses, including being safely returned to the environment. Water treatment removes contaminants and undesirable components, or reduces their concentration so that the water becomes fit for its desired end-use.



**WEIDOU LI  
PERFORMANCES**



**Weidouli** valves for critical applications in chemical and petrochemical process (PTA process, Acetic acid, sulfuric and nitric acid, and chlorine services , Caustic Soda etc.), Onshore/Offshore (Desalination processing, oil/water separation, Fire Fighting, Cooling system) , FPSO/FSO, Oil&Gas, Water treatment, Refinery, Pulp & Paper, Mining, Power generation etc.

SPECIAL ALLOY VALVES

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