

International Standard Valve, Inc.



ISV Plug Valve Series

2" through 36"

**ASME Class
150 - 2500**

Bolted Body

Flanged & Weld Ends

**API 6D
Fire Safe
NACE
CE marked**



is a registered trademark of International Standard Valve, Inc.

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ISV Plug Valve Series

All **ISV** Lubricated and Non-Lubricated Plug Valves are designed to meet the demands of applicable oil & gas processing, gathering, transmission, storage & distribution systems.

Whether produced in Stafford or internationally, all ISV plug valves manufactured in strict accordance to industry standards and ISV Product Design Specifications.



Quality Systems and Quality Assurance



High reliability at globally competitive cost of ownership

ISV'S production facilities' Quality Management Systems are maintained at all levels of production in accordance with ISO 9001.

Critical inspections are conducted at **ISV** in Stafford, Texas.

Each valve is uniquely serialized providing traceability of key production milestones.

Material test reports including chemical, mechanical characteristics of the materials and pressure test results are available with each valve per EN.10204 type 3.1.

ISV engineering, sales, product service, field service and warranty related services are conducted from Stafford for all **ISV** products.



ISV Plug Valve Series

ISV PLUG TYPE VALVES are manufactured in strict accordance to API 6D, API Q1 and ISO 9001 quality standards with design criteria to API 6D, API 608, ASME B16.34 and applicable industry standards.

Design Standards and Specifications of products in this bulletin:

API 6D – Specification for pipeline valves
 API 607/ISO 10497 – Fire test for soft seated valves
 API 6FA – Specification for fire test for valves
 API Q1 – Specification for quality programs...
 API 608 – Metal ball Valves
 ASME B16.5 – Steel pipe flanges and fittings
 ASME B16.10 – Face to face & end to end dim.
 ASME B16.47 – Large diameter steel flanges: NPS 26–60

ASME B16.34 – Steel valves-flanged and butt weld end
 ASME B31.1 - Power piping
 ASME B31.3 – Process piping
 ASME B31.4 – Pipeline transportation systems...
 ASME B31.8 – Gas transmission and distribution piping syst.
 NACE MR-01-75 / ISO 15156
 ASME B16.25 – Buttwelding ends
 MSS SP-44 – Steel Pipe Flanges

Specifying ISV Plug Type Valves

Example ISV figure number :

PL3NU-F060-1210RF-MH-NFG USA Production

PL3N-F060-1210RF-MH-NFG International Production *ISV by CHV*

Describes an ASME class 600, bottom entry bolted body design, full port, lubricated plug valve, raised face flange ends, with ASTM A216 Gr. WCB body material, carbon steel trim, HNBR seals, gear operated, meets NACE and is fire safe tested.

P	L	3	NU	-	F	0	6	0	-	1	2	1	0	R	F	-	M	H	-	N	F	G	-			
1	2	3	4		5	6	7	8	9	10	11	12	13													

1 Valve Type		2 Service / Design style		3 Body Design		4 Bore		5 Pressure Rating (ASME)		6 Body Material		7 Trim Material	
Code	Type	Code	Design style	Code	Body style	Code	Port	Code	Class	Code	Material	Code	Material
PL	Plug Valve Lubricated	1	Adjustable Stem Packing	B	2 pc Split Bolted Body	R	Reduced	015	150	12	WCB (-20 Deg. F. Service)	10	C.S. + ENP
PN	Plug Non-Lubricated	3	O-Ring Stem Seal	E	3 pc Bolted Body	F	Full	030	300	13	WCC (-20 Deg. F. Service)	19	XM19
		4	Metal Seated	G	3 pc Welded Body	S	Standard	040	400	23	LCB (-50 Deg. F. Service)	20	LT. C.S. + ENP (-50 Deg. F. Service)
		5	Weld Overlay Body	H	Top Entry Bolted Body			060	600	24	LCC (-50 Deg. F. Service)	34	304SS / CF8
		7	Cryogenic Service	K	Tandem			090	900	34	304SS	36	316SS / CF8M
				L	Double Plug			150	1500	36	316SS	51	F51 / 318
				M	Compact Design			250	2500	60	Inconel	60	Inconel 625
				N	Bottom Entry Bolted Body					91	CS + Inconel Seat Pocket	61	410SS
				+ U	USA production: Example BT3EU					92	CS + SS Seat Pocket	62	Inconel 825
										95	CS + ENP Internal	71	Monel

8 End Connections		9 Seat Inserts		10 Body Seals		11 Features		12 Operator		13 Modifier Code	
Code	Ends	Code	Material	Code	Material	Code	Description	Code	Description	Code	Description
RF	Flg-RF	M	Metal to Metal	V	Viton	NF	NACE Compliant, Fire Safe	L	Locking Lever		
RJ	Flg-RJ	T	PTFE	H	HNBR			B	Bare Stem		
FF	Flg-FF	D	Devlon V	L	Low Temp (-50 Deg. F.) O-Rings	NW	NACE Compliant, Non Fire Safe Tested	S	Spring Return Lever		
WW	WE X WE	H	HNBR	K	PCTFE			G	Locking Manual Gear		
WF	WE X RF	R	RPTFE	G	Graphite	WF	Without NACE, Fire Safe	H	Non Locking Lever		
WJ	WE X RTJ	C	TFM 4215	T	PTFE	WW	Without NACE, Non Fire Safe Tested	C	Chain Wheel	XXX	Special Configurations such as exotic materials, specific seat or sealing compounds. Consult ISV representative for modifier code identification.
		K	PCTFE	M	TFM			O	Oval Hand Wheel		
		P	PEEK	E	EPDM			A	Actuated		
		V	Viton	W	FFKM			E1	Pinion Shaft Extension		
		1	Tung. Carbide	9	PTFE - Lip Seal			E2	High Head Extension		
		2	Cr. Carbide								

ISV Plug Valve Series

PRODUCT SPECIFICATIONS AND DESIGN STANDARDS

Product range

Structure type		Short pattern		Regular pattern						Venturi type						
Size	Class	Class 150	Class 300	Class 150	Class 300	Class 400	Class 600	Class 900	Class 1500	Class 2500	Class 150	Class 300	Class 400	Class 600	Class 900	Class 1500
		(PN16,20)	(PN25,50)	(PN16,20)	(PN25,50)	(PN63)	(PN100)	(PN150)	(PN260)	(PN420)	(PN16,20)	(PN25,50)	(PN63)	(PN100)	(PN150)	(PN250)
DN50	2"	●	●			●	●	●	●	●						
DN65	2 1/2"	●	●			●	●	●	●	●						
DN80	3"	●	●			●	●	●	●	●						
DN100	4"	●	●			●	●	●	●	●						
DN150	6"	●	●	●	●	●	●	●	●	●		●	●	●	●	●
DN200	8"	●	●	●	●	●	●	●	●	●		●	●	●	●	●
DN250	10"	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DN300	12"	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DN350	14"				●	●	●				●	●	●	●	●	●
DN400	16"				●	●	●				●	●	●	●	●	●
DN450	18"				●	●	●				●	●	●	●	●	●
DN500	20"				●	●	●				●	●	●	●	●	●
DN550	22"				●	●	●					●	●	●		
DN600	24"				●	●	●				●	●	●	●	●	●
DN650	26"				●						●	●	●	●		
DN700	28"				●							●	●	●		
DN750	30"				●						●	●	●	●		
DN800	32"				●							●	●	●		
DN850	34"				●							●	●	●		
DN900	36"				●						●	●	●	●		

Note: 1. When ordering, please follow the product range table, where green represents the priority series and orange represents the second series; if it exceeds above table, please consult the factory directly!

Standard & Specification

Design standard	API 6D、ASME B16.34、API 599、GB/T 19672、GB/T 12224、GB/T 22130
Test standard	ISO5208、API 598、GB/T 19672、GB/T 13927
End connection	ASME B16.5、ASME B16.25、ASME B16.47、GB/T9113、HG20592 etc.
Face to face	ASME B16.10、API 6D、GB/T 19672、GB/T 12221
Fire test	API 6FA、API 607
Anti-corrosion, acid-resisting*	NACE MR0103、NACE MR0175、ISO 15156

*Optional, available upon request.

DESIGN FEATURES

Slip ring connection design

The stem and the plug are connected by a slip ring, which can reduce the concentricity error between the center of the stem and the taper surface of the plug, and improve the stress conditions and operating performance of the stem.

Multiple packing seal design

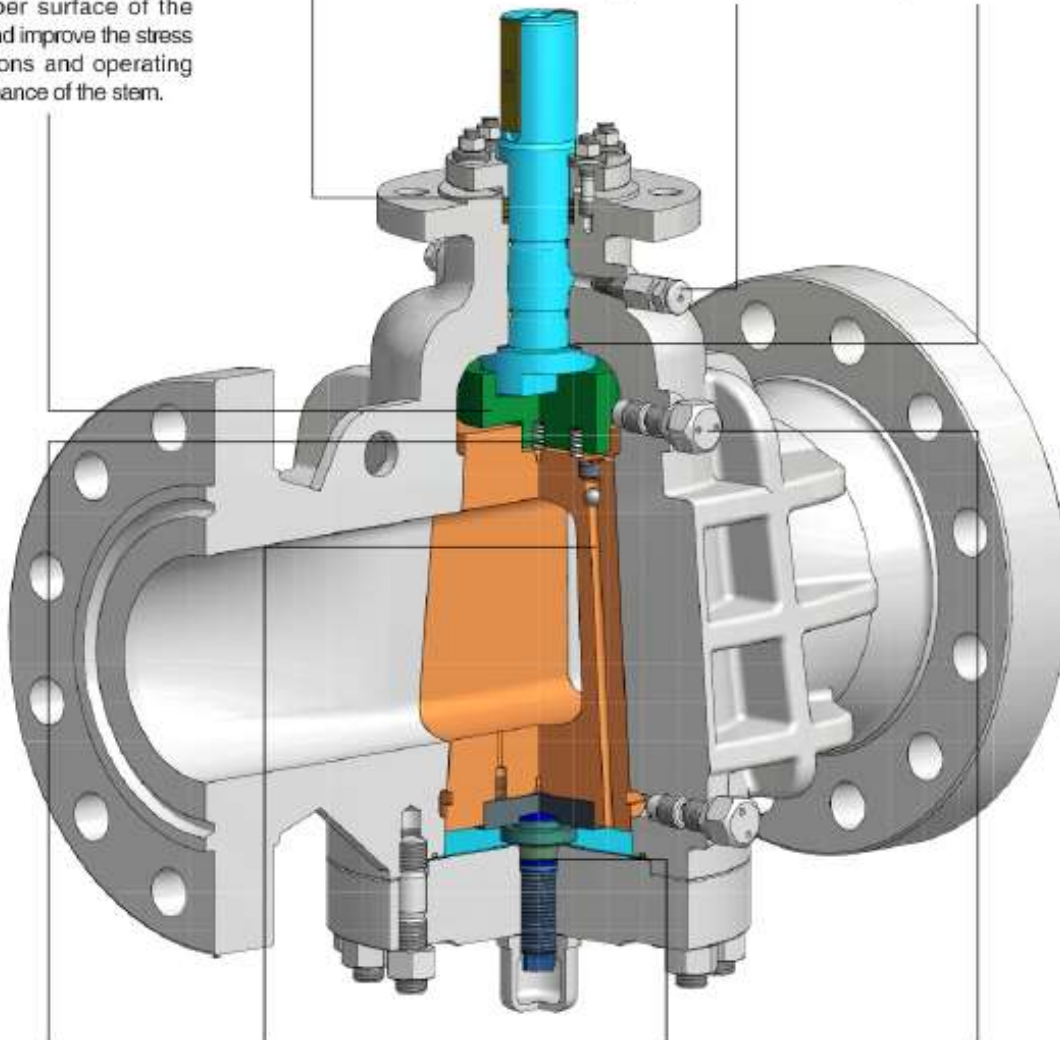
The stem adopts O-ring + graphite packing multiple seals, which can play a fire safe role.

Stem grease design

When the stem seal fails, emergency sealing can be performed through online grease injection.

Blow-out proof stem design

The stem adopts blow-out proof design, and the stem packing can be replaced under pressure.



Anti-static design

In order to prevent static electricity from causing fire, a coil spring is used to connect the plug and the body to form a closed circuit. At the same time, it can also play a pre-tightening role on the plug to prevent the valve from getting stuck.

Side pressure balance hole design

The balancing hole is hidden inside the plug and is not in direct contact with the medium. It is mainly used to balance the pressure in the upper and lower chambers of the body and effectively prevent the plug from getting stuck in the body.

Adjustment and operation of plug

An adjustment plate is embedded in the bonnet. The adjustment plate and the plug are completely isolated by a metal diaphragm. The plug can be adjusted to the best position by adjusting the screw under the plate.

Valve seal grease injection design

The sealing grease is injected into the upper cavity of the body through the grease injection valve. Under the action of pressure, the sealing grease adheres to the sealing surface by filling the space. Normally, in order to ensure sufficient adhesion of sealing grease, \geq NPS6 is equipped with a grease injection valve at the annular groove.

FEATURE DESCRIPTION

Plug balanced

ISV's pressure-balanced plug valve can prevent the plug from getting stuck. Plug sticking is a common phenomenon in ordinary plug valves, mainly caused by the excessive pressure difference between the large and small ends of the plug. As shown in Figure 1, the resultant force shown by the arrow will cause an interference fit between the plug and the valve cavity, causing the plug to get stuck. Even when the pipeline pressure is reduced, the plug still cannot move.

To prevent the plug from getting stuck, a regular plug valve applies a force to the upper end of the plug by injecting sealing grease into the upper chamber of the body, thereby balancing the upward force generated from the larger end of the plug. However, this requires frequent injection of sealing grease to balance the pressure difference between the upper and lower chambers of the valve.

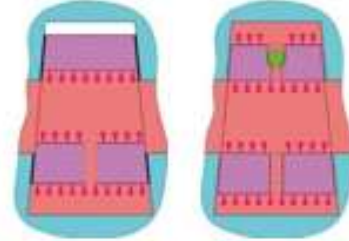


Figure1

Figure2

Pressure balance

Usually, a one-way valve is installed at the upper end of the plug, as shown in Figure 2. When the pressure in the lower chamber of the body is greater than the pressure in the upper chamber, the one-way valve allows pipeline pressure to enter the upper chamber of the body, producing a downward force on the upper end of the plug, achieving a balanced effect, preventing the plug from getting stuck, and no longer requiring frequent injection of sealing grease to maintain smooth operation of the valve.



Figure3

Figure4

Lateral pressure balance

In order to improve the reliability of pipelines with particulate impurities, ISV has carried out corresponding structural optimization and developed a protected side pressure balance structure (as shown in Figure 3). This design prevents the balance hole from directly contacting the pipeline medium, preventing pipeline impurities from entering the valve chamber, thereby improving the service life of the valve.

Coil spring preload

This design (as shown in Figure 4) can apply preload to the plug to prevent the plug from getting stuck in the event of pressure or temperature transients. This ensures flexibility in piping configuration regardless of the valve installation orientation.

Injection instructions

ISV does not require spare parts in design, and the simplest maintenance method is to quickly inject sealing grease into the pipeline under pressure (as shown in Figure 5). At the same time, compared with other plug valves, our pressure balanced plug valve can ensure zero leakage and smooth operation at the lowest grease injection frequency. ISV's pressure balanced plug valve uses high viscosity fluid sealing grease, which is usually selected according to the medium and temperature. In general, it is not recommended to use commercial sealing grease or lubricants without our authorization, as it may damage the function of the valve and even cause valve jamming.

Our company's pressure balanced plug valve can ensure the sealing and low torque characteristics of the valve after injecting sealing grease. Due to its excellent lubrication performance and oilfilm strength, sealing grease can enhance the sealing function of valves and reduce friction between the body and the plug surface, providing a very effective seal, even at higher pipeline pressures.

In addition, the selection of sealing grease should be based on the working medium and working temperature. The correct selection of sealing grease can reduce the frequency of grease injection and extend the service life of valves. If there are any doubts about the selection of sealing grease, our company can provide more detailed services.

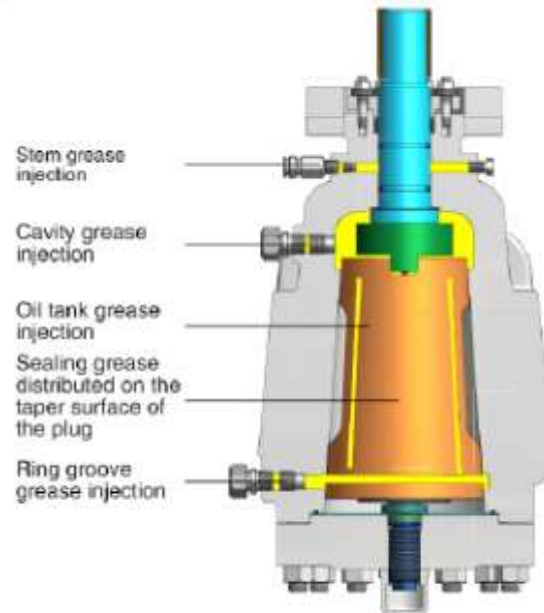


Figure5

OPTIONAL FEATURES

Union

In order to ensure the weldability of the valve and the pipeline, ISV can weld the union to the body of the pressure balanced plug valve during the manufacturing process. The customer only needs to provide the material, specifications and model of the pipeline.

Actuator

Our company's pressure-balanced plug valves all adopt ISO5211 standard connection plate design to facilitate the installation of electric, hydraulic or pneumatic actuators.

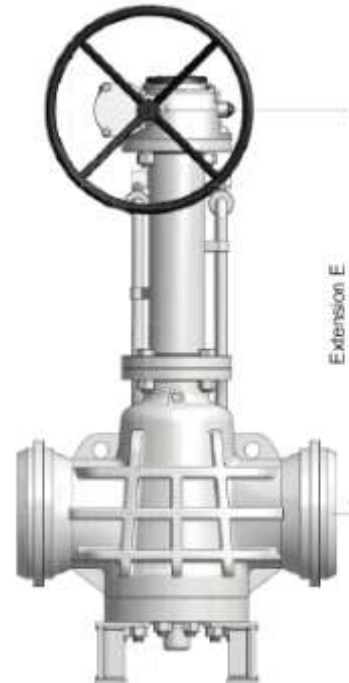
The assembly of the actuator and valve can be carried out in the factory. The assembly and debugging of the valve can be completed under the supervision and guidance of factory technical personnel.

Optional extended height

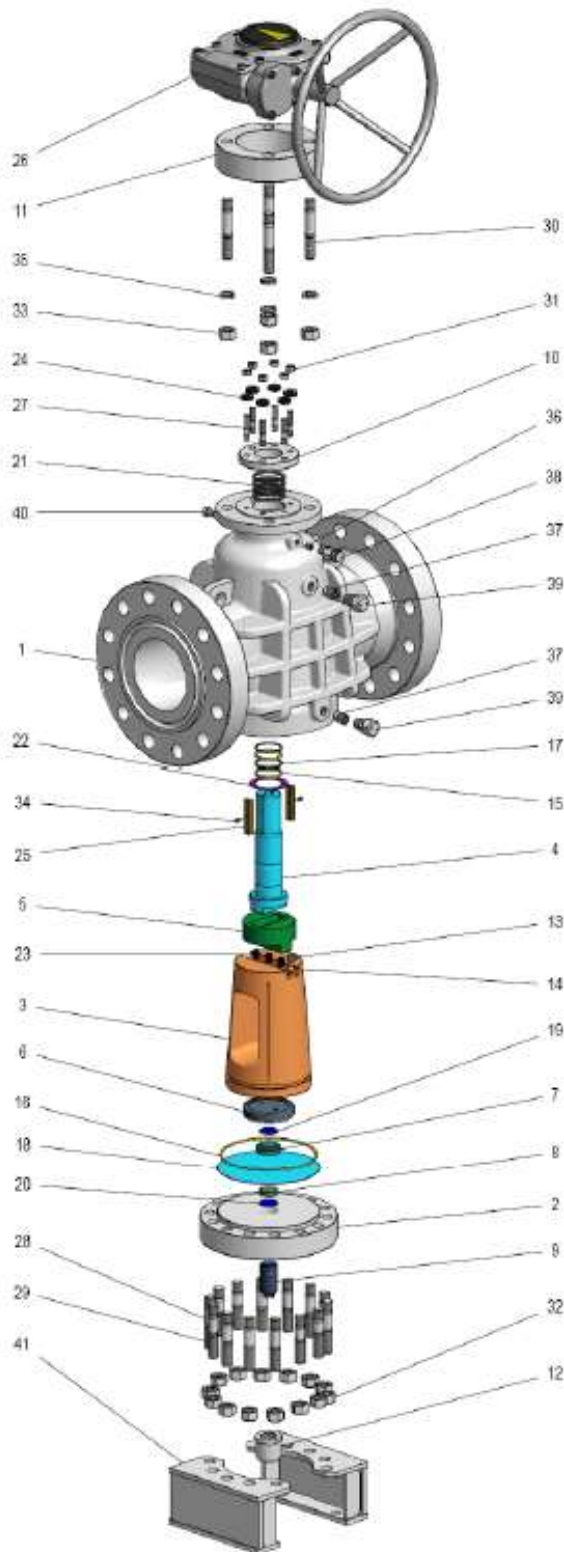
Our company's pressure-balanced plug valves can be designed with an extended stem so that the valve can be buried underground and operated above ground by extending the stem. At the same time, sealing grease can be injected into the valve cavity and the stem with the help of a grease injection pipe. When ordering a valve, the user must specify the distance from the center of the valve to the center of the handwheel.

Special application

For pressure-balanced plug valves used in special working conditions, you can contact us directly. We can provide solutions that meet the working conditions according to customer requirements.



X10 SERIES PARTS LIST

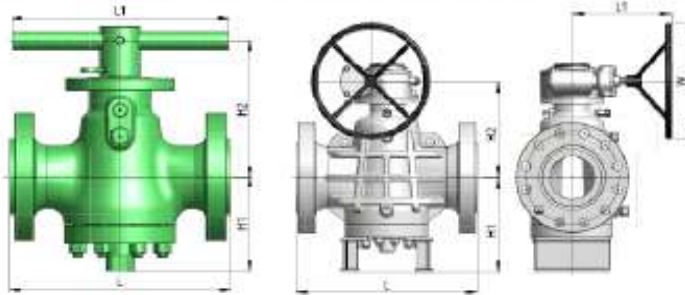


Pressure Balanced Plug Valve Parts List

1	Body
2	Bonnet
3	Plug
4	Stem
5	Connector
6	Spacer
7	Support block
8	Adjustment plate
9	Adjustment screw
10	Packing gland
11	Adapter plate
12	End cap
13	Balance cap
14	Steel ball
15	O-ring
16	O-ring
17	Lock Ring
18	Diaphragm
19	Thrust bearing
20	Thrust bearing
21	Rectangular packing
22	Thrust bearing
23	Coil spring
24	Belleville spring
25	Key
26	Gear
27	Double-end stud
28	Double-end stud
29	Double-end stud
30	Double-end stud
31	Hex nut
32	Hex nut
33	Hex nut
34	Hex-Socket bolt
35	Spring washer
36	Check valve
37	Check valve
38	Sealant Injector
39	Sealant Injector
40	Plug
41	Leg

ISV Plug Valve Series

DIMENSION AND WEIGHT



ASME CLASS 150

Full port NPS DN	Short pattern								Regular pattern								Venturi pattern								
	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* Lb/kg	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* Lb/kg	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* Lb/kg	
2	7.50	10.50	7.50	4.92	6.50	-	11.02	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	7.50	12.00	8.00	5.71	7.48	-	11.02	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9.00	14.00	9.50	7.28	8.33	-	25.39	121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	10.50	18.00	11.00	10.04	11.81	15.75	15.35	183	15.50	16.00	10.24	11.81	15.75	15.35	285	-	-	-	-	-	-	-	-	-	-
8	11.50	20.50	12.00	11.02	12.60	23.62	15.35	364	18.00	18.50	13.78	11.81	23.62	15.35	507	-	-	-	-	-	-	-	-	-	-
10	13.00	22.00	13.50	12.00	14.37	27.58	18.31	551	21.00	21.50	15.78	16.54	27.58	18.31	630	21.00	22.00	21.50	13.07	15.47	27.58	16.81	18.31	27.58	16.81
12	14.00	25.00	14.50	13.07	14.37	23.62	15.35	794	24.00	24.50	17.91	18.70	27.58	18.31	886	24.00	25.00	24.50	17.91	18.70	27.58	16.81	19.27	27.58	16.81
14	14.00	25.00	14.50	13.07	14.37	23.62	15.35	794	24.00	24.50	17.91	18.70	27.58	18.31	886	24.00	25.00	24.50	17.91	18.70	27.58	16.81	19.27	27.58	16.81
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.00	27.00	27.50	18.11	17.91	27.58	21.65	23.62	27.58	21.65
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30.00	30.00	30.50	18.50	18.50	27.58	19.69	19.88	27.58	19.69
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34.00	34.00	34.50	19.09	17.24	31.50	22.20	22.20	27.58	22.20
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42.00	42.00	42.50	20.26	21.77	25.19	22.20	22.20	27.58	22.20
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1067	1067	1080	515	553	650	564	564	27.58	564
36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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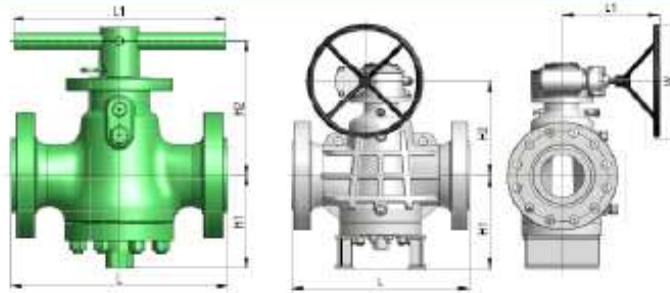
ASME CLASS 300

Full port NPS DN	Short pattern								Regular pattern								Venturi pattern								
	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* Lb/kg	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* Lb/kg	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* Lb/kg	
2	8.50	10.50	8.13	5.19	6.80	-	11.02	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	8.50	12.00	9.13	6.21	7.88	-	11.02	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	10.00	14.00	10.50	7.28	8.33	-	25.39	169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	11.50	18.00	11.50	10.04	11.81	15.75	15.35	232	15.88	16.50	11.22	23.62	15.35	331	15.88	16.00	16.50	11.02	9.84	23.62	15.35	29.1	15.35	29.1	15.35
8	13.00	20.50	12.50	11.02	12.60	23.62	15.35	441	19.75	20.38	13.93	23.62	16.78	613	16.50	20.50	17.13	12.60	16.63	23.62	15.35	29.1	29.1	27.58	29.1
10	14.00	25.00	14.50	13.07	14.37	23.62	15.35	602	23.00	23.50	16.54	18.31	27.58	18.31	675	18.00	25.00	18.63	16.14	14.96	23.62	16.81	18.31	23.62	
12	15.00	28.00	15.50	14.07	15.37	23.62	15.35	865	26.00	26.50	17.91	19.27	27.58	19.27	948	26.00	28.00	20.08	17.88	27.58	22.20	22.20	27.58	22.20	
14	15.00	28.00	15.50	14.07	15.37	23.62	15.35	865	26.00	26.50	17.91	19.27	27.58	19.27	948	26.00	28.00	20.08	17.88	27.58	22.20	22.20	27.58	22.20	
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30.00	30.00	30.60	19.49	17.19	31.50	27.17	27.17	27.58	27.17
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.00	33.00	33.60	20.47	17.32	31.50	21.34	21.34	27.58	21.34
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36.00	36.00	36.60	21.44	20.20	31.50	22.20	22.20	27.58	22.20
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42.00	42.00	42.60	23.62	23.62	31.50	22.20	22.20	27.58	22.20
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1067	1067	1080	515	553	650	564	564	27.58	564
36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Weight figures are relevant to flanged end valves. † Please consult the factory.
 Note: For dimensions and weights in larger sizes consult the factory. Dimensions and weights are subject to change without notice.
 Face to face dimensions not listed in industry standards are subject to change without notice.

ISV Plug Valve Series

DIMENSION AND WEIGHT



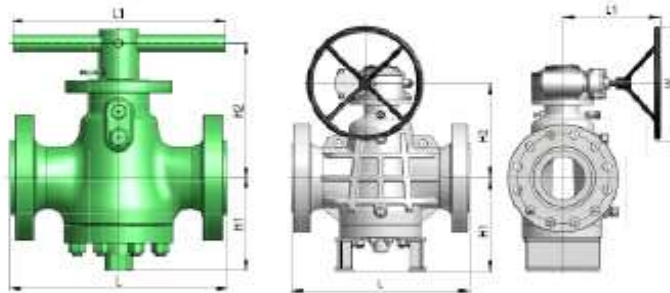
ASME CLASS 400

Full port NPS DN	Regular pattern								Venturi pattern							
	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* lb/Kg	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* Lb/kg
2	11.50	11.50	11.63	5.00	7.09	-	23.62	55	-	-	-	-	-	-	-	-
50	292	292	295	127	180	-	600	25	-	-	-	-	-	-	-	-
2½	13.00	13.00	13.13	5.91	9.13	-	29.53	106	-	-	-	-	-	-	-	-
65	330	330	333	150	232	-	750	48	-	-	-	-	-	-	-	-
3	14.00	14.00	14.13	5.91	9.13	-	29.53	137	-	-	-	-	-	-	-	-
80	356	356	359	150	232	-	750	62	-	-	-	-	-	-	-	-
4	16.00	16.00	16.14	7.09	9.45	12.60	9.10	196	-	-	-	-	-	-	-	-
100	406	406	410	187	240	320	230	89	-	-	-	-	-	-	-	-
6	19.50	19.50	19.63	11.81	13.84	15.75	11.14	430	19.50	19.50	19.63	11.34	9.69	23.62	13.78	326
150	495	495	498	300	351.5	400	283	195	495	495	498	288	246	600	350	148
8	23.50	23.50	23.63	14.92	14.45	15.75	13.54	945	23.50	23.50	23.63	12.32	15.16	23.62	15.04	530
200	597	597	600	379	367	400	344	428	597	597	600	313	385	600	382	240
10	26.50	26.50	26.63	17.76	17.83	15.75	12.91	1272	26.50	26.50	26.63	14.61	15.75	23.62	15.04	926
250	673	673	676	451	453	400	328	577	673	673	676	371	400	600	382	420
12	30.00	30.00	30.13	18.90	17.40	15.75	13.54	1698	30.00	30.00	30.13	17.72	18.39	25.59	22.95	1334
300	762	762	765	480	442	400	344	770	762	762	765	450	467	650	583	605
14	32.50	32.50	32.63	19.69	20.67	23.62	15.04	2205	32.50	32.50	32.63	19.21	19.37	25.59	22.95	1875
350	826	826	829	500	525	600	382	1000	826	826	829	488	492	650	583	850
16	35.50	35.50	35.63	20.75	20.67	27.56	20.16	2712	35.50	35.50	35.63	20.75	20.67	27.56	20.16	2590
400	902	902	905	527	525	700	512	1230	902	902	905	527	525	700	512	1175
18	①	①	①	①	①	①	①	①	36.50	36.50	36.63	20.09	22.24	27.56	24.80	3395
450	①	①	①	①	①	①	①	①	978	978	981	561	565	700	630	1540
20	41.50	41.50	41.75	24.02	25.59	31.50	24.02	5159	41.50	41.50	41.75	23.03	26.61	31.50	24.02	4740
500	1054	1054	1060	610	650	800	610	2340	1054	1054	1060	585	676	800	610	2150
22	①	①	①	①	①	①	①	①	45.00	45.00	45.63	23.50	27.36	31.50	24.02	5811
550	①	①	①	①	①	①	①	①	1143	1143	1159	597	695	800	610	2636
24	48.50	48.50	48.88	24.41	28.82	31.50	24.02	8360	48.50	48.50	48.88	23.90	28.15	31.50	24.02	6371
600	1232	1232	1241	620	732	800	610	3792	1232	1232	1241	607	715	800	610	2890
26	-	-	-	-	-	-	-	-	51.50	51.50	52.00	31.30	35.59	31.50	24.02	9943
650	-	-	-	-	-	-	-	-	1308	1308	1321	795	904	800	610	4510
28	-	-	-	-	-	-	-	-	55.00	55.00	55.50	31.30	35.59	31.50	24.02	10785
700	-	-	-	-	-	-	-	-	1397	1397	1410	795	904	800	610	4892
30	-	-	-	-	-	-	-	-	60.00	60.00	60.50	31.30	35.59	31.50	24.02	13029
750	-	-	-	-	-	-	-	-	1524	1524	1537	795	904	800	610	5910
32	-	-	-	-	-	-	-	-	65.00	65.00	65.63	34.65	38.00	31.50	24.02	15476
800	-	-	-	-	-	-	-	-	1651	1651	1667	880	965	800	610	7020
34	-	-	-	-	-	-	-	-	70.00	70.00	70.63	37.20	39.76	25.40	32.28	18107
850	-	-	-	-	-	-	-	-	1778	1778	1794	945	1010	1000	820	8213
36	-	-	-	-	-	-	-	-	74.00	74.00	74.63	38.11	42.68	25.40	32.28	19456
900	-	-	-	-	-	-	-	-	1880	1880	1895	968	1084	1000	820	8825

*Weight figures are relevant to flanged end valves. ① Please consult the factory.
 Note: For dimensions and weights in larger sizes consult the factory. Dimensions and weights are subject to change without notice.
 Face to face dimensions not listed in industry standards are subject to change without notice.

ISV Plug Valve Series

DIMENSION AND WEIGHT



ASME CLASS 600

Full port NPS DN	Regular pattern								Weight* lb/kg	Venturi pattern							Weight* Lb/kg
	L-RF	L-BW	L-BJ	H1	H2	W	L1	L-RF		L-BW	L-BJ	H1	H2	W	L1		
2	11.50	11.50	11.63	6.00	7.09	-	23.62	55	-	-	-	-	-	-	-	-	-
50	202	202	205	127	180	-	600	25	-	-	-	-	-	-	-	-	-
2 1/2	13.00	13.00	13.13	5.91	9.13	-	29.53	106	-	-	-	-	-	-	-	-	-
65	330	330	333	150	232	-	750	48	-	-	-	-	-	-	-	-	-
3	14.00	14.00	14.13	5.91	9.13	-	29.53	137	-	-	-	-	-	-	-	-	-
80	356	356	359	150	232	-	750	62	-	-	-	-	-	-	-	-	-
4	17.00	17.00	17.13	7.09	9.45	12.60	9.10	209	-	-	-	-	-	-	-	-	-
100	432	432	435	187	240	320	230	85	-	-	-	-	-	-	-	-	-
6	22.00	22.00	22.13	11.61	13.84	15.75	11.14	485	22.00	22.00	22.13	11.04	9.69	23.62	13.78	368	
150	559	559	562	300	351.5	400	283	220	559	559	562	288	246	600	350	167	
8	26.00	26.00	26.13	14.02	14.45	15.75	13.54	1043	26.00	26.00	26.13	12.92	15.18	23.62	15.04	562	
200	660	660	664	379	387	400	344	473	660	660	664	313	385	600	382	264	
10	31.00	31.00	31.13	17.78	17.83	15.75	12.91	1468	31.00	31.00	31.13	14.61	15.75	23.62	15.04	1076	
250	787	787	791	451	453	400	328	575	787	787	791	371	400	600	392	488	
12	33.00	33.00	33.13	18.80	17.40	15.75	13.04	1605	33.00	33.00	33.13	17.72	18.38	25.59	22.85	1462	
300	838	838	841	480	442	400	344	646	838	838	841	450	467	650	583	663	
14	35.00	35.00	35.12	19.69	20.67	23.62	15.04	2381	35.00	35.00	35.13	19.21	19.37	25.59	22.95	2006	
350	889	889	892	506	525	600	382	1060	889	889	892	486	492	650	593	910	
16	39.02	39.02	39.13	20.75	20.67	27.56	20.16	2976	39.00	39.00	39.13	20.75	20.67	27.56	20.16	2844	
400	991	991	994	527	525	700	512	1300	991	991	994	527	525	700	512	1290	
18	①	①	①	①	①	①	①	①	43.00	43.00	43.13	20.09	22.24	27.56	24.80	3777	
450	①	①	①	①	①	①	①	①	1092	1092	1095	561	565	700	630	1713	
20	47.01	47.01	47.24	24.02	25.59	31.50	24.02	5842	47.00	47.00	47.25	23.03	26.61	31.50	24.02	5335	
500	1194	1194	1200	610	650	800	610	2650	1194	1194	1200	585	676	800	610	2420	
22	①	①	①	①	①	①	①	①	51.00	51.00	51.38	23.50	27.36	31.50	24.02	6296	
550	①	①	①	①	①	①	①	①	1295	1295	1305	597	695	800	610	2856	
24	55.00	55.00	55.38	24.41	26.62	31.50	24.02	8160	55.00	55.00	55.38	23.90	28.15	31.50	24.02	7022	
600	1397	1397	1407	620	732	800	610	4300	1397	1397	1407	607	715	800	610	3185	
26	-	-	-	-	-	-	-	-	57.00	57.00	57.50	31.30	35.59	31.50	24.02	10913	
650	-	-	-	-	-	-	-	-	1448	1448	1461	795	904	800	610	4950	
30	-	-	-	-	-	-	-	-	65.00	65.00	65.50	31.30	35.50	31.50	24.02	14116	
750	-	-	-	-	-	-	-	-	1651	1651	1664	795	904	800	610	8403	
32	-	-	-	-	-	-	-	-	70.00	70.00	70.63	34.65	38.00	31.50	24.02	16658	
800	-	-	-	-	-	-	-	-	1778	1778	1794	860	965	800	610	7556	
34	-	-	-	-	-	-	-	-	76.00	76.00	76.63	37.20	39.76	25.40	32.28	16654	
850	-	-	-	-	-	-	-	-	1930	1930	1946	945	1010	1000	820	8915	
36	-	-	-	-	-	-	-	-	82.00	82.00	82.63	38.11	42.68	25.40	32.28	21552	
900	-	-	-	-	-	-	-	-	2083	2083	2099	968	1054	1000	820	9776	

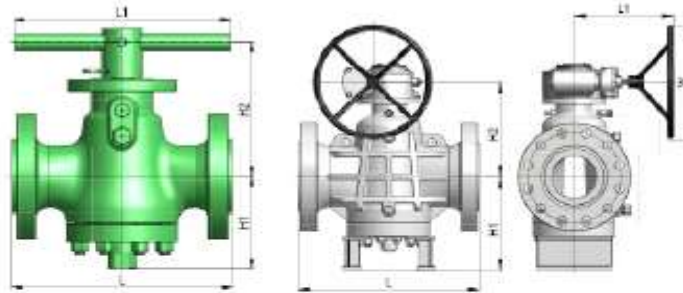
ASME CLASS 900

Full port NPS DN	Regular pattern								Weight* lb/kg	Venturi pattern							Weight* Lb/kg
	L-RF	L-BW	L-BJ	H1	H2	W	L1	L-RF		L-BW	L-BJ	H1	H2	W	L1		
2	14.50	-	14.63	5.94	7.87	-	15.75	99	-	-	-	-	-	-	-	-	-
50	368	①	371	151	200	-	400	45	-	-	-	-	-	-	-	-	-
2 1/2	16.50	-	16.63	6.22	8.90	-	25.59	139	-	-	-	-	-	-	-	-	-
65	419	①	422	156	226	-	650	63	-	-	-	-	-	-	-	-	-
3	15.00	15.00	15.13	6.42	9.84	-	25.59	172	-	-	-	-	-	-	-	-	-
80	381	381	384	163	250	-	650	78	-	-	-	-	-	-	-	-	-
4	18.00	18.00	18.13	7.28	9.84	-	9.10	276	-	-	-	-	-	-	-	-	-
100	457	457	460	185	250	-	230	125	-	-	-	-	-	-	-	-	-
6	24.00	24.00	24.13	11.89	15.98	27.56	16.61	723	24.00	24.00	24.13	11.69	15.67	27.56	16.61	660	
150	610	610	613	302	406	700	422	328	610	610	613	297	398	700	422	295	
8	29.00	29.00	29.13	14.37	16.73	27.56	16.61	1243	29.00	29.00	29.13	14.17	16.54	27.56	16.61	1120	
200	737	737	740	385	425	700	422	564	737	737	740	360	420	700	422	508	
10	33.00	33.00	33.13	14.57	16.38	27.56	17.20	2275	33.00	33.00	33.13	14.57	16.38	27.56	17.20	2275	
250	838	838	841	370	416	700	437	1032	838	838	841	370	416	700	437	1032	
12	36.00	36.00	36.13	17.32	16.38	27.56	21.93	2844	36.00	36.00	36.13	17.32	16.38	27.56	21.93	2844	
300	965	965	968	440	416	700	557	1290	965	965	968	440	416	700	557	1290	
14	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①	①
350	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①	①
16	-	-	-	-	-	-	-	-	44.50	44.50	44.88	23.27	27.05	27.56	24.80	5423	
400	-	-	-	-	-	-	-	-	1130	1130	1140	591	687	700	630	2480	
18	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①	①
450	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①	①
20	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①	①
500	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①	①
24	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①	①
600	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①	①

*Weight figures are relevant to flanged end valves. ① Please consult the factory.
 Note: For dimensions and weights in larger sizes consult the factory. Dimensions and weights are subject to change without notice.
 Face to face dimensions not listed in industry standards are subject to change without notice.

ISV Plug Valve Series

DIMENSION AND WEIGHT



ASME CLASS 1500

Full port NPS DN	Regular pattern								Venturi pattern							
	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* lb/Kg	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* Lb/kg
2	14.50	①	14.63	6.10	6.97	23.62	13.39	198	-	-	-	-	-	-	-	-
50	368	①	371	155	228	600	340	90	-	-	-	-	-	-	-	-
2½	16.50	①	16.63	6.77	9.45	23.62	13.39	265	-	-	-	-	-	-	-	-
65	419	①	422	172	240	600	340	120	-	-	-	-	-	-	-	-
3	18.50	18.50	18.63	7.78	10.00	23.62	13.39	331	-	-	-	-	-	-	-	-
80	470	470	473	190	254	600	340	150	-	-	-	-	-	-	-	-
4	21.50	21.50	21.63	9.06	11.34	23.62	16.61	430	-	-	-	-	-	-	-	-
100	546	546	549	230	288	600	422	195	-	-	-	-	-	-	-	-
6	27.75	27.75	28.00	13.78	12.87	23.62	22.35	882	27.75	27.75	28.00	13.00	15.61	27.56	16.57	827
150	705	705	711	350	327	600	593	400	705	705	711	330	396.5	700	421	375
8	32.75	32.75	33.13	16.54	19.88	27.56	21.10	2154	32.75	32.75	33.13	16.42	19.53	27.56	21.10	2055
200	832	832	841	420	505	700	536	977	832	832	841	417	496	700	536	932
10	39.00	39.00	39.38	19.09	20.35	27.56	24.37	3880	39.00	39.00	39.38	18.62	20.08	27.56	24.37	3695
250	991	991	1000	485	517	700	619	1760	991	991	1000	473	510	700	619	1676
12	44.50	44.50	45.13	19.69	21.06	27.56	24.37	5053	44.50	44.50	45.13	18.70	20.75	27.56	24.37	4813
300	1130	1130	1146	500	535	700	619	2292	1130	1130	1146	475	527	700	619	2183
14	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①
350	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①
16	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①
400	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①
18	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①
450	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①
20	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①
500	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①
24	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①
600	-	-	-	-	-	-	-	-	①	①	①	①	①	①	①	①

ASME CLASS 2500

Full port NPS DN	Regular pattern								Venturi pattern							
	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* lb/Kg	L-RF	L-BW	L-BJ	H1	H2	W	L1	Weight* Lb/kg
2	17.75	①	17.88	7.68	9.25	23.62	13.78	331	-	-	-	-	-	-	-	-
50	451	①	454	195	235	600	350	150	-	-	-	-	-	-	-	-
2½	20.00	①	20.25	8.86	10.16	23.62	13.78	485	-	-	-	-	-	-	-	-
65	508	①	514	225	258	600	350	220	-	-	-	-	-	-	-	-
3	22.75	①	23.00	10.04	11.06	23.62	13.86	635	-	-	-	-	-	-	-	-
90	578	①	584	255	281	600	352	288	-	-	-	-	-	-	-	-
4	26.50	①	26.88	9.65	13.19	23.62	13.86	1764	-	-	-	-	-	-	-	-
100	673	①	683	245	335	600	352	800	-	-	-	-	-	-	-	-
6	36.00	①	36.50	16.14	12.01	31.50	20.87	1958	-	-	-	-	-	-	-	-
150	914	①	927	410	305	800	530	888	-	-	-	-	-	-	-	-
8	40.25	①	40.88	19.49	21.65	27.56	25.20	3042	-	-	-	-	-	-	-	-
200	1022	①	1038	495	550	700	640	1380	-	-	-	-	-	-	-	-
10	50.00	①	50.88	20.00	21.65	27.56	25.20	4762	-	-	-	-	-	-	-	-
250	1270	①	1292	508	550	700	640	2160	-	-	-	-	-	-	-	-
12	56.00	①	56.88	25.59	22.52	27.56	25.87	7452	-	-	-	-	-	-	-	-
300	1422	①	1445	650	572	700	657	3380	-	-	-	-	-	-	-	-

*Weight figures are relevant to flanged end valves. ① Please consult the factory.
 Note: For dimensions and weights in larger sizes consult the factory. Dimensions and weights are subject to change without notice.
 Face to face dimensions not listed in industry standards are subject to change without notice.

QUALIFICATION TEST



Fire safety testing

The valve design complies with API6FA fire protection design requirements and has passed the fire protection test, and the certificate covers all pressure balanced plug valve products.



Coating inspection

The surface of the plug is precision machined, surface hardened using a special process, and finally sprayed with PTFE, which not only improves the hardness of the sealing surface and makes it wear-resistant. At the same time, under grease lubrication conditions, the friction coefficient can be reduced and the valve opening torque can be reduced.



Unique grinding technology

The unique grinding technology ensures that the matching accuracy of the body and the plug reaches Ra0.4. Once the sealing grease completely fails in the event of a fire, the body and the plug can still form a metal-to-metal seal, which serves as a fire safe function and effectively prevents medium leakage.

Pneumatic high-pressure test

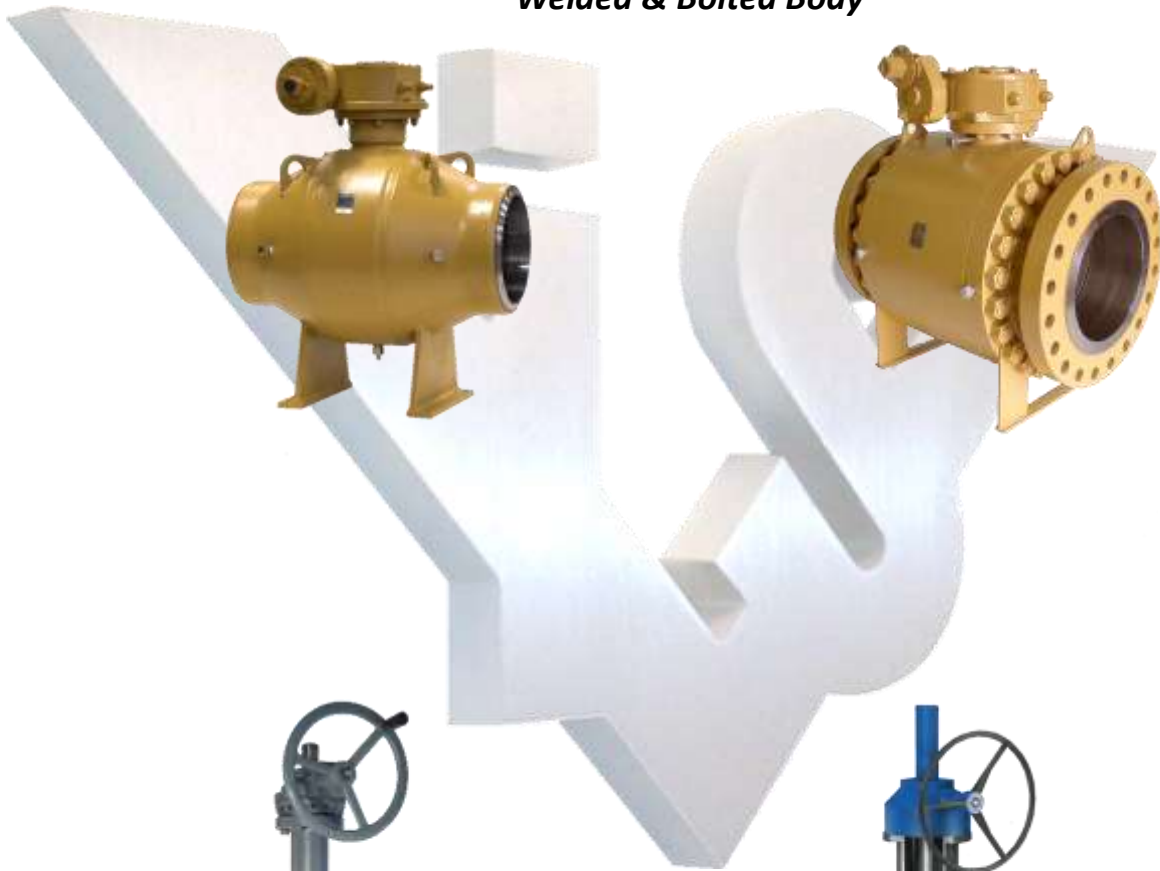
Our company's pressure-balanced plug valves undergo strict strength tests and sealing tests before leaving the factory, and the test results comply with the corresponding design standards and test requirements. In addition to the conventional water pressure test specified in API6D, if the customer requires more detailed testing, our company can conduct additional pneumatic high-pressure sealing tests according to customer requirements.



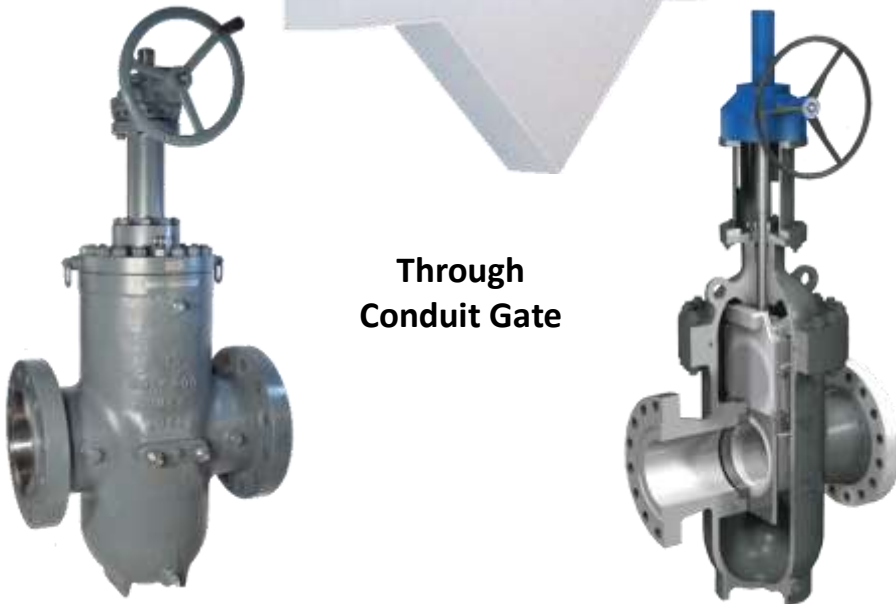
ISV Plug Valve Series

Other ISV API 6D Valve Products:

Trunnion Mounted Ball Valves *Welded & Bolted Body*



Through Conduit Gate



ISV Plug Valve Series

International Standard Valve, Inc. / ISV Product Warranty & General Terms and Conditions

By acceptance of the goods described herein, the Purchaser expressly acknowledges and agrees as follows:

1. Warranty:

The warranty described herein applies only to new or unused goods or goods reconditioned by International Standard Valve, Inc. (Seller).

The Seller specifically disclaims any warranty for used goods or goods sold as is. For a period of one (1) year after date of purchase of any of the goods described herein, Seller warrants such goods shall remain free from failure due to defects in workmanship and materials incorporated therein by or for Seller provided such failure shall not have been caused or contributed to by improper usage, service or application, improper installation or maintenance, repairs, alterations, or modifications effected by or for the user, misuse, negligence or accident. In the event of failure for which Seller has assumed warranty obligations hereunder, and provided written notification of such failure shall be immediately given to Seller, it agrees to repair, or at its option, to replace the goods sold at its sole expense.

Apart from the warranty and undertaking above set forth, or unless otherwise specifically consented to in writing by Seller, Seller assumes no obligation or liability for losses, expense or damages, direct or consequential, suffered or incurred as a result of any failure of, or defect in, the goods described herein, including but not limited to, such costs, expenses or damages as may result of any failure of, or defect in, the goods described herein, including but not limited to, such costs, expenses or damages as may result from the necessity to remove, replace, restore or transport the goods from any location or service in which they may be used, regardless of the cause of such failure or defect. This warranty extends only to the original Purchaser of the goods and is the only warranty made by Seller in connection therewith.

There are no other warranties, express or implied, of any kind given with respect to the goods, their merchantability, fitness for any particular purpose or usage, or otherwise, nor is any person authorized to extend on behalf of Seller any form of warranty other than that above set forth.

The goods described herein are not sold or distributed by Seller for personal, family or household purposes, nor are they normally suited for use as such.

2. Prices:

Prices and other terms of sale where set forth in current price sheets are subject to change without notice. Stenographic or clerical errors are subject to correction.

3. Acceptance of Orders and Special Orders:

All orders are subject to acceptance by Seller at its home office, Houston, Texas, only. No assignment of the Purchaser's rights may be made without the written consent of the Seller. Orders for special materials are subject to cancellation only upon agreement to make payment for the work performed, material used, and a reasonable profit.

4. Terms, Payment and Partial Shipment:

All accounts are payable net 30 days of invoice date on approved credit. One percent (1%) per month interest may be charged on accounts after 30 days, or twelve percent (12%) annually after 30 day period is exceeded. All accounts are payable in United States dollars, free of exchange, collection, or any other charges. If in the sole discretion of Seller, the financial condition of the Purchaser at any time so requires, Seller retains the right to require full or partial payment in advance, to set spending limits for credit accounts or to require other adequate assurances of financial responsibility.

Seller reserves the right to make partial shipments from time to time and render invoices therefore, which shall be due and payable as provided in said invoices.

5. Freight Charges:

Unless otherwise specifically noted, standard shipping charges (calculated by product weight, not including packaging) shall be added or be in addition to the price quoted and Purchaser agrees to pay the same to Seller.

6. Taxes:

Unless otherwise specifically noted, the amount of any sales, use, occupancy, excise tax, or other tax, of any nature, federal, state, or local, for which Seller is legally liable, either initially or through failure of payment by Purchaser, shall be added or be in addition to the price quoted and Purchaser agrees to pay the same to Seller.

7. Unavoidable Conditions:

Seller shall not be liable for failure to deliver or delays in delivery occasioned by causes beyond its control, including, without limitation, strikes, lockouts, fires, embargoes, war or other outbreaks of hostilities, acts of God, inability to obtain shipping space, machinery, breakdowns, delays of carriers or suppliers, and governmental acts or regulations.

8. Returns and Cancellations:

No product may be returned without Seller's prior written consent. All goods returned are subject to a handling charge plus freight in both directions, restocking fees and charges for any required reconditioning, unless otherwise specified in writing by Seller. Overages, shortages and incorrect material claims must be made in writing within ten (10) days of receipt of goods. Cancellation of orders once placed with and accepted by Seller may be made only with its written consent.

9. No Waiver:

Seller's failure to insist upon any of the terms, covenants, or conditions listed herein or to exercise any right hereunder shall not be construed as a waiver or relinquishment of the future performances of any such term, covenant or condition, or the future exercise of such right or a waiver or relinquishment or waiver of any other term, covenant or condition or the exercise of any other rights hereunder.

10. Drawings, Data and Confidential Information:

The weights, dimensions, capacities, prices, performance ratings and other data included in catalogues, prospectuses websites, circulars and advertisements, illustrated matter and price lists constitute a guide. These data shall not be binding except to the extent that they are by reference expressly included in the purchase order.

Any drawings or technical documents intended for use in the manufacture of machinery, equipment, plants, parts, or other material and any ancillary services associated therewith (Material), or a part thereof, and submitted to the Purchaser prior or subsequent to the formation of the purchase order, remain the exclusive property of the Seller. They shall not, without the Seller's consent, be utilized by the Purchaser or copied, reproduced, transmitted or communicated to an unauthorized third party, provided, however, that the said plans and documents shall be the property of the Purchaser if it is expressly so agreed in writing.

Any drawings or technical documents intended for use in the construction of the Material or of part thereof and submitted to the Seller by the Purchaser prior or subsequent to the formation of the purchase order remain the exclusive property of the Purchaser. They shall not, without Purchaser's consent in writing, be utilized by the Seller or copied, reproduced, transmitted or communicated to an unauthorized third party.

11. Governing Law:

This contract shall be governed by, construed and enforced in accordance with the laws of the State of Texas.

12. Totality of Agreement, Special Provisions, and Modifications:

This instrument constitutes the entire agreement of the parties with respect to all matters and things herein mentioned. Purchaser warrants, represents and agrees that it has inspected the goods and otherwise made inquiry and review, upon its own behalf, concerning the nature, characteristics and quality of the materials and workmanship incorporated therein at or prior to delivery, that it is fully contented and satisfied therewith and has independently determined that the goods are in all respects fit and usable for all purposes for which they are intended to be employed by Purchaser.

It is expressly acknowledged and agreed by and between the parties that neither party has, nor is now, relying upon any collateral, prior or contemporaneous agreement, written or oral, assurance or assurances, representation or warranty, of any kind or nature as to or respecting the condition or capabilities of the goods and the

other matters and things, rights and responsibilities herein fixed and described. No modification, waiver or discharge of any term or provision of this instrument shall be implied by law, nor shall any alteration, modification or acquittance of any such term or provision be effective for any purpose unless in writing signed by or upon behalf of the party charged therewith.

- (1) Returns are accepted within 180 days of shipment. Restocking charges for returned standard materials is 15% of invoice. Returned material shall be in new, unused and resalable condition. Cancellation of orders for standard materials prior to shipment may incur a 10% minimum cancellation charge. Cancellation of non-standard material may incur up to 100% cancellation charge depending on stage of work in progress. All material returned to International Standard Valve must be accompanied by a prior written Returned Goods Authorization (RGA) form and freight must be prepaid. All material is subject to inspection and final disposition by International Standard Valve quality department. A clean up and or re-certification charge may apply to any returned materials. Special items, buyouts, and modified products are non-returnable.

- (2) All products are subject to prior sales.

- (3) All sales are subject to International Standard Valve standard Terms & Conditions.

13. Export Regulations:

International Standard Valve products can only be exported in accordance with U.S. Export Administration Regulations and other U.S. legal requirements. Diversion of ISV products contrary to U.S. law is strictly prohibited by ISV.



Contact Sales Representative:

A large, empty rectangular box with a black border, intended for the contact information of a sales representative.

International Standard Valve, Inc.

13124 Trinity Drive, Stafford, Texas 77477

713-983-7600, sales@isvalve.com



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