

Lubricated

Metal Type Lubricated PLUG VALVES

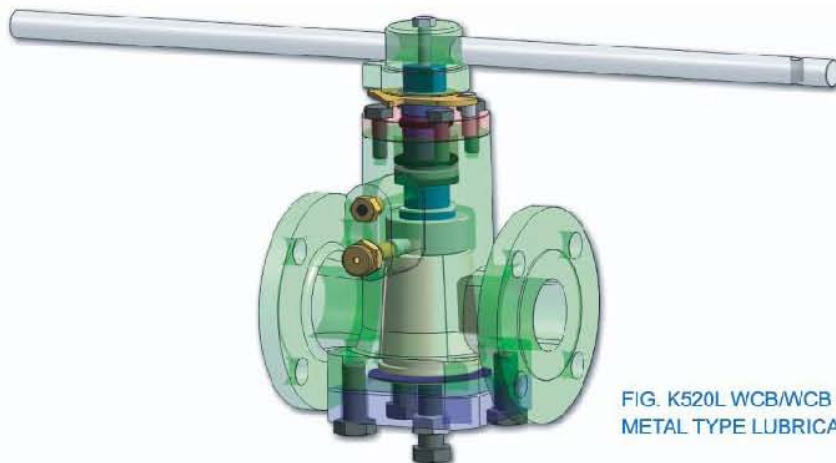


FIG. K520L WCB/WCB
METAL TYPE LUBRICATED PLUG VALVES

FEATURE

■ FEATURES

1) No Leakage(Bubble Tight Shut Off)

tapered plug valve assures positive bubble tight shut off with unique sealant system.

2) No Maintenance (In-Line Adjustment)

tapered plug valve can be adjusted with the valve in line, extending the service life of the valve.

3) No Dead Space

Slurry or sludge don't accumulate anywhere in a valve, because valve has no dead cavity in the flow path.

■ EASE OF OPERATION

Positive quarter turn operation is quick and sure.

■ PRESSURE BALANCE SYSTEM

For maintaining pressure equalization between plug port and bottom of the plug, and for insuring the pressure above the plug being the same as or greater than in the plug port, pressure balance system design is available.

■ SAFETY

Fire tested according to API 607.

BENEFIT

■ PRESSURE BALANCED TYPE AS STANDARD

■ BLOWOUT-PROOF STEM STRUCTURE

■ BLOWOUT-PROOF STEM STRUCTURE

1) Freedom from seizure by long service operation

2) Consistent Torque

■ SELF CLEANING SEATING SURFACE

The turning action of plug valve scrapes off any ingredient which may accumulate the plug surface in a closed position.

SEALANTS

SVT	ROCKWELL	CLIMAX	AVAILABLE FLUID
K-400/400A	147-421	400/400A	Acids, Alcohols, Glycerine
K-204	234	204	Silicone sealant
K-711	357	711	Gasoline, Mineral Oils, Kerosene
P-600	386	600	General gas and Water sealant
K-650 / 800 / 900	555	650 / 800 / 900	Aliphatic hydrocarbon liquids and gases
K-650 / 800 / 900	654	650 / 800 / 900	Hot hydrocarbon vapors and gases
K-711	755	711	Benzene, butane, solvent naphthas
K-711	833	711	Aviation gasoline, Jet fuel
KGP	862	220	Air and inert gases at sub-zero temp
K-950	950	950	Benzene, propylene, styrene, LPGS
K400A		400A	Strong acids, alkalies
K-340		340	Sour gas, H ₂ S, CO ₂
K-FL5	660	FL-5	Fluorocarbon, lubricant oxygen chlorine
K-PS3	921	Polyseal No.3	Hot hydrocarbon gases and vapors
K-PS6		Polyseal No.6	Steam, high temperature water

The available fluid is re-commened by us.

As the condition of fluid using, it is possible to change the appropriate sealant.

Lubricated Metal Type Lubricated PLUG VALVES

APPLICATION : CHEMICAL, OIL, GAS AND HYDROCARBON PROCESS IN INDUSTRIES PATTERN FOR PRESSURE BALANCED PLUG VALVES.

- HAVE CAST PATTERNS FOR SHORT, REGULAR AND VENTURI ACCORDING TO API 6D & API599.
- FACE TO FACE AND END TO END DIMENSIONS CONFORM TO API599 (ANSI B 16.34).
- AVAILABLE PATTERN GOING WITH SIZE & CLASS.

NOMINAL SIZE		CLASS			
IN	MM	ANSI 150#	ANSI 300#	ANSI 600#	ANSI 1500#
1/2	15			R	R
3/4	20			R	R
1	25			R	R
1-1/2	40		S	R	R
2	50	S	S	R	R
3	80	S	S	R	R
4	100	S	S	R	R
6	150	S	V	R V	R V
8	200	S	V	R V	R V
10	250	S	V	R V	R V
12	300	S	V	R V	R V
14	350	V	V	R V	
16	400	V	V	V	V
18	450	V	V	V	
20	500	V	V	V	
24	600	V	V	V	

NOTES

1. Above pattern is available for flanged end type.
2. Specific requirement for pattern is available contact to us.
3. Above chart symbols means as follows
S : SHORT PATTERN, R : REGULAR PATTERN, V : VENTURI PATTERN

LUBRICANTS

The role of lubricants

It minimizes the resistance during working and prevents corrosion inside plug. The port part of valve is covered with lubricant groove and prevent any leakage.

The characteristic of lubricants

Lubricants has necessary characteristics for several purposes.

1. The lubricated valve is suitable for working valve easily.
2. It is strong enough to resist dilution by fluids.
3. It is chemically inactivated and firmly adhered for anti-corrosiveness .
4. It maintains a fluid situation against wide scope of temperature
5. It minimizes the solidification caused by temperature or chemical reaction.

The selection of lubricants

It is selected in accordance with temperature, conformable and non-conformable fluids as below.

■ TABLE-1 LUBRICANTS

LUBRICANT NO.	COLOR	TEMPERATURE	CONFORMITY	NON-CONFORMITY
K-104	Peanut Butter	18~260℃	Scrayched ball & plug valve	Alkali
K-204	White	46~204℃	Molten Sulfur, Acetic Anhydride, Acetic Acid	LPG or solvent of hydrocarbon
K-220	Transparent	59~121℃	Pipe line, compressor, Gasoline & oil factory for Low temperature	Aromatic & sorbent
K-340	Yellow	28~204℃	Where H2 and CO2 meet	Solvent & ammine
K-350A	Yellow	29~204℃	Mixture of HF & LPG	High temperature air
K-400A	Yellowish brown	29~204℃	Aqueous solution of acid & base	Fluid hydrocarbon
K-400	Red	20~232℃	Acid & base	Fluid hydrocarbon
K-525	Transparent	18~204℃	Air starting valve	Fluid hydrocarbon
K-600	Brown	29~260℃	Gas & water Sealant & hydrocarbon line	LPG
K-650	Green	40~260℃	Hydrocarbon & LPG line	Aromatic, alkali & sorbent
K-711	White	0~204℃	Aerial Gasoline & oil, Alkylate compound	100% Benzine

Lubricated Metal Type Lubricated PLUG VALVES

APPLICATION : CHEMICAL, OIL, GAS AND HYDROCARBON PROCESS IN INDUSTRIES

MAXIMUM BREAK TORQUE

- LUBRICATED PLUG VALVES HAVE THE LOWEST POSSIBILITY OF TURNING TORQUE COMPARED WITH TIGHT SHUT-OFF CONDITIONS.
- THE TABLE GIVEN BELOW IS AN ACTUAL TEST DATA FOR EXPECTED MAXIMUM WORKING CONDITIONS.

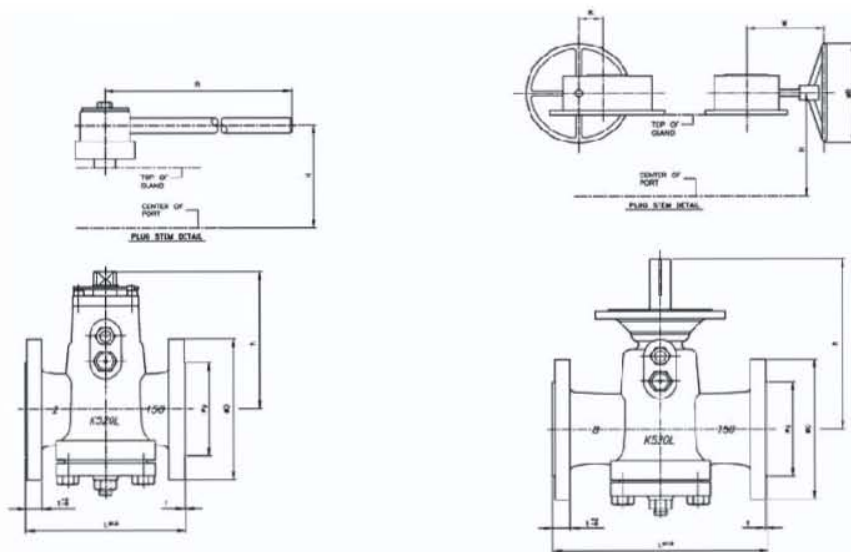
VALVE TORQUE	NOMINAL SIZE		CLASS		
	IN	MM	ANSI CLASS 150	ANSI CLASS 300	ANSI CLASS 600
	1	25	33		
	2	60	162	173	210
	3	80	173	249	400
	4	100	303	378	735
	5	150	197	649	1,1687
	6	200	1,027	984	2,269
	10	250	1,470	2,475	3,620
	12	300	2,053	2,637	5,823
	14	350	2,053	3,729	5,620
	16	400	2,702	4,648	7,350
	18	460	3,469	6,784	10,593
	20	500	4,626	5,859	17,294
	24	600	5,836	13,295	31,344

NOTES

1. Above table data add 30% safety factor to actual torque data.
2. When sizing an actuator, consult with.

Metal Type Lubricated Plug Valves

K520L Flanged Ends ANSI 150# Dimension Chart



1/2" THRU 4"

4" & 6" OVER

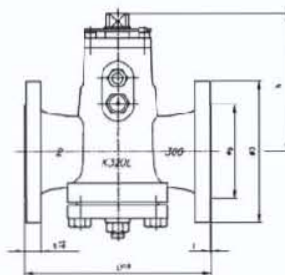
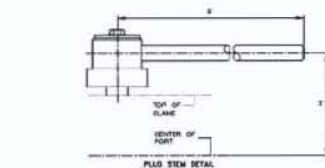
DIMENSIONS

UNIT : MM

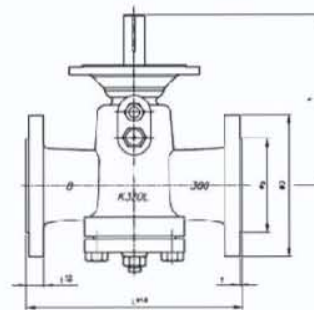
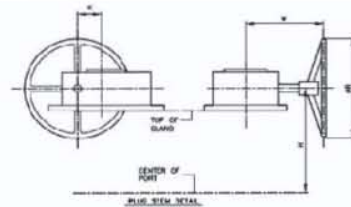
NOMINAL SIZE		L	END FLANGES							h	H	R	K	W	OPERATOR	REMARK
			D	g	t	f	BOLT HOLE									
IN	MM						D	g	t							
1/2	15	108	89	35	9.7	1.6	60.5	3	16	68	87	180	-	-	WITH WRENCH	
3/4	20	117	98	43	10.4	1.6	70.0	4	16	68	87	180	-	-		
1	25	127	108	51	11.2	1.6	79.5	4	16	96	125	222	-	-		
1.1/2	40	165	127	73	14.2	1.6	98.5	4	16	143	168	320	-	-		
2	50	178	152	92	15.8	1.6	120.5	4	19	170	182	460	-	-		
2.1/2	65	190	178	105	17.5	1.6	139.5	4	19	205	225	600	-	-		
3	80	203	190	127	19.1	1.6	152.5	4	19	205	225	600	-	-		
4	100	229	229	157	23.9	1.6	190.5	8	19	232	248	750	-	-		
4	100	229	229	157	23.9	1.6	190.5	8	19	232	248	250	53	177	WITH WORM GEAR	
6	150	267	279	216	25.4	1.6	241.5	8	22	325	381	300	62.5	228		
8	200	292	343	270	28.6	1.6	298.5	8	22	382	465	300	62.5	228		
10	250	330	406	324	30.2	1.6	362.0	12	25	423	560	500	91.5	287		
12	300	356	483	381	31.8	1.6	432.0	12	25	483	645	560	113	330		
14	350	381	533	413	35.1	1.6	476.0	12	29	525	762	630	153	370		
16	400	762	597	470	36.6	1.6	539.0	16	29	735	814	560	113	360		
18	450	864	635	533	39.7	1.6	578.0	16	32	895	925	630	153	420		
20	500	914	698	584	42.9	1.6	635.0	20	32	945	1025	800	235	552		
24	600	1067	813	692	52.4	1.6	749.5	20	35	1020	1254	900	281	602		

Metal Type Lubricated Plug Valves

K320L Flanged Ends ANSI 300# Dimension Chart



1/2" THRU 4"



4" & 6" OVER

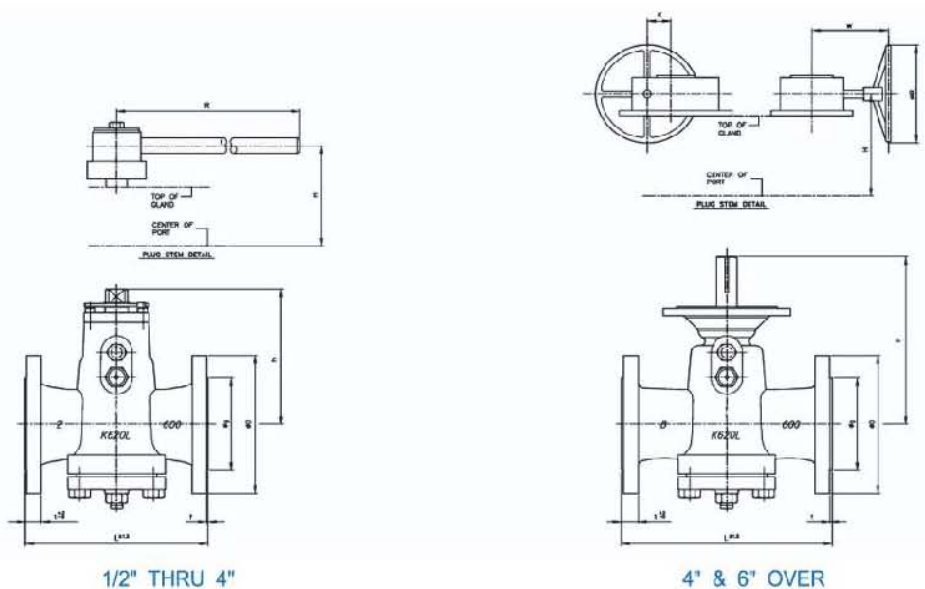
DIMENSIONS

UNIT : MM

NOMINAL SIZE		L	END FLANGES							h	H	R	K	W	OPERATOR	REMARK
			D	g	t	f	BOLT HOLE									
							PCD	N	d							
IN	MM															
1/2	15	108	89	35	9.7	1.6	60.5	4	16	58	87	180	-	-	WITH WRENCH	
3/4	20	117	98	43	10.4	1.6	70.0	4	16	68	87	180	-	-		
1	25	127	108	51	11.2	1.6	79.5	4	16	98	125	222	-	-		
1.1/2	40	165	127	73	14.2	1.6	98.5	4	16	148	168	320	-	-		
2	50	178	152	92	15.8	1.6	120.5	4	19	170	182	460	-	-		
2.1/2	65	190	178	105	17.5	1.6	139.5	4	19	205	225	600	-	-		
3	80	203	190	127	19.1	1.6	152.5	4	19	205	225	600	-	-		
4	100	229	229	157	23.9	1.6	190.5	8	19	232	248	750	-	-		
4	100	229	229	157	23.9	1.6	190.5	8	19	232	248	250	53	177	WITH WORM GEAR	
6	150	267	279	216	25.4	1.6	241.5	8	22	325	381	300	62.5	228		
8	200	292	343	270	28.6	1.6	296.5	8	22	382	465	300	62.5	228		
10	250	330	406	324	30.2	1.6	362.0	12	25	423	580	500	91.5	297		
12	300	356	483	381	31.8	1.6	432.0	12	25	483	645	560	113	330		
14	350	381	533	413	35.1	1.6	476.0	12	29	525	762	630	153	370		
16	400	762	597	470	36.6	1.6	539.0	16	29	735	814	560	113	360		
18	450	864	635	533	39.7	1.6	576.0	16	32	695	925	630	153	420		
20	500	914	698	584	42.9	1.6	635.0	20	32	945	1025	800	235	552		
24	600	1057	813	692	52.4	1.6	749.5	20	35	1020	1254	900	281	602		

Metal Type Lubricated Plug Valves

K600L Flanged Ends ANSI 600# Dimension Chart



DIMENSIONS

UNIT : MM

NOMINAL SIZE		L	END FLANGES							h	H	R	K	W	OPERATOR	REMARK
			D	g	t	f	BOLT HOLE									
IN	MM						PCD	N	d							
1/2	15	165	95	35	20.7	6.4	66.5	4	16	58	87	180	-	-	WITH WRENCH	
3/4	20	190	117	43	22.3	6.4	82.5	4	19	58	87	180	-	-		
1	25	216	124	51	23.9	6.4	89.0	4	19	98	125	222	-	-		
1.1/2	40	241	156	73	28.7	6.4	114.5	4	22	148	168	320	-	-		
2	50	292	165	92	31.8	6.4	127.0	8	19	170	182	460	-	-		
2.1/2	65	330	190	105	35.0	6.4	149.0	8	22	205	225	600	-	-		
3	80	356	210	127	38.1	6.4	168.0	8	22	205	225	600	-	-		
4	100	432	273	157	44.5	6.4	216.0	8	25	232	248	750	-	-		
4	100	432	273	157	44.5	6.4	216.0	8	25	232	248	250	53	177	WITH WORM GEAR	
6	150	559	356	216	54.1	6.4	292.0	12	29	325	381	300	62.5	228		
8	200	660	419	270	62.0	6.4	349.0	12	32	382	465	300	62.5	228		
10	250	787	508	324	69.9	6.4	432.0	16	35	423	580	500	91.5	297		
12	300	838	559	381	73.1	6.4	489.0	20	35	483	645	560	113	330		

NOTES

- Pressure 900# and above size 12 inch of 600# and above 900#, 1500#,2500# should be made case by case.
- JIS standard table drawing will be released by us.
separately, when client required.

Lubricated

Double Block & Bleed PLUG VALVES

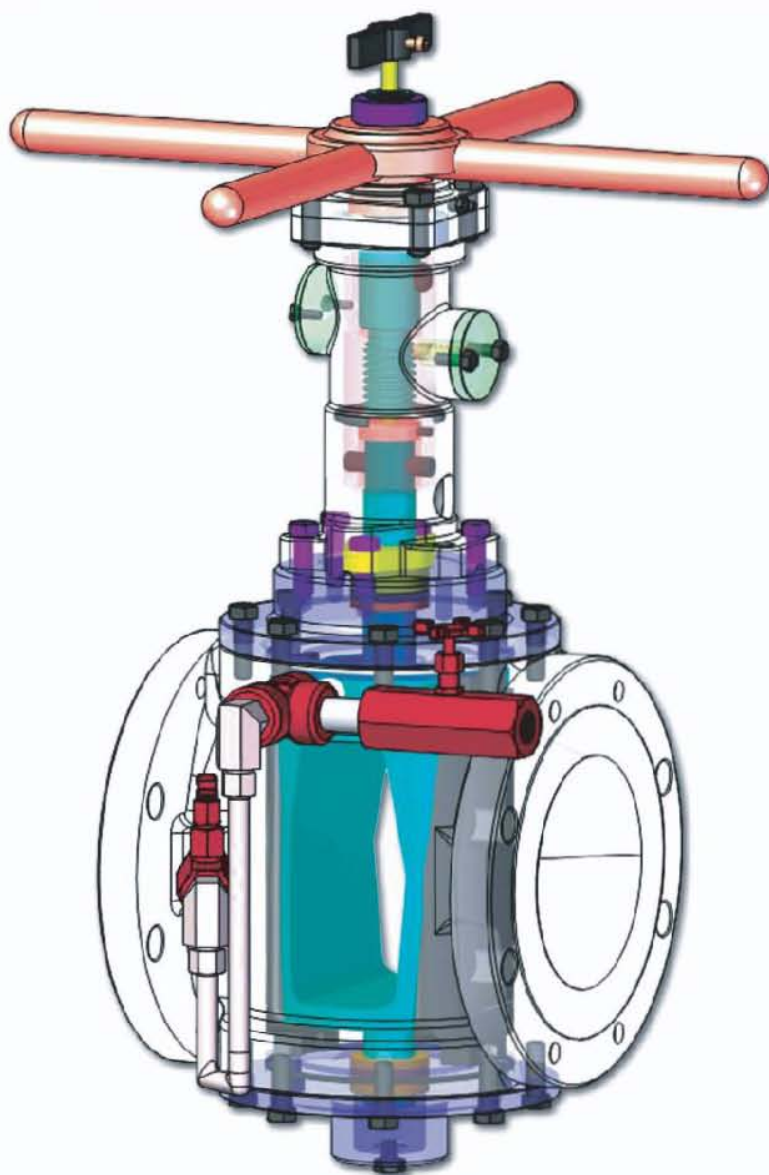
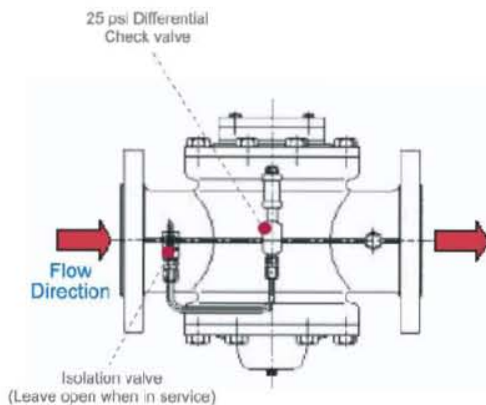
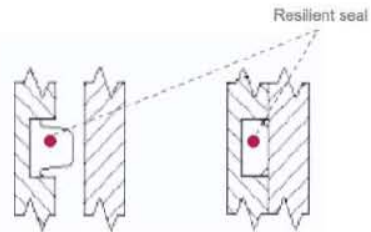
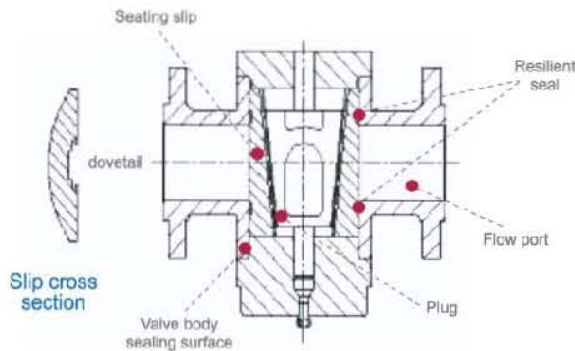


FIG. K520DBB DOUBLE BLOCK AND
BLEED PLUG VALVES

Lubricated

Double Block & Bleed PLUG VALVES



Double Block & Bleed Valve
Twin Seal Structure



Double Block & Bleed Valve

This system is designed to relieve excess pressure rise in the body cavity of a closed valve due to ambient temperature causing expansion of the liquid in the valve. The relief valve is set to open at 25 PSI on all valves, regardless of their working pressure. With the Double Seal valve closed, the relief valve will open at 25 PSI above upstream pressure.

This system functions only when the Double Seal valve is closed and the isolation valve is open.

PLUG VALVE is characteristic and merits

1. Completely No Leakage.

- ① As tapered Plug and Teflon Sleeve contact face to face gives absolutely no leakage.
- ② Steam Seal Structure has been designed to complement the controversial point of other plug valves.
- ③ As Steam Seal is not exposed externally it doesn't rust and able to increase life span. (Weather Proof Type)

2. No Dead Space

No dead space in the fluid way can allow full control of open/close function and gives semi-permanent life span.

3. Few Maintenance and Repair needed

- ① No dead space doesn't allow fluid to be clogged up.
- ② Re-adjusting of Seal Pressure by using Adjusting-Bolt After abrasion of Teflon Sleeve gives semi-permanent sealing function.
- ③ Metal lib around Port has Self-Cleaning function to control steamy and solid material liquid.
- ④ Top Entry type can allow to be repaired on line.

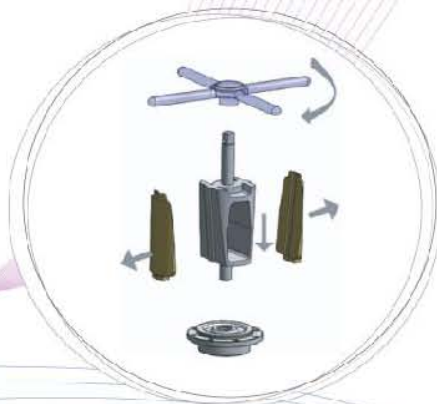
Lubricated

Double Block & Bleed PLUG VALVES



1) CLOSING

The smaller sizes of Double Seal Valves are hand wheel operated and large valves have enclosed weatherproof gearing, but operate in the same manner, requiring proportionately more turns. Turning the operator rotates the plug 90 degrees, aligning the seating slips.

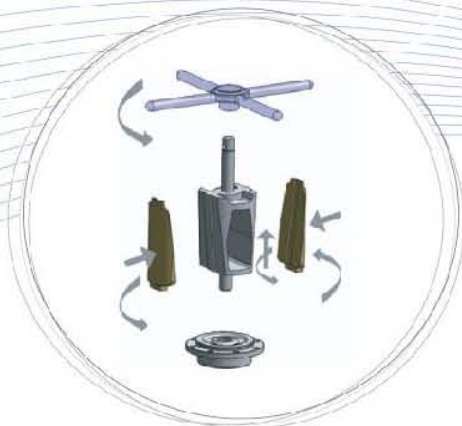


2) COMPRESSING

Turned further, the plug lowers, forcing the seals against the body and compressing them to fit into grooves.

With the slip solidly against the body, a secondary metal-to-metal seat forms on both sides of each seal providing double protection.

During compressing, the wedging action of the plug forces the seating slips against the valve body.



3) OPENING

During opening, the dovetails pull the slips away from the body.

The plug is guided by upper trunnion and then the plug is rotated 90 degrees, aligning the seating slips. In the open position, the seals are completely out of the low.

Lubricated

Double Block & Bleed PLUG VALVES

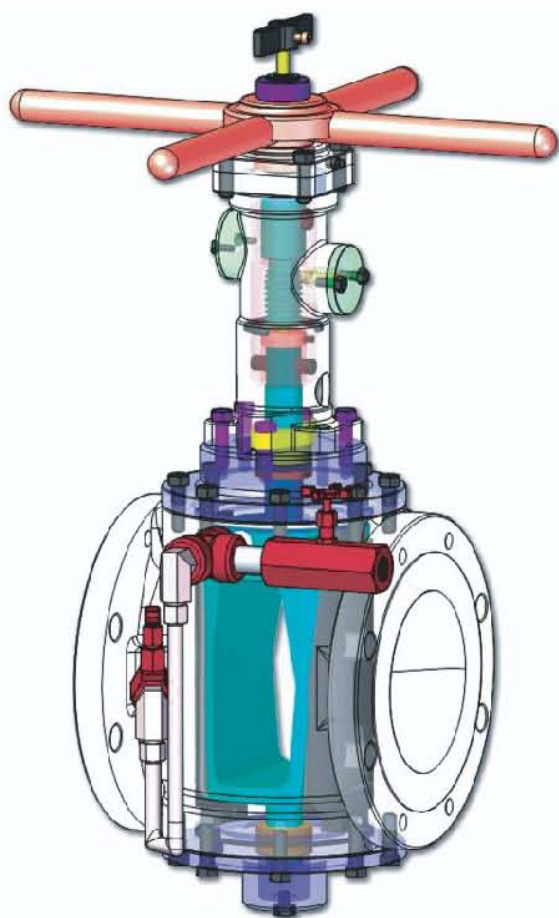


FIG. K520DBB DOUBLE BLOCK & BLEED
PLUG VALVES

Completely no leakage.

A valve selection is very important in petroleum industry. An wrong valve selection causes the decrease of income, the pollution of product and the increase of product line maintenance cost. In multi-product system, valve should stand cycle variation of frequent and cut off completely in up-stream sealing and down sealing. Double block and bleeding valve is developed for satisfying a demand fact of metering station, tank farm marine loading docks, blending plant.

Completely no abrasion.

DBB valve can do complete isolation without leakage in a design pressure, and the design of valve is that a seal doesn't contact with valve body during valve opening or closing. The moment the last of closing operation a seal contacts with body, the force consists of only pressure force. A shearing force doesn't be suspended. In all opening, handle operation, a seal in separated form body, and maintain this state during plug rotation. This takes off the abrasion of seal end extends a life.

Double block & bleed

In DBB there are up-stream seal, down-stream seal, and bleed point for each other. So as a one valve, it can substitute for two valve and one spool piece, drain. The spool drain sends leakage fluid of valve to tank. The bleed system in this valve is installed for proving a zero leakage.

Complete interception

When the valve is closed, a seat place is in surfed in around plug and body port. An elastic quality of seal is compressed inside groove completely. It is a simple design without using spring for fixing a seal, line pressure, seal differential or brute force. A sealing of DBB. is perfect and can substitute for line blind.

Quick and easy operation

D.B.B looks like a gate valve, and the operation of DBB is like a ball valves, but it is called an plug valve. Like this, DBB use only the merit of each valve for complete sealing. The operation mechanism of DBB is an easy operation by minimum rotation.

It is possible to repair on-line

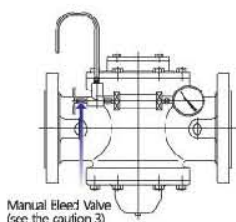
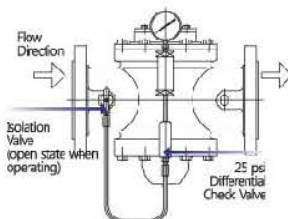
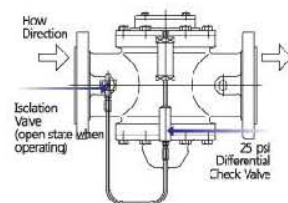
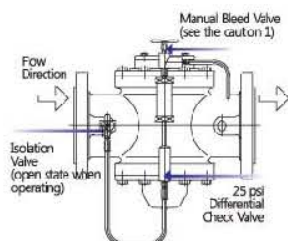
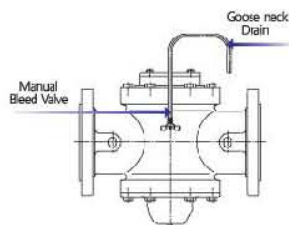
It is possible to inspect and substitute a seal in on-line DBB. This valve is designed for an easy use substitution and decrease at minimum repair cost.

Operation without a shock

The operation mechanism of DBB is a self locking method, so the force of fluid from line doesn't rotate a plug voluntarily. There aren't plug slaw, line shock and the risk of worker injury. In large size valve it isn't no necessity for attaching gear for catching the shock of line force. Because of this properties, it is changed that petroleum industry business of whole the world like DBB for good efficiency, long life, easy maintenance and tow maintenance cost during using.

Lubricated

DBB PLUG VALVES BLEED SYSTEM



Hand bleed valve

It is the most simple method among bleed systems that is worked by hand. When the plug is closed, we open the bleed valve for seeing that sealing is maintained tightly. Before opening the plug, we close bleed valve.

<caution 1> A bleed exit faces down vertically and a fluid falls on a fixed hollow and storage, so you prevent privately if the fluid is dangerous or scatters out of sight. You must pay attention to goose neck type the prevents the leakage of body fluid.

Thermal relief to upstream

When the plug is closed, thermal relief valve release the fluid to upstream automatically, when the fluid in closing state does a thermal expansion. A relief valve is adapted for operating at 25psi pressure.

Thermal relief to atmosphere

It likes a thermal relief to upstream, but it is mediated a fluid emits when the pressure is over 50 psi and the place of emission is waiting not upstream.

Hand bleed valve that has thermal relief

A hand bleed valve shows a complete sealing and a thermal relief valve does possible that any thermal expansion emit to upstream safely and automatically. Relief valve is adapted for operating at 25 psi pressure. A relief valve is adapted for opening at 25 psi pressure in all valve. A relief valve in plug-closed is opened when the pressure of upstream is over 25 psi. This system operates only when plug is closed and isolation valve is opened. Thermal relief system is designed for decreasing the excess pressure of body hole in the closed valve. This excess pressure is made when the fluid in valve expands by high surround temperature.

<caution 2> All automatic DBB need pressure decrease system in body. If not, the opening is difficult or a fluid sticks in the closed state.

Automatic body bleed valve The cheek valve that is operated by plunger opens a bleed valve by coupling cam during the plug valve closing. This moment the plug of valve can be operated by hand or electric actuator. This system made a complete automatic system by removing the factor that human intervenes in checking seal. An isolation valve that is a selection can be fixed in open state to prevent the mistake of checking sealing by human and prove the perfections of DBB valve.

Hand bleed valve that has a gage-only if the fluid is liquid.

A hand bleed valve is used by connecting with gage if you don't want an emission to atmosphere. A gage always indicates the pressure of body hole and is used for measuring the tightness of sealing in many valve size. You consult P&NP about the pressure change that can occur in the closed state of P&NP DBB valve.

specific size valve. After time passed, the pressure of body may be changed by heat, so a leakage indication can be wrong by this.

Thermal relief valve that has a gage-only if the fluid is liquid.

The thermal relief valve for decreasing the pressure of body that can occur by heat change is used by connecting a gage for indicating the tightness of seal. There isn't a emission to atmosphere. So it is no necessity water receiver system the emission pressure is adapted to 25 psi.

<caution 3> When the plug is closed, the cam opens the automatic bleed and the fluid can exit. When the valve is closed completely, the ejecting fluid must stop if the out fluid is dangerous, it is necessary a proper water receiver system.

Lubricated Operator of Double Block & Bleed PLUG VALVES

Operator

Various operation tool can be supplied in attaching valve as the demand of customer.
At order, please indicate a operation tool that is a demand for the operating condition of valve, and contact with our sales engineer for more definite operation tool.



WRENCH
OPERATOR



GEAR
OPERATOR



CHAINWHEEL
OPERATOR



ELECTRIC
ACTUATOR



PNEUMATIC
ACTUATOR



HYDRAULIC
ACTUATOR



KCL VALVE PRODUCTS

CASTING BALL VALVE
GATE VALVE
CHECK VALVE
SAFETY VALVE

FORGED BALL VALVE
GLOBE VALVE
DOUBLE BLOCK & BLEED VALVE
PLUG VALVE



API-6D



ISO9001 by Lloyd

تكرير
TAKREER
شركة أبوظبي لتكرير النفط
REGISTRATION NO.910004



Local Agency

HEAD OFFICE : #711, ACE TOWER, 529-1 GOJANDONG, DANWONGU, ANSANSI, GYEONGGIDO, KOREA
:TEL : 82 31 405 7327 / FAX : 82 31 405 7328

FACTORY : 53, SEONGJUSANEOPDANJIRO 1GIL, SEONGJUEUP, SEONGJUGUN, GYEONGSANGBUKDO, KOREA
:TEL : 82 54 931 7327 / FAX : 82 54 931 7328

Your Best Choice of All Valves