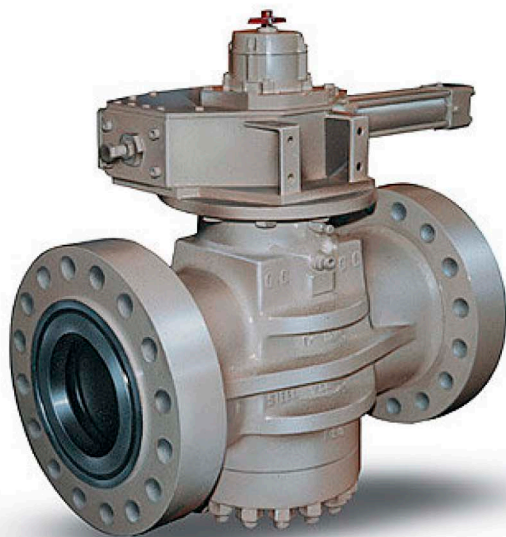


# PLUG VALVES

## PRESSURE BALANCE PLUG VALVE

Series 10P



### FEATURES

- **ZERO LEAKAGE (BUBBLE TIGHT SHUT OFF)**  
TFV TAPERED PLUG VALVE ASSURES POSITIVE BUBBLE TIGHT SHUT OFF WITH UNIQUE SEALANT SYSTEM
- **ZERO MAINTENANCE (IN LINE ADJUSTMENT)**  
TFV TAPERED PLUG VALVE CAN BE ADJUSTED WITH THE VALVE IN LINE, EXTENDING THE SERVICE LIFE OF THE VALVE
- **ZERO CAVITY**  
SLURRY OR SLUDGE DON'T ACCUMULATE ANYWHERE IN A TFV VALVE, BECAUSE TFV 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, TFV PRESSURE BALANCE SYSTEM DESIGN IS AVAILABLE
- **SAFETY**  
FIRE TESTED ACCORDING TO API 607  
NACE MR 0175

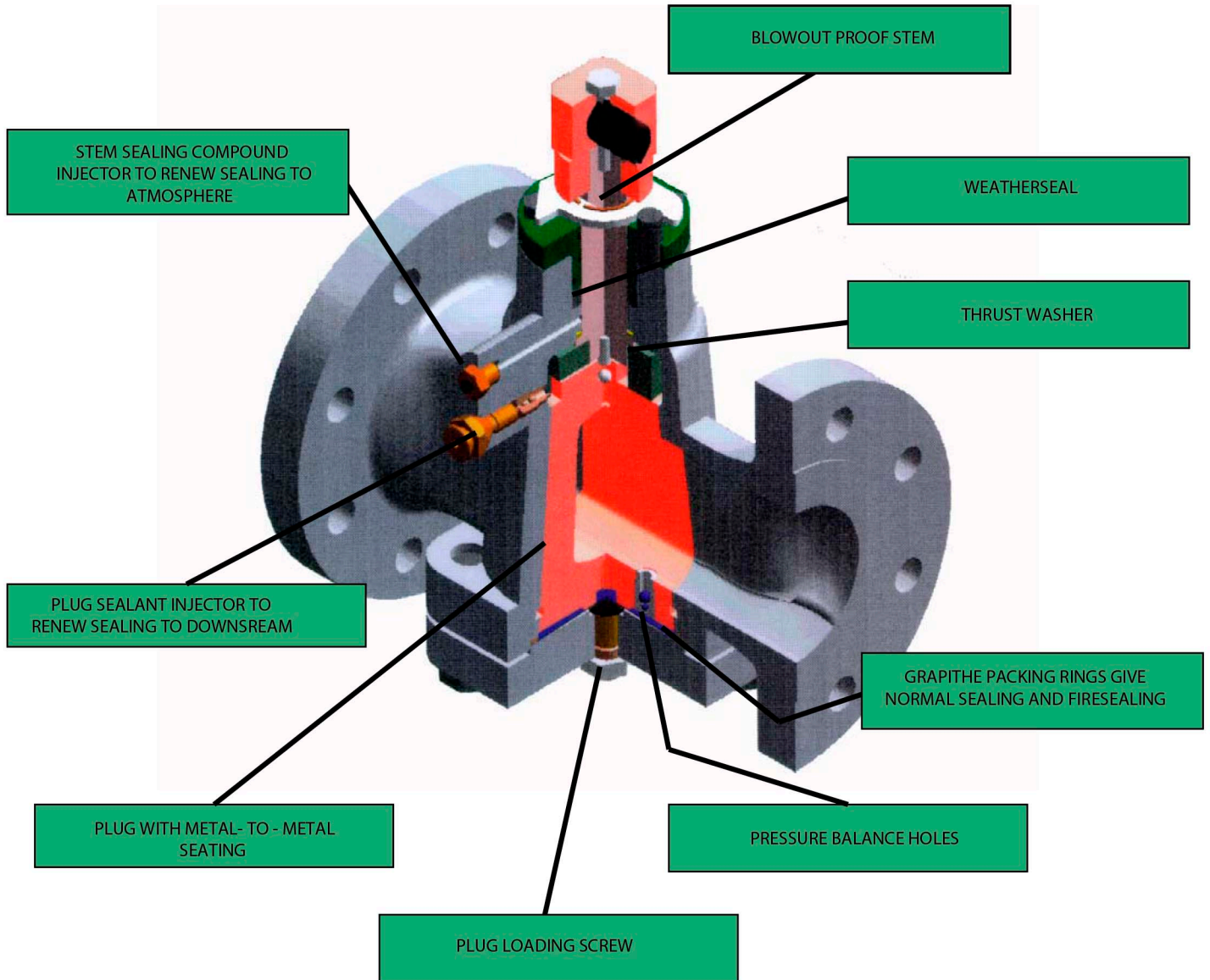
### BENEFIT

- **PRESSURE BALANCED TYPE AS A STANDARD**
- **BLOWOUT-PROOF STEM STRUCTURE**
- **OPERATION**
  - 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

# PLUG VALVES

## PRESSURE BALANCE PLUG VALVE

### Design Features





# PLUG VALVES

## PRESSURE BALANCE PLUG VALVE

### LUBRICANTS

- **LUBRICANT FUNCTION**
  - 1) TO MINIMIZE FRICTION DURING OPERATION OF VALVE
  - 2) TO PROTECT SEAT SURFACES FROM CORROSION
  - 3) TO PREVENT LEAKING BY LUBRICANT ENCLOSED WITH LUBRICANT GROOVES
- **LUBRICANT PROPERTIES** REQUIREMENTS TO SERVE A VARIETY OF PURPOSES
  - 1) ALLOW THE VALVE TO TURN EASILY
  - 2) ASSURE TIGHT SEALING
  - 3) CHEMICALLY INERT IN THE SERVICE FLUID AND ADHESION PROPERTY TO THE METAL
  - 4) REMAINS IN A PLASTIC STATE OVER A WIDE RANGE OF TEMPERATURE CONDITION
  - 5) NO SOLIDIFICATION FROM TEMPERATURE OR CHEMICAL REACTIONS
- **LUBRICANT SELECTION** ACCORDING TO LUBRICANT CLASSIFICATION, THE BELOW CHART SHOWS THE TEMPERATURE RANGE, PRINCIPAL SERVICES AND UNSUITABLE FLUID FOR A LUBRICANTS

### LUBRICANTS

LUBRICANT NO.	COLOR	TEMP. RANGE	PRINCIPAL SERVICES	UNSUITABLE FLUID
G-104	Peanut Butter	-18~260°C	API Gate Valve, Body scored, Ball or Plug Valve	Alkalies
G-204	White	-46~204°C	Molten Sulphur, Acetic Anhydride, Acetic Acid, Food and Pharmaceutical applications as determined by user.	LPG and hydrocarbon solvents
G-220	Clear	-59~121°C	Very cold service for pipe lines, compressor stations, gasoline plants and crude oil production fields. For Liquid Service.	Aromatic, Solvents
G-340	Yellow	-29~204°C	Where H <sub>2</sub> S and CO <sub>2</sub> are encountered	Solvents & Amine
G-350A	Yellow	-29~204°C	Hydrofluoric acid or mixtures of HF & L.P.G.	Hot Air
G-400A	Amber	-29~204°C	Aqueous solutions of Acids and Caustics	Liquid Hydrocarbons
G-400	Red	-20~232°C	Acids and Caustics	Liquid Hydrocarbons
G-525	Clear	-18~204°C	Air starting valves Air fractionalation	Liquid Hydrocarbons
G-600	Brown	-29~260°C	General gas and water Sealant and general Hydrocarbons service	LPG
G-650	Green	-40~260	Hydrocarbon and L.P.G. service	Aeromatic, Alkalies Solvents
G-711	White	0~204°C	Aviation gasoline, Jet fuel, fuel blends of Alkylate	100% Benzine
G-750	Black	-18~316°C	Asphalt hot oil service Salt brine, high temperature steam	Aeromatic, Alkalies Solvents

### SPECIAL LUBRICANT

LUBRICANT NO.	TEMP. RANGE	PRINCIPAL SERVICE	UNSUITABLE FLUID
G-Turn #1	-29~260°C	To work out valve residue left in plug valves in Hydrocarbons service	Not a Sealant
G-Turn #2	-29~260°C	Same as above except for acids & caustics	Not a Sealant
G-FL5	-18~204°C	Non-reactive to corrosive liquids and oxidizing agents as chlorine anhydros hydrogen chlorids, nitric acid, oxygen hydrogen peroxide and sulfuric acid	Do not use on aluminum or magnesium parts
G-PS6	0~232°C	Steam and water lubricant	Liquid Hydrocarbons
G-PS3	0~343°C	Super heated steam	Liquid Hydrocarbons
G-1500	~815°C	Anti-Ceez Lubricant	Liquid Hydrocarbons
G-S3	-29~177°C	General Purpose EP Bearing Lubricant	Liquid Hydrocarbons

- **LUBRICANT MAINTENANCE** THE AMOUNT OF MAINTENANCE DEPENDS UPON THE FREQUENCY OF OPERATION OF VALVE PERIODIC MAINTENANCE: SHIELDS THE SEATING SURFACE AND PREVENTS LEAKAGE. A VALVE NOT PERIODICALLY OPERATED SHOULD BE SERVICED AT LEAST EVERY SIX MONTHS

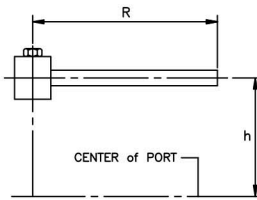


# PLUG VALVES

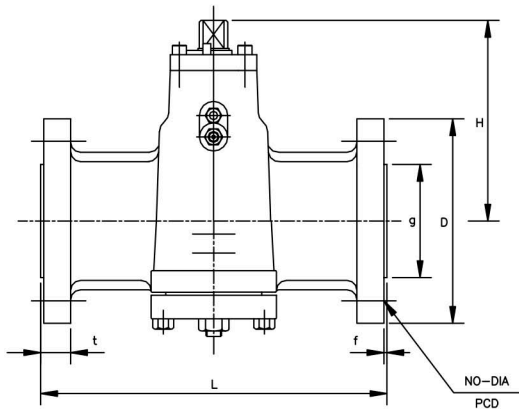
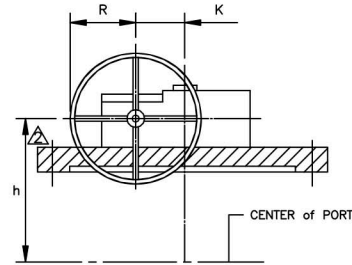
## PRESSURE BALANCE PLUG VALVE

### DIMENSIONS 150#

Less than 4 inches

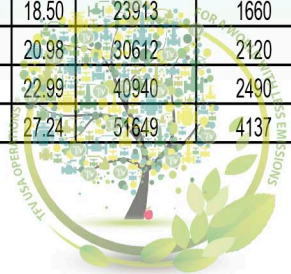


More than 6 inches



SIZE	SHORT PTN								TORQUE (IN·LB)	WEIGHT (LB)	VENTURI PTN								TORQUE (IN·LB)	WEIGHT (LB)
	L	h	R	D	BOLT HOLE			g			L	h	R	D	BOLT HOLE			g		
					PCD	NO	DIA								PCD	NO	DIA			
2"	7.01	6.73	18.03	5.98	4.74	4	0.75	3.62	292	38	-	-	-	-	-	-	-	-	-	-
3"	7.99	8.07	23.50	7.48	6.00	4	0.75	5.00	1434	75	-	-	-	-	-	-	-	-	-	-
4"	9.02	11.14	29.37	9.02	7.50	8	0.75	6.18	1531	120	-	-	-	-	-	-	-	-	-	-
6" <sup>G</sup>	10.51	12.20	7.48	10.98	9.51	8	0.87	8.50	2682	260	-	-	-	-	-	-	-	-	-	-
8" <sup>G</sup>	11.50	15.47	8.86	13.50	11.75	8	0.87	10.63	4398	340	-	-	-	-	-	-	-	-	-	-
10" <sup>G</sup>	12.99	16.69	8.86	15.98	14.25	12	0.98	12.76	9089	475	-	-	-	-	-	-	-	-	-	-
12" <sup>G</sup>	14.02	20.63	10.63	19.02	17.01	12	0.98	15.00	13010	710	-	-	-	-	-	-	-	-	-	-
14" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	27.05	22.44	10.63	20.98	18.74	12	1.14	16.26	18169	1080
16" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	30.00	25.28	10.63	23.50	21.24	16	1.14	18.50	23913	1660
18" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	34.02	26.69	10.63	25.00	22.76	16	1.26	20.98	30612	2120
20" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	35.98	28.35	10.63	27.48	25.00	20	1.26	22.99	40940	2490
24" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	42.01	30.91	10.63	32.01	29.50	20	1.38	27.24	51649	4137

NOTE: G-GEAR OPERATING TYPE



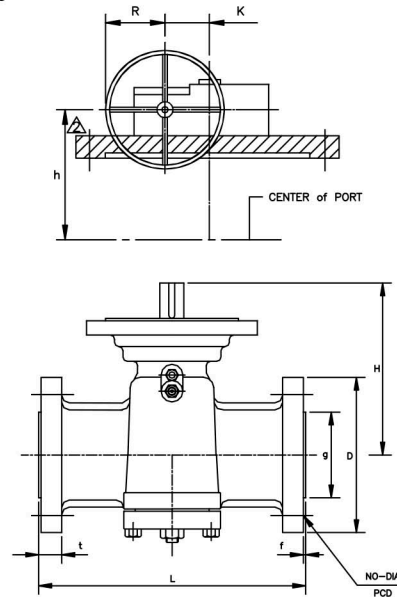
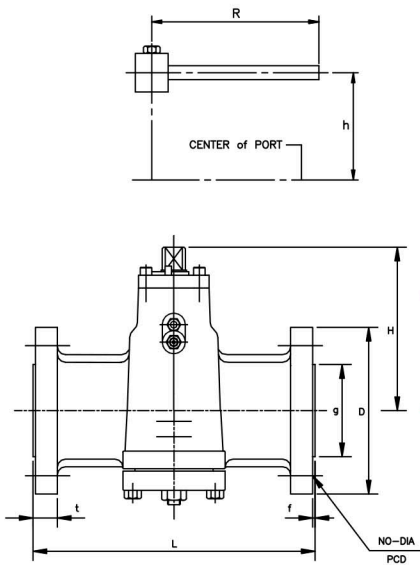
# PLUG VALVES

## PRESSURE BALANCE PLUG VALVE

### DIMENSIONS 300#

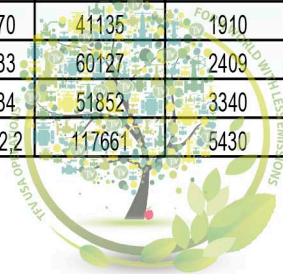
Less than 4 inches

More than 6 inches



SIZE	SHORT P'TN								TORQUE (IN-LB)	WEIGHT (LB)	VENTURI P'TN								TORQUE (IN-LB)	WEIGHT (LB)
	L	h	R	D	BOLT HOLE			g			L	h	R	D	BOLT HOLE			g		
					PCD	NO	DIA								PCD	NO	DIA			
1	6.50	4.84	8.74	4.88	3.50	4	0.75	2.01	-	18	-	-	-	-	-	-	-	-	-	
1-1/2"	7.48	7.05	12.52	6.14	4.51	4	0.87	2.87	-	28	-	-	-	-	-	-	-	-	-	
2"	8.50	7.05	17.99	6.50	5.00	8	0.75	3.62	1531	46	-	-	-	-	-	-	-	-	-	
2-1/2"	9.49	8.31	23.50	7.48	5.87	8	0.87	4.13	2005	57	-	-	-	-	-	-	-	-	-	
3"	11.14	8.31	23.50	8.27	6.61	8	0.87	5.00	2204	82	-	-	-	-	-	-	-	-	-	
4"	12.01	11.81	29.37	10.00	7.87	8	0.87	6.18	3345	134	-	-	-	-	-	-	-	-	-	
6" <sup>G</sup>	15.87	12.20	8.86	12.52	10.63	12	0.87	8.50	5744	340	-	-	-	-	-	-	-	-	-	
8" <sup>G</sup>	16.50	15.47	8.86	15.00	12.99	12	0.98	10.63	8708	450	-	-	-	-	-	-	-	-	-	
10" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	457	429	225	444	387,5	16	29	324	21904	630
12" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	502	534	225	521	451,0	16	32	381	23337	840
14" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	762	585	270	584	514,5	20	32	413	33002	1270
16" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	838	662	270	648	571,5	20	35	470	41135	1910
18" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	914	678	400	711	628,5	24	35	533	60127	2409
20" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	991	762	400	775	686,0	24	35	584	51852	3340
24" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	1143	820	400	914	812,8	24	41,1	692,2	117661	5430

NOTE: G-GEAR OPERATING TYPE



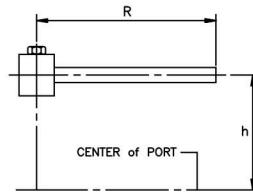


# PLUG VALVES

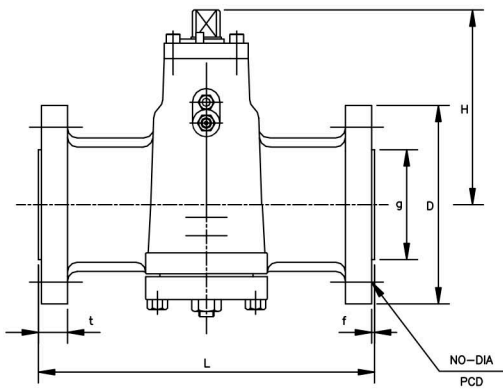
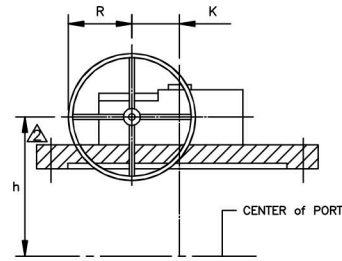
## PRESSURE BALANCE PLUG VALVE

### DIMENSIONS 600#

Less than 4 inches



More than 6 inches



SIZE	REGULAR P'TN								TORQUE (IN-LB)	WEIGHT (LB)	VENTURI P'TN								TORQUE (IN-LB)	WEIGHT (LB)
	L	h	R	D	BOLT HOLE			g			L	h	R	D	BOLT HOLE			g		
					PCD	NO	DIA								PCD	NO	DIA			
2"	11.50	6.73	18.03	6.50	5.00	8	0.75	3.62	1859	51	-	-	-	-	-	-	-	-	-	-
3"	14.02	8.07	23.50	8.27	6.61	8	0.87	5.00	3540	93	-	-	-	-	-	-	-	-	-	-
4"	17.01	11.14	29.37	10.75	8.50	8	0.98	6.18	6505	175	-	-	-	-	-	-	-	-	-	-
6" <sup>G</sup>	22.01	12.20	7.48	14.02	11.50	12	1.14	8.50	10328	500	-	-	-	-	-	-	-	-	-	-
8" <sup>G</sup>	25.98	15.47	8.86	16.50	13.74	12	1.26	10.63	20081	830	-	-	-	-	-	-	-	-	-	-
10" <sup>G</sup>	30.98	16.69	8.86	20.00	17.01	16	1.38	12.76	32037	1280	-	-	-	-	-	-	-	-	-	-
12" <sup>G</sup>	32.99	20.63	10.63	22.01	19.25	20	1.38	15.00	52419	1990	-	-	-	-	-	-	-	-	-	-
14" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	35.00	22.44	10.63	23.74	20.75	20	1.50	16.26	49737	1840
16" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	39.02	25.28	10.63	27.01	23.74	20	1.61	18.50	65048	3750
18" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	42.99	26.69	10.63	29.25	25.75	20	1.77	20.98	93748	4500
24" <sup>G</sup>	-	-	-	-	-	-	-	-	-	-	55.00	30.91	10.63	37.01	32.99	24	2.01	27.24	277394	10370

NOTE: G-GEAR OPERATING TYPE



# PLUG VALVES

## PRESSURE BALANCE PLUG VALVE

### MATERIAL LIST

NO.	PART NAME	MATERIALS	SPECIFICATIONS
1	BODY	CARBON STEEL	ASTM A216 W CB
2	PLUG	ALLOY STEEL	ASTM A487 G r.4 CL.A
3	STEM	STAINLESS STEEL	316SS
4	COVER	CARBON STEEL	ASTM A216 W CB
5	COVER BOLT	ALLOY STEEL	ASTM A193 B 7
6	LUB . NIPPLE	COMMERCIAL	-
7	GLAND BOLT	ALLOY STEEL	ASTM A193 B 7
8	PRESS. BUTTON	STAINLESS STEEL	410SS
9	METAL DIAPHRM	STEEL/STAINLESS STEEL	1020/ 304SS
10	BALL SEAT	STAINLESS STEEL	410SS
11	BALL	STAINLESS STEEL	304SS
12	CHECK VALVE	COMMERCIAL	-
13	COMPENSATOR	CARBON STEEL	1050
14	THRUST WASHER	STAINLESS STEEL	410SS
15	GLAND PAC KING	GRAPHITE	PILLAR NO. 6671
16	GLAND	STAINLESS STEEL	410SS
17	ADJUSTING BOLT	ALLOY STEEL	ASTM A193 B 7
18	END CAP	CARBON STEEL	1020, PAINTED
19	STOPPER	STAINLESS STEEL	316SS
20	SNAP RING	CARBON STEEL	1020, PAINTED
21	LOCK NUT	ALLOY STEEL	ASTM A194 2 H
22	BALANCE C H. B ALL	COMMERCIAL	-
23	HANDLE	CARBON STEEL	1050, PAINTED
24	GEAR BOX	DCI	

- Notes:
1. Above spec. is TFV standard (ANSI CLASS 150# ) and not exact for every valve.
  2. Heat No. marked on body, plug and cover. Other parts are not fully traceable, but statement of conformity can be provided.
  3. Mill certificate can be provided. Heat No. is fully traceable by mill certificate.
  4. Other material available upon request. Please ask for current sells drawing.





# PLUG VALVES

## PRESSURE BALANCE PLUG VALVE

### HOW TO ORDER

VALVE BODY DESIGN (SERIES)	FEATURES	BODY MATERIAL	TRIM MATERIAL	ENDS	CLASS	SIZE	OPERATION
10P Pressure balance Lubricated Plug valve	- NONE	20 A216 WCB	10 316SS	F Flanged RF	0 ANSI 150#	02 2"	H Hand wheel
	6D API 6D	21 A216 WCC	20 A105 +EPN/ WCB+EPN	R Flanged RTJ	3 ANSI 300#	02.5 2 1/2"	G Gear Operator <sup>(1)</sup>
10D Double Block and bleed Plug Valve	N NACE	22 A350 LCB	47 A352 LCB + ENP	B Butt Weld	6 ANSI 600#	03 3"	
	ND NACE/API 6D	23 A352 LC3	48 A487 Class 4A			04 4"	
	F Fire Safe	24 A217 WC1	60 Cast Iron			06 6"	
	G Fire Safe / NACE	25 A217 WC6				08 8"	
		26 A217 WC9				10 10"	
		27 A217 C5				12 12"	
		28 A217 C12				14 14"	
		30 A351 CF8M				16 16"	
		31 A351 CF3M				18 18"	
		32 A351 CF8				20 20"	
		33 A351 CF3				24 24"	
		40 Monel					
		41 Alloy 20					
		42 Hastelloy					
		43 A182 Gr321					
		44 A182 Gr347					
		45 Duplex					
		60 Cast Iron					

Example

PRESSURE BALANCE PLUG VALVE, BODY WCB, TRIM ALLOY A487 GR 4 CL. A, ACCORDING WITH NACE MR0175, DESIGN API 6D, FLANGED ANSI CLASS 600# SIZE 12" WITH GEAR OPERATOR.  
**10PND-2048-F612G**

(1) Mandatory From 6" and above

