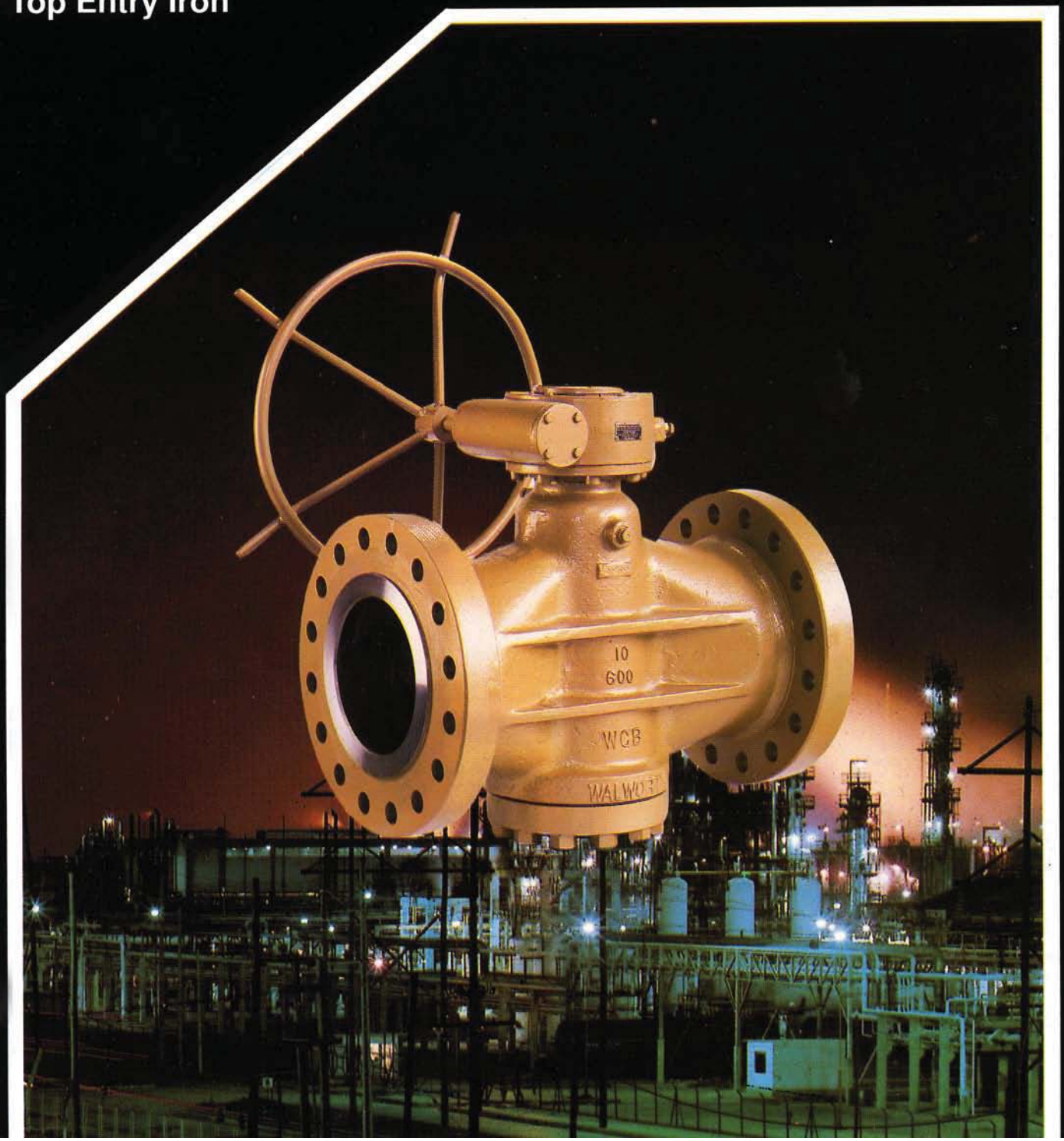
WALWORTH®

PLUG VALVES

QMS REGISTERED
ISO 9001:2000

Compensator Steel
Top Entry Steel
Top Entry Iron



Fire safety testing of the COMPENSATOR plug valve to the revised API 6FA. Consult your Walworth representative for details.

WALWORTH
PLUG VALVES
CONTENTS

WALWORTH

WALWORTH

PLUG VALVES
NUMERICAL INDEX

Figure Numbering System for Walworth Compensator Plug Valves

X X X X

PRESSURE CLASS

1= 150
3= 300
4= 400
6= 600
9= 900
5= 1500
2= 2500

TYPE OF PLUG-PATTERN

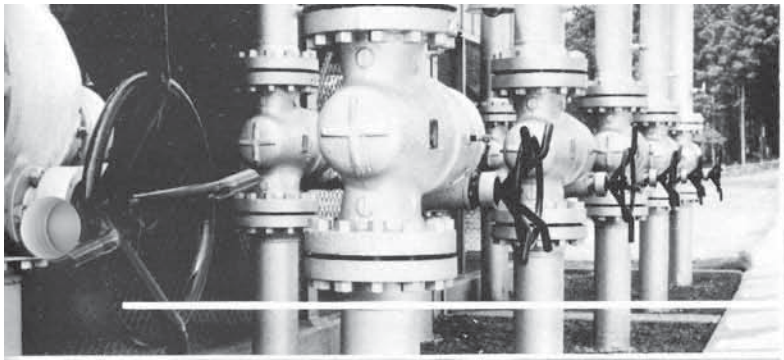
1=Top-Short
2=Top Entry-Regular
3= Top Entry-Venturi
4=Bottom Entry-Short
5=Bottom Entry-Regular
6=Bottom Entry-Venturi

OPERATION

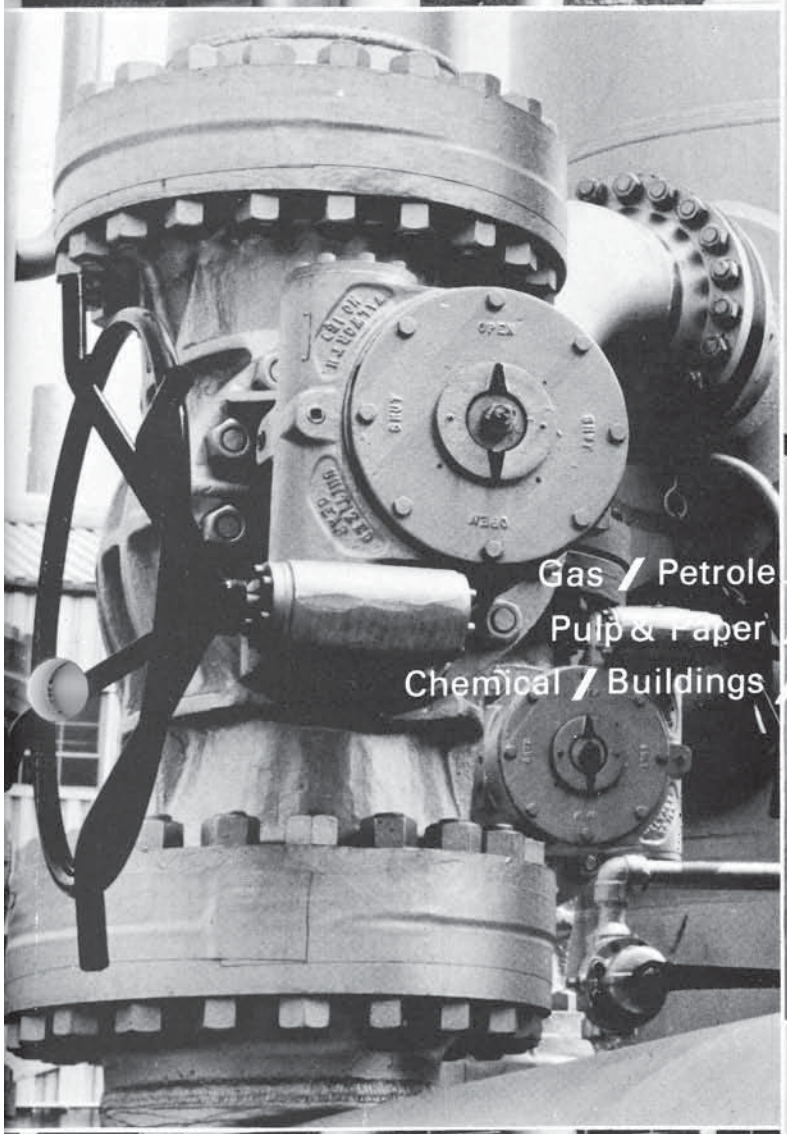
1=Wrench
2=Worm Gear
3=Less Gear

ENDS

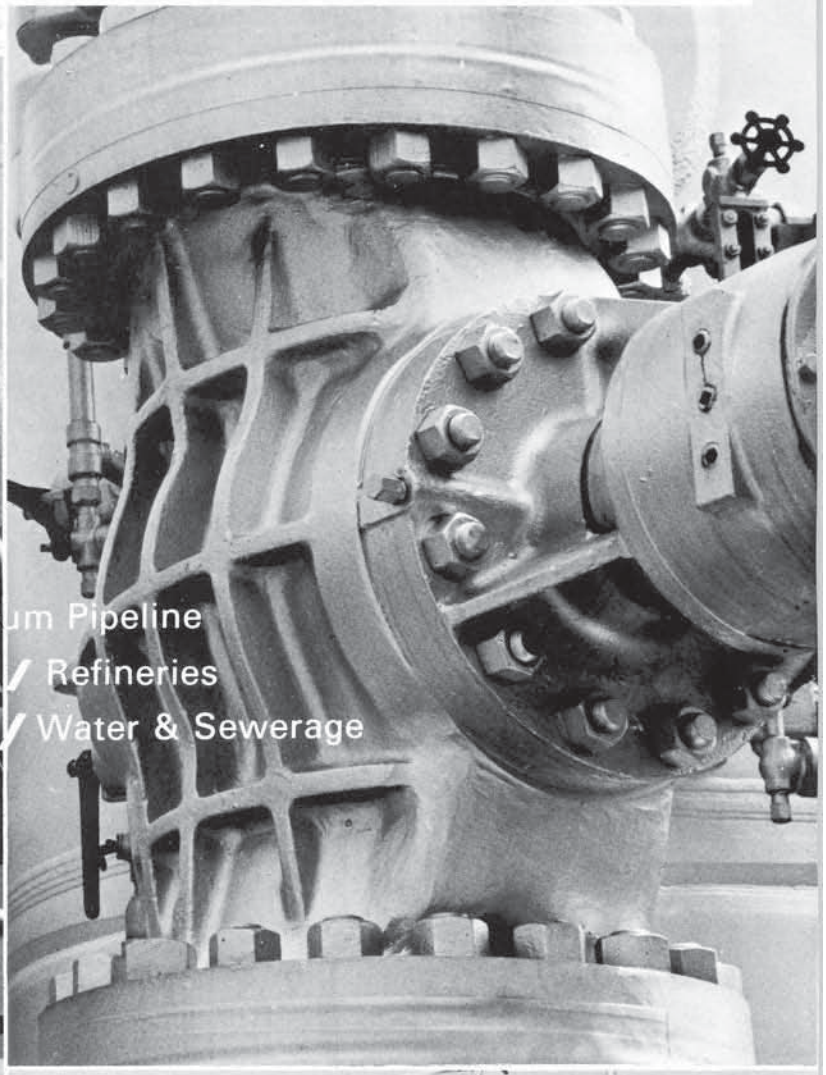
1=Threaded
2=Flanged Raised face
3=Flanged Ring Joint
4=Weld
5=Flanged By Weld End
6=Flanged Ring Joint By Welded
7=Socket Welding End
8=Smoot Face
9=Flat Face

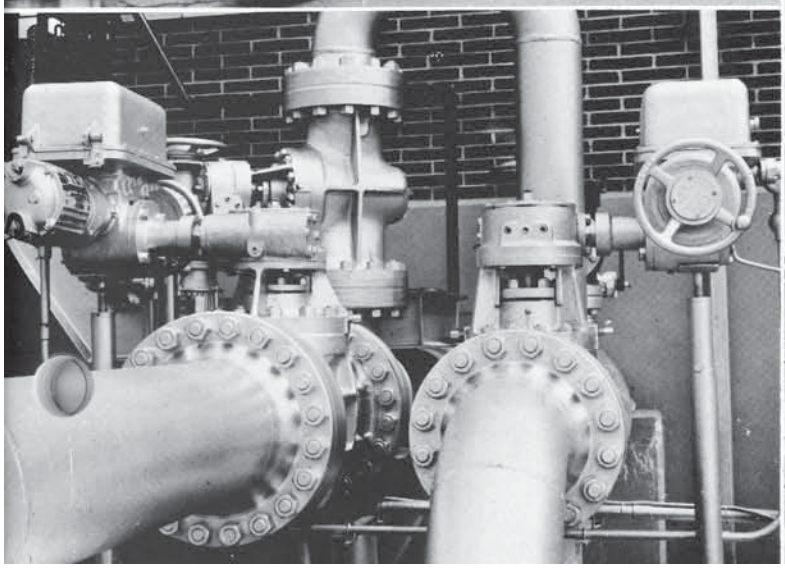


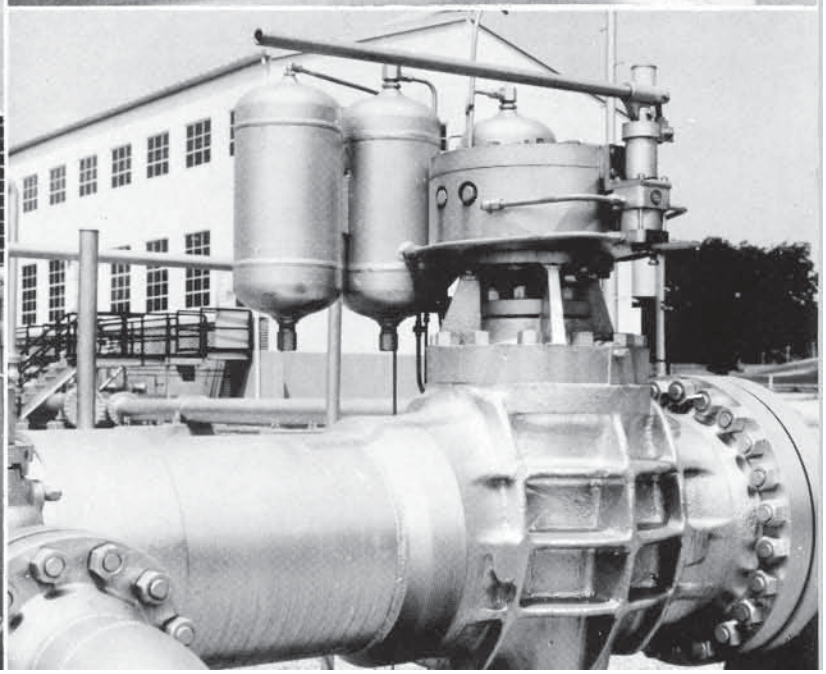
WALWORTH PLUG VALVES



Gas / Petroleum Pipeline
Pulp & Paper / Refineries
Chemical / Buildings / Water & Sewerage







WALWORTH

ADVANTAGES OF TAPERED PLUG VALVES

Plug valves have inherent advantages over other conventional types of valves, especially when used in corrosive or erosive service. Some of these advantages are:

1. **Sealing surfaces are not exposed**
   The vital surfaces of the plug are self protecting and self cleaning. When fully open, all machined seating surfaces of the plug are protected from erosion or corrosive materials. When closed, only a small area, which is not needed to effect a positive shut off, is exposed to the line fluid.

2. **Self cleaning seating surfaces**
   The shearing action of the plug valve scrapes off any abrasive ingredient which may touch the plug in a closed position.

3. **Smooth flow**
   The straightway passage through the plug port affords a smooth unobstructed flow, offering no opportunity for sediment or scale to collect.

4. **Bubble tight shutoff**
   The tapered plug and sealant system assure positive bubble tight shut off when properly maintained.

5. **Ease of operation**
   Positive quarter turn operation is quick and sure.

6. **Plug adjustment**
   A Walworth tapered plug valve can be adjusted with the valve in line, helping to extend the service life of the valve.

The Walworth tapered plug valves are available in sizes ½" thru 24", in pressure classes ANSI 150 to 2500 and API 2000, 3000 & 5000.

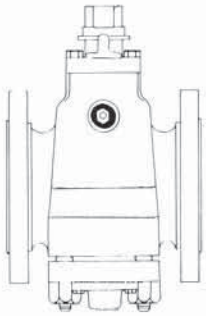
WALWORTH

PATTERNS OF PLUG VALVES

Walworth plug valves are available in three different patterns to provide the efficiency, economy, and flexibility to meet the valve needs of most piping systems.

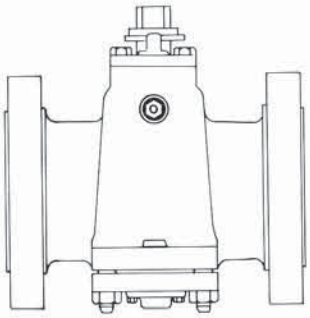
SHORT PATTERN

Provides face to face dimensions that match gate valves



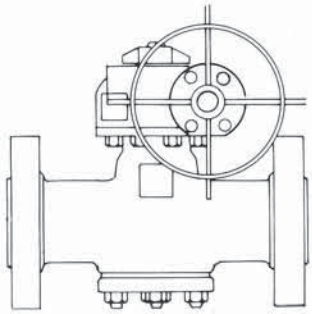
REGULAR PATTERN

Offers the largest port opening in a trapezoidal configuration-close to a full pipe size



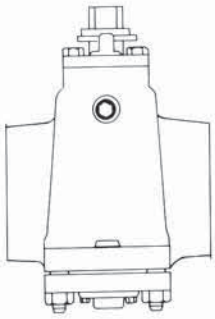
VENTURI PATTERN

Has a smaller port than the other two patterns. Is lower in cost, flow contours maximize hydraulic efficiency

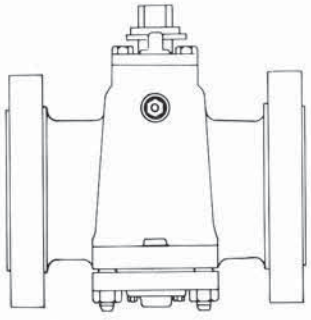


PLUG VALVE END CONFIGURATIONS

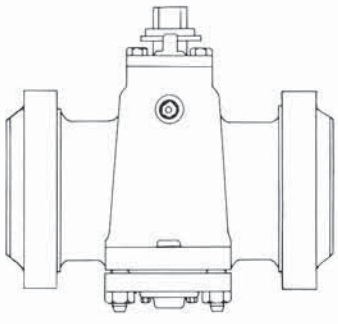
Walworth plug valves are available with threaded, flanged, butt weld or flanged × butt weld ends. Flanges are provided with either raised face or ring joint facings.



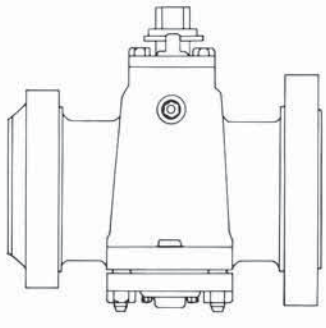
THREADED



FLANGED

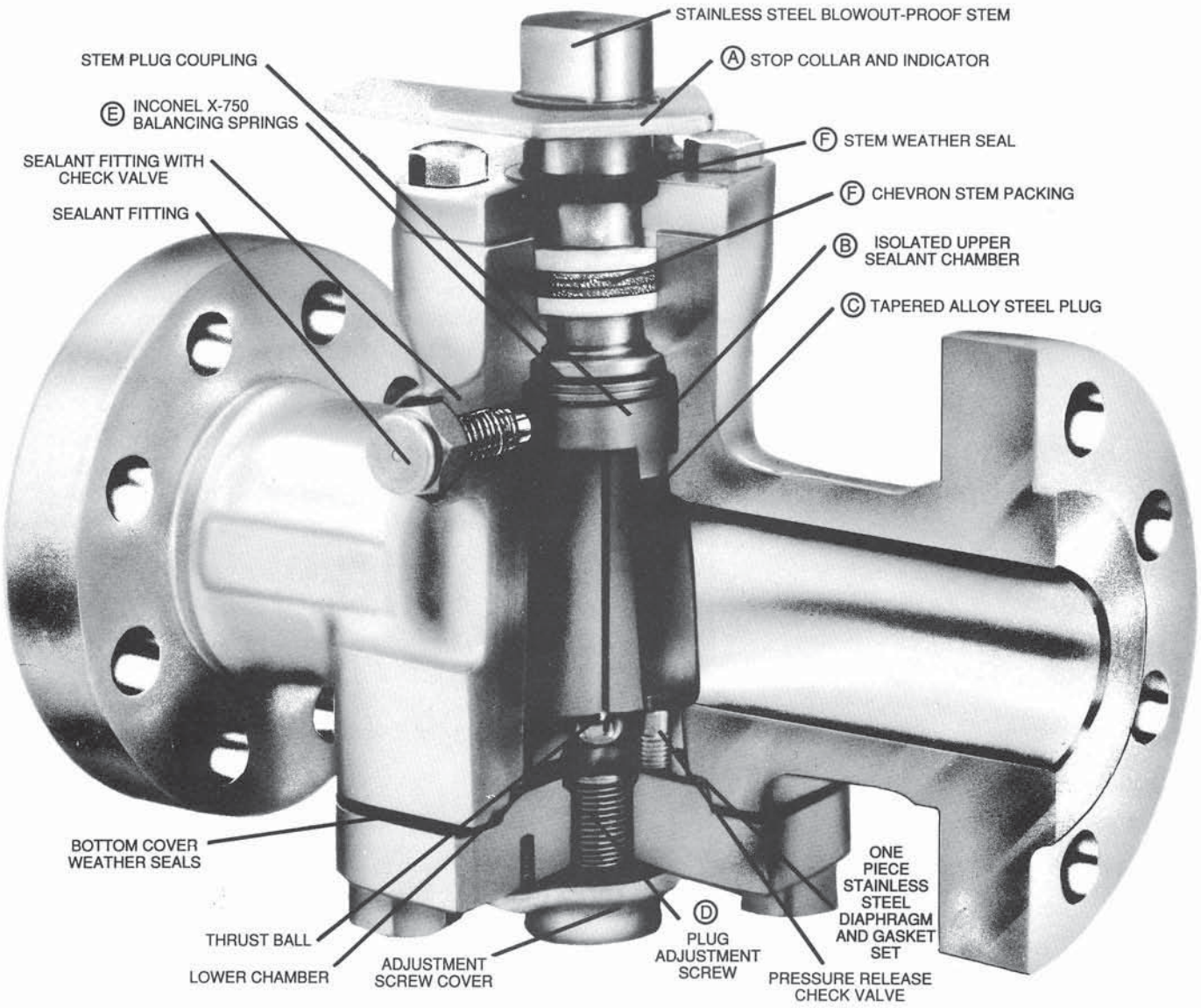


WELDING ENDS



COMBINATION

THE WALWORTH COMPENSATOR - Steel Plug Valve



Codes and Standards Compliance

ANSI (American National Standards Institute)		API (American Petroleum Institute)		MSS (Manufacturing Standardization Society)	
ANSI B16.34	Flanged valves	API 6D	Specifications for pipe line valves	MSS SP-25	Marking system of valves
ANSI B 2.1	Pipe threads	API 598	Testing	MSS SP-44	Steel pipe line flanges
ANSI B16.5	Steel flanges	API 599	Design and material requirement	MSS SP-61	Pressure testing of steel valves
ANSI B16.10	Face to face dimensions	API 6A	Specifications for well-head equipment	MSS SP-78	Cast iron plug valves, flanged - threaded
ANSI B16.20	Ring joint flanges			Canadian Standards	
ANSI B16.25	Buttweld ends	API 6FA	Fire test specifications	CSA Z 245.15	Steel Valves
				CSA Z 299.1	Quality Assurance

THE WALWORTH
Steel Plug Valve - COMPENSATOR

The COMPENSATOR® . . .

. . . the plug valve that eliminates taper lock for years of dependable service with little or no maintenance even in hostile environments.

Patented "Positive Bias" Balanced Plug Design

The COMPENSATOR plug valve design is based on a load compensating, mechanically balanced tapered plug, which cannot bind or lock. Maintenance is virtually eliminated, lower operating torque is achieved, and size and weight are reduced by 20% to 25%. The COMPENSATOR provides these major benefits, while retaining the positive shut-off, fire safety, and resistance to corrosion and erosion long associated with conventional tapered plug valves.

How It Works

Unlike other tapered plug valve designs, Walworth's COMPENSATOR plug valve does not rely solely on sealant or line pressure to keep the plug from wedging or binding in the valve body. Instead, the COMPENSATOR utilizes Inconel* long life spring-type washers and an adjusting screw to mechanically balance the plug and compensate for line pressure. The function of the sealant, therefore, is to provide a back-up to the tight seal between the plug and body. The sealant chamber is isolated from the line media. A sealant fitting is provided to permit injection of sealant into the isolated chambers to assure a bubble tight seal and to lubricate internal parts.

Positive Downward Bias Pressure Balance

There is a passageway with a ball check between the flow port of the plug and the lower chamber. When a pressure rise occurs in the flow port area, the ball check is held shut, forcing pressure equalization to take place through the annular clearance gap at the top and bottom of the tapered plug. Since the net differential plug area is greater at the bottom the result is a net downward force acting on the plug. In the event of a sudden drop in flow port pressure, the positive bias downward is maintained because the upper sealant chamber is forced to equalize through the annular gap while the lower cavity equalizes through the gap as well as through the ball check valve. Thus the lower chamber reaches equilibrium with the flow port well before the upper chamber, causing the plug to stay against the ball at its base.

(See page 59 for more information on the COMPENSATOR design.)

* Inconel is a trademark of International Nickel Company
®COMPENSATOR is a registered trademark of the Walworth Company.

Ⓐ **Open/Close Indicator** — quarter-turn stop collar also functions as an indicator of the plug's position.

Ⓑ **Isolated Sealant Chamber** — the sealant's function is to provide a back-up to the positively biased surface between the plug and the body.

Ⓒ **Plug** — the mechanically balanced plug has a permanently bonded PERFLO coating for a very low coefficient of friction. Operating torque remains low over the 4,000 cycle test life of the valve.

Ⓓ **Plug Adjustment** — the steel plug is mechanically loaded into the body to put tension on the balance spring and then it is adjusted for optimum balance and performance. The adjustment screw is covered to prevent tampering and possible misadjustment.

Ⓔ **Balancing Spring** — the mechanical spring-type Grade X-750 Inconel washer is under compression and holds the plug in an equalized pressure position, thus eliminating the possibility of plug taper lock.

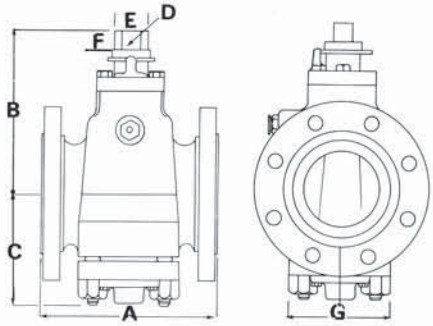
Ⓕ **Stem Sealing System** — the stem is protected two ways. The weather seal protects it from external attack. High temperature soft packing protects the stem against internal leakage.

WALWORTH COMPENSATOR STEEL PLUG VALVES

ANSI 150
SHORT PATTERN
WRENCH OPERATED
CARBON STEEL BODY
AND ALLOY STEEL PLUG

1412
Flanged Raised Face

1414
Weld Ends



DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 2	3	4	6	8
1412	FLANGED RAISED FACE	A	7	8	9	10.50	11.50
1414	WELD X WELD	A	–	–	–	18	20.50
	CENTER TO TOP	B	5.90	6.84	7.37	9.51	11.75
	CENTER TO BOTTOM	C	3.78	4.41	4.94	6.25	9
	WIDTH OF FLAT STEM	D	1	1	1	1.25	1.25
	DIAMETER OF STEM	E	1.37	1.37	1.37	1.99	1.99
	HEIGHT OF PLUG STEM	F	0.77	0.77	0.77	1.31	1.31
	EXTREME BODY WIDTH	G	4.37	4.62	5.25	8.12	11
	WRENCH NUMBER	—	IB–2	IB–2	IB–2	IB–3	IB–3
1412	WEIGHT (APPROX.) Lb.	—	35	65	77	141	195
1414	WEIGHT (APPROX.) Lb.	—	26	48	60	100	154

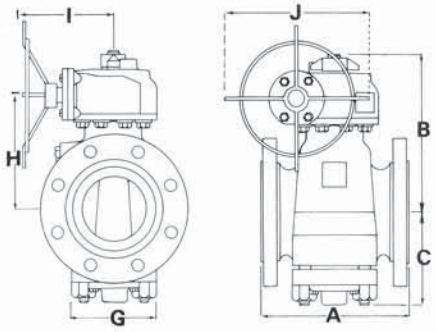
ANSI 150

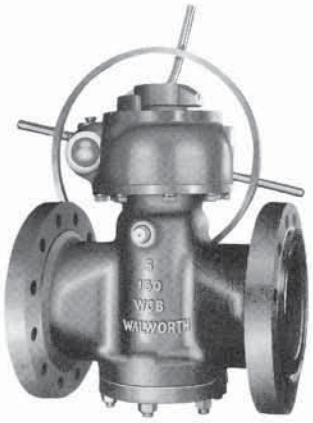
SHORT PATTERN

GEAR OPERATED

CARBON STEEL BODY
AND ALLOY STEEL PLUG

WALWORTH COMPENSATOR STEEL PLUG VALVES





1422
Flanged Raised Face

1424
Weld Ends

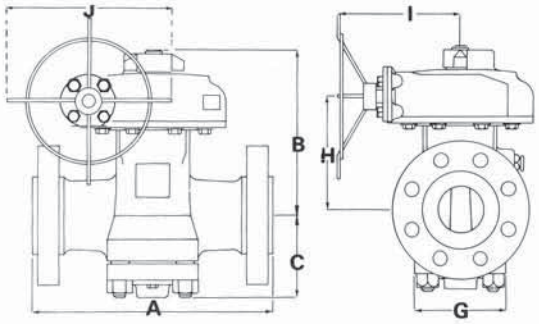
DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 6	8	10	12
1422	FLANGED RAISED FACE	A	10.50	11.50	13	14
1424	WELD X WELD	A	18	20.50	22	25
	CENTER TO TOP	B	13.25	15.75	16.12	18.37
	CENTER TO BOTTOM	C	6.25	9	9.50	11
	EXTREME BODY WIDTH	B	8.12	11	14	16
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	9.31	11.75	12	14
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	12.20	12.20	12.20	12.20
	HANDWHEEL DIAMETER	J	23	23	23	23
	NUMBER OF TURNS TO OPEN		9	9	12.50	12.50
	GEAR OPERATOR No.		1	1	2	2
1422	WEIGHT (APPROX.) Lb.		192	255	400	600
1424	WEIGHT (APPROX.) Lb.		144	192	320	420

WALWORTH COMPENSATOR
STEEL PLUG VALVES

ANSI 150
VENTURI PATTERN
GEAR OPERATED
CARBON STEEL BODY AND IRON PLUG

1622
Flanged Raised Face
1624
Weld Ends

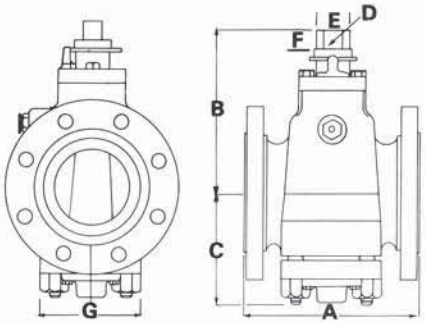


DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 14	16
1622	FLANGED RAISED FACE	A	27	30
1624	WELD X WELD	A	27	30
	CENTER TO TOP	B	20	25
	CENTER TO BOTTOM	C	11	13
	EXTREME BODY WIDTH	G	18	20
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	15	18
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	15	15
	HANDWHEEL DIAMETER	J	23	26
	NUMBER OF TURNS TO OPEN		16	20
	GEAR OPERATOR No.		3	4
1622	WEIGHT (APPROX.) Lb.		1010	1600
1624	WEIGHT (APPROX.) Lb.		758	1200

ANSI 300
SHORT PATTERN
WRENCH OPERATED
CARBON STEEL BODY
AND ALLOY STEEL PLUG

WALWORTH COMPENSATOR STEEL PLUG VALVES



3412
Flanged Raised Face

3413
Flanged ring type joint

3414
Weld Ends

3415
Flanged RF X Weld

DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 2	3	4	6
3412	FLANGED RAISED FACE	A	8.50	11.12	12	15.87
3413	FLANGED RING TYPE JOINT	A	9.12	11.75	12.62	16.50
3414	WELD X WELD	A	10.50	13	14	18
3415	FLANGED RF X WELD	A	9.50	12.06	13	16.94
	CENTER TO TOP	B	4.50	6.84	7.37	9.51
	CENTER TO BOTTOM	C	3.78	4.41	4.94	6.25
	WIDTH OF FLAT STEM	D	1.00	1.00	1.00	1.25
	DIAMETER OF STEM	E	1.37	1.37	1.37	1.99
	HEIGHT OF PLUG STEM	F	0.74	0.77	0.77	1.31
	EXTREME BODY WIDTH	G	4.37	4.62	5.25	8.12
	WRENCH NUMBER		IB-2	IB-2	IB-2	IB-3
3412	WEIGHT (APPROX.) Lb.		44	76	90	199
3413	WEIGHT (APPROX.) Lb.		41	78	93	205
3414	WEIGHT (APPROX.) Lb.		30	57	68	161
3415	WEIGHT (APPROX.) Lb.		35	67	79	175

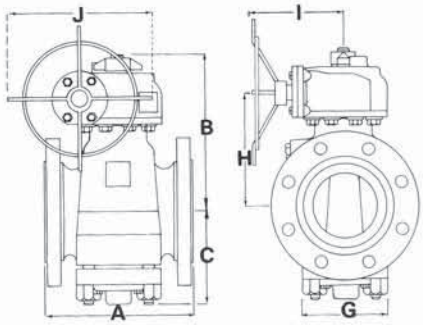
WALWORTH COMPENSATOR STEEL PLUG VALVES

ANSI 300
SHORT PATTERN
GEAR OPERATED
CARBON STEEL BODY
AND ALLOY STEEL PLUG

3422
Flanged Raised Face

3424
Weld Ends

3425
Flanged RF X Weld

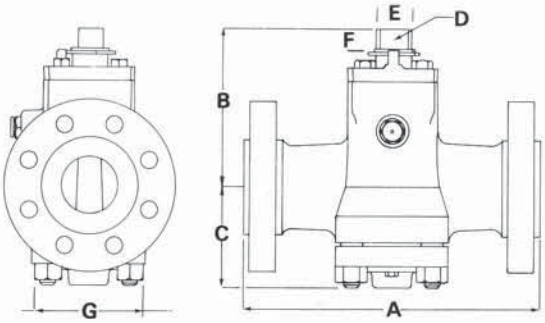


DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 3	4	6	8
3422	FLANGED RAISED FACE	A	11.12	12	15.87	16.50
3424	WELD X WELD	A	13	14	18	20.50
3425	FLANGED RF X WELD	A	12.06	13	16.94	18.50
	CENTER TO TOP	B	11.30	11.81	13.25	15.75
	CENTER TO BOTTOM	C	4.41	4.94	6.25	10
	EXTREME BODY WIDTH	G	4.62	5.25	8.12	14
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	7.34	7.87	9.31	11.75
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	12.20	12.20	12.20	12.20
	HANDWHEEL DIAMETER	J	23	23	23	23
	NUMBER OF TURNS TO OPEN		9	9	9	9
	GEAR OPERATOR No.		1	1	1	1
3422	WEIGHT (APPROX.) Lb.		136	150	260	400
3424	WEIGHT (APPROX.) Lb.		102	115	195	300
3425	WEIGHT (APPROX.) Lb.		119	133	228	350

ANSI 300
VENTURI PATTERN
WRENCH OPERATED
CARBON STEEL BODY
AND IRON PLUG

WALWORTH COMPENSATOR STEEL PLUG VALVES



3612
Flanged Raised Face

3613
Flanged Ring Type Joint

3614
Weld Ends

3615
Flanged RF X Weld

DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 6	8
3612	FLANGED RAISED FACE	A	15.87	16.50
3613	FLANGED RING TYPE JOINT	A	16.50	17.12
3614	WELD X WELD	A	18	20.50
3615	FLANGED RF X WELD	A	16.23	18.50
	CENTER TO TOP	B	9.62	10.50
	CENTER TO BOTTOM	C	5.87	7.75
	WIDTH OF FLAT STEM	D	1.25	1.25
	DIAMETER OF STEM	E	1.99	1.99
	HEIGHT OF PLUG STEM	F	1.31	1.31
	EXTREME BODY WIDTH	G	7.62	8.75
	WRENCH NUMBER		IB-3	IB-3
3612	WEIGHT (APPROX.) Lb.		165	264
3613	WEIGHT (APPROX.) Lb.		170	279
3614	WEIGHT (APPROX.) Lb.		124	211
3615	WEIGHT (APPROX.) Lb.		145	238

WALWORTH COMPENSATOR STEEL PLUG VALVES

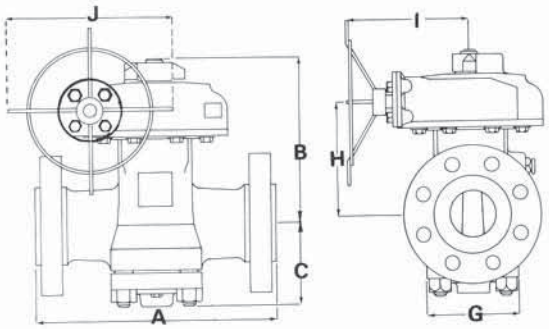
ANSI 300
VENTURI PATTERN
GEAR OPERATED
CARBON STEEL BODY
AND IRON PLUG

3622
Flanged Raised Face

3623
Flanged Ring Type Joint

3624
Weld Ends

3625
Flanged RF X Weld

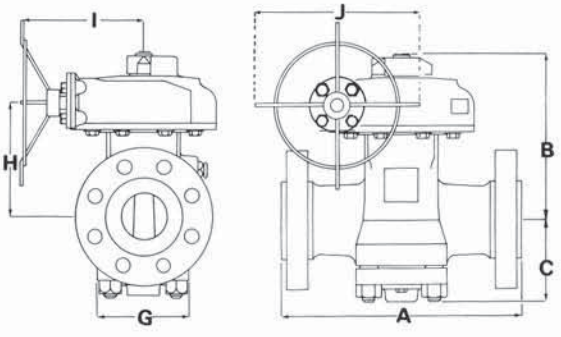


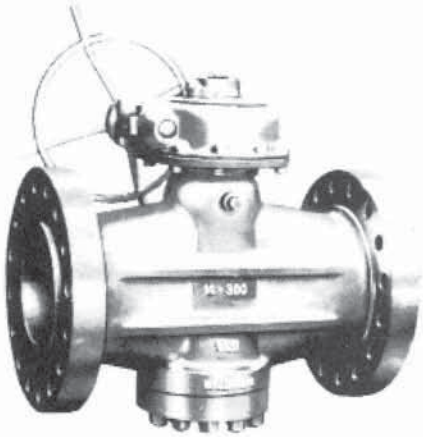
DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 6	8	10	12
3622	FLANGED RAISED FACE	A	15.87	16.50	18	19.75
3623	FLANGED RING TYPE JOINT	A	16.50	17.12	18.62	20.37
3624	WELD X WELD	A	18	20.50	22	25
3625	FLANGED RF X WELD	A	16.94	18.50	20	22.37
	CENTER TO TOP	B	12.87	14.37	16.10	18.30
	CENTER TO BOTTOM	C	15.87	7.75	9.40	10.40
	EXTREME BODY WIDTH	G	8	8.75	15	16
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	8.87	10.44	12	13.90
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	12.19	12.19	12.19	12.19
	HANDWHEEL DIAMETER	J	23	23	23	23
	NUMBER OF TURNS TO OPEN		9	9	12.50	12.50
	GEAR OPERATOR No.		1	1	2	2
3622	WEIGHT (APPROX.) Lb.		251	331	615	804
3623	WEIGHT (APPROX.) Lb.		258	341	633	828
3624	WEIGHT (APPROX.) Lb.		190	250	488	634
3625	WEIGHT (APPROX.) Lb.		220	291	552	719

ANSI 300
VENTURI PATTERN
GEAR OPERATED
CARBON STEEL BODY
AND IRON PLUG

WALWORTH COMPENSATOR STEEL PLUG VALVES





3622
Flanged Raised Face

3623
Flanged Ring Type Joint

3624
Weld Ends

3625
Flanged RF X Weld

DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 14	16	18	20	24
3622	FLANGED RAISED FACE	A	30	33	35.62	39	45
3623	FLANGED RING TYPE JOINT	A	30.62	32.62	—	39.75	45.87
3624	WELD X WELD	A	30	33	—	39	45
3625	FLANGED RF X WELD	A	30	33	—	39	45
	CENTER TO TOP	B	19.50	23.25	26	24.75	30.30
	CENTER TO BOTTOM	C	13.75	15	17.75	18.12	21.12
	EXTREME BODY WIDTH	G	23	25.50	—	30.50	36
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	14.87	17.50	—	20.50	22.60
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	12.18	15	15	17.10	17.10
	HANDWHEEL DIAMETER	J	26	26	32	32	32
	NUMBER OF TURNS TO OPEN		16	20	20	24	40
	GEAR OPERATOR No.		3	4	4	5	6
3622	WEIGHT (APPROX.) Lb.		1208	1818	—	3340	5430
3623	WEIGHT (APPROX.) Lb.		1244	1872	—	3440	5593
3624	WEIGHT (APPROX.) Lb.		988	1478	—	2950	4835

WALWORTH

WALWORTH COMPENSATOR STEEL PLUG VALVES

ANSI 600
REGULAR PATTERN
WRENCH OPERATED
CARBON STEEL BODY
AND ALLOY STEEL PLUG

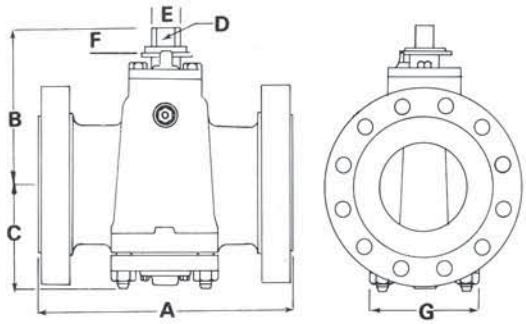
6511
Threaded

6512
Flanged Raised Face

6513
Flanged Ring Type Joint

6514
Weld Ends

6515
Flanged RF X Weld

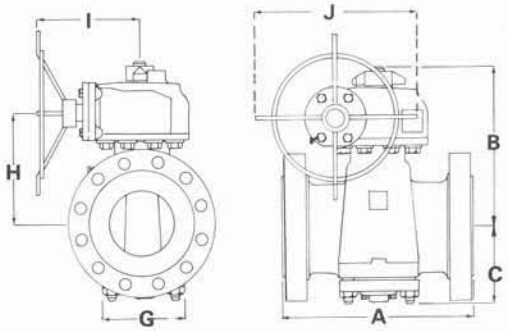


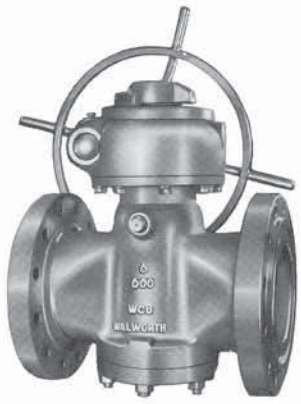
DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 1	1½	2	3	4	6
6511	THREADED	A	5	6.69	7.75	10	11.50	—
6512	FLANGED RAISED FACE	A	8.50	9.50	11.50	14	17	22
6513	FLANGED RING TYPE JOINT	A	8.50	9.50	11.62	14.12	17.12	22.12
6514	WELD X WELD	A	8.50	9.50	11.50	14	17	22
6515	FLANGED RF X WELD	A	8.50	9.50	11.50	14	17	22
	CENTER TO TOP	B	4.50	5.06	5.98	6.84	7.37	9.65
	CENTER TO BOTTOM	C	2.78	3.37	3.78	4.41	5.06	7.06
	WIDTH OF FLAT STEM	D	0.50	0.75	1	1	1	1.25
	DIAMETER OF STEM	E	0.74	1	1.37	1.37	1.37	1.99
	HEIGHT OF PLUG STEM	F	0.60	0.66	0.77	0.77	.077	1.31
	EXTREME BODY WIDTH	G	3.62	4	4.37	5	5.75	11
	WRENCH NUMBER		IB-0	IB-1	IB-2	IB-2	IB-2	IB-3
6511	WEIGHT (APPROX.) Lb.		14	24	33	55	95	—
6512	WEIGHT (APPROX.) Lb.		21	36	53	88	154	378
6514	WEIGHT (APPROX.) Lb.		16	27	40	64	110	260
6515	WEIGHT (APPROX.) Lb.		19	32	45	72	125	333

ANSI 600
REGULAR PATTERN
GEAR OPERATED
CARBON STEEL BODY
AND ALLOY STEEL PLUG

WALWORTH COMPENSATOR STEEL PLUG VALVES





6522
Flanged Raised Face

6523
Flanged Ring Type Joint

6524
Weld Ends

6525
Flanged RF X Weld

DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 3	4	6	8	10	12
6522	FLANGED RAISED FACE	A	14	17	22	26	31	33
6523	FLANGED RING TYPE JOINT	A	14.12	17.12	22.12	26.12	31.12	33.12
6524	WELD X WELD	A	14	17	22	26	31	33
6525	FLANGED RF X WELD	A	14	17	22	26	31	33
	CENTER TO TOP	B	11.28	11.81	13.44	16	19.20	24
	CENTER TO BOTTOM	C	4.41	5.06	7.06	9.37	10.75	13.75
	EXTREME BODY WIDTH	G	5	5.75	11	13.62	15.62	22
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	7.34	7.87	9.50	12	14.75	17.37
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	12.19	12.19	12.19	12.19	12.19	15
	HANDWHEEL DIAMETER	J	23	23	23	23	23	26
	NUMBER OF TURNS TO OPEN		9	9	9	12.50	16	20
	GEAR OPERATOR No.		1	1	1	2	3	4
6522	WEIGHT (APPROX.) Lb.		152	215	440	750	1200	1800
6523	WEIGHT (APPROX.) Lb.		156	221	453	772	1236	1854
6524	WEIGHT (APPROX.) Lb.		114	162	330	562	900	1350
6525	WEIGHT (APPROX.) Lb.		133	189	385	656	1050	1575

WALWORTH COMPENSATOR STEEL PLUG VALVES

ANSI 600 VENTURI PATTERN GEAR OR WRENCH OPERATED

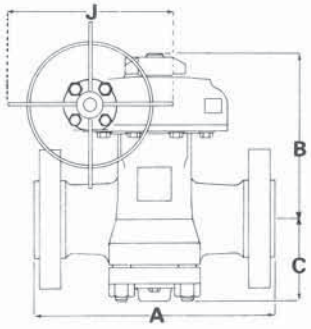
CARBON STEEL BODY AND IRON PLUG

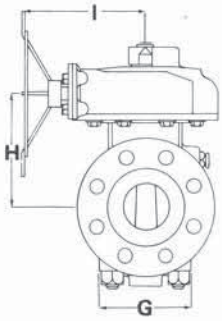
6612/6622
Flanged Raised Face

6613/6623
Flanged Ring Type Joint

6614/6624
Weld Ends

6615/6625
Flanged RF X Weld



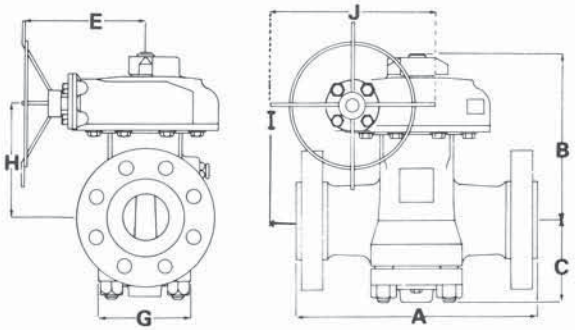


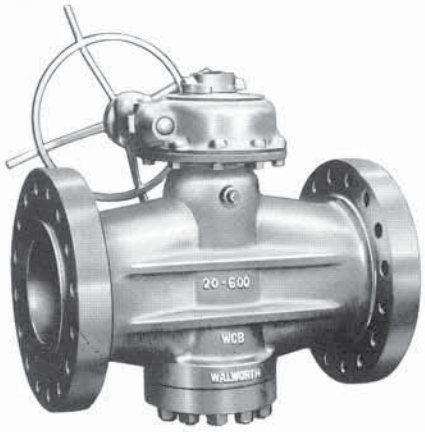
DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 6	8	10	12
6612/6622	FLANGED RAISED FACE	A	22	26	31	33
6613/6623	FLANGED RING TYPE JOINT	A	22.12	26.12	31.12	33.12
6614/6624	WELD X WELD	A	22	26	31	33
6615/6625	FLANGED RF X WELD	A	22	26	31	33
	CENTER TO TOP	B	13.37	14.75	16.37	19.37
	CENTER TO BOTTOM	C	7	7.37	9.37	10.75
	EXTREME BODY WIDTH	G	10	10.50	13.62	15.62
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	9.40	10.75	12.12	14.75
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	12.19	12.19	12.19	12.19
	HANDWHEEL DIAMETER	J	23	23	23	23
	NUMBERS OF TURNS TO OPEN		9	9	16	16
	WRENCH NUMBER (FOR 6612, 6613, 6614, 6615)		IB-3	—	—	—
	GEAR OPERATOR No. (FOR 6622, 6623, 6624, 6625)		1	1	3	3
6612	WEIGHT (APPROX.) Lb.		346	—	—	—
6614	WEIGHT (APPROX.) Lb.		264	—	—	—
6622	WEIGHT (APPROX.) Lb.		406	610	1000	1350
6624	WEIGHT (APPROX.) Lb.		305	458	750	1013
6625	WEIGHT (APPROX.) Lb.		356	534	875	1182

ANSI 600
VENTURI PATTERN
GEAR OPERATED
CARBON STEEL BODY AND IRON PLUG

WALWORTH COMPENSATOR STEEL PLUG VALVES





6622
Flanged Raised Face

6623
Flanged Ring Type Joint

6624
Weld Ends

6625
Flanged RF X Weld

DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 14	16	18	20	24
6622	FLANGED RAISED FACE	A	35	39	43	47	55
6623	FLANGED RING TYPE JOINT	A	35.12	39.12	43.12	47.25	55.37
6624	WELD X WELD	A	35	39	43	47	55
6625	FLANGED RF X WELD	A	35	39	43	47	55
	CENTER TO TOP	B	23.37	24.62	24.10	25.12	36.37
	CENTER TO BOTTOM	C	11.62	13.75	17.50	19.12	23.75
	EXTREME BODY WIDTH	G	18.25	23	31.87	33.50	42
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	E	15	15.25	—	—	—
	CENTER OF PORT TO TOP OF HANDWHEEL	I	29.20	34.41	35.63	36.63	45.00
	LONGITUDINAL CENTERLINE TO CENTERLINE OF HANDWHEEL (NOT SHOWN)		—	—	10.75	10.75	13.87
	HANDWHEEL DIAMETER	J	26	32	32	32	32
	CENTER OF PORT TO CENTER OF HANDWHEEL (CENTER OF SECONDARY WORM SHAFT COMPOUND GEAR)	H	16.20	17.40	19.63	20.63	29
	NUMBER OF TURNS TO OPEN		20	24	40	40	95.50
	GEAR OPERATOR No.		4	5	6	6	7
6622	WEIGHT (APPROX.) Lb.		1840	2640	4500	5450	9950
6624	WEIGHT (APPROX.) Lb.		1380	1480	3780	4600	8860

WALWORTH

WALWORTH COMPENSATOR STEEL PLUG VALVES

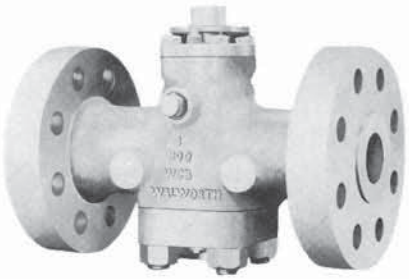
ANSI 900 REGULAR PATTERN WRENCH OPERATED

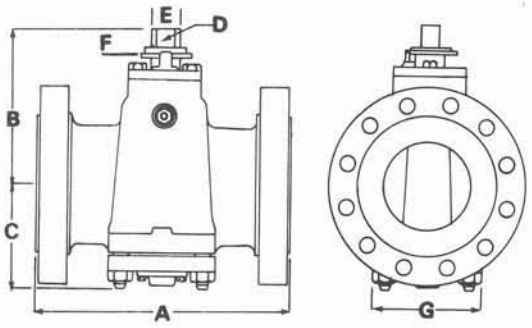
CARBON STEEL BODY AND ALLOY STEEL PLUG

9511
Threaded

9512
Flanged Raised Face

9513
Flanged Ring Type Joint



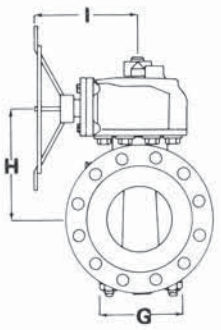


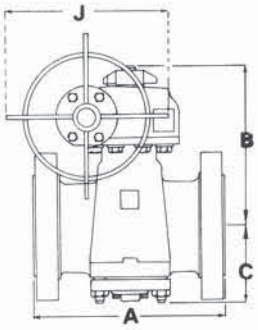
DIMENSIONS and WEIGHTS

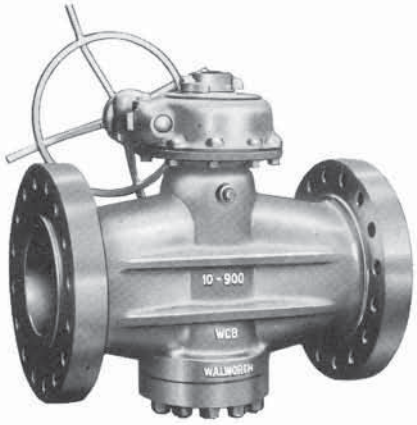
FIGURE NO.			SIZE OF VALVE IN INCHES 2	3	4
9511	THREADED	A	7.75	10	11.50
9512	FLANGED RAISED FACE	A	14.50	15	18
9513	FLANGED RING TYPE JOINT	A	14.62	15.12	18.12
	CENTER TO TOP	B	6	7.93	8.65
	CENTER TO BOTTOM	C	3.91	5.09	6.19
	WIDTH OF FLAT STEM	D	1.00	1.25	1.25
	DIAMETER OF STEM	E	1.37	2	2
	HEIGHT OF PLUG STEM	F	0.74	1.31	1.31
	EXTREME BODY WIDTH	G	4.75	7.75	9.50
	WRENCH NUMBER		IB-2	IB-3	IB-3
9511	WEIGHT (APPROX.) Lb.		68	121	198
9512	WEIGHT (APPROX.) Lb.		90	143	228
9513	WEIGHT (APPROX.) Lb.		—	147	237

ANSI 900
REGULAR PATTERN
GEAR OPERATED
CARBON STEEL BODY
AND ALLOY STEEL PLUG

WALWORTH COMPENSATOR STEEL PLUG VALVES







9522
Flanged Raised Face

9523
Flanged Ring Type Joint

9524
Weld Ends

9525
Flanged RF X Weld

DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 3	4	6	8	10
9522	FLANGED RAISED FACE	A	15	18	24	29	33
9523	FLANGED RING TYPE JOINT	A	15.12	18.12	24.12	29.12	33.12
9524	WELD X WELD	A	15	18	24	29	33
9525	FLANGED RF X WELD	A	15	18	24	—	—
	CENTER TO TOP	B	11.69	12.44	15.50	16.37	19.37
	CENTER TO BOTTOM	C	5.09	6.19	9	9.75	11.37
	EXTREME BODY WIDTH	G	7.75	9.50	14	15.37	15.62
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	7.72	8.50	11.56	12.12	14.75
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	12.19	12.19	12.19	12.19	15
	HANDWHEEL DIAMETER	J	23	23	23	23	26
	NUMBER OF TURNS TO OPEN		9	9	9	16	20
	GEAR OPERATOR No.		1	1	1	3	4
9522	WEIGHT (APPROX.) Lb.		203	290	550	1021	1370
9523	WEIGHT (APPROX.) Lb.		209	299	566	1052	1059
9524	WEIGHT (APPROX.) Lb.		153	218	413	766	1028
9525	WEIGHT (APPROX.) Lb.		178	254	482	—	—

WALWORTH COMPENSATOR STEEL PLUG VALVES

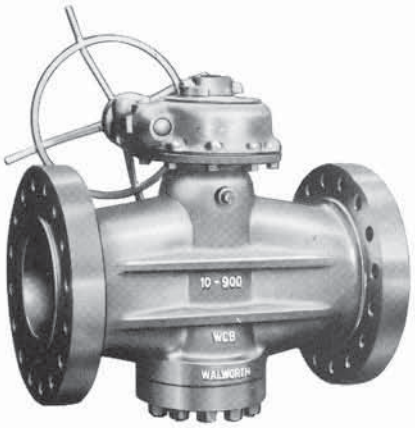
ANSI 900 VENTURI PATTERN GEAR OPERATED

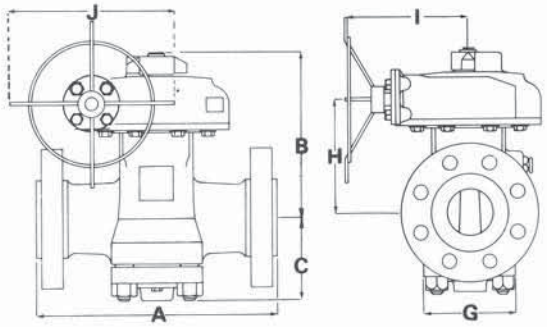
CARBON STEEL BODY AND IRON PLUG

9622
Flanged Raised Face

9623
Flanged Ring Type Joint

9624
Weld X Weld



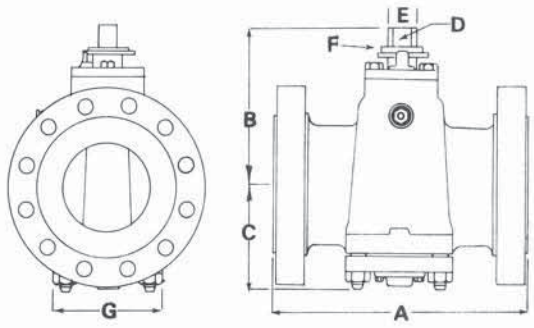


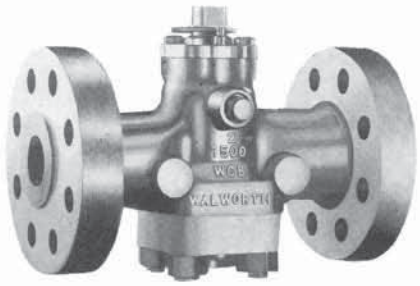
DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 10	12
9622	FLANGED RAISED FACE	A	33	38
9623	FLANGED RING TYPE JOINT	A	33.12	38.12
9624	WELD X WELD	A	33	38
	CENTER TO TOP	B	19.25	22.03
	CENTER TO BOTTOM	C	12.81	14.87
	EXTREME BODY WIDTH	G	12.50	14.37
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	14.59	16.25
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	12.19	15
	HANDWHEEL DIAMETER	J	23	26
	NUMBER OF TURNS TO OPEN		16	20
	GEAR OPERATOR No.		3	4
9622	WEIGHT (APPROX.) Lb.		1020	2020
9623	WEIGHT (APPROX.) Lb.		1051	2081
9624	WEIGHT (APPROX.) Lb.		670	1320

ANSI 1500
REGULAR PATTERN
WRENCH OPERATED
CARBON STEEL BODY
AND ALLOY STEEL PLUG

WALWORTH COMPENSATOR STEEL PLUG VALVES





5511
Threaded

5512
Flanged Raised Face

5513
Flanged Ring Type Joint

5514
Weld Ends

5516
Flanged RTJ X Weld

DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES ½	¾	1	1½	2	3	4
5511	THREADED	A	4.50	4.50	5	6.69	7.75	10	11.50
5512	FLANGED RAISED FACE	A	—	—	10	12	14.50	18.50	21.50
5513	FLANGED RING TYPE JOINT	A	—	—	10	12	14.62	18.62	21.62
5514	WELD X WELD	A	—	—	—	—	14.50	18.50	21.50
5516	FLANGED RTJ X WELD	A	—	—	—	—	14.56	18.56	21.56
	CENTER TO TOP	B	4.24	4.24	4.50	5.06	5.98	7.93	8.56
	CENTER TO BOTTOM	C	2.42	2.42	2.78	3.50	3.91	5.09	6.19
	WIDTH OF FLAT STEM	D	0.50	0.50	0.50	0.75	1	1.25	1.25
	DIAMETER OF STEM	E	0.74	0.74	0.74	1	1.37	2	2
	HEIGHT OF PLUG STEM	F	0.60	0.60	0.60	0.66	0.74	1.31	1.31
	EXTREME BODY WIDTH	G	3.25	3.25	3.62	4.25	4.75	8	10
	WRENCH NUMBER		IB-0	IB-0	IB-0	IB-1	IB-2	IB-3	IB-3
5511	WEIGHT (APPROX.) Lb.		11	11	21	36	60	110	125
5512	WEIGHT (APPROX.) Lb.		—	—	31	55	90	195	293
5513	WEIGHT (APPROX.) Lb.		—	—	32	57	95	201	302
5514	WEIGHT (APPROX.) Lb.		—	—	22	26	69	147	220
5516	WEIGHT (APPROX.) Lb.		—	—	—	—	84	177	266

WALWORTH COMPENSATOR STEEL PLUG VALVES

ANSI 1500 REGULAR PATTERN GEAR OPERATED

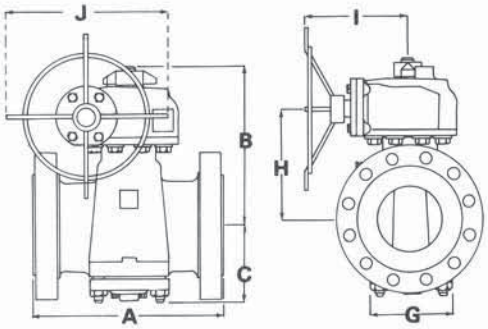
CARBON STEEL BODY AND ALLOY STEEL PLUG

5522
Flanged Raised Face

5523
Flanged Ring Type Joint

5524
Weld Ends

5526
Flanged RTJ X Weld

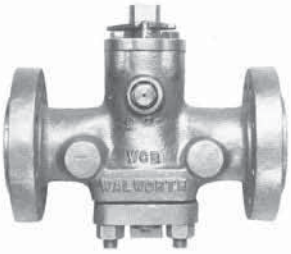


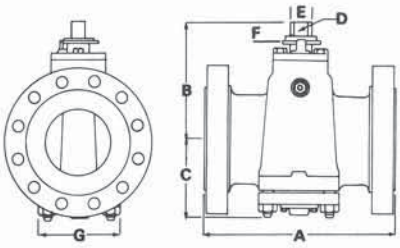
DIMENSIONS and WEIGHTS

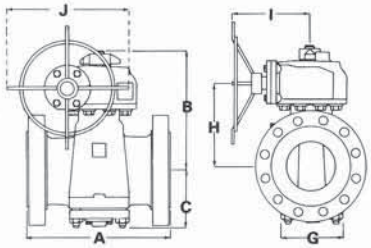
FIGURE NO.			SIZE OF VALVE IN INCHES 2	3	4	6	8
5522	FLANGED RAISED FACE	A	14.50	18.50	21.50	27.75	32.75
5523	FLANGED RING TYPE JOINT	A	14.62	18.62	21.62	28	33.12
5524	WELD X WELD	A	14.50	18.50	21.50	27.75	32.75
5526	FLANGED RTJ X WELD	A	14.56	18.56	21.56	27.87	32.93
	CENTER TO TOP	B	10.41	11.66	12.44	15.29	21.62
	CENTER TO BOTTOM	C	3.91	5.09	6.19	8.25	11.50
	EXTREME BODY WIDTH	G	4.75	8	10	15.25	20
	CENTER OF PORT TO CENTER OF HANDWHEEL	H	6.65	7.72	8.50	11.19	15.87
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	12.19	12.19	12.19	12.19	15
	HANDWHEEL DIAMETER	J	23	23	23	23	26
	NUMBER OF TURNS TO OPEN		9	9	9	12.50	20
	GEAR OPERATOR No.		1	1	1	2	4
5522	WEIGHT (APPROX.) Lb.		152	233	350	845	1656
5523	WEIGHT (APPROX.) Lb.		157	240	360	870	1706
5524	WEIGHT (APPROX.) Lb.		114	175	263	634	1242
5526	WEIGHT (APPROX.) Lb.		136	208	312	753	1474

ANSI 2500
REGULAR PATTERN
WRENCH/GEAR OPERATED
CARBON STEEL BODY
AND ALLOY STEEL PLUG

WALWORTH COMPENSATOR STEEL PLUG VALVES







2511
Threaded
2512/2522
Raised Face
2513/2523
Flanged Ring
Type Joint
2514/2524
Weld Ends
2516/2526
Flange RTJ
X Welded

DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES ½	¾	1	1½	2	3	4	6	8
2511	THREADED	A	5.04	5.04	5.04	—	—	—	—	—	—
2512/2522	FLANGED RAISED FACE	A	—	—	12.12	15.12	17.75	22.75	26.50	36.00	40.25
2513/2523	FLANGED RING TYPE JOINT	A	—	—	12.12	15.25	17.88	23.00	26.88	36.50	40.88
2514/2524	WELD X WELD	A	—	—	—	15.12	17.75	22.75	26.50	36.00	40.25
2516/2526	FLANGED RTJ X WELD	A	—	—	—	15.19	17.81	22.88	26.69	36.25	40.56
	CENTER TO TOP (GEARING)	B	5.7	5.7	5.7	6.6	6.6	8.0	9.1	12.0	19.5
	CENTER TO BOTTOM	C	3.9	3.9	3.9	4.8	4.8	5.7	6.7	9.6	11.8
	WIDTH OF FLAT STEM	D	.62	.62	.62	.81	.81	1.00	1.25	—	—
	DIAMETER OF STEM	E	.85	.85	.85	1.09	1.09	1.41	1.78	—	—
	HEIGHT OF PLUG STEM	F	.90	.90	.90	1.00	1.00	1.21	1.41	—	—
	EXTREME BODY WIDTH	G	4.60	4.60	4.60	7.15	7.15	8.60	9.98	13.50	17.80
	WRENCH NUMBER		IB-0	IB-0	IB-0	IB-1	IB-2	IB-3	IB-3	—	—
	CENTERLINE OF VALVE TO CENTERLINE OF HANDWHEEL	H	—	—	—	—	—	—	—	13.2	16.2
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	I	—	—	—	—	—	—	—	12.19	10.75
	HANDWHEEL DIAMETER	J	—	—	—	—	—	—	—	23	26
	NUMBER OF TURNS TO OPEN		—	—	—	—	—	—	—	12.50	32.00
	GEAR OPERATOR NUMBER		—	—	—	—	—	—	—	2	6
2511	WEIGHT (APPROX.) Lb.		22	22	22	—	—	—	—	—	—
2512	WEIGHT (APPROX.) Lb.		—	—	50	88	154	330	507	—	—
2522	WEIGHT (APPROX.) Lb.		—	—	—	—	—	—	—	1697	2230

WALWORTH

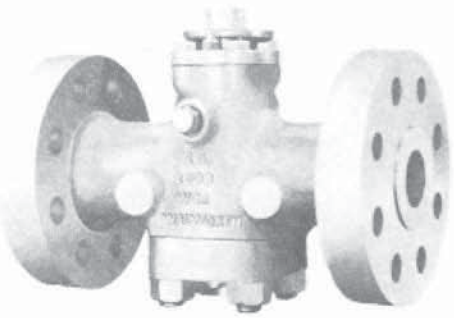
WALWORTH COMPENSATOR
STEEL PLUG VALVES
OS-Offshore Design

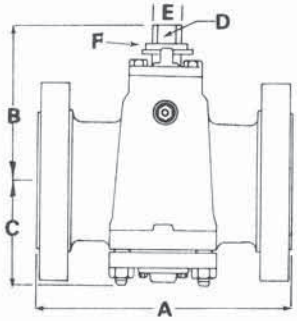
API 2000, 3000, & 5000
REGULAR PATTERN
WRENCH OPERATED
CARBON STEEL
BODY AND PLUG

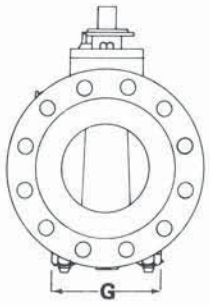
20513-OS
API 2000 FLANGED
RING TYPE JOINT

30513-OS
API 3000 FLANGED
RING TYPE JOINT

50513-OS
API 5000 FLANGED
RING TYPE JOINT



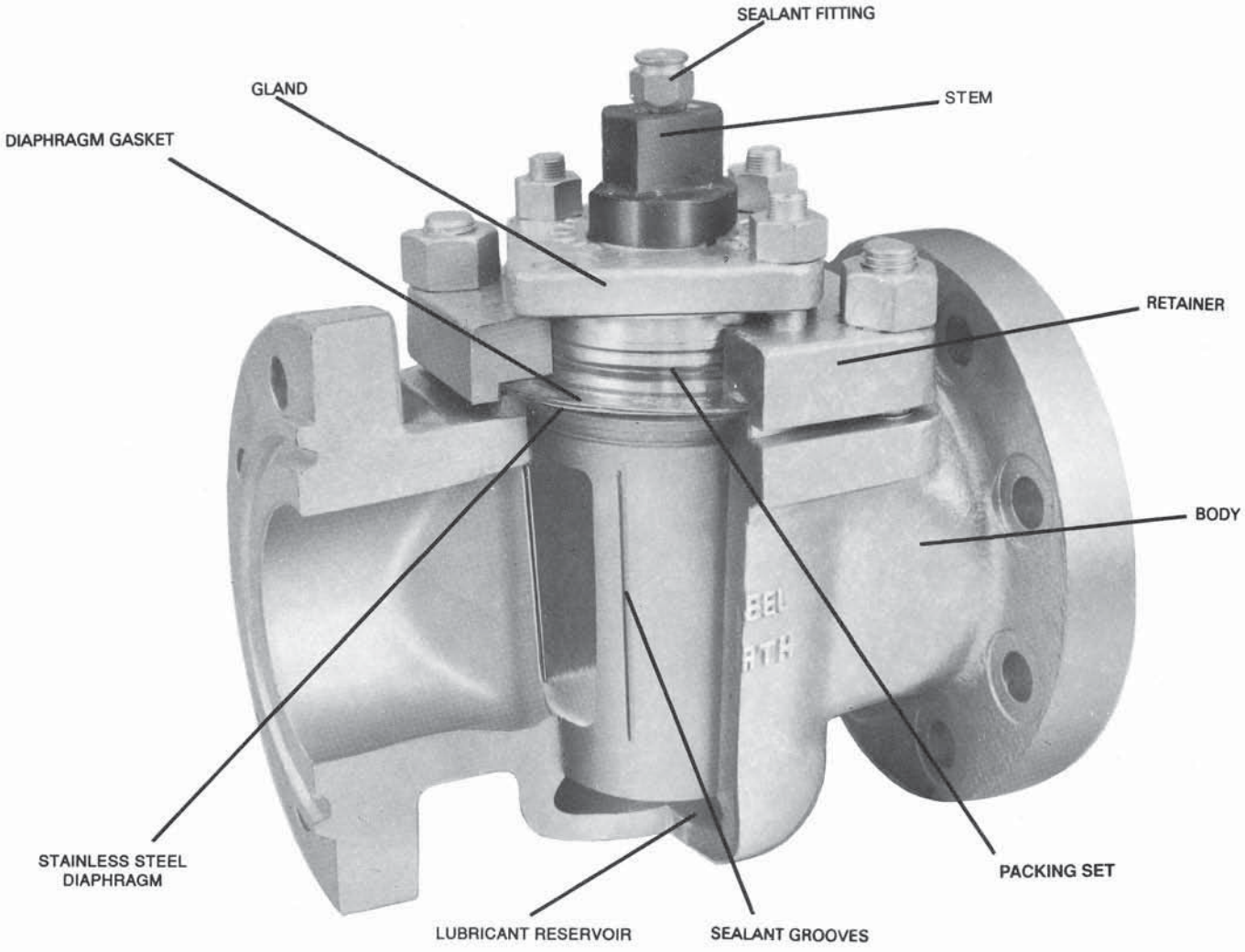




DIMENSIONS and WEIGHTS

		ANSI 600 API 2000 SIZE OF VALVE IN INCHES			ANSI 900 API 3000 SIZE OF VALVE IN INCHES			ANSI 1500 API 5000 SIZE OF VALVE IN INCHES		
		2 1/16	3 1/8	4 1/16	2 1/16	3 1/8	4 1/16	2 1/16	3 1/8	4 1/16
FLANGED RING TYPE JOINT	A	11.62	4.12	17.12	14.62	15.12	18.12	14.62	18.62	21.62
CENTER TO TOP	B	5.98	6.84	7.37	6.0	7.93	8.65	5.98	7.93	8.56
CENTER TO BOTTOM	C	3.78	4.41	5.06	3.91	5.09	6.19	3.91	5.09	6.19
WIDTH OF FLAT STEM	D	1.00	1.00	1.00	1.00	1.25	1.25	1.00	1.25	1.25
DIAMETER OF STEM	E	1.37	1.37	1.37	1.37	2	2	1.37	2	2
HEIGHT OF PLUG STEM	E	0.74	0.77	0.77	0.74	1.31	1.31	0.74	1.31	1.31
EXTREME BODY WIDTH	G	4.37	5.00	5.75	4.75	7.75	9.50	4.75	8	10
WRENCH NUMBER		IB-2	IB-2	IB-2	1B-2	IB-3	IB-3	IB-2	IB-3	I B-4
FLANGED WEIGHT (APPROX.) Lb.		51	84	145	95	147	237	95	201	302

WALWORTH
TOP ENTRY
STEEL PLUG VALVES



Walworth Top Entry Cast Steel Plug valves provide safe, reliable long life service at an economical price. The taper of the plug and seat maintains an intimate working contact between the two parts at all times, and with the proper lubricant, the valve seals drop tight from zero to full rated differential pressure. These valves have a grooving system which permits sealant injection while the valve is under full line pressure. Walworth recommends that valves be lubricated with the plug in the fully opened or fully closed position for optimum valve performance.

Figure Numbers: **1748, 1749F, 1749WE, 1750, 1752F, 1760, 1760F, 1760WE.**

Codes and Standards Compliance

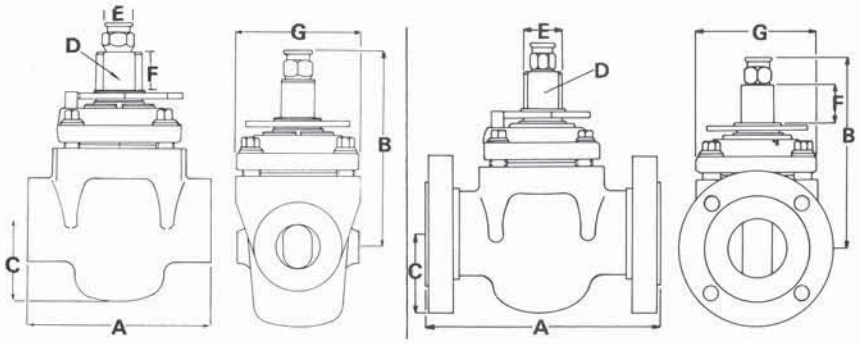
		API (American Petroleum Institute)		MSS (ManufacturingStandardization Society)	
ANSI B16.34	Flanged valves	API 6D	Specifications for pipe line valves	MSS SP-25	Marking system of valves
ANSI B 2.1	Pipe threads			MSS SP-44	Steel pipe line flanges
ANSI B16.5	Steel flanges	API 598	Testing	MSS SP-61	Pressure testing of steel valves
ANSI B16.10	Face-to-face dimensions	API 599	Design and material requirement	MSS SP-78	Cast iron plug valves, flanged – threaded
ANSI B16.20	Ring joint flanges				
ANSI B16.25	Buttweld ends				

WALWORTH TOP ENTRY STEEL PLUG VALVES

ANSI 150 SHORT PATTERN WRENCH OPERATED

CARBON STEEL BODY AND ALLOY STEEL PLUG

1749F
Flanged Ends
1749WE
Weld Ends
1750
Threaded Ends

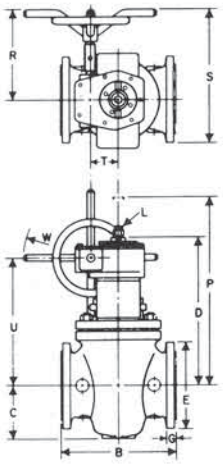


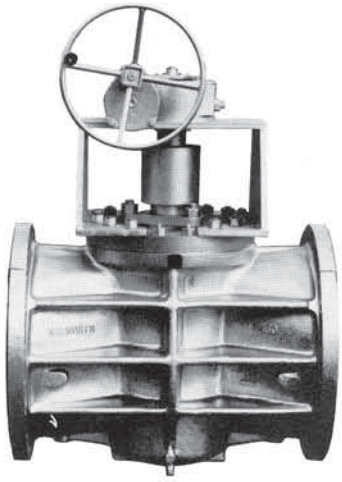
DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 1	1½	2	2½	3	4	6	8
1749WE	END TO END	A			10.50		13	14		
1749F	FLANGED RAISED FACE	A	5.50	6.50	7	7.50	8	9	10.50	11.50
1750	THREADED	A	4.70	—	7.75	10	10	11.50	—	—
	CENTER TO TOP	B	6.87	7.62	9	9.87	10.87	10.87	14.62	16.75
	CENTER TO BOTTOM	C	2.12	2.50	3	3.75	4.37	4.87	5.62	7.12
	EXTREME BODY WIDTH	G	3.12	3.75	4.25	4.25	5.25	7	8.50	10
	WIDTH OF FLAT STEM	D	0.87	0.99	1.12	1.12	1.34	1.34	1.75	2
	DIAMETER OF STEM	E	1.22	1.41	1.60	1.60	1.94	1.94	2.31	2.62
	HEIGHT PLUG STEM	F	1.69	1.21	1.34	1.35	1.25	1.25	1.75	2
	SEALANT STICK SIZE		B	B	C	C	C	C	D	D
	WRENCH NUMBER		IH-2	IH-3	IH-4	IH-4	IA-1	IA-1	IA-2	IA-3
1749F	WEIGHT (APPROX.) Lb.		12	22	33	48	71	93	172	260
1750	WEIGHT (APPROX.) Lb.		9	11	27	45	69	85	—	—
1749WE	WEIGHT (APPROX.) Lb.				33		71	97		

ANSI 150
VENTURI PATTERN
GEAR OPERATED
CARBON STEEL BODY
AND IRON PLUG

WALWORTH
TOP ENTRY
STEEL PLUG VALVES





1752F
Flanged Raised
Face

DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES 14	16	18	20	24	30	36
1752F	FLANGED RAISED FACE (END TO END OR FACE TO FACE)	B	27	30	34	36	42	51	63
	FLANGED RING TYPE JOINT	A	—	—	—	36.50	42.50	—	—
	CENTER TO TOP	P	24.50	24.50	26.37	28.50	30.50	50.62	33
	CENTER TO BOTTOM	C	12.62	12.62	13.87	15.50	17.25	20.50	23.37
	EXTREME BODY WIDTH	S	21	23.50	25	27.50	32	31	38
	CENTER OF PORT TO CENTER OF HANDWHEEL	U	16.12	16.12	18	19.62	21.37	10.37	29
	CENTER TO GEAR	D	11.12	11.12	12.37	12.37	15.12	36	19.62
	LONGITUDINAL CENTERLINE TO FACE OF HANDWHEEL	R	14.62	14.62	17.75	17.75	21.75	—	23
	NUMBER OF TURNS TO OPEN		22.5	22.5	25.5	25.5		40	40
	SEALANT STICK SIZE		G	G	G	G	G	G	G
1752F	WEIGHT (APPROX.) Lb.		1265	1415	1875	2270	3720	7150	5500

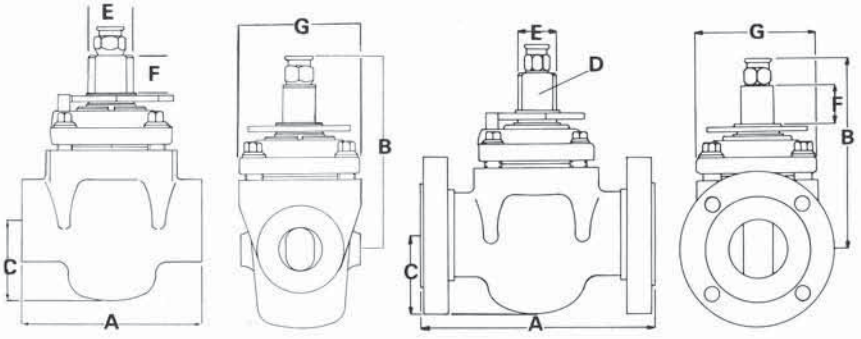
WALWORTH

WALWORTH TOP ENTRY STEEL PLUG VALVES

ANSI 300 SHORT PATTERN WRENCH OPERATED

CARBON STEEL BODY AND ALLOY STEEL PLUG

1760
Threaded Ends
1760 WE
Weld Ends
1760F
Flanged Raised Face



DIMENSIONS and WEIGHTS

FIGURE NO.			SIZE OF VALVE IN INCHES ½	¾	1	1½	2	2½	3	4
1760	THREADED	A	4	4	4.50	6.69	7.75	10	10	—
1760F	FLANGED RAISED FACE	A	—	—	6.25	7.50	8.50	9.50	11.12	12
1760F	FLANGED RING TYPE JOINT	A	—	—	6.75	8	9.12	10.12	11.75	12.62
1760 WE	END TO END						10.50		13	14
	CENTER TO TOP	B	6.25	6.25	6.87	7.62	9	9.62	10.87	11.12
	CENTER TO BOTTOM	C	1.75	1.75	2	2.50	3	3.75	4.37	4.87
	WIDTH OF FLAT STEM	D	0.81	0.81	0.87	0.99	1.12	1.12	1.34	1.34
	DIAMETER OF STEM	E	1.10	1.10	1.22	1.41	1.60	1.60	1.94	1.94
	HEIGHT OF PLUG STEM	F	0.95	0.95	1.69	1.21	1.34	1.35	1.25	1.25
	EXTREME BODY WIDTH	G	3.12	3.12	3.12	3.75	4.25	4.25	5.25	7
	SEALANT STICK SIZE		B	B	B	B	C	C	C	C
	WRENCH NUMBER		IH-1	IH-1	IH-2	IH-3	IH-4	IH-4	IA-1	IA-1
1760	WEIGHT (APPROX.) Lb.		7	7	9	18	27	38	69	85
1760F	WEIGHT (APPROX.) Lb.		—	—	21	30	42	57	89	121
1760 WE	WEIGHT (APPROX.) Lb.						35		88	105