HOMESTEAD®

Series 120 Eccentric Plug Valves

The Eccentric of Choice.

HOMESTEAD®

Series 120 Eccentric Plug Valves

100 years of quality is built into every Homestead® Eccentric Plug Valve

For over 100 years Homestead® has been building a reputation of dependability, reliability, safety and uncompromising quality. Continuing in this tradition, this new eccentric plug valve delivers the same high level of performance you have come to expect from Homestead.

- Exclusive *TRUE* bi-directional design
- CAD/CAM Design
- Unequaled craftmanship
- Advanced manufacturing procedures

BODY

The Homestead eccentric body casting is in ASTM A126 Class B cast iron and conforms to the leading standard for wall thickness. Flange thickness, diameter and drilling fully conform to ANSI B16.1 Class 125. Alternative flanged, screwed or mechanical joint ends are available. A high quality two-part epoxy coating can be applied externally and internally to protect the casting integrity and assure long, trouble-free performance.

SEAT

Homestead's eccentric valve seat has been geometrically optimized for low torque operation and extended life. A 90% raised welded nickel seat is incorporated to resist the effects of corrosion and erosion.

STEM SEAL

Homestead's fully adjustable seals assure stem sealing in even the most demanding applications.

BEARINGS

316 stainless steel radial bearings are utilized to assure long trouble-free operation.

PLUG

Single piece plug/stem is designed for a quick lift camming motion to provide both low torque and reduced wear of the plug face elastomer. The elastomer extends along the stem in both directions to protect the integral trunnions and form the bearing interference. A wide range of plug elastomers are available to assure complete fluid compatibility.

BONNET

The high stresses associated with compression gasketing have been eliminated by incorporating high quality o-rings into our bonnet design.

FLOW

Valve ports have been enlarged and tapered to reduce pressure drop and provide enhanced handling of municipal sludges.

POSITION INDICATORS

Travel stops are integral for full travel indication in both directions. Intermediate positions are indicated in 10 degree increments. Positive indication is given on lever and gear operated valves.

Homestead Series 120 Eccentric Plug Valves

Olson Technologies, Inc. 160 Walnut Street, Allentown, PA 18102 (610) 770-1100 Fax (610) 770-1108 www.homesteadvalve.com

Series 120 Eccentric Plug Valves

Large diameter stem/actuator connection gives added strength for heavy slurry and automation applications.

Large diameter stem/plug is designed for superior (trouble-free) operation in throttling or other services experiencing line vibration.

Resilient coated plug resists corrosion and sustains a bubble-tight seal when activated against the welded nickel seat.

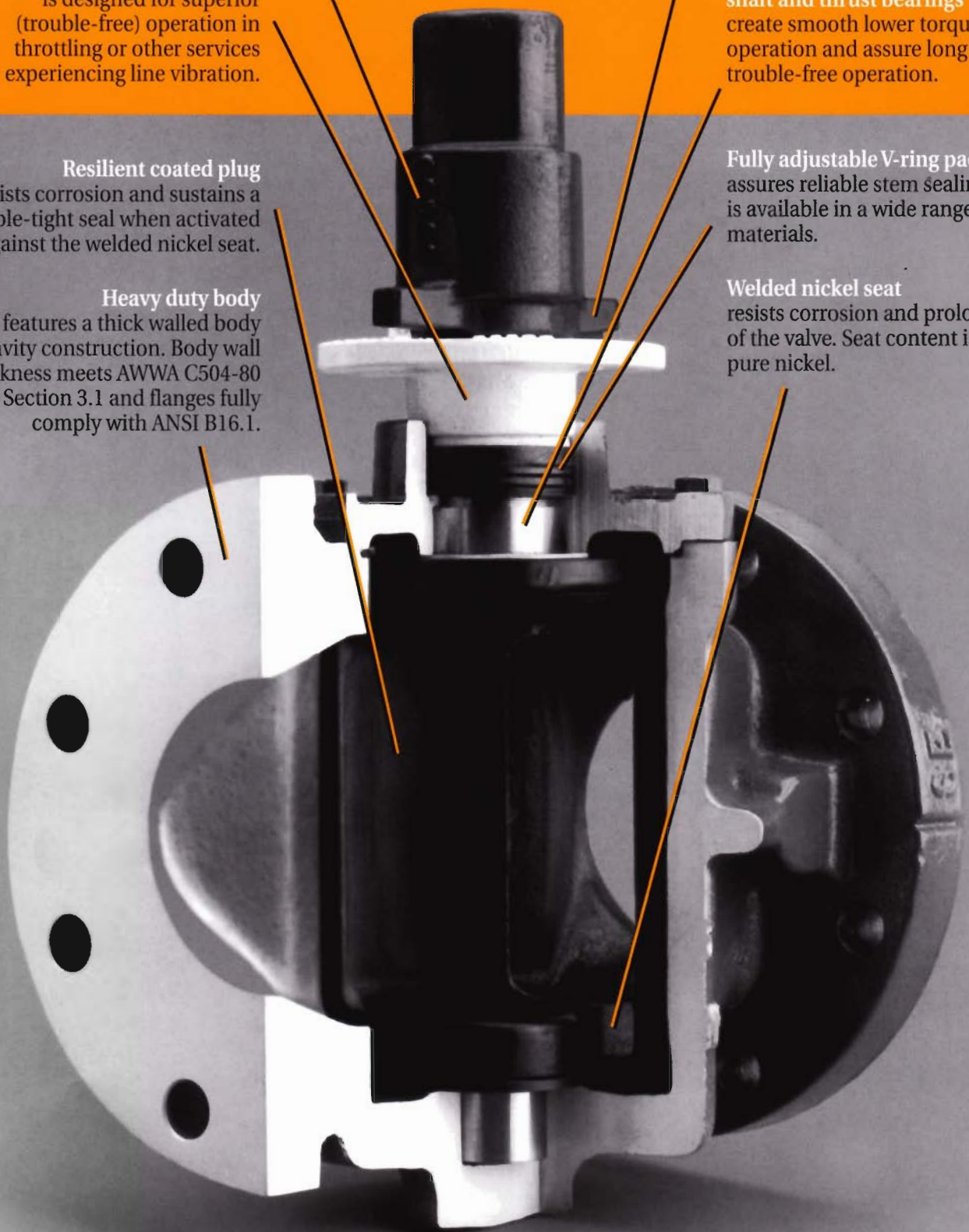
Heavy duty body features a thick walled body cavity construction. Body wall thickness meets AWWA C504-80 Section 3.1 and flanges fully comply with ANSI B16.1.

Cast integral stop for accurate and positive operation by insuring proper alignment in the open and closed positions for maximum performance.

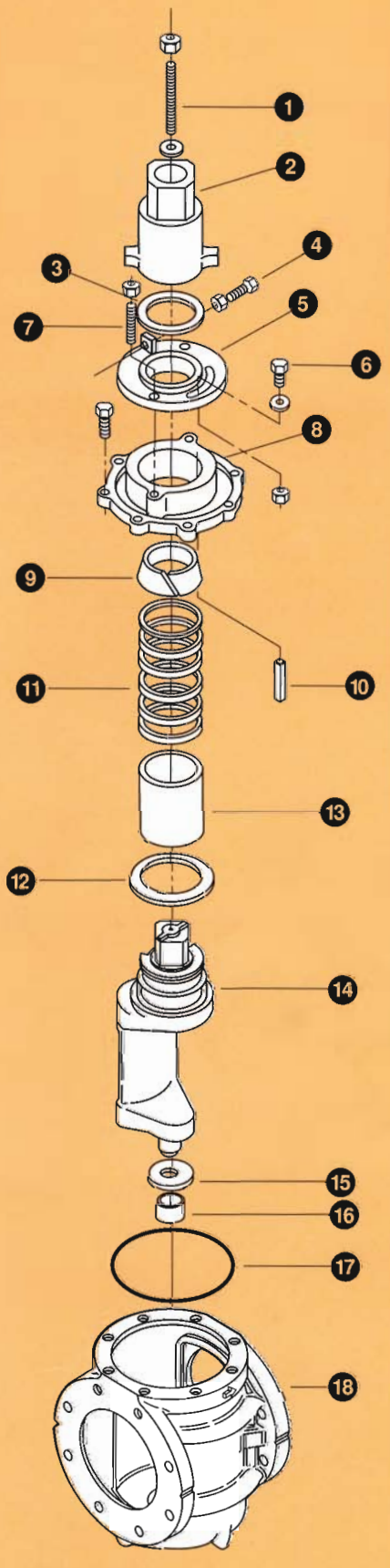
Low friction corrosion-resistant shaft and thrust bearings create smooth lower torque operation and assure long trouble-free operation.

Fully adjustable V-ring packing assures reliable stem sealing and is available in a wide range of materials.

Welded nickel seat resists corrosion and prolongs life of the valve. Seat content is 90% pure nickel.



Homestead Eccentric plug valves ... designed for total quality



Item	Component	Material	Specification
1	Nut, Washer, Stud	Carbon, Stainless or Zinc Plated Steel	
2	Stop Collar	Cast Iron	A126 Class B
3	Washer	Teflon®	PTFE
4	Adj. Stop Bolt/Nut	Carbon, Stainless or Zinc Plated Steel	
5	Memory Plate	Cast Iron	A126 Class B
6	Cap Screws	Carbon, Stainless or Zinc Plated Steel	
7	Studs	Carbon, Stainless or Zinc Plated Steel	
8	Bonnet	Cast Iron	A126 Class B
9	Brake Ring	Teflon®	PTFE
10	Key	Carbon Steel	
11	V-Ring Packing	Neoprene, Buna-N, EPDM	
12	Upper Thrust Washer	316SS or Nylatron®	
13	Upper Radial Bearing	316SS or Perm. lubricated 316SS	
14	Plug	Cast Iron	A126 Class B
15	Lower Thrust Washer	316SS or Nylatron®	
16	Lower Radial Bearing	316SS or Perm. lubricated 316SS	
17	O-Ring	Neoprene, Buna-N, EPDM	
18	Body	Cast Iron	A126 Class B

Plug Valve Facing Materials

Standard

- ☐ Neoprene
- ☐ Buna-N
- ☐ EPDM

Optional

- ☐ Hypalon
- ☐ Natural Rubber
- ☐ Viton B
- ☐ Isoprene

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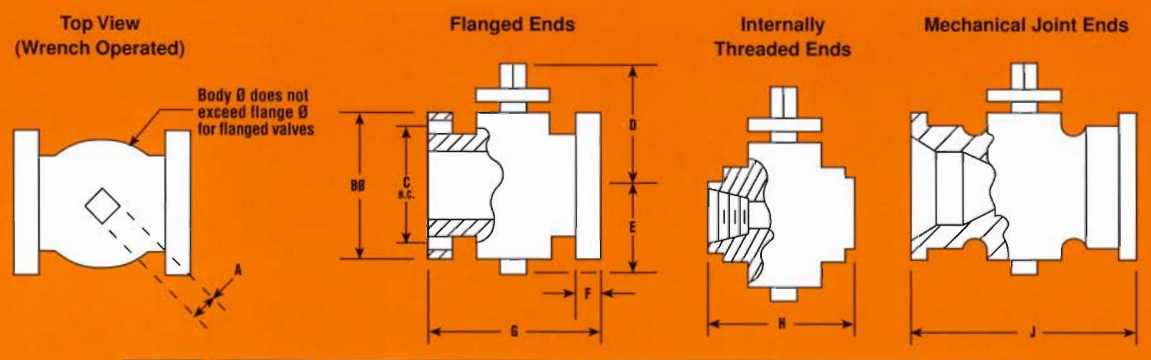
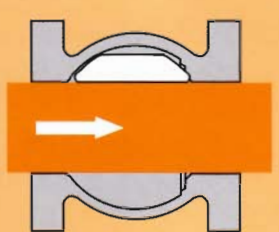
2"-12"

Valve Dimensions

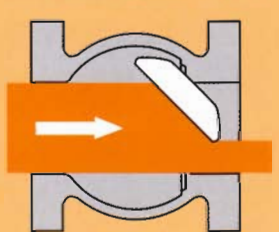


Valve Size	DIMENSIONS — INCHES								
	A	B	C	D	E	F	G	H	J
2	2	6	4 3/4	5 3/4	2 1/2	5/8	7	5 3/4	N/A
3	2	7 1/2	6	9 5/16	4 5/16	3/4	8	7 1/2	11 1/2
4	2	9	7 1/2	10 3/8	5 3/16	15/16	9	10	14 1/4
6	2	11	9 1/2	12 1/4	6 7/8	1	10 1/2	N/A	15 3/4
8	2	13 1/2	11 3/4	14 1/4	8 5/16	1 1/8	11 1/2	N/A	17 3/8
10	N/A	16	14 1/4	N/A	10 1/16	1 3/16	13	N/A	19 3/8
12	N/A	19	17	N/A	14 3/16	1 1/4	14	N/A	20 3/4

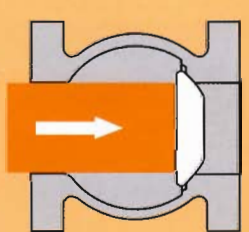
The Homestead Eccentric Operation



In the open position, the Homestead eccentric allows maximum straight-through flow thus minimizing pressure drop.



The Homestead eccentric plug opens and closes freely, without scraping the body walls, therefore there is no plug binding. Flow remains straight making this eccentric ideal for gases, liquids, and slurries.



Simple quarter-turn operation achieves positive shut-off in either direction. The long-lasting resilient plug remains in full contact with the eccentric raised seat. Pressure and flow assist in producing an even tighter seal when flow is in the direction shown above.

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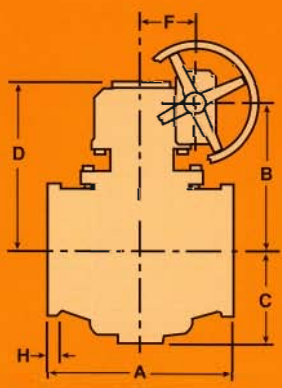
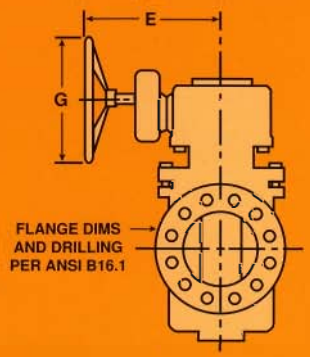
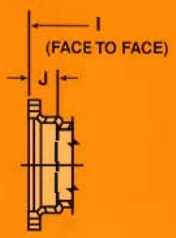
14" - 20"

Handwheel Actuated Valve Dimensions





Flange End



Mechanical Joint End

SIZE 14" – 20"	LINE PRESSURE ΔP	DIMENSIONS (INCHES/mm)									
		A	B	C	D	E	F	G	H	I	J
14"	< 100 PSI	17.0	15.8	13.0	24.5	13.6	4.6	12	1.38	24.5	3.50
		431.8	401.3	330.2	622.3	345.4	116.8	304.8	35.1	622.3	88.9
	> 100 PSI	17.0	15.8	13.0	24.5	13.6	4.6	12	1.38	24.5	3.50
		431.8	401.3	330.2	622.3	345.4	116.8	304.8	35.1	622.3	88.9
16"	< 100 PSI	17.75	20.5	17.5	25.5	13.6	4.6	12	1.44	27.3	3.50
		450.8	520.7	444.5	647.7	345.4	116.8	304.8	36.6	693.4	88.9
	> 100 PSI	17.75	20.5	17.5	25.5	13.6	4.6	18	1.44	27.3	3.50
		450.8	520.7	444.5	647.7	345.4	116.8	457.2	36.6	693.4	88.9
18"	< 100 PSI	21.5	21.12	15.75	26.5	13.6	4.6	12	1.56	29.3	3.50
		546.1	536.4	400.0	673.1	345.4	116.8	304.8	39.6	744.2	88.9
	> 100 PSI	21.5	21.12	15.75	26.5	13.6	4.6	18	1.56	29.3	3.50
		546.1	536.4	400.0	673.1	345.4	116.8	457.2	39.6	744.2	88.9
20"	< 100 PSI	23.5	23.12	17.25	28.5	13.6	4.6	18	1.69	31.0	3.50
		596.9	587.2	438.2	723.9	345.4	116.8	457.2	42.9	787.4	88.9
	> 100 PSI	23.5	23.12	17.25	28.5	13.6	4.6	18	1.69	31.0	3.50
		596.9	587.2	438.2	723.9	345.4	116.8	457.2	42.9	787.4	88.9

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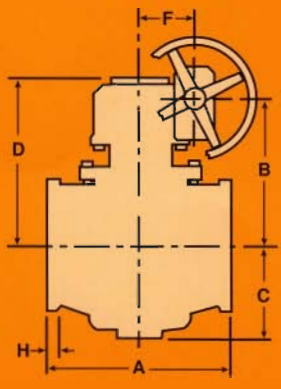
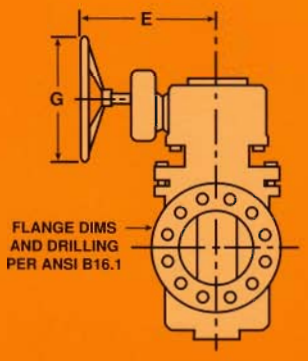
24"-72"





Flange End

Mechanical Joint End

All dimensions are subject to change without notice. Request certified drawings for use in preparing piping layouts.

SIZE 24" – 72"	LINE PRESSURE ΔP	DIMENSIONS (INCHES/mm)									
		A	B	C	D	E	F	G	H	I	J
24"	< 100 PSI	42.0	32.0	24.8	38.0	13.8	6.3	24	1.88	42.0	3.50
		1066.8	812.8	629.9	965.2	350.5	160.0	609.6	47.8	1066.8	88.9
	> 100 PSI	42.0	32.0	24.8	38.0	13.8	6.3	36	1.88	42.0	3.50
		1066.8	812.8	629.9	965.2	350.5	160.0	914.4	47.8	1066.8	88.9
30"	< 100 PSI	51.0	35.6	28.8	41.6	14.5	6.8	24	2.12	51.0	4.00
		1295.4	904.2	731.5	1056.6	368.3	172.7	609.6	53.8	1295.4	101.6
	> 100 PSI	51.0	35.6	28.8	41.6	14.5	6.8	36	2.12	51.0	4.00
		1295.4	904.2	731.5	1056.6	368.3	172.7	914.4	53.8	1295.4	101.6
36"	< 100 PSI	60.0	40.4	31.4	40.3	14.5	6.8	36	2.38	60.0	4.00
		1524.0	1026.2	797.6	1023.6	368.3	172.7	914.4	60.5	1524.0	101.6
	> 100 PSI	60.0	40.4	31.4	40.3	14.5	6.8	36	2.38	60.0	4.00
		1524.0	1026.2	797.6	1023.6	368.3	172.7	914.4	60.5	1524.0	101.6
42"	< 100 PSI	72.0	40.5	33.5	47.0	19.7	9.1	36	2.62	72.0	4.00
		1828.8	1028.7	850.9	1193.8	500.4	231.1	914.4	66.5	1828.8	101.6
	> 100 PSI	72.0	40.5	33.5	47.0	19.7	9.1	36	2.62	72.0	4.00
		1828.8	1028.7	850.9	1193.8	500.4	231.1	914.4	66.5	1828.0	101.6
48"	< 100 PSI	84.0	43.5	36.5	50.0	23.0	11.5	36	2.75	84.0	4.00
		2133.6	1104.9	927.1	1270.0	584.2	292.1	914.4	69.9	2133.6	101.6
	> 100 PSI	84.0	43.5	36.5	50.0	23.0	11.5	36	2.75	84.0	4.00
		2133.6	1104.9	927.1	1270.0	584.2	292.1	914.4	69.9	2133.6	101.6
54"	< 100 PSI	96.0	67.0	48.0	64.0	23.0	10.0	36	3.00		
		2438.4	1701.8	1219.2	1625.6	584.2	254.0	914.4	76.2		
	> 100 PSI	96.0	67.0	48.0	65.0	31.0	16.0	36	3.00		
		2438.4	1701.8	1219.2	1651.0	787.4	406.4	914.4	76.2		
60"	< 100 PSI	96.0	72.0	48.0	65.0	22.0	22.0	36	3.12		
		2438.4	1701.8	1219.2	1651.0	558.8	558.8	914.4	79.2		
	> 100 PSI	96.0	72.0	48.0	65.0	22.0	22.0	36	3.12		
		2438.4	1701.8	1219.2	1651.0	558.8	558.8	914.4	79.2		
72"	< 100 PSI	98.0	72.0	48.0	65.0	22.0	22.0	36	3.50		
		2489.2	1701.8	1219.2	1651.0	558.8	558.8	914.4	88.9		
	> 100 PSI	98.0	72.0	48.0	65.0	22.0	22.0	36	3.50		
		2489.2	1701.8	1219.2	1651.0	558.8	558.8	914.4	88.9		

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Think HOMESTEAD® Instead

How to specify Homestead Non-Lubricated Series 120 Eccentric Plug Valves

- All non-lubricated eccentric plug valves shall be Homestead Series 120 or approved equal.
- Bodies shall be of the rectangular ported design, ASTM A126 Class B cast iron with bolted bonnets.
- Rated for 175 psi working pressure for valves 12" and smaller and 150 psi for valves 14" and larger.
- Flanges shall fully conform to ANSI B16.1 requirements in all respects including flange thickness.
- Port area of valves 20" and smaller shall not be less than 80% of pipe area, and not less than 70% of pipe area for valves 24" and larger.
- All valves must have fully coated plugs of Neoprene, Hycar, EPDM or Isoprene as dictated by the application with mating seats of no less than 90% pure nickel in the finished state, raised and welded into the body.
- Stainless steel seats are not acceptable and plug elastomer retained by means of seat rings and retaining screws are not acceptable.
- Upper and lower radial bearings must be removable 316 stainless steel for valves 20" and smaller; valves 24" and larger shall have 316 stainless steel or bronze bearings.
- Stem seals shall be multi-V ring adjustable packing type and shall be in-line replacable without valve disassembly.
- Flanged ends must be faced and drilled per ANSI B16.1, Class 125; mechanical joint ends must conform to AWWA C111.

HOMESTEAD®
160 Walnut Street, Allentown, PA 18102
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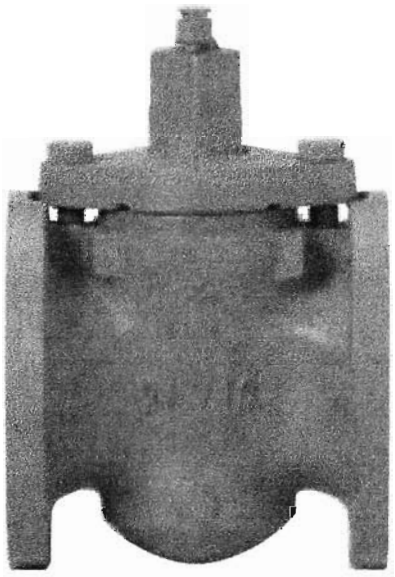
Lubricated Plug Valve

Model #153
Class 200 (1" to 12")



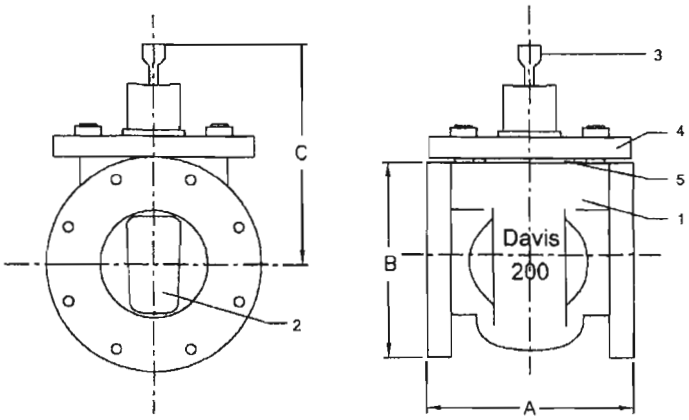
SERVICE RATING:

125psi Saturated Steam to 353 F or 178 C
125psi Fluid to 450 F to 232 C
200psi Non-Shock Cold Water, Oil or Gas to -20 F to 150 F or -29 C to 66 C

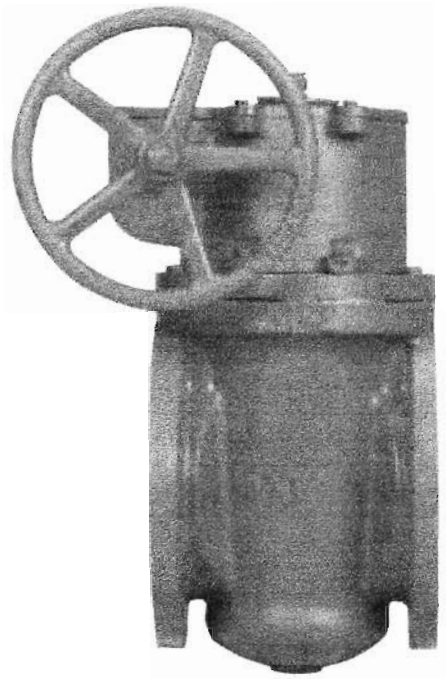
APPLICABLE STANDARDS:

MSS-SP-78, ANSI B16.1 and B16.10
Pressure Sealed Lubrication

NO.	PART NAME	MATERIAL
1	BODY	CAST IRON ASTM A126-B
2	PLUG	CAST IRON ASTM A126-B
3	LUBRICANT FITTING	STEEL
4	GLAND	CAST IRON ASTM A126-B
5	PACKING	GRAPHITE, 304SS AND NEOPRENE



SIZE		1	1½	2	2½	3	4	5	6	8	10	12
	MM	25	40	50	65	80	100	125	150	200	250	300
A	INCH	5.5	6.5	7	7.5	8	9	10	10.5	11.5	13	14
	MM	140	165.1	177.8	190.5	203.2	228.6	254	266.7	292.1	330.2	355.6
B	INCH	4.25	5	6	7	7.5	9	10	11	13.5	16	19
	MM	108	127	152	178	191	229	254	279	343	406	483
C	INCH	6.125	6.31	7.125	8.81	8.5	8.875	9.75	14	15.5	15.5	19
	MM	156	160	181	224	216	225	248	356	394	394	483
Weight	Lbs	6	6	25	42	47	71	88	172	225	283	325
	Kgs	3	3	11	19	21	32	40	78	102	128	147



Lubricated Plug Valve

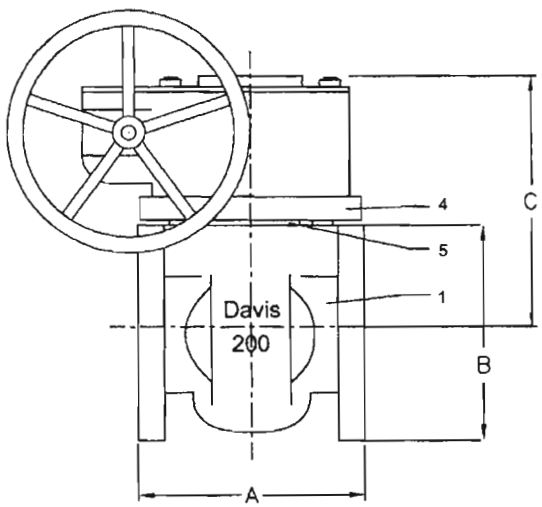
Model #153G (Gear Operation)
Class 200 (6" to 12")

SERVICE RATING:

125psi Saturated Steam to 353 F or 178 C
125psi Fluid to 450 F to 232 C
200psi Non-Shock Cold Water, Oil or Gas to -20 F to 150 F or -29 C to 66 C

APPLICABLE STANDARDS:

MSS-SP-78, ANSI B16.1 and B16.10
Pressure Sealed Lubrication

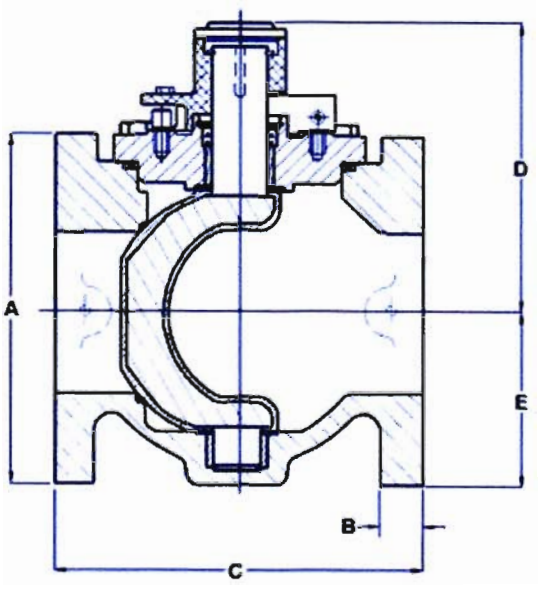


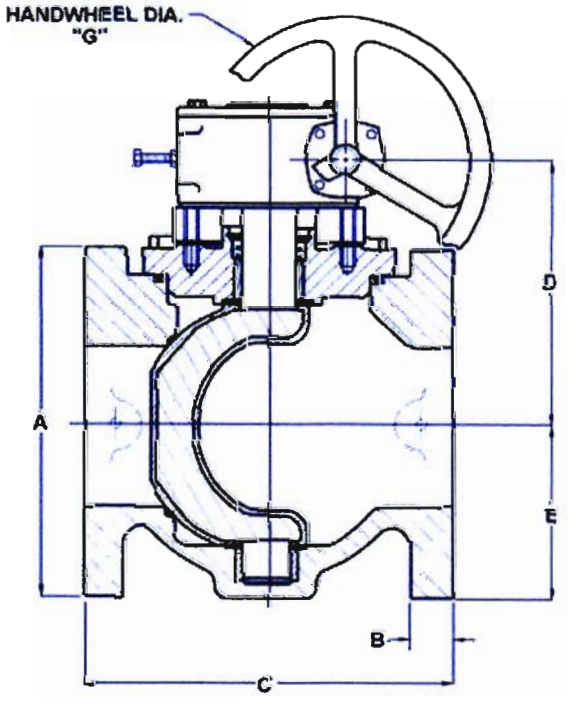
NO.	PART NAME	MATERIAL
1	BODY	CAST IRON ASTM A126-B
2	PLUG	CAST IRON ASTM A126-B
3	LUBRICANT FITTING	STEEL (DOUBLE BALL CHECK)
4	GLAND	CAST IRON ASTM A126-B
5	PACKING	GRAPHITE, 304SS AND NEOPRENE

SIZE	INCH	6	8	10	12
	MM	150	200	250	300
A	INCH	10.5	11.5	13	14
	MM	266.7	292.1	330.2	355.6
B	INCH	11	13.5	16	19
	MM	279	343	406	483
C	INCH	14.5	17.375	17.5	19.625
	MM	368	441	445	498
Weight	Lbs	192	290	349	549
	Kgs	87	132	158	249

FLANGED END

175 PSI





FLANGED END - ANSI 125									
Size	2.5	3	4	5	6	8	10	12	14
A	7	7.5	9	10	11	13.5	16	19	21
B	0.68	0.75	0.93	0.93	1	1.12	1.18	1.25	1.38
C	7.5	8	9	10	10.5	11.5	13	14	17
D	6.18	6.18	7.25	8.38	8.38	10.68	- -	- -	- -
E	3..5	3.75	4.5	5.75	5.75	7.62	8.88	10	13
F	5.38	5.59	6.31	7.56	7.56	9.63	11.63	13.31	13.31
G	6	6	6	6	6	12	12	12	12
Weight (approx.)	*30*	*40*	*70*	*105*	*115*	*190*	** *345*	** *440*	** *510*

*10" & above have gear operators as standard

** Weight includes gear operator

NOTE: Drawings are for information purposes only; please request certified drawings before preparing piping diagrams