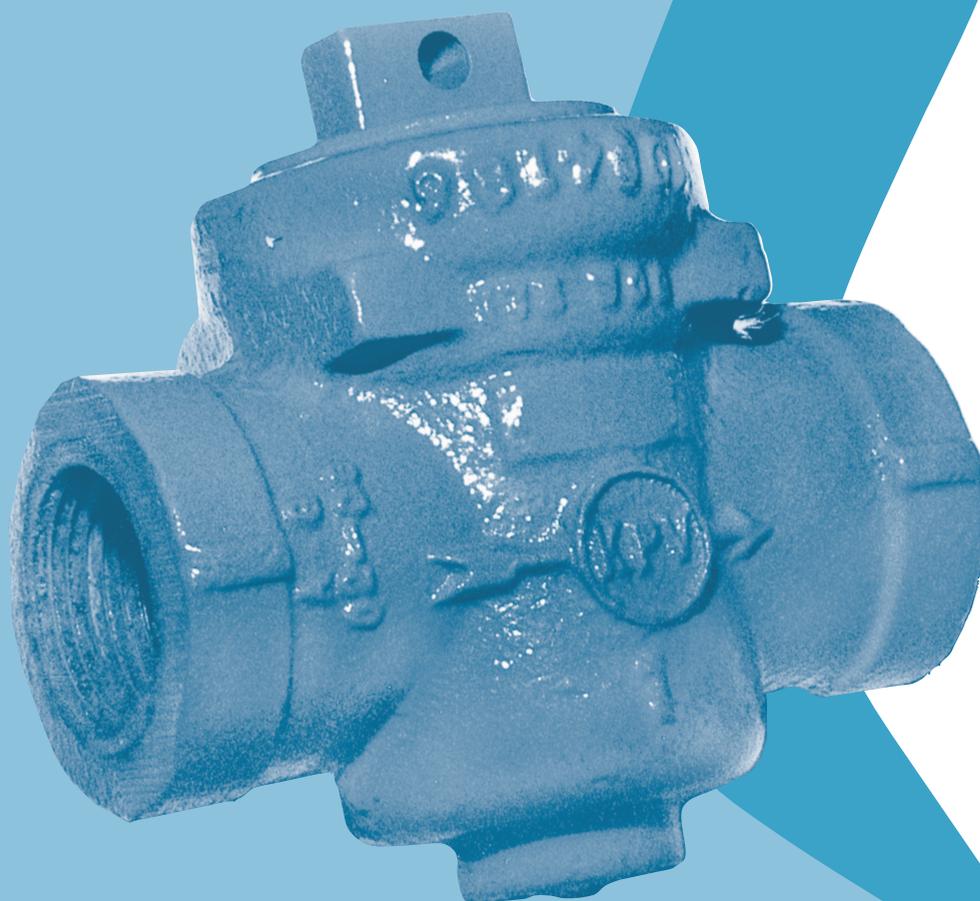


KEYCENTRIC PLUG VALVES

Dependable Valves
for Gas / Water Applications



HOMESTEAD[®]



Valve Division

Olson Technologies, Inc.

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DESIGN AND CONSTRUCTION

Keycentric Plug Valve Series 300. Eccentric Valves combine proven design and quality construction to provide dependable long life for a variety of applications.

1. CORROSION RESISTANT PLUG

Plug materials resist corrosion and prolong seat life.

Available materials are as follows:

Bronze ($\frac{1}{2}$ " - 2" only)

Electroless Nickel plated cast iron

(2 $\frac{1}{2}$ " - 4" valves only)

2. DOUBLE-SEAL FOR TIGHT SHUTOFF AND SAFETY

A resilient seal molded into a groove in the plug face assures dead-tight shutoff on liquids and gasses without the use of sealing lubricants. When the plug is closed, the resilient seal is compressed against the seat. The metal on the plug face also makes contact with the metal seat to provide a second seal for safety. Gas industry fire tests showed that this second metal seal provides nearly bubble-tight shutoff with the resilient seal burned away.

3. O-RING STEM SEAL

A variety of stem seal materials provides maintenance-free sealing that matches valve performance and assures long life and reliability.

4. CORROSION RESISTANT BEARINGS

Permanently lubricated bearings in the upper and lower plug journals resist corrosion and assure easy operation without lubrication. And, operation is just as easy whether the valve is operated once a day or once a year.

5. CORROSION RESISTANT SEAL

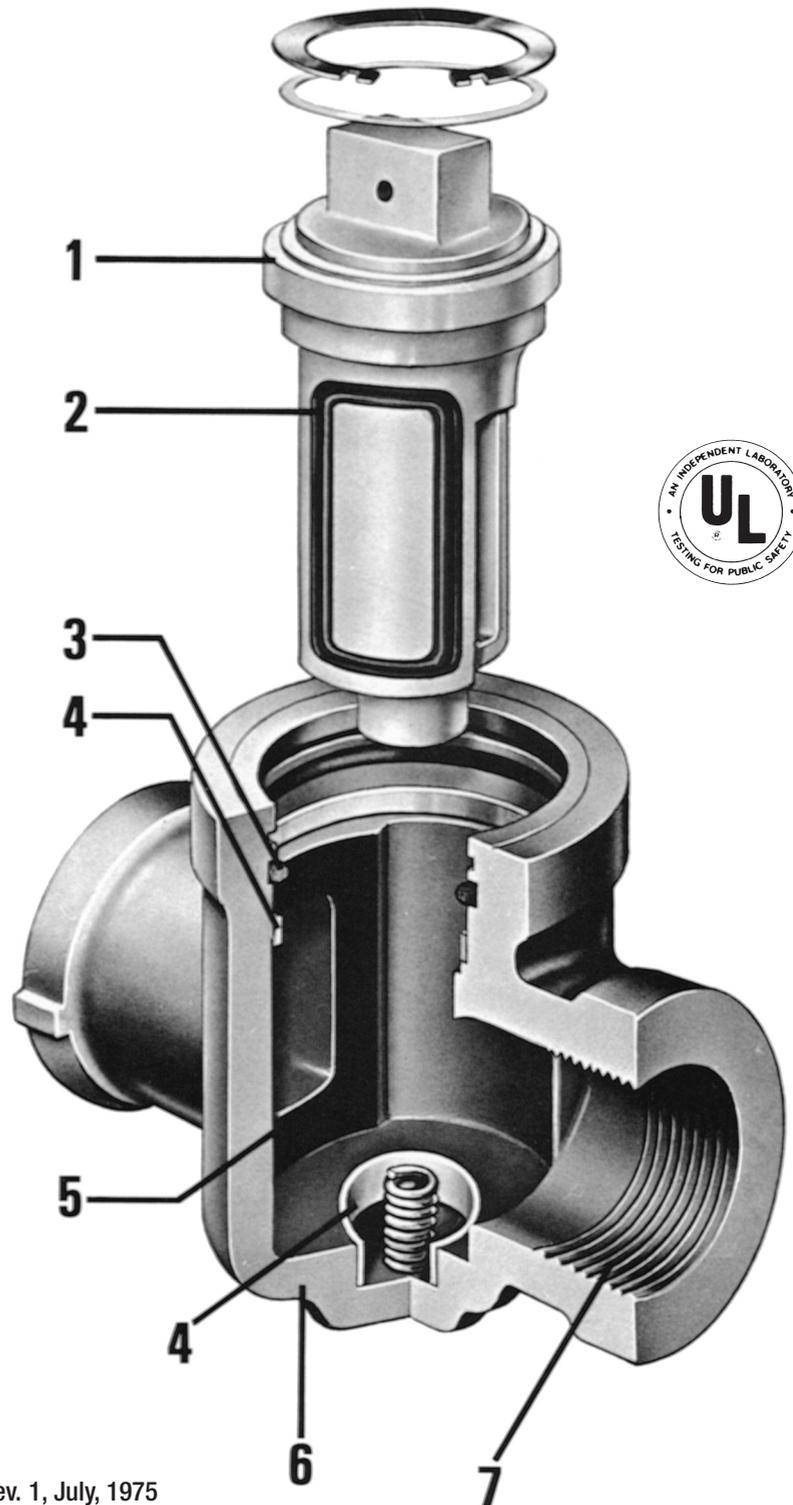
A plastic seat coating provides extra corrosion resistance to minimize plug wear.

6. MEETS ANSI 125 LB. STANDARD

Body walls and end connections conform to all applicable ANSI 125 pound standards. Valves meet MSS standards in $\frac{1}{2}$ " and $\frac{3}{4}$ " sizes where ANSI standards are not available.

7. CHOICE OF END CONNECTIONS

A choice of end connections includes screwed and flanged.



Rev. 1, July, 1975

Rev. 2, January, 1977

Rev. 3, February, 1979

Rev. 4, August, 1980

Rev. 5, January, 1988

PATENTED

United States, 3,170,669 and 3,254,872; Great Britain, 1,000,008;
Canada, 712,477 and 712,478; France, 1,308,784.

HOMESTEAD KEYCENTRIC PLUG VALVES



APPROVED

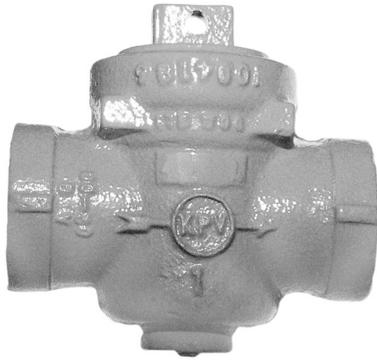


FIG 311 - THREADED



FIG 398/399* - RECOMMENDED FOR HVAC

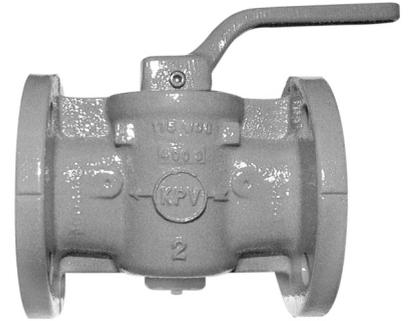
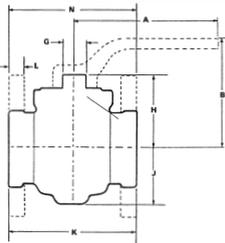


FIG 312 - FLANGED

* Fig 398/399 includes memory stop, side tap, and protective top

300 SERIES PLUG VALVE DIMENSIONS

VALVE SIZE Inches MM	DIMENSIONS (INCHES / MILLIMETERS)										VALVE WEIGHTS*			LEVER WEIGHTS lbs / kg
	A	B	F	G	H	J	K	L	N	V	LEVER	SCREWED lbs / kg	FLANGED lbs / kg	
1/2 (13)	4.00 101.6	3.50 88.9	.50 12.7	.81 20.6	2.03 51.6	1.25 31.8	3.25 82.6	.38 9.7	4.25 108.0	2.13 54.1	R	1.75 .79	4.00 1.81	.75 .34
3/4 (19)	4.00 101.6	3.63 92.2	.50 12.7	.81 20.6	2.16 54.9	1.44 36.6	3.75 95.3	.41 10.4	4.63 117.6	2.28 57.9	R	2.50 1.13	4.50 2.04	.75 .34
1 (25)	5.00 127.0	4.00 101.6	.50 12.7	1.13 28.7	2.47 62.7	1.69 42.9	4.25 108.0	.44 11.2	5.00 127.0	2.81 71.4	M	3.75 1.70	6.75 3.06	1.00 .45
1 1/4 (32)	5.00 127.0	4.25 108.0	.50 12.7	1.13 28.7	2.72 69.1	1.88 47.8	4.75 120.7	.50 12.7	5.50 139.7	3.00 76.2	M	5.25 2.38	8.25 3.74	1.00 .45
1 1/2 (38)	6.00 152.4	4.38 111.3	.50 12.7	1.13 28.7	2.81 71.4	2.00 50.8	5.00 127.0	.56 14.2	6.50 165.1	3.19 81.0	M	6.25 2.83	11.00 4.99	1.00 .45
2 (50)	6.00 152.4	4.75 120.7	.50 12.7	1.13 28.7	3.16 80.3	2.31 58.7	5.50 139.7	.63 16.0	7.00 177.8	3.47 88.1	M	9.00 4.05	15.25 6.92	1.00 .45
2 1/2 (64)	8.00 203.2	5.50 139.7	.50 12.7	1.63 41.4	3.94 100.1	2.88 73.2	6.88 174.8	.69 17.5	7.50 190.5	4.19 106.4	S	15.00 6.80	24.00 10.89	2.00 .90
3 (75)	10.00 254.0	5.75 146.1	1.44 36.6	1.44 36.6	4.66 118.4	3.25 82.3	7.50 190.5	.75 19.1	8.00 203.2	4.69 119.1	T	22.00 9.98	32.00 14.51	2.25 1.02
4 (100)	12.00 304.8	6.88 174.8	1.59 40.4	1.59 40.4	5.94 150.9	4.25 108.0	9.25 235.0	.94 23.9	9.00 228.6	6.00 152.4	V	47.00 21.32	61.00 27.67	4.00 1.81



L - CAST IRON FLANGES

F - WIDTH OF PLUG OPERATING NUT

V - DIMENSION FROM VALVE CENTERLINE TO TOP OF OPTIONAL DRIP CAP

* - WEIGHTS ARE FOR 300 SERIES ONLY

• - ON 3" AND 4" VALVES, THIS PLUG SQUARE IS ROTATED 45° FROM THE OPEN POSITION AS SHOWN

STEM SEAL

Give stem seal code as shown below:

1. Nitrile-Butadiene (BUNA) use with RS49, RS50 and RS51 resilient plug seals.

2. Fluorinated Hydrocarbon (VITON) use with RS54 resilient plug seals.

3. Isobutene Isoprene (HIGH TEMP) use with RS55 resilient plug seals.

RESILIENT PLUG SEAL

Give "RS" and number that follows. The service recommendations below are general classifications only. For specific recommendations, contact Keycentric Valve.

RS49 Carboxylic-Nitrile-Butadiene (HYCAR) - A general service compound recommended for chemicals, natural gas, dry service and non-alkaline applications to 180°F.

RS50 Chloroprene (NEOPRENE) - A general service compound recommended for alkaline applications to 180°F.

RS51 Nitrile-Butadiene (PETROLEUM HYCAR) - For manufactured gas and for petroleum applications at temperatures to 180°F. Can also be used for natural gas.

RS54 Fluorinated Hydrocarbon (VITON) - For high temperature chemicals to 300°F.

RS55 Isobutene-Isoprene (HIGH TEMP) - For high temperature water to 250°F.

ACTUATORS & ACCESSORIES

All valves are furnished for lever actuation as standard. Levers are not mounted on the valve and must be ordered separately.

Available accessories:
Locking Device
Levers
Additional Side Taps
2" Adaptors

ORDERING EXAMPLE: FIG 312 - 1 - RS50 - 2"

VALVE SIZING & RATINGS

Sizes 1/2" - 4" – *Keycentric Plug Valve Series 300 Eccentric Valves* are available in 9 sizes from 1/2" - 4". This valve is ideal for many applications including HVAC systems, natural gas and combined hot and chilled water service.

Compact Size, Light Weight – Small body size makes this valve ideal for applications where space is limited. Dimensions of this compact line are shown on the back page. Light weight minimizes the need for pipe supports. Weights are shown in the dimension table.

Single Valve Balancing and Shutoff for Air Conditioning Application – The optional Adjustable Memory Stop provides both balancing and shutoff in one valve. With the memory stop locked in place, except when equipped with an attached lever actuator, the valve can be closed and then reopened to the same balanced position. Included with the memory stop, is a drip cap to reduce dripping from sweating valves on chilled water applications.

Ideal for Combined Hot and Chilled Water Service – High Temp (Isobutene-Isoprene – plug seals make the *Series 300 Eccentric* ideal for combined hot and chilled water heating and cooling

systems. This compound is suitable for water service at temperatures up to 250 degrees F.

U.L. Listed – *Keycentric Plug Valve* Fig 311 valves with RS49 and RS51 plug seals are listed by Underwriters Laboratories, Inc., for a variety of applications including: manual burner shutoff of city gas supplied by public utilities; fuel oils; compressed gas line shutoff; and miscellaneous valves for general use in air and water piping. *Write Keycentric Valves for a copy of the complete U.L. listing.*

High Flow Capacity – Large port areas and straight through flow provide high flow capacity. CV valves are shown below. Figures are based on discharge into conduit rather than atmosphere and are an average between valves with screwed and flanged ends. CV's are slightly higher for flanged valves and slightly lower for screwed valves.

VALVE SIZE	CV VALUES (WIDE OPEN)
1/2	9
3/4	22
1	35
1 1/4	54
1 1/2	78
2	135
2 1/2	180
3	270
4	500

(FLOW IN GPM OF WATER AT 1 PSI PRESSURE DROP)

Pressure Ratings – *Keycentric Valve Series 300 Eccentric Valves* with standard cast iron bodies have a W.O.G. non-shock working pressure of 175 psi.

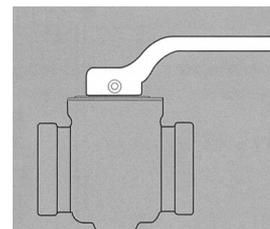
Series 300 Eccentric Valves provide dead-tight shutoff on liquids or gasses at pressure differentials up to the maximums shown below.

VALVE SIZE	MAXIMUM SHUTOFF DIFFERENTIAL		
	ACTUATOR	FORWARD*	REVERSE**
1/2 - 4	ALL ACTUATORS	175 PSI	75 PSI

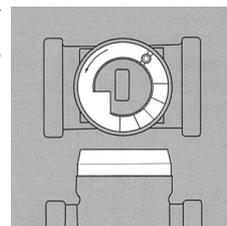
* Pressure against the back of the plug tending to push the plug into the seat.

** Pressure against the face of the plug tending to push the plug away from the seat.

LEVER



MEMORY STOP



OPEN

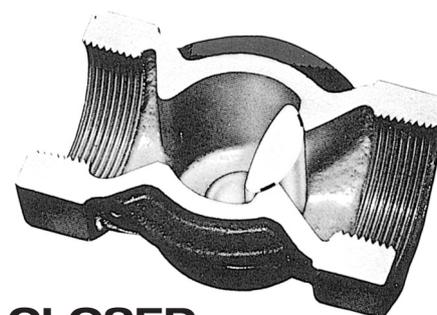
Keycentric Plug Valve eccentric action and resilient seating assure lasting dead-tight shutoff. As the eccentric plug rotates 90 degrees from open to closed, it moves into a raised eccentric seat.

In the open position, flow is straight through and flow capacity is high.



CLOSING

As the plug closes, it moves toward the seat without scraping the seat or body walls so there is no plug binding or wear. Flow is still straight through making the throttling characteristic of this valve ideal for manual throttling of gases and liquids.



CLOSED

In the closed position, the plug makes contact with the seat. The resilient plug seal is pressed firmly into the seat for dead-tight shutoff. Eccentric plug and seat design assure lasting shutoff because the plug continues to move into the seat until firm contact and seal is made.