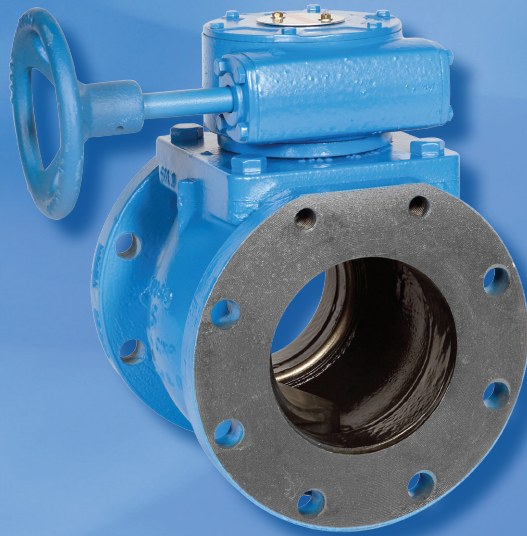


ISO 9001 CERTIFIED



MILLCENTRIC® ECCENTRIC PLUG VALVE



Milliken Valve offers the following for your water and wastewater needs:

- Eccentric Plug Valves
 - Series 601/600 Flanged & MJ
 - Series 601S Stainless Steel
 - Series 601RL Rubber Lined
 - Series 602 High Pressure
 - Series 603 Threaded End
 - Series 604E Three Way
 - Series 606 Grooved End
 - Series 611/610 Flanged & MJ
 - Model 625 UL /CGA Listed
- AWWA Swing Check Valves
- Wafer Check Valves
- Flex Check
- Spring Loaded Check Valves
- AWWA Butterfly Valves
- General Service Butterfly Valves

The Milliken Valve Company designs, develops, manufactures and markets plug, butterfly, and check valves and their respective controls and actuators. These valves are used primarily in the water, wastewater, and industrial markets.

Milliken Valve was started over two decades ago manufacturing the eccentric plug valve for the waste water and HVAC marketplace. Growth has been constant with the addition of a AWWA butterfly valve, general service butterfly valve, swing check valve, rubber flapper check valve, double disc check valve, wafer (outside spring) check valve, globe style check valve and compact wafer check valve.

Milliken believes that in order to satisfy customers, our products need to be considered the best design and the highest quality within the industry. All of our valves have had extensive testing before they are marketed or sold. Milliken's quality standards are a step above the industry norm, and Milliken is committed to standing behind its products in the field. All valves are tested in complete conformance to applicable standards before shipment. In addition, valve designs are routinely sent to independent testing facilities to ensure they meet or exceed expectations.



Millcentric Eccentric Plug Valve

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Suggested Specifications

The Milliken criteria of quality, reliability, safety and value are embodied in the Millcentric® Eccentric valve, setting higher standards for dependable performance with excellent features achieved by the utilization of the very latest design and manufacturing techniques.

- Computer Aided Design
- High Integrity Casting
- CNC manufacturing delivers consistent sizes on all components

All complemented by rigorous Quality Control System

Body

Conforming to AWWA C504 wall thickness, the MILLCENTRIC valve body casting is in ASTM A126 CL B cast iron using high pressure molding techniques. Alternative flanged, grooved or mechanical joint ends are available.

Flange diameter, thickness and drilling conform to ANSI B16.1 Class 125 or 250.

Grooved ends meet AWWA C-606 for ductile or steel pipe. Mechanical joints to AWWA C111 (ANSI A21.11).

Seat

The MILLCENTRIC valve incorporates as standard, on 3" and larger, a 1/8" thick welded 99% nickel seat for corrosion and erosion resistance specifically profiled for low torque and extended seat life.

Stem Seal

High integrity sealing by combining the advantages of a resilient and abrasion resistant U-Cup seal. From vacuum to high pressure, the self-adjusting sealing system (per AWWA C504) gives positive, trouble-free service and is retained independently of the plug stem or external torque device, thereby eliminating periodic maintenance.

Bearings

The plug rotates in permanently lubricated 316 grade stainless steel bearings, located in the body and bonnet, along with upper and lower PTFE thrust washers, which ensure consistently low operating torque.

Plug

Supported on integral trunnions, the plug is totally encapsulated with an elastomer that is molded on 2½" – 48" and vulcanized on 54" and larger to the casting providing tight shut off even under vacuum conditions. High integrity corrosion-free sealing is achieved by a variety of abrasion resistant elastomers which protect the plug right up to the trunnions. When assembled, the light compression of the elastomers onto PTFE thrust washers, prevents entry of abrasive materials into the bearings.

Bonnet Seal

Superior "O" ring sealing with metal/metal contact means lower bolting stresses compared with compression gaskets.

Flow

The port design (round on 2½" – 12" and rectangular on 14" and larger) with streamlined internal contours gives the highest industry capacity straight through flow in the full open position, reducing turbulence and pressure drop and the effect of erosive media. Handling of sludges and slurries is therefore enhanced.

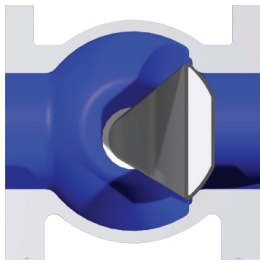
Interchangeable

Because of the common face to face dimension with wedge gate valves (3" – 12"), fitting the tight shut-off rotary MILLCENTRIC valve into existing systems is accomplished without pipeline modifications.

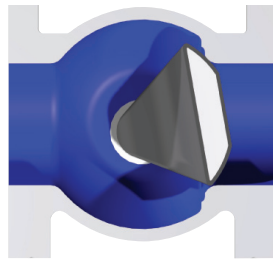
Travel Stops

Adjustable open and closed travel stops are fitted as standard on both wrench and gear operated MILLCENTRIC valves.

Suggested Specifications



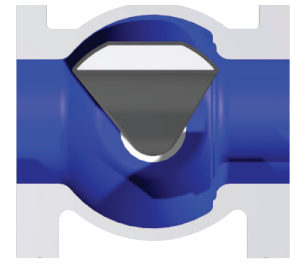
- Valve in closed position for bubble tight shut-off
- Normal flow direction gives pressure assisted sealing
- Torques are low even in reverse flow



- Plug rotates away from the seat for instant opening
- Seat wear and operating torque reduced
- No further seat contact until valve is closed again



- Design of Millcentric plug valve allows modulating control over the full 90° travel
- Ideally suited for balancing service
- Standard rotary valve provides control and tight shut off in one valve



- Plug is out of flow path when fully open
- Straight through, uninterrupted smooth flow
- Round port reduces turbulence and erosion, lowers pumping costs and can be "pigged" to clean the pipeline

Installation

The Millcentric® plug valve is suitable for flow and shut-off in either direction. Seat end downstream is the preferred orientation and any reverse flow requirement should be stated at the time of order. For use on fluids with suspended solids, installation with the seat upstream and the valve stem horizontal is recommended with, plug rotation to the top of the valve will ensure smooth operation.

In-Line Maintenance

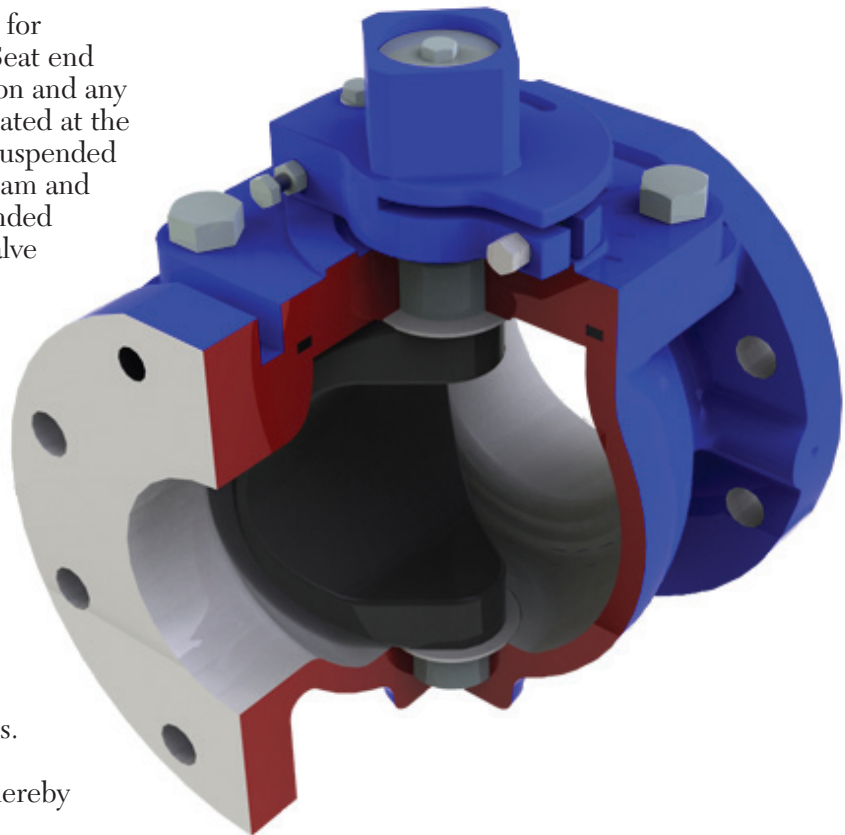
In the unlikely event of stem leakage, the stem seals can be easily replaced without removing the bonnet. Access to the body for cleaning or inspection does not require removal from the line.

Modular Construction

Design of the bonnet and stem allows for on-site adaption of gear operators, power actuators, or extension devices on to standard valves. Conversion can be easily undertaken without removing the valve bonnet, thereby minimizing downtime.

Power Operation

Pneumatic, electric or hydraulic operation is available, complete with accessories such as limit switches, solenoid valves and positioners when required.



Technical Data

ORDERING INFORMATION

Valve Types

Mechanical Joint Cast Iron
 Mechanical Joint Ductile Iron
 ANSI 125 Flanged Cast Iron
 ANSI 125 Flanged Ductile Iron
 ANSI 150 Flanged Ductile Iron
 ANSI 250 Flanged Ductile Iron
 ANSI 125 Grooved for Steel Pipe
 ANSI 125 Grooved for Ductile Pipe
 ANSI 150 Flanged 316SS

SEAT

Nickel (3" & Larger)
 Epoxy (2½" ONLY)
 316SS (on stainless steel valve only)
 Rubberlined
 Glasslined

ELASTOMER TRIM

EPDM
 Buna-Nitrile
 Viton
 Neoprene
 Natural

MANUAL OPERATORS

Above Ground Gear and Handwheel
 Above Ground Gear with 2" Nut
 Buried Gear with 2" Nut
 Memory Stop Gear with Handwheel
 Lever / Wrench (8" & smaller)
 Direct Nut (8" & smaller)

Designation

600
 610
 601
 611
 621
 602
 606S
 606D
 601S

N
 E
 S
 R
 RL
 GL

0
 1
 2
 3
 4

AGHW
 AGNUT
 BG
 MGHW
 L
 TC

Example: 4" 601N3AGHW = 4" ANSI 125 Flanged, Nickel Seat, Neoprene plug with Above Ground Gear and Handwheel

Valves are only tested for bi-directional shut-off if specified at time of order. Contact Milliken for bi-directional ratings.

NOTE: We recommend mechanical joint or buried flanged valves to have gear operators

NOTE: We recommend valves for bi-directional service to have gear operators

PRESSURE RATING

12" and smaller	ANSI 125	175 psi
14" and larger	ANSI 125	150 psi
20" and smaller	ANSI 150	285 psi
12" and smaller	ANSI 250	400 psi
14" and larger	ANSI 250	300 psi

Body Hydrotest = 150% of rated pressure / Seat Test = 100% of rated pressure
 Testing per AWWA C517

ELASTOMERS AVAILABLE FOR MILLCENTRIC VALVE

Natural rubber is also available.

Nitrile

A general purpose material sometimes referred to as BUNA-N or HYCAR with a -20°F to 212°F temperature range. Used on sewage, water, hydrocarbon and mineral oils.

EPDM

An excellent polymer for use on chilled water through to LP steam applications having a temperature range of -35°F to 250°F. Resistance to many acids, alkalis, detergents, phosphate esters, alcohols and glycols is an added benefit.

Neoprene

This versatile material shows outstanding resistance to abrasion and ozone. Chemical resistance to a wide range of petroleum base products and dilute acids and alkalis. Temperature range -20°F to 225°F.

Viton

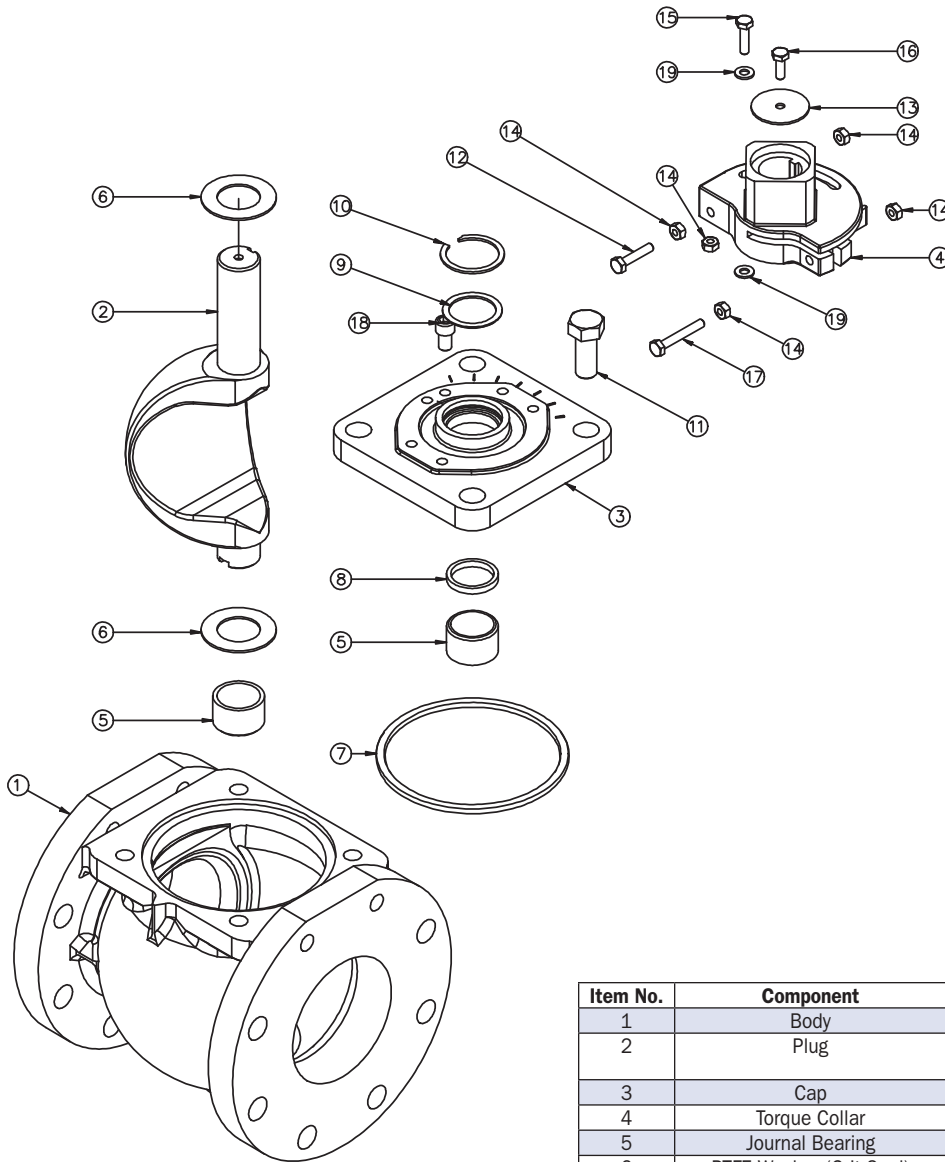
Retention of mechanical properties at high temperature is an important feature of this elastomer: temperature range is -10°F to 300°F. It also has excellent resistance to oils, fuels, lubricants and most mineral acids and aromatic hydrocarbons. Note: Not for water or steam applications.

Elastomer Selection Chart

Service	Elastomer	Average Useful Temp. Range	Service	Elastomer	Average Useful Temp. Range	Service	Elastomer	Average Useful Temp. Range
Acetone	EPDM	-35°F to 250°F	Caustic Soda	EPDM	-35°F to 250°F	Oil, Animal	Nitrile	-20°F to 212°F
Air	EPDM	-35°F to 250°F	Cement Slurry	EPDM	-35°F to 250°F	Oil, Mobil Therm Light	Viton	10°F to 250°F
Air w/Oil	Nitrile	0°F to 212°F	Copper Sulphate	EPDM	-35°F to 250°F	Oil, Mobil Therm 600	Viton	10°F to 250°F
Alcohol AMYL	EPDM	0°F to 212°F	Creosote (Coal)	Nitrile	-20°F to 212°F	Oil, Mobil Therm 603	Nitrile	-20°F to 212°F
Alcohol Aromatic	Viton	10°F to 250°F	Coal Slurry	Nitrile	-20°F to 212°F	Oil, Lubricating	Nitrile	-20°F to 212°F
Alcohol Butyl	Neoprene	-20°F to 225°F	Diesel Fuel No. 3	Nitrile	-20°F to 212°F	Oil, Vegetable	Nitrile	-20°F to 212°F
Alcohol Denatured	Nitrile	-20°F to 212°F	Diethylene Glycol	EPDM	-35°F to 250°F	Paint, Latex	Nitrile	-20°F to 212°F
Alcohol Ethyl	EPDM	-20°F to 250°F	Ethylene Glycol	EPDM	-35°F to 250°F	Phosphate Ester	EPDM	-35°F to 250°F
Alcohol Grain	Nitrile	-20°F to 212°F	Fatty Acid	Nitrile	-20°F to 212°F	Propane	Nitrile	-20°F to 212°F
Alcohol Isopropyl	Neoprene	-20°F to 225°F	Fuel Oil No. 2	Nitrile	-20°F to 212°F	Rape Seed Oil	EPDM	-35°F to 250°F
Alcohol Methyl	EPDM	-20°F to 250°F	Fertilizer Liquid H ₂ N ₂ O ₂	EPDM	-35°F to 250°F	Sewage with Oils	Nitrile	-20°F to 212°F
Ammonia Anhydrous	Neoprene	-20°F to 225°F	Gasoline Keg	Nitrile	-20°F to 212°F	Sodium Hydroxide 20%	EPDM	-35°F to 250°F
Ammonium Nitrate	EPDM	-20°F to 250°F	Gas Natural	Nitrile	-20°F to 212°F	Starch	EPDM	-35°F to 250°F
Ammonia, water	EPDM	-20°F to 250°F	Glue, Animal	Nitrile	-20°F to 212°F	Steam to 250°F	EPDM	-35°F to 250°F
Animal Fats	Nitrile	-20°F to 212°F	Green Liquor	EPDM	-20°F to 212°F	Stoddard, Solvent	Nitrile	-20°F to 80°F
Black Liquor	EPDM	-20°F to 250°F	Hydraulic Oil (Petro)	Nitrile	-20°F to 212°F	Sulphuric Acid 10% 50%	Neoprene	-20°F to 158°F
Blast Furnace Gas	Neoprene	-20°F to 225°F	Hydrogen	Nitrile	-20°F to 212°F	Sulphuric Acid 100%	Viton	10°F to 300°F
Butane	Nitrile	-20°F to 212°F	JF4, JP5	Viton	-20°F to 212°F	Trichloroethylene Dry	Viton	10°F to 300°F
Bunker Oil "C"	Nitrile	-20°F to 212°F	Kerosene	Nitrile	0°F to 212°F	Triethanol Amine	EPDM	-35°F to 250°F
Calcium Chloride	EPDM	-20°F to 250°F	Ketone	EPDM	-35°F to 250°F	Varnish	Viton	10°F to 300°F
Carbon Dioxide	EPDM	-20°F to 250°F	Lime Slurry	EPDM	-35°F to 250°F	Water, Fresh	EPDM	-35°F to 250°F
Carbon Monoxide (Cold)	Neoprene	-20°F to 150°F	Methane	Nitrile	-20°F to 212°F	Water, Salt	EPDM	-35°F to 250°F
Carbon Monoxide (Hot)	Viton	10°F to 300°F	Methyl Ethyl Ketone	EPDM	-35°F to 250°F	Xylene	Viton	10°F to 300°F
Carbon Tetrachloride	Viton	10°F to 300°F	Naptha (Berzin)	Nitrile	-20°F to 212°F			

NOTE: Above elastomer/temperature chart are guidelines only. See Milliken Compatibility Chart for specific applications.

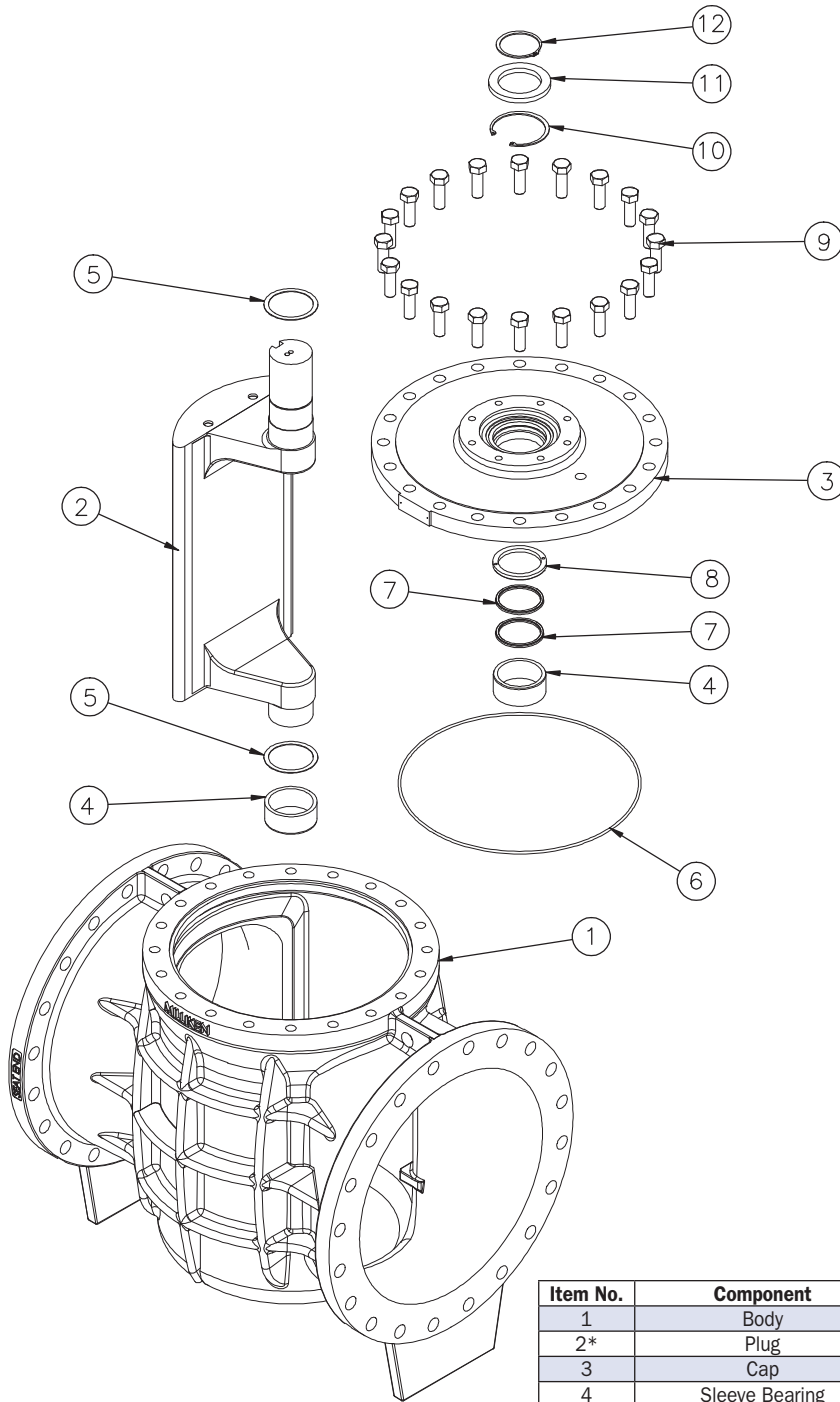
Standard Materials of Construction, Fig. 601/600, 12" & Smaller



Item No.	Component	Material
1	Body	Cast Iron A126 Class B
2	Plug	Rubber Coated Ductile Iron ASTM A536
3	Cap	Cast Iron A126 Class B
4	Torque Collar	Ductile Iron ASTM A536
5	Journal Bearing	St. Steel — ANSI 316
6	PTFE Washer (Grit Seal)	PTFE
7	O Ring	Elas. as Spec.
8	U Cup Seal	Elas. as Spec.
9	Washer	Brass — ASTM B-138-675
10	Internal Snap Ring	Spring Steel
11	Setscrew	Steel (Zinc Plated)
12*	Closed Stop	Steel (Zinc Plated)
13*	Locking Washer	Steel
14*	Nut	Steel (Zinc Plated)
15*	Open Stop	Steel (Zinc Plated)
16*	Setscrew	Steel (Zinc Plated)
17*	Torque Bolt	Steel (Zinc Plated)
18*	Travel Stop	Steel
19*	Washer	Steel

*NOTE: Torque Collar Assembly on 8" and Smaller

Standard Materials of Construction, Fig. 601/600, 14" & Larger



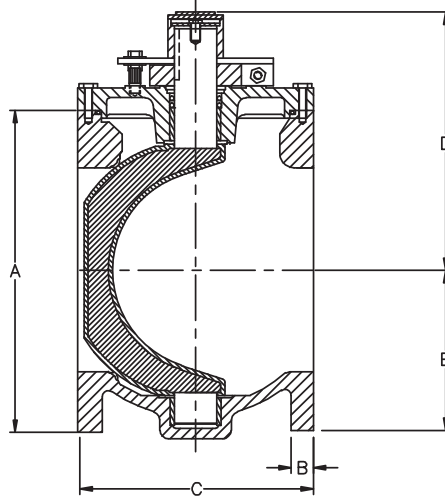
Item No.	Component	Material	Qty.
1	Body	Cast Iron A126 Class B	1
2*	Plug	Rubber Coated See Note 1	1
3	Cap	Cast Iron A126 Class B	1
4	Sleeve Bearing	Stainless Steel/Bronze	2
5	PTFE Washer (Grit Seal)	PTFE	2
6	Cap "O" Ring	Elas. as Spec.	1
7	U Cup Seal	Elas. as Spec.	2
8*	Seal Retaining Ring	See Note 2	1
9	Cap Screw	Steel (Zinc Plated)	A/R
10	Internal Snap Ring	Spring Steel	1
11	Support Collar	Steel	1
12	External Snap Ring	Spring Seal	1

*NOTE 1: Plugs: Ductile Iron — ASTM A536 on 14" - 20"
Cast Iron — A126 Class B on 24" and larger

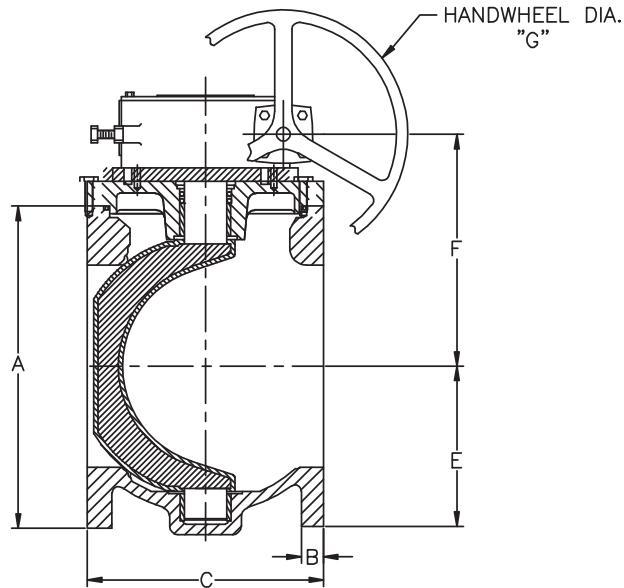
*NOTE 2: Seal Retaining Ring: Brass — ASTM B-138-675 on 14" - 20"
Steel on 24" and larger

**Fig. 601 Cast Iron / 611 Ductile Iron – Flanged End
2½" – 12", 175 PSI**

2½" – 8" VALVES ONLY



2½" – 12" VALVES



FLANGED END — ANSI 125								
SIZE	2.50	3	4	5	6	8	10*	12*
A	7.00	7.50	9.00	10.00	11.00	13.50	16.00	19.00
B	.69	.75	.94	.94	1.00	1.13	1.19	1.25
C	7.50	8.00	9.00	10.00	10.50	11.50	13.00	14.00
D	6.19	6.19	7.25	8.38	8.38	10.69	—	—
E	3.50	3.75	4.50	5.75	5.75	7.63	8.88	10.00
F	5.16	5.16	6.31	7.56	7.56	9.63	11.13	12.81
G	6.00	6.00	6.00	6.00	6.00	12.00	12.00	12.00
WEIGHT (approx.)	30	40	70	105	115	190	345**	440**

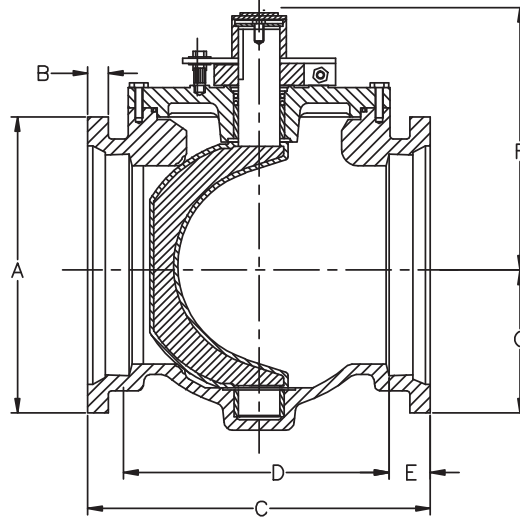
*10" & above have gear operators as standard

**Weight includes gear operator

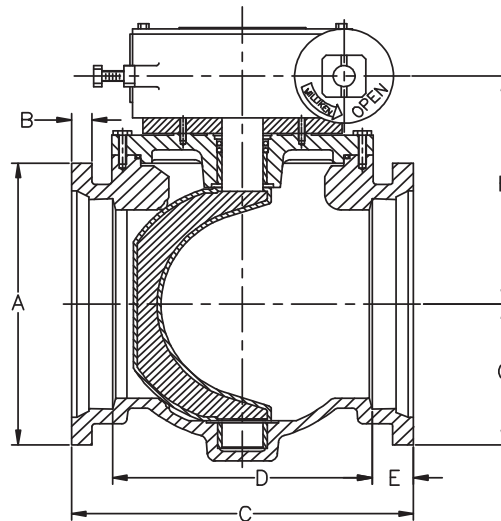
NOTE: Drawings are for information purposes only; please request certified drawings before preparing piping diagrams

Fig. 600 Cast Iron / 610 Ductile Iron – Mechanical Joint 3" – 12", 175 PSI

3" – 8" VALVES ONLY



3" – 12" VALVES



MECHANICAL JOINT END						
SIZE	3	4	6	8	10*	12*
A	7.69	9.00	11.13	13.38	15.63	17.94
B	.94	1.00	1.06	1.13	1.19	1.25
C	11.50	14.25	15.75	17.38	15.63	20.75
D	6.00	9.25	10.75	12.39	14.39	15.75
E	2.75	2.50	2.50	2.50	2.50	2.50
F	6.19	7.25	8.38	10.69	—	—
G	3.84	4.50	5.56	6.69	7.81	8.97
H	5.16	6.31	7.56	9.63	11.13	12.81
WEIGHT (approx.)	50	80	125	200	360**	480**

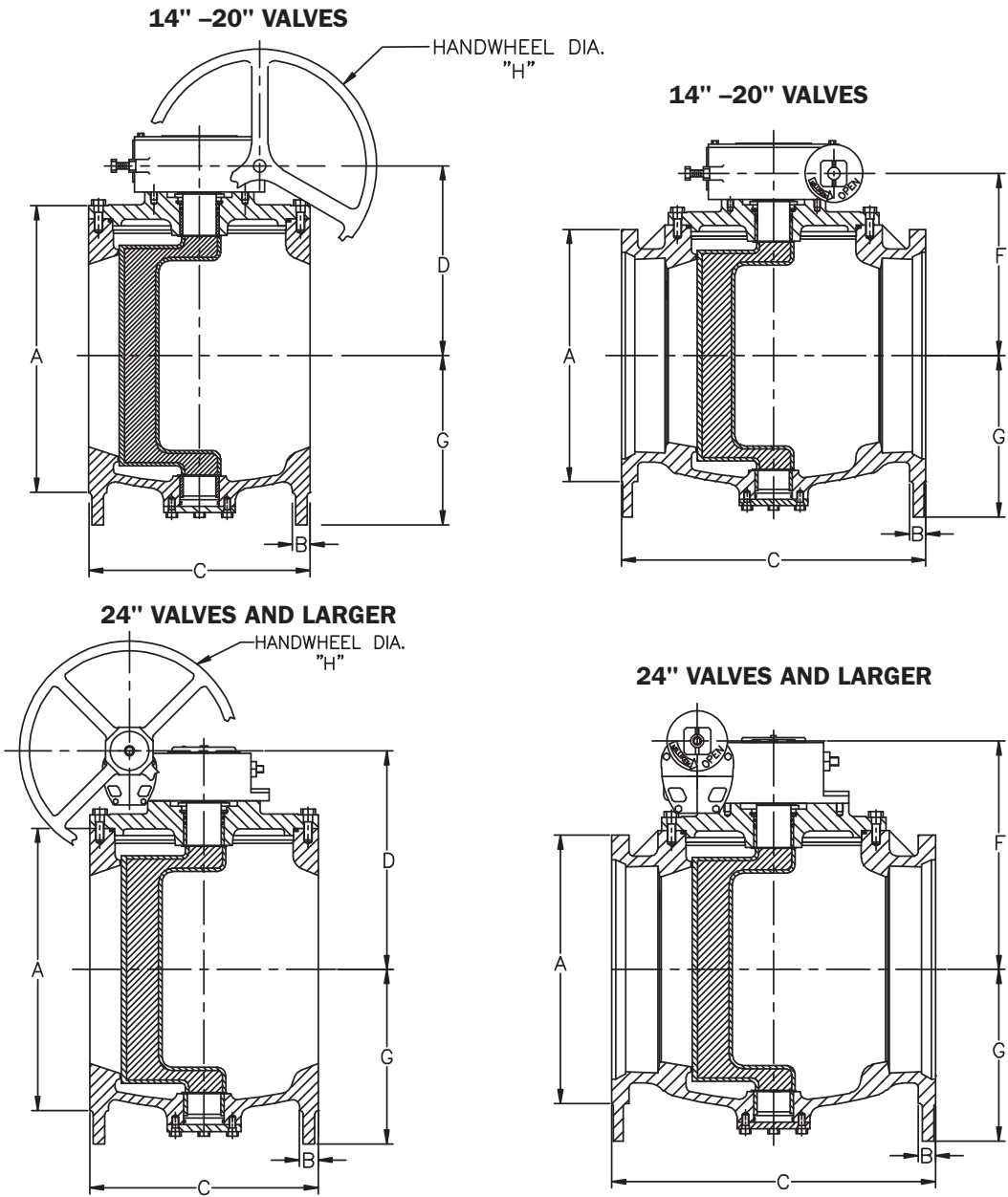
*10" & above have gear operators as standard

**Weight includes gear operator

We recommend gears on all Mechanical Joint Valves

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

Fig. 601 Cast Iron / 611 Ductile Iron Flanged End
Fig. 600/610 Ductile Iron Mechanical Joint End
14" & Larger, 150 PSI



FLANGED END — ANSI 125										
SIZE	14	16	18	20	24	30	36	42	48	54
A	21.00	23.50	25.00	27.50	32.00	38.75	46.00	53.00	59.00	66.25
B	1.38	1.44	1.56	1.69	1.88	2.13	2.38	2.63	2.75	3.00
C	17.00	17.75	21.50	23.50	42.00	51.00	60.00	72.00	84.00	96.00
D	14.56	15.81	16.36	17.63	25.13	29.00	33.51	33.88	39.57	50.86
G	13.00	14.00	15.00	16.00	21.62	24.43	29.00	29.00	36.00	36.00
H	18.00	18.00	18.00	18.00	24.00	24.00	24.00	30.33	30.00	30.00
WEIGHT (approx.)	905	1030	1355	1880	3800	5200	6950	10160	13350	15100

Flanged Valves Meet ANSI B16.1

MECHANICAL JOINT END									
SIZE	14	16	18	20	24	30	36	42	48
A	20.13	22.56	24.84	27.06	31.50	39.13	46.00	53.13	60.00
B	1.31	1.38	1.43	1.50	1.62	1.68	2.00	2.00	2.00
C	24.50	27.25	29.25	31.00	42.00	51.00	60.00	72.00	84.00
F	14.56	15.81	16.36	17.63	25.13	29.00	33.51	33.88	39.57
G	13.00	14.00	15.00	16.00	21.62	24.75	29.00	29.00	36.00
WEIGHT (approx.)	905	1030	1355	1880	3800	5200	6950	10160	13350

Mechanical Joint Valves Meet ANSI 21.11 & AWWA C-111

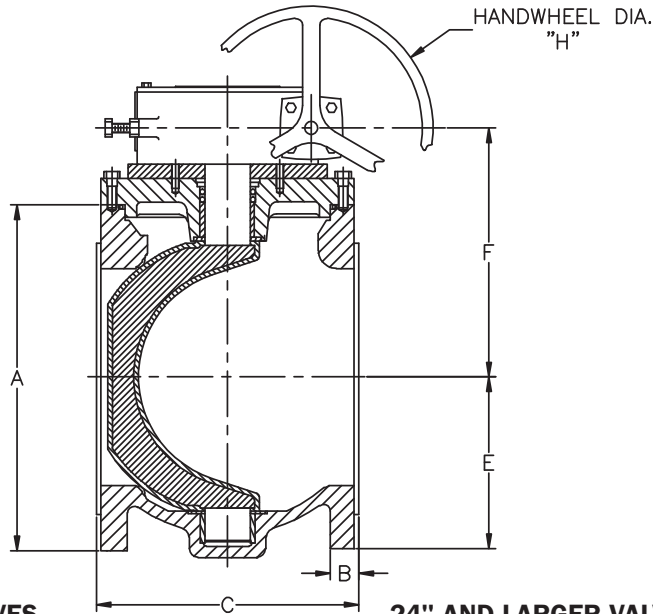
Weight includes gear operator

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

NOTE: Dimensions on 60" and larger available upon request.

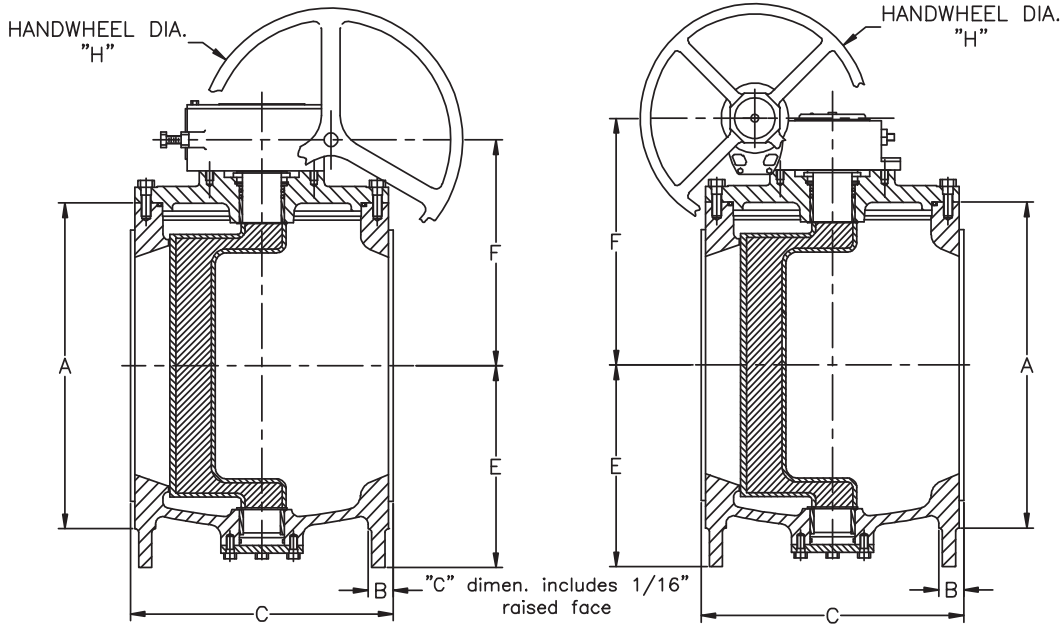
Fig. 602 Class 250 Flanged End 2½" – 12", 400 PSI, 14" – 36", 300 PSI

2½" – 12" VALVES



14" – 20" VALVES

24" AND LARGER VALVES



FLANGED END — ANSI 250															
SIZE	2.50	3	4	5	6	8	10	12	14	16	18	20	24	30	36
A	7.50	8.25	10.00	11.00	12.50	15.00	17.50	20.50	23.00	25.50	28.00	30.50	36.00	43.00	50.00
B	1.06	1.13	1.25	1.38	1.44	1.63	1.88	2.00	2.12	2.25	2.38	2.50	2.75	3.00	3.38
C	9.50	11.13	12.00	15.00	15.88	16.50	18.00	19.75	18.50	19.38	23.13	25.00	42.88	51.88	61.00
E	3.50	3.75	4.50	5.75	5.75	17.63	8.88	10.00	13.00	14.00	15.00	16.00	21.62	24.75	29.00
F	5.16	5.16	6.31	7.56	7.56	9.63	11.13	12.81	14.56	15.81	16.36	17.63	22.81	27.59	33.00
H	6.00	6.00	6.00	6.00	6.00	12.00	12.00	12.00	18.00	18.00	18.00	18.00	24.00	24.00	24.00
WEIGHT (approx.)	70	80	120	162	170	275	398	590	980	1125	1830	2060	4160	5700	7670

All above have gear operators as standard

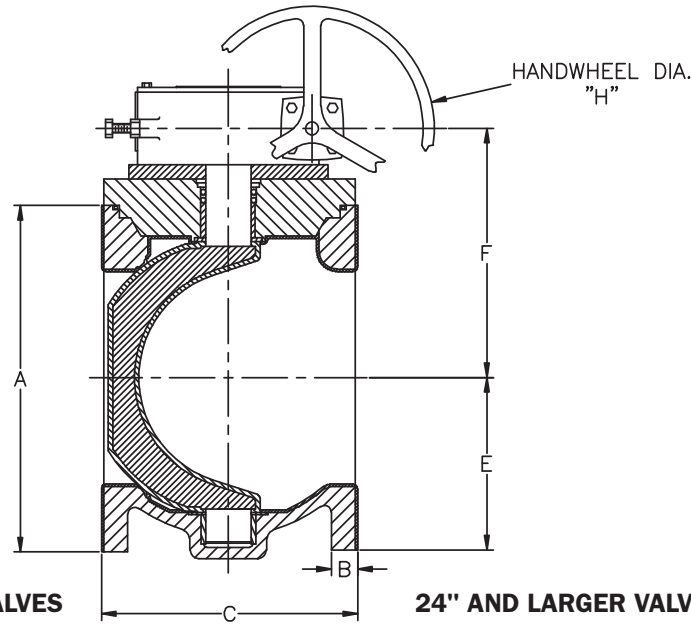
Weight includes gear operator

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

NOTE: Dimensions on 42" and larger available upon request

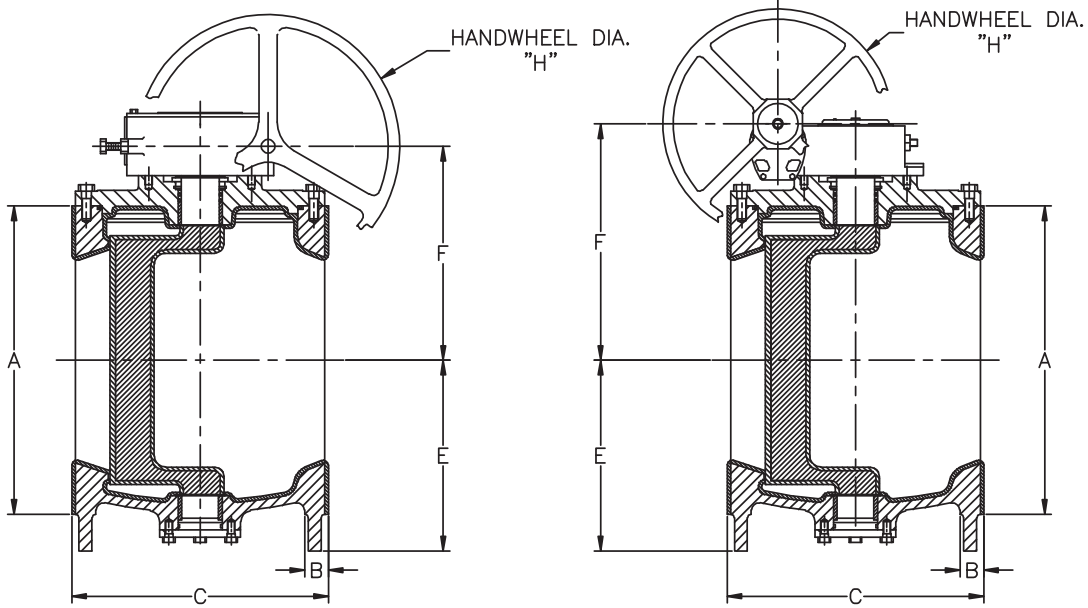
Fig. 601RL Rubberlined – Flanged End 3" – 12", 175 PSI, 14" & Larger, 150 PSI

3" – 12" VALVES



14" – 20" VALVES

24" AND LARGER VALVES



FLANGED END — ANSI 125 RUBBER LINED															
SIZE	3	4	5	6	8	10	12	14	16	18	20	24	30	36	42
A	7.50	9.00	10.00	11.00	13.50	16.00	19.00	21.00	23.25	25.00	27.50	32	38.75	46.00	53.00
B	.88	1.07	1.07	1.13	1.26	1.32	1.38	1.26	2.25	2.38	2.50	2.75	3.00	3.38	3.38
C	8.25	9.25	10.25	10.75	11.75	13.25	14.25	17.25	18.00	21.75	23.75	42.25	51.25	60.25	72.25
E	3.75	4.50	7.75	7.75	7.63	8.88	10.00	13.00	14.00	15.00	16.00	21.63	24.75	29.00	29.00
F	5.16	6.31	7.56	7.56	9.63	11.13	12.81	14.56	15.81	16.36	17.63	25.13	29.00	33.51	33.88
H	6.00	6.00	6.00	6.00	12.00	12.00	12.00	18.00	18.00	18.00	18.00	24.00	24.00	24.00	24.00
WEIGHT (approx.)	70	100	135	145	240	345	440	905	1030	1355	1880	3800	5200	6940	10160

All above have gear operators as standard

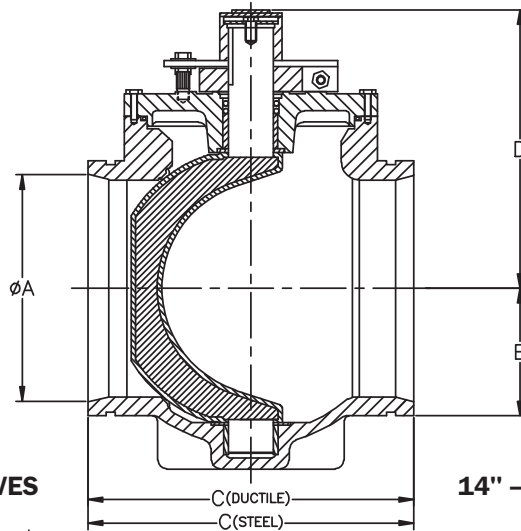
Weight includes gear operator

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

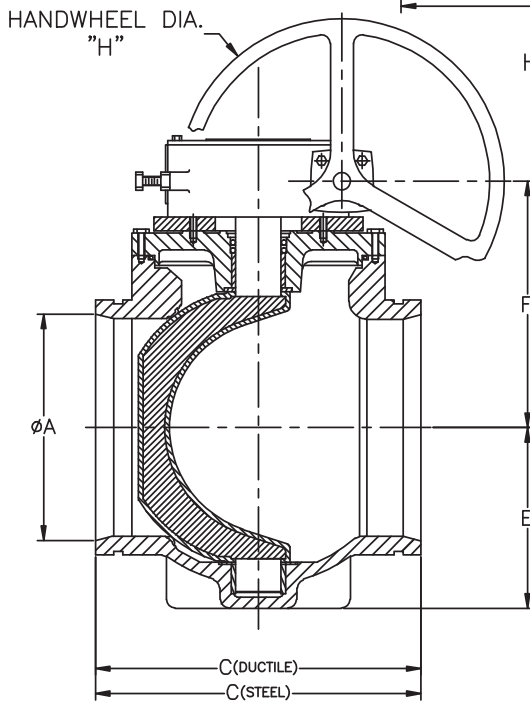
NOTE: Dimensions on 48" and larger available upon request

Fig. 606 Grooved End 2½" – 12", 175 PSI, 14" – 20", 150 PSI

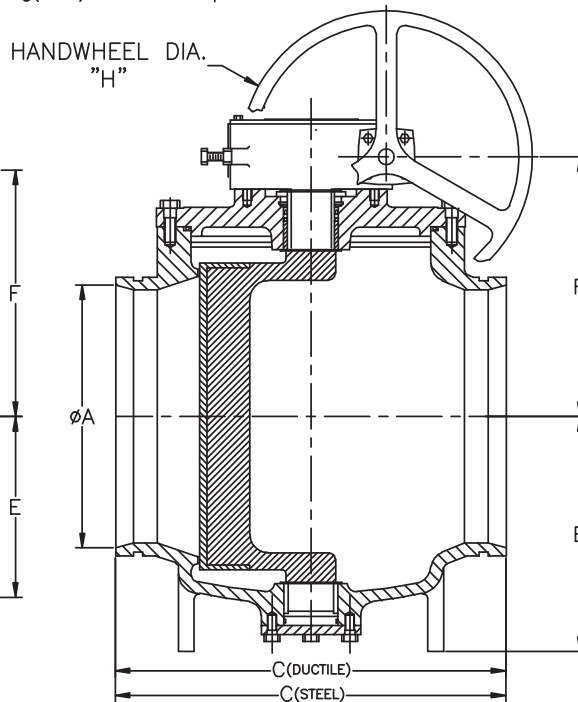
2½" – 8" VALVES



2½" – 12" VALVES



14" – 20" VALVES



GROOVED END — AWWA 606

SIZE	2.50	3	4	5	6	8	10*	12*	14*	16*	18*	20*
A	2.50	3.00	4.00	5.00	6.00	8.00	10.00	12.00	14.00	15.25	16.19	18.06
C (Duct.)	N/A	9.06	10.25	N/A	12.50	14.00	16.56	18.00	21.63	N/A	27.50	30.00
C (Steel)	7.13	8.50	10.13	12.38	12.38	13.88	16.44	17.88	21.63	22.50	27.50	30.00
D	6.19	6.19	7.25	8.38	8.38	10.69	—	—	—	—	—	—
E	3.50	3.75	4.50	5.75	5.75	7.63	8.88	10.00	10.00	14.00	15.00	16.00
F	5.16	5.16	6.31	7.56	7.56	9.63	11.13	12.86	13.56	15.81	16.35	17.63
H	6.00	6.00	6.00	6.00	6.00	12.00	12.00	12.00	12.00	18.00	18.00	18.00
WEIGHT (approx.)	20	30	50	70	80	145	325**	420**	RTF	RTF	RTF	RTF

*10" & above have gear operators as standard

**Weight includes gear operator

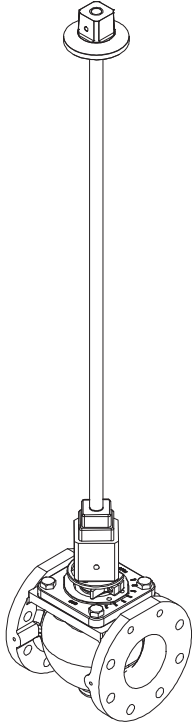
NOTE: Drawings are for information purposes only; please request certified drawings before preparing piping diagrams

NOTE: Larger sizes are available. Contact Milliken Valve for data.

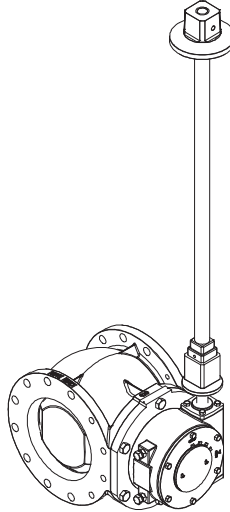
Adaption

A range of extended stems & floor mounted stands for remote operation, particularly in buried service, are available.
Chainwheels & locking devices are readily incorporated onto the Millcentric Valve.

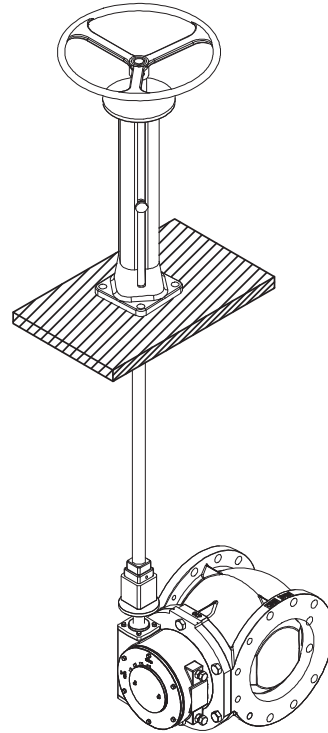
Valve with extended stem & 2" nut
(Only for 8" and smaller valves)



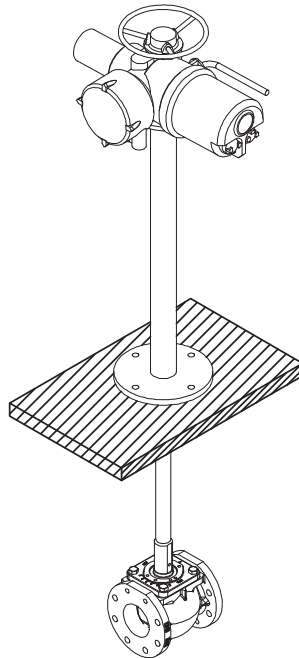
Valve with extended stem,
buried gear and 2" nut



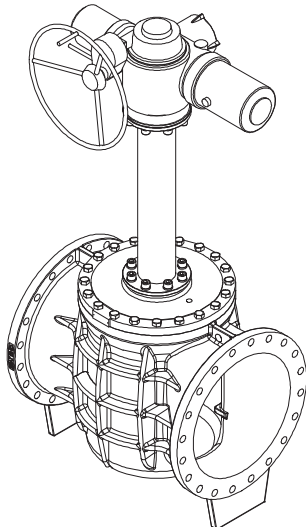
Valve with indicating floorstand



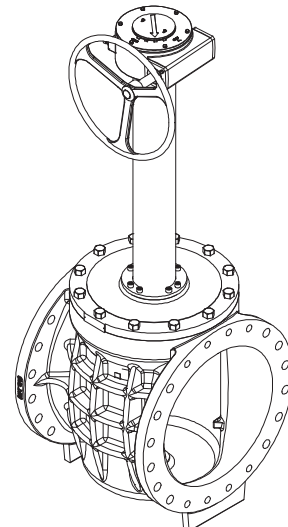
Valve with non-indicating floorstand
& motor operator



Valve with extended bonnet
& motor operator



Valve with extended bonnet with gear



Technical Specification Series 601/600 Valves

TECHNICAL SPECIFICATION ECCENTRIC PLUG VALVES AWWA C517-09 Standards Series 601/600 Valves

Valves shall be of the non-lubricated eccentric type with an elastomer covering all seating surfaces. The elastomer shall be suitable for the service intended. Flanged valves shall be manufactured in accordance with **ANSI B16.1 Class 125/150** including facing, drilling and flange thickness. Mechanical joint ends shall be in compliance with **AWWA/ANSI C-111-92**. Grooved ends shall be manufactured to the dimensions of **ANSI/AWWA C606** for ductile or steel pipe as required. Ports shall be round on sizes 2½"-12" and rectangular port design on valves 14" and larger. All valves shall be capable of being "pigged" with a soft pig when required.

Valve bodies shall be of **ASTM A-126 Class B** cast iron in accordance with **AWWA C-517-09 Section 4.3.3.1**. Valves 3" and larger shall be furnished with a welded-in overlay seat of ⅛" thick of not less than 99% nickel in accordance with **AWWA C-517-09, Section 4.3.3.4**. Sprayed, plated or screwed-in seats are not acceptable.

Plugs shall be of **ASTM A-536-Grade 65-45-12** for sizes 20" and smaller, and **ASTM A126 Class B Cast Iron** for sizes 24" and larger in compliance with **AWWA C-517-09 Sections 4.3.3.1 and 4.3.3.2**. The plugs shall be of one piece solid construction with PTFE thrust bearings on the upper and lower bearing journals to reduce torque and prevent dirt and grit from entering the bearing and seal area.

Valves shall be furnished with replaceable sleeve type bearings conforming to **AWWA C-517-09, Section 4.3.3.6**. Bearings shall be of sintered, oil impregnated type 316 stainless steel **ASTM A-743 Grade CF-8M**. Valve shaft seals shall be of the "U" cup type in accordance with **AWWA C-517-09 Section 4.4.7**. Seals shall be self adjusting and repackable without removing the bonnet from the valve.

Wrench operated valves 2½"-8" shall be capable of being converted to worm gear or automated operation without removing the bonnet or plug from the valve. All wrench operated valves shall be equipped with a 2" square nut for use with removeable levers or extended "T" handles.

Worm gear operators, where required, shall be of the heavy duty construction with the ductile iron quadrant supported on the top and bottom by oil impregnated bronze bearings. The worm gear and shaft shall be manufactured of hardened steel and run on high efficiency roller bearings.

Valves shall be designed and manufactured to shut off bubble tight at 175 psi for valves 2½"-12" and 150 psi for valves 14" and larger. Each valve shall be given a hydrostatic and seat test with the test results being certified when required by the customer. Certified copies of Proof-of-Design test reports shall be furnished as outlined in **AWWA C-517-09 Section 5.2.2** when requested.

Plug valves shall be Millcentric **Series 601/600** as manufactured by **Milliken Valve Company of Bethlehem, Pennsylvania**.

Technical Specification Series 602 Class 250 Valves

TECHNICAL SPECIFICATION ANSI CLASS 250 ECCENTRIC PLUG VALVES AWWA C517-09 Standards Series 602 Valves

Valves shall be of the non-lubricated eccentric type with an elastomer covering all seating surfaces. The elastomer shall be suitable for the service intended. Flanged valves shall be manufactured in accordance with **ANSI B16.1 Class 250** including facing, drilling and flange thickness. Ports shall be round on sizes 2½" through 12" to facilitate "pigging" when required. Valves 14" and larger shall be of a rectangular port design.

Valve bodies shall be of **ASTM A-536 Grade 65-45-12** ductile iron in accordance with **AWWA C-517-09 Section 4.3.3.2**. Valves 3" and larger shall be furnished with a welded-in overlay seat of ⅛" thick of not less than 99% nickel in accordance with **AWWA C-517-09 Section 4.3.3.4**. Sprayed, plated or screwed-in seats are not acceptable.

Plugs shall be of **ASTM A-536-Grade 65-45-12** in compliance with **AWWA C-517-09 Section 4.3.3.2**. The plugs shall be of one piece solid construction with PTFE thrust bearings on the upper and lower bearing journals to reduce torque and prevent dirt and grit from entering the bearing and seal area.

Valves shall be furnished with replaceable sleeve type bearings conforming to **AWWA C-517- 09 Section 4.3.3.6**. Bearings shall be of sintered, oil impregnated type 316 stainless steel **ASTM A-743 Grade CF-8M**. Valve shaft seals shall be of the "U" cup type in accordance with **AWWA C-517-09 Section 4.4.7**. Seals shall be self adjusting and repackable without removing the bonnet from the valve.

Worm gear operators shall be of the heavy duty construction with the ductile iron quadrant supported on the top and bottom by oil impregnated bronze bearings. The worm gear and shaft shall be manufactured of hardened steel and run on high efficiency roller bearings. All worm gear operators shall be sized for bi-directional shutoff at the valves design pressure rating.

Valves shall be designed and manufactured to shut off bubble tight at 400 psi for valves 2½"-12" and 300 psi for valves 14"-48" with pressure behind the plug.

Each valve shall be given a hydrostatic and seat test with the test results being certified when required by the customer. Certified copies of Proof-of-Design test reports shall be furnished as outlined in **AWWA C-517-09 Section 5.2.2** when requested.

Plug valves shall be **Series 602** as manufactured by **Milliken Valve Company of Bethlehem, Pennsylvania**.

Technical Specification Series 601RL Rubberlined Valves

TECHNICAL SPECIFICATION RUBBERLINED ECCENTRIC PLUG VALVES AWWA C517-09 Standards Series 601RL Valves

Valves shall be of the non-lubricated eccentric type with an elastomer covering all seating surfaces. The elastomer shall be suitable for the service intended. Flanged valves shall be manufactured in accordance with **ANSI B16.1 Class 125/150** including facing, drilling and flange thickness. Mechanical joint ends shall be in compliance with **AWWA/ANSI C-111- 92**. Grooved ends shall be manufactured to the dimensions of **ANSI/AWWA C606** for ductile or steel pipe as required. Ports shall be round on sizes 2½"-12" and rectangular port design on valves 14" and larger. All valves shall be capable of being "pigged" with a soft pig when required.

Valve bodies shall be of **ASTM A-126 Class B** cast iron in accordance with **AWWA C- 517-09 Section 4.3.3.1**. The interior of the valve bodies shall be covered with a suitable elastomer with a minimum thickness of ⅛". The elastomer shall extend through the valve flow way and onto the flanges to ensure a positive seal.

Plugs shall be of **ASTM A-536-Grade 65-45-12** for sizes 20" and smaller, and **ASTM A126 Class B Cast Iron** for sizes 24" and larger in compliance with **AWWA C-517-09 Sections 4.3.3.1 and 4.3.3.2**. The plugs shall be of one piece solid construction with PTFE thrust bearings on the upper and lower bearing journals to reduce torque and prevent dirt and grit from entering the bearing and seal area.

Valves shall be furnished with replaceable sleeve type bearings conforming to **AWWA C-517-09, Section 4.3.3.6**. Bearings shall be of sintered, oil impregnated type 316 stainless steel **ASTM A-743 Grade CF-8M**. Valve shaft seals shall be of the "U" cup type in accordance with **AWWA C-517-09 Section 4.4.7**. Seals shall be self adjusting and repackable without removing the bonnet from the valve.

Worm gear operators shall be of the heavy duty construction with the ductile iron quadrant supported on the top and bottom by oil impregnated bronze bearings. The worm gear and shaft shall be manufactured of hardened steel and run on high efficiency roller bearings. All worm gear operators shall be sized for bi-directional shutoff at the valves design pressure rating.

Valves shall be designed and manufactured to shut off bubble tight at 175 psi for valves 2½"-12" and 150 psi for valves 14" and larger. Each valve shall be given a hydrostatic and seat test with the test results being certified when required by the customer. Certified copies of Proof-of-Design test reports shall be furnished as outlined in **AWWA C-517-09 Section 5.2.2** when requested.

Plug valves shall be Millcentric® **Series 601RL** as manufactured by **Milliken Valve Company of Bethlehem, Pennsylvania**.

Technical Specification Series 601S – Stainless Steel Valves

TECHNICAL SPECIFICATION STAINLESS STEEL ECCENTRIC PLUG VALVES AWWA C517-09 Standards Series 601S Valves

Valves shall be of the non-lubricated eccentric type with an elastomer covering all seating surfaces. The elastomer shall be suitable for the service intended. Flanged valves shall be manufactured in accordance with **ANSI B16.1 Class 125** including facing, drilling and flange thickness. Ports shall be round on sizes 2½"-12" and rectangular port design on valves 14" and larger. All valves shall be capable of being "pigged" with a soft pig when required.

Valve bodies shall be of **CF8M (316 stainless steel)**. Valves shall be furnished with 316 stainless steel seat in accordance with **AWWA C-517-09 Section 4.3.3.4**.

Plugs shall be of **CF8M (316 stainless steel)**. The plugs shall be of one piece solid construction with PTFE thrust bearings on the upper and lower bearing journals to reduce torque and prevent dirt and grit from entering the bearing and seal area.

Valves shall be furnished with replaceable sleeve type bearings conforming to **AWWA C-517-09 Section 4.3.3.6**. Bearings shall be of sintered, oil impregnated type 316 stainless steel **ASTM A-743 Grade CF-8M**. Valve shaft seals shall be of the "U" cup type in accordance with **AWWA C-517-09 Section 4.4.7**. Seals shall be self adjusting and repackable without removing the bonnet from the valve.

Wrench operated valves 2½"-8" shall be capable of being converted to worm gear or automated operation without removing the bonnet or plug from the valve. All wrench operated valves shall be equipped with a 2" square nut for use with removable levers or extended "T" handles.

Worm gear operators, where required, shall be of the heavy duty construction with the ductile iron quadrant supported on the top and bottom by oil impregnated bronze bearings. The worm gear and shaft shall be manufactured of hardened steel and run on high efficiency roller bearings. All worm gear operators shall be sized for bi-directional shutoff at the valves design pressure rating.

Valves shall be designed and manufactured to shut off bubble tight at 175 psi for valves 2½"-12" and 150 psi for valves 14" and larger. Each valve shall be given a hydrostatic and seat test with the test results being certified when required by the customer. Certified copies of Proof-of-Design test reports shall be furnished as outlined in **AWWA C-517-09 Section 5.2.2** when requested.

Plug valves shall be Millcentric® **Series 601S** as manufactured by **Milliken Valve Company of Bethlehem, Pennsylvania**.

Technical Specification Series 611/610 Ductile Iron Valves

TECHNICAL SPECIFICATION DUCTILE IRON ECCENTRIC PLUG VALVES AWWA C517-09 Standards Series 611/610 Valves

Valves shall be of the non-lubricated eccentric type with an elastomer covering all seating surfaces. The elastomer shall be suitable for the service intended. Flanged valves shall be manufactured in accordance with **ANSI B16.1 Class 125/150** including facing, drilling and flange thickness. Mechanical joint ends shall be in compliance with **AWWA/ANSI C-111-92**. Grooved ends shall be manufactured to the dimensions of **ANSI/AWWA C606** for ductile or steel pipe as required. Ports shall be round on sizes 2½"-12" and rectangular port design on valves 14" and larger. All valves shall be capable of being "pigged" with a soft pig when required.

Valve bodies shall be of **ASTM A-536 Grade 65-45-12** in accordance with **AWWA C-517-09 Section 4.3.3.2**. Valves 3" and larger shall be furnished with a welded-in overlay seat of ⅛" thick of not less than 99% nickel in accordance with **AWWA C-517-09, Section 4.3.3.4**. Sprayed, plated or screwed-in seats are not acceptable.

Plugs shall be of **ASTM A-536-Grade 65-45-12** for all sizes in accordance with **AWWA C-517-09 Section 4.3.3.2**. The plugs shall be of one piece solid construction with PTFE thrust bearings on the upper and lower bearing journals to reduce torque and prevent dirt and grit from entering the bearing and seal area.

Valves shall be furnished with replaceable sleeve type bearings conforming to **AWWA C-517-09, Section 4.3.3.6**. Bearings shall be of sintered, oil impregnated type 316 stainless steel **ASTM A-743 Grade CF-8M**. Valve shaft seals shall be of the "U" cup type in accordance with **AWWA C-517-09 Section 4.4.7**. Seals shall be self adjusting and repackable without removing the bonnet from the valve.

Wrench operated valves 2½"-8" shall be capable of being converted to worm gear or automated operation without removing the bonnet or plug from the valve. All wrench operated valves shall be equipped with a 2" square nut for use with removeable levers or extended "T" handles.

Worm gear operators, where required, shall be of the heavy duty construction with the ductile iron quadrant supported on the top and bottom by oil impregnated bronze bearings. The worm gear and shaft shall be manufactured of hardened steel and run on high efficiency roller bearings. All worm gear operators shall be sized for bi-directional shutoff at the valves design pressure rating.

Valves shall be designed and manufactured to shut off bubble tight at 175 psi for valves 2½"-12" and 150 psi for valves 14" and larger. Each valve shall be given a hydrostatic and seat test with the test results being certified when required by the customer. Certified copies of Proof-of-Design test reports shall be furnished as outlined in **AWWA C-517-09 Section 5.2.2** when requested.

Plug valves shall be Millcentric® **Series 611/610** as manufactured by **Milliken Valve Company of Bethlehem, Pennsylvania**.

Technical Specification Series 601GL Glass Lined Valves

TECHNICAL SPECIFICATION GLASS LINED ECCENTRIC PLUG VALVES 3"-30" AWWA C517-09 Standards Series 601GL/600GL Valves

Valves shall be of the non-lubricated eccentric type with an elastomer covering all seating surfaces. The elastomer shall be suitable for the service intended. Flanged valves shall be manufactured in accordance with **ANSI B16.1 Class 125/150** including facing, drilling and flange thickness. Mechanical joint ends shall be in compliance with **AWWA/ANSI C-111-92**. Grooved ends shall be manufactured to the dimensions of **ANSI/AWWA C606** for ductile or steel pipe as required. Ports shall be round on sizes 3"-12" and rectangular port design on valves 14" and larger. All valves shall be capable of being "pigged" with a soft pig when required.

Valve bodies shall be of **ASTM A-126 Class B** cast iron in accordance with **AWWA C-517-09 Section 4.3.3.1**. Interior of valves shall be glass lined at .008-.012 mils thickness, covering the entire interior of valve bodies and stopping at the flange faces.

Plugs shall be of **ASTM A-536-Grade 65-45-12** for sizes 20" and smaller, and **ASTM A126 Class B Cast Iron** for sizes 24" and larger in compliance with **AWWA C-517-09 Sections 4.3.3.1 and 4.3.3.2**. The plugs shall be of one piece solid construction with PTFE thrust bearings on the upper and lower bearing journals to reduce torque and prevent dirt and grit from entering the bearing and seal area.

Valves shall be furnished with replaceable sleeve type bearings conforming to **AWWA C-517-09, Section 4.3.3.6**. Bearings shall be of sintered, oil impregnated type 316 stainless steel **ASTM A-743 Grade CF-8M**. Valve shaft seals shall be of the "U" cup type in accordance with **AWWA C-517-09 Section 4.4.7**. Seals shall be self adjusting and repackable without removing the bonnet from the valve.

Wrench operated valves 2½"-8" shall be capable of being converted to worm gear or automated operation without removing the bonnet or plug from the valve. All wrench operated valves shall be equipped with a 2" square nut for use with removeable levers or extended "T" handles.

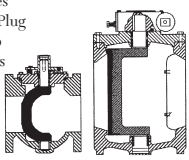
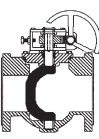
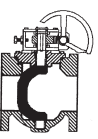
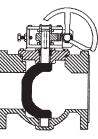
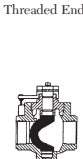


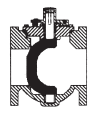




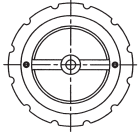
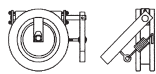
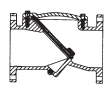
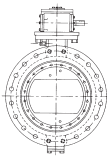
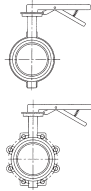
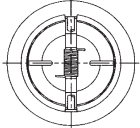
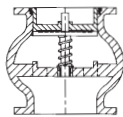
Worm gear operators, where required, shall be of the heavy duty construction with the ductile iron quadrant supported on the top and bottom by oil impregnated bronze bearings. The worm gear and shaft shall be manufactured of hardened steel and run on high efficiency roller bearings. All worm gear operators shall be sized for bi-directional shutoff at the valves design pressure rating.

Valves shall be designed and manufactured to shut off bubble tight at 175 psi for valves 2½"-12" and 150 psi for valves 14" and larger. Each valve shall be given a hydrostatic and seat test with the test results being certified when required by the customer. Certified copies of Proof-of-Design test reports shall be furnished as outlined in **AWWA C-517-09 Section 5.2.2** when requested.

Plug valves shall be Millcentric Series **601GL/600GL** as manufactured by **Milliken Valve Company of Bethlehem, Pennsylvania**.

Notes



<p>Series 600/601 Eccentric Plug Valve</p> <p>Welded Nickel Seat Stainless Steel Bearings ANSI-B16.1 Flanges Solid Ductile Iron Plug Low Pressure Drop Flanged & MJ Ends Sizes 2"-72" FL Sizes 3"-48" MJ</p>  <p>Flanged and MJ</p>	<p>Series 601SS Eccentric Plug Valve</p> <p>Integral Stainless Seat Stainless Bearings Stainless Steel Body ANSI B16.5 Class 150 Flanges Solid Stainless Steel Plug Low Pressure Drop Size: 1/2"-24"</p> 	<p>Series 601RL Eccentric Plug Valve</p> <p>Soft or Hard Rubber Lining Stainless Steel Bearings ANSI B16.1 Flanges Solid Ductile Iron Plug Low Pressure Drop Sizes 3"-54" Metal Plugs Available - Consult Factory</p>  <p>Rubber Lined</p>	<p>Series 602 Eccentric Plug Valve</p> <p>Welded Nickel Seat Stainless Steel Bearings ANSI B16.1 Class 250 Flanges Solid Ductile Iron Plug Low Pressure Drop Sizes 2-1/2"-54"</p>  <p>High Pressure</p>
<p>Series 603 Eccentric Plug Valve</p> <p>Solid Ductile Iron Plug Round Port Low Pressure Drop Memory Stop NPT End Connections Sizes 1/2"-2"</p>  <p>Threaded End</p>	<p>Series 604E Eccentric Plug Valve</p> <p>Epoxy Seat Solid Ductile Iron Plug Stainless Steel Bearings Low Pressure Drop Lift & Turn NOT Required High Solids & Flow Capacity Sizes 3"-16"</p>  <p>Three Way Valve</p>	<p>Series 606 Eccentric Plug Valve</p> <p>Welded Nickel Seat Stainless Steel Bearings AWWA C-606 Grooved Solid Ductile Iron Plug Low Pressure Drop Ductile or Steel Pipe Sizes 3"-24"</p>  <p>Grooved End</p>	<p>Series 611/610 Eccentric Plug Valve</p> <p>Ductile Iron Body ANSI B16.1 Flanges MJ AWWA C111 Welded Nickel Seat Solid Ductile Iron Plug Low Pressure Drop Sizes 2"-72" FL Sizes 3"-48" MJ</p>  <p>Flanged and MJ</p>
<p>Model 625 Eccentric Plug Valve</p> <p>Available in Threaded and Flanged Ends Rated for 175 psi Sizes 1/2"-4" UL/CGA Listed</p> 	<p>Series 8000 AWWA Swing Check</p> <p>Full waterway Weight or Spring Bronze/SS Body Seat Ring Bronze/Buna/EPDM disc insert Sizes 2"-36"</p> 	<p>Series 8500 AWWA Swing Check</p> <p>Full waterway Ductile Iron Construction Weight or Spring Air Cushion SS body seat ring Buna disc insert Sizes 3"-24"</p> 	<p>Series 9000 AWWA Swing Check</p> <p>Clear waterway Weight or Spring Air or Oil Cushion Bronze/SS Body seat ring Bronze/Buna/EPDM disc insert Sizes 3"-72"</p> 
<p>Model 720A Wafer Check Valve</p> <p>Center Guided Check Valve Rated for 250 psi SS Disc/EPDM Seat Sizes 2"-12"</p> 	<p>Series 700 Wafer Check Valve</p> <p>ANSI Class 125/150 High Flow Capacity Narrow Face-to-Face Sizes 3"-12" 316 SS Internals Disc Position Indicator</p>  <p>Wafer Check Valve</p>	<p>Figure 851 Flex Check</p> <p>Million Cycle Certification Complete Ductile Iron Construction 285 psi Pressure Rating Fully Epoxy Lined Interior No Internal Shafts, Bearings or Bushings No External Levers, Weights or Springs Hard or Soft Rubberlining Available 2"-24" Size Range Backflush Devices Proximity Switches</p> 	<p>Figure 510A/511A AWWA Butterfly Valve</p> <p>Complies with AWWA C-504 Class 150B Flanged or MJ Cast iron body and disc Seat in body Flow through disc on 24" and larger Epoxy Paint on all sizes standard 3" - 72"</p> 
<p>Figure 565/566 General Service Butterfly Valve</p> <p>Meets MSS SP 67 Cast Iron Body Bronze Disc Other Materials Upon Request Wrench or Gear Operated Available 2"-24" Size Range</p> 	<p>Figure 740A Double Disc Check Valve</p> <p>Wafer pattern check valve rated for 250 psi. Available in sizes 2"-36" with a SS Disc/EPDM Seat</p> 	<p>Figure 821A Globe Style Check Valve</p> <p>Center guided check valve. SS Disc/EPDM Seat and is available in sizes 2"-24".</p> 	<ul style="list-style-type: none"> • ISO 9001:2000 Certified • Field Services Available • Engineering Services



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