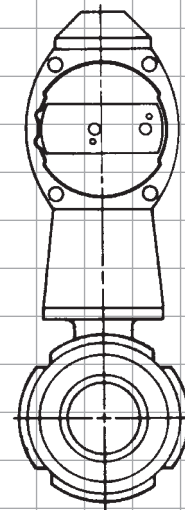


AN ISO 9001 REGISTERED COMPANY



3", 4" and 6" 151/301 Wafer Ball Valves

*Compact, flangeless ball valves for installation between
ANSI Class 150-pound and 300-pound flanges*

Wafer Ball Valves

Compact, flangeless ball valves that keep process control costs low, the envelope small and installation simple

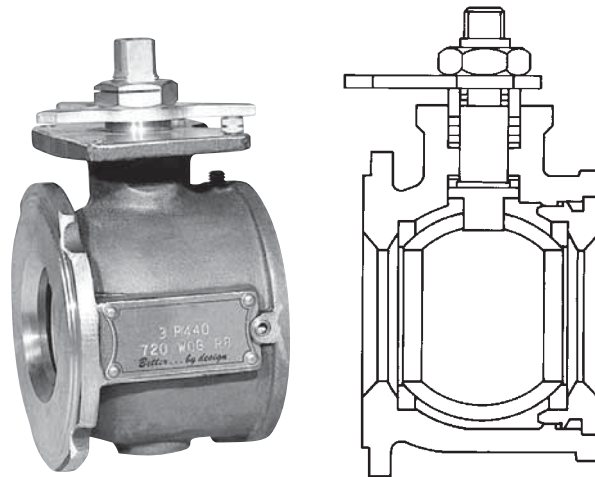
Flowserve Worcester Controls 151/301 wafer ball valves are designed for process systems where lightweight, compact envelope size and ease of installation and repair are important considerations. Available in sizes 3", 4" and 6", 151/301 wafer valves are rated at 720 cwp and mount between ANSI Class 150-pound and 300-pound flanges. Studs, suitable for the flange rating, are furnished with the valve.

Original and maintenance costs are low with 151/301 wafer valves, yet the valves offer all the advantages of the Series 51/52 flanged valves; downstream seat sealing, low operational torque, bottom-entry, blowout-proof stem and easily removable end plug. Properly sized stem seal rings in a deep stuffing box assure zero leakage, and the Worcester Controls patented seat design assures positive shutoff.

The weight of Worcester wafer valves is 40 percent to 60 percent less than conventional flanged ball valves and substantially less than comparable gate valves. Their configuration is very compact. The

center to top dimension of a 4" 151 wafer ball valve, for example, is only 7.84" as opposed to over 27" for a standard gate valve. This is a valuable space savings for OEM installations, skid-mounted systems and piping systems in confined areas.

Worcester Controls 151/301 wafer valves are available in bronze, ductile iron, carbon steel and 316 stainless steel. A wide number of seat and body seal materials enable these valves to handle a variety of process applications with pressures to 720 psig and temperatures to 500°F.

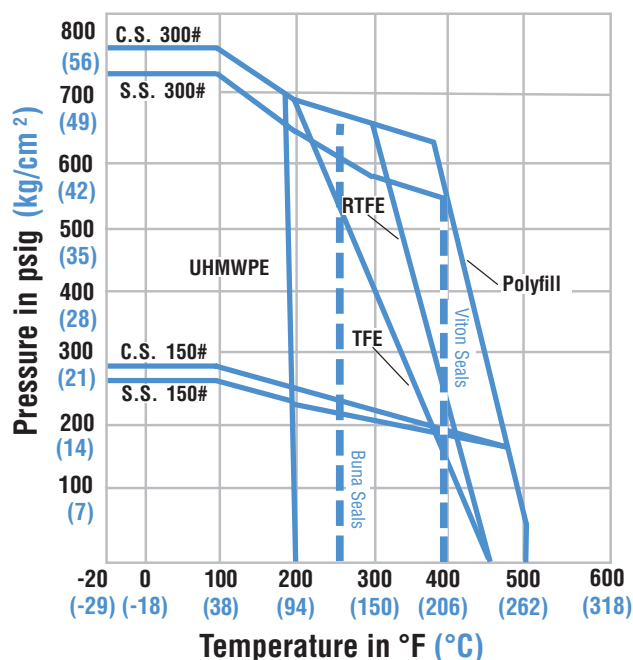


Easily automated for on/off or modulating control

The lightweight compact design of the 151/301 valves combined with our Series 39 pneumatic or Series 75 electric actuators create a control package that is small, yet efficient. The package is symmetrically balanced to avoid stem side loading, and has a rugged linkage to operate well under high torque conditions. Our actuators are engineered to match the performance of the valve for optimum power and safety.

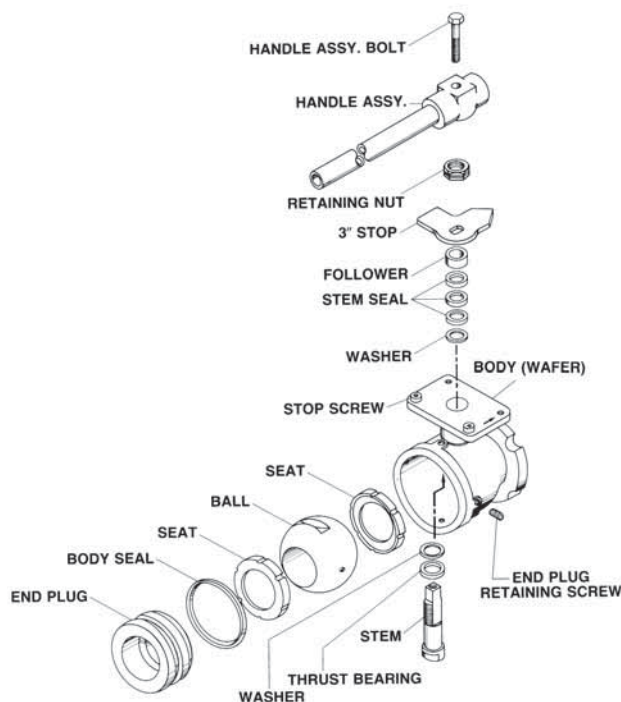
A wide range of options are available to complement your pneumatic or electric package, from computer compatible controls to limit switches to Cycle Length Control. For on/off or throttling applications, the actuated 151/301 valves are a dependable, precise unit. Because Flowserve supplies all the elements of your control package, we are your single source if you ever need a replacement part or service.

Pressure/Temperature Rating



NOTE: Maximum working pressure limited by both flange rating and seat capability.

Parts Identification



Specifications

Sizes:	3", 4", 6"
Body Materials:	Carbon Steel (ASTM A216 WCB), 316 S.S. (ASTM A351 CF8M), Ductile Iron (ASTM A536 GR. 65-45-12), Bronze (ASTM B148-C95800)
Stem:	One-piece bottom-entry in Brass, 316 S.S., Monel®
Stem Seals:	15% Glass-Filled TFE, UHMWPE
Seats:	TFE, Reinforced TFE, Polyfill®, UHMWPE
Body Seals:	Graphite, TFE, Buna, Viton®, UHMWPE
Ball:	316 S.S., Monel
End Plug:	Carbon Steel, 316 S.S., Ductile Iron, Bronze
Stop Screw:	Carbon Steel, Zinc-Plated
Follower:	Stainless Steel (316L)
Handle Bolt:	Carbon Steel, Zinc-Plated

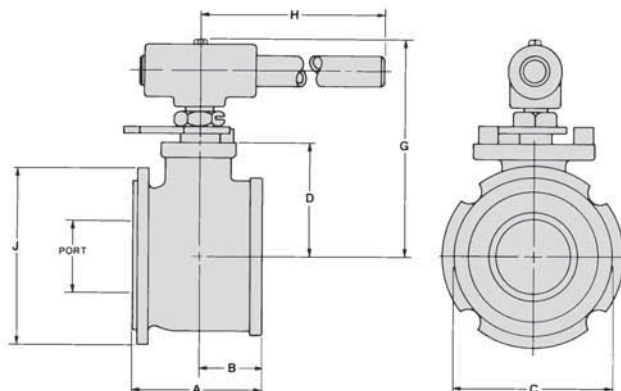
Handle:	3"-6" Cast Iron with pipe handle
Retaining Nut:	Carbon Steel, Zinc Plated, 316 S.S.
Thrust Bearing:	25% Glass-Filled TFE or UHMWPE
End Plug	
Retention Bolts:	Stainless Steel, Zinc-Plated
Stop Plate:	Carbon Steel, Zinc-Plated
Washer:	Stainless Steel, Carbon Steel, Brass
Operation:	Supplied with handle. Gear operators and electric or pneumatic actuators available.
Standards:	MSS SP-72, Ball Valves for general service. NACE MR-01-75. Pipeline valve standard for sour gas services.
Lubricant:	Standard Worcester valves are assembled with silicone based break-in lubricant. For other options, consult your distributor or Flowserve.

C_v Data

Valve Size	C _v	Equiv Length of Sched. 40 pipe feet
3"	350	7.1
4"	720	6.9
6"	1020	20.4

NOTE: For steam service, refer to Worcester's Steam Service Data Sheet for ratings. The data sheet is found in the Engineering Section of the general catalog binder.

Dimensions



Valve Size	A	B	C	D	G	H	J	Port Diameter	Approx Weight lb. (kg)
3"	4.50 (114.3)	2.25 (57.2)	5.31 (134.9)	3.88 (98.6)	7.22 (183.4)	22.00 (558.8)	5.88 (149.4)	2.50 (63.5)	21 (9.5)
4"	5.81 (147.6)	2.90 (73.7)	6.81 (173.0)	4.48 (113.8)	7.84 (199.1)	22.00 (558.8)	7.50 (190.5)	3.25 (82.6)	34 (15.4)
6"	7.38 (187.5)	3.68 (93.5)	8.69 (220.7)	6.19 (157.2)	11.21 (284.7)	26.00 (660.4)	9.88 (251.0)	4.38 (111.3)	64 (29.0)

How to Order

3"	4	Options	4	6	R	T	301	**
Size	Style	Option	Body and End Plugs	Ball & Stem	Seats*	Seals	Type	Variations
3" 4" 6"	4	Blank - none E - No handle, valve built for automation L - U.L. approved (must specify service) V - Vacuum Service X - Oxygen Service	1 - Bronze 2 - Ductile Iron 4 - Carbon Steel 6 - 316 S.S.	1 - Brass stem, 316 S.S. ball 6 - 316 S.S. stem & ball 7 - Monel	T - TFE R - Reinforced TFE P - Polyfill U - UHMWPE	B - Buna T - TFE V - Viton Z - Graph-look	151 - for use between 150 ANSI flanges 301 - for use between 300 ANSI flanges	See below for V# listing

**Variations

Blank - No Variations
V-3 - Upstream Relief Hole
V-5 - Hydrostatic Testing
V-6 - Source Inspection
V-14 - Handleless Valves

V-17 - Grounding Thrust Bearing
V-36 - Certificate of Compliance
V-37 - Certificate of Comp. & Hydro Test
V-41 - Chrome-Plated Brass Ball
V-46 - Silicone-Free Lubricant

V-51 - High-Cycle Stem Build
V-66 - Certificate of Compliance for European Valve Orders
V-72 - Certificate of Compliance for European Pressure Equipment Directive

Ordering Example: A 3" Wafer with carbon steel body and end plug, 316 stainless steel ball and stem, reinforced TFE seats, TFE seal for use between 300 ANSI flanges.

*Use only one letter if body seal is same as seat.

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For more information about Flowserve Corporation, visit www.flowserve.com or call USA 1-800-225-6989.

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