



1/4" - 2" 89 Series Three Piece Stainless Steel Ball Valves

2 Otter Court, Raymond, New Hampshire 03077 • Tel. (603) 895-4761 • FAX (603) 895-6785 • www.geminivalve.com



FEATURES

- Easy Alignment of Assembly Bolt Holes at Installation
- Precise Alignment of Component Ports easily achieved at Installation Independent of the Assembly Bolts
- Two Piece Pipe Adaptor Eliminate Possibility of Body Seal Leakage Due to Seal Face Distortion, even if the Assembly Bolts are Overtightened
- Assembly Bolts Screw Directly into the Flanges Enabling Installation with a Single Wrench - No Nuts to Lose
- Available with Pneumatic and Electric Actuators

Gemini 89 Series offers 1/4" - 2" three piece ball valves with socket weld, butt weld, or female screwed end pipe adaptors. Standard material of construction is stainless steel.

In addition to the traditional features offered with three piece construction, the 89 Series overcomes many of the traditional three piece ball valve installation problems. For example, rotational alignment of the bolt holes is not required at installation of the pipe adaptors as with traditional three piece valves. The pipe adaptors, although factory assembled as integral units, allow the flanges to rotate independently of the pipe connectors. This two piece

construction of the pipe adaptors, also eliminates the possibility of distortion of the pipe connector sealing face, should the assembly bolts be overtightened. The alignment of the pipe connectors to the body is achieved by the mating counterbore on the flanges. This assures easier and more accurate port alignment of all components that is traditionally achieved by use of the assembly bolts.

The assembly bolts screw directly into the assembly flanges. Thus only a single wrench is required to tighten the assembly bolts. There are no assembly nuts to be dropped or lost when installing or servicing the valve.

Precise machining of all key components results in effective sealing with minimum operating torque.

In addition to these unique features, the traditional three piece advantages have been retained. For applications requiring welded connections, the valve can be readily disassembled, the ends welded into the line, and then quickly and easily reassembled. Similarly, if quick easy valve repair is imperative, the center section can easily be removed, the seats and seals replaced, and the valve quickly returned to service.

Available with both pneumatic and electric actuators.

Specifications and Dimensions

Valve Specifications

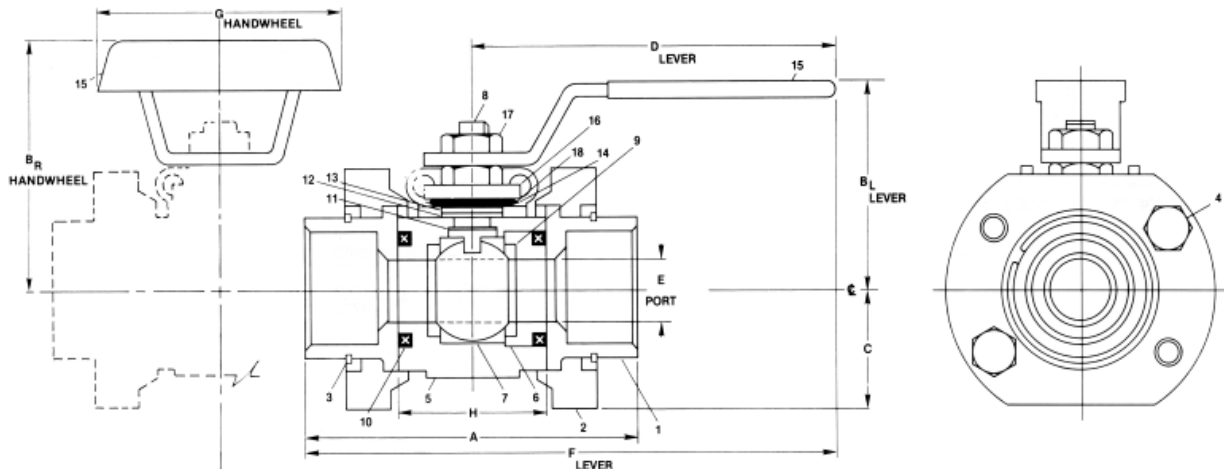
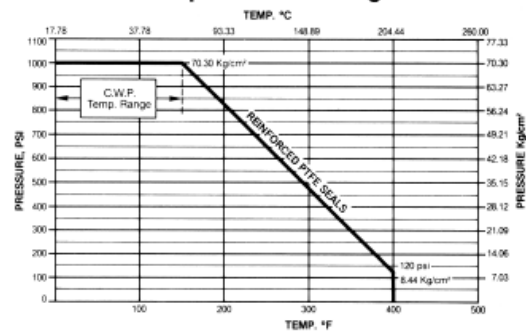
Sizes: 1/4" - 2", pipe socket weld, pipe butt weld, tube socket weld*, tube compression end* and female screwed end, N.P.T. & B.S.P.T.

* - Standard Port Models Only

Material: 316 Stainless Steel

Pressure: 20 micron vacuum to 1000 psi cold working pressure (CWP) nonshock service. Saturated steam to 150 psi

Pressure- Temperature Ratings



VALVE SIZE			DIMENSIONS (INCHES)									
STD. PORT	FULL PORT	PORT DIAM.	A	B _L	B _R	C	D	E	F	G	H	
1/2	1/4 & 3/8	0.5	3.18	2.12	2.77	1.09	5.25	0.5	6.84	3.30	1.50	
3/4	1/2	0.6	3.38	2.25	2.84	1.17	5.25	0.6	6.94	3.30	1.50	
1	3/4	0.8	3.74	2.50	3.09	1.43	5.25	0.8	7.12	3.30	1.50	
1 1/4	1	1.0	4.57	2.88	3.34	1.60	6.75	1.0	9.03	3.30	2.25	
1 1/2	1 1/4	1.25	4.65	3.21	3.67	1.92	6.75	1.25	9.07	3.30	2.25	
2	1 1/2	1.50	5.12	3.31	3.78	2.00	6.75	1.50	9.31	3.30	2.62	

VALVE SIZE			DIMENSIONS (MM)									
STD. PORT	FULL PORT	PORT DIAM.	A	B _L	B _R	C	D	E	F	G	H	
1/2	1/4 & 3/8	12.4	80.7	53.8	70.3	27.7	133	12.4	173	83.8	38.1	
3/4	1/2	15.8	85.8	57.1	72.1	29.7	133	15.8	176	83.8	38.1	
1	3/4	20.3	95.0	63.5	78.4	36.3	133	20.3	180	83.8	38.1	
1 1/4	1	24.6	116	73.1	84.8	40.6	171	24.6	229	83.8	57.1	
1 1/2	1 1/4	31.8	118	81.5	93.2	48.7	171	31.8	230	83.8	57.1	
2	1 1/2	38.1	130	84.1	96.0	50.8	171	38.1	236	83.8	57.1	



Figure No.	Description	Quantity	Material
1	Pipe Connector	2	316L Stainless Steel
2	Pipe Connector Flange	2	316/CF8M Stainless Steel
3	Flange Retaining Ring	2	AISI Type 316 Stainless Steel
4	Assembly Bolt	4	18-8 Stainless Steel
5	Body	1	316L Stainless Steel
6	Insert	1	316 Stainless Steel
7	Ball	1	316/CF8M Stainless Steel
8	Stem	1	316 Stainless Steel
9	Seats	2	15% Glass Filled PTFE
10	Body Seals	2	Viton
11	Stem Seal	1	25% Glass Filled PTFE
12	Thrustwasher	1	15% Glass Filled PTFE
13	Follower	1	18-8 Stainless Steel
14	Belleville Springs	2	18-8 Stainless Steel
15*	Handle	1	18-8 Stainless Steel
16*	Stop	1	18-8 Stainless Steel
17	Nut	1	18-8 Stainless Steel
18	Grounding Spring	1	18-8 Stainless Steel
19	Pilot / Spacer	1	18-8 Stainless Steel

* - Used with 1.0, 1.2 and 1.5 Port Valves Only



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