

For Commercial and Industrial Applications

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Series FBV-3

2 Piece, Full Port Brass Ball Valves

Sizes: 1/4" – 3" (8 – 80mm)



MSS-SP-110
1/4" – 3" (8 – 80mm)

1/2" – 2" (15 – 50mm)

Features

- Suitable for full range of liquids and gases
- Minimal pressure drop due to full size ports
- Bottom loaded, blow-out proof stem
- **Sizes 1/4" – 2" FBV-3 and FBVS-3** pressure rated at 600psi (41 bars) WOG non-shock and 150psi (10.3 bars) WSP
- **Sizes 2 1/2" – 3" FBV-3** pressure rated at 600psi (41 bars) WOG non-shock and 125psi (8.6 bars) WSP
- **Sizes 2 1/2" – 3" FBVS-3** pressure rated at 400psi (27.5 bars) WOG non-shock and 125psi (8.6 bars) WSP
- Virgin PTFE stem packing seal, thrust washer and seats
- Vinyl insulator on heavy duty, zinc-plated carbon steel handles
- Fast quarter-turn open or close operation
- Excellent for throttling and balancing applications of nonabrasive fluids where minimum flow is 20% to 100% of valve capacity
- Low operating torque
- Adjustable stem packing gland
- Stem O-ring seal
- Maximum operating temperature: 400°F (204°C)
- Minimum operating temperature: -40°F (-40°C)

Gas Approvals — Threaded Valves Only



Size 1/2" – 2" (15 – 50mm) ^c _{us}

ASME B16.33 CSA 1/2 psig, 5psig, 125psig UL/FM

Size 2 1/2" – 3" (65 – 88mm)

ASME B16.38 CSA 1/2 psig, 5psig, 125psig

Pressure — Temperature

Sizes 1/2" – 2" (15 – 50mm)

Maximum Operating Pressure: 1/2 psig and 5psig
(14 and 34 kPa)

1/2" – 2" (15 – 50mm) @ -40°F to 125°F (-40°C to 52°C)

Maximum Operating Pressure: 125psig (8 bars)

1/2" – 2" (15 – 50mm) @ -40°F to 400°F (-40°C to 204°C)

Sizes 2 1/2" – 3" (65 – 88mm)

Maximum Operating Pressure: 1/2 psig and 5psig
(14 and 34 kPa)

2 1/2" – 3" (65 – 88mm) @ -40°F to 125°F (-40°C to 52°C)

Maximum Operating Pressure: 125psig (8 bars)

2 1/2" – 3" (65 – 88mm) @ -40°F to 400°F (-40°C to 204°C)



FBV-3
Threaded Connections
Sizes: 1/4" – 3" (8-80mm)



FBVS-3*
Solder Connections
Sizes: 3/8" – 3" (10 – 80mm)



(1/2" – 2" only)

Fire Service Approvals

Sizes 1/4" – 2" (8 – 50mm)

UL/FM rated at 300psi

Specifications

Approved valves shall be 2-piece and constructed of forged brass body and end adapter. Ball shall be full port, chrome plated brass. Seats and stem packing shall be virgin PTFE. Bottom loaded, blowout proof stem shall be brass with a fluorocarbon elastomer O-ring and adjustable packing nut threaded to body. Valve sizes 1/4" – 2" shall be rated to 600psi (41 bars) WOG non-shock and 150psi (10.3 bars) WSP. Valve sizes 2 1/2" – 3" (threaded) shall be rated to 600psi (41 bars) WOG non-shock and 125psi (8.6 bars) WSP. Valve sizes 2 1/2" – 3" (solder) shall be rated to 400psi (27.5 bars) WOG non-shock and 125psi (8.6 bars) WSP. Valves shall be equal to Watts FBV-3 (threaded) or FBVS-3 (solder).

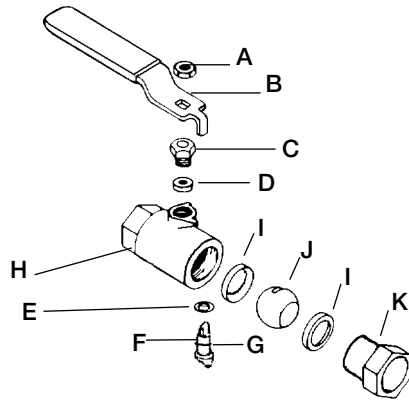
*This valve is designed to be soft soldered into lines without disassembly, using a low temperature solder to 420°F (216°C). Higher temperature solders may damage the seat material.

Apply heat with the flame directed **AWAY** from the center of the valve body. Excessive heat can harm the seats. After soldering, the packing nut may have to be tightened.



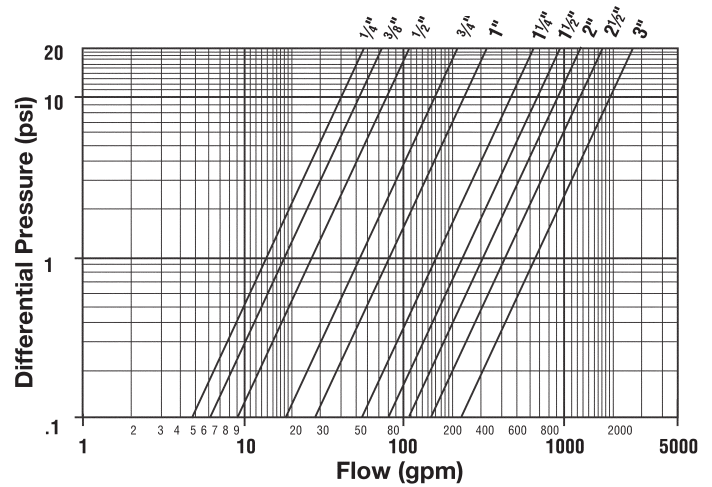
Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

Materials

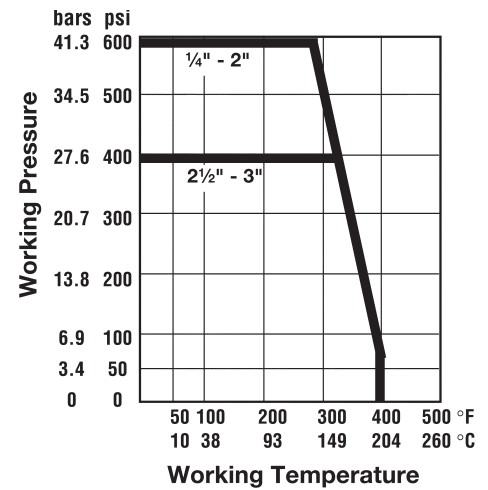


- A. Handle Nut Zinc plated carbon steel
- B. Handle Zinc plated carbon steel with vinyl insulator
- C. Packing Nut Brass
- D. Stem Packing Virgin PTFE
- E. Thrust Washer Virgin PTFE
- F. Stem Machined brass
- G. O-ring Fluorocarbon elastomer (FKM)
- H. Body Forged brass
- I. Seats Virgin PTFE
- J. Ball Chrome plated brass
- K. Adaptor Forged brass

Flow Curves

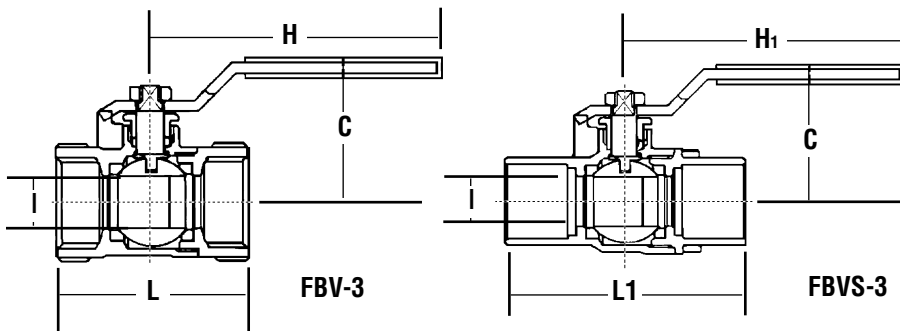


Temperature/Pressure Rating



*See applicable note on reverse side for solder end valves with regards to pressure/temperature rating.

Dimensions - Weights



SIZE (DN)		DIMENSIONS										WEIGHT			
in.	mm	C		H		H ₁		I		L		L ₁		lbs.	kg.
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
1/4	8	1 7/16	36	3 3/16	81	—	—	3/8	10.5	1 13/16	46	—	—	.3	.1
3/8	10	1 7/16	36	3 3/16	81	—	—	3/8	10.5	1 13/16	46	—	—	.3	.1
1/2	15	1 15/16	50	3 5/8	91	3 5/8	91	1 9/32	12.5	2 3/8	60	2 1/8	53	.5	.2
3/4	20	2 1/16	52	4 1/2	114	4 1/2	114	1 3/16	20.0	2 11/16	68	2 13/16	72	.8	.3
1	25	2 7/16	62	4 15/16	125	4 15/16	125	1	25.0	3 3/8	80	3 3/8	86	1.4	.6
1 1/4	32	2 5/8	66	4 15/16	125	4 15/16	125	1 1/4	31.0	3 11/16	90	3 7/8	98	2.0	.9
1 1/2	40	2 15/16	75	5 1/2	140	5 1/2	140	1 1/2	39.0	3 7/8	99	4 3/8	112	2.6	1.2
2	50	3 1/8	80	7 7/8	200	7 7/8	200	2	50.0	4 7/16	113	5 5/16	135	4.0	1.8
2 1/2	65	4 5/16	109	9 7/8	250	9 7/8	250	2 3/8	60.5	5 1/2	140	6 5/16	161	9.0	4.1
3	80	4 5/8	118	9 7/8	250	7 7/8	200	2 15/16	74.0	6 1/4	159	7 3/16	182	12.8	5.8



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