

1/2" – 4" (DN 15 – 100) FULL PORT 600 CWP BRASS BALL VALVES

Jamesbury Series 400 general purpose ball valves feature bubble tight shut-off and are used in hot and cold water, compressed air, natural and bottled gas, and low pressure steam applications.

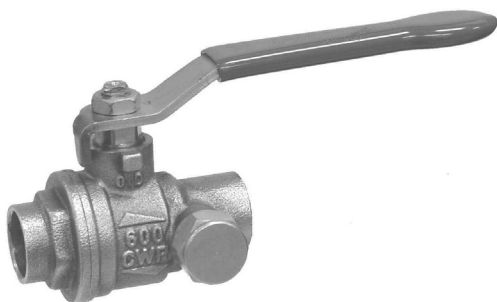
FEATURES

- Body and cap forged from high strength MS58 brass for a durable compact design.
- Brass ball and stem are plated to resist wear and corrosion.
- Internal entry stem for positive retention.
- Full port construction for maximum flow capacity.
- Proven polymeric sealing with no metal to metal contact for reliable shut-off.
- Adjustable packing gland with reinforced PTFE stem seals.



Threaded Series 451T and 456T are versatile general-purpose valves from Jamesbury. Approvals for 451T are listed in Bulletin T110-1. Series 456T feature 316 stainless steel ball and stem which is a natural for saturated steam service to 150 psi (10.34 bar).

* CGA 3.16 3/4" & 1" Only.



Solder End Series 481T valves are available in 1/2" and 3/4" (DN 15 and 20) sizes. Valves feature hex head side drain. When valve is in the closed position, the non-pressure side may be drained.



Solder End Series 441T is available in 1/2" – 3" (DN 15 – 80) sizes. Solder End Series 446T features 316 stainless steel ball and stem and are available in 1/2" – 2" (DN 15 – 50) sizes.

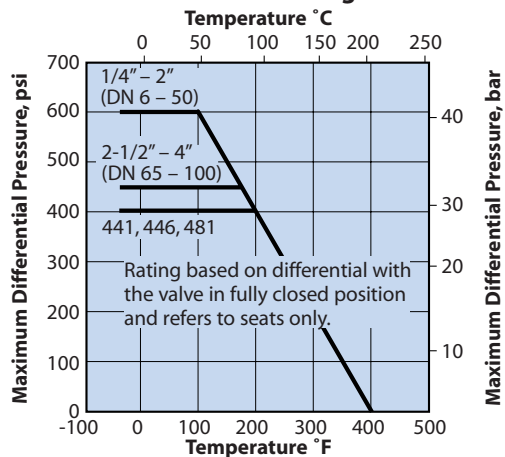
VALVE-BODY RATINGS

This is the maximum working pressure of the valve body only. The seat rating and solder joint rating determine the practical pressure limitation in actual service. Working pressure rating is 600 psi (450 psi [31.03 bar] for 2-1/2" – 4" [DN 65 – 100] valves) at -20°F to +100°F (-29°C to 38°C) 0°F (-18°C) solder end valves.

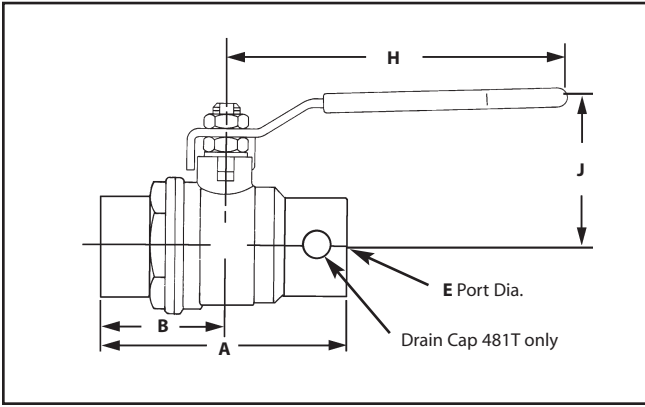
Solder Joint Ratings Based on ANSI B16.18 and B16.22

Joining Material	Working Temp.		Maximum Working Pressure psi (bar)		
	°F	°C	1/2" – 1" (DN 15 – 25)	1-1/4" – 2" (DN 30 – 50)	2-1/2" – 4" (DN 65 – 100)
50-50 Tin-Lead Solder	100	38	200 (13.8)	175 (12.1)	150 (10.3)
	150	66	150 (10.3)	125 (8.6)	100 (6.9)
	200	93	100 (6.9)	90 (6.2)	75 (5.2)
	250	121	85 (5.9)	75 (5.2)	50 (3.4)
95-5 Tin- Antimony Solder	100	38	500 (34.5)	400 (27.6)	300 (20.7)
	150	66	400 (27.6)	350 (24.1)	275 (18.7)
	200	93	300 (20.7)	250 (17.2)	200 (13.8)
	250	121	200 (13.8)	175 (12.1)	150 (10.3)

Valve Seat Ratings



Dimensions - Inches (mm) and Weights



Series 441T / 446T / 481T* (Solder-End)**

Valve Size inches (DN)	Approx. Dimensions – inches								Approx. Weight lb. (kg)
	441T	446T	481T	A	B	E	H	J	
1/2 (15)	•	•	•	2.24	1.18	0.55	3.94	1.69	0.5 (.23)
3/4 (20)	•	•	•	2.85	1.48	0.75	4.72	1.97	0.8 (.36)
1 (DN 25)	•	•		3.35	1.67	0.94	4.72	2.13	1.1 (.50)
1-1/4 (DN 30)	•	•		3.82	1.91	1.18	6.22	3.01	1.8 (.82)
1-1/2 (DN 40)	•	•		4.49	2.24	1.50	6.22	3.25	2.5 (1.1)
2 (DN 50)	•	•		5.43	2.72	1.89	6.22	3.52	4.0 (1.8)
2-1/2 (DN 65)	•			6.61	3.31	2.52	10.04	5.20	9.0 (4.1)
3 (DN 80)	•			7.60	3.80	2.99	10.04	5.51	15.0 (6.8)

* 481T available in 1/2" and 3/4" (DN 15 and 20) size only.
 ** 446T not available in 2-1/2" and 3" (DN 65 and 80) sizes.

These valves are available with a wide range of handles. Round Handles, Extension Handles, Locking devices and Memory Stops. To view valve handle accessories, please refer to Bulletin B103-6.

For Automated Brass Valves refer to Bulletin B103-2. Valves feature Jamesbury VPVL double opposed compact piston actuators.

Bill of Materials and Parts List	
Part Name	Materials of Construction
Body	Forged Brass ⁺⁺⁺
Ball*	Chrome-Plated Brass
Seats	Virgin PTFE
Stem*	Nickel-Plated Brass
Stem Seal ⁺⁺	Virgin PTFE
Handle	Vinyl-Coated Steel
Handle Nut	Carbon Steel
Packing Nut	Carbon Steel
Stem Thrust Washer	Carbon-Filled PTFE
Cap & Seal ⁺	Brass & EPDM

* Series 456T and 446T feature 316 stainless steel ball and stem material.
 + For Series 481T valves.
 ++ 2-1/2" – 4" (DN 65 – 100) includes A-Viton O-ring.
 +++ Attention: The state of California has determined lead and lead compounds are known to cause cancer, birth defects and reproductive harm. The state of California prohibits the use of brass valves for drinking water service.

Series 451T and 456T* (Threaded-End)

Valve Size inches (DN)	Approx. Dimensions – inches							Approx. Weight lb. (kg)
	451T	456T	A	B	E	H	J	
1/4 (DN 6)	•		1.77	0.89	0.31	3.23	1.56	0.3 (.14)
3/8 (DN 10)	•		1.77	0.89	0.37	3.23	1.56	0.5 (.23)
1/2 (DN 15)	•	•	2.32	1.16	0.55	3.94	1.69	0.6 (.27)
3/4 (DN 20)	•	•	2.52	1.26	0.75	4.72	1.97	0.9 (.41)
1 (DN 25)	•	•	3.19	1.59	0.94	4.72	2.13	1.3 (.59)
1-1/4 (DN 30)	•	•	3.66	1.83	1.18	6.22	3.01	1.9 (.86)
1-1/2 (DN 40)	•	•	4.02	2.01	1.50	6.22	3.25	2.7 (1.2)
2 (DN 50)	•	•	4.76	2.38	1.89	6.22	3.52	5.5 (2.5)
2-1/2 (DN 65)	•		6.14	3.07	2.52	10.04	5.20	10.0 (4.5)
3 (DN 80)	•		6.97	3.48	2.99	10.04	5.51	17.0 (7.7)
4 (DN 100)	•		8.50	4.25	3.94	10.04	6.06	40.0 (18.2)

*456T not available in 1/4", 3/8", 2-1/2", 3" & 4" (DN 6, 10, 65, 80 & 100).

HOW TO ORDER

To order a valve series, first indicate the size then follow with the series. **Example:** A 2" (DN 50) valve series 451T is specified 2 451T.

Installation Instructions, Maintenance and Operation

IMO's (Installation, Maintenance, and Operating instructions) or AMI's (Assembly, Mounting, and Installation instructions) are shipped with the products. Additional copies of these instructions are available. Call your local Metso Automation Distributor, or visit our web site.

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