



RUB BALL VALVES
INSTALLATION, MAINTENANCE
AND OPERATING INSTRUCTIONS

RUB Inc.
 an ISO 9001 Company

Approved by



IMPORTANT: read entire document carefully before installation or servicing and save it for future reference

INSTALLATION Most RUB valves may be installed for flow in either direction, in case of special unidirectional valves, flow direction is shown by an arrow. Use standard piping practices when installing valves with threaded ends. Make sure pipes are properly aligned before valve is installed. When tightening the valve-to-cap joint, the valve should be wrenching from the flats at the end being worked. (Holding the opposite end of the valve will put the valve body in torsion and, for two piece bodies, may damage the body/cap joint).

RUB Inc. recommends thread sealant rather than Teflon® tape, but if tape is used it should be used sparingly. Avoid over-torque, which may damage the valve. After installation the whole system should be flushed to avoid damage from solids left in the pipe. It is highly recommended that the whole installation is tested before being released for use.

CAUTION: When installing a side drain or an exhaust ball valve, be sure to arrange proper handling of discharged fluid in order to avoid injury or property damage.

For valves with an adjustable packing gland, if the handle is removed, tighten the gland nut finger tight plus 1/6 of a turn. Then install the handle and tighten the handle until the handle is fully seated on the stem. Do not operate the valve without the handle. All packaging materials and, when replaced, the valve itself, must be disposed of in compliance with local regulations.

WARNING For your safety, it is important to take the following precautions prior the removal of the valve from the line or before any disassembly:

1. Wear any protective clothing/equipment normally required when working with the fluid involved.
2. Depressure the line and cycle the valve as follows.
 - a) Place the valve in the open position and drain the line;
 - b) Cycle the valve to relieve residual pressure in the body cavity before removal from the line;
3. When removing piping from the valve, place a wrench on the body or the body-cap nearest the end being worked. Wrenching the valve from the opposite end may cause unintentional disassembly of the body-cap joint.

WARNING: This product can expose you to chemicals including lead which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

MAINTENANCE Periodically observe the valve to assure proper performance. More frequent observations are recommended under extreme operating conditions.

For valves with an adjustable packing gland, routine maintenance consists of tightening the gland as described above. Valves with O-ring stem sealing do not require this maintenance.

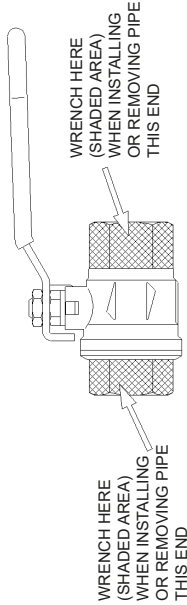
For very hard water operate valve every 2 weeks.

OPERATING INSTRUCTIONS To close the valve, rotate lever clockwise 90°. To open it, rotate lever 90° counter-clockwise. Quick actuation may cause water hammer and consequent damage to the system.

NOTE: stem flats show the position of the ball (when flats are parallel to pipe, valve is open, when perpendicular, it is closed). RUB valves can be used for throttling (i.e. operated in partially open position) but in severe throttling service the valve may be damaged. Consult with RUB Inc. for such applications. If you need any further information on applications, special configurations, approvals, etc. please consult with RUB Inc. official catalogue, contact RUB Inc., or visit our Web site (details on reverse).

NOTE This product has been inspected according to RUB Inc. quality procedures. If you ascertain that this valve contains a defect in material and/or workmanship, please return it to RUB Inc. with a copy of the original box label and the details of your claim. Claims must be made in writing and submitted within 8 days from delivery. In case of improper application or installation, no warranty is made.

NOTE: DRAWING SHOWS A TYPICAL TWO-PIECE BALL VALVE



Markings on valve (wherever applicable)

- = RUB registered logo
 - ◀ = Body and end cap material:
 - 617N brass EN 12165 equivalent ASTM B124 C37700
 - 510L lead-free brass "LF" EN 12165
 - 511L lead-free and dezincification resistant brass "CR LF" EN 12165
 - 625N anti-dezincification brass EN 12165
 - = Body and end cap material, dezincification resistant brass EN 12165 CW602N
 - = Max Cold Working Pressure in bar
 - △ = Max Cold Working Pressure in psi
 - ◇ = Max Working Steam Pressure in psi
 - ◇ = Approved by CSA (USA and Canada) for gas service
 - ◇ = Listed by UL and cUL
 - ◇ = Approved by FM
 - ◇ = Approved by IAPMO under Uniform Plumbing Code
 - ◇ = Approved by CSA (Canada) for gas installations to CSA 3.16
 - ◇ = Approved by CSA (USA and Canada) for gas installations at 1/2 psi to ANSI Z21.15 & CSA G.1
 - ◇ = Approved by CSA (USA) for gas installations at 5 psi to AGA 3-88
 - ◇ = Approved by CSA (USA) for gas installations up to 125 psi to ANSI B16.33
 - ◇ = RUB model # - roll stamped on end-cap
 - ◇ = Stainless steel trim
 - ◇ = Tamper proof design
 - ◇ = RUB Series number - on lever
 - ◇ = Approved for food service equipment under ANSI Z21.15
-
- ◀ = CWXXXX =
 - CR =
 - PNXX =
 - XXX CWP =
 - XXX WSP =
 - c CSA us =
 - UL cUL =
 - UPC =
 - FM 400MP =
 - CSA 3.16 =
 - 1/2 psi =
 - 5g =
 - 12XX =
 - XXX =
 - BRS =
 - SS Trim =
 - T =
 - SXX =
 - △ =

SOLDER ENDS BRASS BALL VALVES - INSTALLATION:

- 1) Solder end valves are suitable for soldering without disassembly. Refer to table 1 for solder types and temperatures. Solder joint strength and working pressure varies with tube size, solder grade and temperature as defined in ASME B16.18 and B16.22. Do not exceed the limits stated in Table 1.
- 2) Cut the tube square and deburr both ID and OD. Do not deform the tube otherwise it must be re-sized.
- 3) Clean tube end and valve solder cup with abrasive cloth or a wire brush until the surfaces are bright metal. Alternatively use an approved cleaning paste; in this case spread the paste evenly on the tube, insert the tube in the cup and turn it to distribute the paste, finally remove the excess paste.
- 4) Coat outside of tube and inside of solder cup with proper flux. Assemble the parts completely. The valve must be in the fully closed position during soldering. Valve seats may be damaged if soldering is done in the open or partly open position. Wipe the valve body with a wet rag. Avoid temperature shocks to the valve, such as cooling with cold water.
- 5) While soldering, it is important to use a properly sized torch so that the solder and is heated fully and quickly. Apply heat so that the flame is directed on the cup area but away from the valve body. Although soft 50/50 solder is easier to use, these values can also be successfully soldered with 95-5, however caution must be used to prevent damage. See table 1. Cool the valve body before soldering the second end.
- 6) After soldering, tighten the gland nut finger-tight plus 1/6 of a turn, then tighten the handle nut until the handle is fully seated on the stem.

SOLDER UNION END BRASS BALL VALVES – INSTALLATION:

- 1) Remove the solder ends from the valve before soldering. Refer to table 1 for solder types and temperatures. Solder joint strength and working pressure varies with tube size, solder grade and temperature as defined in ASME B16.18 and B16.22. Do not exceed the limits stated in Table 1.
- 2) Cut the tube square and deburr both ID and OD. Do not deform the tube otherwise it must be re-sized.
- 3) Clean tube end and solder cup with abrasive cloth or a wire brush until the surfaces are bright metal. Alternatively use an approved cleaning paste; in this case spread the paste evenly on the tube, insert the tube in the cup and turn it to distribute the paste, finally remove the excess paste.
- 4) Assemble nut on tube before you solder the coupling. Coat outside of tube and inside of solder cup with proper flux. Assemble the parts completely, evenly heat the joint to the needed temperature, and apply the solder. As soon as the solder flows around the entire circumference, allow the joint to cool and remove any residual flux.
- 5) Put some lubricant on the valve and nut threads to ease assembly. Tighten the nut by hand. Using proper tools (a pipe wrench may damage or distort the nut), tighten the nut another 1/4 to 1/2 turn. Never put the valve in a vise using more power than is necessary.

TABLE 1 - PRESSURE - TEMPERATURE RATINGS

Joining material	Melting range degrees		Working temperature degrees		Maximum working gauge pressure					
	°F	°C	°F	°C	size 1/8"-1"		size 1, 1/4"-2"		size 2, 1/2"-4"	
50-50 tin-lead solder* ASTM B32 alloy grade 50A	361/421	185/215	0+100	-18/+38	200	1400	175	1200	150	1050
			0+150	-18/+66	150	1050	125	850	100	700
			0+200	-18/+93	100	700	90	600	75	500
95-5 tin-antimony solder ASTM B32 alloy grade 95TA	450/464	230/240	0+100	-18/+38	500**	3500**	400**	2800**	300**	2100**
			0+150	-18/+66	400**	2800**	350**	2400**	275**	2000**
			0+200	-18/+93	300**	2100**	250**	1700**	200	1400
			0+250	-18/+121	200	1400	175	1200	150	1050

Note:
Above stated limits are not imposed by the valve, but by the strength of the soldering joint according to ASME B16.22.

* This alloy contains more than 0.2% lead and, according to certain specifications, cannot be used for potable water or other foods.

** Soldered copper tube joints have been tested at 230 psi (1600 KPa) in accordance with ISO 2016



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RUB Inc.
4401 Dean Lakes Blvd. - Shakopee, MN 55379-2715 (USA)
Tel: +1 (952) 857 1114 - Fax: +1 (952) 857 1118
sales@rubinc.com - www.rubinc.com