Ultra Pure®
A MILWAUKEE/HAMMOND VALVE PRODUCT

MILWAUKEE VALVE

INSTALLATION OPERATION & MAINTENANCE MANUAL
UPBA300/350 SERIES THREE-PIECE VALVES

INSTALLATION

1) Threaded End: Use standard piping practices to install valves with threaded ends. When tightening valve to pipe, apply wrench to end cap nearest the pipe being worked.
2) Solder End: All standard solder end valves must be partially disassembled prior to soldering. Follow steps 1, 2, 4 and 5 of "Disassembly". Solder ends are per ANSI B16.11. CAUTION: If the body seats are removed for soldering, do not mix them. When reassembling the valve, put each seat back into the groove from which it was removed. CARE SHALL BE TAKEN NOT TO SCRATCH SEATS OR SEALING SURFACES.
3) VALVES SHALL NOT BE INSTALLED USING THE BRAZING PROCESS DUE TO THE HIGH HEAT REQUIRED.

MAINTENANCE

1) Routine maintenance may consist of tightening the gland nut ¼ turn periodically to compensate for the wear caused by the stem turning against the packing. When tightening packing on the actuated valves where the valve is connected to the actuator with a no-play (clamped) coupling, loosen the coupling before tightening in the gland nut. Retighten the coupling. Overhaul maintenance consists of replacing seats and seals.

DISASSEMBLY

These ball valves are designed to be serviced in or out of the line. These instructions are for in-line disassembly. (For bench disassembly, which may be more convenient, follow a similar sequence.)

1) Comply fully with the above CAUTIONS.
2) Cycle the valve. Leave in the open position. This is to prevent the ball from rolling out or damage. The body section will not swing out in the closed position.
3) Remove the top handle nut, washer and handle.
4) Loosen all four body bolts. Remove from the valve.
5) Spread end caps and remove the body and the o-rings from the line. Be careful not to damage the o-ring and sealing surfaces.
6) Remove seats from the seat pockets located in end caps. Use extreme care when prying them out. Damage such as scratches to the bottom of the groove will cause leaks.
7) Turn the stem so that the valve is fully closed. Remove the ball.
8) Remove the gland nut.
9) Press the stem from the top into the valve body and remove it through the end of the body. Remove thrust water.
10) Carefully pry out and discard the old packing; be careful not damage the sealing surfaces.

ASSEMBLY

The following instructions are for in-line assembly. For bench assembly, which may be easier, follow a similar sequence by holding the valve in a vise by one end of the cap. Do not use excessive clamping force. Care shall be taken not to damage end connections. Use care not to cut or scratch the seats or sealing surfaces.

1) Place thrust washer over threaded portion of the stem. Insert the stem through the valve body into the packing box. Guide the stem into the stem hole being careful not to scratch the packing chamber. Hold the stem in place and insert packing from the top of the valve over the threaded portion of the stem. Install gland nut over packing and hand tighten.
2) Align the stem blade with the ball slot. Insert the ball, and rotate the stem to the open position.
3) Working at either end, place o-rings into o-ring grooves located in end caps.
4) Working at either end, place a seat into seat pockets located in the end caps. Make sure the sealing surface of the seat is facing the ball. Repeat for opposite end.
5) Place the entire body assembly back into the properly aligned and interlocked position between the end caps, being careful not to scratch the seats.
6) Valve must be in a closed position during assembly and bolt tightening.
7) Bolt the valve together with body bolts and nuts. Tighten these bolts evenly and alternately to specified torque (consult factory for values). Cycle the valve using a crescent wrench to center the seats in their pockets.
8) Tighten gland nut.
9) Attach the handle and secure it with the washer and handle nut.
10) Check bolt torques 24 hours after initial assembly to compensate for cold flow of Teflon seats.