MILWAUKEE VALVE

10 SERIES UNIBODY THREADED END BALL VALVE
INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

INSTALLATION

1.) Thoroughly clean and prepare the piping system before valve installation.
2.) Remove the valve end caps if present, and inspect the valve ports and seating surfaces for cleanliness just prior to installation.
3.) Support the valve to prevent unnecessary stresses induced by connecting pipe.
4.) Be sure the rating of the valve is compatible with the intended service conditions.
5.) Operate the valve from the full open to closed position.
6.) PTFE thread sealant is recommended when making up connections. Consult the sealant manufacturer's instructions for proper use. Install on pipe and not the valve.
7.) The valve may be installed in either direction for bi-directional flow. However, it is recommended that the valve be installed with the insert facing upstream.
8.) Care should be used to not overtighten the valve onto the pipe, as it is possible to distort the internal parts of the valve.
9.) Verify the tightness of the packing nut after installation.

OPERATION

1.) The valve can be used between the temperature range of 14°F (-10°C) and 320°F (160°C) and shall not be applied under an environment of low and high temperature.
2.) Any inappropriate operation will cause leakage or other problems. In case of emergency, depressurize the fluid inside the pipeline and then follow the procedures.
3.) Operating torques shall not exceed the values shown in Table 1. Excess torque may cause damage to the stem or compromise the operation of the valve.

Table 1

VALVE SIZE	INSERT TORQUE (N-m)	MAX OPERATING TORQUE (IN-LB)
1/4”, 3/8”	159	50
1/2”	140	50
3/4”	180	60
1”	194	90
1-1/4”	465	120
1-1/2”	629	200
2”	858	300

MAINTENANCE

1.) Periodically observe the valve to be sure of proper performance. More frequent observation is recommended under extreme operating conditions.
2.) If a valve develops a packing leak, adjust the packing nut to increase the pressure on the stem packing. The packing nut should be turned in a clockwise direction approximately 1/4 turn, or until the leakage stops. It is not recommended that valves be repacked while under pressure. Remove system pressure before starting.

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

1. *Wear any protective clothing or equipment normally required when working with the fluid involved.*
2. *Depressurize 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.*
    c. *After removal and before any disassembly, cycle the valve again several times.*

DISASSEMBLY

NOTE: If complete disassembly becomes necessary, replacement of all seats and seals is recommended. Part identification can be found on page 3.

1.) Close the valve. Remove the upper stem nut (28), handle (30), and gland (26).
2.) Unscrew and remove the insert (2). Heat may be required.
3.) If the ball (7) and seats (11) do not fall from the body with the ball in the fully closed position, use a piece of wood or some other soft material to gently tap the ball (from the opposite end body cap). This will unseat these parts without damaging the ball.
4.) Press the stem (8) from the top into the valve body and remove it through the body cap end of the body.
5.) Remove the stem packing (15).
6.) Using a wire brush, clean the body cap thread and body threads to remove any excess thread lock.

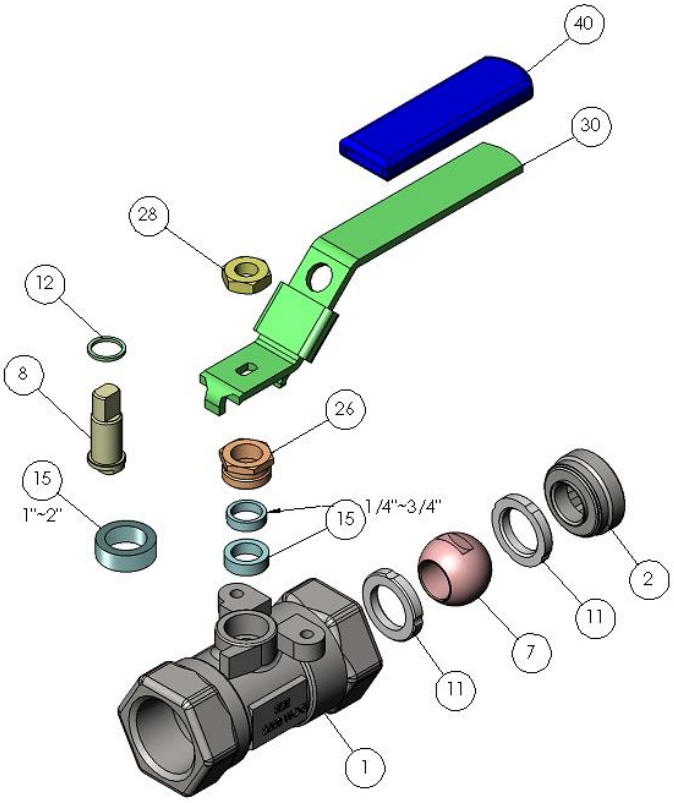
ASSEMBLY

1.) Air-blast the valve body (1), and place on a working platform. Insert the stem seal (12) onto the stem (8). Then, insert the stem (8) through the open end of the body (1), being careful not to scratch the stem packing and stem packing surface. Press it gently up into the stem hole.
2.) Drop in one seat (11) with the flat surface on the bottom. Apply lubricant to the interface of the body and seat.
3.) Place a wrench through the body on the bottom of the stem blade to hold the stem stationary. Install the stem packing (15) and gland (26) into the stem (8) and tighten the gland (26) until snug. Apply lubricant on thrust bearing.

4.) After inserting the ball (7) into the body (1), insert a second seat (11) into body. Then, place the insert (2) into the body and hand tighten.
5.) Use thread lock around the insert (2), covering a minimum of two threads.
6.) Screw the insert (2) down and tighten to the required torque. (See Table 1 for insert torque specification).
7.) Turn the ball (7) around.
8.) Place the handle (30) and stem nut (28) over the stem (8). Tighten the stem nut (28) until snug.
9.) Cycle the valve slowly twice to maintain permanent position of the ball between the two seats.

PARTS LIST

ITEM	PART NAME	QTY
1	Body	1
2	Insert	1
7	Ball	1
8	Stem	1
11	Seat	2
12	Stem Seal	1
15	Stem Packing	1 SET (1/4”-3/4”)
15	Stem Packing	1 (1”-2”)
26	Gland	1
28	Stem Nut	1
30	Handle	1
40	Plastic Grip	1



MARKINGS