

McCrometer Pipe Caliper Installation, Operation and Maintenance Manual

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The McCrometer Pipe Caliper provides an accurate measurement of the inside diameter of a pipe while the line is in service and under pressure.



WARNING!

Pressurized pipes can be dangerous and should only be hot tapped, cut, or drilled by qualified and experienced personnel.

Requirements:

The pipe must be tapped with a 1-7/8" minimum diameter hole and a 2" valve must be mounted. The Pipe Caliper will need to be used prior to mounting any other equipment onto the valve.

Pipe Caliper instructions:

1. Assemble the pipe caliper, as shown in *Figure: 1* with enough rod sections to provide a total length equal to the expected pipe I.D. + 18". For applications with long nipples connecting the valve to the pipe, extra thick pipe walls or multiple valves, the total rod length will need to be extended.

IMPORTANT

Insure the total rod length is sufficient. If the total rod length is too short the I.D. measurement cannot be made. However, a total rod length that is up to two feet longer than needed will not cause any issues.

2. With rods assembled, loosen handle clamp bolt and position handle so that it is in line with foot. Tighten the handle clamp bolt.
3. By pulling the handle, retract foot up until it is inside of the 2" pipe nipple.
4. Apply three layers of Teflon thread sealant tape to threads of the 2" pipe nipple.
5. Thread the pipe caliper assembly onto the 2" valve so the rod and brass compression seal are in line with the centerline of the pipe. See *Figure 2*. Typically, hand tight is adequate.

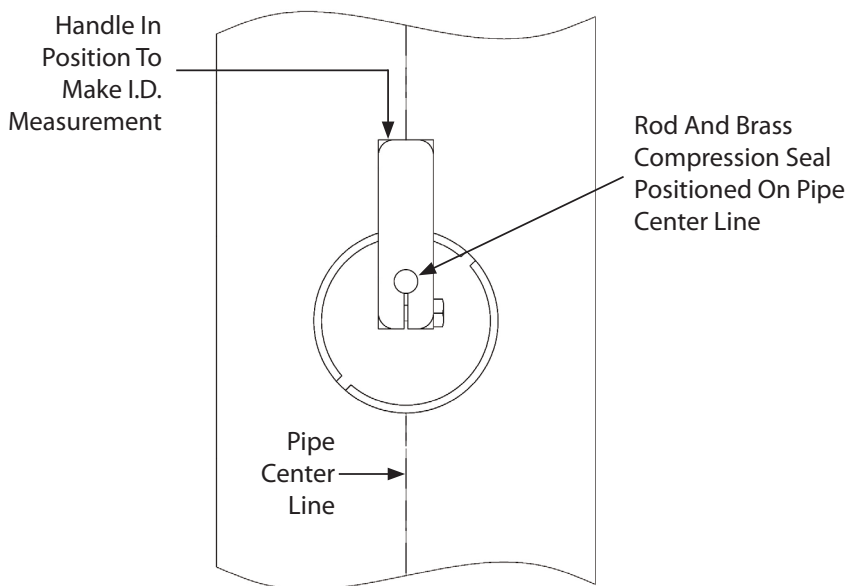


Figure 2: Proper Handle Position For Measurement

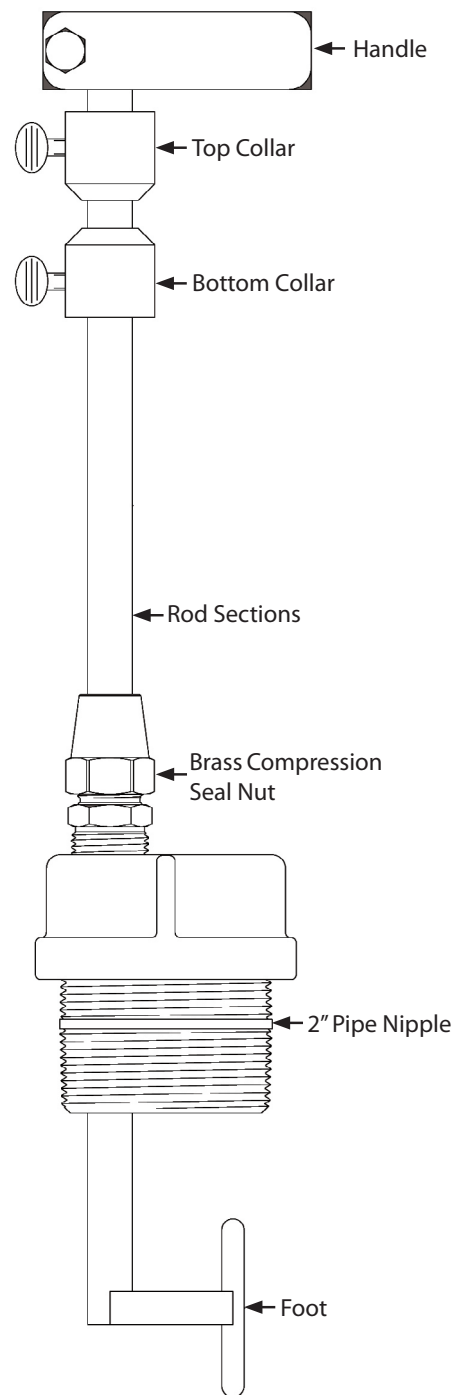


Figure 1: Pipe Caliper Tool

6. By hand, tighten the brass compression seal nut.
7. Slowly crack open the 2" valve. Tighten the pipe caliper assembly and or the brass compression seal nut enough to stop excessive water leaks, and then completely open the 2" valve.
8. Slide the rod through the brass compression seal until the foot is in the pipe. Rotate the handle 180° clockwise so the handle is pointing away from the pipe tap. See the top drawing on *Figure 2*.



IMPORTANT

The handle is rotated clockwise so the rod stays threaded together. With adequate pipe pressure there may be some force pushing the rod out of the brass compression seal.

9. Slide the rod down until the foot makes firm contact with the far wall of the pipe and hold it in place. Slide both the top and bottom collars down the rod until they make firm contact with the brass compression seal. Tighten the thumbscrew of the top collar.
10. Slide the rod up until the foot makes firm contact with the near wall of the pipe and hold it in place. Slide the bottom collar down the rod until it make firm contact with the brass compression seal. Tighten the thumbscrew of the bottom collar.
11. The distance from the top of the top collar to the bottom of the bottom collar equals the pipe ID.
12. Confirmation of the measured ID can be obtained by pushing the rod down so the foot is not bearing on the pipe walls and rotating the pipe caliper assembly 180°. The rod and brass compression seal will now be in line with the centerline of the pipe on the other side. Repeat steps 9 through 11 to take a second ID measurement.



IMPORTANT

Occasionally in concrete lined pipes, the lining can become chipped near the hole in the pipe. This may cause you to get two slightly different measurements. If so, use the smaller of the two measurements.

Removal:

1. Push the rod into the pipe so that it is clear of any pipe wall. Then rotate the handle clockwise until it is lined up over the top of the caliper assembly. See *Figure 3*.
2. Pull the rod up until the foot passes through the hole in the pipe, through the valve, and up into the 2" pipe nipple of the caliper. The valve can then be closed and the caliper removed from the valve. Disassemble the pipe caliper with caution, taking care to not damage the threaded ends of the rod sections and to retain all components of the caliper for the next use.
3. Disassemble the pipe caliper as required for storage, retaining all components of the caliper for the next use. Take care to not damage the threaded ends of the rod sections while they are being stored.

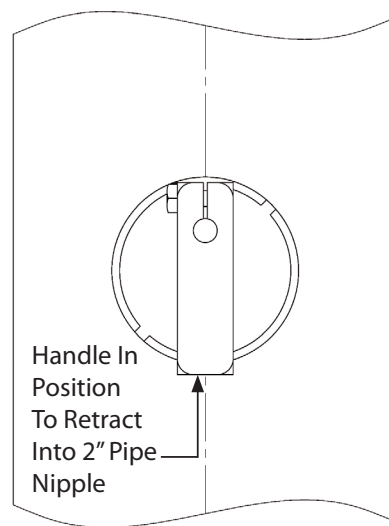


Figure 3: Proper Handle Position For Removal

NOTE: The decimal pipe ID dimension in inches multiplied by 25.4 = millimeters. This can be entered into the converter as the ND=mm value for the pipe ID.
(Ex. 11.98" x 25.4mm = 304mm.)

If you have any questions please call McCrometer at 800-220-2279 and ask for Technical Support.