JCM 422 Fabricated Steel Tapping Sleeve
INSTALLATION INSTRUCTIONS

Failure to follow installation instructions will result in voided product warranty.

1. Thoroughly clean pipe surface. Check the size and range of the tapping sleeve to verify correct size product. Check pipe surface where gasket will seat to make certain pipe is free of flaws, gouges and extreme irregularities.
2. Lubricate pipe and face of gasket with soap-water or gasket lubricating solution. **Do not** use grease or pipe lubricant. Oil based lubricants can prevent the gasket from adhering to pipe surface for water tight seal.
3. Position outlet half of body on pipe, making sure outlet is aligned with branch line to be connected. Never position so that rotation is required. Rotation can result in gasket dislocation.
4. Position back half of body and install bolts. (For fittings provided with stainless steel hardware, see reverse side.) **NOTE:** If pre-assembling valve to tapping sleeve before installing sleeve on pipe, for size on size sleeve **install center** bolts before installing the valve.

   Tighten outside bolts first, working toward the center. Tighten bolts evenly. Alternate from one side of sleeve to the other. The gap between sleeve halves should be equal on both sides. JCM recommends the use of a torque wrench to ensure proper torque levels. Improper torque levels can result in leaking assembly or damage to the pipe wall. Tighten bolts to the following torque levels:

Thin Wall, PVC (SDR21, 26) Pipe, Flexible Pipe	**50 - 55 ft. lbs. of torque**
HDPE SDR 11, SDR 17, Steel Pipe	**55 - 60 ft. lbs. of torque**
Steel and Rigid Wall Pipe	**75 ft. lbs. of torque minimum**

5. Check inside of sleeve neck to make certain gasket is properly seated and not protruding where tapping cutter may damage it.
6. Install tapping valve. JCM recommends adherence to the AWWA M-44 Manual recommendations for proper valve installation, support and trenching. Improper support can result in undo stress.
7. Test assembly seals with water (per ANSI/AWWA C-223) using test port provided on sleeve or test connection on tapping machines. When testing the assembly against the pipe to pressures greater than the internal pressure of the host pipe, application should be treated with caution to prevent imploding or damaging the pipe wall due to thin wall, flexible or brittle conditions. Inspection and verification of the pipe integrity is the responsibility of the end user. For inquires, contact JCM Industries, Inc.
8. When assured that all seals are tight and test is completed, re-check bolt torques after 15 minutes and proceed with the tapping operation. JCM Industries endorses the ANSI/AWWA C105/A21.5 and ASTM A674 for polyethylene encasement for corrosion protection.

Note:

Size on size tapping cutter must not be larger than recommended by pipe manufacturer. Tapping operation must not force the pipe away from the gasket seal.

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JCM TIPS AND TRICKS OF THE TRADE FOR A SUCCESSFUL INSTALLATION

To ensure a successful, trouble free installation of this JCM Tapping Sleeve, the following Tips/Tricks are offered:

Lubricate the pipe with soap-water or water. Oil based pipe lubricants produce a film between the gasket and pipe surface that is not water soluble and can interfere with the gasket/pipe water tight seal.

Do not rotate the sleeve on the pipe. Rotation of the sleeve on the pipe can result in the gasket being ripped from the groove and damaging the gasket beyond repair. Some manufacturers recommend rotation - JCM does not.

Tighten the bolts in the sequence provided in the instructions. Fittings are engineered to "load" the gasket in a certain fashion. Instructions provide the "sequence" of tightening bolts. Ensure the gap between sleeve halves is equal on both sides

Confirm bolt torques with a torque wrench. Proper compression of the gasket is critical to the success of the tapping sleeve installation. A torque wrench should be used to ensure recommended levels are achieved. Most field problems are directly related to lack of proper torque levels.

Proper valve installation, support and trenching per AWWA M-44. Improper assembly support and careless backfilling can sabotage an otherwise perfect installation.

Test assembly with water per ANSI/AWWA C-223. After successfully testing, reconfirm bolt torque levels as instructed.

INSTALLATION OF STAINLESS STEEL FASTENERS

Stainless steel bolts and nuts may gall or freeze if not properly handled due to the inherent properties of the stainless material. Problems with galling and freezing are often triggered by the presence of metal chips, burrs and grains of debris in the threads. JCM has provided special treatment to stainless hardware prior to assembly and packing of this fitting to assure a trouble-free installation including.

1. The nuts and bolts are made from material of different hardness so that they have different strengths.

2. The nuts are coated with a special (antiseize) coating.

3. Each nut/bolt unit is assembled by hand to ensure the nut moved freely.

4. The bolts and nuts are made to exacting specifications to assure that the correct material is used and that the thread form is correct.

During field installation, threads **MUST BE KEPT CLEAN AND FREE FROM NICKS.** Once foreign matter, such as a grain of sand, wedges in the threads, or the thread form is altered by over-torquing, the nuts cannot be removed. Specially coated nuts supplied by JCM help to eliminate the galling caused by over-torquing, but **the bolts must be kept clean and not tossed or thrown into the tool bucket during installation. Should additional lubrication be required, a Molybdenum-Base lubricant is recommended.**

NOTE: Installation of this fitting with a pneumatic wrench may cause seizure of the nut. **A JCM 901 Master Wrench or JCM 905 Torque Wrench with Deep Socket is recommended.**

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