

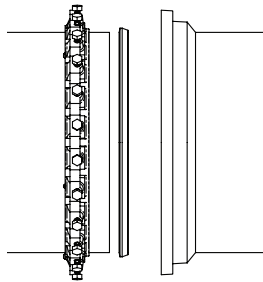
INSTALLATION INSTRUCTIONS

Read installation instructions first before installing. Check parts to ensure that no damage has occurred during transit and that no parts are missing. Also check the diameter of the pipe and the range marked on the restrainer to ensure you have the proper size.

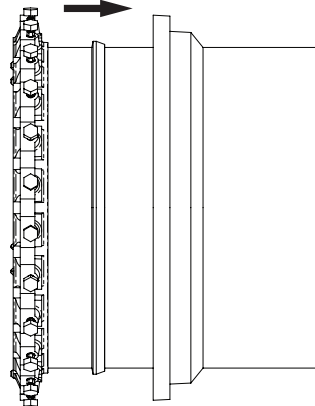
Mechanical Joint Retainer 30" - 48"

Step 1 • Clean the fitting socket & pipe end. Lubricate mechanical joint gasket & pipe end with soapy water or approved lubricant meeting AWWA C111/A21.11.

Step 2 • Insert the Mechanical Joint Retainer on the pipe with the lip extension facing the pipe end followed by the gasket, tapered side toward end of the pipe.

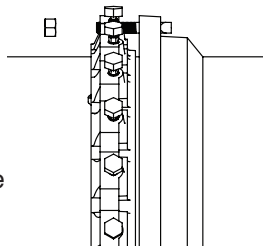


Step 3 • Insert the gasket along with the pipe into the fitting socket and seat the gasket firmly and evenly into the gasket cavity, keeping the joint straight.

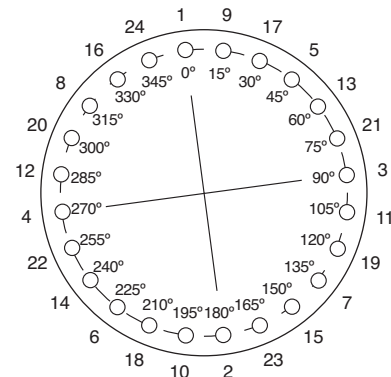


Step 4 • Push the Mechanical Joint Retainer gland toward the fitting and center it around the pipe with the lip evenly against the gasket.

Step 5 • Insert the T-bolts with the T-head on the fitting side and nut on the restraint side, and hand tighten the nuts. Make the joint deflection as required keeping the wedge restraint centered on the pipe before torquing the T-Bolts.



Step 6 • Tighten the nuts in an alternate method (STAR PATTERN) to the recommended torque of 100-120 ft-lbs for 30", 36", 120 – 150 ft-lbs for 42", 48" sizes, use of a torque indicating wrench is recommended to confirm the applied torque.



Step 7 • Hand tighten each actuating bolt in a clockwise direction until contact is made between each wedge insert and the pipe OD. Continue tightening the actuating bolts in an alternate method (STAR PATTERN) until all the break-off tops have been removed. Never tighten actuating bolt more than 180 degrees before moving to the next bolt.

Size	Recommended Torque
30" - 48"	115 – 125 ft-lbs

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PRECAUTIONS

1. Check diameter of pipe to make sure you are using the correct size restraint; also check gasket to make sure it is the size you think it is.
2. Be sure to clean pipe of as much dirt and corrosion as possible in the area that the gasket will seal.
3. Lubricate both the gasket and the pipe end with soapy water or approved pipe lubricant per ANSI/AWWA C111/A21.11.
4. Make sure no foreign materials lodge between gasket and pipe.
5. Avoid loose fitting wrenches, or wrenches too short to achieve proper torque.
6. Keep threads free of foreign material to allow proper tightening.
7. Take extra care to follow proper bolt tightening procedures and torque recommendations. Bolts are often not tightened enough when a torque wrench is not used.
8. For best results, once T-bolts are properly torqued, wait 10 minutes and retighten proper torque.
9. Be sure that the gland is centered around the pipe.
10. Pressure test for leaks before backfilling.
11. Backfill and compact carefully around pipe and fittings.
12. Some initial axial movement may occur in lug style restraints as the lugs seat. Movement is directly related to the size of the piping system and the system pressure. In general terms movement of approximately 0.25" can be expected in restraints under 16". For larger sizes, movement of approximately 0.4" may be seen.

If this is critical to your application please contact Romac Engineering for additional information.

COMMON INSTALLATION PROBLEMS

1. T-Bolts are not tightened to the proper torque.
2. Rocks or debris between pipe and gasket.
3. Dirt or debris between pipe and restraining pad.
4. Dirt on threads of bolts or nuts.
5. Restraining bolt heads not snapped off.
6. Not enough pipe inserted into bell.

IF RESTRAINER MUST BE REMOVED

1. Make sure pipe is not pressurized. Removing the restrainer could cause the pipe joint to separate.
2. To remove the Mechanical Joint Retainer, use a 5/8" hex wrench or socket.
3. To reassemble, follow installation procedures.