

Read installation instructions first before installing. Check parts to ensure that no damage has occurred during transit, the bolt guides are aligned with the axis of the pipe, and no parts are missing. Check the diameter of the pipe and confirm you have the proper size coupling.

## MACRO HP™ Sizes: 4" - 12" Two-Bolt Extended Range Coupling

**Step 1** • Clean the pipe surfaces wherever the gaskets will come in contact with the pipe, and check to see that the pipe surface is smooth (no dents, projections, gouges, etc.) where the gaskets seal against the pipe.

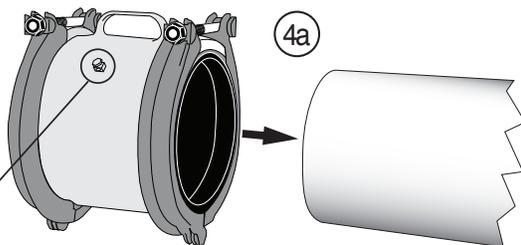
**Step 2** • MACRO couplings are assembled with Wide-Range Gaskets (see table below). If you're coupling pipe ODs that fall within this gasket's range, skip ahead to Step 3.

If one pipe OD falls only within the A/C Gasket's Range, replace the Wide Range Gasket with A/C Gasket (included).

COUPLING RANGE	MACRO WIDE RANGE GASKET factory preassembled	A/C GASKET included
4.40 - 5.60	4.40 - 5.05	4.95 - 5.60
6.60 - 7.60	6.60 - 7.15	7.10 - 7.60
8.60 - 9.75	8.60 - 9.30	9.10 - 9.75
10.70 - 11.90	10.70 - 11.30	11.25 - 11.90
11.00 - 12.20	11.00 - 11.65	11.55 - 12.20
12.70 - 13.80	12.70 - 13.30	13.15 - 13.80
13.15 - 14.40	13.15 - 13.80	13.75 - 14.40

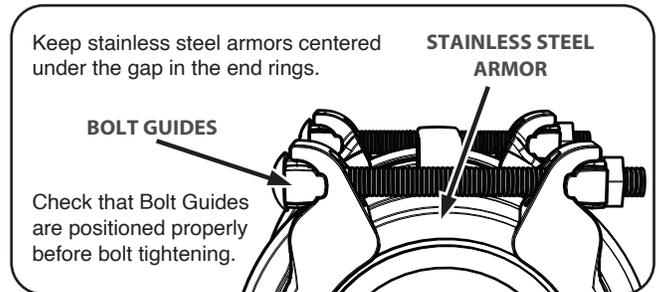
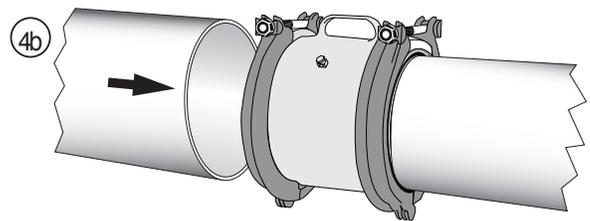
**Step 3** • Lubricate the gasket and pipe surface with a suitable gasket lubricant.

**Step 4a** • With the bolts in the extended position, place the coupling onto one pipe end, bring the other pipe into position and slide coupling over the gap.



**Connector for cathodic protection.** Available as an option. Not included on all MACRO couplings. For more information, contact Romac Industries, Inc.

**Step 4b** • Bring the other pipe into position and slide coupling over the gap. There should be a minimum of 2½ inches of pipe insertion per coupling end. Confirm proper alignment between pipes and maintain the recommended gap between pipe ends (¼" - ½"). If using Insulating Boot, verify Macro gasket is properly resting on the boot.



**Step 5** • Tighten each bolt until the gasket contacts the pipe and the coupling is snugly held in place. This should happen at approximately 10 - 20 ft-lbs.

**Step 6** • With the coupling properly located, tighten the bolts to 65 ft-lbs.

**NOTE:** For cold weather conditions (below 40 deg F), performance can be improved by warming up the coupling and gasket.

Wait 10 minutes and retighten to account for settling of the gasket.

**Step 7** • Confirm proper installation by pressurizing the line and checking for leaks.

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**Note:** Flexible Couplings do not provide protection against possible pullout of pipe ends in unrestrained conditions.

## MACRO HP™ Sizes: 4" - 12" Two-Bolt Extended Range Coupling

### PRECAUTIONS

1. Check diameter of pipe to make sure the correct sized coupling has been selected.
2. Confirm the pipe is round. The coupling may not fit or function on pipe that is too far out of round.
3. Clean pipe to remove dirt and corrosion from pipe surface. Lubrication and additional cleaning should be provided by brushing both the gasket and plain 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. Make sure the stainless steel armors are centered under the gap in the end rings.
8. Take care to follow proper bolt tightening procedures and torque recommendations. Do not overtorque.
9. Pressure test for leaks before backfilling.
10. Backfill and compact carefully around pipe and fittings.
11. Couplings on different pipe diameters have the potential to migrate. In these instances some form of restraint is required.
12. Do not strike or pry on the coupling with hammers, shovels or other equipment
13. When reinstalling parts with stainless steel hardware there may be a loss in pressure holding ability due to worn or damaged threads during the original installation.

### COMMON INSTALLATION PROBLEMS

1. Pipe not inserted into the coupling far enough.
2. Too much pipe deflection.
3. End rings not concentric on center ring.
4. Gasket re-installed backwards.
5. Not waiting ten minutes and retorquing to 65 ft-lbs.