

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.

Style RG-PVC Mechanical Joint Retainer

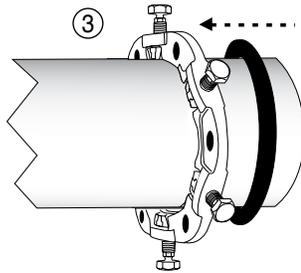
FOR PVC PIPE 3" - 12" DO NOT USE ON HDPE, DUCTILE IRON OR STEEL PIPE.



Step 1 • Identify the pipe. The RG-PVC is for use with C-900 and IPS PVC pipe. Check the compatibility chart on the back to make sure the pipe you are using is listed.

Step 2 • Check the parts to insure that no damage has occurred in transit and that no parts are missing.

Step 3 • Clean and lubricate the pipe end and gasket with soapy water or other approved pipe lubricant per ANSI/AWWA C111/A21.11. Place the RG-PVC on the pipe with the nose extension towards the plain end. Place the gasket over the pipe so the flat side is toward the RG-PVC.

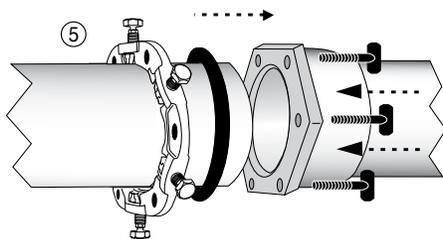


Note: Make sure the correct gasket is being used. The Romac DI/IPS combination gasket can be used on both C-900 and IPS pipe. A standard MJ gasket can be used on C-900 pipe and an MJ x IPS transition gasket on IPS pipe.

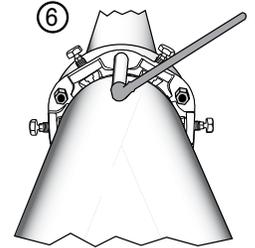


Step 4 • Insert the pipe into the mechanical joint fitting and press the gasket firmly into the gasket recess. Keep the joint straight during assembly.

Step 5 • Slide the gland toward the joint until the nose of the gland touches the gasket. Insert the T-bolts and hand tighten the nuts. Make any deflection after hand tightening the T-bolt nuts but before tightening them to the proper torque specifications (5° maximum).



Step 6 • Tighten T-bolts to the torque recommended in AWWA C111. Maintain the same overall gap between the RG-PVC and the MJ bell face by tightening the T-bolts in a uniform criss-cross pattern (12 o'clock, 6 o'clock, 3 o'clock, 9 o'clock) until proper torque is achieved. Using a torque wrench is highly recommended. For best results, wait 10 minutes and retighten bolts to proper torque.

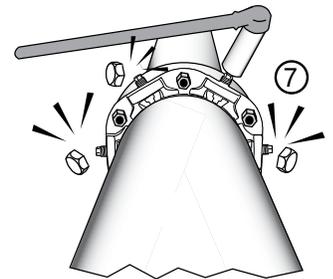


RECOMMENDED TORQUE FOR T-BOLTS	
3" RG-PVC	45 - 65 ft-lbs.
4 - 12" RG-PVC	75 - 90 ft-lbs.
Thin Wall PVC	40 - 50 ft-lbs.

Note:
90 ft-lbs. torque = 12" wrench w/90 lbs. force

Step 7 • Tighten the restraining bolts until all the lugs just touch the pipe. Then, tighten each bolt, alternating between bolts in a uniform criss-cross pattern until the heads break off.

Note: On thin wall D.I. size PVC pipe such as C909, Class 100 C900 and IPS PVC less than Class 160, torque the restraining bolts to 30-40 ft-lbs. (In this case, the torque off bolts may not break off.)



Step 8 • Pressure test for leaks before backfilling.

Note: In the event you need to remove the RG-PVC restrainer, **be sure the pipe is not pressurized.** To loosen the restraining bolts, use a 5/8" hex wrench or socket.

To reassemble, follow the above procedure and tighten the restraining bolts using a 5/8" wrench to 30 - 40 ft-lbs.



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RG for PVC PIPE MATERIAL COMPATIBILITY CHART

Pipe Material	Pipe Size	Working Pressure	Comments
PVC - D.I. Size (C900)	4" - 12"	Rating of pipe	All Classes
PVC - "Class Pipe" (IPS Size)	3" - 12"	Rating of pipe	ASTM D 2241. Class 160 & 200
PVC - Sched. 40 & 80	3" - 12"	Rating of pipe	ASTM D 1785
PVC - D.I. Size (C909)	4" - 12"	Rating of pipe	AWWA C909 DI size
Ductile Iron	-	-	RG-PVC not for use on ductile iron
Steel	-	-	RG-PVC not for use on steel
Asbestos Cement	-	-	RG-PVC not for use on asbestos cement
Fiberglass	-	-	RG-PVC not for use on fiberglass
HDPE	-	-	RG-PVC not for use on HDPE

May be used on thin wall DI size PVC such as C909, Class 100 C900 and IPS PVC less than Class 160 with special torque requirements, see Steps 6 & 7.
 NOTE: Angular deflection of up to 5° is allowable between the pipe and fitting for RG-PVC sizes 3"-12".

PRECAUTIONS

1. Make sure the correct gasket is being used. The Romac DI/IPS combination gasket can be used on both C-900 and IPS pipe. A standard MJ gasket can be used on C-900 pipe and an MJ x IPS transition gasket on IPS pipe.
2. Check diameter of pipe to make sure you are using the correct size RomaGrip; also check gasket to make sure it is the size you think it is.
3. Be sure to clean pipe of as much dirt and corrosion as possible in the area that the gasket will seal.
4. Lubrication both the gasket and the pipe end with soapy water or approved pipe lubricant per ANSI/AWWA C111/A21.11.
5. Make sure no foreign materials lodge between gasket and pipe.
6. Avoid loose fitting wrenches, or wrenches too short to achieve proper torque.
7. Keep threads free of foreign material to allow proper tightening.
8. 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.
9. Be sure that the RG-PVC is centered around the pipe.
10. Pressure test for leaks before backfilling.
11. Backfill and compact carefully around pipe and fittings.

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. Not enough pipe inserted into bell.
6. Not using a Romac DI/IPS combination gasket or MJ x IPS transition gasket when using the RG-PVC on IPS size PVC pipe.
7. Using the RG-PVC on IPS PVC pipe with wall thickness thinner than Schedule 40 PVC pipe.
8. Using the RG-PVC on the wrong pipe.

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 RG-PVC use a 5/8" hex wrench or socket.
3. To reassemble, follow installation procedures and tighten the restraining bolts using a 5/8" hex wrench to 30-40 ft-lbs.