



Pipe Restrainers series 1000G2

1000G2C Restrainers for AWWA CI OD C900/C909 PVC/PVCO and Ductile Iron Pipe with MJ or Ductile Iron Push-On Fittings (Formerly Series 9000)
Sizes 4" - 12"

4"-12" SERIES 1000G2 INSTALLATION INSTRUCTIONS



STEP 1

Insert and completely home the pipe into the MJ fitting bell. Then insert one of the long T-bolts/rods provided through one of the holes as shown. Mark a line 1 ¼" away from the end of the T-bolt/rod and towards the MJ bell as shown.



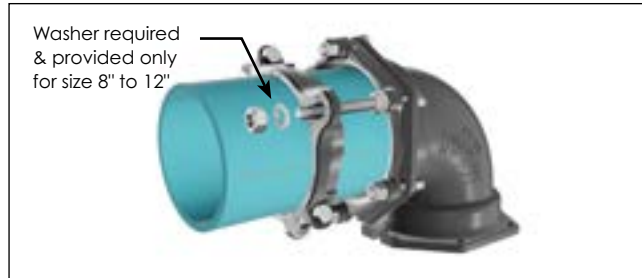
STEP 2

Assemble the MJ joint using the gland, gasket and T-bolts per the AWWA standards and as modified for AWWA C909 pipe in these guidelines. (Note that the long T-bolts/rods are installed later.) Next, assemble the restrainer on the pipe so that it is even with the line marked on the pipe in Step No. 1. Make sure that the open ends of the restrainer ears are toward the MJ fitting bell. Also ensure that the holes in the restrainer ears line up with the bolt holes of the MJ gland. Evenly tighten the restrainer clamping bolts to the recommended torque shown below, ensuring the gap between pads on both sides remain even.



STEP 3

Insert one of the long T-bolts/rods provided, installing one nut each between the gland and the restrainer as shown. Follow the same procedure for the remaining long T-bolts/rods. Tighten nuts against the MJ gland per the AWWA standards and as modified for AWWA C909 pipe in these guidelines. (See table for T-bolt/nut torque details.)



STEP 4

Place a washer (Provided and required only for sizes 8"-12") on each end of restrainer ear as shown. Snug the second nut on each long T-bolt/rod against the restrainer. **Caution: Do not over-tighten restraining nuts. Turn nut to hand tight plus a half turn.**

| CLAMP BOLT TORQUE MINIMUM | | |
|---------------------------|--------------------|------------------|
| PIPE SIZE (IN) | C900/C909 (FT-LBS) | DI PIPE (FT-LBS) |
| 4-10 | 100 | 110 |
| 12 | 130 | 130 |

| T-HEAD BOLT & NUT DETAILS | | | |
|---------------------------|----------------|--------------------------|---------|
| PIPE SIZE (IN) | BOLT SIZE (IN) | RANGE OF TORQUE (FT-LBS) | |
| | | C900/DI PIPE | C909 |
| 4-12 | 3/4 | 75 - 90 | 55 - 65 |



Pipe Restrainers series 1000G2

1000G2C Restrainers for AWWA CI OD C900/C909 PVC/PVCO and Ductile Iron Pipe with MJ or Ductile Iron Push-On Fittings (Formerly Series 9000)
Sizes 4" - 12"

4"-12" SERIES 1000G2 INSTALLATION INSTRUCTIONS FOR PUSH-ON FITTINGS



STEP 1

Insert pipe into the fitting bell according to standard procedure.



STEP 2

Use one of the T-bolts (provided) as an alignment guide to position serrated restrainer on pipe. Leave sufficient room for threads on the rod ends to fully engage nuts (provided). Full engagement occurs when there are at least two threads showing past the nut on the bolt.



STEP 3

Assemble the restrainer on the pipe as shown above. Make sure that the entire length of all the serrations are in contact with the pipe before installing the clamping bolts. Tighten the clamping bolts evenly between 90 and 110 ft-lbs of torque. Make sure the gap between the bolt pads on both sides remain the same.



STEP 4

Insert the restraining T-bolts (provided) through the fitting lugs and the restrainer as shown. Snug tighten the nuts so that the spigot end is secured into the bell end.

CAUTION: Do not over-tighten restraint nuts. Turn nuts to hand tight plus half a turn.

Notes:

- Not recommended for use with Push-On fittings in sizes 14-inch and larger.

STAR® PIPE PRODUCTS