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## STYLE CSTEX- Heavy Duty Tapping Sleeve Installation Instructions

1. Verify Pipe type, condition, and OD is suitable for the Sleeve being used.
2. Thoroughly clean and lubricate pipe surface to be covered by the Sleeve. Lubricate gaskets, including the tail flaps to ensure they slide freely around the pipe.

### **LUBRICATE GASKETS THOROUGHLY**

3. Position the sleeve with the outlet in the direction of the branch pipe, with the Test Outlet facing up. Blocking the pipe on both sides may be necessary for proper support. Block the sleeve's outlet area to support during valve connection.
4. While installing the sleeve, make sure the tail flaps are extended fully around the pipe. Do not rotate tapping sleeves on the pipe. (This may cause the gasket to roll).
5. Begin inserting bolts around the center of sleeve, both top and bottom and finger tighten. Make sure the gap between shells on both the Bottom and Top are approximately the same.
6. Level the sleeve to its final position on the pipe. Adjust blocking as needed.
7. Inspect gaskets prior to continuing. Ensure flaps are fully extended to verify they have not rolled on pipe. Rolled gaskets will create a leak path.
8. Install the remaining bolts, washers, and nuts to hand-tight. \*Replace Belleville washers on HDPE pipe sleeves in the same order they were received.
9. Snug nuts down, working from Bottom to Top, and from center outward, making sure the Bottom and Top gaps remain even.

### **MAINTAIN EVEN GAP BETWEEN SHELLS**

10. Tighten nuts to final torque. **Upper end of torque ranges should be reserved for applications with higher ACTUAL line pressures and/or larger branch(flange) sizes.** \*HDPE pipe should generally follow C900 guidelines, but may require something lower, based on DR number of the host line and/or branch(flange) size. Place Belleville washers back on HDPE pipe sleeves in the same orientation they were received.

Nominal Pipe Size	Thin Wall PVC	*C900/905	RIGID (DI, Steel)
4 - 8	50 – 65 Ft. Lbs.	70 – 90 Ft. Lbs.	75 – 100 Ft. Lbs.
10 – 24	65 – 80 Ft. Lbs.	75 – 100 Ft. Lbs.	85 – 125 Ft. Lbs.
Not Listed	Consult Factory		

***Correct torque indicated by use of torque wrench.***

11. Once sleeve and valve are installed, a hydrostatic test must be done prior to tapping the line. If a leak is experienced, **LOWER THE TEST PRESSURE, PRIOR TO INCREASING TORQUE.** This will allow the sleeve to achieve compression-set far sooner than if attempting to stop a leak under full test pressure. The reduction in torque needed will prevent unnecessary stress on the pipe and the sleeve.

**FAILURE TO TEST ALL SLEEVES PRIOR TO TAP VOIDS ALL WARRANTIES.**

**SIZE-ON-SIZE SLEEVES REQUIRE A 1/2" UNDERSIZED CUTTER.**

**CASCADE WATERWORKS MANUFACTURING COMPANY**

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## **TIPS (Best Practices)**

1. Do **NOT** attempt to increase torque under full test pressure. Backing the test pressure off a bit will make it much easier to achieve a seal than fighting against the test pressure. Additionally, the reduced level of torque will lower stress on the pipe and sleeve.
2. Lubricating the gaskets will aid in allowing the gasket to achieve compression-set and reduce issues with damaged gaskets.
3. Blocking the sleeve reduces stress on the pipe and helps maintain alignment.
4. The level of torque needed is a systemic dynamic. Lower **ACTUAL** host line pressures require less torque, as do smaller branch sections (flanges). Unnecessarily high torque creates unnecessary stress and/or leaks from distortion of the pipe. High torque values should be reserved for situations that require it. Situations where higher torque values should be considered are:
  - A. High ACTUAL line pressure (not arbitrary pipe or valve ratings).
  - B. Large Host pipe sizes.
  - C. Large branch (flange) sizes.
  - D. Any combination of the above. The more of these characteristics that apply, the more likely a higher torque value will be needed.
5. Maintaining even gaps and applying even torque values all the way around the sleeve will reduce issues with achieving a seal. **Leaks should be addressed by lowering the test pressure and applying more torque near the branch (innermost bolts), not the outermost bolts.**
6. Any Sleeve for HDPE pipe should be for underground use only.

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