



INSTALLATION INSTRUCTIONS

This instruction has been prepared for the safe and leak-tight installation of wide-tolerance APP Type Tees used to create branch outlets from different pipe materials (Ductile iron, Cast iron, Steel, PVC, PE, GRP, AC, etc.).

1. Pre-Installation Preparation

- **Product Check:** Verify the label information on the Tee fitting (DN size and tolerance range) and ensure it is suitable for the outer diameters of the pipes to be connected.
- **Pipe Cutting:** Cut the pipes perpendicular (approx. 90°) to the pipe axis. Uneven cuts may prevent proper seating of the sealing gasket.
- **Surface Cleaning:** Clean rust, dirt, scale, and old coatings from the pipe ends using a wire brush. The surface in contact with the sealing gasket must be smooth and clean.
- **Chamfering (If Required):** Apply an external chamfer of approximately 30° to the pipe ends if necessary.
- This prevents damage to the gasket during insertion.

2. Positioning and Marking

- **Insertion Depth Marking:** Measure the body length of the adaptor sections at both ends of the Tee. Mark reference lines on the pipes according to the adaptor insertion lengths.
- **Pipe Alignment:** Align both pipes as accurately as possible. APP Type Tees can typically accommodate up to $\pm 6^\circ$ angular deviation; however, straight alignment is recommended for optimal performance.

3. Installation Steps

- **Lubrication:** Apply a silicone-based lubricant suitable for potable water to the sealing gasket and pipe ends. (Do not use oil-based lubricants as they may damage the gasket.)
- **Placement:** With the adaptor sections loosened, slide the Tee fitting onto the first pipe. Bring the second pipe into position and insert it into the adaptor section up to the marked reference line.
- **Gap Control:** Ensure a gap of at least 5–10 mm between the pipe ends and the end of the Tee adaptor section to allow for thermal expansion and settlement.

4. Tightening Procedure (Critical Step)

- **Cross Tightening:** Tighten the bolts in a diagonal/crosswise sequence (e.g., 12–6 o'clock, 3–9 o'clock). This ensures even load distribution on the gasket.
- **Gradual Tightening:** First hand-tighten all bolts, then tighten gradually in multiple passes using a wrench.

5. Outlet Connection

Depending on the outlet type:

- **Flanged Connection:** Align the flanged equipment with the flanged outlet of the APP Type Tee. Insert a standard flange gasket between the flanges. Install the bolts and nuts, then tighten them gradually in multiple passes.
- **Adaptor Connection:** Loosen all bolts of the outlet adaptor. After completing the preparation steps described in Sections 1, 2, and 3, insert the pipe into the adaptor up to the marked reference line. Carefully complete the tightening procedure described in Section 4.

6. Final Check and Testing

- **Visual Inspection:** Ensure that the gap between the pressure flanges and the adaptor body is uniform around the entire circumference.
- **Pressure Test:** Perform a low-pressure leak test before commissioning the pipeline. If leakage is detected, recheck and retighten the bolts.



SAFETY NOTES

- Wear protective gloves and safety footwear during installation.
- For large-diameter Tee fittings, use pipe supports or blocking elements to prevent excessive load on the adaptor.
- Ensure that the protective coating of bolts (galvanized, Dacromet, etc.) is not damaged to maintain corrosion resistance.