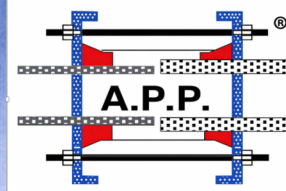


APP-U

Universal Coupling



hedef
Engineering Services
Industry and Trade Inc.

INSTALLATION INSTRUCTIONS

This instruction has been prepared for the safe and leak-tight installation of wide-tolerance universal couplings used to connect different types of pipes (Ductile iron, Cast iron, Steel, PVC, PE, GRP, AC, etc.).

1. Pre-Installation Preparation

- **Product Check:** Verify the label information on the adaptor (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 sealing of the gasket.
- **Surface Cleaning:** Clean rust, dirt, scale, and old coatings from the pipe ends using a wire brush. The surface where the gasket will contact must be clean and smooth.
- **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 adaptor body length. Mark a reference line on the pipe equal to half of the adaptor length to indicate proper insertion depth.
- **Pipe Alignment:** Ensure both pipes are aligned as closely as possible.
- Universal adaptors typically allow up to $\pm 6^\circ$ angular deviation, but proper alignment is recommended for optimal performance.

3. Installation Steps

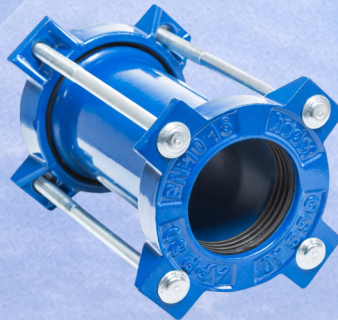
- **Lubrication:** Apply a silicone-based, potable water-approved lubricant to the gasket and pipe ends to ensure smooth insertion. (Do not use oil-based lubricants as they may damage the gasket.)
- **Placement:** Slide the adaptor loosely onto the first pipe. Bring the second pipe into position and center the adaptor so that it equally covers both pipe ends (aligned with the marked reference lines).
- **Gap Control:** Ensure a gap of at least 10–20 mm between the pipe ends to allow for thermal expansion and settlement.

4. Tightening Procedure (Critical Step)

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

5. Final Check and Testing

- **Visual Inspection:** Check 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 putting the pipeline into operation. If leakage is detected, recheck and retighten the bolts.



SAFETY NOTES

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