

Repair Clamps — Installation, Operation & Maintenance Manual

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1. Overview

This manual covers the installation of Baoshuo pipe repair clamps — the straight, tee, elbow, socket, flange-wrap, leak-collar, reducing and cross repair clamps. Repair clamps seal pinhole leaks, cracks, joint and weld-seam damage on pipelines without stopping the line. The one-piece wraparound design with a molded rubber gasket is suitable for plastic (UPVC, PVC-M, ABS, PE, PPR), steel, ductile iron, FRP and cement pipelines.

2. Safety Precautions

- Always depressurize and drain the line where safe; wear appropriate personal protective equipment.
- Do not work on a live gas line or where the medium is hazardous.
- Support the pipe and keep the working area dry and stable.
- Only use bolts and gaskets supplied or specified for the clamp — never substitute.

3. Tools Required

Wrenches (torque wrench recommended), wire brush, cleaning cloth, pipe-safe cleaning solvent, measuring tape / caliper.

4. Installation Steps

1. **Select the correct size.** Measure the pipe outer diameter (OD) at the repair point — or the nominal DN for ductile iron/steel — and select the clamp whose size range covers it.
2. **Prepare the pipe surface.** Clean the pipe surface over an area wider than the clamp body. Remove rust, scale and loose coating with a wire brush; for plastic pipes clean gently to avoid scoring. Dry the surface.
3. **Control the leak.** Reduce system pressure and flow where practical. A small weep is acceptable — a high-velocity jet can wash the seal into place.
4. **Position the gasket.** Center the molded rubber gasket over the leak, wrapping it around the pipe. Ensure it is not twisted and covers the full damaged area.
5. **Place the clamp halves.** Set both clamp halves over the gasket and align the bolt holes. The bolts must seat in their sockets squarely.
6. **Insert and hand-tighten bolts.** Insert all bolts and nuts and tighten by hand so the clamp grips the pipe.
7. **Tighten evenly.** Tighten the bolts evenly in a criss-cross (star) sequence, alternating sides, to the recommended torque. Do not over-tighten — the rubber seal can be damaged.
8. **Allow settling and re-torque.** Rubber compresses after installation. Re-tighten the bolts after about 24 hours (or after the first pressure test) to compensate.
9. **Restore pressure and inspect.** Bring the line up to working pressure and inspect around the clamp for weeping. If weeping, re-tighten slightly in the criss-cross sequence.

5. Pressure Testing

After installation, pressurize the line to working pressure and hold it. Inspect the clamp body, bolts and both ends of the gasket for leakage. Re-torque if required and repeat until no weep is observed.

6. Maintenance & Storage

- Inspect clamps periodically (recommended at least yearly, or after pressure transients).
- Re-torque bolts if the pipe has settled or the temperature cycle has been large.
- Replace the gasket if cracked, hardened or permanently compressed; replace corroded bolts.