

ELECTROFUSION JIG



Why the Electrofusion Jig?

Reliable method for moving the coupling into place on the pipe

Ease of installation

Couplings and the internal wiring have the potential to become damaged during installation with a traditional installation method, the jig helps mitigate that risk

No more unsophisticated pounding and hammering with a block of wood and sledge hammer.

Space limitations

This is the only tool you'll need to install a coupling

You don't need a reround tool, 4x4, hammer, chain hoists, save time

What the jig does:

1. Rerounding the pipe ends
2. Self-aligning the pipe into the couplings
3. Pushes and pulls coupling onto the pipe mechanically
4. Supports and stabilizing the pipes in the couple as the fusion takes place

Two Prototypes Units Available

Unit #1 Designed for 18-24-inch IPS and DIPS

Unit #2 Designed for 12-18-inch IPS

ISCO has patent applications pending (both domestically and internationally) for this tooling along with the installation process. After feedback from the field trials, the weight of unit #1 has been reduced to make installation even smoother.



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ELECTROFUSION JIG IN THE FIELD



For years, ISCO has been revolutionizing the installation of electrofusion couplings in the field. While the team has come up with some creative ways to prepare pipe ends, a reliable method for moving the coupling into place over the pipe ends and re-rounding the pipe or holding the pipe ends in place during fusion has always been a challenge.

In the summer of 2013, ISCO worked on a project to install the first HDPE water transmission line for the Massachusetts Regional Water Authority. About 6,000 feet of 24-inch DIPS DR11 pipe was to be installed in a busy, urban area of Watertown, just outside Boston. Most of the pipe was sliplined into existing pipe using narrow pits. It became apparent early on that it would be impossible to fit a butt fusion unit into the pit. Because of that, the customer and the engineer planned to use electrofusion in some of the pits.

Director of equipment sales Mike Montgomery learned about the plan to use multiple 24-inch couplings on the job. He decided that the standard operating procedure for EF fusion at the time would not produce an acceptable percentage of successful fusions. Motivated by a desire to start the job on the right foot and a window of opportunity that provided just enough time for development of a new tool, Mike sprang into action. Within three weeks he took an idea that had been bouncing around in his head and created a push/pull electrofusion jig (official name pending). According to Mike, "it was time for the computer technology in the EF power units to be matched with a mechanical technology just a little more advanced than a sledgehammer and 4x4s."

The testing of the unit was performed in the contractor's shop the day before the scheduled start of the job. Mike and the contractor worked on a plan to install the couplings over each end of the pipe in a controlled environment when possible and above the ditch when in the field. Once the pipe was ready in the pit, the spool was dropped into place and the unit helped push the coupling back over the sliplined pipe ends.

Outside sales rep Ron Laughman heard about the success of the machine in an email from Mike Raider to the sales group. He passed the information along to his contractors who had in the past or were planning work with pipe that large.

At the time, Sargent Corporation was installing two 26-inch electrofusion couplings for a methane gas transmission tie-in for Exelon Corporation at a Waste Management site in Bordentown, PA. After seeing pictures of the unit, they committed to using it on that job. Ron reached out to Mike Montgomery to have him explain the process, procedures, and details of the unit to the customer.

The installation was in a tight space and pressed for time. Two electrofusion couplings were tied into a 90 degree elbow and then attached to the new and existing pipeline. Because of the space and time limitations, any mistake would have been extremely detrimental to the project. It was a one shot deal with no room for error. In the end, Ron says, "the customer was more than happy with the unit and ISCO."

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