

Electrofusion Machines

Easy Fuse Processor



Physical Dimensions

Weight	51.5 lbs.
Dimensions	13.5" x 16.8" x 12.5"
Input Cable Length	12 feet
Output Cable Length	25 feet

IMPORTANT NOTE:

Permanent field installations should only be done by operators who have been properly trained and certified.

Electrofusion Jointing of Polyethylene (PE) Pipe And Fittings For Pressure Applications

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This article has been prepared for pipes and fittings complying with AS/NZS 4130 and AS/NZS 4129 respectively.

What Is Electrofusion Jointing?

With electrofusion jointing, an electrical resistance element is incorporated in the socket of the fitting which, when connected to an appropriate power supply, melts and fuses the materials of the pipe and fitting together. The effectiveness of this technique depends on attention to preparation of the jointing surfaces and ensuring the surfaces to be welded have satisfactory contact during the welding and cooling cycles.

Pipe clamps or other approved methods of restraining, aligning and rerounding the pipes during the fusion cycle should be used.

Procedure:

- Ensure there is sufficient space to permit access to the jointing area.
- Cover the pipe ends remote from the fitting joint, to ensure airflow through the pipeline cannot occur during the heating and cooling cycles.
- Check that the pipe ends to be jointed are cut square to the axis and any burrs removed.
- Wipe pipe ends using clean, disposable, lint free material to remove traces of dirt mud, etc. Pipe ends may be washed with clean water if necessary and dried with the lint free material. Ensure pipe end is completely dry before proceeding.
- Measure the depth of penetration of the fitting by placing the socket of the bagged fitting alongside the pipe end and put a witness mark on the pipe at half the fitting length to indicate the area to be scraped. Do not remove the fitting from its packaging at this stage.
- Check that the pipe clamps are of the correct size for the pipes to be jointed.
- Using an appropriate pipe scraper, as recommended by the pipe or fitting manufacturer, remove the entire surface of the pipe over the area indicated, to a depth of approximately 0.3mm. Metal files, rasps, emery paper etc are not suitable end preparation tools.
- Wipe the scraped surface with an authorized Isopropanol impregnated pipe wipe, as recommended by the pipe or fitting manufacturer, to remove any dust residue. Methylated spirits, acetone, methyl ethyl ketone (MEK) or other solvents are not recommended for wiping the scraped surface. Ensure the prepared surfaces are completely dry before proceeding.
- Remove the fitting from its packaging and check the bore of the fitting is clean. The bore of the fitting may be wiped with an approved pipe wipe if necessary. Ensure the bore is completely dry before proceeding.
- Insert the pipe end(s) into the fitting so that they are in contact with the center stops.
- Using pipe clamps, or other suitable means, secure the pipe(s) so that they cannot move during the fusion cycle. Check that the pipe end(s) and the fitting are correctly aligned.
- Ensure the generator is switched on and running satisfactorily before connecting the electrofusion control box to the power source.
- Identify the required jointing time, which should be indicated on the fitting.
- Check that the correct time is shown on the control box display.
- Press the start button on the control box and check that the heating cycle is proceeding as indicated on the display.
- On completion of the heating cycle, one or both melt indicators should have risen. If there is no apparent movement of either indicator the joint could be unsatisfactory and should be investigated.
- If a satisfactory joint has been made, the joint should be left in the clamps for the cooling period specified on the fitting.