

8.2.8 Electrofusion coupling



Watch the video on website:
valsir.it/u/saldaturaelettrica

Main characteristics

Type	This welding system allows pipes and/or fittings to be connected using electrofusion techniques with an electric sleeve.
Applicability	Valsir® HDPE waste system
Diameters	40 to 315 mm
Removable	No
Tension resistant	Yes
Connection difficulty	Low
Necessary tools	Pipe cutter, pipe scraper, welding machine, pencil, ruler



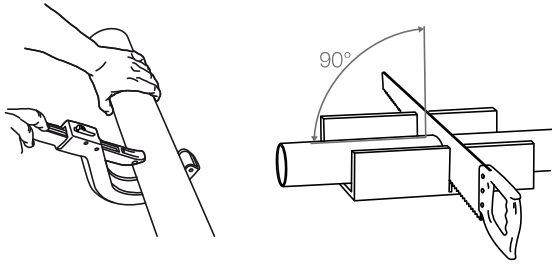
Installation instructions



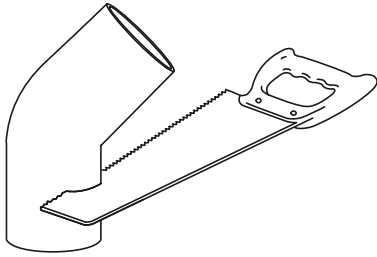
CAUTION!

- Welding must be carried out in favourable climatic conditions at a temperature between -5°C and $+40^{\circ}\text{C}$. In windy and/or damp conditions or if temperatures fall below -5°C or are greater than $+40^{\circ}\text{C}$ the work area will need to heating or ventilated by covering it with a canvas or another effective protective system. At any rate it is recommended to perform a few welding tests.
- The temperature of the parts to be welded must be uniform at the time of welding. The ends of the joints that do not require welding must be closed with caps to avoid cooling the joints with the passage of air inside the pipes.
- The parts to be welded must be clean and kept clean throughout the welding process.
- The pipes, fittings and welding machine can be employed after they have been kept at the same room temperature to avoid an excessive or insufficient production of thermal energy. Pipes and/or fittings must not be exposed to rain, sun rays or sources of heat, before, during or immediately after welding.
- During welding and the other phases of the cycle (especially during cooling) the joint must absolutely not be subjected to any mechanical stress.
- The chemical and physical characteristics of the materials to be welded must be mutually compatible.
- If large diameter pipes are to be welded it is recommended to place them on guide rollers.

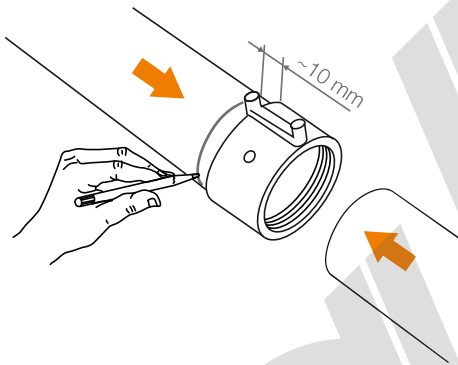
Installation instructions



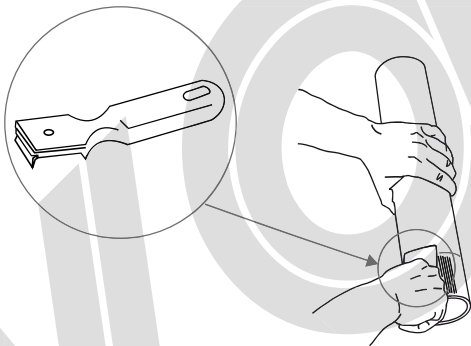
- 1) The pipes must be cut square so that the coils of the electric sleeve remain in contact with the pipe and/ or fitting. Use a pipe cutter or fine-tooth saw. Use centering rings if ovalization of the pipe and/ or fitting exceeds 1.5% x OD (rounded down to 0.5 mm).



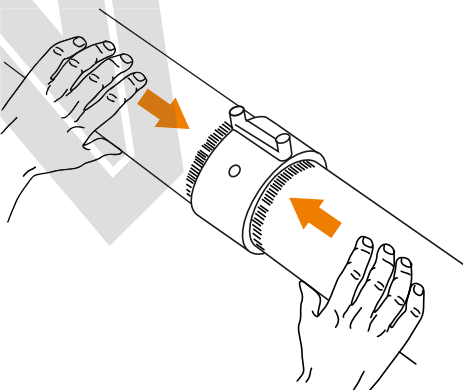
- 2) If necessary the ends of the fitting can be shortened as long as the remaining part is not shorter than the insertion depth of the electric sleeve as indicated on the technical card.



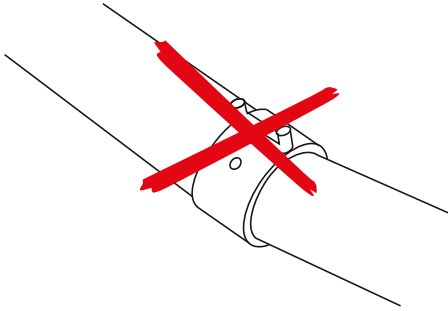
- 3) Clean and dry the welding ends. Mark a length of at least 10 mm greater than the insertion length of the electrofusion coupling on the pipe with a pencil, if necessary by temporarily inserting the parts into the coupler.



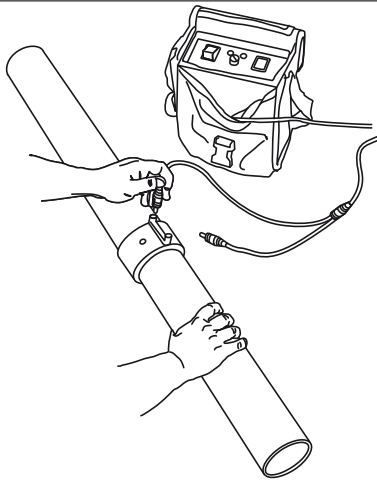
- 4) Scrape the welding ends; scraping must be uniform and complete to a depth of approximately 0.2 mm up to the pencil mark. Use appropriate pipe scrapers. In no case should cutters, sandpaper, files or emery-wheels be used.



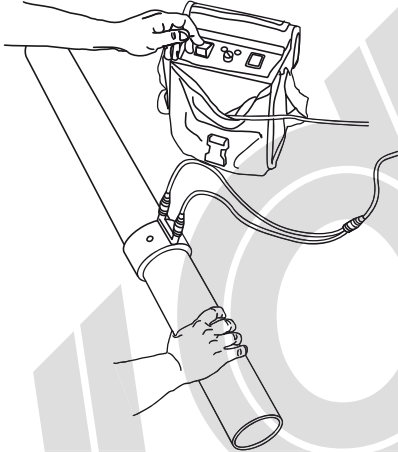
- 5) Inserts the parts to be welded into the sleeve coupling up to insertion depth. The connection with the sleeve must be free of tension such as those caused by any bracketing clips previously tightened near the weld area. The welding ends must remain dry during the whole welding process.



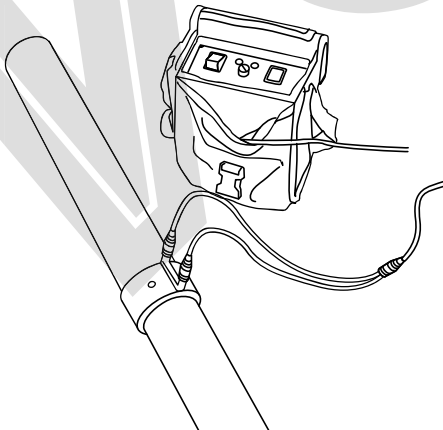
- 6) Keep the parts to be welded aligned and avoid any mechanical stress that could cause misalignment.



- 7) Connect the electrofusion sleeve to the welding machine using the appropriate plugs according to the diameter to be welded (for more information please see the welding machine handbook).

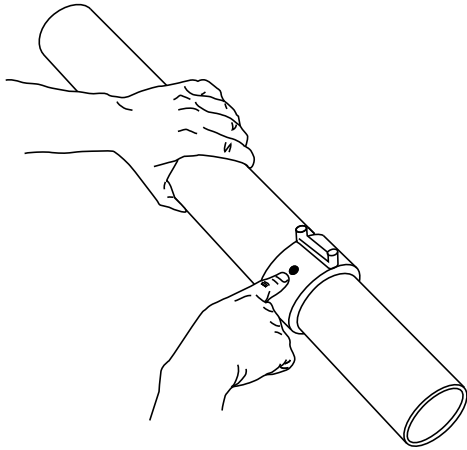


- 8) The welding time is determined automatically by the machine, which, when completed, will produce an audible signal. On no account can the same coupling be welded twice.

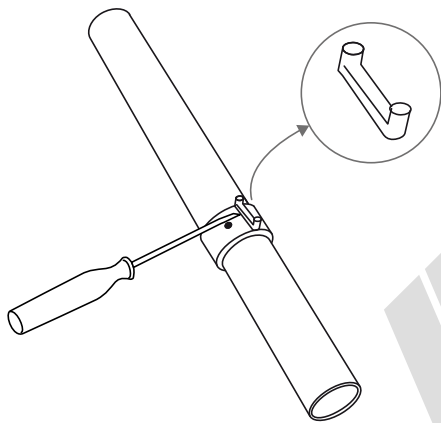


- 9) The parts to be welded must be kept in position and aligned; furthermore, they must not be subjected to any mechanical stress during welding. Any movement of the sleeve during the welding could cause a short circuit of the coils and an incorrect weld.

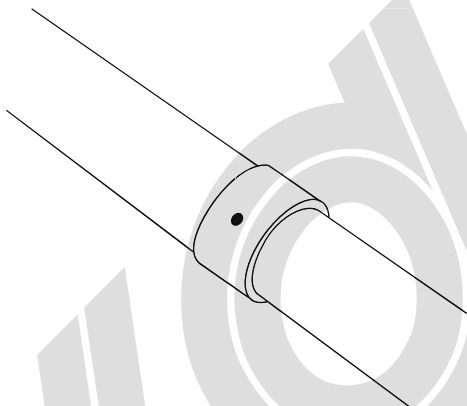
Installation instructions



- 10) An incomplete welding can be verified by the fact that the indicator on the electrofusion sleeve has not changed colour (from white to black). Attention: the indicator does not guarantee a perfect weld which can be influenced by numerous factors such as dimensional tolerances, the ovality of the components to be welded, mechanical stress in the connection area. The parts to be welded must remain in position and aligned; they must not be subjected to any mechanical stress during cooling.



- 11) If required, the electrical connector sockets on the electrofusion couplings can be removed at the end of the cooling phase



- 12) Water must not be poured over the joint nor should any other action be taken to accelerate cooling of the electrofusion coupling.

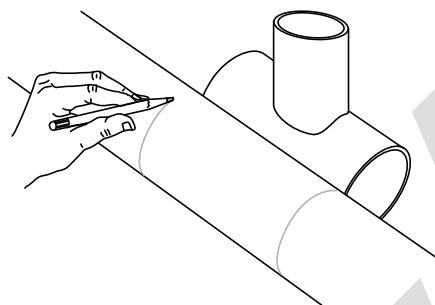
8.2.9 Repair or modification of the pipes using electrofusion welding

Main characteristics

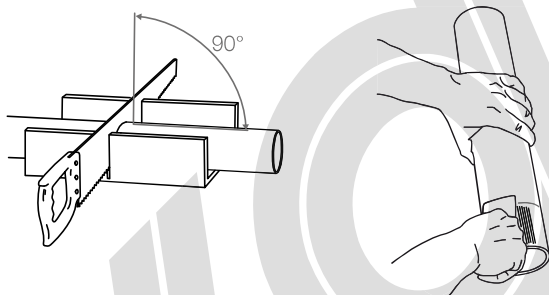
Type	This system allows the repair of damaged pipes or the alteration of existing pipes using electrofusion couplers.
Applicability	Valsir® HDPE waste system
Diameters	40 to 315 mm
Removable	No
Tension resistant	Yes
Connection difficulty	Medium
Necessary tools	Pipe cutter, pipe scraper, welding machine, pencil, ruler



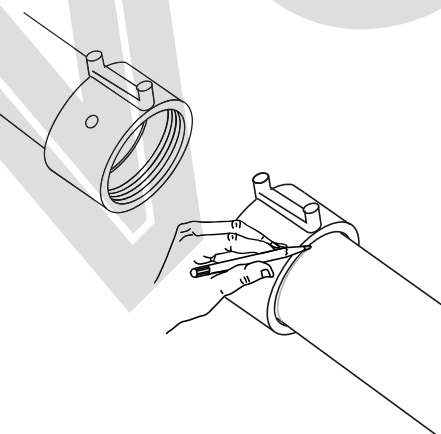
Installation instructions



- 1) Indicate the area to be cut at a distance that is at least equal to the length of the electrofusion coupling or the fitting to be inserted in the pipe section.

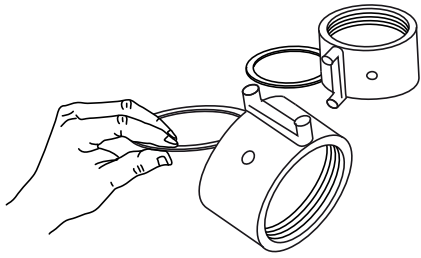


- 2) Cut the section of pipeline with a suitable pipe cutter or a fine-tooth saw that is suitably guided to guarantee a perpendicular cut. Scrape the welding ends; scraping must be uniform and complete (to a depth of approximately 0.2 mm) and a length of at least 10 mm longer than the insertion depth of the electrofusion coupling. Use appropriate pipe scrapers. In no case should cutters, sandpaper, files or emery-wheels be used.

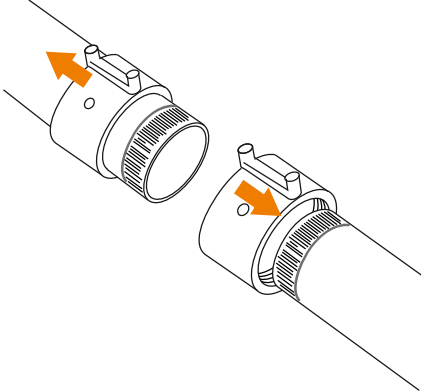


- 3) Insert the electrofusion sleeves onto each of the two ends and, when fully inserted, mark the insertion depth.

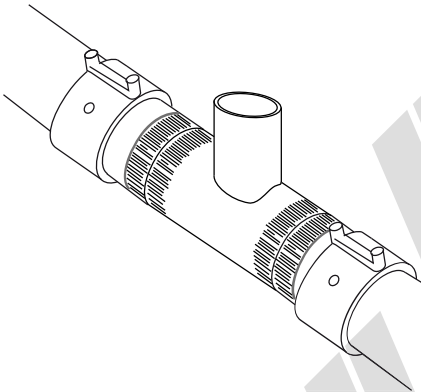
Installation instructions



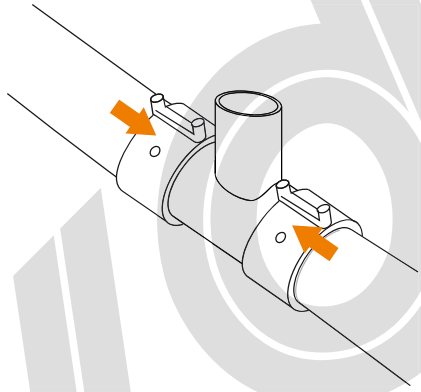
- 4) The electrofusion sleeves have a central ring that can be removed to turn the coupling into a sliding sleeve.



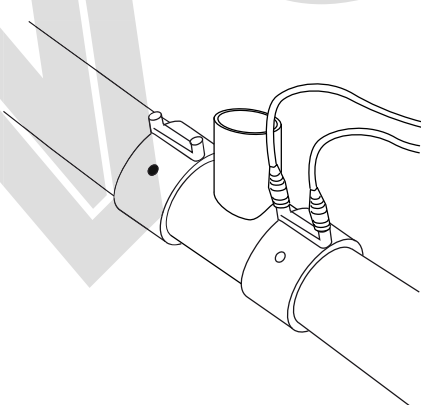
- 5) Position the electrofusion couplers in the space created between the two ends of the pipeline and slide them over the two ends.



- 6) Position the piece of pipe or fitting in the space created between the two ends of the pipeline.



- 7) Slide the two sleeves toward the piece of pipe; the lines where the pipes were cut must be exactly at the centre or each sleeve. Use the insertion marks as a reference for centering.



- 8) Proceed with the welding procedure for electrofusion as already described in this chapter.