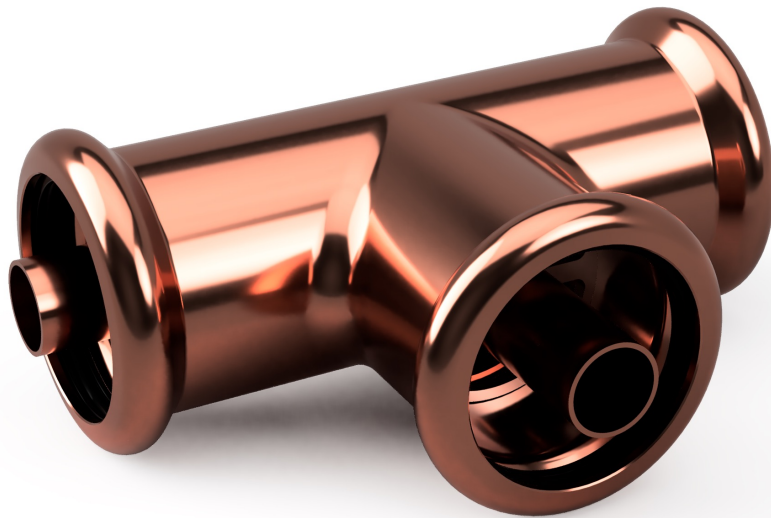


WATERKINETICS

ECODU©



Installation Instructions
for
Tubes and Fittings

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General Information

System Design, Installation & Use

These products are designed for hot- and cold-water services and within the advised pressure and temperature limits. They are not designed for use with vented or unvented closed-circuit heating systems.

All systems should be designed, installed and used in accordance with appropriate specifications or codes of practice and Water Kinetics technical recommendations.

It is important that thermal movement is considered when designing a system as pipework will expand and contract. Avoid stress concentrations between fixed points particularly radiators, valves and similar fittings. Expansion loops should be included in the system to resolve thermal movement issues

Installations should be supported to make sure that there is the minimum stress possible added to tubes and joints

The insulation requirements specified in the current Water Supply (Water Fittings) Regulations and Building Regulations should be used

Provision for thermal movement where pipework is installed under screed, plaster or passes through brick/block work. Pass tubes and fittings through sleeves, conduits or in ducts with loose, inert non-rigid materials

When designing a Water Kinetics system take care that all joints can be accessed. Allow clearance around fittings for press-fit jaws. Minimum gaps and insertion distances ensure sufficient access for the pressing tool. Sufficient space must be left between fittings to allow jaws/slings to be used (Table 1). Also take care over the distance pipe stubs project through walls/bulkheads (Table 1).

Electrical Continuity

All installations must be correctly earthed. Water Kinetics fittings provide electrical continuity when correctly assembled. After an installation is complete ensure continuity checks are conducted by a qualified electrician in accordance with current regulations.

General Information

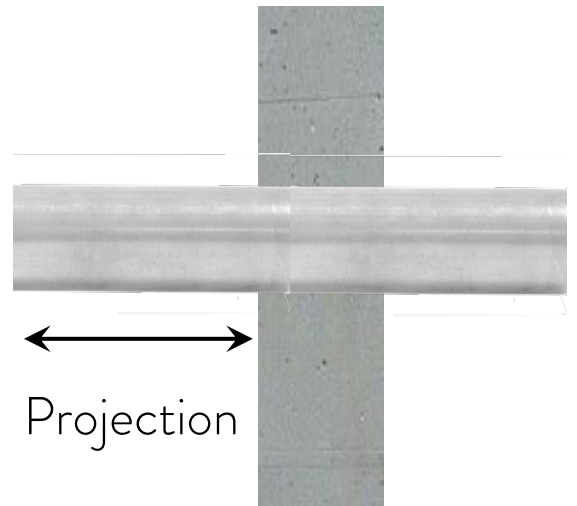
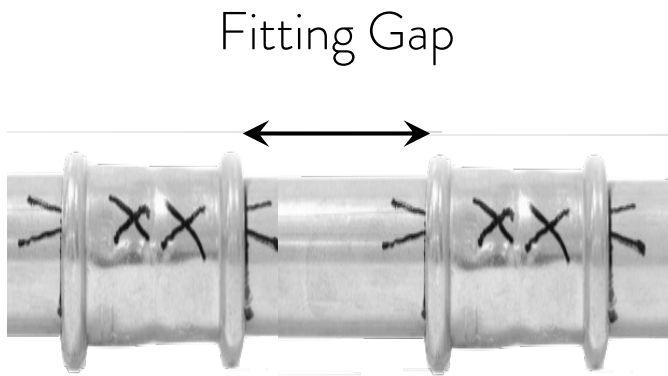


Table 1

Product Size (mm)	Minimum Fitting Gap (mm)	Minimum Projection (mm)
15	10	40
22	10	40
28	10	60
35	10	70
42	20	70
54	20	70
66.7	30	70
76.1	40	80
108	40	80

General Information

Regulations

Water Kinetics tubes and fittings are tested and comply with the requirements of the current United Kingdom Regulations/Byelaws (Scotland).

- Eco-Duo copper tube conforms to BS-EN1057
 - Tube Diameters 15-54mm are half-hard (R250) and 66.7-108mm are hard (R290)
- Eco-Duo copper press fittings conform to EN1254 (EN1282 when threaded)
- All Products carry WRAS and KIWA certification



Guarantee

Water Kinetics products carry a guarantee against manufacturing defects when installed as part of a system comprised wholly of Water Kinetics pipeline components to the correct specification.



25-year guarantee for Eco-Duo tubes

10-year guarantee for Eco-Duo fittings

General Information

Product Performance

- Operating temperatures between -30°C to 120°C
- Pressure rated to a maximum 16bar (across temperature range)
- All copper is Cu-DHP grade, giving excellent corrosion resistance and very-high fire resistance
- Copper acts as a bactericide, helping to suppress bacterial growth
- 90% of copper scrap is recycled and at the end of product life copper can be reclaimed
- No hot works or insurance required due to heat-free jointing
- All pre-fitted gasket material for Eco-Duo fittings are EPDM (black)
- Eco-Duo Pipe Spirals and Fitting Separators are manufactured from 316L-grade Stainless Steel
- Eco-Duo tube is supplied pre-cleaned with fitted end-caps

Product Information

For more detailed information for the Eco-Duo range of fittings and valves, such as the dimensions, weights, materials and SKU codes, please see the Data Sheets. These are available to download from the [Water Kinetics website](#).

Pre-Assembly

Tools Required

Marker/pen

Hand tube-cutter

Press/crimp tool with M-profile jaws and slings

Tape measure

De-burring tool

Lubricant (applied in accordance with the press-tool guidance)



Marker/pen



Tape measure



De-burring tool



Hand Tube-cutter



Lubricant



Press-tool



M-profile jaws/slides

Notes

It is intended that a technically competent installer should undertake installation.

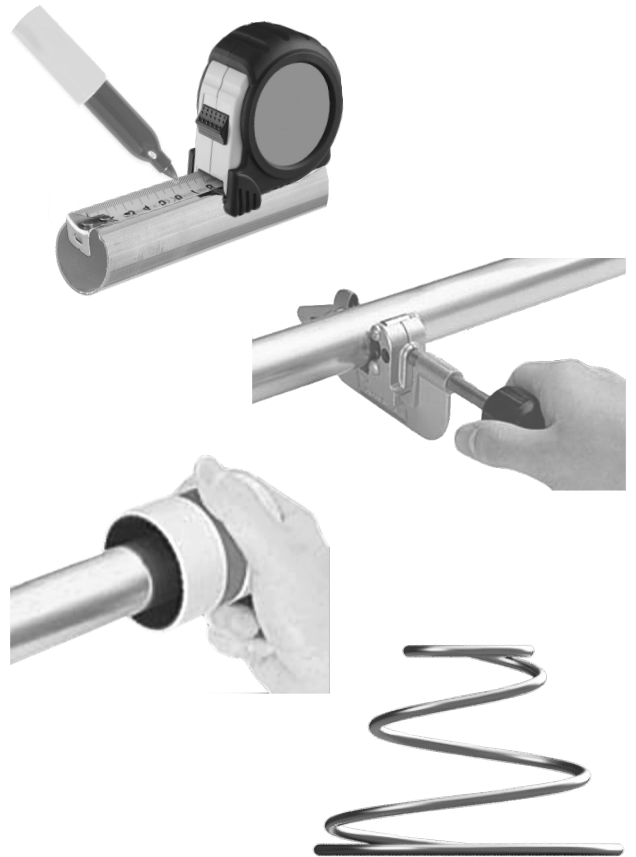
When undertaking an installation, ensure that the correct tools are at hand and that all health and safety advice is considered.

Installation

Eco-Duo Copper Tube

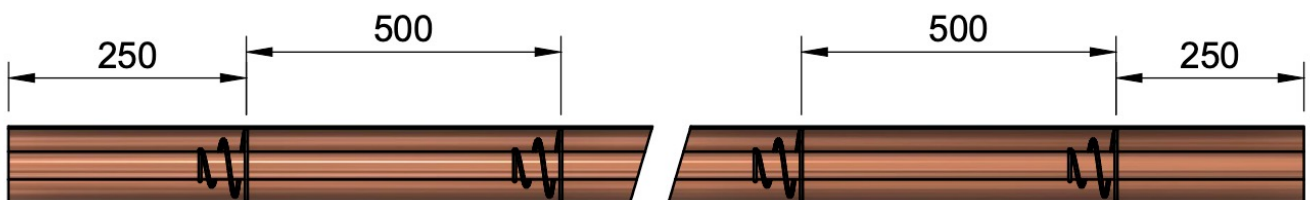
Select the correct size of Eco-Duo tube ensuring that it is clean, in good condition and free from damage.

1. Mark correct length. Measure and mark the Eco-Duo tube using a marker/pen.
2. Cut Eco-Duo tubes. Cut the Eco-Duo outer tube square using a tube cutter or powered tube-cutting saw.
3. To cut the inner tube, slide it out from outer to expose it for cutting. Cut the tube as you did for the outer.
4. De-burr Eco-Duo tubes. Remove internal and external burrs caused by the tube cutting operation using appropriate de-burring tools, then wipe clean off all swarf and debris to avoid damage to the fittings gasket when the tube is inserted.
5. Check correct Eco-Duo tube ring distances. The inner tube is supported inside the outer using Eco-Duo Spirals. These need to be positioned correctly before assembly of the system.



Eco-Duo Pipe Spirals

Eco-Duo Spirals should be positioned approximately 250mm from both ends of the tube and at a maximum of 500mm intervals between. Every supplied length of Eco-Duo tube comes with Spirals fitted in the correct positions, which must be adjusted when the tube is cut into shorter lengths. For pipe lengths shorter than 1-metre, there must be two spirals, distanced evenly through the length. For pipe lengths shorter than 150mm, one single spiral can be positioned centrally.



Installation

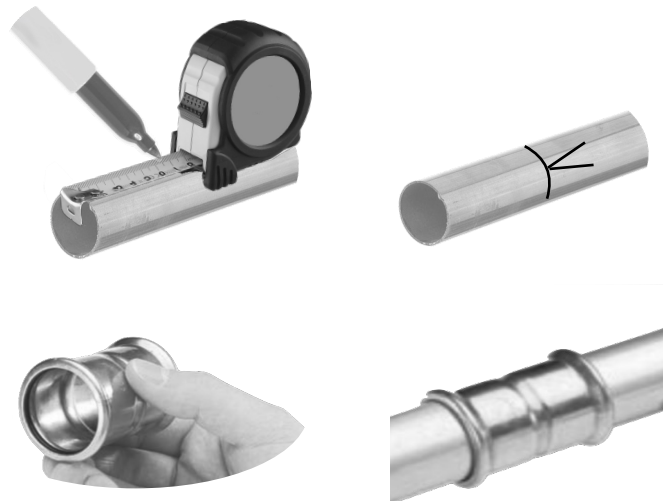
Eco-Duo Copper Fittings

Select the correct size of Eco-Duo tube and fitting ensuring that they are clean, in good condition and free from damage.

1. Mark fitting socket depth. Measure the required length given in Table 2 and mark the tube. It is best to use a “V-Tail” mark to allow identification of movement prior to the press/crimp.

Product Size (mm)	Insertion Depth (mm)
15	18.5
22	19
28	21
35	23
42	27
54	32
66.7	47
76.1	47
108	61

2. Check gasket seals. After checking the Eco-Duo gasket seals are in place and intact, place the tube fully into the fitting to the full insertion depth. Ensure that the inner pipe inserts correctly into the inner section of the fitting.



3. Set press/crimp tool. Select the correct M-Profile jaw/sling-jaw for the joint being pressed, referring to the tool manufacturer's guidance on safe operation.

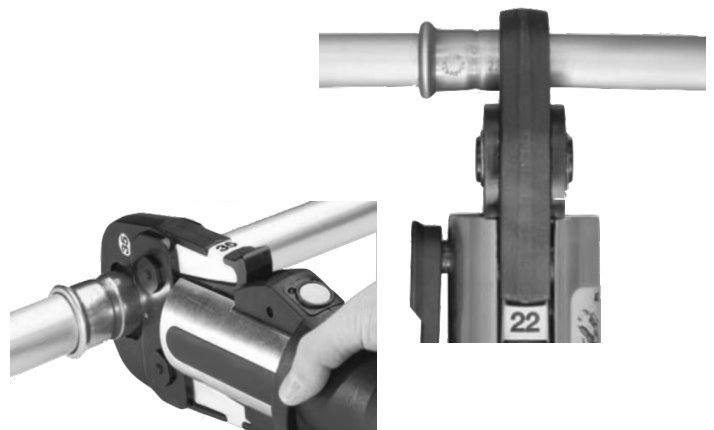
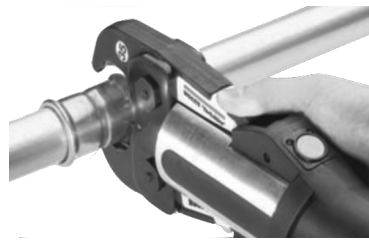


Installation

4. Add lubrication when required. Follow the guidance on safe operation of the tool, ensuring that it is cleaned and lubricated according to the manufacturer recommendations.



5. Press/crimp joint. Clamp the jaws over the correct section of the press-fitting, ensuring that the tool is being operated safely and correctly. Ensure that the fitting is fully pressed before releasing the jaw.



6. Inspect joint. Ensure that the fitting has been pressed correctly, up to the marked insertion depth and with "witness marks" visible from the press-tool. Once satisfied, mark the fitting as complete with the marker.



Note

Ensure these steps are followed for each fitting across the whole system.

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