

**Technical**

# **Europress Carbon Steel Piping System**

## Europress Carbon Steel Technical Information



### Applications

There are two variations in the carbon steel tube;

1. Galvanised coating on the outside only.
  2. Galvanised coating on the inside and outside.
- Applications for Europress carbon steel (refer to Waterworks technical department).
- Closed-circuit heating and cooling water systems
  - Compressed air
  - Closed-circuit sprinkler systems
  - Oil and lubricant lines

### Conditions of use

- Maximum operating pressure: 16 Bar. (Europress has approval for up to 40 Bar for oil and lubricant systems. Other applications can be approved on a case-by-case basis, please speak with the Waterworks team for assistance).
- Operating temperature: -20°C to 85°C with EPDM seals, up to 120°C with FKM (Viton) seals.

### Sizing

| Outside Diameter (mm) | Thickness (mm) |
|-----------------------|----------------|
| 15                    | 1.2            |
| 22                    | 1.2            |
| 28                    | 1.2            |
| 35                    | 1.5            |
| 42                    | 1.5            |
| 54                    | 1.5            |
| 76.1                  | 2              |
| 88.9                  | 2              |
| 108                   | 2              |

### What type of seal should you use?

#### EPDM (Black)

- Closed-circuit heating and cooling water systems between -20°C and 85°C
- Closed-circuit sprinkler systems

#### FKM (Viton/Green)

- Compressed air
- Oils & lubricants
- Closed-circuit heating systems above 85°C

### Tooling

Please refer to 'Tooling' section for different tooling options. Waterworks has tooling for both sale and hire.

#### UTB02 Pressing Tool

- Suitable for pressing sizes 15-22mm
- Should not be used for applications exceeding 16 Bar

#### UTB05 Pressing Tool

- Suitable for pressing sizes 15mm-54mm
- Suitable for pressing approved applications above 16 Bar (particularly oil and lubricant systems)

#### UTB08 Pressing Tool

- Suitable for pressing sizes 15-108mm
- Suitable for pressing approved applications above 16 Bar (particularly oil and lubricant systems)

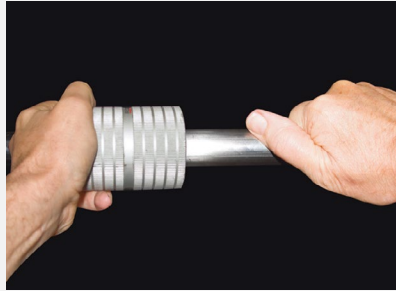
## Europress Carbon Steel Technical Information

Sizes: 15, 22, 28 & 35



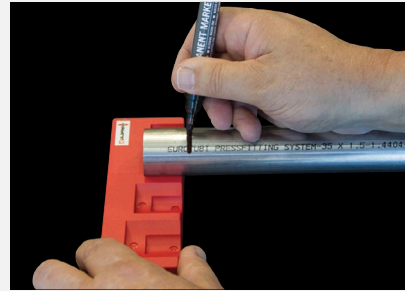
### 1. Cutting

Cut the pipe using burr free approved cutters. Do not use oxyacetylene or abrasive cut off wheels. Pipes must be cut at right angles to their axis, using a pipe cutter or finetooth saw, taking into account the depth of insertion into the fitting. Be careful to avoid cross contamination between different materials.



### 2. Deburring

All pipe cuts must be carefully deburred, both inside and outside, using a manual or electric deburring tool. Any cutting residue (swarf) must be removed to preclude damage to the O-ring when the pipe is inserted into the fitting, avoiding possible leaks. Be careful to avoid cross contamination between different materials.



### 3. Witness Mark Insertion Depth

To ensure a correctly inserted joint the pipe must be marked with a fine-point felt-tip pen where it meets the fitting using the Europress depth gauge so that full insertion can be verified.



### 4. Assemble Fitting on Tube

Before assembling the fittings, the positioning of the O-rings must be checked and, if necessary, lubricate O-ring with water to ease the insertion of the pipe. Never use oils, greases, glues or other similar substances. The pipe is inserted in the fitting with a slight rotating motion until it hits the stop.

**Check pipe is fully inserted to witness mark.**



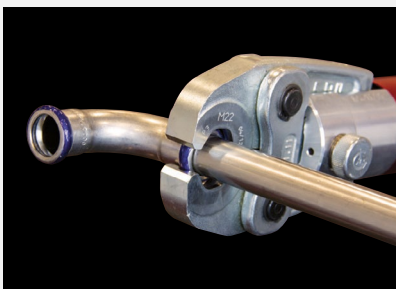
### 5. Press Tool & Jaw

The pressing tools must be equipped with M-shaped profile jaw attachments or pressing jaw corresponding to the diameter of the fitting to be pressed. Retract the lock pin, position the jaws into the tool head and ensure the lock pin is fully engaged.



### 6. Position Press Jaw

Open the jaws by squeezing the two ends together, then position jaws over the fitting so that the internal channel of the jaws form a perfect fit round the toroidal seat of the fitting. Release the jaws and check for a snug fit.



### 7. Press Joint

Initiate the press cycle by squeezing the trigger **1** - hold until press cycle is completed. Do not allow interruption to the press cycle. If the LED light **2** comes on or warning beep sounds, the joint is NOT approved. If the hydraulic ram stops mid-cycle the automatic reset function can be manually overridden by depressing the reset button **3**.

**Check L.E.D. light after each press. If it comes on, battery must be recharged or changed before attempting the next press (see trouble-shooting guide).**



## Europress Carbon Steel Technical Information

**Sizes: 42, 54, 76.1, 88.9 & 108**



**1. Cutting & 2. Deburring**

Cut the pipe using burr free approved cutters. Do not use oxyacetylene or abrasive cut off wheels. Pipes must be cut at right angles to their axis, using a pipe cutter or finetooth saw, taking into account the depth of insertion into the fitting.

All pipe cuts must be carefully deburred, both inside and outside, using a manual or electric deburring tool. Any cutting residue (swarf) must be removed to preclude damage to the O-ring when the pipe is inserted into the fitting, avoiding possible leaks. Be careful to avoid cross contamination between different materials.



**3. Witness Mark Insertion Depth**

To ensure a correctly inserted joint, the pipe must be marked with a fine-point felt-tip pen.

42 & 54 use the Europress depth gauge.

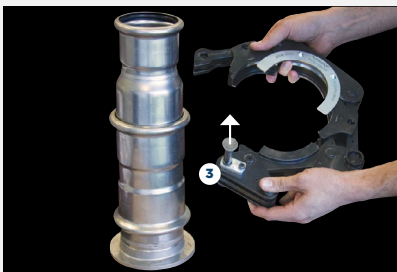
Large sizes use ruler (pictured)  
76.1 mark at 55mm  
88.9 mark at 63mm  
108 mark at 78mm



**4. Assemble fitting on Tube**

Before assembling the fittings, the positioning of the O-rings must be checked and, if necessary, lubricate O-ring with water to ease the insertion of the pipe. Never use oils, greases, glues or other similar substances. The pipe is inserted in the fitting with a slight rotating motion until it hits the stop.

**Check pipe is fully inserted to witness mark.**



**5. Attach Press Collar**

The pressing collar must be M-shaped profile corresponding to the diameter of the fitting to be pressed. Retract the lock pin ③, open the jaws and position the jaws around the fitting.



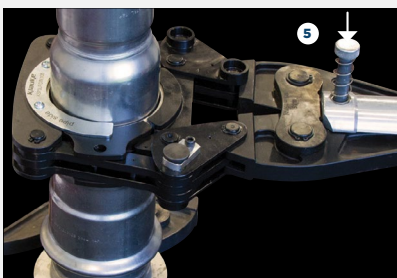
**6. Lock Collar**

Ensure that the internal channel of the jaws form a perfect fit around the O-ring seat of the fitting. Ensure the lock pin is fully engaged ④.



**7. Attach Adaptor**

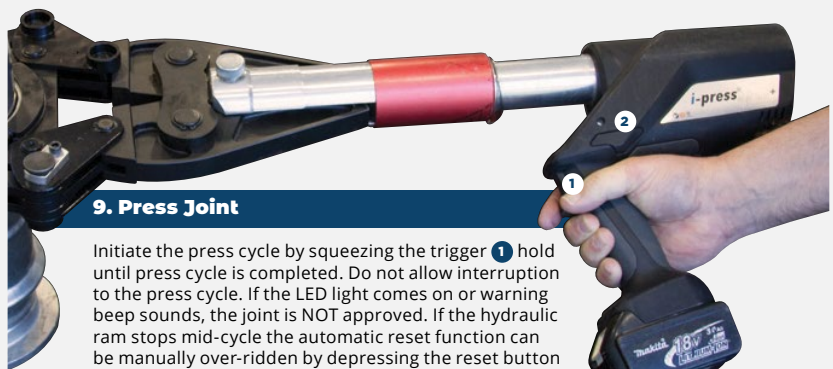
Squeeze the back of the adaptor arms together and hook onto the pressing collar.



**8. Connect Press Tool**

Retract the lock pin, engage the adaptor and make sure lock pin is fully engaged ⑤.

**Check witness mark for insertion and depth alignment before initialising press cycle.**



**9. Press Joint**

Initiate the press cycle by squeezing the trigger ① hold until press cycle is completed. Do not allow interruption to the press cycle. If the LED light comes on or warning beep sounds, the joint is NOT approved. If the hydraulic ram stops mid-cycle the automatic reset function can be manually over-ridden by depressing the reset button ②. Any tool malfunction, check with our Technical department.

**Do not continue using tool without approval.**

## Europress Carbon Steel Technical Information

### Bracketing Distances

| Pipe | Recommended (m) | Maximum (m)<br>(refer tech dept) |
|------|-----------------|----------------------------------|
| 15   | 1.5             | 1.5                              |
| 22   | 2               | 2.5                              |
| 28   | 2.3             | 2.5                              |
| 35   | 2.5             | 3.5                              |
| 42   | 3               | 3.5                              |
| 54   | 3               | 3.5                              |
| 76.1 | 3.5             | 5                                |
| 88.9 | 3.7             | 5                                |
| 108  | 4               | 5                                |

**Refer to the Europress Technical Manual for the following:**

- Europress certification and compliance
- Dimensional drawings
- Tooling technical assistance
- Thermal expansion and compensators
- Additional bracketing information
- Commissioning & testing
- Pressure drop tables

**Refer to the Waterworks team for:**

- Any additional assistance with the above
- Project design and consultation
- Supply planning
- Installation training
- Installation