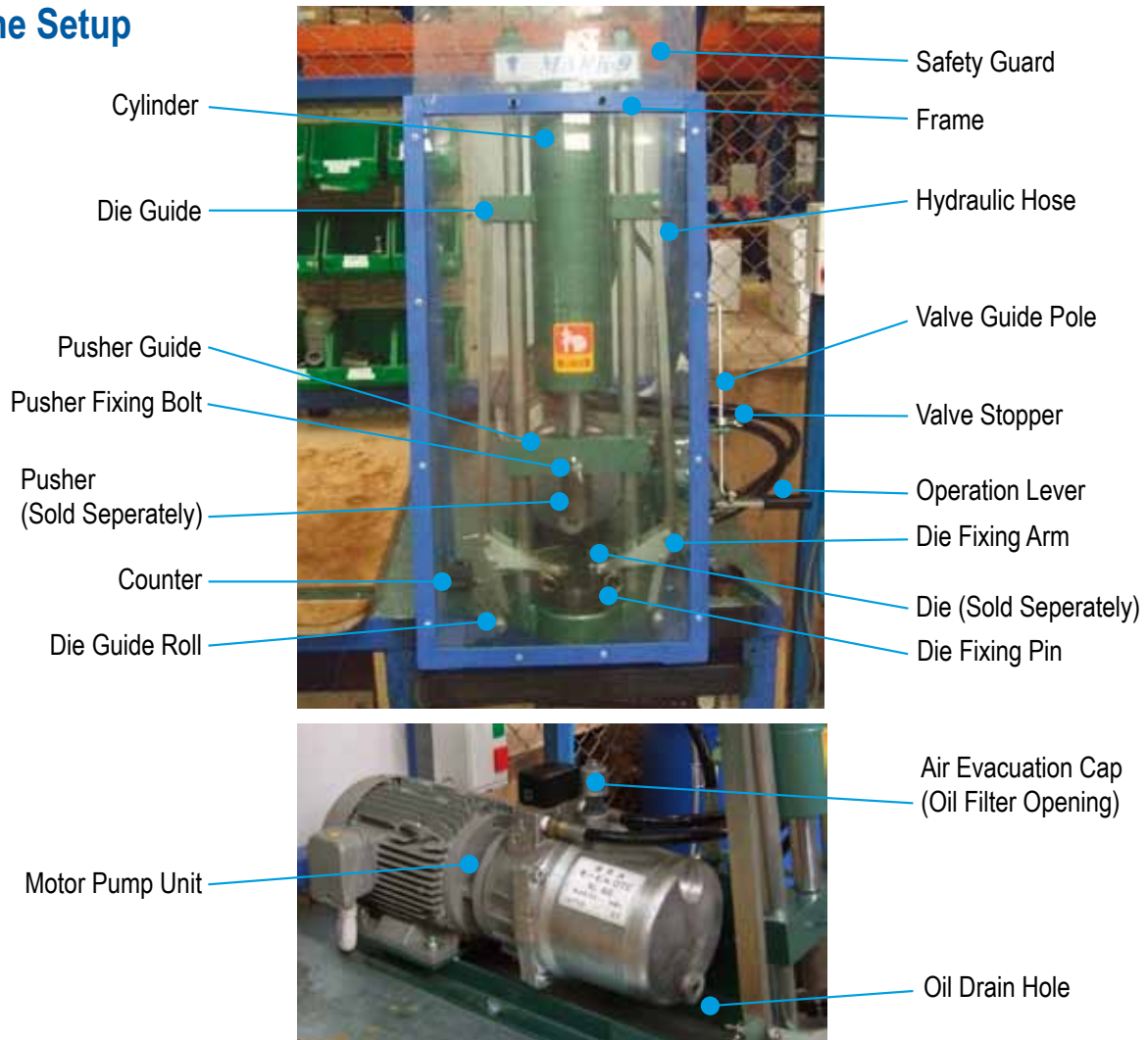


## Flexible Capillary Tube Assembly Machine

The Heldon-Blue Flexible Capillary Tube is the ultimate vibration resistant substitute for copper capillary lines.

Heldon's manufacturing instructions now allow an operator to successfully construct their own quality leak proof Flexible Capillary Tubes confident in the knowledge this premium product has been engineered to last.

### Machine Setup



### Specifications

<b>Weight</b>	90kg
<b>Size</b>	520x820x800mm
<b>Electric Motor</b>	Three Phase 200V 2.2kw
<b>Hydraulic Pump</b>	Max. Pressure 14.3 MPa Working Pressure 11.2 MPa (Relief Pressure Already Set)
<b>Hydraulic Cylinder</b>	Double-Acting Special Cylinder Stroke 150mm
<b>Working Oil</b>	Turbine oil VG46 or equivalent

For details such as setting up and electric wiring, please read the instruction manual that comes with the product.

## Assembly Method

### 1 Preparation

Select the appropriate tube ID; zinc plated fittings, correct die, tube cutter, lubricant, ruler and marking pen.

**CAUTION:** If the recommended lubricant is not applied, coating damage and/or socket buckling may occur.



### 2 Marking the Insertion Length

Measure the insertion length of the tube with the ruler and mark the position on it with the marking pen.

It is recommended to draw a marking line of a width of about 2mm in order to check it after the swaging.



### 3 Tube Cutting

Determine the required length of the tube.

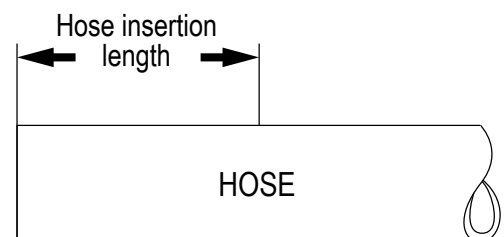
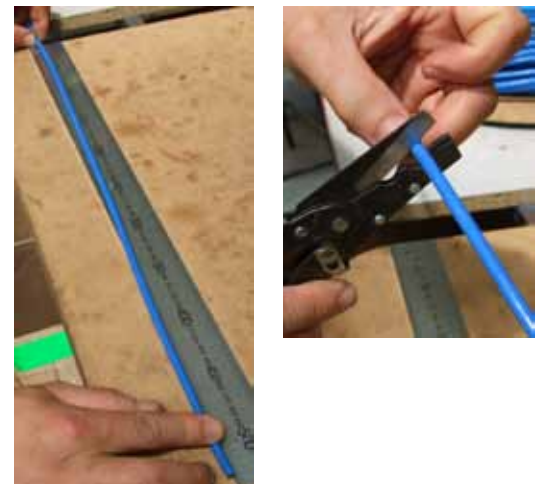
Note that Heldon's quoted service pack lengths (600mm, 900mm and 1200mm) are actually "exposed tube" lengths.

When cutting the tube make sure to add additional length for insertion into the two fittings that will complete the Flexible Capillary Tube.

Please add the following additional lengths per fitting:

- 2.5mm ID = 10mm / fitting.
- 5.1mm ID = 16mm / fitting.
- 12.7mm ID = 20mm / fitting.

**CAUTION:** Ensure cut is square otherwise fitting could pull out. Cutting blade must be sharp for best results.



## 4 Preparation for Tube Insertion

“Screw” the zinc plated fitting onto the tubing until the leading edge of the fitting is up to the marking.

**CAUTION:** If the insertion is insufficient, pullout of the tube, leakage or damage may occur.

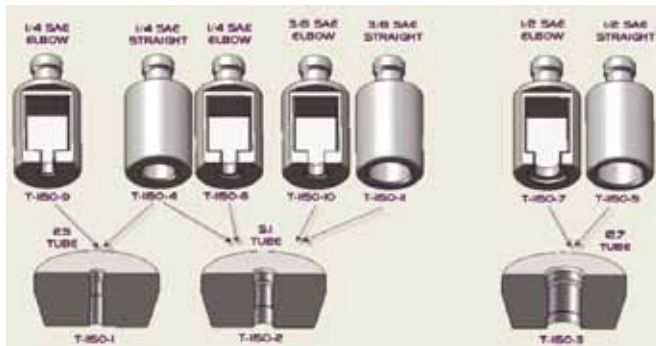


## 5 Fixing Die

Attach the die onto the die fixing arm using the fixing pin.

**WARNING:** Make sure power supply is off before commencing work.

**CAUTION:** For demonstration purposes, the safety guard has been removed. safety guard must be in place at all times while operating machinery.



**CAUTION:** The wrong choice of pusher will cause pullout of the tube, leakage, or damage.

## 6 Lifting Pusher Holder

Push the operation lever to the back to lift up the pusher holder.

Select the correct pusher for the fitting that is to be attached to the tube.

**NOTE:** The straight fitting requires a different pusher than the elbow fitting.



## 7 Attach the pusher

Attach the pusher to the pusher holder.  
Fix the pusher in place by turning the locking screw mounted on the pusher holder.



## 8 Application of Lubricant

Apply lubricant to the outer surface of the zinc fitting.  
Note: Only use Napthenic based mineral oil, (150 to 300 SUS).

**CAUTION:** If the recommended lubricant is not applied, coating damage and/or buckling may occur.



## 9 Insertion to Pusher

Insert the tubes zinc plated fitting into the pusher.

**WARNING:** Use a tube of sufficient length to hold the tube.



## 10 Tube Assembling

Hold the tube beneath the die base with your left hand.  
Pushing the zinc fitting upwards toward the pusher (it will slot into a machined face). Pull the operation lever with your right hand to send the pusher downwards.

As the pusher comes down, adjust the positions of the die hole and the fitting edge so they coincide.

**Continued on next page.**



## BEWARE OF PINCH POINTS

**DANGER:** It is dangerous to hold the hose near the die base. The die could trap your hand.

**DANGER:** Never touch the moving parts when operating the tool.

**DANGER:** Ensure that the fitting enters into the die hole correctly as it is lowered into place by the pusher.

**DANGER:** When the die closes, check that the tube is not stuck in the die. It is possible for the die to pinch or crush the tube.



## 11 Tube Assembling continued...

Pull the operation lever until the pusher touches the die.

**CAUTION:** If you stop before the pusher touches the die, the swaging process is insufficient and pullout of the tube or leakage may occur.



## 12 Tube Assembling continued...

Push the operation lever to the back with your right hand. This will send the pusher up to its highest position. As this action occurs, the die opens by itself and the tube assembly can be removed.

(The valve stopper adjusts the upper most position of the cylinder).

**CAUTION:** Before putting the die in storage, remove dust from the inner surface and thinly grease to prevent rust.



## 13 Check the Tube Assembly for:

1. Even crimping on the collar.
2. No misaligned crimping.
3. No pinches, cuts or deformation on tube or collar.
4. Fittings to have protective caps.

Should defects occur, do not use hose assembly.

