

## UMJ – ULTRA COMPACT MULTI FUNCTION JOINT

Description	Tools Required
<p>The Ultra Compact Multi-Function Joint (UMJ) is for jointing optical fibre cables. The joint is ideal for use as a Cable Chamber Joint, Track Joint, Spur Joint or Distribution Joint due to its capacity and compact size.</p> <p>The UMJ has a maximum capacity of 72 fibres.</p>	<p><b>Tools:</b> Large Screwdriver, File, Cable Sheath Stripper, Fibre stripping tools, Splicing machine, Schrader Valve tool (long nosed), Multi Grips, Nut Spanner (extended).</p>

### CONTENTS

1. Cable Installation & Fibre Routing
  - How to install OVAL/CIRCULAR cables.
  - How to splice a fibre on a SINGLE ELEMENT or SINGLE CIRCUIT tray.
2. Installation of Splitters
  - How to install a splitter into the manifold.
3. Splice Tray Cover Installation
  - How to install the splice tray cover onto the top tray.
  - How to remove the splice tray cover from the top tray.
4. Termination of Copper Wires
  - How to terminate the copper wires within the joint.
5. Joint Close Down
  - How to close the joint & install the cap and clamp.
6. Using the Pressure Valve
  - How to tighten the valve in the base.
  - How to tighten the Schrader valve.
  - How to pressurise the joint and test the valve.

## 1.0 Cable Installation and Fibre Routing

### Step 1

### Oval Port Cable Installation

- To install cables into the oval port of the closure follow the instructions supplied with the oval port kit.

IP347 – for heat shrink oval installation  
IP292 – for mechanical oval installation

## 1.0 Cable Installation and Fibre Routing

### Step 2

### Circular Port Cable Installation

- To install cables into the circular port of the closure follow the instructions supplied with the appropriate port kit.

IP258 – for 4 Way gland

IP272 – for Single Entry Gland

IP337 – for 8 Way Flat Drop Gland

## 1.0 Cable Installation and Fibre Routing

### Step 3

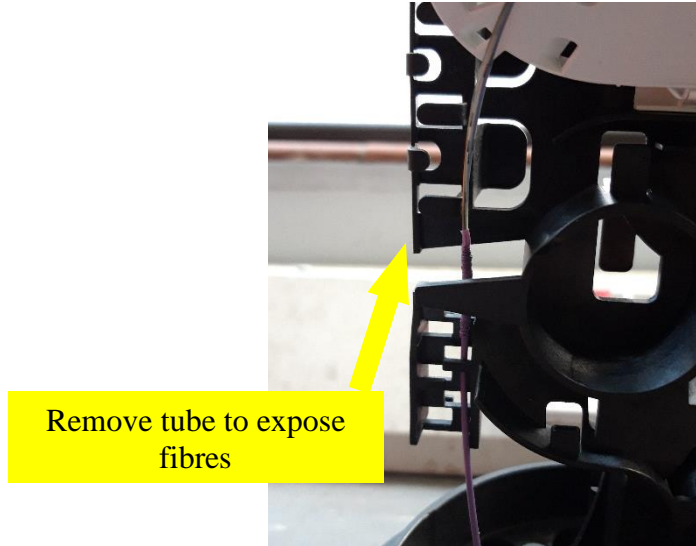


Mark element 35mm back  
from bottom of manifold

- Remove tray cover by following section 3.0.
- Hinge the trays upwards to expose the manifold.
- Route the required cable element through the channel and mark a butt position on the element approximately 35mm from bottom of manifold.

## 1.0 Cable Installation and Fibre Routing

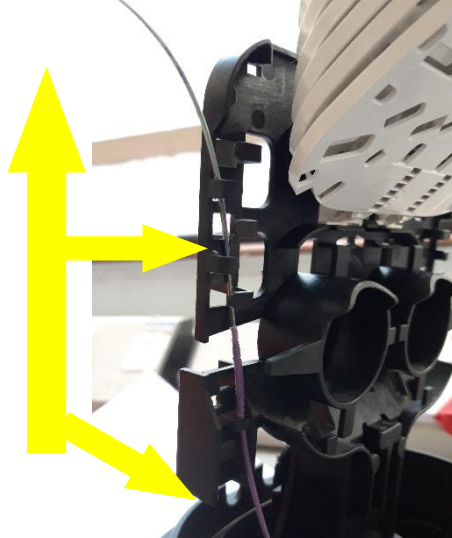
### Step 4



- Remove the tube to expose the fibres at previously marked point using approved practices.

## 1.0 Cable Installation and Fibre Routing

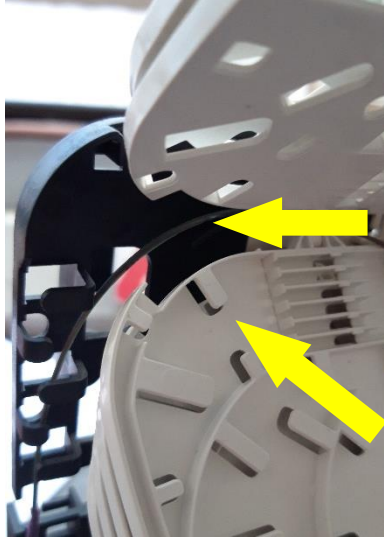
### Step 5



- Route the fibres up to the appropriate splice tray by running the fibre along the track besides the trays.
- Ensure that the fibres are routed beneath the tabs in the manifold.

## 1.0 Cable Installation and Fibre Routing

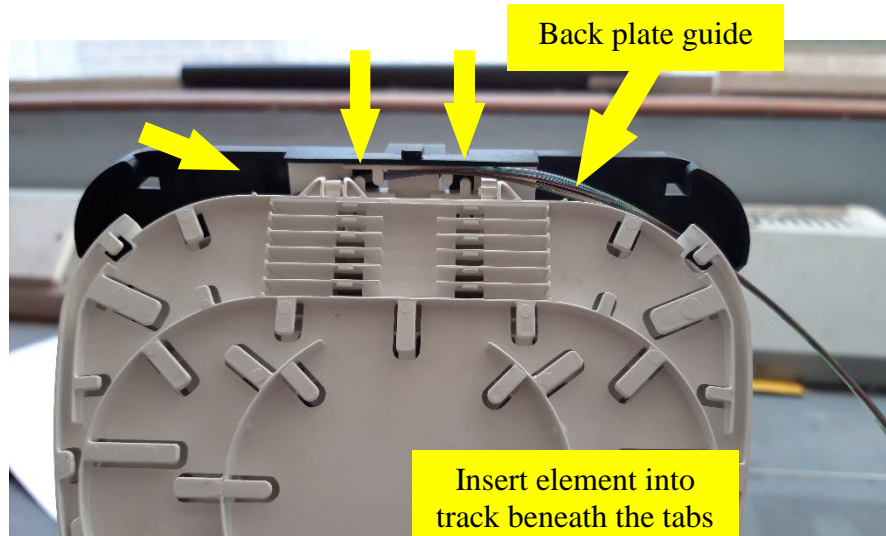
### Step 6



- Once the correct tray is reached, route the fibres into the track at the back of the manifold.

## 1.0 Cable Installation and Fibre Routing

### Step 7

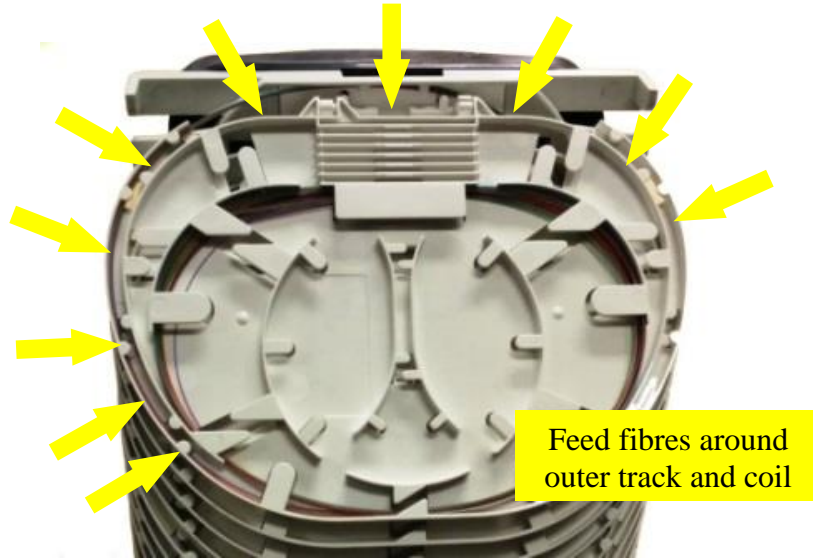


- Feed the element underneath the tabs on the back of the manifold and route through the side channel to desired splice tray.
- Ensure the fibres are fed beneath the back-plate guide first and then secured on the back plate using the tabs.



## 1.0 Cable Installation and Fibre Routing

### Step 8

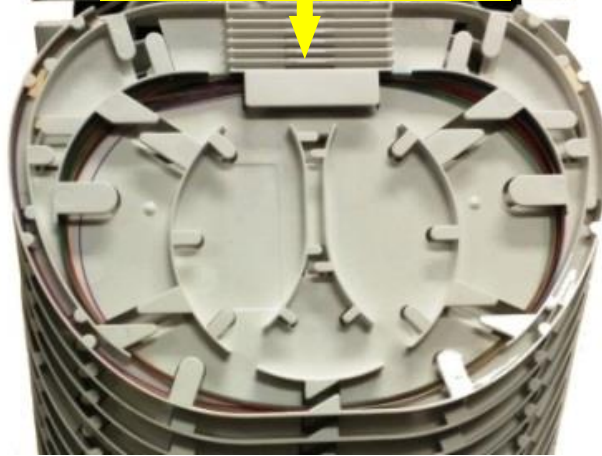


- Route the fibres onto back plate and then around the outside channel of the splice tray and temporarily store them on the splice tray by coiling beneath the tabs of the central storage area.
- Ensure all of fibres are underneath the tabs of the side channel and the splice trays.

## 1.0 Cable Installation and Fibre Routing

### Step 9

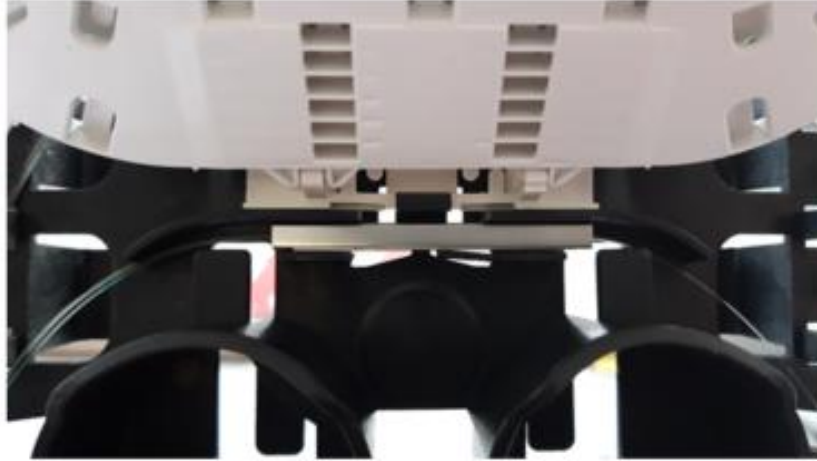
Splice fibres and store splice protectors two per bay



- Route the fibres from other elements by repeating steps 9 to 12.
- Route fibres from the drop cables or other input cables following the same procedure but from the other direction.
- Ensure all fibres are routed beneath the tray tabs.

## 2.0 Installation of A Splitter

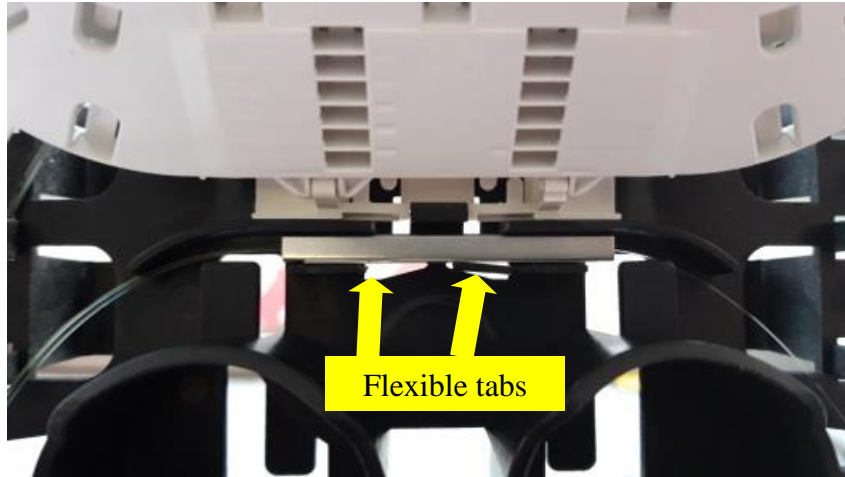
### Step 1



- Locate the splitter to be installed.
- Using the slot available, place the splitter into the bay, ensuring it is in place securely.
- See step 2 & 3 on how to secure splitters.

## 2.0 Installation of A Splitter

### Step 2

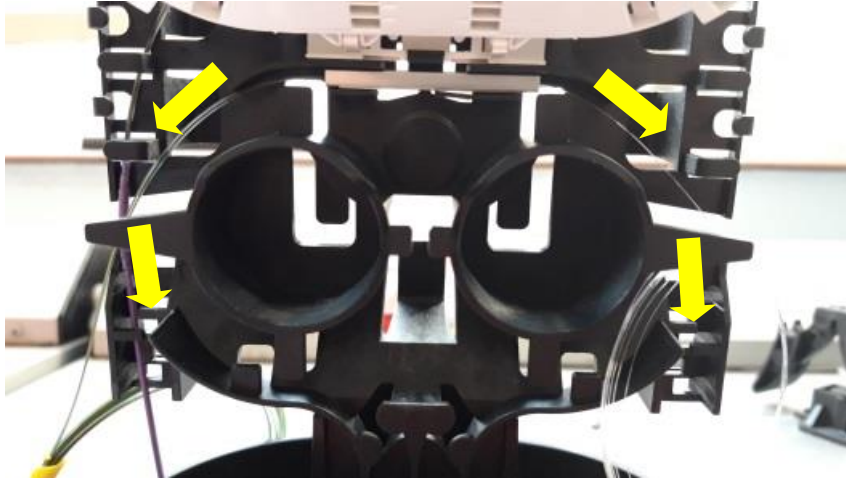


- Ensure the splitter is pushed right to the back of the slot and secured in place with the flexible tabs.

**NOTE: for illustration purposes only.**

## 2.0 Installation of A Splitter

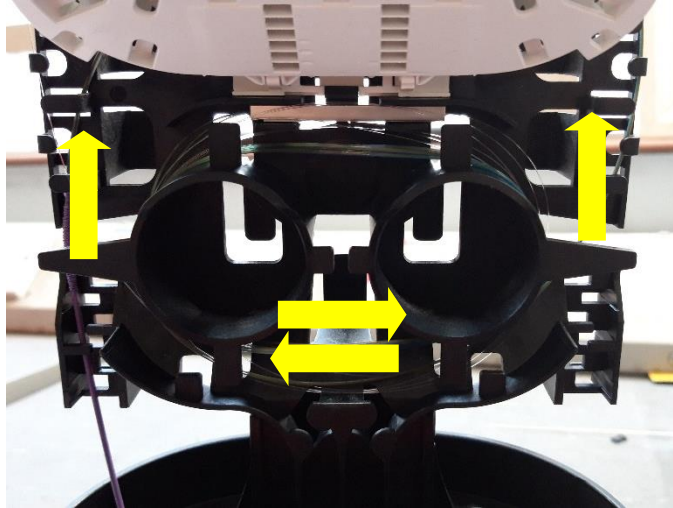
### Step 3



- Route the fibre around the mandrels in the directions shown.

## 2.0 Installation of A Splitter

### Step 4

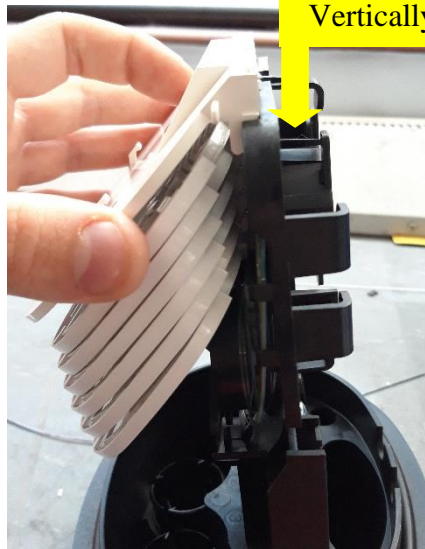


- Cross the fibres at the bottom and route the fibre up to the tray which is to require the splitter.

**NOTE: Go to Section 1 cable installation and fibre routing for splicing onto a tray.**

### 3.0 Splice Tray Cover Installation

**Step 1**

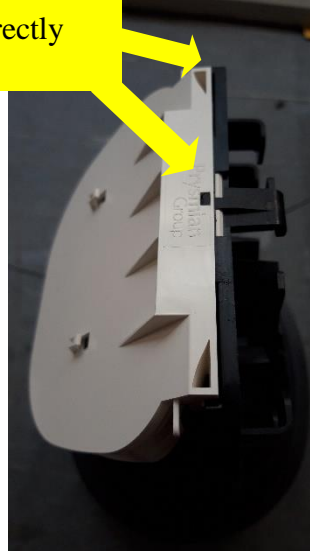


- Align the splice tray cover with the back plate and insert the tabs into the slots.
- Ensure the tabs remain parallel, as shown in the photo above.

### 3.0 Splice Tray Cover Installation

**Step 2**

Splice tray cover correctly clipped in.



- Slide the splice tray cover vertically into the slots until an audible click is heard on both sides.
- Ensure the middle tab is aligned with the hole on the top of the splice tray cover.



### 3.0 Splice Tray Cover Installation

**Step 3**



- Correctly installed splice tray cover.

## Splice Tray Cover Removal

### Step 4

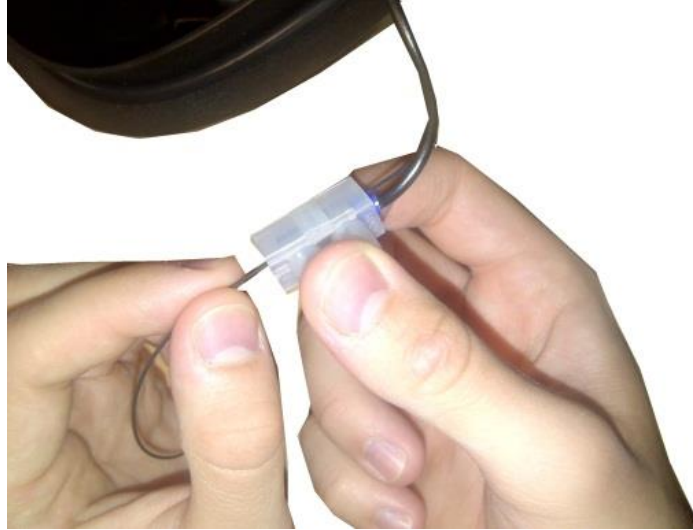


Push the tabs  
upwards to release  
the splice tray cover

- Using the two protruding tabs, place your thumb and fingers underneath and pull upwards to remove.

## 4.0 Termination of Copper Wires

### Step 1



- If the cable contains copper conductors that need to be terminated and the joint is fitted with a pressure tests valve, route the copper conductors to the terminal block fitted to the valve.
- Strip the wires and secure into the terminal block as shown.

## 4.0 Termination of Copper Wires

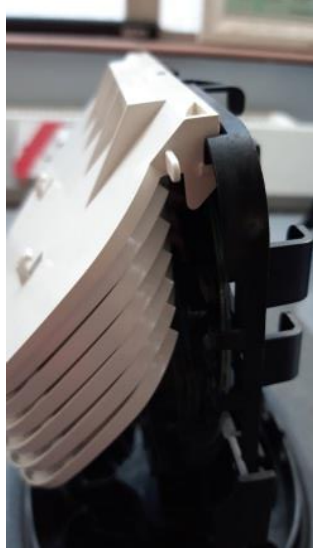
**Step 2**



- Store the terminal block into the centre of the joint.

## 5.0 Joint Closedown

### Step 1



- Ensure all splice trays are lying flat.

## 5.0 Joint Closedown

### Step 2



- Ensure that the 'O' seal and adjacent surfaces of the base and cap are clean. Lower the cap onto the base.
- Assemble the clamp around the base.

## 5.0 Joint Closedown

### Step 3

Push the toggle arm  
to lock the clamp



- Squeeze the clamp together and engage the toggle arm. Push the toggle arm into the clamp to lock and seal.

## 6.0 Using the Pressure Valve

### 6.1 Tightening the Valve into Base

#### Step 1



- Ensure the pressure release valve is correctly fitted.
- Use a multigrip to hold the internal nut faces securely.



## 6.1 Tightening the Valve into Base

### Step 2

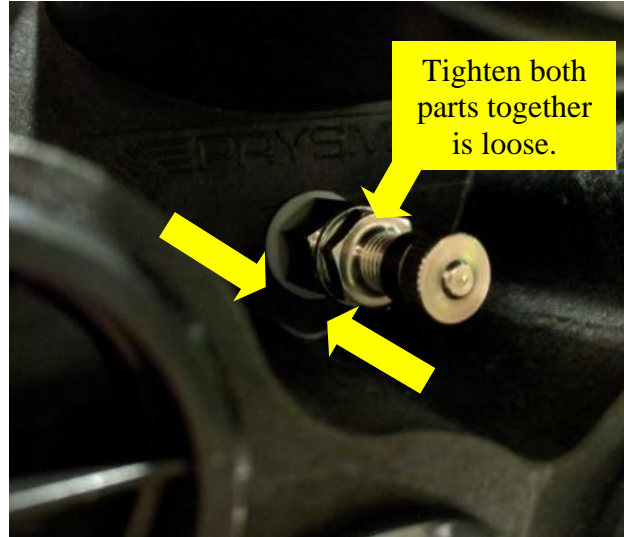


- Use the correct sized nut spanner to hold the external nut faces.
- Tighten gently, fasten securely.

**NOTE: DO NOT HOLD THE VALVE CAP TO TIGHTEN**

## 6.1 Tightening the Valve into Base

### Step 3

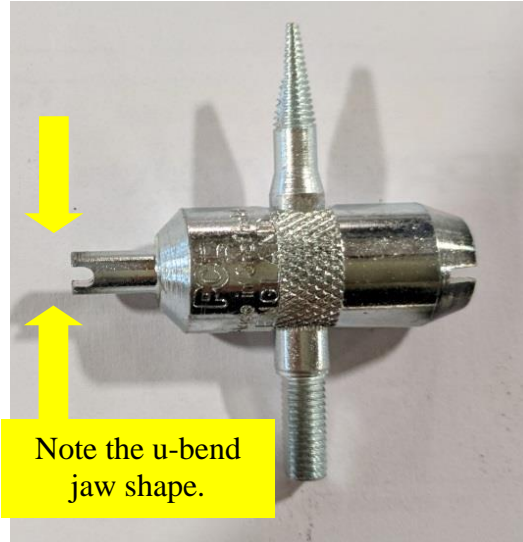


- Also check the tightness of the valve body internally.
- If loose, manually tighten until both faces meet.

**NOTE: DO NOT HOLD THE VALVE CAP TO TIGHTEN**

## 6.2 Tightening the Schrader Valve

### Step 4



- Remove dust cap from the Schrader Valve and keep safe.
- Locate the Schrader Valve Tightening Tool.

## 6.2 Tightening the Schrader Valve

### Step 5



- Push the Schrader Valve Tightening Tool into the top of the valve.
- Align the u-bend into the internal slots.
- Turn gently until tightened.

## 6.2 Tightening the Schrader Valve

**Step 6**



- Replace the dust cap.

## 6.3 Pressurise Joint

### Step 7



- With the joint fully closed remove the pressure valve dust cap and keep safe.
- Connect a foot pump and manometer to the Schrader valve securely.

## 6.3 Pressurise Joint

### Step 8

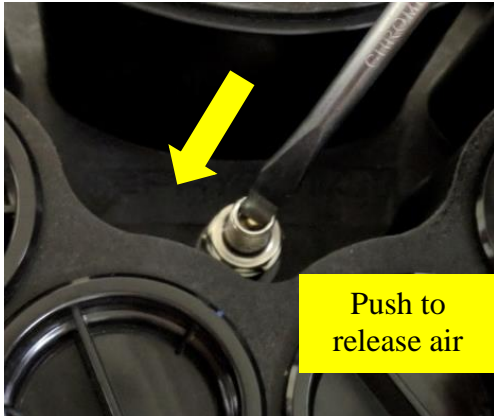


- Turn the manometer on.
- The manometer will show current air pressure.
- Using the foot pump, gradually increase the reading by 0.5bar.
- Wait a minute for the reading to stabilise and hold for approx. 10mins.
- The reading should remain steady but allowing for a 5% differential.

**NOTE: +/- 5% 0.5bar over 10mins = PASS**

## 6.3 Pressurise Joint

### Step 9



- Release the pressure from the joint by engaging the Schrader valve inwards.
- Release the Schrader valve when no air release can be heard, and the reading is back to current air pressure.
- Replace the dust cap.

**NOTE: You will hear a rush of air and the manometer will release back to current air pressure.**

**WARNING: IT IS VERY DANGEROUS TO OPEN THE JOINT WHEN STILL PRESSURISED.**