

Temperature Control Systems Types 121,122,123,128,1219,422 Installation and Maintenance Instructions

Use

It is important that these control systems are only used with Spirax Sarco valves as indicated in the following table.

| Control System | Valve Size | Valve Type |
|----------------|------------|------------|
| 121,123 | All | 2 port |
| 422 | ¾" to 2" | TW |
| 128,122 | ½" to 1" | 2 port |
| 1219 | 3" & 4" | TW |

Installation

Check that the control system supplied is of the temperature range required. It is important that the whole of the temperature sensing area of the sensor is fully immersed in the fluid being controlled, as Fig 1, not as Fig 2.

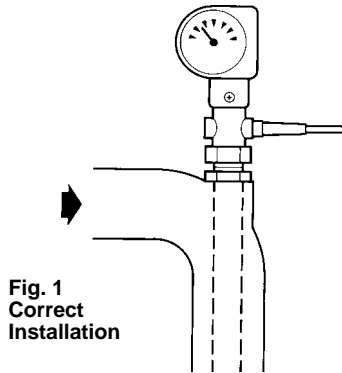
Sensors Types 121, 1219, 122, 123 and 128 can be held in a screwed nipple by means of a compression ring. Screw the nipple into the boss provided on the plant, thread the union nut and compression ring over the sensor. Insert the sensor fully into the nipple and tighten up the nut and compressing ring. Do not overtighten.

Where the types 121, 1219, 122, 123 and 128 are used in-conjunction with a pocket, either to allow easy withdrawal or as a protection against corrosion, the separate screwed nipple is dispensed with and the union nut and compression ring attached directly to the top of the pocket. Therefore insert the pocket in place of the screwed nipple.

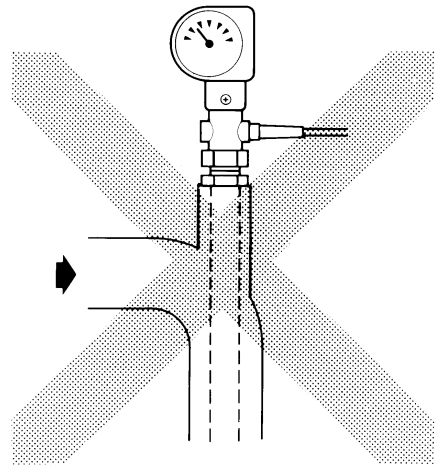
When using a special long pocket with the type 122 or 123 sensor, the screwed nipple, compression ring and nut are dispensed with and a rubber sealing bung provided.

Screw the pocket into place, then feed the sensor bulb in until it reaches the bottom of the pocket, using the rubber bung to seal the top. When using a pocket it is advisable to fill the gap between the pocket and the sensor with a heat conducting medium such as oil, but when using a special long pocket in conjunction with the Type 122 or 123 sensors it should not be filled above the top of the bulb.

The type 121 sensor, intended for controlling from the room temperature, and the control head of the Type 123 sensor, is held in a bracket.



**Fig. 1
Correct
Installation**



**Fig. 2
Incorrect
Installation**

The capillary tube between the sensor and the valve must be run and supported in such a way that it will not become damaged. Avoid all sharp bends. See overleaf for instructions on Display, Adjustment and Commissioning

Display Adjustment

The display of the self acting temperature control may be adjusted to suit your specific requirements.

The adjustments include:-

1. Selection of °C or °F (See Fig. 4)
2. Rotation of temperature scale (See Fig. 5)

Selection of °C or °F

For the following instructions you should make reference to **Figure 3** and **Figure 4**.

1. Remove tamper proof plug (Fig 3, Item 6) and use a suitable screwdriver to set indicator (Fig 3, Item 3) to midway mark (Fig 3, Item 1)
2. Remove transparent cover (Fig 3, Item 2)
3. Remove temperature indicator (Fig 3, Item 3)
4. Remove temperature indicator scale (Fig 3, Item 4) and select °C or °F (Double sided) as required (Fig 4) and replace.
5. Replace indicator to the midway position (Fig 3, Item 1)
6. Replace transparent cover. (Fig 3, Item 2)

This self acting temperature control is now ready for commissioning as detailed section commissioning.

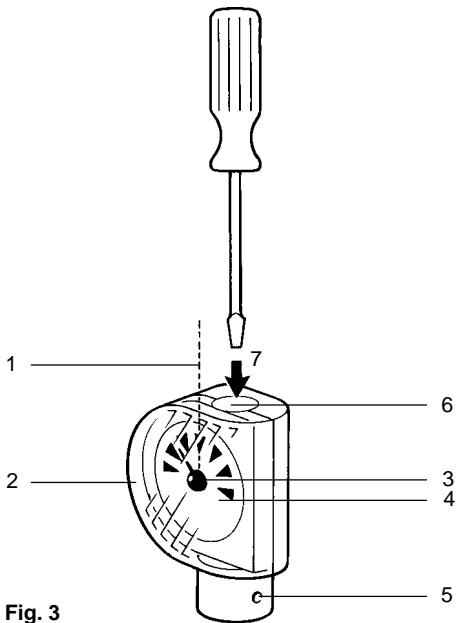


Fig. 3

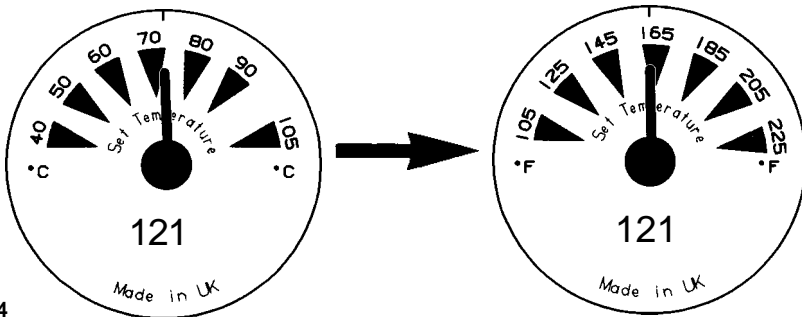


Fig. 4

Rotating the Scale.

In some instances it may be necessary to rotate the scale so the set temperature may be more easily read. In such cases the following procedure should be adopted and references made to Figure 3 and Figure 5.

1. Remove tamper proof plug (Fig 3, Item 6) and use a suitable screwdriver to set indicator (Fig 3, Item 3) to midway point (Fig 3, Item 1)
2. Remove transparent cover (Fig 3, Item 2)
3. Remove indicator (Fig 3, Item 3)
4. Remove the scale (Fig 3, Item 4) from the indicator and relocate to desired position.
5. Replace indicator (Fig 3, Item 3) to the midway point of the scale. (Fig 3, Item 1)
6. Replace transparent cover. (Fig 3, Item 2)

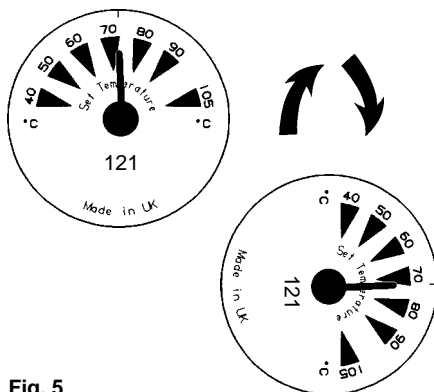


Fig. 5

This self acting temperature control is now ready for commissioning as detailed in Section 4.

Rotating the dial head

The dial head itself may be rotated through 180° if necessary. In such cases the following procedure should be adopted and reference made to **Figure 3** and **Figure 6**.

1. Remove tamper proof plug (Fig 3, Item 6) and use a suitable screwdriver to set indicator (Fig 3, Item 3) to midway point (Fig 3, Item 1)
2. Remove transparent cover (Fig 3, Item 2)
3. Remove indicator (Fig 3, Item 3)
4. Remove dial head retaining screws (Fig 3 item 5).
5. Rotate indicator head through 180°.
6. Replace dial head retaining screws (Fig 3, Item 5).
7. Replace indicator to the midway point and replace transparent cover and tamper proof plug.

Commissioning.

For the following instructions you should make reference to **Figure 3**. The sensor is despatched with its adjustment set to the highest limit and should be set on site to the midway mark (Fig 3, Item 1). To make any adjustments to suit individual requirements a suitably sized screwdriver is engaged in the adjustment drive (Fig 3, Item 7) on the end of the indicator dial. Turning clockwise will lower the temperature, anticlockwise will increase it. After setting the plant to work, compare the thermometer reading with the scale reading on the temperature control reading. This may be found to differ by a few degrees, if precise control is required it can be adjusted by resetting the scale as follows:-

1. Remove the transparent front cover (Fig 3, Item 2) of the indicator head and turn the indicator manually (Fig 3, Item 3) until it corresponds to the actual temperature.
2. Replace transparent cover (Fig 3 Item 2)
3. Reset the set temperature to the desired temperature.
4. Replace transparent cover and tamper proof plug.

Maintenance

The control system is an entirely sealed unit and requires no maintenance. If damaged or if through fair wear and tear it fails to operate satisfactorily, it can be returned to our works for overhaul.

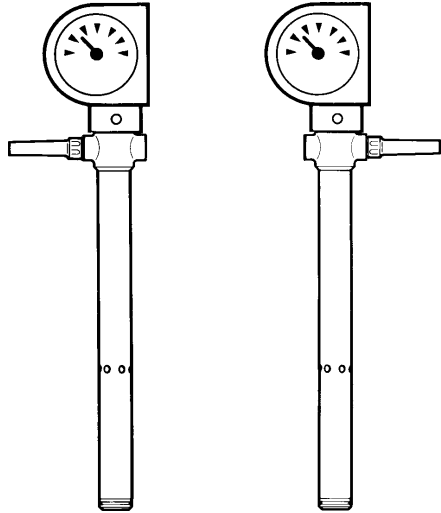


Fig. 6

