

SA Temperature Control Systems Type 422 and 423 Installation and Maintenance Instructions

Use

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

Control System	Valve Size	Valve Type
422	1/2" to 3" DN 15 to 80	2-port
423	3/4" to 2" DN 20 to 50	3-port

Installation

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

Sensors can be held in a screwed nipple by means of a compression ring. Screw the nipple into the boss provided on the equipment, thread the union nut and compression ring over the sensor. Insert the sensor fully into the nipple and tighten the nut and compression ring. Do not overtighten. The Type 423 adjustment head is held in a wall mounted bracket. To install, pull unit out of wall mounting bracket clips. This will reveal screw holes to enable the bracket to be fitted on the wall. Clip the unit back into the bracket. 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 sections on display adjustment and commissioning .

Warning

On installation where the sensor is immersed directly into the solution to which temperature control is required, we would not recommend the unit to be subjected to:- Aqueous solutions containing chloride, fluoride and halogen. The above applies to complete immersion liquid level lines and splash zones.

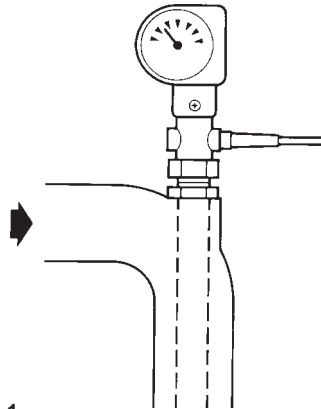


Fig. 1
Correct
Installation

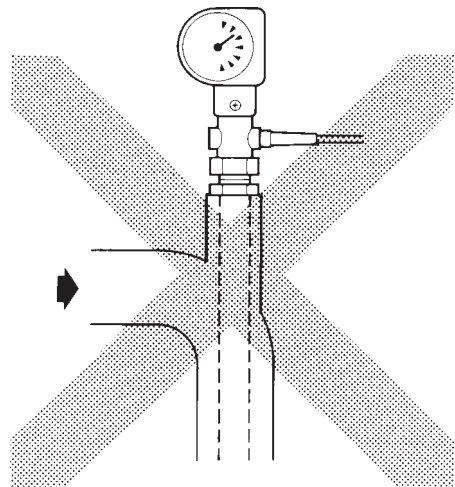


Fig. 2
Incorrect
Installation



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 in section commissioning

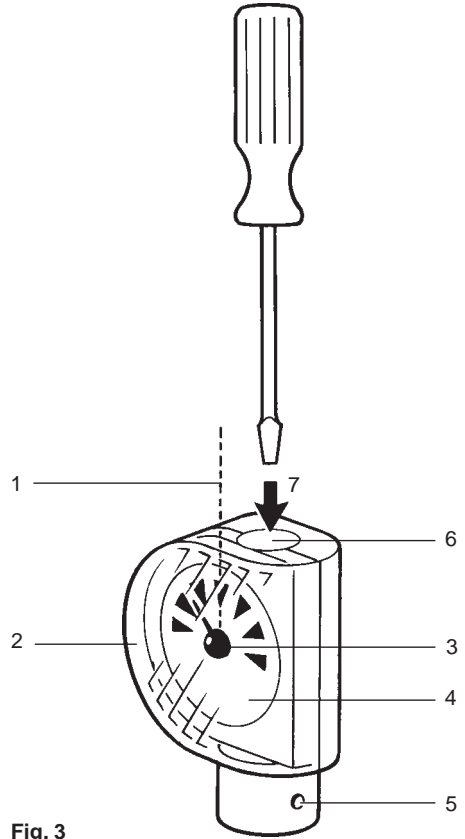


Fig. 3

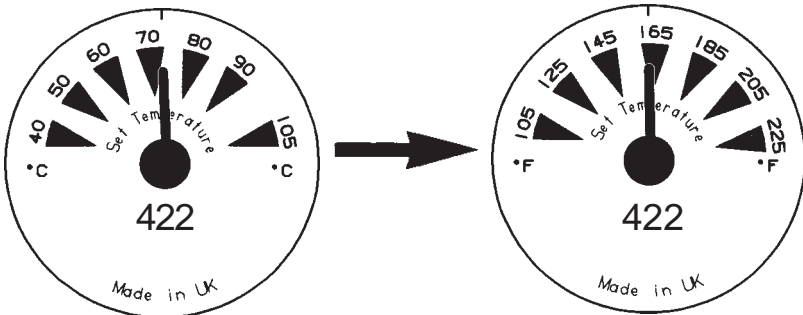


Fig. 4

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)

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

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 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.

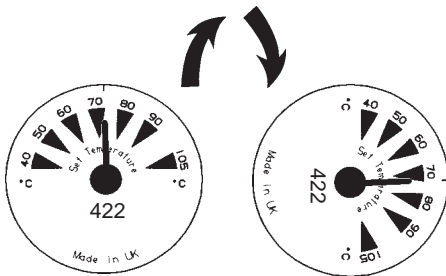


Fig. 5

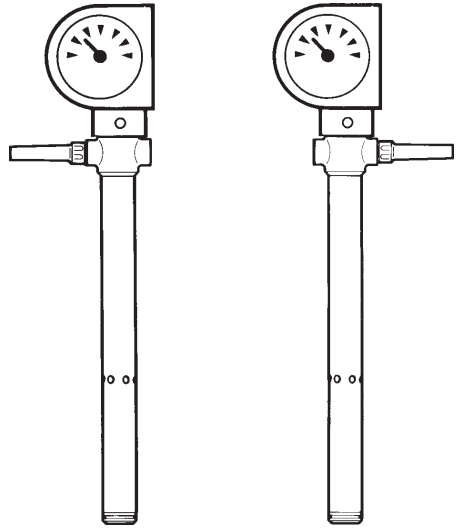


Fig. 6

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.