Temperature Control Systems (Knob Adjustment) SA121, SA122, SA123, SA128 and SA1219

Installation and Maintenance Instructions

1. Safety information

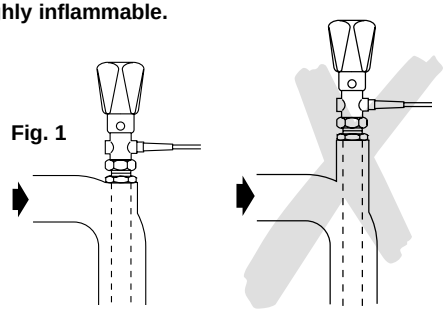
Your attention is drawn to Safety Information leaflet IM-GCM-10 and Supplementary Safety Information leaflet IM-S20-04, as well as any National or Regional regulations.
This product is designed and constructed to withstand the force encountered in normal use. Use of the product for any purpose other than as a temperature controller could cause injury or fatality to personnel.
This product contains Kerosene which is highly inflammable.

2. 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
SA121, SA123	All	2-port
	¾" to 2"	TW
SA128, SA122	½" to 1"	2-port
	¾" and 1"	TW
SA1219	3" and 4"	TW

Fig. 1



Correct installation

Incorrect installation

3. 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, see Fig. 1.

Warning: The sensor must not be subjected to mercury or ammonium salts.

The sensors 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 compression ring. **Do not overtighten.**

Where the sensors 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 SA122 or SA123 sensor, the screwed nipple, compression ring and nut are dispensed with and a rubber sealing bung provided, which is fitted over the capillary and slid into place to secure the sensor into the pocket. Screw the pocket into place, then feed the sensor bulb to 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 conjuction with the SA122 or SA123 sensors it should not be filled above the top of the sensor.

The adjustment mechanism should not be subjected to an ambient temperature above 50°C (122°F). 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.

4. Display adjustment

The adjustment head (Fig. 2) provided, enables the set temperature to be raised or lowered, once the drive screw has been engaged.

To make any adjustment the blue knob is turned clockwise to lower the temperature, and anticlockwise to increase it.

After setting, if desired, the drive screw can be dis-engaged by prising out the black plastic cap '**B**' with a small flat bladed screw driver, via the slot provided, remove the 3 mm A/F allen headed drive screw '**C**' and stow in the knob, then replace the black cap.

The adjustment knob will now spin freely without changing the temperature setting.

5. Commissioning

For the following instructions you should make reference to Fig. 2. The sensor is despatched with its adjustment set to the highest limit. Make any adjustments to suit individual requirements by turning clockwise to lower the temperature and anticlockwise to 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 indication is required it can be adjusted by resetting the scale as follows:-

1. Loosen the screw holding the sleeve scale in place and adjust the sleeve until the scale reading matches the actual temperature.
2. Tighten the screw until it holds the scale firmly in place without over tightening (it only needs a light touch as it is for location only).

6. Maintenance

There are no serviceable parts.

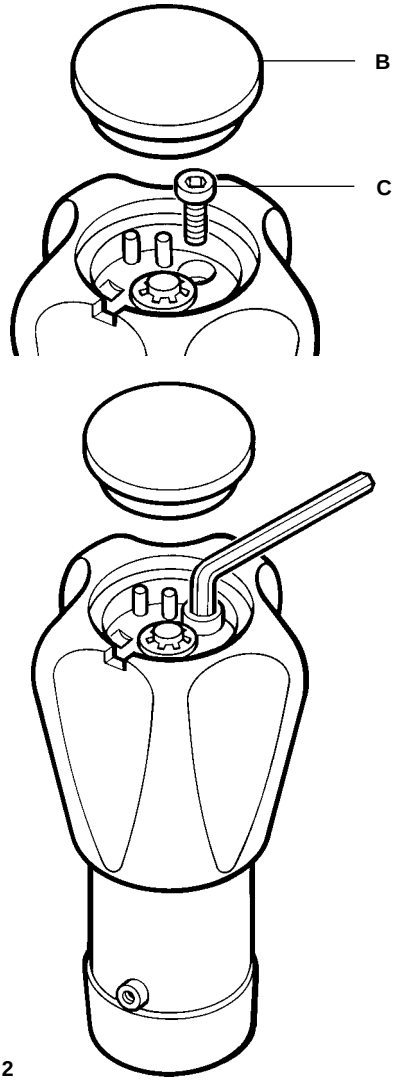


Fig. 2