

## CENTRAL HEATING UNIT CS3, ASSEMBLY AND INSTALLATION

### 1. Construction

Central heating unit CS3 is an overtemperature cut-out unit. Loval central heating units are assembled of the following components (Picture 1):

Immersion heater UKT 323, UTT 323 or UKT 623 (2000 – 10000 W, 230/400 V)  
Stand-off (100 mm, 150 mm, 200 mm), 100 mm as standard.  
Terminal box S6, including overtemperature cut-out unit.

### 2. Assembly and installation

#### Mounting of immersion heater

Screw on the immersion heater (1) together with the gasket onto the mating boss on the boiler. Check that the thread size and the immersed length of the heater are suitable for the boiler. The operating position of the immersion heater is not limited. However, it must be completely immersed in water.

If the mating boss on the boiler is inside thermal insulation, fix a suitable stand-off to the immersion heater prior to mounting. If no stand-off is required, continue to section “Installation without stand-off”

#### Installation with stand-off

The supplied long wires (8) are terminated to the terminal screws of the immersion heater. Screw on the studs (9) to the element head. Then put on the stand-off (10) over the terminal wires and studs. Open the lid (5) of the terminal box and mount the base of the box (2) onto the stand-off, using the clamp ring (3). Remove the screws on the clamp ring and secure the box using the nuts on the studs. To make this easier, the temperature control unit (4) can be removed. Push the bulbs of the temperature control unit into the pocket tube of the heater.

Terminate the wires from the element terminals to the push-on terminals of the temperature control unit and connect the neutral wire to the terminal block. Next mount the temperature cut-out unit. The supply cable can now be connected to terminals L1, L2, L3 and N. Strip back the earth wire so that it is longer than the live wires and terminate it to the terminal block. Now the temperature cut-out unit can be mounted. Make sure not to loosen the push-on terminals. When fixing the lid, make sure the fixing bracket of the temperature cut-out unit remains within the grooves on the base of the terminal box.

#### Installation without stand-off

Open the lid (5) of the terminal box and mount the base of the box (2) onto the element head using the clamp ring (3). To make this easier, the temperature control unit (4) can be removed. Push the bulbs of the temperature control unit into the pocket tube of the heater. Connect the wires to the element terminals and to the push-on terminals of the temperature cut-out unit in accordance with the wiring diagram (Picture 2).

If wires that came with the stand-off are used, they must be shortened. Next mount the temperature cut-out unit. The assembly is now ready and the supply cable can be connected to terminals L1, L2, L3 and N. Strip back the earth wire slightly longer than the live wires and terminate it to the terminal block. When fixing the lid, make sure the fixing bracket of the temperature cut-out unit remains within the grooves on the base of the terminal box.

#### Installation of thermal insulation

Make sure that the thermal insulation of the boiler is tightly around the stand-off. This ensures as small thermal conduction as possible into the terminal box. The supply cable and the terminal box have to remain outside of thermal insulation.

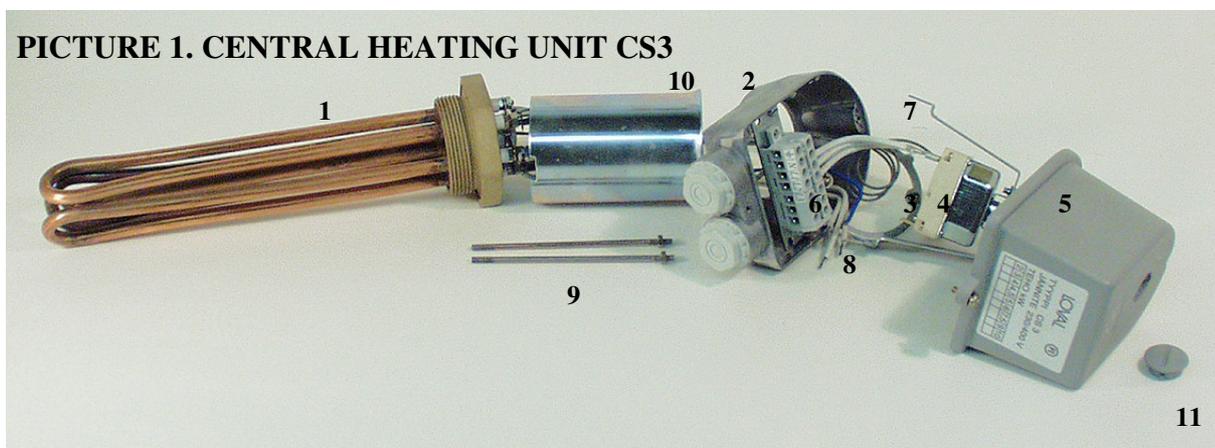
### Notes on electric installation

The type plate on the terminal box lists various alternative powers. Tick the correct power on assembly. The supply cable must be suitable for the chosen power. If the stand-off is sufficiently high and in accordance with this instruction, then plastic sleeved supply cable (MMJ) can be used. If no stand-off is used, the temperature rating of the supply cable must be min. 170 °C. A switch must be provided to enable switching off of all phases of the unit from the mains supply.

The heating unit must include a thermostat with the following specifications:

- when set to maximum temperature, it must keep the temperature below the operating temperature of the cut-out unit, taking into account the differentials of both the thermostat and the cut-out units. Their operating temperatures must not overlap.
- thermostat unit must be at the same level or higher than the heating element (or the lowest heating element in case of group of elements) that the unit controls. The so-called boiler thermostat cannot be used to control the central heating unit.

**PICTURE 1. CENTRAL HEATING UNIT CS3**



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|------------------------|-------------------|-------------------------|-------------------------|
| 1. Immersion heater    | 2. Base of box    | 3. Clamp ring           | 4. Cut-out              |
| 5. Lid of terminal box | 6. Terminal block | 7. Terminal block wires | 8. Terminal screw wires |
| 9. Studs               | 10. Stand-off     | 11. Reset plug          |                         |

**PICTURE 2. WIRING DIAGRAM OF CENTRAL HEATING UNIT TYPE CS 3**

