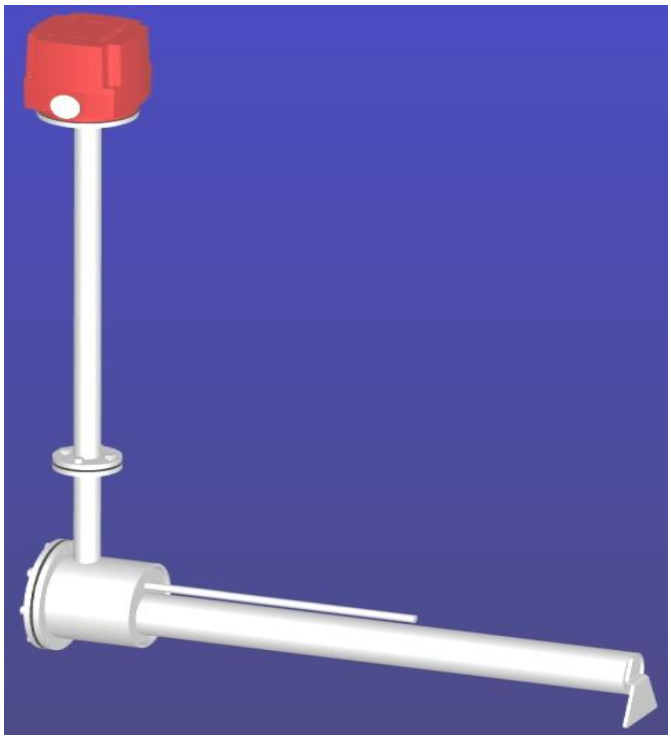
IMMERSION HEATERS

SH RANGE



SH RANGE APPLICATION

The SH range is specifically designed to heat tanks, sumps and pools where the use of conventional immersion heaters is not practical, for example, where there is no connection point available to insert a standard immersion heater and the only option is to install the heater through the top of the tank. Common applications include:

- Bunded tanks.
- Pools or sumps sunk into the ground.
- Restricted space around a tank that prevents the insertion and withdrawal of a conventional immersion heater.

The SH heater is frequently used in anti-frost applications and is suitable for heating biofuels, oils, water, caustics and numerous other liquids and chemical solutions.

The heater is designed with the heating element at the bottom which is terminated in an IP68 junction box. A standpipe reaches upwards from the junction box to an IP66 terminal enclosure above the liquid level. The upstand pipe comes in sections so that it can be assembled on site to heat very deep tanks and pools.

The elements can be either Nicalloy 825 metal sheathed rod elements or a ceramic core heating element fitted inside a 316L stainless steel element tube. The advantage of the ceramic core type elements is that they are low watts density and very robust.

kW loadings are available up to 6kW with a ceramic core type element and up to 15kW with rod elements.

STANDARD RANGE

The standard SH range is designed to utilise ceramic core type elements. This makes the range ideal for heating water, light oils and in particular biodiesel to prevent waxing. The element tube is 316L stainless steel and has an average watts density of 2.6W/cm^2.

Note - the upstand height and overall length must be specified when ordering.

LIST No	kW LOAD	No. OF PHASES	OVERALL LENGTH mm (in)
SH201	1	1	385 (15")
SH202	1.5	1	505 (20")
SH203	2	1	630 (25")
SH204	3	1 or 3	875 (35")
SH205	4.5	1 or 3	1240 (49")
SH206	6	3	1610 (64")

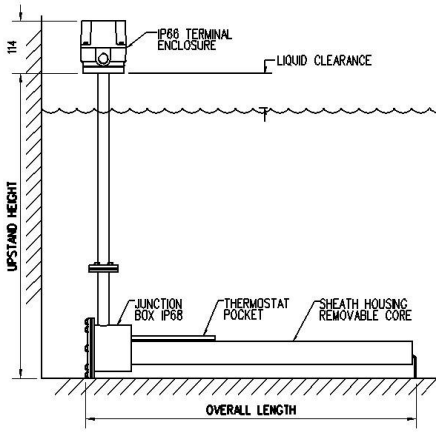
SPECIALIST APPLICATIONS

The SH range is extremely flexible and we can easily specify both ceramic core and rod element designs for a wide range of applications. Please contact our Technical Department.

MOUNTING

The SH heater rests on the bottom surface of the tank. A minimum clearance of 100mm between the liquid surface and the base of the terminal enclosure is recommended.

The height of the upstand pipe should be specified at the time of ordering. We recommend that the upstand pipe is supported after installation to ensure stability of the heater during operation.



TEMPERATURE CONTROL

The SH is supplied with one factory fitted control thermostat with a range of 3-55°C rated at 20Amp. The set temperature should be specified at time of ordering. Alternative thermostat ranges are available. Please contact our Technical Department.

No over-temperature thermostat is supplied with the SH range (in most other ranges an over-temperature safety cut-out thermostat is provided to switch the heater Off in the event that the control thermostat fails in the On position). Either the system should be designed such that an SH heater switched On continuously poses no danger, e.g. the temperature rise of the liquid would not be dangerous, or a means of over-temperature protection should be provided elsewhere in the tank.

Where the current consumed exceeds the thermostat rating, the heater must be wired through a contactor switch. A contactor switch must be fitted on all three phase supplies.

Control panels can be supplied incorporating all necessary controls. Please refer to our TC range.

OPERATING TEMPERATURE & PRESSURE

Standard models have a maximum operating temperature of 60°C but specifications for higher temperatures can be supplied. The SH range does not operate under any pressure.

VOLTAGE

Single phase heaters from our standard range are designed to operate at 230/240V and three phase heaters at 400/415V.

Non-standard models can be supplied designed to suit operating voltages from 110V to 480V AC or DC. Please contact our Technical Department.

In the interests of safety, we recommend that SH heaters should be wired through a Residual Current Device (RCD).

CONSTRUCTION

Immersion heaters are manufactured generally to BS7798.

The terminal enclosure is cast aluminium, impact-resistant and rated to IP66 with two conduit entries (M20 and M25).

The junction box, upstand pipes and flanges are manufactured from 316L stainless steel and are welded. Rod elements are brazed into the junction box with silver solder. Ceramic core element sheaths are welded into the junction box.

All "wetted" seals are Viton, however other seals can be supplied to suit the liquid being heated.

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