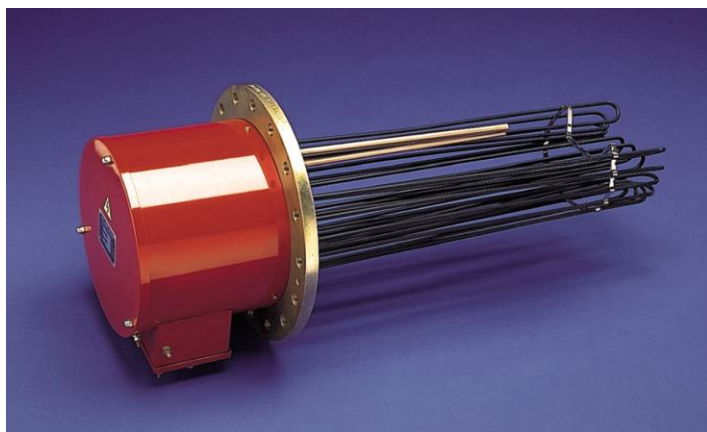


IMMERSION HEATERS

BF RANGE



BF RANGE APPLICATION

The BF range of immersion heaters is designed to heat domestic hot water in building service applications and is ideal for fitting to electric hot water cylinders, water heaters, calorifiers, buffer vessels, flow vessels, etc. Heater loadings range from 6kW to 60kW in three phase.

Immersion heaters are ideal as a backup or boost for heat pumps, other renewables or conventional boilers.

The range is fitted with Nicalloy 825 sheathed, rod elements which are bolted to the element plate by means of a special gland. This allows the elements to be inspected or replaced once the vessel has been drained and the heater battery removed. For heaters with removable elements that can be replaced without draining the vessel please refer to our RE range.

The Nicalloy 825 elements have an average watts density of $9W/cm^2$ ($60W/in^2$), offering improved resistance to hard or aggressive waters. Nicalloy 825 is a "super alloy" which means it is a high nickel content stainless steel.

All models are fitted with an IP41 rated, painted, mild steel terminal enclosure which is fully earth bonded.

SPECIALIST APPLICATIONS

For non-standard applications or specialist specifications please refer to our GE range.

MOUNTING

Heaters are suitable for horizontal flanged mounting, however, heaters for vertical mounting can be supplied. Please contact our Technical Department.

To avoid localised boiling or air locks, care should be taken to ensure the cold zone extends beyond any neck piece. Longer cold zones are available. Please contact our Technical Department.

The standard fixing flange is 241mm in diameter to suit a 178mm clear bore, and has 12 off 11mm diameter bolt holes positioned off-centre on a 213mm PCD.

The heater is supplied with a WRAS approved fibre gasket.

TEMPERATURE CONTROL

Our general recommendation for heaters above 6kW is that temperature control devices should be mounted away from the heater to avoid interference. Further guidance is given in the Technical Section of our website.

Standard models are supplied with a factory fitted control thermostat, with a range of 37-90°C rated to 20 Amps and an over-temperature, manual reset, safety cut-out thermostat, with a range of 45-95°C rated to 16 Amps. Alternative thermostat ranges are available. Please contact our Technical Department.

OPERATING TEMPERATURE & PRESSURE

The BF range has a maximum design temperature of 90°C and maximum operating temperature of 70°C due to the thermostats fitted. The maximum operating pressure is 3.5 Bar.

For heaters with higher operating temperatures and pressures, please refer to our GE range.

VOLTAGE

Three phase heaters from our standard range are suitable for all 400/415 volts, 3 or 4 wire supplies.

Where the electricity supply is three phase, the heater must be wired through a contactor switch. Howden Electric can supply control panels incorporating all necessary controls. Please refer to our TC range.

CONSTRUCTION

Immersion heaters are manufactured generally to BS7798.

Elements are brazed into special brass glands using silver solder and the assembly is bolted to the element plate. Individual elements can therefore be replaced once the vessel has been drained and the heater removed.

The flange material is naval brass.

The standard terminal enclosure is rated to IP41 and is constructed from painted mild steel. The enclosure is supplied with a removable gland plate to be drilled on site to suit the cable glands being used. The heater is fully earth bonded and is provided with an earth bonding bar inside the terminal enclosure.

COMMON VARIATIONS

Please contact our Technical Department for further details.

- Various operating voltages in three phase star or delta.
- Heater loading can be stepped into up to 4 stages (circuits).
- Alternative element sheath materials, e.g. copper, stainless steel 316.
- Lower watts density elements for prolonged element life in particularly corrosive or hard waters.
- Longer cold zones.
- Alternative thermostat ranges.
- Vertical mounting heaters.

STANDARD LIST NUMBERS

LIST No	SUPPLY		DIMENSIONS	
IP41 ENCLOSURE	kW LOAD @ 415V	No. OF CIRCUITS*	COLD ZONE mm	IMMERSED LENGTH* mm (in)
BF201	6	1	25	380 (15")
BF202	9	1	25	380 (15")
BF203	12	1	25	460 (18")
BF204	12	1	100	585 (23")
BF205	18	1	25	460 (18")
BF206	18	1	100	585 (23")
BF207	24	1	100	585 (23")
BF208	24	1	100	760 (30")
BF209	30	1	100	685 (27")
BF210	30	1	100	915 (36")
BF211	36	1	100	585 (23")
BF212	36	1	100	1020 (40")
BF215	45	1 @15 / 1 @30	100	1020 (40")
BF213	48	2 EQUAL	100	1020 (40")
BF214	60	2 EQUAL	100	1220 (48")

* Alternative immersed lengths & circuit configurations can be supplied.

BF General Arrangement

