

FIXED ROD ELEMENT IMMERSION HEATERS

'WR' RANGE



HOWDEN
Electro Heating



APPLICATION

The "WR" range of immersion heater is fitted with metal sheathed, rod elements and is constructed to a robust design.

All models are fitted with a water-tight enclosure rated to IP66 suitable for indoor or outdoor applications or for use in damp or humid conditions.

Thread sizes are available ranging from 1" to 2½" BSP.

Maximum kW loadings depend on application and are available in single phase (up to 6kW) and three phase configurations (up to 24kW).

• STANDARD RANGE

The standard 'WR' range of immersion heaters is designed to heat water in building service, industrial and process applications. The range is fitted with Nicalloy 825 elements which have a standard watts density of 9 W/cm² (60W/in²), offering improved resistance to very hard or aggressive waters. The thread sizes available on the standard range are 2", 2¼" and 2½" BSP.

• SPECIALIST APPLICATIONS

The "WR" range is extremely flexible and our technical department can provide specifications suitable for a wide range of applications as listed below. To obtain a quotation or further information please contact our technical department.

- Oil heating.
- Heating caustics (sodium hydroxide), acids and other chemicals.
- Anti-frost applications.
- Convection and Radiant heating (elements are protected with a shroud).
- Incorporation into propriety equipment, e.g. sterilisers, industrial washing machines, steam raisers, autoclaves, etc.

MOUNTING

Heaters are suitable for either horizontal or vertical screwed fixing. To avoid localised boiling or air locks, care should be taken to ensure that the cold zone extends beyond any neck piece.

Thread sizes available range from 1" to 2½" in BSP or NPT. For details on which size of thread is appropriate please refer to our technical data section.

TEMPERATURE CONTROL

All standard models are supplied with a factory fitted control thermostat, with a range of 40 - 88°C (rated 20 Amps), and high limit thermostat, with a range of 45 - 95°C (rated 16 Amps). Alternative thermostat ranges are available. Please contact our technical department.

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

Control panels can be supplied incorporating all necessary controls (see 'TC' range).

OPERATING TEMPERATURE & PRESSURE

Standard models have a maximum design temperature of 120°C and a maximum operating pressure of 6 Bar. Non-standard models are available with terminal enclosures "stood off" to allow for higher operating temperatures.

VOLTAGE

Single phase heaters from our standard range are designed to provide the stated kW loading at 240 volts but are suitable for all 220/254 volts, AC supplies.

Three phase heaters from our standard range are designed to provide the stated kW loading at 415 volts but are suitable for all 380/440 volts, 3 or 4 wire supplies.

Please refer to our technical data section for details on kW loadings at alternative voltages.

Non-standard models can be supplied designed specially to suit operating voltages up to 480 volts e.g. 110 volts. Please contact our technical department.

CONSTRUCTION

Heaters are manufactured generally to BS7798. Elements are brazed into the fixing boss using silver solder. The boss material on standard models is brass, however alternative boss materials are available e.g. stainless steel.

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

COMMON VARIATIONS

Please contact our technical department for further details.

- Various operating voltages, single phase, three phase star or delta on AC or DC supplies.
- 1" BSP, 1¼" BSP and 1½" BSP threads.
- NPT threads.
- Boss material in mild steel or stainless steel.
- Alternative element sheath materials such as copper and titanium.
- Polished elements for catering and food applications
Note: Nicalloy 825 is a high nickel content stainless steel.
- Compression fitted elements.
- Alternative thermostat ranges, e.g. 60-120°C, 0-40°C, 5-80°C.
- "Stand off" terminal enclosures to allow for higher operating temperatures.

WR PRODUCT SPECIFICATION.DOC

Howden Electro Heating, 10-12 Belgowan Street, Bellshill Industrial Estate, Bellshill, Lanarkshire, Scotland, ML4 3NS

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The policy of H.D.Howden Ltd. is that of continuous improvement and development. The right is therefore reserved to change the specification without notice.

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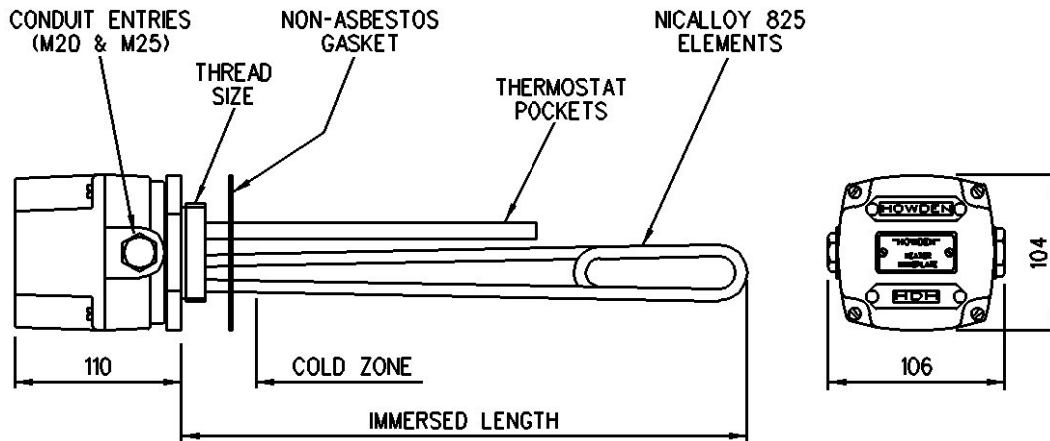


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STANDARD LIST No's

2"BSP	2.25"BSP	2.5"BSP	kW LOAD @ 240/415V	No. OF PHASES	IMMERSED LENGTH mm(in)	COLD ZONE mm(in)
NICALLOY 825 ELEMENTS	NICALLOY 825 ELEMENTS	NICALLOY 825 ELEMENTS				
WR601	WR401	WR201	1	1	280 (11")	25
WR602	WR402	WR202	2	1	280 (11")	25
WR603	WR403	WR203	3	1 or 3	280 (11")	25
WR604	WR404	WR204	3	1	760 (30")	25
WR605	WR405	WR205	4.5	1 or 3	380 (15")	25
WR606	WR406	WR206	6	1 or 3	280 (11")	25
WR607	WR407	WR207	6	1 or 3	480 (19")	25
WR608	WR408	WR208	6	1 or 3	760 (30")	100
WR609	WR409	WR209	7.5	3	610 (24")	100
WR610	WR410	WR210	9	3	530 (21")	25
WR611	WR411	WR211	9	3	690 (27")	25
WR612	WR412	WR212	9	3	915 (36")	100
WR613	WR413	WR213	12	3	610 (24")	100
WR614	WR414	WR214	12	3	915 (36")	100
WR615	WR415	WR215	15	3	690 (27")	100
WR616	WR416	WR216	18	3	690 (27")	25
WR617	WR417	WR217	18	3	915 (36")	100
WR618	WR418	WR218	24	3	915 (36")	25



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