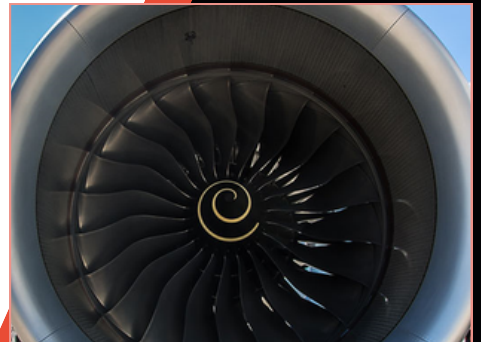
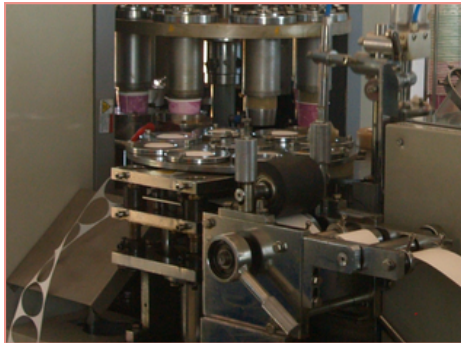
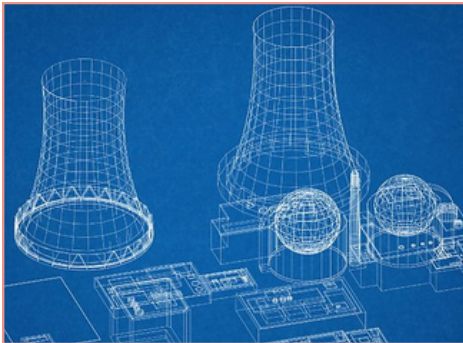




INDUSTRIAL

INDUSTRIAL HEATING SOLUTIONS

WWW.HEATROD.COM

Immersion heating is still the most efficient way to heat liquids quickly and safely. Often the key is the knowledge of which heater to apply to which type of media. Backer Heatrod's industrial range of immersion heaters covers all the angles, and are known throughout the industrial community as robust, market leading products. Our proven range of products are used within a vast range of industrial heating applications and are designed to be easy to select and fit. We recognise that industrial applications require a high level of reliability and availability is key for this environment.

Industrial Immersion Heaters

High Pressure Immersion Heaters

Our range of High Pressure Immersion Heaters have been designed for working pressures of up to 40 bar and are available in either Incoloy (HRiE range) or Titanium (HRZiE range) for hard water process applications. Both are designed specifically for high usage environments, the heaters are ideal for use in water and chemical applications.



Key Features:

- IP68 rotatable terminal cover
- Incoloy 825, stainless steel sheath or heavy duty titanium element
- Single thermostat pocket
- Separate power and control glands
- Large range of thermostats available
- Flexible fitting and wiring options
- Flexible operating features (manual or fixed heat settings)
- Unique design offers both single and three phase installation)
- Titanium immersions designed for areas with hard water

HRiE Range Immersion Heaters

Part Number			Loading (kW)	Voltage (V)	Immersed Length (in/mm)	Material
2 1/2" BSP	2 1/4" BSP	2" BSP				
HRiE311Z	HRiE311A	HRiE311B	3	240/415	11/280	Incoloy 825
HRiE616Z	HRiE616A	HRiE616B	6	240/415	16/406	Incoloy 825
HRiE624Z	HRiE624A	HRiE624B	6	240/415	24/610	Incoloy 825
HRiE636Z	HRiE636A	HRiE636B	6	240/415	36/915	Incoloy 825
HRiE916Z	HRiE916A	HRiE916B	9	240/415	16/406	Incoloy 825
HRiE924Z	HRiE924A	HRiE924B	9	240/415	24/610	Incoloy 825
HRiE936Z	HRiE936A	HRiE936B	9	240/415	36/915	Incoloy 825
HRiE1224Z	HRiE1224A	HRiE1224B	12	415	24/610	Incoloy 825
HRiE1236Z	HRiE1236A	HRiE1236B	12	415	36/915	Incoloy 825

*Control temp max 80°C, safety cutout 90°C

HRZiE Range Immersion Heaters

Part Number			Loading (kW)	Voltage (V)	Immersed Length (in/mm)	Material
2 1/2" BSP	2 1/4" BSP	2" BSP				
HRZiE311Z	HRZiE311A	HRZiE311B	3	240/415	11/280	Titanium
HRZiE616Z	HRZiE616A	HRZiE616B	6	240/415	16/406	Titanium
HRZiE624Z	HRZiE624A	HRZiE624B	6	240/415	24/610	Titanium
HRZiE636Z	HRZiE636A	HRZiE636B	6	240/415	36/915	Titanium
HRZiE916Z	HRZiE916A	HRZiE916B	9	240/415	16/406	Titanium
HRZiE924Z	HRZiE924A	HRZiE924B	9	240/415	24/610	Titanium
HRZiE936Z	HRZiE936A	HRZiE936B	9	240/415	36/915	Titanium
HRZiE1224Z	HRZiE1224A	HRZiE1224B	12	415	24/610	Titanium
HRZiE1236Z	HRZiE1236A	HRZiE1236B	12	415	36/915	Titanium

*Control temp max 80°C, safety cutout 90°C

C Series Immersion Heaters



The C Series range of stock immersion heaters is designed for liquid heating conditions where a lower watts density is required. Various sheath materials are available.

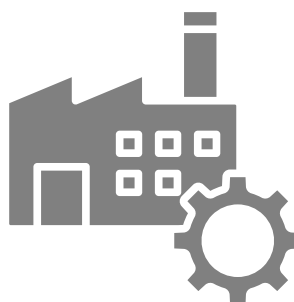
2" BSP	2 ¼" BSP	Loading (kW)	Voltage (V)	Immersed Length (in/mm)
5C219	6C219	2	240	19/483
5C327	6C327	3	240	27/688
5C438	6C438	4.5	240/415	38/965
5C650	6C650	6	240/415	60/1524

Key Features:

- IP55 Rotatable Terminal Cover
- 2" and 2 ¼" BSP Threaded Glands
- Low Watts Density (3.9w/cm²)
- Available in both Single and Three Phase
- Elements can be replaced without draining vessel

X Series Immersion Heaters

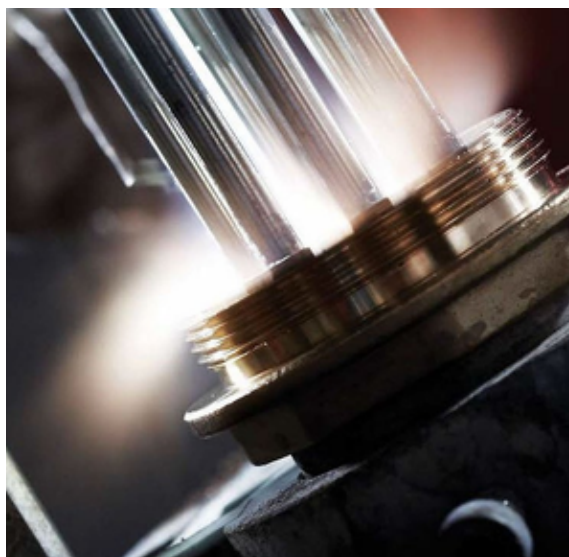
The X Series range of stock immersion heaters is designed specifically for oil applications. Manufactured with integron extended surface carbon stainless steel sheath, to decrease watts density without increasing length. Other sheath materials are available.



2" BSP	2 ¼" BSP	Loading (kW)	Voltage (V)	Immersed Length (in/mm)
5X115	6X115	1	240	15/381
5X226	6X226	2	240	26/661
5X336	6X336	3	240/415	36/914
5X447	6X447	4	240/415	47/1194
5X557	6X557	5	240/415	57/1448

Key Features:

- IP55 Rotatable Terminal Cover
- 2" and 2 ¼" BSP Threaded Glands
- Extended Surface Carbon Steel Sheath
- Low Watts Density (1.5w/cm²)
- Available in both Single and Three Phase
- Elements can be replaced without draining vessel



HRF Range Flanged Immersion Heaters

Standard Flanged Water Heaters

HRF ALC2Z Flanged Immersion Heaters - Stainless Steel

Part Number	Loading (kW)	Number of Elements	Immersed Length (in/mm)
HRF1224 ALC2Z	12	6	24/610
HRF1824 ALC2Z	18	6	24/610
HRF2424 ALC2Z	24	12	24/610
HRF3624 ALC2Z	36	12	24/610
HRF3636 ALC2Z	36	12	36/915
HRF4824 ALC2Z	48	12	24/610
HRF4836 ALC2Z	48	12	36/915
HRF5436 ALC2Z	54	12	36/915

Temperature control: 40-88°C | Cut out temperature: 35-85°C



HRF GAC2C Flanged Immersion Heaters - Brass

Part Number	Loading (kW)	Number of Elements	Immersed Length (in/mm)
HRF1216 GAC2C	12	6	16/406
HRF1816 GAC2C	18	9	16/406
HRF2416 GAC2C	24	9	16/406
HRF2716 GAC2C	27	9	16/406
HRF3027 GAC2C	30	6	27/688
HRF3627 GAC2C	36	9	27/688
HRF4527 GAC2C	45	9	27/688
HRF5436 GAC2C	54	9	36/915

Temperature control: 40-88°C | Cut out temperature: 35-85°C

HRF GAD2C Flanged Immersion Heaters - Titanium

Part Number	Loading (kW)	Number of Elements	Immersed Length (in/mm)
HRF1216 GAD2C	12	6	16/406
HRF1816 GAD2C	18	9	16/406
HRF2416 GAD2C	24	9	16/406
HRF2716 GAD2C	27	9	16/406
HRF3027 GAD2C	30	6	27/688
HRF3627 GAD2C	36	9	27/688
HRF4527 GAD2C	45	9	27/688
HRF5436 GAD2C	54	9	36/915

Temperature control: 40-88°C | Cut out temperature: 35-85°C

HRF Range Bespoke Flanged Immersion Heaters

The HRF Range of flanged immersion heaters are a bespoke product designed specifically to customer requirements. In most cases the heating elements are fully welded into the required flange plate. For certain applications where titanium elements are required, mechanical compression fittings are used as an alternative. There are a variety of different control boxes available from Mild Steel powder coated to Stainless Steel 316 for more durable applications.

Heatrod offer various controls including mechanical temperature controls and also a fully digital standalone heater which displays the current heater settings for more accurate requirements.

Key Features:

- IP66 Terminal Cover
- Various Sheath materials available (Incoloy 800, 825, Stainless Steel 321, 304, 316, 309 & Titanium)
- Various Sheath Diameters (8.0mm, 9.5mm, 10.9mm & 12.0mm)
- External Input available
- Standard and Bespoke Flanges available (PN, ANSI, BS)
- Typical Flange Diameters 90 - 645mm
- Hysteresis Control
- kW rating from 1kW - 500kW dependant on Flange size
- Range of Gasket Materials



Customised Solutions - Bespoke Product Design

Industrial In-Line Heaters

The majority of industrial immersion heaters can be installed in a heater vessel, either horizontal, or vertical, to make an in line electric heater. The applications for in-line electric heaters are varied, from a simple primary heating solution, to lubrication oil heating, thermal fluids and even process air heating. Backer Heatrod has a range of standard, made to order solutions.



In-Line Water Heater

This range of in-line heaters is designed for industrial heating applications for water and other liquids. Usually manufactured to bespoke customer requirements. The design utilises copper, carbon, or stainless steel sheaths and vessels. The Terminal Cover is available in a range of materials and there are control and high limit thermostats available. Vertical options are available for this range of heaters.

In-Line Oil Heater

This range of in-line heaters are designed for industrial heating applications for oil. Usually manufactured to bespoke customer requirements. The design utilises plain, or extended surface carbon, steel sheaths, all with removable ceramic elements, enabling maintenance without the need for system draining.



Key Features:

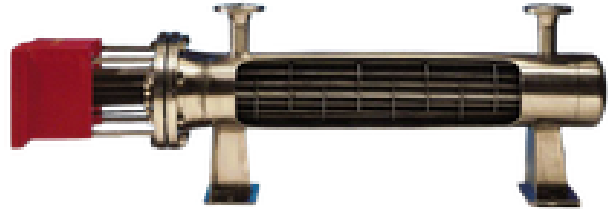
- Terminal Cover in a range of materials and IP ratings.
- Plain or Extended Surface Sheaths
- Custom Designs
- Control and High Limit Thermostats
- Elements can be replaced without draining vessel
- Standard Range up to 1.4mw
- Control and High Limit Thermostats
- Elements can be replaced without draining vessel
- Operating Pressures up to 10 bar (standard)



ATEX Certified Hazardous Area Heaters

When environmental conditions become unsafe to use ordinary immersion heaters, Backer Heatrod can offer a wide range of explosion proof heating solutions.

Having manufactured our first hazardous area heater way back in 1953, under the Heatrae Industrial brand, Heatrod can provide a hazardous area version for the majority of our products, together with bespoke hazardous area air and gas heaters. The Ormandy Electric range is currently certified for zones IIB, but Heatrod can also provide IIC certified products from other group manufacturers.



The term 'explosive atmosphere' is defined as a mix of inflammable substances in the form of gases, vapour, mist or dust - which may lead to fire spreading to the un-burnt mix following ignition. Atmospheric conditions are normally defined as -20°C to +40°C, pressure 0.8 - 1.1 bar. We produce equipment for ATEX areas, with different temperature and pressure on the media and for all temperature classes.

Key Features:

- IP67 Exd Atex certified terminal cover
- Incoloy® 825 Alloy Sheathed Elements
- Brass, Carbon or Stainless Steel Flanges
- Removable core options, with plain, or options for stainless steel and copper
- Standard Range up to 180kw
- Control and High Limit Thermostats
- Operating Pressures up to 10 bar (standard)
- Wide Range of Thermostats available
- Variety of Voltage options

Industrial Air Heating

Backer Heatrod have a respected history in the manufacture of Industrial Air Heating products for all different types of process applications. Alongside our own range of standard and engineered products we are also able to supply special air heating products from a number of companies within our group.

We serve all process industry sectors including Petrochemical On- and Off-shore industry, the Chemical and Process industry, Food, Building along with other industries with electrical heating products and associated controls equipment.

As a member of the Swedish NIBE Industrier Group and through our representatives and agents we operate globally.



Chemical Compatability Table

LEGEND	SHEATH MATERIAL																
A = Good to Excellent	Aluminium	Carbon Steel	Copper	Cast Iron	Inconel 600	Incoloy 800	Lead	Monel 400	304, 321, 347 SS	316 SS	20 Cb-3 SS	C276 Hastelloy	Quartz	Titanium	Teflon	Suggested Density (W/cm ³)	
B= Fair to Good																	
C = Depends on Conditions																	
X = Not Suitable																	
BLANK = Data Not Available																	
SOLUTION	CORROSION RATING																
Anodizing	X	X	X	X	X	X	A	X	X	X	A	A	A	X	A	3.5 - 4	
Castor Oil	BC	A	AC	A	A	A	A	A	BC	B	A	A	A		A	3.5 - 4	
Lubricating Oil	B	A	A	A	A	A	A	B	B	B	A	B	A	A		3.5 - 4	
Milk	A	B	C		A	A	X	C	A	A	A	A				4.6 - 6.2	
Nitric Acid (20%)	X	X	X	BC	BC	AC	X	X	AC	AC	A	AC	A	A	A	2.3	
Plating Solutions – Brass										B	AC	AC	A	A	A	3.5 - 5.5	
Plating Solutions - Chrome (40%)	X	X	X	X	X	X		X	BC	B	AC	AC	A	A	A	3.5 - 3.1	
Water – Potable	C	X	B		A	A		B	BC	BC	A	B	A	A	A	7.7 - 12	
Water – Sea	X	X	BC	X	BC	AC		A	C	BC	BC	AC	A	A	A	8.5	
Ethylene Glycol	A	A	B	B	B	A	X	B	B	A	A	A	A	A	A	3.5 - 4.7	
Vegetable Oil	B	B	BC		B	A		B	B	B	A	AC				3.5 - 4	
Whisky	X	X	BC		B			A	A	A	B	AC				8.5	

Our customers operate in several industries

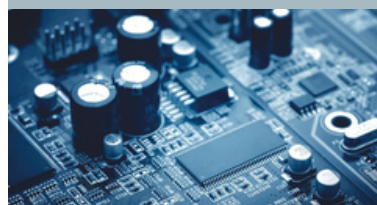
Industrial/Projects



Energy/Environment



Advanced Technology



Commercial Equipment



Home Appliance



Transportation



HVAC (Heating, Ventilation and Air Conditioning)



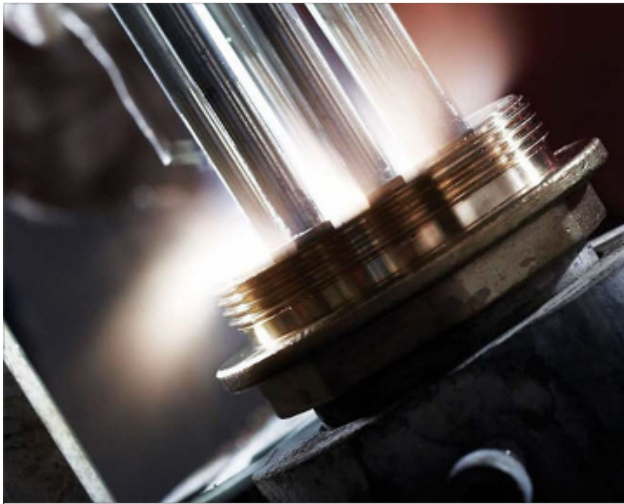
If your industry is not shown or you have a specific project in mind, please get in touch with us as we offer a bespoke service, tailored to your needs.

A complete package which is totally focussed on minimum lead time, maximum flexibility and full design service, from individual raw material components through to the finished solution.

info@heatrod.com

Backer Heatrod are based in Manchester and have been manufacturing electric heating elements and associated equipment for over 50 years.

This level of experience has allowed the business to develop into industrial products and projects whilst still retaining a base manufacturing capability for heating elements.



ELEMENTS

Backer Heatrod manufacture both standard and bespoke products for both the domestic and industrial electrical heating markets. Ranging from traditional tubular heating elements which remains the most common and versatile form of electric heating available, through to more specialist technologies.

We cater for most types of applications and have the support of a global network of manufacturing centres. From high volume OEM design and manufacture to single bespoke heating solutions, we've got it covered.



BRAUDE

The Braude brand is a range of heaters, heat exchangers, controllers and pumps, specifically designed for use in corrosive liquids. The brand has been part of Backer Heatrod since 2016 when E. Braude (London) Ltd was taken over by Backer Heatrod Ltd.

2020 saw the completion of the installation of the Braude production lines at our new factory in Bolton. All Braude products are now produced in this modern facility alongside the extensive range of heating elements already available from Heatrod.



Industrial/
Projects



Energy/
Environment



Advanced
Technology



Commercial
Equipment



Home
Appliance



Transportation



HVAC



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www.heatrod.com | www.heatrodshop.com

Backer Heatrod Ltd is a company within the Backer Group, part of NIBE Group's Business Area NIBE ELEMENT