

Heatrod Industrial

**BRINGING WARMTH
TO YOUR WORLD**



MEMBER OF BACKER GROUP

CORROSIVE RESISTANT HEATERS



Electric Immersion Heaters

The Polaris Popular, Cylindrical and Modular fluoropolymer immersion heaters are designed for use where aggressive chemicals need to be heated to temperatures up to 100°C.

All heaters have optimum chemical resistance against corrosion caused by chemicals such as nitric, hydrochloric, sulphuric and hydrofluoric acids, and are inert enough to be used where non-contamination is a requirement.



Polaris Popular - available from 0.5kW to 18kW output

The element has an open construction to allow free flow of liquid across the surface and to limit solid retention, which is particularly important when used in solutions that generate solid deposition such as Electroless Nickel and Copper plating processes.

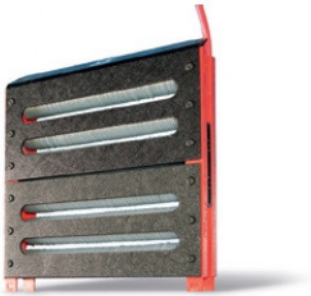
The heater is thin enough to fit easily into confined spaces eg. behind anode baskets. Can be supplied with hanging brackets for vertical mounting or standoffs for horizontal mounting. The integral Braudeflex lead has no junctions and is continuous and flexible.



Polaris Cylindrical - available from 0.5kW to 4kW output

The heater is small enough to fit in corners or recesses within the tank, out of the way of awkward workloads.

Can be supplied with an optional adjustable hanging bracket for vertical mounting. The Braudeflex lead has no external joins and is continuous and flexible for ease of installation into new or existing plant.



Polaris Modular - available from 0.5kW to 12kW output

Small enough to fit behind anode baskets and in other confined operating areas; the Polaris Modular will cope with all the special requirements experienced by the metal finishing and allied industries.

Polaris Neptune Range

The Polaris Neptune range is available in a wide range of metals from stainless steel, and Inconel™, titanium to Teflon™ sleeved.

Metals are selected on the basis of the chemical in which they are to be used. There is a wide variety of shapes and sizes available allowing heaters to be placed over the top of the tank with flying leads or flanged to fit through the side.

Other voltages and various shapes are available, please call our sales team for more information.

SINGLE PHASE
230V - 0.5kW to 4kW



THREE PHASE
400V - 1.5kW to 18kW





Controllers and Sensors

Braude manufacture a full range of temperature and liquid level controllers, protection and cut-out devices to be used in conjunction with our heaters. All controllers are supplied complete with sensors designed for use in process tanks so they are protected from attack by aggressive chemicals or by mechanical damage from workload in the tank.

Our controllers are designed for arduous application in processing plants and most come in IP65 enclosures, with clear displays, for surface mounting near the point of application. They can also be used in conjunction with our custom built control panels to complete our range of safety, monitoring and control solutions.



Thermaster

Temperature controller uses a PT100 sensor encased in Teflon for use in corrosive liquids which is provided complete with guide tube and flying lead for easy installation into your tank.

Probe lengths are 0.5m as standard but can be made up to 8m. The controller is relay operated using a single set point and is accurate to $\pm 1^{\circ}\text{C}$. The enclosure is sealed to IP65.



Thermaster TS

Remote temperature sending unit consisting of a PT100 sensor with built in sensor head to give a 4-20mA output for use with a PLC system or similar.

Like all Thermaster sensors, this can be built up to 8m in length to suit your specific requirements.



Thermaster OTP (Over Temperature Protection)

This system consists of a built in probe fitted to a Polaris heater which enables sensing of over temperature in the element.

This is useful to protect plant in situations where there is no liquid in the tank and has been enthusiastically welcomed by engineers and insurance companies alike!



Levelmaster

A simple high/low level controller which can be used to control heaters or pumps.

The probe is either carbon filament, Inconel™ or stainless steel, and so is suitable for any tank in the process area.



Tankmaster

A combined temperature and level controller using Braude's unique PT100 and conductance level probes compatible with the Thermaster and Levelmaster.

There are a range of settable options such as high temperature control and alarm functions. Enclosure to IP65.



HPD (Hazard Protection Device)

For low level burn out prevention of Polaris heaters.

This simple level controller operates in the same way as the Levelmaster with a sensor fitted to the Polaris heater for single point, low level control.



Braude's range of heat exchangers in fluoropolymer materials are designed for use either in tank or externally mounted.

Amongst the many applications in which these heat exchangers are typically used are acid pickling processes, preflux in galvanising, large scale electroplating and chemical milling. The exchangers are designed for use with steam, hot water, thermal fluid up to 200°C or chilled water and also electric.

Heat Exchangers



Nautilus - non-corrodible internal heat exchanger

An internal tank heat exchanger manufactured from fully tested high performance fluoropolymer PTFE-based materials making it ideal for use with nitric, hydrochloric and chromic acids - indeed most known corrosive solutions - up to 100°C.

Nautilus units are of a modular construction which enables the basic unit capacity to be increased by the fitment of further elements. Heating units can also be 'linked' if really high outputs are required. Operation is normally with saturated steam, hot water or thermal fluid for heating and chilled water for cooling.

Jet Stream - external heating/cooling system for highly corrosive solutions

An externally mounted recirculation tank system designed for use where space in the tank is at a premium or the element needs protection from the workload.

Jet Stream is fully non-corrodible and ideal for heated nitric and nitric acid/hydrofluoric acid mixtures, hydrochloric, sulphuric and chromic acids and most other known corrosive solutions. It is a complete system comprising heating or cooling element, two pumps (one operational, one reserve) and controls, designed to occupy minimum floor space. Jet Stream can be used as an external system for process tanks or as an inline unit.



Electrojet - external electric heating system for highly corrosive solutions

An external electric heating system fitted with Polaris electric elements which can utilise an existing recirculation and control system or be supplied complete with pumps and temperature control.

The small footprint and compact design allows positioning alongside the process tank without occupying valuable space or intruding into work areas. Standard outputs from 4kW to 24kW.



Braude chemical pumps are designed for pumping corrosive chemicals such as hydrochloric, hydrofluoric, nitric and sulphuric acids.

The pumps are constructed from high integrity polymers which have high chemical and impact resistance, therefore corrosion and stain resistant. High temperature performance up to 100°C.

Chemical Pumps

Self Priming Chemical Service Pump

These pumps provide operating heads up to 17m and suction lift up to 3.5m.

A choice of three mechanical seals is available: Hastelloy C for general chemical service, stainless steel for less arduous applications or non-metallic seals for severe duties. Six motor sizes are available from 0.25kW to 1.5kW, all are rated to IP55.

Key Features:



- Self priming chamber with a high flow rate - up to 35m³/Hr
- High efficiency closed impeller
- Lightweight and robust
- Leak proof union connections with adaptors available for existing BSP threads
- Easy maintenance



Heavy Duty Pump

A choice of mechanical seals is available: Non metallic for general chemical transfer, Double water flushed for electroless nickel plating or solutions containing solids and silicon carbide seats for solutions containing HF.

Water regulating kits can be supplied fitted to the pump. Available in six electric motor sizes from 0.37kW to 1.5kW (1/2hp to 2hp), either single or three phase. Motors are rated to IP55.

Key Features:



- Body in PVDF, PVC or PP
- Handles solutions containing solids
- Double water flushed seal available
- High flow rates up to 22m³/hr with an open non clogging impeller
- Twelve months warranty

All pumps are supplied with clear installation instructions, and Braude technical staff are always available to offer advice.

Braude has always maintained a commitment to produce products and service of the highest quality, with fully documented procedures and product records. All equipment is tested and inspected before leaving our workshops. Our quality systems are accredited by UKAS and approved to ISO 9001:2008 and we are currently in the process of upgrading to the new ISO 9001:2015.





Frogspawn

Thermal insulation spheres form a floating blanket ideal for use on the top of open process tanks. The system consists of hollow polymer spheres which are usually polypropylene that are floated on the surface of the liquid to provide a continuous insulating layer.



Workloads like jigs and components can easily pass through the layer. The system is used extensively by electroplaters, anodisers, steel processors and chemical manufacturers.

Key Features:



- Available in sizes from 10mm to 150mm
- Reduce heat loss from surfaces by up to 75%
- Reduce vapour loss from surfaces by up to 90%
- Reduce splashing from the liquid surface
- Increase stability of bath temperature
- Save energy
- Reduce replacement liquid cost
- Create a more pleasant environment
- Reduce corrosive effects of vapour on structure of buildings



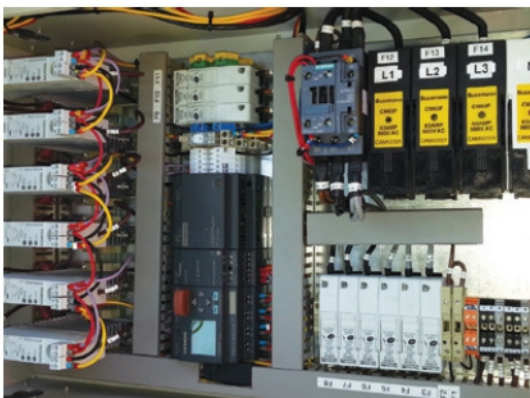
Eductors

Enable improvement of liquid flow and agitation in electroplating, pickling and cleaning tanks. They function by taking liquid normally from a pump and because of their venturi design increase the flow rate by about 5 times.

Key Features:



- Directional flow
- No aeration of liquid
- Manufactured in rugged PP as standard, other materials such as PVDF available to order
- Simple to install and use



Control Panel

Buying a heater is only part of the story as to use this you will need a power supply and control system.

We manufacture custom built control panels specifically to suit your needs and compliant with all regulations, and of course, they can be used with all Braude heaters. We also supply a complete range of ancillaries and accessories for use with heating products.

These include junction boxes with contactors, MCB (miniature circuit breakers) and a range of RCD (residual current devices) to help ensure the electrical safety of heater installations.

Braude have been designing and manufacturing in Great Britain since 1957, and have earned a worldwide reputation as specialists in thermal process equipment, in particular when it comes to the heating and cooling of highly corrosive liquids. They have the ability to not only supply products into particularly harsh environments but also the engineering expertise to help design a complete solution.



Industrial Components - **Corrosive Resistant Heaters**

Specialist manufacturers of acid proof equipment...

- Fluoropolymer Immersion Heaters
- Non-corrodible Heat Exchangers
- Temperature & Level Control
- Metal Immersion Heaters
- External Heating Systems
- Chemical Transfer Pumps

Braude equipment is used worldwide by...

- Steel Strip Manufacturers
- Wire & Tube
- Chemical Plants
- Metal Finishers
- Galvanising
- Aerospace Industry
- Chemical Millers
- Pharmaceutical & Bio-chemical
- Water Treatment

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 focused on minimum lead time, maximum flexibility and full design service, from individual raw material components through to the finished solution.



Industrial/
Projects



Energy/
Environment



Advanced
technology



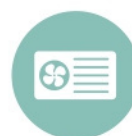
Commercial
equipment



Home
appliance



Transportation



HVAC

Heatrod Elements 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. To guide you in our level of expertise we have produced brochures which introduce you to the three main aspects of our industrial business: **Elements**, **Industrial** and **Projects**.



ELEMENTS

In our Elements brochure you will find reference to all the different types of electric heating elements we produce both in our Manchester factory and in our group companies around the world.

This ranges from the traditional tubular heating elements which remains the most common and versatile form of electric heating available through to more specialist technologies such as flexible film elements.



INDUSTRIAL

Heating is nothing without control and our range of industrial products are engineered not only to provide our customers with the complete heating and control package but also to provide the relevant components in order to build and maintain their own heating applications.

Our application engineering team are available to provide support in selecting the right combination of components through to complete design and manufacturing services.



PROJECTS

Industrial heating processes often demand a level of practical engineering in their design and application in the field.

Our team of application engineers are trained to be able to consult with our customers in solving their process heating challenges and to be able to provide technically and commercially competitive solutions to our customers. Add to this our centre of competence in Sweden and our ability to manufacture and install locally and you have access to a full project delivery team ready to support you.



As part of Heatrod Elements, Braude continues to run its operations and service customers from its base in Sandhurst. If you need more information or have any questions please call us on **0161 727 3713**.



Heatrod Elements, Unit 10, Top Deck, Smethurst Lane, Bolton, BL4 0AN • T: 0161 727 3713 • E: info@heatrod.com

www.heatrod.com • www.heatrodshop.com

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