ELECTRIC HEATING AND TEMPERATURE CONTROL FOR INDUSTRY

U16, Newgrange Business Park, Donore Rd., Drogheda, Co. Louth, Ireland
Elemex is a specialist manufacturer of heating equipment for industry. We offer:

- An in-house design department with many years of experience in application engineering, and the design of heating elements and control systems. Given the details of your application, we will design and specify the right products to give you the result you need, at a competitive price.

- An in-house manufacturing facility where we can produce almost any type of heating element on fast turn-around times, to high quality standards, backed by certification to IS/EN ISO9001.

- Flexibility, - whether you want one or one thousand items, no order is too big, and none too small.

- Sound technical help with your heating problems. We will offer unbiased advice on the best possible solution to your needs.

- Fast and efficient customer service. If you need it in a hurry, we will do everything possible to help.

- Repairs and refurbishing of old or obsolete heaters, where this will save you time and money, and is the best available solution for you.

Our contact details are:  

ELEMEX Ltd.  
U16, Newgrange Business Park,  
Donore Rd., Drogheda,  
Co. Louth,  
Ireland

For sales and technical information, or to place an order:

Please call +353-(0)41-9835611, or

Fax +353-(0)41-9835614, or

Email sales@elemex.ie, or

Find more information at: www.elemex.ie, and at: www.linkedin.com/elemexltd
## CONTENTS

<table>
<thead>
<tr>
<th>Product Group</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartridge heaters</td>
<td>4</td>
</tr>
<tr>
<td>Band Heaters</td>
<td>4</td>
</tr>
<tr>
<td>Strip Ring and Plate Heaters</td>
<td>4</td>
</tr>
<tr>
<td>Cast Aluminium Bronze heaters</td>
<td>4</td>
</tr>
<tr>
<td>Rod Elements</td>
<td>5</td>
</tr>
<tr>
<td>Coil and Cable Heaters</td>
<td>5</td>
</tr>
<tr>
<td>Immersion Heaters (through the side)</td>
<td>5</td>
</tr>
<tr>
<td>Line and Outflow Heaters</td>
<td>5</td>
</tr>
<tr>
<td>Vat Heaters (over the side)</td>
<td>6</td>
</tr>
<tr>
<td>Duct Heaters</td>
<td>6</td>
</tr>
<tr>
<td>Drum Heaters</td>
<td>6</td>
</tr>
<tr>
<td>Ceramic Core Heaters</td>
<td>6</td>
</tr>
<tr>
<td>In-Line Air Heaters</td>
<td>7</td>
</tr>
<tr>
<td>Trace Heating</td>
<td>7</td>
</tr>
<tr>
<td>Flexible Surface Heating Mats</td>
<td>7</td>
</tr>
<tr>
<td>Infra-red Emitters and assemblies</td>
<td>7</td>
</tr>
<tr>
<td>Furnace Elements</td>
<td>8</td>
</tr>
<tr>
<td>Resistance Coils, Wire, Ribbon and Tape</td>
<td>8</td>
</tr>
<tr>
<td>Thermostats and Thermal Control Devices</td>
<td>8</td>
</tr>
<tr>
<td>Thermocouples, RTDs, &amp; Thermistors</td>
<td>8</td>
</tr>
<tr>
<td>Temperature Controllers and Indicators</td>
<td>9</td>
</tr>
<tr>
<td>Power Controllers</td>
<td>9</td>
</tr>
<tr>
<td>Control Panels</td>
<td>9</td>
</tr>
<tr>
<td>Hardware and accessories</td>
<td>9</td>
</tr>
<tr>
<td>Drum and Process Ovens</td>
<td>10</td>
</tr>
<tr>
<td>IBC Container Heaters</td>
<td>10</td>
</tr>
<tr>
<td>Hot Air Tools and Equipment</td>
<td>10</td>
</tr>
<tr>
<td>Thermal Cutting and Sealing Tools</td>
<td>11</td>
</tr>
<tr>
<td>Heat Seal Packaging Machine Spares</td>
<td>11</td>
</tr>
<tr>
<td>Insulation Jackets</td>
<td>11</td>
</tr>
<tr>
<td>Hazardous Area Products</td>
<td>12</td>
</tr>
<tr>
<td>Industrials Space Heating</td>
<td>12</td>
</tr>
<tr>
<td>Industrial Water Heating</td>
<td>12</td>
</tr>
<tr>
<td>Skid Mounted Packaged Systems</td>
<td>13</td>
</tr>
<tr>
<td>Insertion Heaters</td>
<td>13</td>
</tr>
<tr>
<td>Submersible and portable immersion heaters</td>
<td>13</td>
</tr>
<tr>
<td>Large Tank Heaters</td>
<td>14</td>
</tr>
<tr>
<td>Heated Hoses</td>
<td>14</td>
</tr>
<tr>
<td>Ceramic Fibre Heaters</td>
<td>14</td>
</tr>
<tr>
<td>Underfloor heating systems</td>
<td>14</td>
</tr>
<tr>
<td>Further Information</td>
<td>15</td>
</tr>
<tr>
<td>PRODUCT CATEGORIES</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td></td>
</tr>
</tbody>
</table>

**CAST ALUMINIUM/BRONZE HEATERS & HEATER/Coolers**

**Specification** :- Formed sheathed wire elements cast into aluminium or aluminium bronze, in any shape or size. The contact surfaces are accurately machined to give perfect fit and even heat dissipation over the entire part. Available with built in liquid coolant pipes and/or fins for air cooling. We can also supply cooling or insulating cowls, and blower units to match.

**Application** :- Surface heating or cooling of extruder barrels, dies, pipes, or any metal part. The construction of these heaters provides contaminant resistance, accurate heating/cooling, and long service life. Cast heaters can be made to form self heating machine components.

<table>
<thead>
<tr>
<th>PRODUCT CATEGORIES</th>
</tr>
</thead>
</table>

**BAND HEATERS**

**Specification** :- Available with mica, ceramic, knuckle ceramic, or MgO insulation, in a wide variety of formats. Casings of treated or stainless steel, brass, or extruded aluminium. Many termination types, and almost unlimited diameter and width options. Can have holes, cutouts, multiple circuits, and may be hinged, jacketed, insulated, guarded, segmented, or hermetically sealed.

**Application** :- Heating of cylindrical or curved surfaces, in moulding, extrusion, packaging, printing, catering, & general process machinery.

<table>
<thead>
<tr>
<th>PRODUCT CATEGORIES</th>
</tr>
</thead>
</table>

**CARTRIDGE HEATERS**

**Specification** :-
High, medium, & low watt density heaters in 40 metric & imperial diameters, and square section profiles. Available with distributed wattage, unheated sections, built in thermocouples, and many variations of lead style.

**Application** :- Localised heating of dies, moulds, platens, and metal parts generally, in process & packaging machinery. Also available as immersion types to heat liquids & gases where space is limited.

<table>
<thead>
<tr>
<th>PRODUCT CATEGORIES</th>
</tr>
</thead>
</table>

**STRIP, RING, & PLATE HEATERS**

**Specification** :- Made in several formats, using mica, ceramic, knuckle ceramic, or MgO insulation, with terminals, leads, Enclosed or socket type termination. Mica & ceramic type can be made in any irregular flat shape. May be unsheathed, or clad in treated, mild, aluminised, or stainless steel. EEx rated versions are available, as well as finned models for air & gas heating.

**Application** :- Heating of flat surfaces, external heating of tanks & vessels, & heating of air & gases in ducts, ovens, cabinets, etc. Used in plastics, rubber, & fibre machinery, as well as food processing, catering, & process equipment.

<table>
<thead>
<tr>
<th>PRODUCT CATEGORIES</th>
</tr>
</thead>
</table>

**SHAPED HEATERS** :- Mica & ceramic types as described in sections 2 & 3 above can be made in almost any irregular shape, such as oval, square, hexagonal, octagonal, conical, U shaped, L shaped, ellipsoidal, etc. Used for surface heating of irregularly shaped parts in a wide variety of industries.
PRODUCT CATEGORIES

ROD ELEMENTS
Specification: Resistance coils evenly stretched & centred in a metal sheath, filled with MgO, and heavily compacted. Available in 10 round, square, & flat section sizes, in various sheath materials, such as copper, incoloy, mild steel, stainless steel, & titanium. Can be fitted with fins, bushings, ferrules, headplates, glands, brackets, leads, boxes, & many termination options.

Application: This most versatile of elements has almost unlimited uses in heating air & gases, liquids, solids, & vessels, as well as in infra-red applications. Because it can be formed to extremely complex shapes, and grouped to give high power outputs, it is the most widely used element type, and can be found in practically every industry, either in stand-alone use, or assembled into appliances or machines.

COIL & CABLE HEATERS
Specification: Available in 9 round, square, and flat section profiles, coiled, straight, or formed to almost any shape. Can have built in thermocouples for close temperature control, and clamping bands to minimise expansion. Also available cast in copper or brass, with an accurately machined bore, in heat only, cool only, or heat & cool formats.

Application: Mostly used in plastic injection moulding nozzles, runnerless moulding torpedoes, and sprue bushings, but equally efficient in heating any small metal parts at high temperatures and in arduous conditions.

IMMERSION HEATERS
Specification: Removable ceramic core, or embedded rod types, with sheath materials in copper, incoloy, mild steel, & stainless steel. Threaded fittings or bolt flanges in all standard sizes and materials, as well as custom flanges such as clamp-on sanitary type. Made with built in thermostats, thermocouples, RTD’s, cutouts, limiters, & thermal fuses. Standard range up to 180kW, - non standards made to order, with sizes, materials, and loadings to suit the intended application. Soldered, brazed, welded, or field replaceable compression type assemblies. EEx rated versions available.

Application: Installed in tanks and vessels for the direct heating of water, oils, solutions, and most other liquids.

IN-LINE & OUTFLOW HEATERS
Specification: Constructed in mild steel, stainless steel, incoloy, & copper, to suit the intended application. Available in steam, electric, or combination formats, with built in thermostats, temperature sensors, or on board control panels, and safety devices such as pressure relief valves. Standard range from 3kw up to 180 kW, - specials made to order. EEx rated versions available.

Application: In-Line heaters are used to heat liquids to their final operating temperature instantaneously as the liquid passes through the heater, as an ‘in-line’ part of a manufacturing process, or as part of a recirculating heat transfer system. Outflow heaters are mounted directly to storage vessels at the draw off point, to heat liquid from storage temperature to discharge temperature on demand. Mainly used for high viscosity liquids, such as heavy fuel oil.
PRODUCT CATEGORIES

VAT (over the side) HEATERS
Specification :-
Embedded rod or vertical tube types, with sheath materials such as porcelain, glass, quartz, graphite, lead, steel, stainless steel, inconel, titanium, PTFE, & Pyrex. Loadings & dimensions as required, with unheated sections to cater for low liquid levels. Thermostats & cutouts available in protective wells of materials listed above.

Application :- For use in “over the side” applications, heating chemicals, acids, alkalis, & corrosive liquids, in electroplating, pickling, chemical cleaning, and metal surface treatment processes.

DUCT HEATERS
Specification :-
Assemblies of open wire coil elements, plain surface or finned tubular elements, or finned ceramic strip heaters. Available as complete duct sections, or as ‘stab-in’ type for insertion into a duct opening. Can be grouped & wired as single or multi-stage units, and have thermocouples, thermostats, flow sensors, and pressure switches built in. Standard range up to 360kW, special units designed and manufactured to meet specific requirements. ATEX versions available.

Application :- Heating of air or non flammable gas as it passes through the duct, for air conditioning or process heat applications.

DRUM AND CONTAINER HEATERS
Specification :- Metal clad, flexible jacket, or silicon rubber clamp-on types with built in thermostat, to be used singly, or in multiples, flexible fabric type strap-on jackets for any size of metal or plastic vessel. Also full metal wrap around jacket types, with lid and separate heated base, effectively forming a mobile mini drum oven. Induction heated units for hazardous areas, trolley type mobile units, platform types, and direct immersion heaters, for insertion through the bung hole. All available in standard sizes, or made to specific size upon request.

Application :- Heating of solutions, oils, and chemicals in drums, containers, and gas bottles of various sizes, either for safe storage, or to achieve fluidity prior to pumping or processing. Suitable for plastic or metal containers and gas bottles in safe and hazardous areas.

CERAMIC CORE ELEMENTS
Specification :- Spirals of resistance wire threaded through linked ceramic formers, available in seven diameters. Unheated length, overall length, voltage & wattage according to requirement. Single phase, three phase, or multi circuit options, with various termination types and connection heads. Horizontal or vertical mounting types available.

Application :- Used on heating liquids & gases by insertion into a correctly sized thick wall tube. The main benefit being that the core can be withdrawn and replaced without having to drain the tank or process system.

ATEX 200L induction type drum heater available for hire by week or month. Please inquire from our sales team.
PRODUCT CATEGORIES

IN-LINE AIR HEATERS
Specification: A complete range of products designed to heat air to temperatures of up to 870 deg.C., and inert gases up to 1245 deg.C., at pressures of up to 10 bar. With power ratings from 1.5 to 144kW in very compact form, and housings of stainless steel, quartz & ceramic, air volumes of up to 5000 LPM can be processed. A full range of matching controls is available, as well as blowers, hoses, connectors, flares, valves, gauges, etc. Integrated models combine heater, sensor, & controller in a single unit, for precise control, and long life.

Application: Used for heating, drying, curing, soldering & desoldering, sealing, adhesive activation, aseptic packaging, plastic forming & welding, sterilisation, etc., in many industries, but especially in packaging, medical,

TRACE HEATING TAPES & CABLES
Specification: Self regulating, fixed length, or site-cut zone parallel heating tapes, as well as ptfe or pvc insulated, or alloy sheathed mineral insulated heating cables. Made in various power ratings, voltages, & sheath materials, most can have stainless steel overbraiding for mechanical protection, and/or a polymer coating. Glassfibre insulated versions are available for high temperature use, as well as a full range of joiners, couplers, junction boxes, digital & mechanical thermostats, fixings, etc. Pre-assembled ready to use kits for domestic & commercial use available from stock. ATEX cables, termination's, & thermostats are also available.

Application: Used for frost protection, temperature maintenance, or process temperature raising of pipework containing water, chemicals, fuel oils, asphalt, tar, bitumen, wax, and other substances.

FLEXIBLE SURFACE HEATING MATS AND PANELS
Specification: Consisting of resistance wire, tape, or pre-insulated heating cable encapsulated in layers of flexible insulating material. These mats, jackets, blankets, & panels, can be used at temperatures of up to 400 deg.C., and are available in a wide variety of materials, such as silicon rubber, kapton, nomex, mylar, quartz cloth, glass cloth, epoxy, aluminium foil, & moulded GRP. They can be self adhesive, strapped to the heated surface, or held in place by integral eyelet's, and can have built in thermocouples or thermostats, as well as integral insulation.

Application: Used for temperature maintenance, frost protection, and anti-condensation heating of tanks & vessels, conical hoppers, vats, and any irregularly shaped surfaces, in industries such as petrochemicals, mining, pharmaceuticals, medical technology, food processing, chemicals, and for storage or transport, or to facilitate pumping of heat sensitive materials in any industry.

INFRA-RED EMITTERS & ASSEMBLIES
Specification: Long, medium, & short wave infra-red emitters & assemblies, using ceramic, quartz tube, and metal sheathed elements in a variety of styles & power ratings. Ceramic emitters can have built in thermocouples if required. Standard size reflectors and projectors are available, as well as emitters for replacement into existing I/R generators, while full panels & assemblies can be built to cover almost any area, and to suit almost any process application.

Application: Used in personnel comfort heating, animal husbandry, and many processes involving non contact drying, curing, warming, thermoforming, shrinking, cooking, & food temperature maintenance.
PRODUCT CATEGORIES

FURNACE ELEMENTS
Specification: Made from solid alloy wire or strip, or bonded silicon carbide, normally with a central heated zone, and an unheated portion at each end. Also made in U form, and multi leg styles. For use at temperatures of up to 2000 deg. C. Available in a range of diameters, resistances, and lengths, formed as required.

Application: Used for drying, baking, firing, annealing, hardening, and melting in kilns, furnaces, and ovens, in high temperature processes, and in laboratory and test furnaces. Found in many industries, including ceramics, glassware, porcelain, cement & refractories, iron & steel, and metal processing.

RESISTANCE COILS, WIRE, RIBBON & TAPE
Specification: Nickel - chromium and iron - chromium - aluminium resistance alloys, in wire, strip, and ribbon form, either straight, shaped, or coiled to diameter, length, & resistance requirements. Tape is available as flat form, tapered edge, concave, beaded, wave

Application: Open wire spirals form the heating element in many machines & appliances, and are often replaceable. Ribbon and tape is widely used in sealing, packaging, shrink wrapping, and vacuum packing, but also in many process air heating assemblies and machines.

THERMOSTATS & THERMAL CONTROL DEVICES
Specification: Pre-set or adjustable range thermostats, temperature regulators, thermal fuses, cut-outs and limiters. Available as surface mounting, insertion probe type, and capillary styles, with varying dimensions, shapes, and working ranges. Cut-outs and limiters can be automatic or manual resetting. EEx rated versions available.

Application: For temperature control, and safety functions in all types of machines & appliances, they are often built into heating elements & assemblies.

THERMOCOUPLES, RTD’S & ACCESSORIES
Specification: Thermocouples & RTD’s made as tube skin, bare, & mineral insulated types. Single or multi point assemblies in metal, quartz, & ceramic sheaths, with connection heads, leads, head mounted transmitters or terminal blocks, & pressure fittings, bayonet fittings, adaptors, and flanges. Thermowells are available as solid machined, or fabricated types, in a variety of metals and polymers, with threaded or flanged mountings. Connectors and terminal blocks for all RTD and thermocouple calibrations, either in line or panel mounting, standard or miniature, as well as connecting lugs, clamps, & mounting plates. Cables to connect sensors to other equipment is available as extension or compensating type, in single and multi-pair, screened, shielded, or braided, in a wide choice of sheath materials.

Application: Temperature sensing in any application, in any industry, and connection of the sensor to controllers, indicators, signaling devices, control panels, transmitters, etc.
PRODUCT CATEGORIES

TEMPERATURE CONTROLLERS & INDICATORS

**Specification**: A wide range of controllers with analogue or digital setting, single or dual display, on/off & PID functions, in 1/4, 1/8, 1/16, & 1/32 DIN sizes. They can have either fixed or selectable input and output capabilities, as well as configurable alarms, ramp rates, autotuning, and security locking. Multi-loop versions are also available.

We also supply a complimentary range of analogue & digital process indicators.

**Application**: Control and indication of temperature and other process parameters in any industry.

POWER CONTROLLERS

**Specification**: Electromechanical contactors, control relays, thermal overloads, and auxiliary contacts. Single and three phase solid state relays and accessories, such as heat sinks, shields, and thermal pads and compounds. Single and three phase thyristor control packages, with burst firing or phase angle firing. Din rail mounted or base mounted versions, complete with fusing, fan cooling, diagnostic and monitoring capabilities, and all necessary hardware.

**Application**: Switching and control of inductive and resistive loads. Thyristor units used with appropriate temperature controllers or P.L.C.’s give the highest possible accuracy in heating applications.

CONTROL PANELS

**Specification**: Full stand alone, or slave and subsidiary control panels in standard size powder coated or stainless steel cabinets, or in custom made enclosures to specific sizes if required. Made to order, with isolator, temperature and power controls, circuit protection, indicators, relays, contactors, P.L.C.’s, HMI’s, motor starters, switches, timers, meters, load monitoring, alarms, I/O’s, terminals, wiring, etc., as required. ATEX panels available within design and area classification constraints.

**Application**: Control of heating, cooling, and associated functions in plastics & rubber processing, medical, pharmaceutical, chemical, petrochemical, food processing, and other industries.

HARDWARE & ACCESSORIES

A full range of installation ancillaries & accessories for use with our heating & control equipment, including:

- High temperature cables
- ‘Fishspine’ insulating beads
- High temperature cable lugs
- Porcelain connectors
- High temperature sleeving
- Plugs & sockets
- Heat transfer paste
- Insulation materials
- Metallic conduit & wire

In short, anything you need for the installation and maintenance of our heating & control equipment.
DRUM AND PROCESS OVENS

Specification:
- Made using carbon steel framework and sheet metal panels with painted, galvanised, or stainless steel finish. Walls, roof, & doors have 100mm mineral wool insulation, with minimal thermal bridging between inner and outer surfaces. Powered by Electric heaters, steam coils, or thermal fluid circulation coils. Designed to house 1, 4, 8, 16, 24, or 32 drums, but can be used for almost any industrial process heating application. Supplied complete with all necessary controls, interlocks, and safety devices, all models have circulating fans for even heat distribution. Can be made with or without floor, and can have spillage sump, overflow collection trays, roller base for easy loading, etc. IP65 rated versions for outdoor use, and ATEX certified hazardous area versions are available.

Application:
- Easy and effective method of heating drums, either for temperature maintenance or raising. Multi-drum models are designed to accept standard pallets, and will accommodate IBC’s, other tanks and vessels, and can be used to heat almost any item.

IBC CONTAINER HEATERS.

Specification:
- Base heater - Silicon rubber mat heater which can easily be dropped into & removed from the IBC cage. It has a built in PTC temperature sensor, and comes with electronic temperature controller and RCD. Jacket - Made from water resistant, flame retardant insulated polyurethane, with two separate heating circuits and thermostats. Also available as an insulation jacket only. The optional lid is not heated. We also offer a weatherproof outer jacket to allow for outdoor use. ATEX version available.

Application:
- Heating of substances contained in 1000 litre intermediate bulk containers. The base heater’s sensitive control make it suitable for both high energy absorbing products, and high viscosity, temperature sensitive materials.

HOT AIR TOOLS & EQUIPMENT

Specification:
- Hand held, or fixture mountable hot air tools, with outlet temperatures up to 650°C for standard models, and up to 900°C for “Superheat” models. Available with integrated blowers and temperature controls, or as heater only, for external or remote control. Accessories include blowers, nozzles, hoses and fittings, temperature controls, & airflow regulators.

Application:
- Heating, drying, curing, burning, setting, welding, shrinking, soldering, sterilising, etc. Used in a wide variety of industries for a multitude of applications. Special machines & kits for seam welding of floor coverings joints and edges, tarpaulin repair, PVC welding, & paint removal.
PRODUCT CATEGORIES

THERMAL CUTTING & SEALING TOOLS

Specification:
A range of heated tools, available in various power and voltage ratings, for hand held, or bench mounted use. A standard range of sizes are available, but can also be supplied with customised blades or irons, for a multitude of applications. We also offer specially designed equipment for any operation requiring thermal cutting, sealing, punching, etc.

Application:
Widely used in many industries for cutting and sealing synthetic materials, such as ropes, cords, webbing, sacking, sailcloth, tarpaulins, etc., made from nylon, terylene, polypropylene, rubberised canvas, etc. Also used for sealing and jointing polymers in roll form bag form, etc. Typical use would be in the manufacture of slings, lifting straps, seat belts, deck chairs, loudspeakers, shoes, hats, tow ropes, mail bags, etc., and are widely used by riggers, sail makers, upholsterers, flooring contractors, etc.

HEAT SEAL PACKAGING MACHINE SPARES

Specification:
Various products for heat sealing, including:
- Cut length sealing tapes with pre-terminated ends, using ring connectors, copper coating, silver coating, reinforcement, etc., plain or ptfe coated.
- Cut & seal resistance wires, plain or ptfe coated.
- PTFE zone tapes (barrier tapes) in widths from 10mm upwards, and from .07mm to .25mm thick, plain or self adhesive.
- Endless sealing bands, made from plain or ptfe coated stainless steel.
- PTFE coating service for sealing bars and plates.

Application:
Cutting and sealing packaging materials in vacuum packaging, shrink wrapping, polybag filling, fill & seal applications, etc., in any industry where packaging of product is carried out, and in packaging production, such as polybag extrusion, blown film machines, etc.

INSULATION JACKETS
(HEATED, COOLED OR INSULATION ONLY)

Specification:
Made from various high temperature resistant materials, such as aluminised glass cloth, PTFE coated glass fabric, woven glass cloth, etc. with needle mat insulation of fibreglass, Superwool™, etc. Stitched into literally any shape using high temperature thread. Capable of withstanding temperatures of up to 600°C, depending on materials used. Available with built in heating circuits to raise or maintain process temperatures, and/or with built in forced air cooling circuits. Various forms of attachment are used, such as hooks and lacing, ties, velcro™, grommets, straps, banding, etc.

Application:
Used in many industrial applications, such as process temperature maintenance, vacuum bakeout, mould preheating, extruder line barrel insulation, pump and valve freeze protection, antenna freeze protection, viscosity control, composite processing, etc.
HAZARDOUS AREA PRODUCTS
Many types of heaters and control products are available for use in hazardous areas, with full ATEX certification. ELEMEX has extensive experience and expertise in hazardous area classification, and can assist clients in the selection and design of appropriate products and systems. We offer products for liquid heating, space heating, air and gas heating, process heating, drum and IBC heating, etc. together with thermostats, sensors, and Ex rated control panels.

INDUSTRIAL SPACE HEATING
Heating appliances for comfort heating of industrial and commercial areas. Our range includes fan heaters, infra red projectors, tubular heaters, convector heaters, air warmers, oil filled radiators, and unit heaters. Power ratings vary from 300w to 18kw, and of course we also offer temperature control systems for use with these heaters, either built in or remote, from simple bi-metallic room thermostats to complex step and stage control panels, designed for individual applications. ATEX versions available.

INDUSTRIAL WATER HEATING
Water heaters for industrial and commercial use, in both non-hazardous and hazardous areas. Our range includes vented and unvented storage water heaters, cistern type, over-sink type, and Ex rated catering boilers. We also offer steam and hot water boilers with power ratings up to 936kw, as well as specially designed calorifier packages, made in stainless steel, with ratings up to 144kw. ATEX versions available.

ATEX 200L induction type drum heater available for hire by week or month. Please inquire from our sales team.
PURPOSE BUILT SKID MOUNTED PACKAGED SYSTEMS

We offer a complete design and build service for packaged skid mounted heating systems, for liquids, and gases, with no limitation on power ratings. These systems are usually complete with a full control system on board, requiring only inlet and outlet piping, and electrical connection, and are designed to clients specifications. Ancillary equipment, such as pumps, valves, level controls, pressure controls, safety devices, etc. may also be incorporated.

INSERTION HEATERS

Specification: assemblies of mineral insulated heating elements, or open wire resistance coils, fitted to stainless steel, ceramic, or mica support disks, coupled by central rod or strip channel fixtures. They are designed to fit into drywell tubes in tanks and vessels, and allow withdrawal and replacement without drain-down. Manufactured to wattage and voltage to suit each individual application. Made with flying leads, terminal boxes, and front mounting flanges if required. Ceramic and mica types are flexible, to allow fitting in restricted spaces.

Application: Used in heating liquids and semi-solids, for temperature maintenance or raising, in vessels where draining is not possible or desirable. These heaters are robust and long lasting, and suitable for many applications, but especially those involving viscous substances, such as tar, bitumen, asphalt, heavy oils, molasses, etc.

SUBMERSIBLE AND PORTABLE IMMERSION HEATERS

Specification: PTFE, teflon, or PTFE coated metal element assemblies designed for complete submersion in water or chemical solutions. Ranging from 0.5kw to 15kw, with temperature sensors and level controls to match. We also offer metal sheathed element assemblies for higher temperature use in oils and solutions, and for “manhole entry” into deep, closed tanks and storage bunkers, as well as portable heaters for occasional use in open topped vessels.

Application: PTFE heaters are most commonly used in heating corrosive substances such as acids, while metal types are often used in underground tanks, and in closed top storage vessels, in higher temperature applications.
LARGE TANK HEATING SYSTEMS

**Specification:** - Assemblies of embedded rod elements or insertion heaters, usually in metal tubes, with built-in controls, leads, and terminal boxes where required. Almost any length, wattage, voltage, and material can be provided, and almost any tank shape or size catered for. Models available for any substance or duty. ATEX versions available.

**Application:** - For temperature maintenance or raising, or freeze protection in large volume tanks and vessels. They are designed to be installed in large volume vessels, either above ground or underground, and can often be retro-fitted to existing tanks, through the side, through the top, over the side, or through an access port.

HEATED HOSES

**Specification:** - Standard sizes available in pre-made lengths, with embedded heating elements in a PVC hose of various diameters, insulation, end fittings, power lead, and thermostat. Industrial versions made to order with inner hose of PTFE, PVC, rubber, copper, or stainless steel, smooth bore or convoluted, with protective braid and over-sheath, built in temperature sensors, heater and power connection, and end fittings in any standard flange type or size. ATEX versions available.

**Application:** - Used in the transfer of any fluid or liquid that must be kept above an established temperature threshold to prevent damage, solidification, or crystallization.

CERAMIC FIBRE HEATERS

**Specification:** - Composed of resistance wire coils embedded in rigid, high temperature, vacuum formed ceramic fibre shells. Available in full round, semi-cylindrical, or flat panel shapes, of various sizes and loadings, or made to order to specific shapes. Lead exits can be made at any point on any of the standard shapes. These heaters are used at temperatures of up to 1300°C, are 100% organic and asbestos free, and will not smoke or outgas, even at elevated temperatures.

**Application:** - Used in high temperature applications such as furnaces, metal tempering, glass annealing, and various R&D and laboratory applications.

UNDERFLOOR HEATING SYSTEMS

**Specification:** - Tough sheathed single or twin core heating cables, of various wattages, available either in coil form for free-form onsite cutting and terminating, or in pre-terminated mat form for easy laying in concrete screed. Special twin circuit types for use under cold rooms and freezers, along with comprehensive control and alarm systems. Foil and film based options are also available for use above concrete floors but under carpet or wooden finished flooring. Insulation boards, thermostats, clip strips, flexible conduits, and all other necessary accessories are also available.

**Application:** - For comfort heating in domestic and commercial areas, providing economical and practical space saving background heat, and for the prevention of frost heave and cracking under very cold floor areas.
We offer a comprehensive range of standard products, designed and built with the benefit of many years experience in heating technology. However, even a range as wide as ours cannot meet every need. This is where our expertise really counts. Just give us details of what your application is and we will design and build a heater or system to meet your requirement.

**Elemex LTD**

*Unit 16 Newgrange Business Park*
*Donore Road*
*Drogheda*
*Co. Louth*
*Ireland*

For sales and technical information, or to place an order:

Please call  **+353-(0)41-9835611**, or

Fax       **+353-(0)41-9835614**, or

Email    **sales@elemex.ie**, or

Find more information at:  [www.elemex.ie](http://www.elemex.ie), and at:  [www.linkedin.com/elemexltd](http://www.linkedin.com/elemexltd)