

FROM CONCEPT TO COMPL



WELCOME

It is my pleasure to introduce Heat Exchange and Transfer, Inc. HEAT is a dynamic company in the expanding field of heat transfer products for process industries. The entire company is focused on continually refining our operation to achieve total quality. We work as a team, with all employees included in a profit sharing program.

It is an honor to be associated with this dedicated group. I'm sure you will be satisfied with our products and services.

Eugene M.Milas
President

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Since its incorporation in 1968, Heat Exchange And Transfer, Inc.(HEAT) has maintained all operations; sales, engineering, and manufacturing, at a single location in Carnegie, Pennsylvania, a suburb of Pittsburgh. This integrated facility improves communication, product quality, customer service and delivery times.

HEAT offers an extensive line of standard and custom products with a specialization in fluid heat transfer



Our facilities are located in Carnegie PA, just minutes from downtown Pittsburgh and Pittsburgh's International Airport.



One of our three production bays, with over 50,000 square feet of work area and three overhead cranes.

systems. Other products include process heaters, tank heaters, and electrical control centers. The following pages provide an overview of our capabilities. All standard products, can be "custom designed" to meet the customer's process requirements. Application assistance is available through our engineering department and our factory sales engineers.

ETION WE'RE INVOLVED

HEAT's engineering department is fully automated, utilizing 3D AutoCAD Inventor and ERP management software. Products can be manufactured in accordance with the ASME code (HEAT maintains both U&S stamps), which includes quality checks by a third party inspector. For each customer order, engineering, sales, purchasing and production work together as a team to ensure that the specifications are fulfilled and delivery schedules are met.

Prior to shipment, all systems undergo a complete operational test. The customer is invited to witness this final test. Once a customer has installed a system, HEAT offers on-site startup service. International startup packages are also available. In addition, HEAT offers a



Design drawings are generated on 3D AutoCAD.



The above photo shows a 550°F hot oil system during the final operating test.

variety of "after sale" support including safety inspections, field services and a complete line of spare parts. Standard warranties are offered on all products, including a full two year warranty on all immersion heaters and open coil heaters.

From "concept to completion" we are committed to working with the customer to meet their process heating needs. This personal approach, and our commitment to quality, will achieve our goal of forming a lasting business relationship with our customers.

The photo to the right shows a steam heated, tempered water system. Special features include: dual steam exchangers, flow thru tank, dual pumps, bypass flow control valve and stainless steel jacketing.



THERMAL OIL TEMPERATURE CONTROL SYSTEMS

HEAT offers a wide range of standard and custom skid packaged hot oil systems designed for use with synthetic or oil based heat transfer fluids. All models feature high quality "industrial grade" components. Standard packages include low watt density heater, high flow cen-

trifugal pump with mechanical seal, high point expansion tank, and NEMA control panel. Systems can be customized with options such as: magnetic drive pumps, process cooling with air or water, ASME stamped vessels and hazardous area designs.



WM SERIES

WM Series units are compact thermal fluid systems designed for use with oil based heat transfer fluids at up to 450° F. System features include: water cooled centrifugal pump, foamlglass insulation and sheet metal enclosure panels. Electric heater capacities to 48 kW.

KM SERIES

KM Series units are compact, open skid systems designed for use with mineral oils and synthetic heat transfer fluids. The system includes an air cooled centrifugal pump and is designed for operating temperatures up to 550° F. Electric heater capacities to 120 kW.



SL SERIES

The SL Series units are large capacity, open skid systems with design temperatures available from 550 to 750° F. SL units are custom designed and include a wide range of pump designs and cooling options. Electric heater capacities to 480kW.

GFO SERIES

The GFO Series units are high capacity, natural gas fired thermal fluid systems. Units are commonly used as a central heat source in conjunction with our satellite series units for control of multiple independent zones. Heater capacities to 20 mm BTU/Hr.



SECONDARY LOOP TEMPERATURE CONTROL SYSTEMS

EM SERIES

EM Series heat transfer systems are designed for closed loop temperature control of common heat transfer fluids, utilizing existing plant heating and cooling utilities. EM Series units are available in the following configurations:



INDIRECT HEATING

Heating only units configured with a heat exchanger for indirect heating using steam or hot thermal fluids.



INDIRECT HEATING INDIRECT COOLING

Heating and cooling units configured with both heating and cooling exchangers.



INDIRECT HEATING DIRECT COOLING

Heating and cooling system configured with heating exchangers and direct inject cooling valves.

WATER CIRCULATING TEMPERATURE CONTROL SYSTEMS

HEAT offers a wide range of standard and custom skid packaged water circulating heat transfer systems. Systems are available with electric or gas fired heaters and coolers utilizing air, water or mechanical refrigera-

tion. Systems can be designed for use with water or water/glycol heat transfer fluids. All models feature high quality "industrial grade" components. Most systems can be customized with a wide range of options.



MWG SERIES

MWG Series water temperature control units are compact, cost effective water systems. Units are available in single and dual zone configurations with direct injection, closed circuit, or isolated circuit process heating and cooling. Electric heater capacities to 48 kW.

WG SERIES

WG Series fluid heat transfer systems provide circulating temperature control of process equipment using water or water/glycol mixtures at temperatures up to 250° F. Electric heater capacities to 240 kW.



GFW SERIES

The GFW Series units are high capacity, natural gas fired hot water systems. These units are commonly used as a central heat source in conjunction with our satellite series units to provide temperature control of multiple independent process zones. Heater capacities to 5 mm BTU/Hr.

HCW SERIES

HCW Series chillers are used with water or water/glycol mixtures as the coolant. Packages includes: compressors, water or air cooled condensers, direct expansion evaporator, fluid reservoir, circulation pump, and complete controls. Capacities to 60 ton.



SECONDARY LOOP TEMPERATURE CONTROL SYSTEMS

SS SERIES

The SS Series are secondary loop heat transfer systems designed for recirculating temperature control to independent users by utilizing existing plant heating and cooling utilities. SS Series units are available in the following configurations:



DIRECT HEATING

Heat only configurations with direct inject heating valve for use with steam or hot thermal fluids.



DIRECT HEATING INDIRECT COOLING

Heating and cooling units, configured with direct inject heating valve and a cooling exchanger.



DIRECT HEATING DIRECT COOLING

Heating and cooling units configured with direct inject heating and cooling valves.

PROCESS HEATERS

HEAT's electric process heaters utilize either open coil or tubular heating elements. The appropriate type of heating element and product design depend on the specific application and its heating requirements. The design criteria includes: initial costs, projected life of the

equipment, temperature, pressure and the characteristics of the fluid or gas to be heated. Options for process heaters include custom designed skid packages with complete controls and special components.

CIRCULATION HEATERS



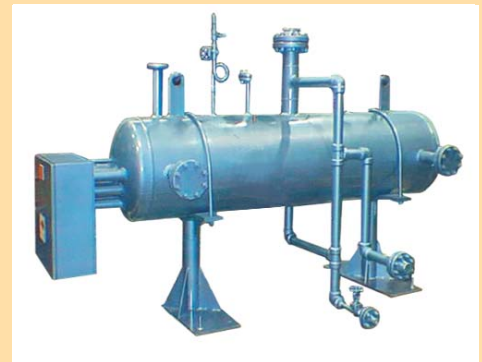
- TEMA baffles provide increased heat transfer and structural support
- ASME code design and stamp available
- Stainless steel construction available
- Various terminal housings and control options available
- Request Sales Bulletin CH

AIR DUCT HEATERS



- For process gas heating, drying ovens, air pre-heating, paint drying and curing, heat treating and more
- Various terminal housings and control options available
- Duct transition sections available
- Request Sales Bulletin ADH

VAPORIZERS



- Uses vapor phase organic fluid for process heating up to 750°F, with relatively low pressure
- ASME code designed and stamped
- Heating elements removable without draining the vessel
- Request Sales Bulletin OFV

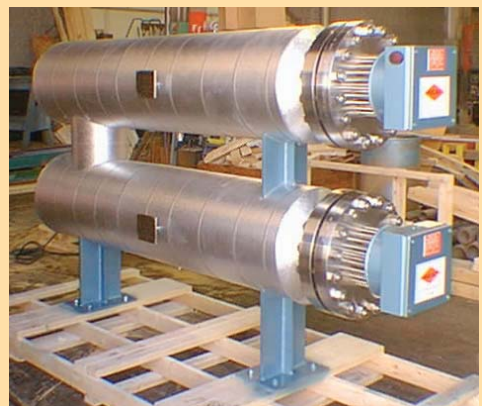
CIRCULATION HEATER PACKAGES



480 kW boiler water pre-heater



200 kW fuel oil pre-heater



80 kW steam superheater

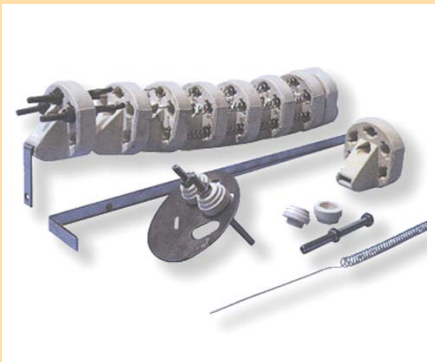
- Custom fabricated, skid packaged circulation heaters and integral controls pre-piped, pre-wired and mounted on a drip proof base
- Horizontal or vertical mounting, multiple chambers, portable carts and circulation pumps are among the many options available
- Request Sales Bulletin CH

TANK HEATERS

Tubular heating elements and open coil heaters also provide the basis for HEAT's tank heater line. Tubular elements are manufactured in a variety of watt densities and sheath material and are usually immersed directly into the fluid. This allows for a wide range of operating temperatures and material applications, while providing

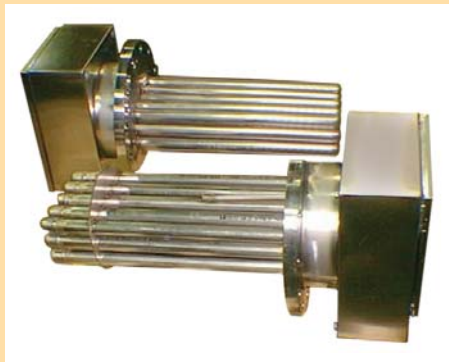
long service life. The design of the open coil heating element allows it to be bent on a radius, making it ideal for many special applications. The heater design is based on the characteristics of the tank, substance heated and operating conditions. Complete control centers and custom designs are available.

OPEN COIL HEATERS



- No need to drain tank to replace heater
- Designed for insertion into standard 2" or 3" closed pipe wells
- Low watt density, ideal for viscous or heat sensitive fluids
- Flexible element requires only 3 feet of clearance for removal
- Request Sales Bulletin OCH

MULTI-CELL HEATER



- Elements inside closed pipe wells
- High temperature designs
- No need to drain vessel to replace heater elements
- Available in stainless steel or alloy construction

SCREW PLUG HEATERS



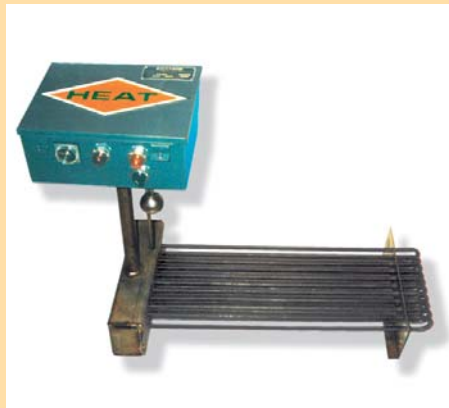
- Use instead of tubular screw plug heaters
- No need to drain vessel to replace heater elements
- Install through 2.5" coupling

UST HEATERS



- Open coil heaters can be replaced without draining the tank
- Packaged with complete controls for minimum installation costs
- Element requires only 3 feet of clearance for removal
- Request Sales Bulletin UST

OVER-THE-SIDE-HEATERS



- Nema 12, 4, or 7 terminal housings available
- Custom designed for the application
- Controls available.

FLANGED HEATERS



- 5" thru 14" flange and larger
- NEMA 12, 4, or 7 terminal housings available
- Custom designed for the application and controls available
- Request Sales Bulletin FH

WHAT MAKES THE DIFFERENCE...what sets us apart?

- Custom Engineered Systems
- Components Technically Selected
- Unequalled Application Experience
- Quality "Built-To-Code" Manufacturing

THAT'S THE DIFFERENCE!

EXPANSION TANKS

We don't assume a standard expansion tank will do . . . we run calculations and size the tank for your system . . .

THAT'S THE DIFFERENCE!



CONTROL CENTERS

We don't assume a standard control panel will do . . . we design each panel with the right components for your system . . .

THAT'S THE DIFFERENCE!



EXCHANGERS

Our systems don't come with standard cooling exchangers . . . we run calculations and select the right cooler for your system . . .

THAT'S THE DIFFERENCE!



PUMPS

We don't assume a standard pump will work for your application . . . we calculate flows and pressures, then size the pump for your system . . .

THAT'S THE DIFFERENCE!



HEATERS

We don't use standard off the shelf heaters. . . we design and build each heater for your system requirements

..THAT'S THE DIFFERENCE!



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