

Thermal Fluid Heaters

Water Bath Heaters

Direct Fired Convection Heaters

Waste Heat Recovery



Process Heating Solutions

www.fseenergy.com
985-867-9150

Thermal Fluid Heaters

Equipment Data:

Capacity: 0.5 - 75 MMBtu/hr

Media Temperature: 50°F-750°F

Burner Turndown: Up to 40:1

Fuels: Natural Gas, #2, #6, Propane, Syngas, Dual Fuel

Efficiency: Up to 94% LHV

Orientation: Vertical or Horizontal

Control Systems:

Burner Management

PLC Systems (option)

DCS Systems (option)

Design Standards:

ASME, NFPA 87, FM/ IRI, CRN, PED, GOST, UL, NEMA, Class I Division I, ATEX



FSE Energy offers a full range of thermal fluid heaters, which are highly customizable depending on customer requirements.

Typical Applications:

- ◆ Thermal Oil Heating
- ◆ Glycol Heating
- ◆ Amine Reboiler
- ◆ Regeneration Gas Heating
- ◆ Reactor Vessel Heating
- ◆ Tank Heating
- ◆ Cooking / Food Processing
- ◆ Platen or Press Heating
- ◆ Molds or Dies Heating
- ◆ Dryers
- ◆ In-Line Gas Heating
- ◆ Building Heaters
- ◆ Process Reboilers
- ◆ Natural Gas Heating
- ◆ Crude Oil Heating



Electric Process Heaters

Equipment Data:

Capacity: 200kW - 2.0 MW

Media Temperature: Up to 750°F

Control Systems:

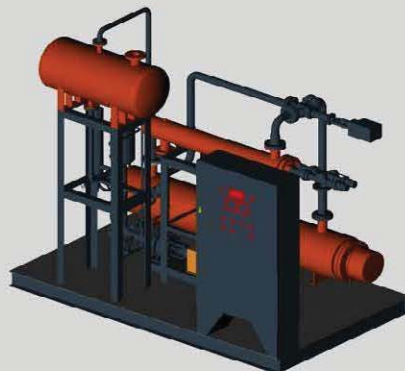
Burner Management

PLC Systems (option)

DCS Systems (option)

Approvals:

ASME, NFPA 87, FM/ IRI, CRN, PED, GOST, UL, NEMA, Class I Division I, ATEX



Water Bath Heaters

Equipment Data:

Capacity: 0.5 - 15 MMBtu/hr

Media Temperature: Up to 250°F

Burner Turndown:

Natural Draft: 4:1

Forced Draft: 40:1 max

Fuels: Natural Gas, #2, #6, Propane, Syngas, Dual Fuel

Efficiency:

Natural Draft: Up to 75% LHV

Forced Draft: Up to 87% LHV

Control Systems:

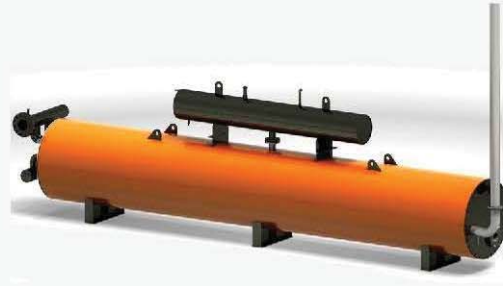
Burner Management

PLC Systems (option)

DCS Systems (option)

Approvals:

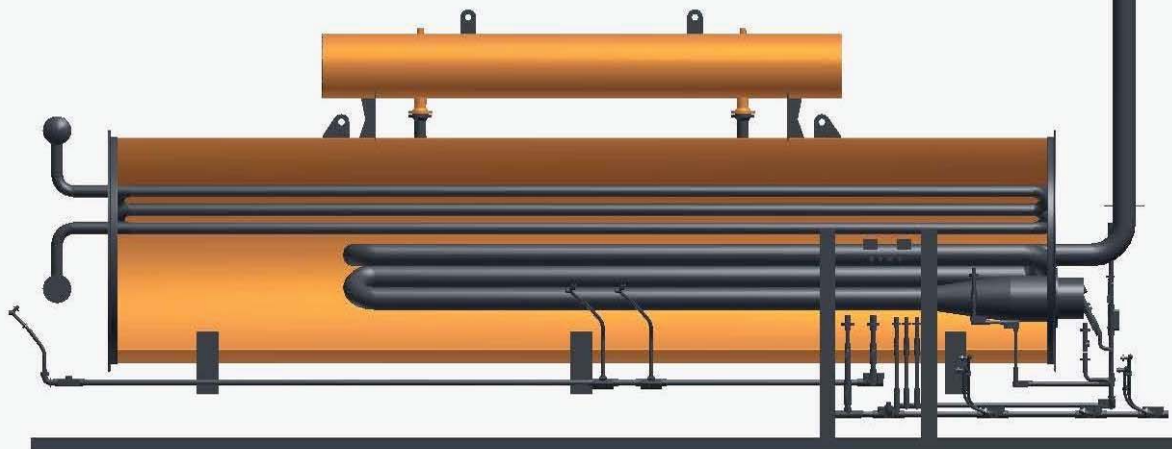
ASME, NFPA 87, FM/ IRI, CRN, PED, GOST, UL, NEMA, Class I Division I, ATEX



Typical Applications:

- ◆ Natural Gas Heating
- ◆ Crude Oil Heating
- ◆ In-Line Gas Heating
- ◆ Glycol Reheating
- ◆ Amine Reboiler
- ◆ In-Line Liquid Heating

FSE Energy designs and supplies high efficiency forced draft and natural draft water bath heaters for liquid and gas heating applications.



Direct Fired Convection Heaters

Equipment Data:

Capacity: 0.5 - 125MMBtu/hr

Process Media Temperature:

Temperature Range : Up to 1200°F

Pressure Range : Up to 2500psig

Burner Turndown: Up to 40:1

Fuels: Natural Gas, #2, #6, Propane, Syn gas, dual fuel

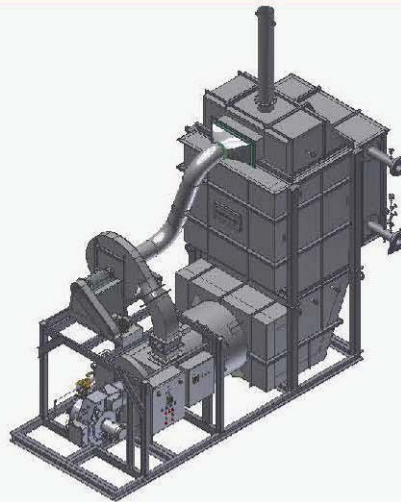
Efficiency: Up to 93% LHV

Control Systems:

Burner Management

PLC Systems (option)

DCS Systems (option)



FSE Energy offers convection liquid and gas heaters for various industries that can be designed to meet process demands.

Typical Applications:

- ◆ Regeneration Gas Heating
- ◆ Steam Superheating
- ◆ Natural Gas Heating
- ◆ Crude Oil Heating
- ◆ Thermal Oil Heating
- ◆ In-Line Gas Heating
- ◆ Other Direct Process Heating

Waste Heat Recovery

Typical Waste Heat Producers

- ◆ Boilers
- ◆ Fired Heaters
- ◆ Dryers
- ◆ Exhaust Flue Gas
- ◆ Thermal Oxidizers
- ◆ Kilns



Typical Waste Heat Users

- ◆ Building Heat
- ◆ Air Preheaters
- ◆ Process Heat
- ◆ Steam Injectors
- ◆ Water Heating
- ◆ Other Direct Process Heating

FSE Energy can design and fabricate a completely customizable skid to reclaim waste heat energy (above 250°F) from different types of processes. Each unit is designed based upon the available energy stream.