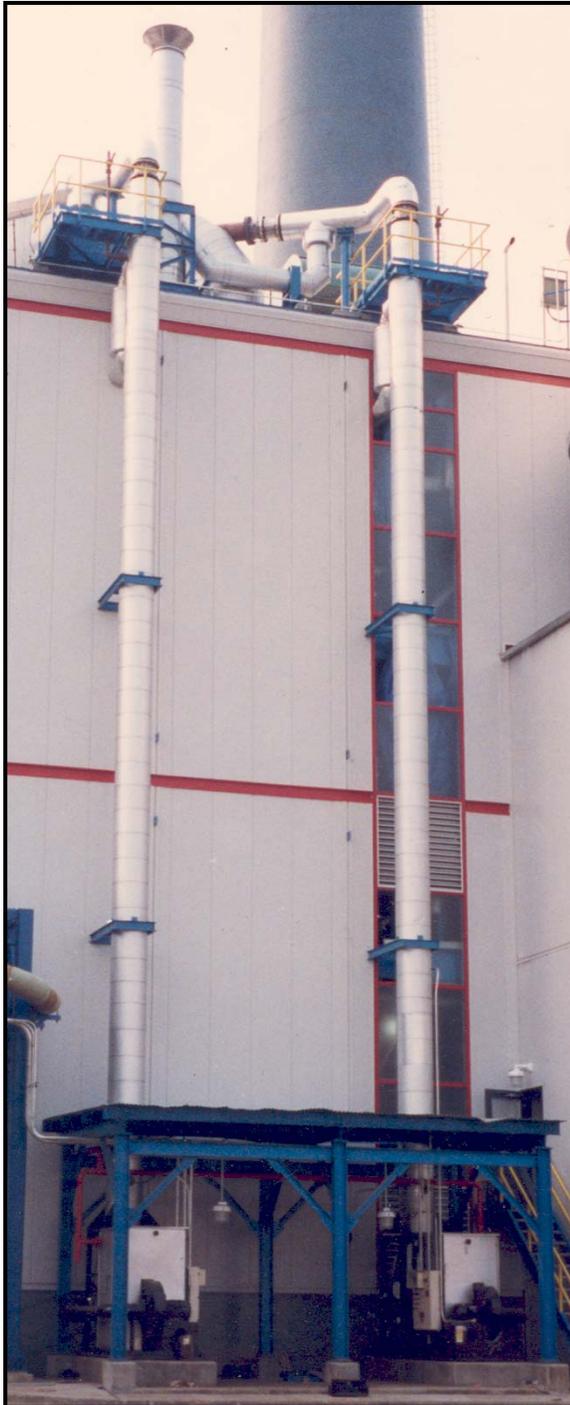




BROWN FIRED HEATER DIV. ES THERMAL, INC.

PROCESS & TANK IMMERSION HEATERS



Brown Fired Heater has been providing process and tank immersion heaters for petrochemical and refinery applications for over 50 years.

PROCESS HEATERS FOR:

- Asphalt
- Heavy Oils
- Process Liquids
- Crude Oil / Brine
- Heat Transfer Fluids
- Steam Superheating
- Air & Gases to 1200°F / 650°C

TANK IMMERSION HEATERS FOR:

- Process Fluids
- Firewater Tanks
- Asphalt / Oil Tanks
- Bioremediation Tanks
- Oil / Water Separation

Two vertical Type 102 Process Heaters installed outside a plant.

TYPE 102 IN-LINE PROCESS HEATERS

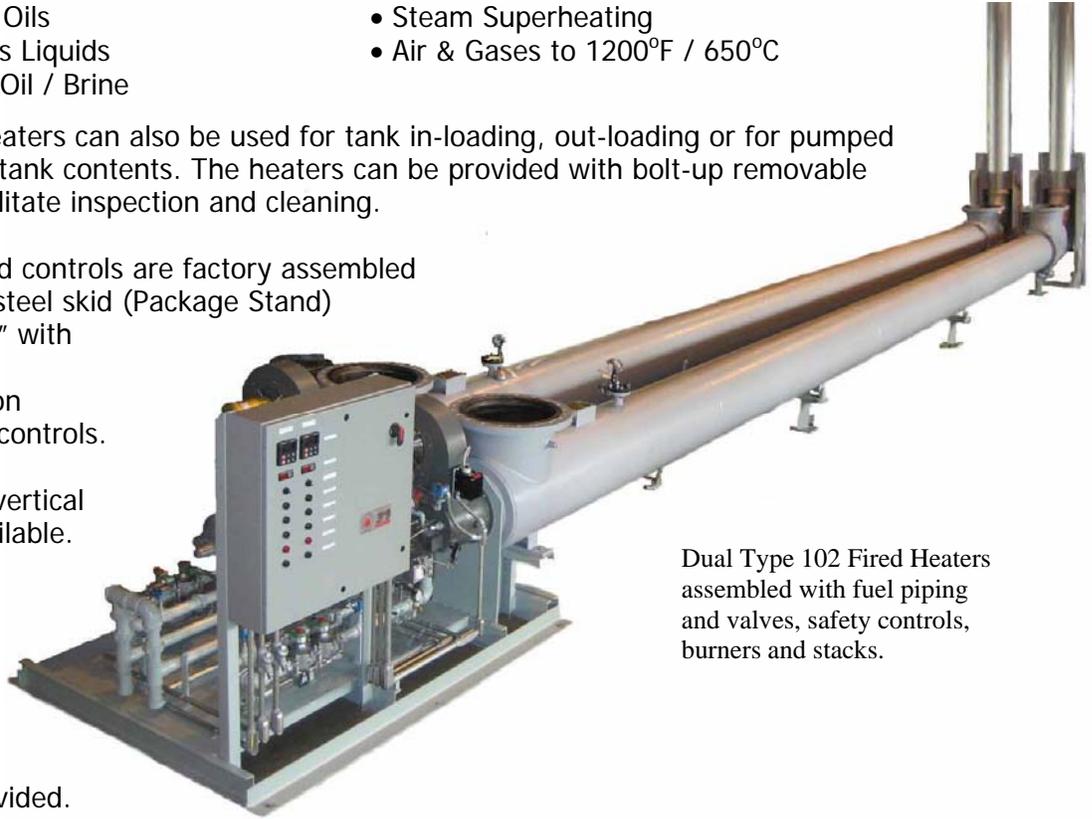
Heavy duty, finned pipe design, the Brown Type 102 fired heater heats pressurized liquids or gases with natural gas, propane or refinery fuel gas.

- Asphalt
- Heavy Oils
- Process Liquids
- Crude Oil / Brine
- Heat Transfer Fluids
- Steam Superheating
- Air & Gases to 1200°F / 650°C

These in-line heaters can also be used for tank in-loading, out-loading or for pumped flow heating of tank contents. The heaters can be provided with bolt-up removable firetubes to facilitate inspection and cleaning.

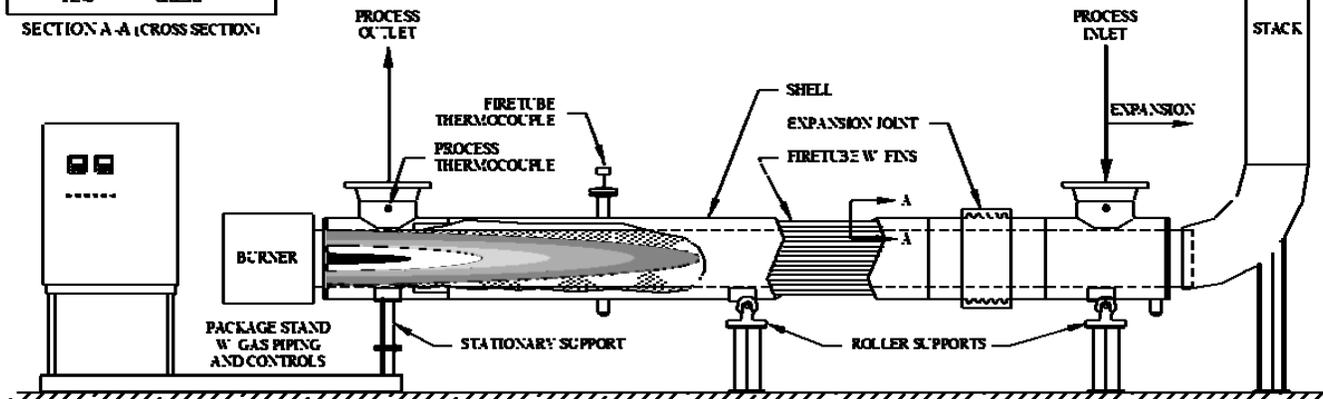
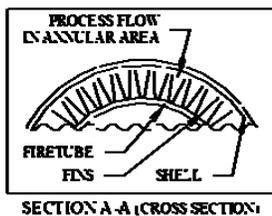
BFH burners and controls are factory assembled on a structural steel skid (Package Stand) and "fire-tested" with temperature, flame supervision and fuel safety controls.

Horizontal and vertical designs are available. ASME Boiler & Pressure Vessel Code SECT I and VIII design, fabrication, and registry can also be provided.



Dual Type 102 Fired Heaters assembled with fuel piping and valves, safety controls, burners and stacks.

Heaters utilize no heat absorbing, high maintenance refractory materials. Heat is supplied by a special long flame burner to the process through fins continuously resistance welded to the firetube.



Typical Type 102 Process Heater installation.



Burner with blower and controls.



Type 302 Heater with firetubes welded to tank mounting flange.

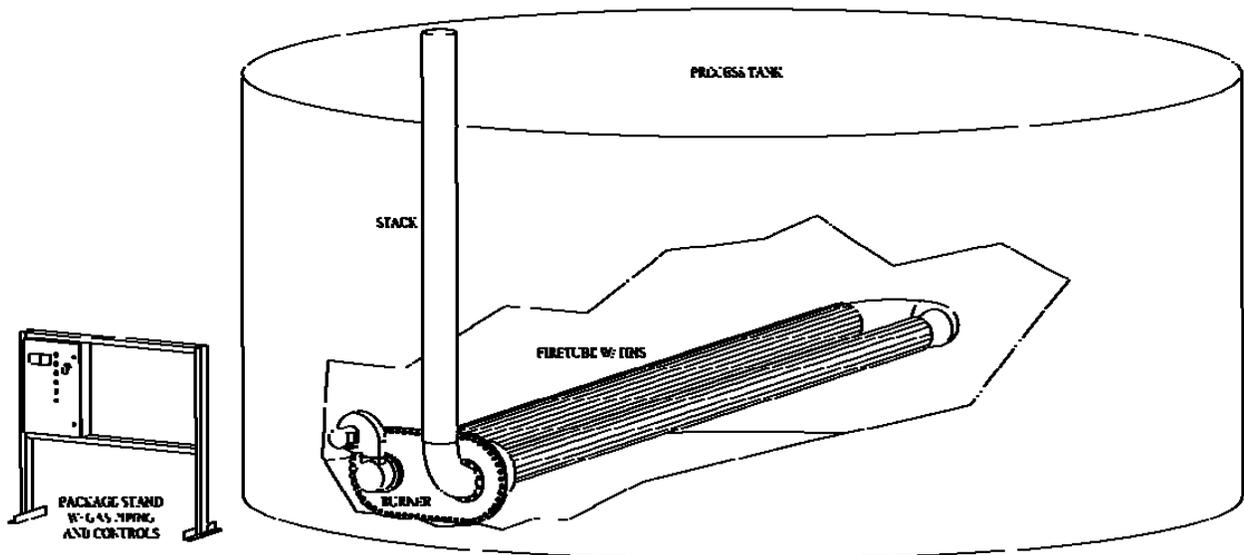


Type 302 Package Stand "skid" with fuel piping, valves and safety controls.

TYPE 302 TANK IMMERSION HEATERS

Type 302 tank immersion heaters are U-shaped in design. The entire heater is installed through a bolted (or welded) flanged opening in the tank wall. A burner fires inside one "leg" of the heater and exhaust gases exit the other "leg" to a stack external to the tank.

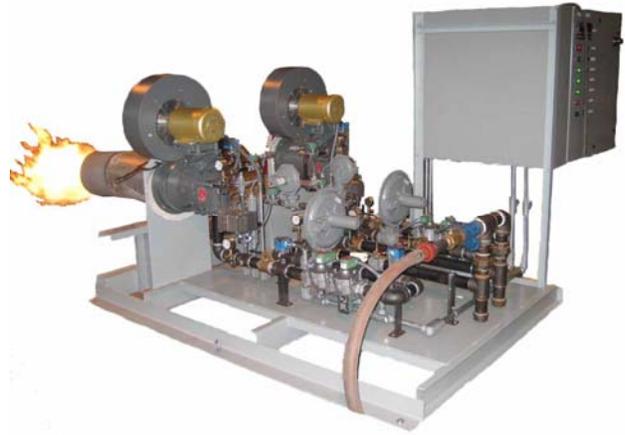
- Process Fluids
- Firewater Tanks
- Asphalt / Oil Tanks
- Bioremediation Tanks
- Oil / Water Separation



Typical Type 302 Immersion Heater installation.



- The Type 102 and 302 Heaters utilize heavy wall pipe with continuously resistance welded fins to transfer heat from long flame burner to product.
- No refractory utilized, permitting rapid heat-up and shut-down and minimal maintenance.



- Type 102 Package Stand "skid" assembled with burners, fuel valving and electrical controls.
- Each package stand is test-fired for control and safety functions.

Brown Fired Heater has been providing Type 102 and 302 heaters to major petrochemical and refinery customers for over 50 years, such as;

- Petroecuador
- ExxonMobil
- Imperial Oil
- Ecopetrol (Colombia)
- BP Oil
- Air Products
- Petrojam (Jamaica)
- Valero
- Linde
- Refineria La Pampilla SA (Peru)
- Shell Oil
- Praxair

Please contact our factory office with any questions or if you would like further information.



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