KWI

PRODUCTION Solutions

INDIRECT HEATERS

Robust Skid Design

Safe, even rigging of heater vessel with proper support

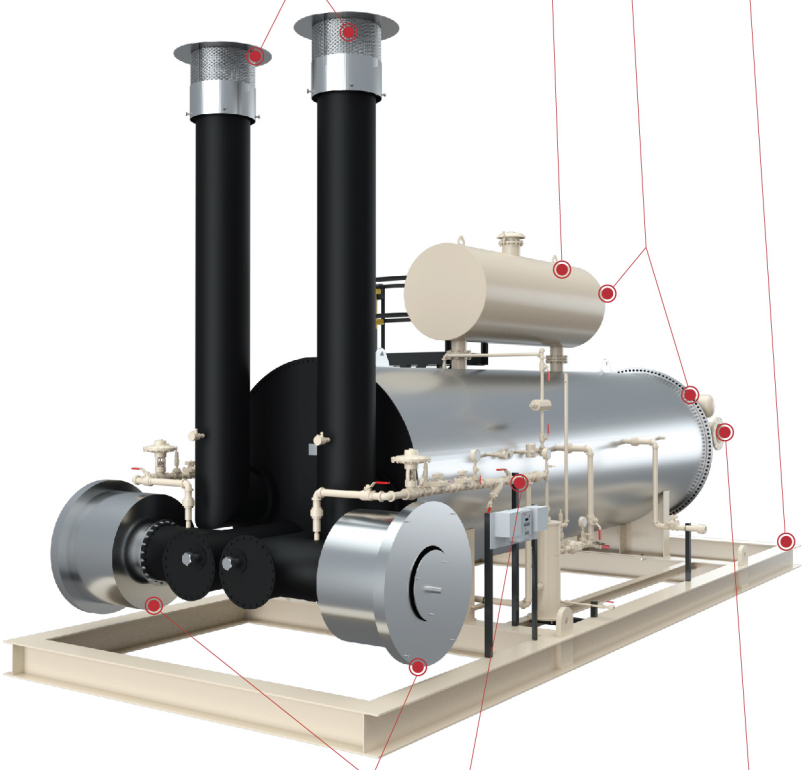
Heater Shell

Proper structural support and greater insulation

Removable Expansion Tanks

Ladders / platforms per client specifications

Multiple Stack Configurations



Single/Dual Fire Tube

Multiple configurations offers operators the ability to modulate burner's for peak/normal loads

Customizable Fuel Train

Per Client Specification

Certified Internals

Heater designed, fabricated and stamped per API-12K

ADVANTAGES

INCREASED SAFETY

- KWI offers leading brands of heater fuel train safety systems and BMS/PLC systems for operational safety of our indirect heaters. These vendors offer the latest in technology on safety devices to protect personnel, the local public and company assets.
- BMS Standard Options:
  Profire · Surefire · ACL/Rush · Guardian
- Custom Options:
  KWI's I&E Automation team can package custom BMS/PLC packages and panels to meet customer required specifications.

PREMIUM COMPONENTS

- KWI utilizes leading suppliers of fuel train related components to provide reliable, high quality products: (Fisher regulators, Norriseal, Kimray, Swagelok, Wellmark, Eclipse, Flameco-Profire, Surefire, ACL), and Eclipse compound burners to offer maximum fuel efficiency and turndown.

BENEFITS

INCREASED EFFICIENCIES

- Heating of gas, water and heavier crude increases the efficiency of separation and is easier for processing and fluid movement.

ENVIRONMENTALLY FRIENDLY

- KWI utilizes Eclipse compound burners to offer maximum fuel efficiency and turndown. State of the art burner options for high combustion efficiency and low NOx compliance.

ABOUT KWI

EQUIPMENT STOCKING

Standardized, in-house designs offer KWI the ability to stock many off-the-shelf parts for Line Heaters, resulting in deliveries that meet, or exceed customer requirements.

MAINTENANCE

KWI's equipment is designed for ease of access to all components for ease of service in the field. Our service network assures you will have qualified personnel onsite for commissioning or diagnosing and fixing any upsets. KWI also provides onsite training for client personnel and operating guides for reference.

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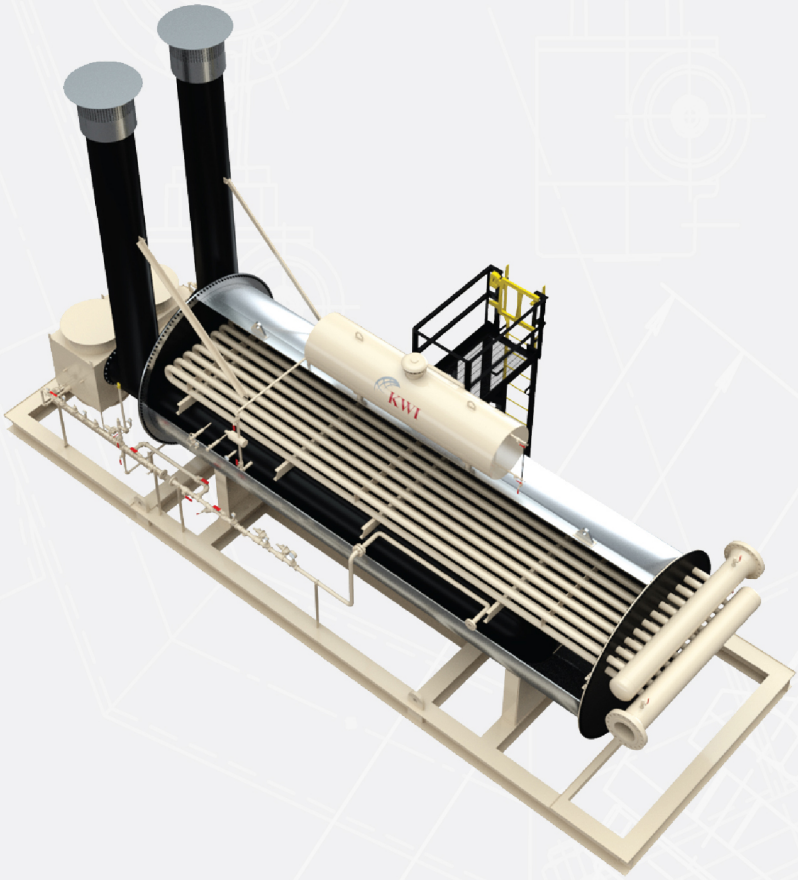
TECHNICAL DETAILS – INDIRECT HEATER



PRODUCT OVERVIEW

Our standard line heater designs offer a proven track record supporting major energy customers, can be customized to your specific needs that accommodate various applications. Industry specifications relative to heaters are ASME Code, API-12k, API-12N, and B31.3

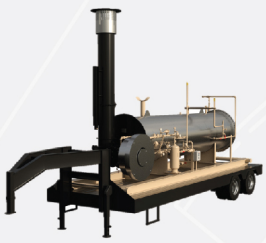
Heating natural gas prior to separation and pressure reduction increases the efficiency of separation and prevention of hydrates, heating of water for water jacket and water transfer applications, heating of heavier crude oils for easier processing and fluid movement.

THEORY OF OPERATION

Indirect line heaters heat gases and liquids safely over a broad spectrum of temperatures and pressures and consist of the shell, firetube and coil. Equipment design and accessory variations depend upon the bath media and the process requirements. The four types of indirect heaters are distinguishable by the heat transfer medium they are designed to use – water, salt bath, oil bath, and steam bath.

OPTIONAL FEATURES / CUSTOMIZABILITY

- Burner Management Systems: Profire · Surefire · ACL/Rush · Guardian
- Downdraft diverter and rain cap
- Low level liquid shut off
- Skid
- Platform and ladder
- Manifold and valves for fuel meter
- Client specific paint and testing requirements



SOUTH TEXAS

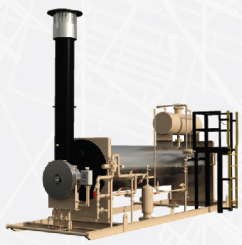
Single-fire tube heaters
50k – 3MM BTU

WEST TEXAS

Dual-fire tube heaters
3M-10MM BTU

NORTHEAST

50k – 20MM BTU Heaters
Natural and Forced Draft
Designed with and without regulation, pending customer requirements



NORTHWEST

Split-pass coils w/ choke
Or
Trailer-mounted test unit

INDIRECT HEATER – TECHNICAL SPECIFICATIONS