

INDIRECT HEATERS

THERMOENGINEERING provides a wide range of advanced Indirect Heaters, having a long history of successful applications in the Oil & Gas industry



Indirect Heaters have a long history of successful applications in the oil and gas industry. They have been used in heating operations of several fluids, from natural gas to crude oil.

The main application of Indirect Heaters is heating gas prior to its pressure reduction and consequently preventing hydrate formation that can occur because of the temperature drop due to the Joule Thomson effect.

The natural gas can also be post-heated in order to adapt to the operation of gas turbines.

Indirect Heaters consist of three basic elements; the fire tube (firebox), the heater shell, and the process coil.



[1-7] Indirect Bath Heater // Client: Ansaldo // Place: Aprilia (Italy)

[3] Burner for Indirect Water - Glycol Bath Heater

[4-5-6] Indirect Bath Heater // Client: Ansaldo // Place: Rizziconi (Italy)

The fire tube is designed to transfer the heat, released by fuel combustion, into water bath.

The shell is designed to contain the heat transfer media which can be: Water, Water + Glycol or Glycol.

The process coil is designed to safely contain the process fluid and to transfer the required heat from the water bath into the process stream.

Indirect Heaters are commonly used in applications requiring maximum bath temperature of 203°F (95°C).

Some typical applications of Indirect Heaters are:

- > High pressure gas and/or oil field production
- > Turbine inlet gas heating in thermo power plants
- > Gas heating at city stations or at spill-offs from the main pipeline
- > High viscosity crude oil heating in order to reduce pumping pressure and increase pipeline capacity



[8-9-11] Indirect Bath Heater // Client: Ansaldo // Place: Aprilia (Italy)

[10] Indirect Glycol Bath Heater // Client: Agip // Place: Sergnano (Italy)