

Gas Heater



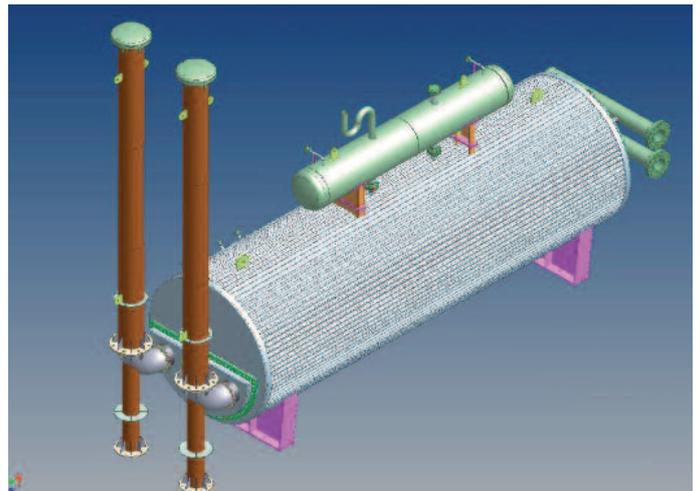
Why an indirect Heater

It is to be found in an economic justification. The fluid carrying coils are operated at a maximum pressure of 3,000 psi. (depending on the customer requirements), whereas the shell of the indirect heater containing the heat transfer medium (water) is operated usually at atmospheric pressure, or at a very little pressure above it, therefore it's required a thin wall vessel for the heater shell. In addition, also the firetube needs withstand only the atmospheric pressure plus a few pounds. It would be prohibitive from several standpoints to attempt to make firetube to withstand the pressure of 3,000 psi as well as the heater shell itself; thus the creation of the indirect type heater with fluid carrying high pressure coils immersed in an atmospheric pressure water bath heated by a firetube operating close to the atmospheric pressure.



What is an indirect Heater

An indirect heater is an oilfield terminology for a vessel complete with: a firetube (which is usually fired by natural gas), a fluid around the firetube (which is usually water) and, immersed in the fluid, a coil containing the fluid to be heated. The water bath around the firetube is heated directly by having contact with the firetube and the coil containing the fluid to be heated is immersed in this hot water bath. Because there is an intermediate step of heat transfer between firetube and coil, the heater derives its oilfield terminology of "indirect heater".

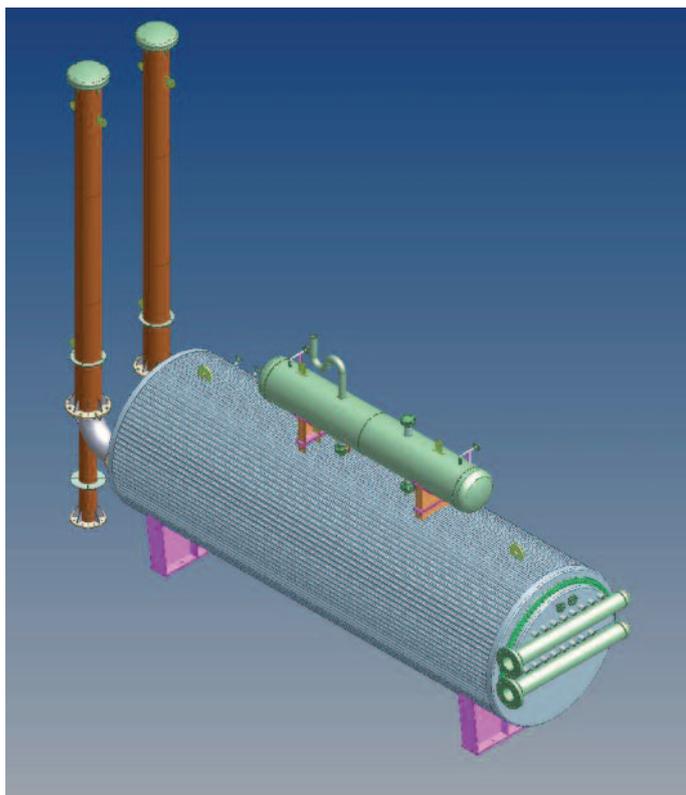


Use of the indirect Heater

Normally the natural gas is produced at high pressures ranging from 1,500 psi up to 3,000 psi and it's usually transferred to sale gas lines that operate at 1,200 psi and below. The indirect heater is often employed to supply heat to a gas stream that is being expanded from some elevated pressure (well head) to some intermediate pressure (intermediate production equipment) or to the actual sale line pressure. Heat supplied is used to compensate for the Joule-Thompson effect of the gas through expansion.

A most frequent application

The high pressure fluid is introduced to the heating unit through a choke located at the heater inlet, and the expansion takes place immediately inside the heater in the water bath. Then, as the fluid passes through the steel coils, it's raised to the desired outlet temperature suitable to compensate the Joule-Thompson effect during the expansion. The steel coil, which is subject to the well head operating pressure, is subject further to corrosion by the fluid carried within the steel pipe as well as erosion caused by the high velocity of the fluid itself. In time the combination of corrosion and erosion takes its toll in wall thickness of steel pipe.



Features Available

Removable Firetube

Removable Tube bundle

Large firetube combustion volume per square foot of firetube area

Quality fabrication

X-ray and stress relieving facilities

Automatic control, regulation and safety systems suitable to operate also without electric power.

High Performance and High Efficiency

Designed and manufactured in accordance to:

API 12 K

ASME VIII

