GAS TREATMENT

DELTA ENGINEERING

Natural Gas &
Water Treatment

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Delta Engineering thanks to the experience throughout more that 30 years of industrial process solutions, designs and manufactures a large range of products and technologies for gas treatment.

Markets:

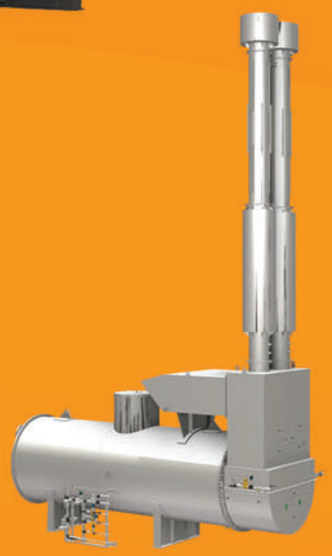
- GAS PROCESSING
- GAS TRASMISSION
- GAS DISTRIBUTION
- POWER GENERATION
- REFYNERIES
- PETROLCHEMICALS

Delta Engineering **know-how** covers the following main **equipments/plants**:

FILTRATION & SEPARATION:
Horizontal / Vertical cartridge filter can be specifically designed for any operating condition and required of filtration efficiency. Filtration efficiency is usually in the range of 99.99 % for liquid particles larger than 3 or 5 micron but it can be up to 99,99% for particles larger than 0.3 micron.

HEATERS:

Indirect fired heater
The terminology of indirect heater is due to the fact that the cold fluid is heated by the hot fluid "indirectly" through a medium. In fact indirect Heater consists of a vessel at atmospheric pressure filled with water or water / glycol solution (heating medium) with firetube where the hot fluid is flowing and coils or heat exchanger where the cold fluid is flowing.



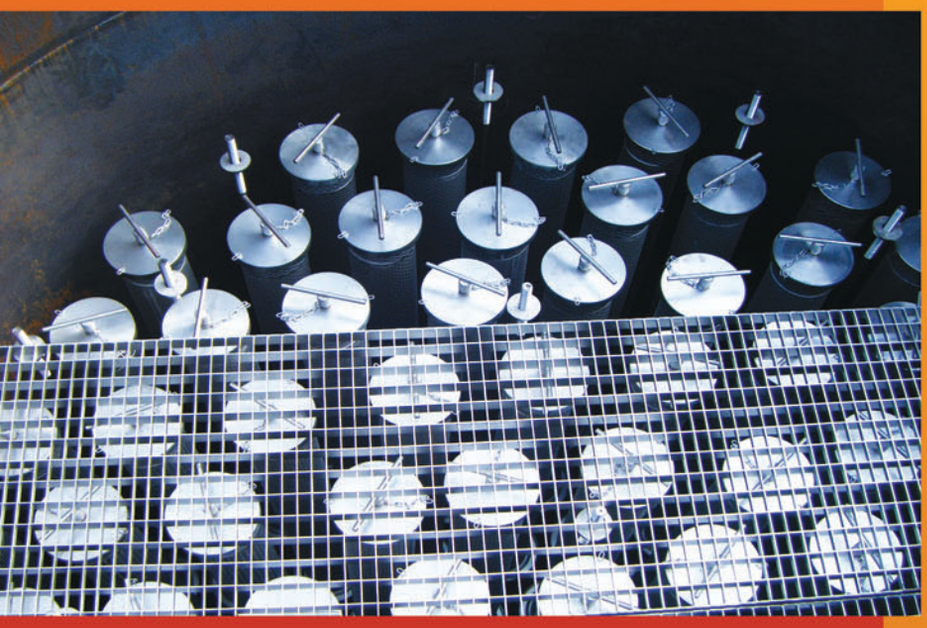
Direct fired heater
The type of heater is normally described by the structural configuration, radiant tube coil configuration, or shape and burner arrangement. Some examples of structural configurations are cylindrical, box, cabin, and multi-cell box. Examples of radiant tube coil configurations include vertical, horizontal, helical, and arbor. Examples of burner arrangements include upfired, downfired, and wallfired. The wallfired arrangement can be further classified as sidewall, endwall, and multilevel.

FILTRATION & SEPARATION TECHNOLOGY

COALESCING FILTER:

A coalescing filter is typically intended to remove fine liquid aerosols/mist from gas streams where entrained liquid loads are low. A typical filtration rating for coalescing filter elements is 0.3 micron absolute. Coalescing filters are normally used to protect equipments/processes that are particularly sensitive to contamination. Coalescing filters can experience short filter element life if the gas contains appreciable amounts of solids, example corrosion products.

PARTICULATE REMOVAL:



The most commonly used pressure filter in the gas processing industry is a cartridge filter. Cartridge filters are constructed of either a self - supporting filter medium or a filter medium attached to a support core.

When pores in the filter medium become blocked, or as the filter cake is developed, the higher differential pressure across the elements will indicate that the filter elements much be cleaned or replaced.

Cartridge filters are commonly used to remove solid contaminants from Natural gas, amines, glycols, and lube oils.

FILTER SEPARATOR:

Filter separators are available in horizontal and vertical orientations. This type of separator is often used for solids and liquid removal in relatively low liquid loading applications. A filter separator is a two-stage device. Gas enters the inlet nozzle and passes through the filter section, where solid particles are filtered from the gas stream & liquid particles are coalesced into larger droplets. Any free liquids are also removed in the first section. The coalesced droplets pass through the filter riser tubes and are carried into the second section of the separator, where a final mist extraction element removes these droplets from the gas stream.

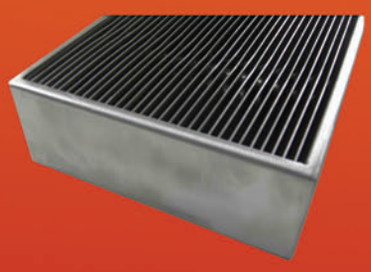
PROCESS INTERNALS:

WIRE MESH

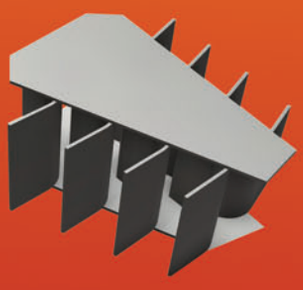
CARTRIDGE

MULTICYCLONE

VANE



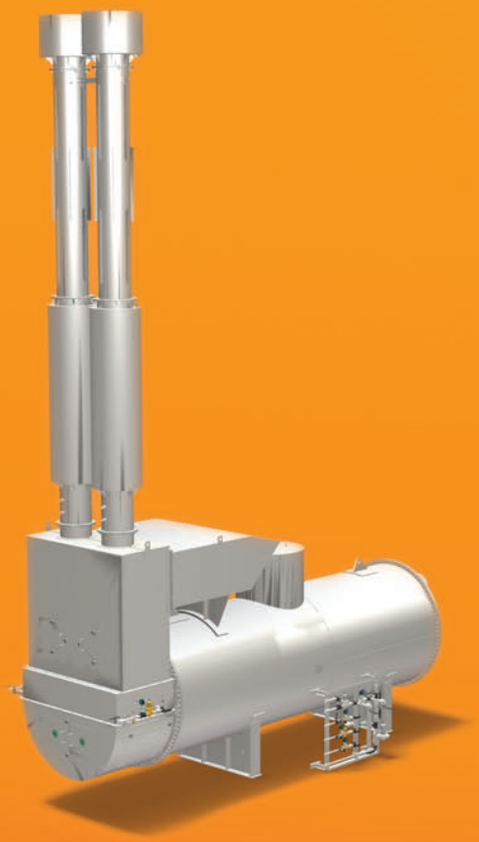
SCHOPENTOETER



HEATERS

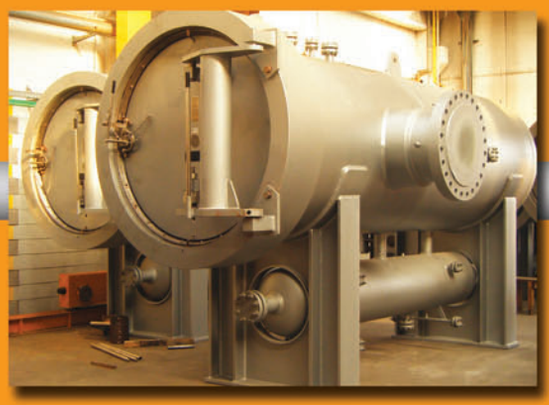
Heaters have a wide variety of successful applications in the oil and gas production, processing and transmission industry. Some of the most common application include the following:

1. Gas Dew Point Heating: high - pressure natural gas heating upstream pressure regulation stations preventing condensation phenomena due to the Joule-Thomson effect.
2. Heating of high-pressure natural gas upstream pressure regulation in order to prevent external icing formation.
3. Fuel gas super-heating upstream gas turbines
4. Gas Heating downstream low temperature storages
5. Hydrate prevention
6. Viscosity reduction: Crude Oil Heating upstream treatments to facilitate degassing and dewatering
7. Warming of thermal fluids (Hot Oil)
8. Warning gas regeneration for molecular sieves
9. Heats crude oil warming
10. Dielectric oil warming.



GAS TREATMENT APPLICATION

Filtration / Separation



Utilizations

Power Generation

City Gates

Refineries

Furnaces

Pressure Reduction

Indirect Heater
Electric Heater

NATURAL GAS PIPELINE

Metering

Dehydration Unit

Separation Gas / Liquid
Vane Mist / Cyclone

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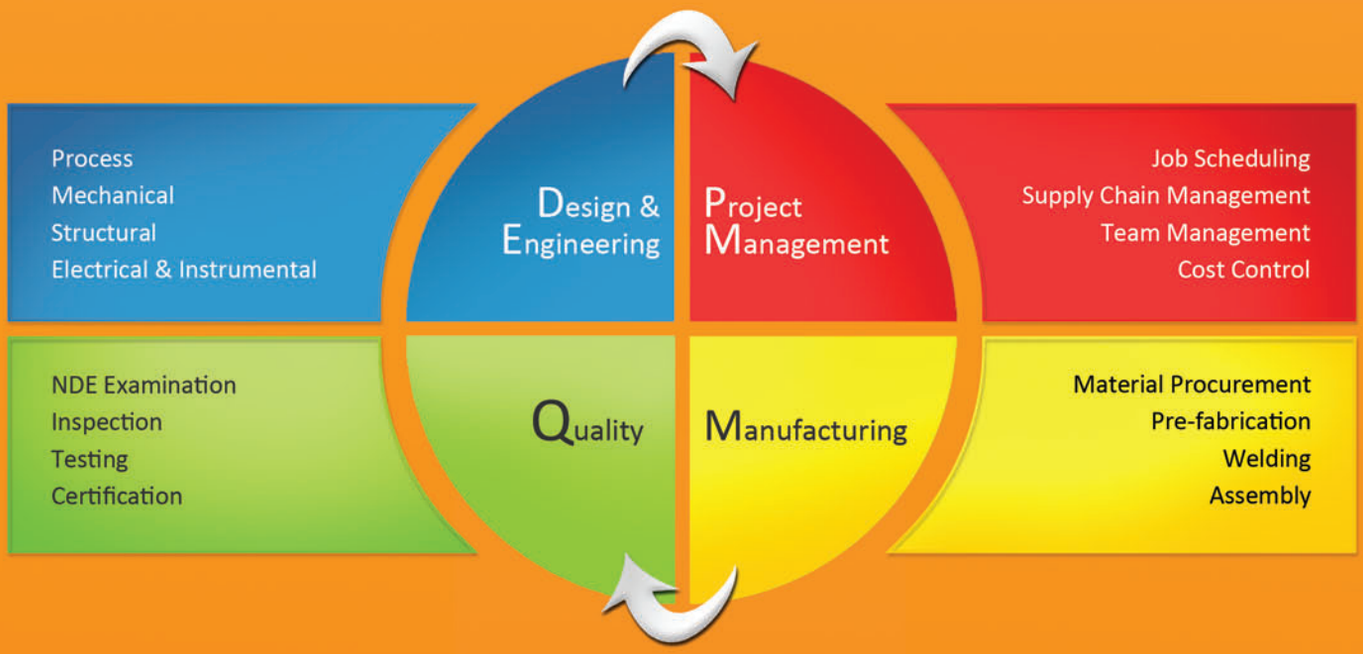

ISO 9001
BUREAU VERITAS
Certification

Total Area: 8.000 m2
Covered Area: 3.000 m2
Open Area: 5.000 m2
Capacity Crane: 20 tons


Headquarter & Workshop #1

Total Area: 4.000 m2
Covered Area: 2.000 m2
Open Area: 2.000 m2
Capacity Crane: 50 tons


Workshop #2

DELTA ENGINEERING

our Brands

COSMEC

ELFORCONTROLS
Actuator and Valves Automation

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