

Dew Point Control Gas Conditioning Units

Liquid Recovery and Dew Point Control from a Natural Gas Stream:

SME Products offers new patent pending designs for natural gas dew point control and liquid recovery applications. SME Products utilizes a proprietary multi-stream heat exchanger inside a vessel, and provided with all of the necessary controls on the vessel for a compact and lightweight unit. These fuel gas conditioning units are the most robust, low maintenance, and cost effective solutions available in the market. Our unique design provides great flexibility in the design of dew point control units and also unsurpassed energy efficiency by using nearly all of the refrigeration from the cooled liquids and vapors to pre-cool the inlet natural gas prior to JT expansion or external refrigeration.

Dew Point Control Gas Conditioning Units

Produced gas near the hydrocarbon dew point must often be conditioned to lower the content of the high molecular weight components of the gas prior to introduction into a pipeline. A dew point conditioning unit separates and removes the propane & "heavy" hydrocarbons to meet the pipeline requirements. The pressure drop of the inlet gas from pipeline pressure provides the necessary refrigeration so that no moving parts are typically required. Residue recompression is typically required to send the residue gas to pipeline. As an alternate, an external refrigeration system can be supplied so that pressure drop thru the system is minimized; thus no recompression is required. Our flexible designs allow for all the refrigeration to come from the JT expansion, or all of the refrigeration from an external source, or a combination of JT expansion and external refrigeration. A variety of standard configurations and sizes are available to meet most applications.

SME Products

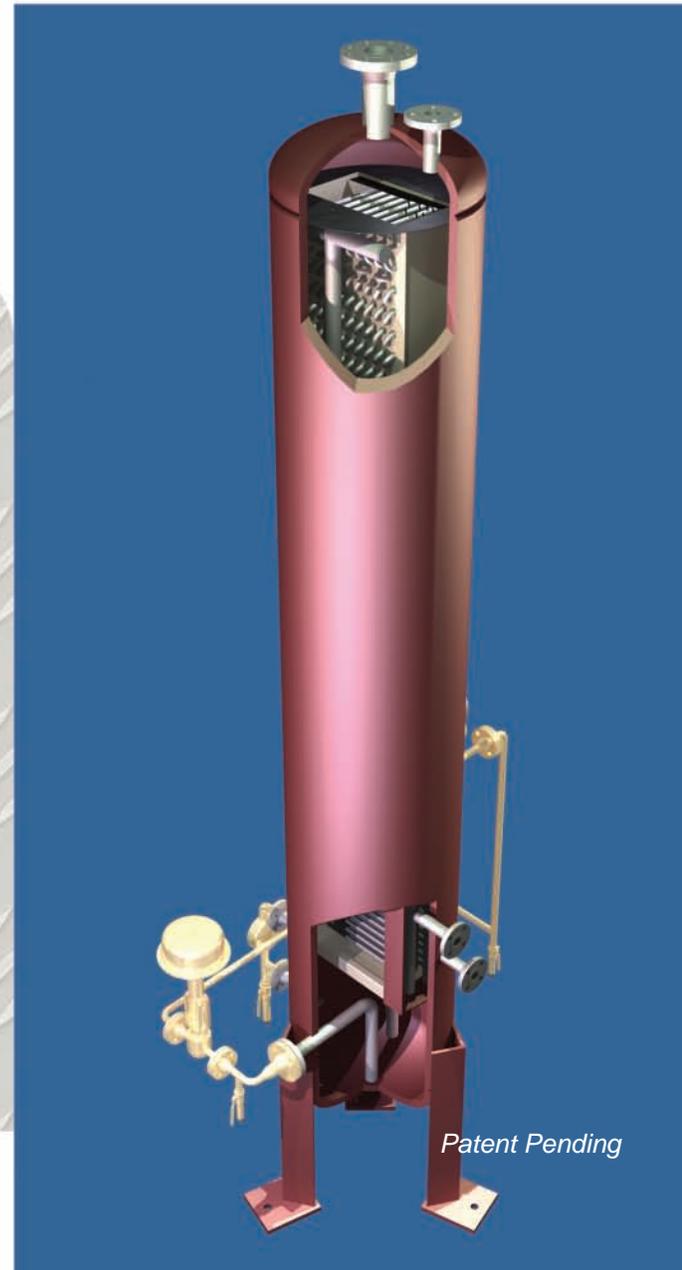
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Patent Pending

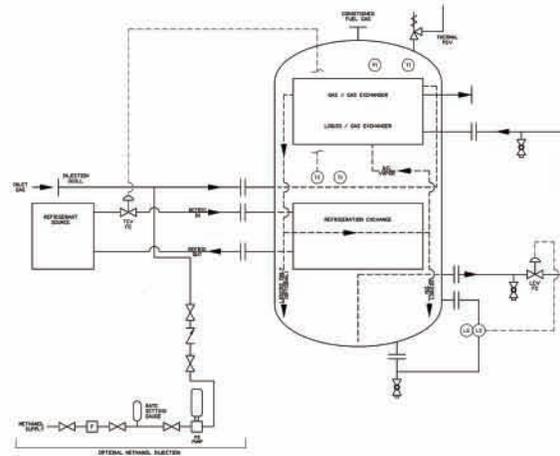
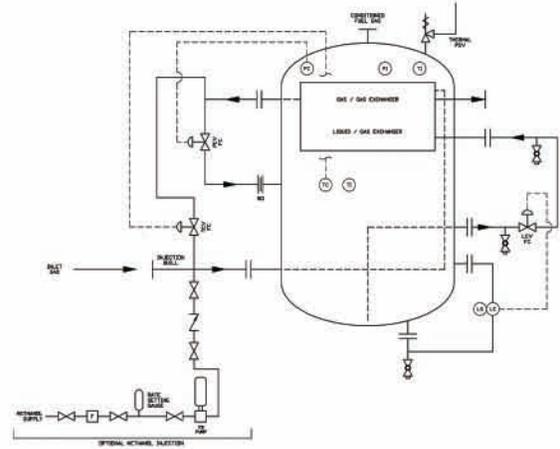
Description

Refrigeration from JT expansion:

High pressure natural gas enters the dew point control unit at ambient temperature. The warm inlet gas enters the internal cross exchanger and is cooled. The high pressure gas is expanded across a J-T valve where this expansion further cools the gas to the desired temperature. The two phase stream enters the lower part of the separator where the condensate is separated from the gas. The cold lean gas is then warmed to ambient in the internal cross exchanger, exits the unit and flows to residue pipeline or compression. The cold condensate is collected at the bottom of the separator, then heated in an internal heat exchanger, and sent to stabilization or product storage.

External refrigeration option:

High pressure natural gas enters the dew point control unit at ambient temperature. The warm inlet gas enters the internal cross exchanger where it is cooled initially by cross exchange with residue gas and finally by an externally supplied refrigerant stream. The two phase stream enters the lower part of the separator where the condensate is separated from the gas. The cold lean gas is then warmed to ambient in the internal cross exchanger, exits the unit and flows to residue pipeline or compression. The cold condensate is collected at the bottom of the separator, then heated in an internal heat exchanger, and sent to stabilization or product storage.



SME Advantages:

- Complete all-in-one liquid recovery and dew point control unit
- Compact, lightweight, multi-stream fin/tube heat exchanger design
- Small footprint, ideal for use on offshore platform
- Efficient design, utilizes refrigeration from separated hydrocarbon liquids
- Low maintenance, tubes and fins resistant to plugging or fouling and easy to clean
- Quick payback in maintenance saving
- Quick payback in lower operating cost (less compression, less refrigeration, no external heat source)
- Eliminates or minimizes interconnecting piping between multiple vessels.
- Standard or custom designed units are available

Standard Construction:

- Corrosion resistant stainless steel tubes with lightweight aluminum fins
- All local pneumatic control system , no electricity required
- Leg or skirt support

Options:

- Various materials of construction.
- Electrical and pneumatic control system with PLC control
- Methanol or glycol hydrate inhibition systems
- Liquid Stabilization
- Insulated
- Skid mounted

Technical Specs

Temperature Range	-150 F to 300 F
Pressure Range	50 psig to 1440 psig
Design Code	ASME, TUV, DIN, PED
Heat Exchanger Metallurgy	Stainless, Copper, Cu-Nickel, Alloys, Aluminum
Vessel Metallurgy	Stainless Steel, Carbon Steel