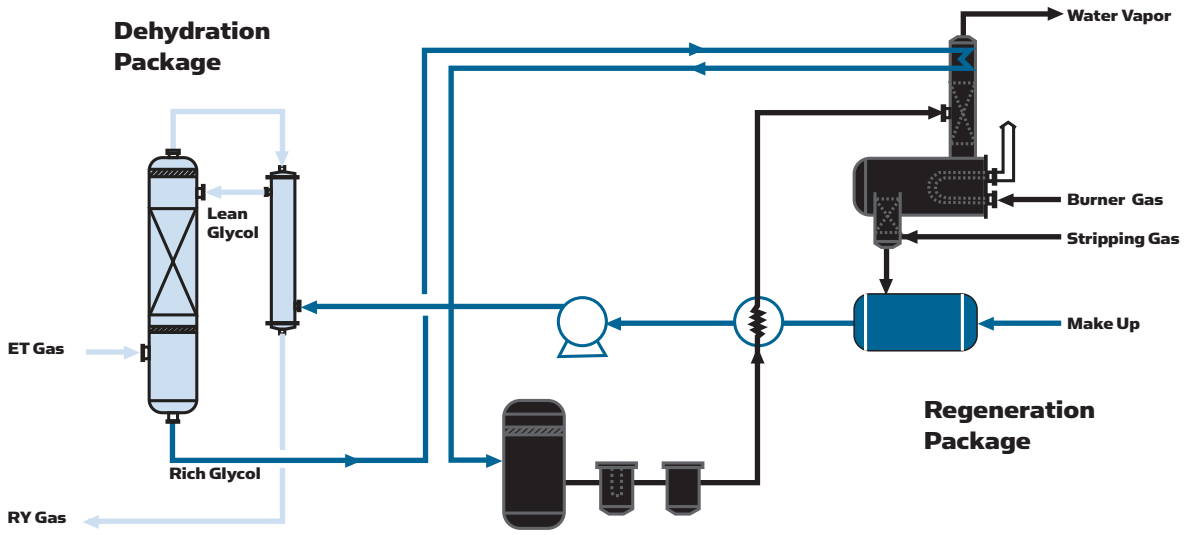
ProSep Inc.
TOGETHER CREATING PURE OIL, GAS AND WATER

GAS DEHYDRATION (TEG)

ProSep Inc., offers customized gas dehydration systems, for the removal of water vapor from gas streams, to the oil and gas industry. Dehydrating the gas prevents hydrate formation and reduces corrosion in pipeline transmission and gas injection applications. ProSep Inc., designs and fabricates gas dehydration systems using triethylene glycol (TEG) to absorb the moisture from the gas stream.

GAS DEHYDRATION SYSTEM



SYSTEM DESIGN

ProSep Inc., gas dehydration system is designed specifically to meet the required dew point depression for the given gas stream. The water-rich glycol stream is regenerated to high glycol concentrations.

A typical system consists of the following components:

- Gas scrubber (may be integral with the contactor)
- Glycol contactor
- Glycol regeneration system
- Flash drum
- Glycol filter
- Reboiler with still column and reflux condenser
- Stripping column when required
- Surge tank
- Heat exchangers
- Glycol pumps

BENEFITS

ProSep Inc., designs and builds systems to site-specific requirements by engineering every gas dehydration system with the latest process simulation software. The detailed design of the equipment considers performance, operability, reliability and safety.

- Compact packaged design
- Easy operation
- High dehydration capacity
- Minimal glycol losses
- Environmentally friendly
- Reduced on-site time and costs

TECHNOLOGY

From the scrubber, the wet gas enters the bottom of the contactor tower for counter-current contact with the glycol, which absorbs the water from the gas. The contactor and internals are optimized for duty. Dehydrated gas is discharged from the top of the tower, while the water-rich glycol is routed to the regeneration process.

In the regeneration process, the water-rich glycol is heated in the still column reflux condenser, followed by the glycol/glycol heat exchangers. At this elevated temperature, entrained gas and hydrocarbons are removed from the glycol in the flash drum. Removal of the hydrocarbons helps to prevent foaming in the still column. The flash drum also helps to reduce levels of CO_2 and H_2S which may be present in the glycol.

The still column and reflux condenser recover valuable glycol from the vapors leaving the reboiler. Fractional distillation mechanisms within the packed section of the still column, where the cold rich glycol is fed to the reboiler, achieves this separation. The glycol, once through the still column, enters the reboiler where either a gas fired or electric heater controls the operating temperature.

In cases requiring lower gas dew points, the use of stripping gas achieves a higher TEG purity. The stripping gas is passed over the lean glycol from the reboiler in a counter-current contactor. The stripping gas provides a final stage of TEG dehydration by absorbing an amount of the water.

The water lean glycol is cooled by the glycol/glycol heater exchanger before entering the surge drum, which provides a buffer volume for the system. Positive displacement pumps pressurizes the lean glycol from the surge drum up to the contactor operating pressure.

Prior to the entry into the contactor, the gas/glycol cooler cools the lean glycol to ensure the temperature is approaching the gas temperature.

CONTROL SYSTEMS AND COMMISSIONING

The system employs automatic control. Monitoring may either be local or integrated in the centralized control system of the plant.

ProSep Inc., offers full commissioning support and start up assistance to ensure the equipment is fully operational as quickly as possible.

REFERENCES

Available upon request.

FOR MORE INFORMATION

Contact your nearest ProSep Inc., office.

ProSep TECHNOLOGIES, inc.

5353 W. Sam Houston
Parkway N., Ste. 150
Houston, Texas 77041, USA
Tel: 1 281 504 2040
E-mail: sales@prosep.com
www.prosep.com

ProPure A PROSEP INC. COMPANY

Kokstaddalen 4
N-5257 Bergen, Norway
Postal address:
PO Box 106
N-5863 Bergen, Norway
Tel: 47 55 52 94 00
E-mail: sales@propure.com
www.propure.com

ProPure ME A PROSEP INC. COMPANY

Trust Tower, Third Floor
Building No. 125, Road No. 1702
P.O. Box No. 2215
Diplomatic Area, Manama, Bahrain
Tel: +973 16 500 705
E-mail: sales@propure.com
www.propure.com

ProSep AP A PROSEP INC. COMPANY

ProSep AP Sdn Bhd
Unit 19A-10-2, Wisma UOA
No 19 Jalan Pinang
50450 Kuala Lumpur, Malaysia
Tel: +603 2715 6680
E-mail: sales@prosep.com
www.prosepinc.com