Pall Corporation

Oil and Gas: Application Focus

Glycol Dehydration

Ensure your dehydration reliably meets your daily production quotas and environmental protection needs.

Process Description

Gas dehydration processes utilize glycol solvents to remove water from wet natural gas in order to meet pipeline quality specifications or condition the gas for condensate liquids removal. The wet gas is contacted with lean glycol in the contactor tower. The rich glycol then flows to a regenerator, where heat separates the glycol and the water, regenerating the glycol for re-use. The water vapor exits the top of the regenerator to atmosphere while the lean glycol is recirculated back to the contactor in a recirculating loop.

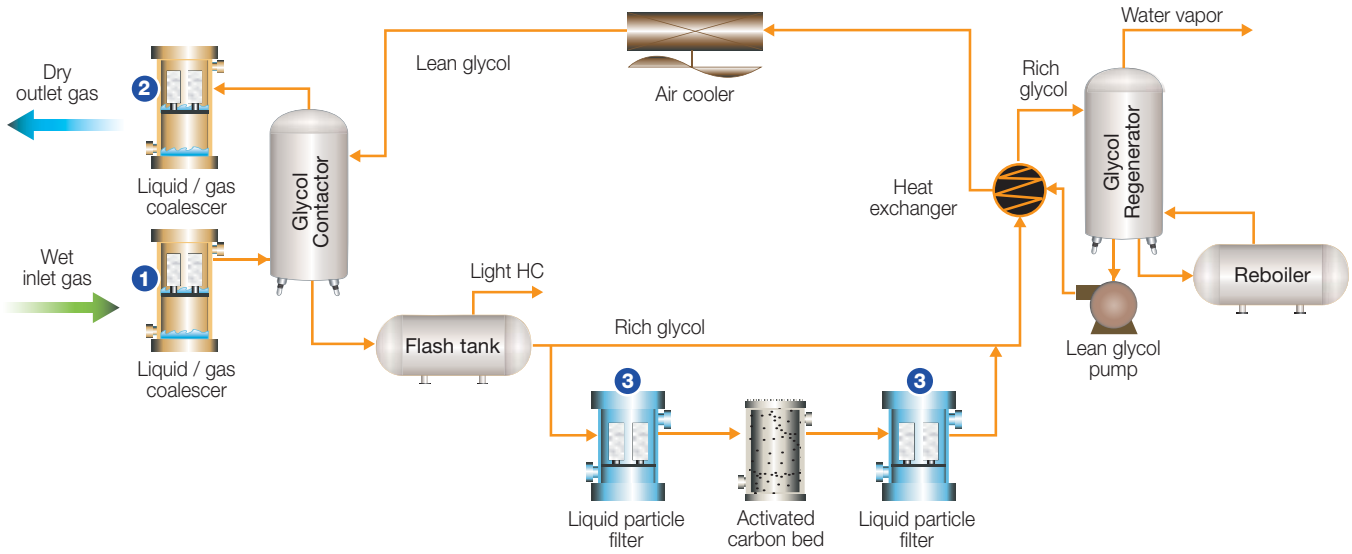
Gas Plant Needs

- Achieve or exceed natural gas production quotas via reliable treatment of wet gases
- Maintain process reliability for consistency of production and minimization of downtime
- Provide consistent on-spec sales gas quality for water content
- Minimize operating and maintenance costs due to fouling and corrosion

Production Challenge / Pall Solution

Challenge	Solution
Foaming, lower production rates and high water content sales gas due to hydrocarbon liquid and particulate ingression into the glycol loop	**Improve your dehydration productivity and reliability** with effective liquid and solid removal upstream of the contactor to protect the glycol loop from foaming and fouling. • KO pots, mesh pads, cyclonic devices and conventional filter-separators may not effectively remove aerosol-sized liquid hydrocarbon droplets or fine solids. • High efficiency SepraSol™ Plus liquid/gas coalescers and Medallion™ HP liquid/gas coalescers provide 99.999% removal at 0.3 microns per the DOP test and 1 ppb downstream per the modified ANSI/CAGI-400-1999 test procedure. **Both offer excellent foaming protection.** • High efficiency coalescers can also be used downstream of the contactor on the dry gas to recover glycol mechanical losses and prevent carryover of glycol downstream.
Foaming, poor dehydration performance and increased maintenance due to fouling of the contactor, lean-rich exchanger, regenerator and reboiler from dirty glycol	**Reduce the gaps in productivity, reliability and gas water content** through effective solids control in the glycol loop. • Solid particle contaminants in glycol systems are mostly very fine corrosion products that may not be adequately removed by filters that exhibit unloading, media migration, channeling or poor sealing. • A range of absolute and nominal rated filter elements is available **to reduce suspended solids to <5 ppmw, keep the glycol clear in color, and reduce related foaming and fouling issues.**

Process Flow Diagram



Key Applications / Filter Recommendations *(other applications not shown)*

	Application	Pall Product	Advantages	Customer Benefits
1	Contactor inlet coalescer	SepraSol Plus liquid/gas coalescer Medallion HP liquid/gas coalescer	Efficient removal of total hydrocarbon and solids upstream of the loop	Productivity, reliability and on-spec water content via maintained glycol loop efficiency
2	Contactor outlet coalescer	SepraSol Plus liquid/gas coalescer Medallion HP liquid/gas coalescer	Effective glycol recovery and reuse in systems exhibiting high mechanical losses	Downstream process reliability by elimination of glycol carryover
3	Glycol filter	Ultipleat® High Flow filters, Coreless filters, Marksman™ filters, Profile® II filters, Nexis® filters, or a range of Pall FSI bag filters	High filtration efficiency, reproducible performance, easy changeout, and long filter life to cost-effectively control foaming and fouling	Productivity, reliability and on-spec water content via maintained glycol loop efficiency

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