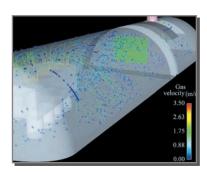




Complete Separation and Filtration Solutions for LIQUEFIED NATURAL GAS

Efficiently Designed Separation Systems
Economic Leverage
Technology Leadership

# REDUCED LNG COSTS WITH STATE-OF-THE-ART SEPARATION AND FILTRATION FOR YOUR ENTIRE PLANT



A CFD model represents the final design of a Peerless gas separator for an LNG facility. Vector and contour plots provide the engineer with confirmation that the gas velocities in the vessel meet established separation design criteria.

Peerless separation equipment is used across the energy industry.

PEERLESS SEPARATORS AND FILTERS
PROVIDE A MAJOR ECONOMIC ADVANTAGE
FOR OWNERS AND CONSTRUCTORS OF
LNG FACILITIES.

- Vessels several sizes smaller than conventional "mesh pad" designs, yet that efficiently meet all specified operating parameters.
- Support structure and space savings with smaller and lighter separation and filtration vessels.
- Lower system costs, particularly where low operating temperatures require stainless steel materials.
- Sole source responsibility Peerless provides full mechanical and operating performance guarantees.

## PEERLESS TECHNOLOGY PROVIDES ECONOMIC ADVANTAGE.

Research and Development
Peerless separation and filtration systems
are designed by scientists and engineers
who use technology to support their
knowledge and experience. Peerless has
more than six decades of experience and has
built an impressive record of achievement
in separation technology through the
combination of computational analysis,
laboratory measurements and
field tests.

Computational Fluid Dynamics (CFD)
Sophisticated in-house Computational Fluid
Dynamics (CFD) computer models help to
reduce the size of separation and filtration
vessels and ensure that liquid and vapor
separation is achieved to specification. Actual
LNG vapor and liquid properties are used in
these CFD models to determine the overall
separation efficiency and capacity.

Research and Development Laboratory
Our research and development laboratory
enables Peerless scientists to design
experiments and perform tests that validate
cost-effective separation and filtration
solutions that are customized for the
LNG process.

In-Line Testing Without Plant Shutdown Peerless has developed a field sampling tool for pressurized gas streams. The Laser Isokinetic Sampling Probe (LISPSM) extracts gas samples with entrained liquids and solids in their pressurized state isokinetically. Meticulous measurements can be made both up- and down-stream of separators or filters to quantify the solid and liquid amounts and size distributions in the gas pipeline. The result is the most accurate and reliable field sampling of LNG processes without a plant shutdown.

## YOUR GAS SEPARATORS DIRECTLY AFFECT YOUR BOTTOM LINE

- Efficiency
- Remove liquid and solid contaminants simultaneously.
- Protect downstream equipment.
- Optimize operations.
- Economic Benefits
- Less process contamination.
- Less damage to your processing equipment.
- Lower product, solvent and reagent losses.
- Lower installed cost with Peerless equipment.

### Innovative Designs

### PEERLESS PERFORMANCE GUARANTEE

# PEERLESS DESIGNED AND MANUFACTURED PRODUCTS IN A TYPICAL LIQUEFIED NATURAL GAS PROCESS

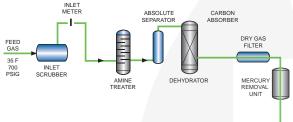


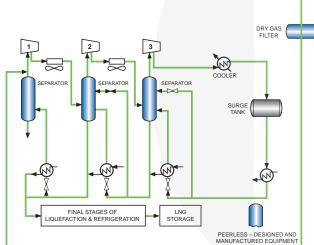
Peerless Horizontal Gas Separator Designed for high efficiency separation of liquids from the gas stream.



Peerless Mist Extractor Internals at the top of a gas process tower provide high efficiency separation and protect downstream equipment.

#### FEED GAS (PRE-TREATMENT)



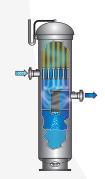




Peerless Vertical Gas Separators Very efficient mist extractors in applications where high liquid capacity is required.



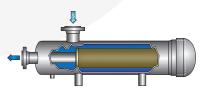
The Line Separator Used to remove entrained liquids. It can be installed as an in-line unit.



The Peerless Filter/Separator Saves on initial cost, filter cartridge change-out time and space. High capacity inertial vanes remove coalesced liquid droplets from the gas stream.



Absolute Separator Provides ultra-high efficiency for the removal of submicron liquid droplets.



Peerless Dry Gas Filters
Designed for maximum operating and change-out efficiency.
A quick-release filter cartridge retainer saves on replacement time and costs.

Peerless has corrected existing separator problems cost effectively since the 1930's. Our extensive retrofit experience is a valuable benefit for your company. We understand operating problems, have the latest technology and know all the options. You can count on us to keep your separators out of trouble. Call a Peerless Applications Engineer Today!



Throughout the gas processing industry, you'll certainly find entrained liquids and solids in the gas stream. Everywhere you do, think about applying Peerless separation and filtration systems. With over seventy years of experience, we've seen most process entrainment problems. Peerless Mfg. Co. is a world leader in separation and filtration technology and equipment. We're in the business of solving problems related to entrainment removal. Peerless offers a full range of separators in unique configurations. We evaluate your problem, recommend what you need, and can develop a custom system solution to fit your particular application.



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