

A Division of TM Industrial Supply, Inc. 1432 Walnut Street Erie, PA 16502-1746 USA Phone (814) 456-1448 Fax (814) 452-6573 Email: sales@tmfiltration.com Web: www.tmfiltration.com

LIQUEFIED NATURAL GAS (LNG)

Process and Filtration Products

What is LNG?

Liquefied natural gas, or LNG, is natural gas that has been cooled to -161 degrees Celsius—the point at which natural gas changes into liquid form. In this state it becomes a clear, odorless and non-toxic liquid. LNG occupies about 1/600th the volume of natural gas.

APPLICATIONS

- Gas Compressor Protection
- Vacuum Pump Protection
- Air Compressor Protection
- Gas Dryer Protection
- Meter Protection
- Aerosol Removal
- Mole Sieve Particle Removal



Why is LNG important?

Where natural gas pipelines are not feasible or do not exist, liquefying natural gas is a way to move natural gas from producing regions to markets, such as to and from the United States and other countries. Asian countries combined account for the largest share of global LNG

imports. LNG export facilities receive natural gas by pipeline and liquefy the gas for transport on special oceangoing LNG ships or tankers. Most LNG is transported by tankers called LNG carriers in large, onboard, super-cooled (cryogenic) tanks. LNG is also transported in smaller International Organization for Standardization (ISO)-compliant containers that can be placed on ships and on trucks.

At import terminals, LNG is offloaded from ships and is stored in cryogenic storage tanks before it is returned to its gaseous state or regasified. After regasification, the natural gas is transported by natural gas pipelines to natural gasfired power plants, industrial facilities, and residential and commercial customers.¹

1 Natural Gas Explained (https://www.eia.gov/energyexplained/natural-gas/liquefied-natural-gas.php)

How does TM Filtration fit into LNG?

In order to make LNG, the natural gas must be clean. All contaminates, particles, debris, liquids, aerosols and entrained foreign vapor mists must be removed. TM Filtration (TM) provides patented filtration products which fit into various stages of the LNG production process. With experience in many established gas processes, and utilizing the in-to-out element flow of GFM® Technology, TM Filtration has provided proven filtration and separation equipment but also has the flexibility of adapting to new and existing processes and applications. Review the process diagram and product listings. Contact our sales department with any questions.

Solutions for the New Gas Industry





GAS FILTRATIONPRODUCTSLNG - LIQUEFIEDNATURAL GAS PROCESS



TM Filtration



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2 Phase Coalescing Gas Filter

2-Phase Coalescing Filters are used where particulants, debris and liquids are to be removed. The pleated GFC coalescing element ensures maximum removal of liquid and solids, while minimizing frequent and expensive element change outs by utilizing our standard patented high capacity element. It also reduces future spare element costs, as our patented elements may be ultrasonically cleaned. The vessel orientation my be either verticle or horizontal.

3 Phase Coalescing Gas Filter Patent No. 7,332,010

3-Phase Coalescing Filters are used where high loadings, and highly saturated gasses are at their worst. Pleated GFC coalescing element ensures maximum removal of liquid and solid particulant, while minimizing frequent and expensive element change outs by utilizing our standard patented high capacity element. It also reduces your future costs of spare elements, as our patented elements may be ultrasonically cleaned. The three





phase filter/separator combines the functionality of a vane or mesh separator, with the high efficiency, high capacity GFC coalescing filter; thus removing the need for separate vessels, and their associated additional capitol, instrumentation and maintenance costs. The vessel orientation my be either verticle or horizontal.

Mechanical Vane Gas Dryer Patent No. 10,792,604

Mechanical Gas Vane Dryer is an effective and compact way of removing liquids and particulates with an efficiency of 3 micron and larger without the use of chemicals or extra instrumentation required with regenerative desiccant dryers. This is accomplished by utilizing multiple stages of separation and filtering and coalescing. All of these stages are accomplished in one vessel eliminating the need for multiple vessels and duplicate instrumentation. Vessel shown with a Posi-Sealoc II[®] closure cover.



Cone, Elbow Tee Strainers

TM provides various filtration equipment that is used in cryogentic applications.







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