

DME-To-Go™

Fact Sheet for a 214 MTPD DME-To-Go™ Plant

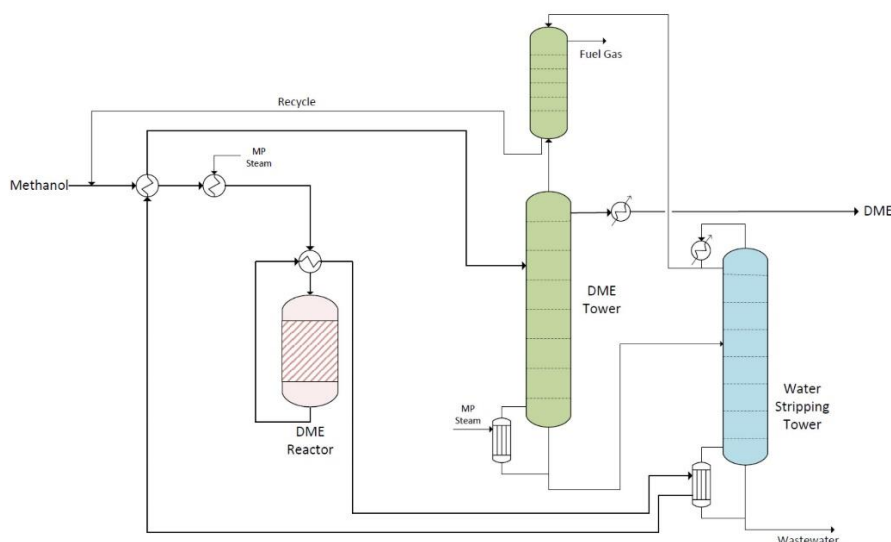
DME-To-Go™ is an add-on option for MeOH-To-Go™ plants that allows production of Dimethyl Ether (DME) instead of Methanol, or production of DME in combination with Methanol. DME is a clean burning and economical alternative fuel, that can be used as an LPG substitute and it can also be blended directly with LPG for fuel applications. DME is also a very clean burning substitute Diesel fuel, with a high Cetane number (55+). The use of DME in Diesel engines only requires minor fuel system modifications to engines that run on standard Diesel fuel. The use of DME in Diesel engines does not require a Diesel particulate filter to meet emissions standards. Volvo Trucks for example, has developed a DME-fueled version of their standard D13 engine platform, which is the top-selling heavy-duty vehicle engine worldwide.

The properties of DME are similar to the properties of LPG:

Boiling point	-12.8° F
Vapor pressure @ 68° F	74 psia
Liquid density, @ 68° F	5.57 lb/gal
Specific gravity, gas	1.59

DME-To-Go™ incorporates well-proven DME technology and Modular Plant Solutions' small-scale modularization technology, reducing field construction risk and making the plant moveable if needed. The DME-To-Go™ plant includes all chemical processing equipment modules required to produce Fuel Grade DME, including heat exchanger modules, dehydration reactor modules, distillation modules, as well as pressurized product storage tank modules. The DME-To-Go™ plant is designed for remote operations in field locations anywhere in the world. These plants enable users to convert flared gas or stranded gas into a liquid fuel that can be used locally or can be transported by LPG-type trucks to the market. The combination of MeOH-To-Go™ and DME-To-Go™ is designed to be a complete, stand-alone facility, so it includes all utilities and infrastructure required for production of DME from natural gas.

The MeOH-To-Go™ plant with the DME-To-Go™ add-on option is designed for production of 214 MT/day of DME. Alternatively, MeOH-To-Go™ and DME-To-Go™ can be designed as a flexible unit to produce both methanol and DME. Production can be 300 MT/day of Methanol with zero DME production, or 150 MT/day of Methanol and 107 MT/day of DME, or zero production of Methanol and 214 MT/day of DME production.



DME Process Diagram

Production

214 MT/day of Fuel Grade DME (99% wt.) = 84,716 gal/day = 2,017 bbl/day

Inputs Needed (for MeOH-To-Go™ and DME-To-Go™ combined)

Natural Gas Requirements

Pressure	210 psig
Quantity	11,027 mm Btu/day
Max N ₂ *	20 %
Max CO ₂ **	25 %

Raw Water Requirements

Pressure	60 psig
Quantity	45 gpm

Electricity Requirements***

Voltage	4,160 V
Load	7.1 MW

Site Requirements

Area 5 Acres

Road Access for Product and Construction

* Higher N₂ reduces capacity.

** Higher CO₂ maintains capacity at lower energy costs.

*** Electricity can be self-generated if needed, but additional gas will be required

DME-To-Go™ was developed by Modular Plant Solutions, engineering and operations specialists with over 550 years of combined experience in construction, engineering, fabrication, and operations.

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