babcock™

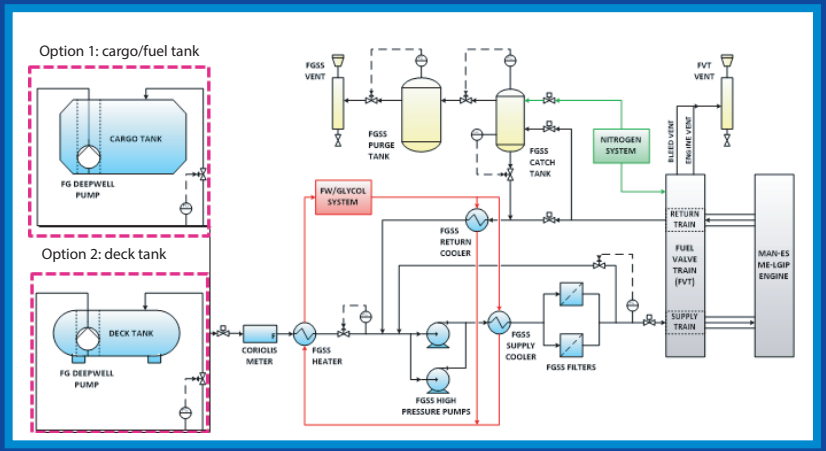
ecoFGSS® LPG Fuel Gas Supply System

Babcock's LGE business is a world-leading provider of cargo handling and fuel gas supply systems for the liquefied gas markets. Our environmentally-focused technologies improve efficiency and enhance performance; delivering value to customers throughout the vessel's lifetime.

ecoFGSS® - Babcock LGE's liquefied petroleum gas (LPG) Fuel Gas Supply System - has been developed to meet the growing demand for LPG as a marine fuel for a range of vessels. The system is designed with safety and operability at its heart, minimising crew interactions whilst providing a continuous and reliable fuel supply for the vessel.

Holistic approach for optimum efficiency

ecoFGSS® conditions the LPG as a liquid to the required temperature, pressure and flowrate before delivering it to the vessel's main engine. On liquefied gas carriers, ecoFGSS® is integrated with the cargo system, thereby ensuring a seamless relationship between 'cargo' and 'fuel'. This holistic approach ensures optimum efficiency.



General arrangement overview of ecoFGSS®

ecoFGSS® can utilise fuel from either a cargo tank or deck tank.

babcockinternational.com/lge

Ease of operation

Crucially, for ease of vessel operability, crew interaction is minimised by automating functionality as as far as practical, without compromising safety. ecoFGSS® has been developed in conjunction with MAN-ES for their ME-GI and ME-LGI engines, which ensures that fuel is available to the engines 24 hours a day, seven days a week.

Newbuild and retrofit applications

Due to the modular design of the fuel conditioning skid, ecoFGSS® can be incorporated on new-build vessels, as well as retrofitted on existing vessels - both gas carriers and non-gas carriers alike.

Alternative fuel applications

LGE's ecoFGSS® system offers significant flexibility to shipowners, with different designs available based on operating and design requirements.

These systems include designs using:

- Deck mounted side channel Low Pressure (LP) pumps (for LPG at ambient temperature or fully refrigerated)
- Deck tank mounted LP (EFP) pumps (for LPG at ambient temperature or fully refrigerated)
- Cargo tank mounted LP (EFP) pumps (for fully refrigerated LPG)

ecoFGSS® /HFO specification comparison

Engine	Fuel type	Energy density (MJ/kg)	Energy density (MJ/m³)	Required tank volume relative to HFO	Delivery pressure (barg)	Delivery temperature (°C)
ME-GI	HFO	40	36,000	1.0	~10	Variable dependent on viscosity
ME-LGI	LPG	46	26,680	1.35-1.45	53 (liquid)	25-45

Required tank volume range covers fully refrigerated LPG to LPG at ambient temperature

In addition to ecoFGSS® for LPG carriers, LGE are developing a suite of Fuel Gas Supply Systems for alternative fuels. These include ethane and methane (LNG), as well as our ecoFGSS-FLEX® which can utilise LPG, ammonia, DME or methanol - a truly flexible solution for shipowners on the transition towards zero carbon energy for shipping. LGE are also actively developing solutions for future fuels, including liquefied hydrogen.

With a variety of configurations available, we are able to work with our customers to develop a solution that works best for their vessel and operations.

Contact us:

Babcock International Group
Rosyth Business Park
Rosyth, Fife, KY11 2YD
E: lge.sales@babcockinternational.com
W: www.babcockinternational.com/lge

20210203