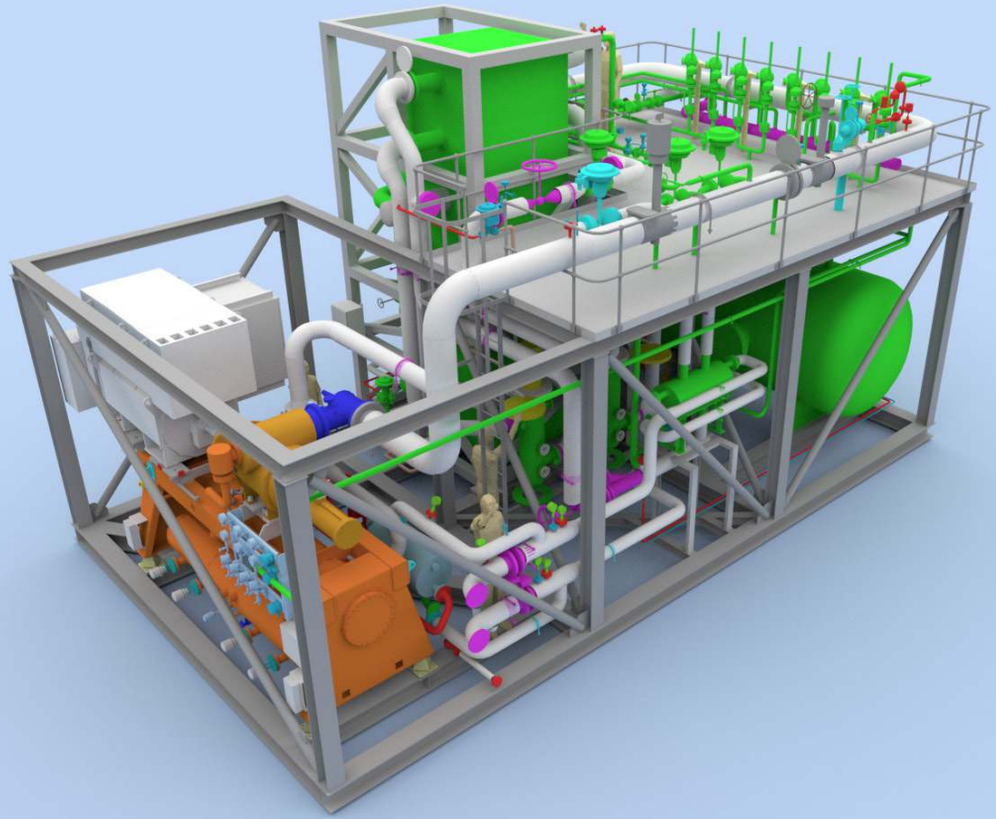


LNG Reliquefaction - ecoSMRT®

Single mixed refrigerant (SMR) reliquefaction, offering unparalleled efficiency, cost and footprint savings.

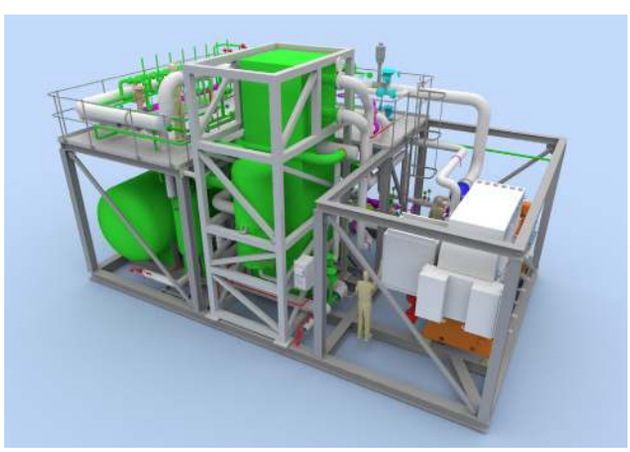
Babcock is dedicated to providing environmental and economic improvements for our clients' assets and investing in technology for the future.

Improvements in main engine fuel efficiency coupled with lower voyage speeds have resulted in LNG reliquefaction systems being increasingly required to tackle excess boil off gas (BOG) on LNG carriers.

By utilising ecoSMRT® technology, LNG carriers can operate at the cutting edge of efficiency, with greater reliquefaction capacity at lower purchase and operating costs than competing SMR or nitrogen expansion systems.

The ecoSMRT® patent-pending technology provides high-efficiency reliquefaction of LNG boil-off gas, using only a single mixed refrigerant circuit without the need for external pre-cooling.

This not only provides a significant reduction in footprint, but also means that ecoSMRT® needs just a single compressor, which translates to lower maintenance requirements and a reduced spares inventory.

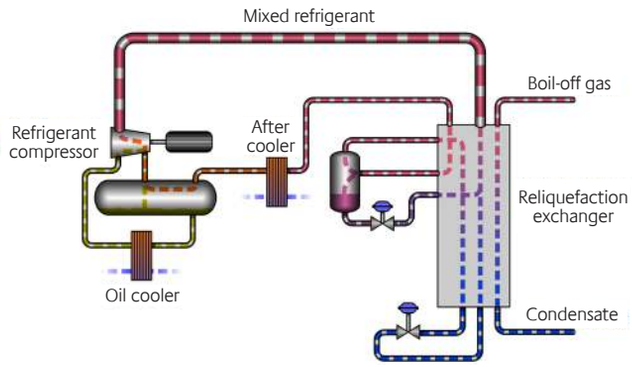


The LNG carrier's fuel gas compressor supplies pressurised BOG to the ecoSMRT® plant. This gas passes through the reliquefaction exchanger, in which the cold temperature required to reliquefy the BOG is provided by the SMR circuit.

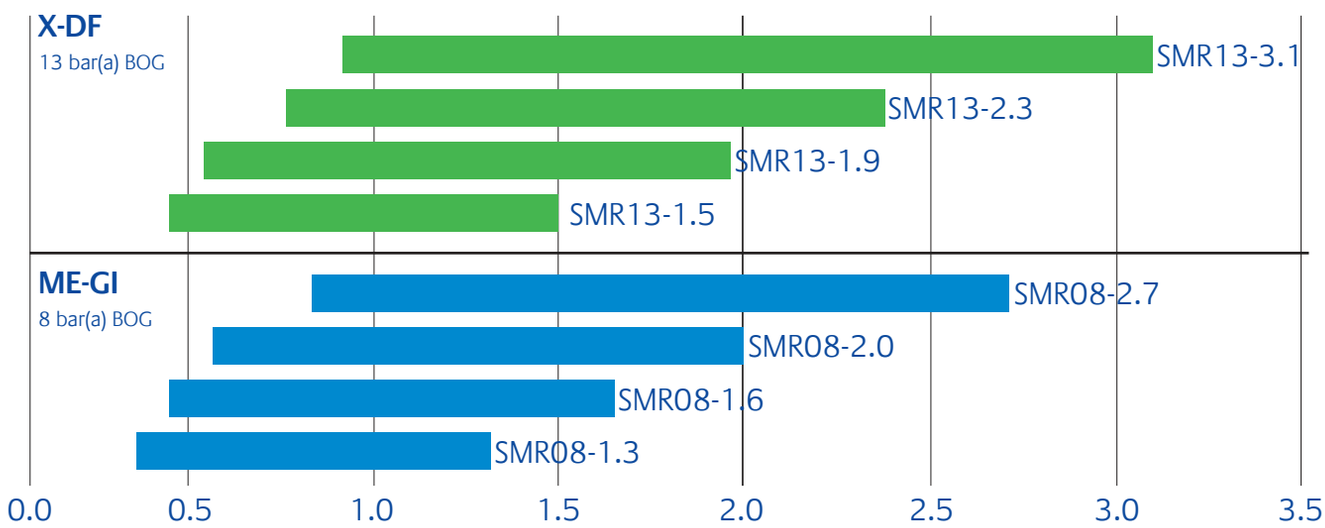
The BOG condenses in the reliquefaction exchanger, leaving as a liquid, and is returned to the cargo tanks.

Through improved efficiency, low cost of ownership and a reduced environmental footprint, ecoSMRT® is the cutting-edge solution for reliquefaction on LNG carriers, providing cost and energy savings for both newbuilds and retrofits.

ecoSMRT® process schematic



ecoSMRT® capacity options (X-DF/ME-GI)



Reliquefaction capacity (tonnes/hour, pure methane equivalent)

Contact us:

Babcock International Group
Rosyth Business Park
Rosyth, Fife, KY11 2YD
E: lge.sales@babcockinternational.com
W: www.babcockinternational.com/lge
M: +447920744586