Volcano

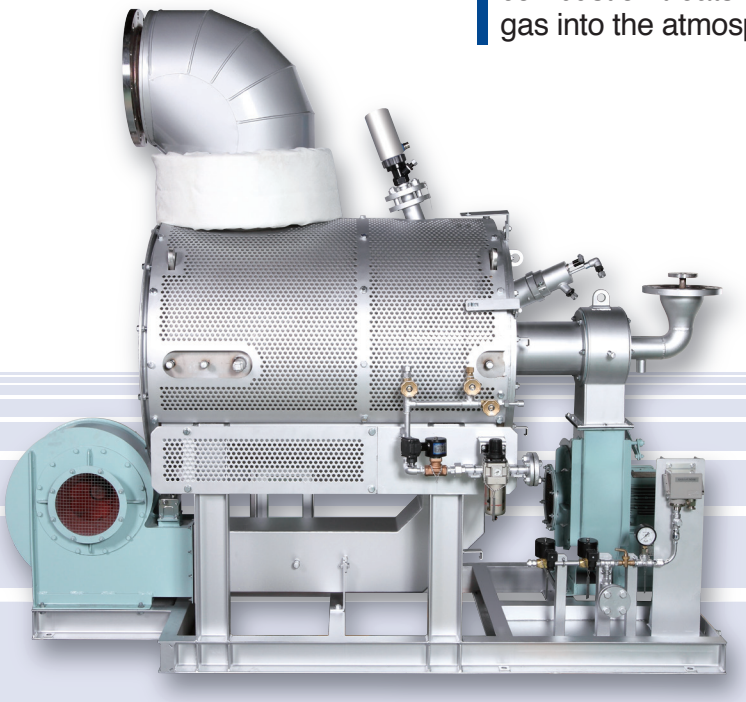
Gas Combustion Unit for LNG Fueled Vessel

MECS-GCU

IGF code
IGC code
Completely compliant

Environmentally-conscious and safe

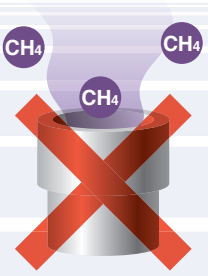
LNG fueled vessels require that boil off gas be treated safely and appropriately. The VOLCANO **"MECS-GCU"** gas combustion unit combustion treats boil off gas to help eliminate the release of methane gas into the atmosphere.



MECS-GCU helps to decrease your environmental burden

"Methane" is a major component of LNG (liquefied natural gas) fuel and has a **global warming potential 25 times that of carbon dioxide!**

The release of combustible gases into the atmosphere is prohibited under the IGF code*1.



*1. International Code Of Safety For Ships Using Gases Or Other Low-Flash Point Fuels

When?

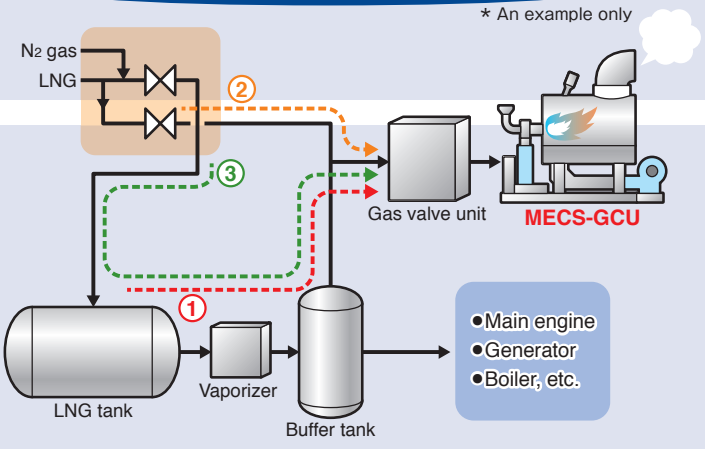
①LNG tank pressure adjustment
If the engine cannot completely consume the gas, the boil off gas will need to be treated in order to adjust the pressure inside the tank

②Inert gas treatment during LNG bunkering
Boil off gas becomes mixed with inert gas inside pipes, and must be treated when bunkering

③LNG tank cooling down / gas-freeing
Gas let out from the tank during initial bunkering, when docking, or when performing maintenance work on the tank must be treated

Boil off gas treatment process in vessels

* An example only



VOLCANO Gas Combustion Unit (GCU) features

Can be installed even in small vessels
Has already been successfully installed in LNG fuel tug-boats

Combusts gas of any ratio
Capable of treatment up to inert gas 100% (Gas/Oil simultaneous mixed combustion)

Combusts even low-temperature gas
Supports gas at 0°C or even -150°C

Compatible with a wide range of vessels
Can be used in many types of projects, such as installed on tug-boats, used for bunkering vessels, or as possible backups for other treatment devices

Low running cost
Consumes less power during operation than reliquification

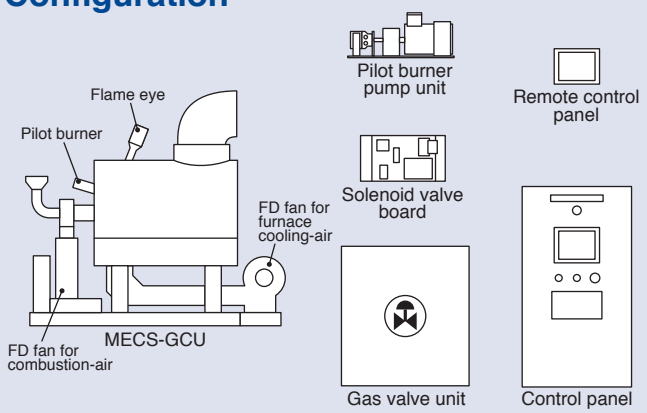
MECS-GCU Gas Combustion Unit for LNG Fueled Vessel

Specifications and overview

TYPE			MECS-G25	MECS-G50	MECS-G100	MECS-G150	MECS-G200	MECS-G300V	MECS-G500V	MECS-G750V	MECS-G1000V
Combustion rate		kg/h[*1]	25	50	100	150	200	300	500	750	1000
Gas pressure[*2]		MPaG	From free flow to 1.0[*3]								
Dimensions[*5]	Length	mm	2,530	3,200	4,000	4,500	5,000	φ2,400[*4]	φ2,500[*4]	φ2,700[*4]	φ2,900[*4]
	Width	mm	926	850	1,200	1,300	1,500				
	Height	mm	2,015	2,300	3,100	3,500	4,000	5,100	6,100	7,200	7,500
Weight (a b)[*5]		kg	600	1,300	2,000	2,700	3,500	4,200	4,650	5,800	6,700

*1. CH_4:100% (as low calorific value 50 MJ / kg) *2. Gas supply pressure at gas valve unit inlet
*3. "Free flow" is when gas is supplied at the tank pressure without pressurizing boil off gas
*4. Vertical type hull dimensions *5. Dimensions and weight values are for reference only

Configuration



Also supports remote control panels

Compatible with classification rules

Also supports redundancy

GCU advantages

- Lower operation cost than gas treatment methods that consume power (such as reliquification)
- Gas/Oil simultaneous mixed combustion using diesel oil provides stable combustion

Possible vessel types for installation

- All types of gas fueled vessels (from tug-boats to VLCC class vessels)
- Gas fueled bunkering vessels, etc.

* Not just LNG gas fuel! Supports various kinds of gas fuels.

VOLCANO solution for LNG fueled vessel issues

Combust and treat Boil Off Gas ➡ VOLCANO Gas Combustion Unit (MECS-GCU)

Use/treat Boil Off Gas as fuel ➡ VOLCANO Gas/Oil simultaneous mixed combustion DF burners for boiler

Considering using gas fuel even in your boilers? Our **"Vignis"** and **"SFFG-II"** Gas/Oil simultaneous mixed combustion DF burners are capable of completely combusting unburnt gas.

Combustion Engineering Expert

VOLCANO Co., Ltd. provides products for LNG as fuel and solution for LNG utilization, based on our experiences on Gas/Oil simultaneous mixed combustion DF burner for Marine-use, Gas burner for Industrial-use and Ultra-low NOx burner for Industrial-use.

VOLCANO Combustion Test Site responsible for verification testing during the development of MECS-GCU

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