



Press Information

5th Mar, 2020

## VOLCANO announced the new type Gas Combustion Unit for LNG Fueled Vessel "MECS-GCU"

VOLCANO announced the new Gas Combustion Unit for LNG Fueled Vessel "MECS-GCU" into the global market on Mar 5th, 2020.

"MECS-GCU" has been installed in LNG fueled Tag boat "SAKIGAKE"(Japan's first LNG Fueled Vessel) built in Aug 2015.

After that, VOLCANO launched "MECS-GCU" in Mar 2016 and it has also been installed in LNG fueled Vessel "ISHIN"(Japan's first LNG fueled vessel compliant with IGF code<sup>※1</sup>) built in Feb 2019. VOLCANO has received many inquiries about "MECS-GCU" from customers those involved in the new LNG fueled ship building project of domestic and overseas since it went in the market.

The new "MECS-GCU" has been expanded product size composition (from 25 to 1,000 kg/h as combustion rate) in order to meet the request from actual ship building projects of LNG fueled vessel, including LNG bunkering vessels.

LNG fuel utilization is expanding in marine field in order to meet the stricter exhaust gas regulation, and boil off gas in LNG tank needs to be processed safely and eco-friendly.

"Methane (CH<sub>4</sub>)" is a major component of LNG (liquefied natural gas) fuel and has a global warming potential 25 times that of carbon dioxide(CO<sub>2</sub>). And the IGF code<sup>※1</sup>, which is international standard for gas fueled vessels, prohibits LNG fueled vessels from releasing combustible gas into the atmosphere. Many ships are considering installation of gas combustion unit as one of the means of processing boil off gas, and that is the reason VOLCANO released the new type of "MECS-GCU". "MECS-GCU" can combust boil off gas from LNG fueled vessels and contribute to zero "methane" (CH<sub>4</sub>) release into the atmosphere.

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Changes in the new type “MECS—GCU”

▪ **Expansion product size composition**

Combustion rate has been expanded to a maximum of 1000kg/h

(Previously, up to a maximum of 173kg/h)

A new shape "Vertical Type" is adopted for combustion rate 300kg/h or more.

For combustion rate 300kg/h or less “Horizontal Type” was adopted same as before.

After reviewing the division of the combustion rate, the number of models for 200kg/h (indicated as 173kg/h in the old model) or less was rearranged from seven to five, and make it simple to select the model according to the combustion rate.

▪ **Changes of model type**

The model type matches to the combustion rate.

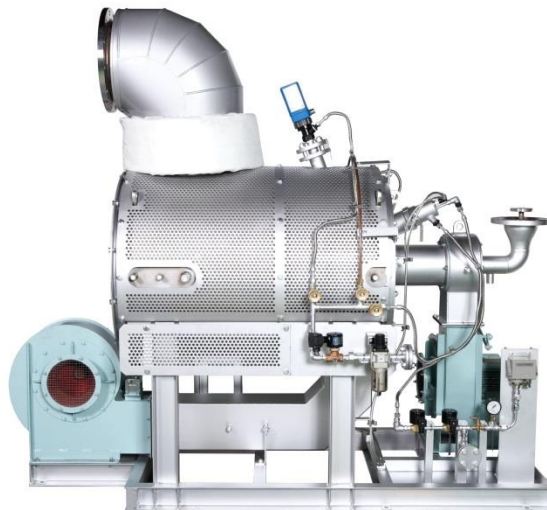
(in the old model, the model is expressed in processing power kW)

Ex : In the case of the combustion rate 25kg/h, The model type is MECS-G25

▪ **Completely compliant with international standard IGF code<sup>※1</sup> and IGC code<sup>※2</sup>**

Based on 38 years of experience in gas combustion on vessels,

VOLCANO “MECS-GCU” has been installed in Japan's first IGF code compliant LNG fueled vessels.



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Features of VOLCANO gas combustion unit

- **Can be installed even in small vessels :**  
Has already been successfully installed in LNG fuel tug-boats.
- **Combusts gas of any ratio on LNG fueled vessels :**  
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.(optional)
- **Compatible with a wide range of vessels :**  
Can be used in many types of projects, such as Tag-boats,  
LNG bunkering vessels, and backups for other treatment devices.
- **Low running cost :**  
Consumes less power during operation than re-liquefaction or recompression.

Product Specifications Overview

TYPE		MECS-G25	MECS-G50	MECS-G100	MECS-G150	MECS-G200	MECS-G300V	MECS-G500V	MECS-G750V	MECS-G1000V	
Combustion rate	kg/h <sup>*1</sup>	25	50	100	150	200	300	500	750	1000	
Gas pressure <sup>*2</sup>	MPaG	From free flow to 1.0 <sup>*3</sup>									
Dimensions <sup>*5</sup>	Length	mm	2,530	3,200	4,000	4,500	5,000	φ2,400 <sup>*4</sup>	φ2,500 <sup>*4</sup>	φ2,700 <sup>*4</sup>	φ2,900 <sup>*4</sup>
	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) <sup>*5</sup>	kg	600	1,300	2,000	2,700	3,500	4,200	4,650	5,800	6,700	

\*1. CH<sub>4</sub>: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

- ※ 1 IGF CODE : International Code Of Safety for the ships using Gases Or other Low-Flash Point Fuels.  
International standards applicable to LNG fueled ships.
- ※ 2 IGC CODE : International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk.  
International standards applicable to LNG carriers.