Kawasaki
Powering your potential

LNG FLOATING POWER PLANT

2020
Kawasaki
SUPER Green Product

LNG FLOATING POWER PLANT

A floating power plant equipped
with world leading level high performance Gas Turbine/Gas Engine in its class.
Reliable power supply with faster delivery to diverse locations.

Advantages

1. World leading level **electrical efficiency in its class** and flexible operation (quick start-up, high partial load efficiency, wide operating range)
2. **Faster construction to complete** in Kawasaki's own shipyard
3. **Lower environmental impact** by LNG fuel firing

Applications

- Distributed power source with stability and high efficiency
- Peak power source capable of quick start-up and responding to steep load fluctuation (Gas Engine Model)
- Grid stabilization for various kind of renewable energy
- Towable, suitable for periodic and seasonal operation
- Heat and electrical power generation (CCPP※ Model)

※ CCPP : Combined Cycle Power Plant

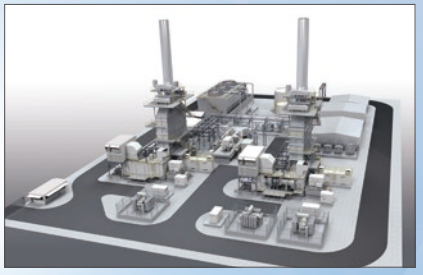
Specifications

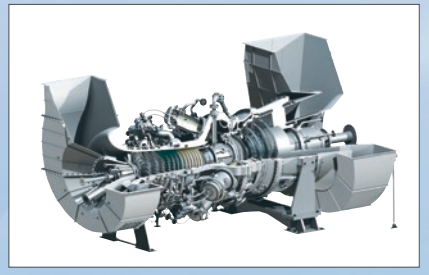
Model	CCPP 80	Gas Engine 30
Power Plant	Combined Cycle Power Plant (Gas Turbine×2, HRSG×2, Steam Turbine×1) GT Model : L30A	Gas Engine × 4 GE Model : KG-18-V
Power Output	80 MW	30 MW
Heat Rate (kJ/kWh)	6,622	7,273
Electrical Efficiency	53.1%	49.5 %
Barge Size (m) L×M×D	110 × 48 × 20	120 × 36 × 6.5
Tank Capacity (m^3)	11,000 (equivalent to 2 weeks full load operation)	7,000 (equivalent to 4 weeks full load operation)
Switchyard	Included	Included

Note

Inlet Air Temp. : 15℃
Atmospheric Pressure : 101.3 kPa
Natural Gas (100 % CH_4)
LHV of Fuel : 35.9 MJ/Nm^3

Kawasaki L30A Gas Turbine





World leading level of gross electrical generation efficiency and emission performance in the 30 MW class

World highest level of efficiency in the 30 MW class
Electrical efficiency (Gas turbine simple cycle) : 40.3 %

Combined cycle for highly efficient power generation
Electrical efficiency : 53.1 %

Low environmental impact
World lowest level of NOx emission in the 30MW class, 15 ppm or less (@ 15 % O_2) with Kawasaki DLE combustor

Kawasaki Green Gas Engine KG-18-V

World leading level of gross electrical generation efficiency in its class, quick start-up and wide operation range

World highest level efficiency in its class
Electrical efficiency : 49.5 %

Flexible operation
High partial load efficiency
and wide (30 % to 100 %) operation range

Low NOx emission in its class
86 ppm or less (@ 15 % O_2)

Quick start-up
10 minutes from start-up to rated full load

Kawasaki Technology

- Kawasaki has been a leading shipbuilder since its establishment in 1878 and Kawasaki, in 1981, delivered the first LNG carrier ever built in Japan
- Kawasaki developed gas turbines and gas engines of world's highest level electrical efficiency in its class

Kawasaki Design

- Optimal design generated by a specialized team comprised of shipbuilding technicians and power generation system engineering expert that address specific client needs
- Hull design engineered for various weather and marine conditions
- Energy systems engineered to match continuing client demands

Kawasaki Manufacturing

- Quality management through the manufacturing of gas turbines and gas engines at our own factory
- An ideal, comprehensive shipbuilding process from hull construction, installation of power plant to commissioning as floating power plant, at our own shipyard
- Reliable after-sales service

Sakaide Shipyard

Kawasaki LNG Floating Power Plant will be built and completed in Sakaide Shipyard located in Kagawa Pref., Japan, cooperating with other Kawasaki's engineering and manufacturing facilities.

Kawasaki Products Line-up in LNG Value Chain

LNG Carriers

Kawasaki Heavy industries, highly respected as a pioneer of LNG carrier construction and its technology, significantly contributes to safe and economical transportation of clean energy.

LNG Powered Vessels

The world's first LNG fuel powered pure car and truck carrier (PCTC) with a capacity of 4,000 cars. Environmental friendly PCTC which can satisfy the SOx and CO_2 emission regulations established by the International Maritime Organization (IMO).

LNG Bunkering Vessels

Kawasaki is making use of its wide array of LNG-related technologies, e.g. large size and small scale coastal LNG carriers, in the development and design of our LNG bunkering vessel to correspond to the increasing demand of LNG powered vessels in the shipping market.

FPSO (Floating Production, Storage & Offloading) Use Marine Boilers

FPSO use Marine Boiler covering high steam condition (more than 60barg x more than 500 deg C). These boilers have got testimony to our proven track (more than 200 units for Marine Boiler for LNG Carriers and more than 1,200 units for Land use) and high capability, which have realized reliable and robust boilers that could operate under severe off-shore conditions.

Kawasaki Heavy Industries, Ltd.

1-14-5, Kaigan, Minato-ku,
Tokyo 105-8315, Japan
TEL：+81-3-3435-2111
URL：global.kawasaki.com

Ship & Offshore Structure Company
New Products Sales Department
TEL：+81-3-3435-2065

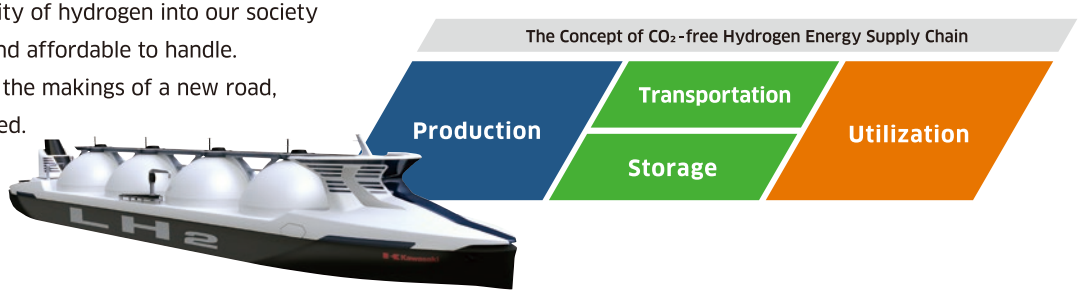
Energy System & Plant Engineering Company
Overseas Plant Sales Department
TEL：+81-3-3435-6649

International Energy System Sales Department
TEL：+81-3-3435-2579

Future Society

Kawasaki Hydrogen Road

Our aim is to usher a large quantity of hydrogen into our society in a manner that is safe, stable and affordable to handle.
As our technology moves ahead, the makings of a new road, the Hydrogen Road, will be created.



Jul. 2020. c. ktec. Printed in JAPAN