



# LM6000

## Marine Gas Turbine

**The LM6000 gas turbine is now ready to propel high power navy ships!** In 2015, GE marinized this gas turbine with a module that was designed, built and tested to United States Navy shock requirements. The powerful LM6000 gas turbine is certified by Lloyd's Register's Naval Vessel Rules (NVR) and RINA. The LM6000 is a simple-cycle, two-shaft, high-performance gas turbine derived from GE's CF6-80C2 high bypass turbofan aircraft engine. There are two models: the LM6000PC is a 46 MW machine, and the LM6000PG has an output of 52 MW. Taking advantage of the CF6-80C2 low-pressure system's normal operating speed of 3600 rpm, the LM6000 couples loads directly to the low-pressure turbine shaft without the need for a free power turbine. The LM6000PG mechanical drive turbine operates at 3850 rpm to achieve additional power in the same size machine. The low-pressure compressor features independently controlled variable inlet guide vanes and variable stator vanes to modulate airflow, ensuring fast, easy startup/shutdown – even under partial loads. The high pressure compressor is mated to an efficient annular combustor for maximum fuel economy. Incorporation of advanced airflow and cooling technologies helps the LM6000 have unprecedented parts life, and provide reliable and efficient power, low fuel consumption, and low NO<sub>x</sub>, carbon monoxide, and unburned hydrocarbon emissions, which is critical for marine applications.

Both LM6000 models weigh only 16,340 pounds (7,411 kilograms), and the entire unit is 193.5 inches long (4.9 meters), 85 inches wide (2.16 meters) and 81 inches high (2.05 meters) so you can generate more power in less space.

The compact LM6000 -- with its 42% high thermal efficiency -- is an ideal gas turbine for consideration in ship propulsion systems design when high performance and high power are requirements.

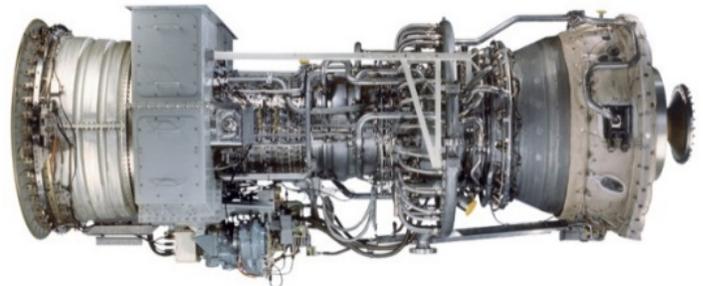
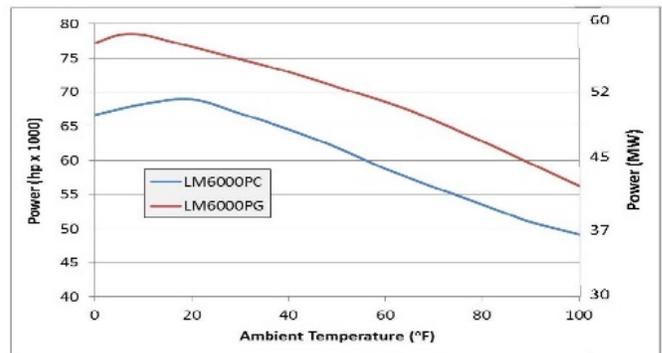
### Performance

	<u>LM6000PC</u>	<u>LM6000PG</u>
<b>Output</b>		
shp	61,851	70,656
kWs	46,123	52,689
<b>SFC</b>		
lb/shp-hr	.333	.335
g/kW-hr	202.7	203.6
<b>Heat rate</b>		
Btu/shp-hr	6,128	6,168
Btu/kW-hr	8,224	8,279
kJ/kW-hr	8,675	8,773
<b>Exhaust gas flow</b>		
lb/sec	286	306
kg/sec	130	139
<b>Exhaust gas temperature</b>	853°F (456°C)	921°F (494°C)
<b>Power turbine speed</b>	3600 rpm	3850 rpm

Average performance, 60 Hertz, 59°F, sea level, 60% relative humidity, no inlet/exhaust losses

### Max Power vs. Ambient Temperature

losses: inlet/exhaust 4/6 inches (10/15 centimeters) water



LM6000 Gas Turbine

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## LM6000 Marine Gas Turbine Gensets

The LM6000PC and LM6000PG marine gas turbines can be coupled with an electric generator in a hot or cold end drive configuration for installation flexibility. The LM6000 gensets, with rapid start up and load rejection capability, are ideal for ship applications for which electric drive is the propulsion system of choice.

### Dimensions\*

Base plate width	169.6 in (4.307 m)
Base plate length	650 in (16.51 m)
Enclosure height	193.3 in (4.909 m)
Base plate weight	302,000 lb (136,985 kg)
Duct flow areas Inlet	90 sq ft (8.36 sq m)
Exhaust	57 sq ft (5.29 sq m)

\*Exact dimensions, weight and performance vary with the specific generator selected

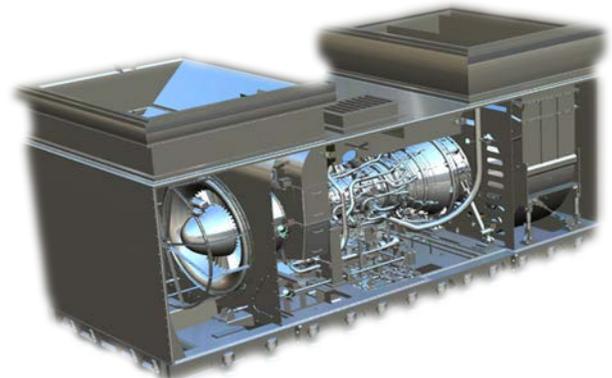
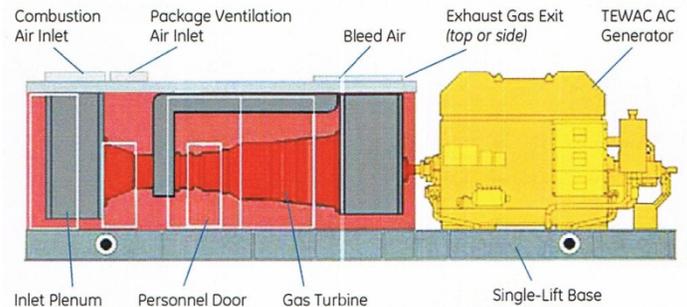


LM6000PG on test in Italy

## Specific Qualifications

More than 1,200 LM6000 gas turbines have shipped or are operating in industrial applications, driving electric generators for utility and industrial power generation, or in mechanical drive applications. Accumulating more than 36 million operating hours, the LM6000 has a fleet-wide reliability greater than 99%. At sea, 15 units are used aboard offshore platforms, floating production storage and offloading ships, and power barges, accumulating over 700,000 operating hours.

The LM6000 PC and PG models are certified by Lloyd's Register NVR and RINA. These powerful gas turbine models are now available to propel high power naval marine applications.



LM6000 marine module



GE Aviation (Cincinnati, OH)  
[www.ge.com/marine](http://www.ge.com/marine)

Other product sheets are available on the LM500, LM2500, LM2500+, and LM2500+G4 gas turbines.

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