

Power Generation Solutions

# THE ALL-NEW **mtu** SERIES 1600 GX1 GENDRIVE



A Rolls-Royce  
solution

# UNPRECEDENTED POWER DENSITY – UP TO 49% MORE POWER

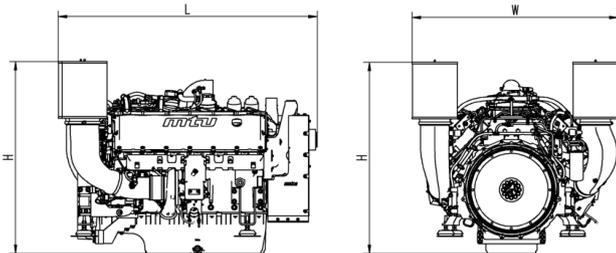
The new **mtu** Series 1600 GX1 for power generation applications boasts the highest power-to-size ratio in its class and boosts the output to 996 kWm.

With its outstanding power-to-size ratio, the 12V1600 Gx1 is the most powerful engine with the highest power density in its power range.

With its four power rating definitions and eight new power ratings, the 12V1600 Gx1 provides reliable power for a wide range of

applications, from airports to data centers, hospitals, public or commercial buildings as well as prime power applications such as construction sites or remote prime power plants.

### Dimensions & weight



Dimensions (L x W x H): 1.817mm x 1.445mm x 1.349mm Weight (dry): 2.170kg  
 All dimensions and weights are approximate.

### Your advantages



Highest power density and full flexibility for various genset applications



Approved for synthetic fuels according to EN15940 (e.g. HVO) for up to 90% CO<sub>2</sub> reduction



Industry-leading load factors up to 85% for emergency standby power and up to 100% for data center power ratings



Best-in-class low load operation for hybrid applications in combination with renewables such as solar photovoltaics

	Continuous / Prime / Grid Stability	Standby & Mission Critical		
Application				
ISO	ISO 8528-1 PRP Prime Power	ISO 8528-1 ESP Emergency Standby Power		ISO 8528-1 DCP Data Center Power
mtu ratings	Prime Power	Standby Power	Prime Power for Stationary Emergency	Data Center Continuous Power

new

new

# mtu 12V1600 GX1

## TECHNICAL DESIGN FEATURES

The **mtu** Series 12V1600 Gx1 is the result of a holistic development program bundling all of Rolls-Royce's core competencies in R&D, thermodynamics, analytics, simulation and testing from more than 100 years of engine development experience.

Increasing the power output of an existing engine platform by up to 49% while maintaining our highest quality and performance standards was an ambitious goal. Yet, that's exactly what we did with the new

Series 1600 Gx1. To do so, the **mtu** Series 1600 engine platform was fundamentally redesigned, optimized and reinforced to achieve something unique in its class.

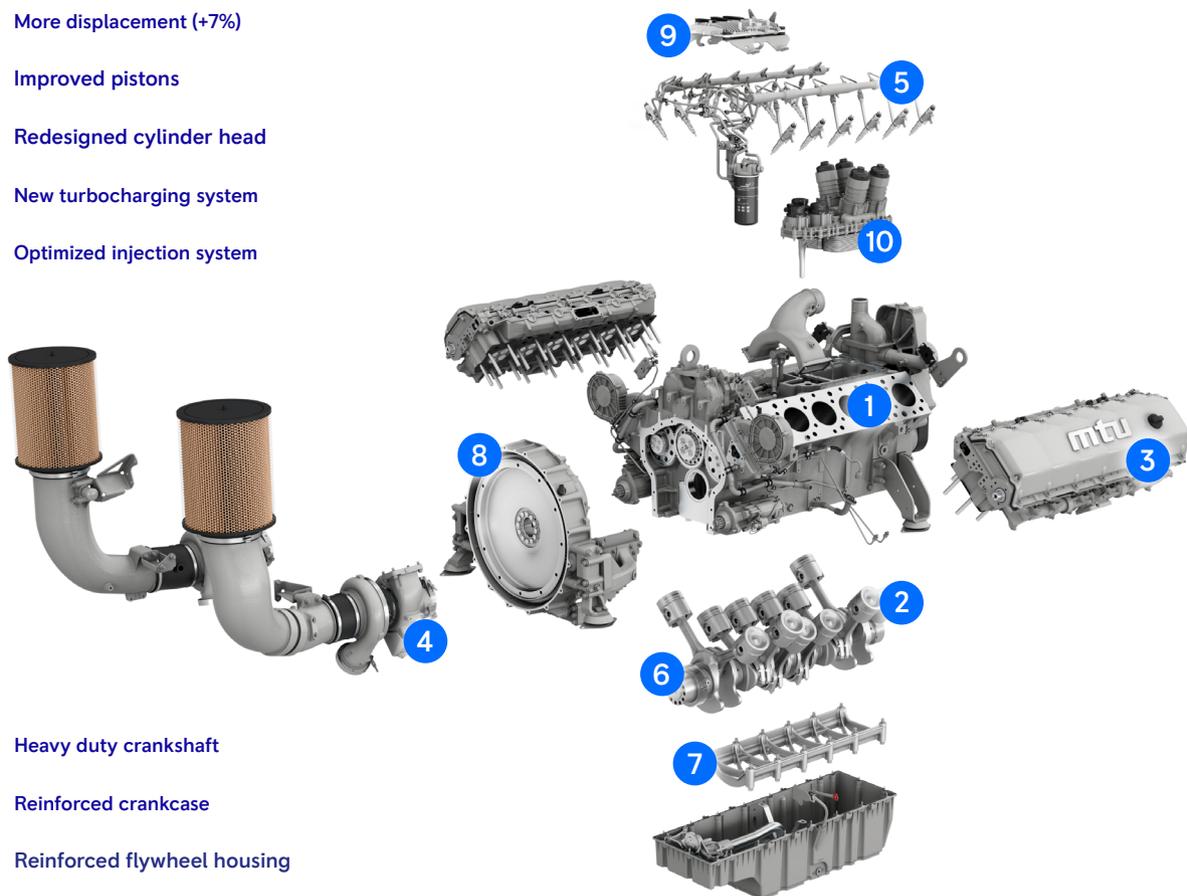
1 More displacement (+7%)

2 Improved pistons

3 Redesigned cylinder head

4 New turbocharging system

5 Optimized injection system



6 Heavy duty crankshaft

7 Reinforced crankcase

8 Reinforced flywheel housing

9 Upgraded Engine Control Unit

10 New crankcase ventilation

# 12V1600 GX1 TECHNICAL DATA OVERVIEW

## mtu 12V1600 Gx1

### Key engine data

Arrangement	12V (90°V)
Bore / stroke	126 / 150 mm
Total displacement	22.4l
Displacement / Cyl.	1.87l
Max. power	996 kWm (60Hz), 888 kWm (50Hz)
Injection system	Common rail
Fuel specification	EN 590, Grade No.1-D/2-D (ASTM D975-00), EN15940 (e.g. HVO)
Turbocharging	Single Stage
Electronics	ECU9
Cooling System	air-to-air charge air cooling (A2A/TD)
Available calibrations 50Hz	Fuel consumption optimized, NEA Singapore (ORDE), EPA Tier 2 compliant
Available calibrations 60Hz	EPA Tier 2 certified, EPA Tier 2 compliant

### 50Hz power ratings (at 1,500rpm)

Engine Model	3D	Engine Model	3B / 3E / 3F
	Gross Engine Power [kWm]		Gross Engine Power [kWm]
12V1600 G71F	740	12V1600 G11F	673
12V1600 G81F	787	12V1600 G21F	715
12V1600 G91F	888	12V1600 G31F	806

### 60Hz power ratings (at 1,800rpm)

Engine Model	3D	Engine Model	3B / 3E / 3F
	Gross Engine Power [kWm]		Gross Engine Power [kWm]
12V1600 G51S	730	12V1600 G01S	664
12V1600 G61F	783	12V1600 G11S	712
12V1600 G71S	836	12V1600 G21S	760
12V1600 G81S	890	12V1600 G31S	809
12V1600 G91S	996	12V1600 G41S	905

For more information please visit the [mtu Series 1600](#) webpage.

For detailed technical information please download the Series 1600 data sheet or visit the [mtu Business Portal](#).

For quotations please consult your local [mtu sales partner](#) or contact our online Customer Assistance Center.