

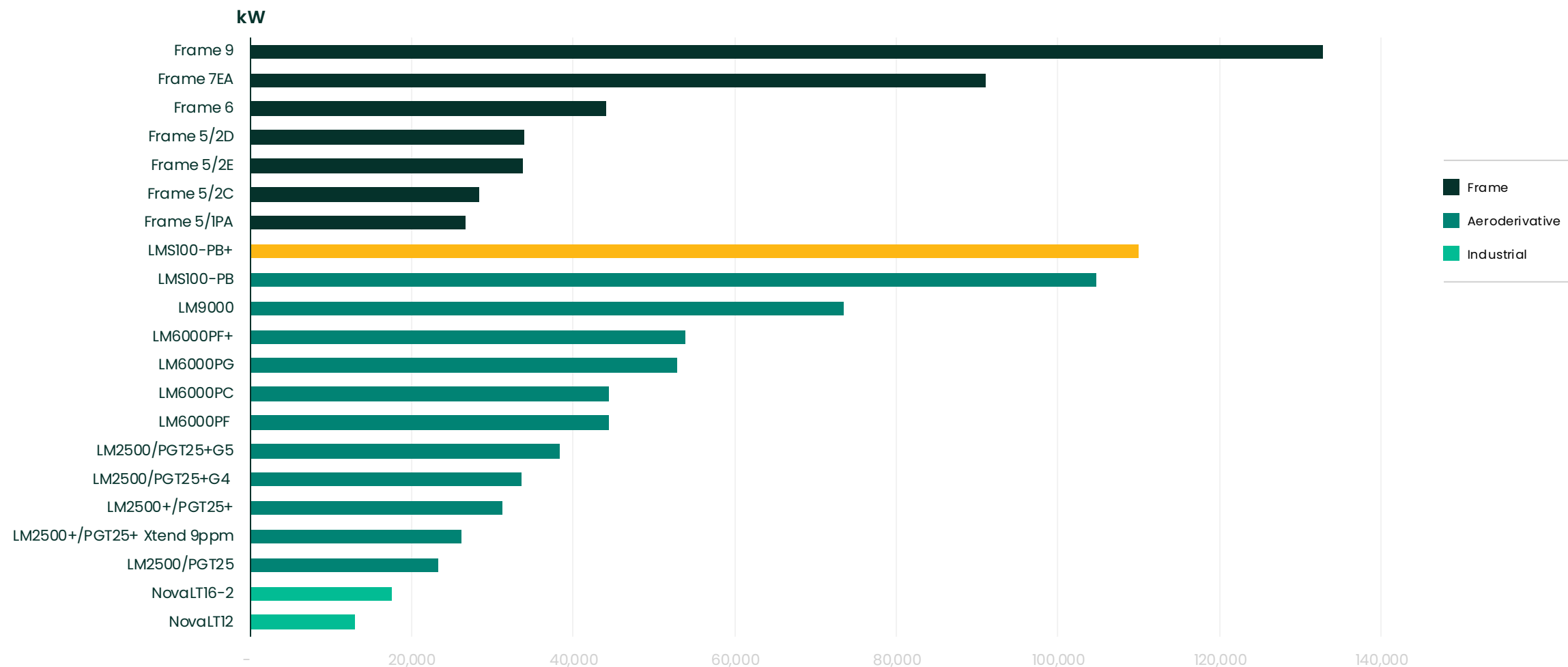
LMS100PB+

The best simple-cycle efficiency gas turbine



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Industry leader in gas turbine technology



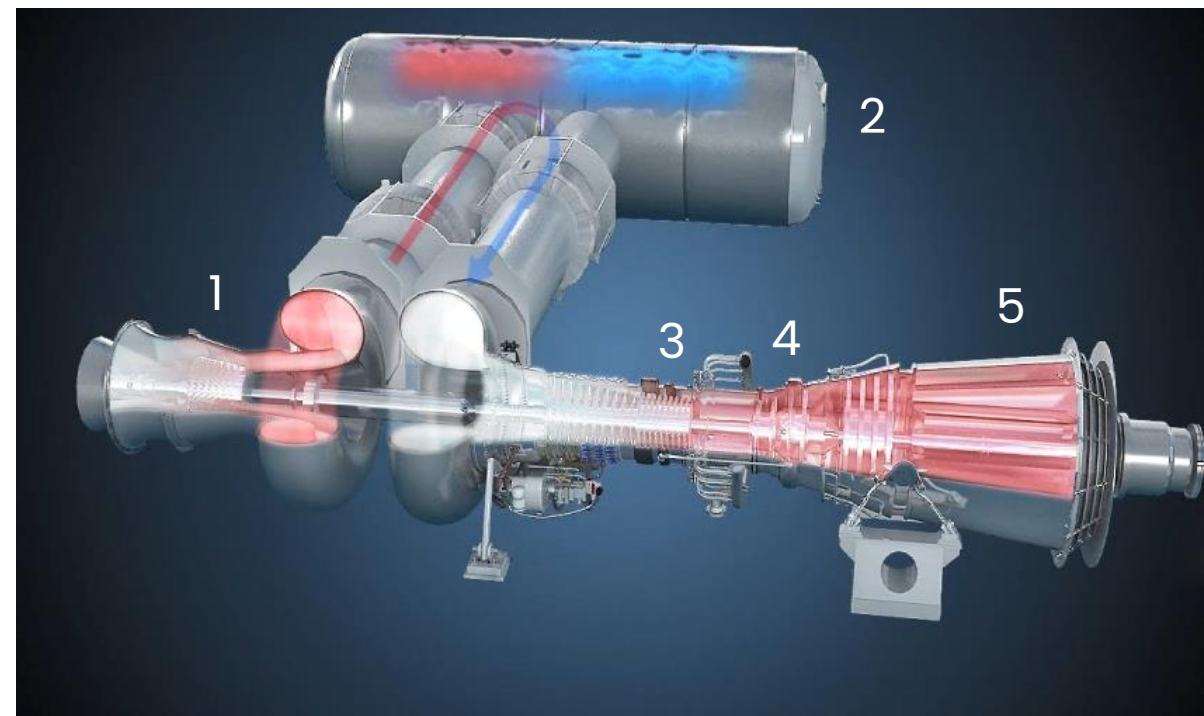
LMS100PB+

Best simple-cycle efficiency
for lowest CO₂ emissions

The LMS100 is the only modern industrial gas turbine with an intercooling system between the low-pressure compressor (LPC) and the high-pressure compressor (HPC). This reduces the compression work by 30% (at parity of pressure ratio) versus a conventional cycle delivering best-in-class simple-cycle efficiency (>44%) and minimum CO₂ emissions.

The free power turbine (aerodynamically coupled with the supercore but mechanically independent) makes the LMS100 engine suitable for both mechanical drive and generator drive applications—with no need of a gearbox. It also permits pressurized start-ups in LNG plants without a helper motor.

The LMS100 design is largely based on proven technology, mixing heavy-duty (LPC and PT assembly) and aeroderivative (supercore: core + IPT) components



1. LPC derived from the first 6 stages of the compressor of the heavy-duty Frame 6FA gas turbine
2. Intercooler
3. Core section (HPC, turbine, and combustion system) in common with the LM6000 aeroderivative engine
4. Intermediate-pressure turbine (IPT) driving the LPC
5. Free power turbine (PT)

Package

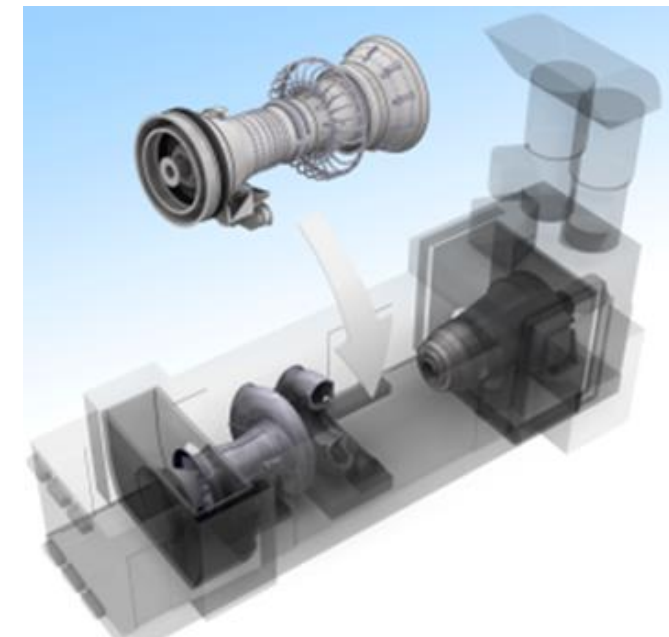
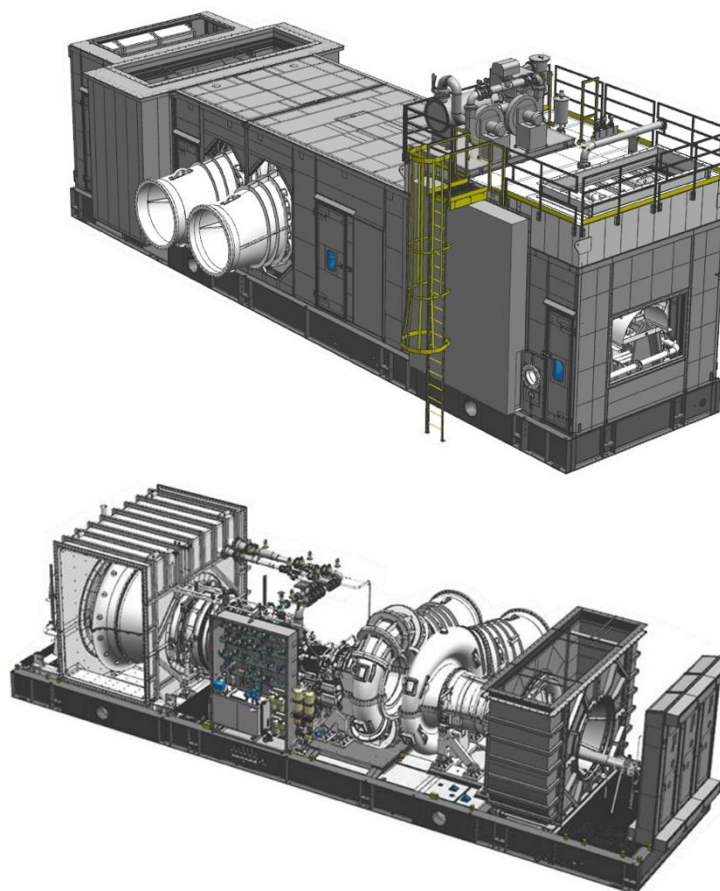
LMS100PB+ package is a perfect mechanical-drive solution to maximize economies of scale for LNG liquefaction trains.

Its three-shaft architecture enables both for 50 and 60 Hz power generation/CHP.

Start-up in less than 10 minutes makes it ideal for integration with renewable energy systems.

The package has been specifically designed to satisfy oil and gas applications requirements:

- Classified for Hazardous Area Zone 2 Class T3, Gas Group IIB
- Compliant with winterization and marinization requirements
- Implemented TMR instrument configuration (triple redundancy)
- Gas turbine installed on a single skid
- Key components from the legacy GTG package have been maintained



Optimized package design

For maintenance tasks and supercore exchange in less than 3 days

Datasheet

LMS100PB+

Power generation

| | | |
|------------|-----|-------------|
| Power | MWe | 108 |
| Efficiency | % | 43 |
| Nox | ppm | 25 |
| Exhaust | °C | 413 |
| Speed | RPM | 3,000/3,600 |

Package

| | | |
|--------|-----|----------|
| LxWxH | m | 19x7.3x7 |
| Weight | ton | 232 |

Mechanical drive

| | | |
|------------|-----|-------|
| Power | MWe | 110 |
| Efficiency | % | 44 |
| Nox | ppm | 25 |
| Exhaust | °C | 410 |
| Speed | RPM | 3,429 |

Main inspections

| | | |
|-------------|----|--------|
| HGP | hr | 25,000 |
| Major insp. | hr | 50,000 |

ISO conditions with natural gas fuel, ambient temperature 15°C, no inlet or exhaust losses, sea level, 60% relative humidity.
Mechanical Package dimensions driven equipment excluded.

Key features

- Best-in-class simple-cycle efficiency (>44%)
- Minimum CO₂ footprint (55 tons CO₂/year less than the main competitor at parity of output power)
- Dry low emission combustion system, capable of <25 ppm NOx @ 15% O₂, at 75–100% load
- Free power turbine speed range: 2,880–3,600 rpm, suitable for
 - Power generation, 50 and 60 Hz with no gearbox
 - Mechanical drive
- More than 40 kN-m breakaway torque capability of the tower turbine demonstrated by test, sufficient to enable pressurized start-ups in LNG applications without a helper motor
- Supercore exchange capability in 3 days to maximize availability

Modular solution

Key features

- LMS100PB+ O&G package
- Driven compressors
- Balance of plant
- Intercooler
- Control room
- 52 x 21 m footprint, 25 m height
- 3,000 metric tons total gross weight



Built, commissioned, and tested (optionally at full speed, full power) in Baker Hughes facility



Shipped as a single unit for minimized installation and commissioning activities at customer site