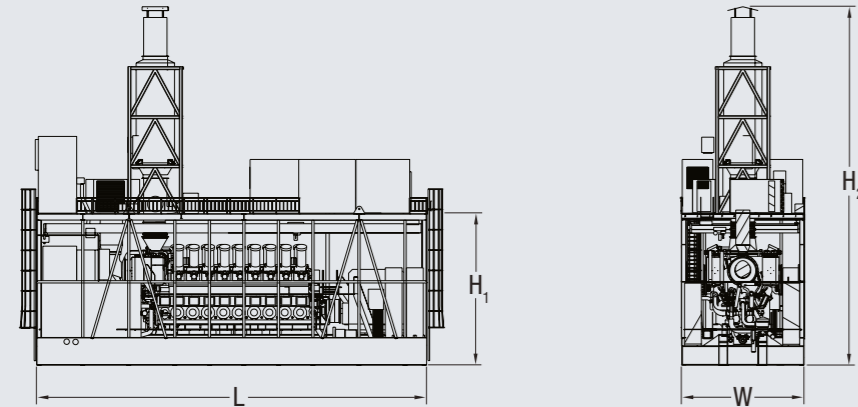


# Dimensions and Technical Data

## Overview



### V-engine V51/60DF

Engine	No. of cyl.	L (mm)	H <sub>1</sub> (mm)	H <sub>2</sub> (mm)	W (mm)	Dry mass* (t)
<b>18V51/60DF in Power Container **</b>	18	25,400	9,850	23,350	8,000	615

\* Weight depends on requested alternator; \*\* Further engine types and cylinder configurations available

### Specific Fuel Oil Consumption (SFOC,mech) to ISO conditions

Operation mode	Emission Standard	100% load	85% load
<b>Gas mode</b>	IMO Tier III	7479 kJ/kWh	7457 kJ/kWh
<b>Liquid fuel mode</b>	IMO Tier II	183.5 g/kWh	183.0 g/kWh
<b>Fuel sharing mode</b>	IMO Tier II	*	*

\* Mixtures of gas and liquid fuel can be simultaneously burned in engine. Depending on mixture ratio.  
 Engine type specific reference charge air temperature before cylinder 43 °C  
 The fuel consumption for liquid fuel is based on a lower calorific value (LHV) of the fuel of 42,700 kJ/kg without attached pumps.  
 Tolerance +5%.

### Output MCR (maximum continuous rating)

Engine speed	514 rpm	500 rpm
Mean piston speed	10.3 m/s	10.0 m/s
Mean effective pressure	19.05 bar	19.05 bar

Frequency	60 Hz	50 Hz
Mechanical rating	18,000 kW <sub>mech</sub>	17,550 kW <sub>mech</sub>
Electrical rating (97% alternator efficiency)	17,460 kW <sub>el</sub>	17,023 kW <sub>el</sub>
De-rating for methane numbers MN < 80	1% per MN, which is MN < 80	

All data provided in this document is non-binding. This data serves informational purposes only and is especially not guaranteed in any way. Depending on the subsequent specific individual projects, the relevant data may be subject to changes and will be assessed and determined individually for each project. This will depend on the particular characteristics of each individual project, especially specific site and operational conditions. Copyright © MAN Diesel & Turbo. D2366486EN-N2 Printed in Germany GMC-AUG-10132

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# Offshore Power Module

The simple and flexible offshore power solution



Engineering the Future – since 1758.

**MAN Diesel & Turbo**



# Offshore Power Module

## The simple and flexible offshore power solution

The MAN Power Module is a simple, cost-effective power generation module that offers maximum flexibility. It can burn diesel, crude oil or gas. And it can be deployed in almost any offshore location.

### A simple solution

The Power Module is a fully self-contained unit. All necessary equipment is included in the container, including starting air vessels and compressors, storage tanks for bunker and diesel fuel, a feeder and booster pumps. The Power Module has an electrical output of up to 17.5 MW. But the ingenious modular system makes it easy to upscale. You can simply put more containers together to deliver extra power, or to ensure redundancy. And take them off again if your requirements change.

### Easy to run and maintain

The Power Module can easily be operated and maintained by the ship's crew. The built-in control system enables unmanned operation, with monitoring from the ship's central control room. All necessary engine and equipment maintenance operations can be performed inside the container. Not that it needs a lot of maintenance: MAN's legendary robust engines ensure high availability. And thanks to MAN's truly worldwide network, service, support and spare parts are available rapidly, no matter where you are.

### Fuel flexibility

The Power Module can run on liquid fuel (diesel, crude oil) or gas – or both at the same time. That leaves you free to choose the fuel based on availability, gas quality or cost. The fuel gas pressure is regulated by an integrated gas valve unit, which also serves as an emergency shut-off and ventilation for gas pipes when the engine is not running on gas. In case of emergency, the system automatically switches to diesel as a fall back fuel.

### Meets the highest standards

The Power Module complies with national and international safety and environmental regulations. In gas operation, the Power Module meets the rigorous IMO Tier III standard, leaving you well prepared for the future – given that Tier III will not come into force until 2016.

### Locally made world-class quality

The Power Module's simple yet effective design means that it can be manufactured at shipyards or topside fabricators around the world. This enables you to meet local content regulations and avoid expensive transportation. MAN local design offices adapt each Power Module to the customer's specific demands and local requirements – ensuring it still meets MAN's famously high quality standards. Experienced MAN production surveyors provide professional support during the planning, inspection and approval stages.

### Options

The following optional features are available on request:

- Rotor removal tool, enabling fast removal and replacement of the alternator's rotor.
- Explosion-proof equipment, for safe operation in hazardous environments.
- Fire-fighting system included in container.
- Exhaust gas after-treatment systems (outside container), to fulfil IMO Tier III emission thresholds in liquid fuel operation.

### Benefit

- Fully self-contained unit – essentially a turnkey power plant
- Easy to operate – remote monitoring from central control room
- Low maintenance – high availability thanks to MAN's robust engines
- Full fuel flexibility – for affordable yet efficient power generation
- Modular design – simply add or remove containers to increase or decrease output
- Worldwide service and support – through MAN's established network
- Local manufacture – saving costs; MAN involvement ensures high quality
- IMO Tier III compliant – in gas operation (and in liquid fuel operation with after-treatment)

### Reduce Gas Flaring

Why waste a useful resource by flaring? With a Power Module, you can convert that surplus gas into a cost-effective source of power. Poor-quality gas with low methane content is not a problem: MAN's smart fuel sharing system automatically detects gas qualities, amounts and availabilities, and compensates accordingly, drawing more power from liquid fuel as needed. So you can be sure of a steady supply of power – from the most cost-effective source.

