Dimensions and Technical Data

Overview

V-engine V/16/DF

Engine No. of cyl. L (mm) H1 (mm) H2 (mm) W (mm) Dry mass* (t)
18V51/60DF in Power Container **
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 net) to 150 conditions

<table>
<thead>
<tr>
<th>Operation mode</th>
<th>Emission Standard</th>
<th>100% load</th>
<th>85% load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas mode</td>
<td>1744</td>
<td>1695</td>
<td>1635</td>
</tr>
<tr>
<td>Liquid fuel mode</td>
<td>1744</td>
<td>1695</td>
<td>1635</td>
</tr>
<tr>
<td>Fuel sharing mode</td>
<td>1744</td>
<td>1695</td>
<td>1635</td>
</tr>
</tbody>
</table>

Emission Standard
IMO Tier III
IMO Tier II
IMO Tier II

Emission values for engine gas discharge and water consumption are based on the determined standard emission values.
The fuel consumption figures are based on the standard emissions.

Ratio of gases and fuel ratios for simultaneous burning. The overall emission values are valid for the specific mixture ratios of gas and fuel. The fuel consumption figures are based on the standard emissions for the respective engine.

Output MCR (maximum continuous rating)

<table>
<thead>
<tr>
<th>Engine parameter</th>
<th>18,000 kW mech</th>
<th>17,550 kW mech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency (Hz)</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Mean piston speed (m/s)</td>
<td>10.3</td>
<td>10.0</td>
</tr>
<tr>
<td>Mean effective pressure (bar)</td>
<td>19.05</td>
<td>19.05</td>
</tr>
</tbody>
</table>

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-N3 Printed in Germany GKM-AUG-11161
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 pump. 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 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 fail-safe fuel.

Meets the highest standards
The Power Module complex meets 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.
- Water mist fire fighting system.
- Gas and fire detection system.

Benefits
- 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 flexibility – for affordable yet efficient power generation
- Modular design – simply add or remove containers to increase or decrease output

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.

Design features included:
- Electrical and lightning systems
- Control, alarm and safety systems with interface to CSS
- Water mist fire fighting system
- Gas and fire detection system