The MAN 51/60DF runs on either liquid or gaseous fuels and allows you to switch seamlessly from liquid to gas and vice versa during operation, giving you all the benefits of high fuel flexibility. Benefitting from the excellent robustness and reliability of its predecessors, the MAN 51/60DF also ensures low emissions and high efficiency.

**Benefits at a glance**
- Performance settings: high power and high efficiency
- Start and stop in gas mode
- Fuel and operational flexibility with HFO, diesel, natural gas, biogas
- Optimized variants for tropical conditions
- High single cycle efficiency
MAN L+V51/60DF

High efficiency and high power

Dimensions

<table>
<thead>
<tr>
<th>Cyl. No.</th>
<th>6L</th>
<th>9L</th>
<th>18V</th>
</tr>
</thead>
<tbody>
<tr>
<td>L (mm)</td>
<td>8,464</td>
<td>11,067</td>
<td>13,489</td>
</tr>
<tr>
<td>H (mm)</td>
<td>5,807</td>
<td>5,807</td>
<td>6,450</td>
</tr>
<tr>
<td>W (mm)</td>
<td>3,156</td>
<td>3,251</td>
<td>4,884</td>
</tr>
<tr>
<td>Engine weight (t)</td>
<td>123.4</td>
<td>168</td>
<td>316</td>
</tr>
</tbody>
</table>

Output

<table>
<thead>
<tr>
<th>Cyl. No.</th>
<th>6L</th>
<th>9L</th>
<th>18V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output mech. (kW)</td>
<td>High efficiency</td>
<td>6,300</td>
<td>9,450</td>
</tr>
<tr>
<td>Speed (rpm)</td>
<td>High power</td>
<td>6,900</td>
<td>10,350</td>
</tr>
<tr>
<td>Frequency (Hz)</td>
<td>High efficiency</td>
<td>500/514</td>
<td>500/514</td>
</tr>
<tr>
<td></td>
<td>High power</td>
<td>500/514</td>
<td>500/514</td>
</tr>
</tbody>
</table>


Engine features

General data
- Engine cycle: four-stroke
- No. of cylinders: 6L, 9L, 18V
- Bore: 510 mm - Stroke: 600 mm

Engine automation and control
- MAN SaCoS, safety and control system on engine, developed in-house at MAN

Turbocharging system
- High efficiency constant pressure
- MAN TCA series exhaust gas turbocharging system
- Individual engine/turbocharger optimization matching

Fuel & gas system
- Common rail pilot fuel injection system
- Robust conventional injection system
- Individual cylinder low pressure gas admission system (5 bar(g) at inlet of gas valve unit)

Starting system
- Starting air valves within cylinder head

Applications
- Areas with non-constant gas supply
- Installations that are to be operated with gas at a later date
- Areas with highly volatile fuel prices

MAN Energy Solutions
86224 Augsburg, Germany
P + 49 821 322-0
F + 49 821 322-3382
info@man-es.com
www.man-es.com