Let your fuel take you further. By combining diesel and gas technologies in one engine, the MAN 51/60DF gives you absolute fuel flexibility. There’s no better way to keep your engine running effectively and economically. Full steam ahead.

Benefits at a glance

- High power output
- Lowest fuel consumption over entire engine load
- Best load acceptance behaviour
- Full fuel flexibility
- High reliability and long TBOs
General
- Engine cycle: Four-Stroke
- No. of cylinders: 6, 7, 8, 9
- Bore: 510 mm – Stroke: 600 mm
- Swept volume per cyl: 122.6 dm³

Fuel consumption at 85 % MCR
- Diesel Mode: 177.5 g/kWh
- Gas Mode: 7,330 kJ/kWh

Cylinder output (MCR)
- At 500 rpm: 975 kW
- At 514 rpm: 1000 kW
- Power-to-weight ratio: 16.4 – 18.1 kg/kW

Compliance with emission regulations
- IMO Tier II
- IMO Tier III (Gas mode)
- IMO Tier III (Diesel mode with MAN SCR)

Main features
- Turbocharging system
  High efficiency constant pressure MAN TCA series exhaust turbocharging system
- Engine automation and control
  MAN in-house developed engine attached Safety and Control System SaCos

Fuel system
- Common Rail pilot fuel injection system
- Conventional main injection system
- Variable injection system for lowest fuel consumption while meeting IMO Tier II emission limits in Diesel mode

Gas system
- Cylinder individual low pressure gas admission system, 5 bar(g) at inlet of gas valve unit

Cooling system
- 2-string high and low temperature cooling water systems

Starting system
- Starting air valves within cylinder heads

Engine mounting
- Resilient or rigid mounting

Optional equipment
- Fuel Sharing mode for highest fuel flexibility
- 100 % Power Take-Off at engine free end available
- Variable inlet valve timing for improved combustion in part load operation

Dimensions

<table>
<thead>
<tr>
<th>Cyl. No.</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<tbody>
<tr>
<td>L</td>
<td>8,494</td>
<td>9,314</td>
<td>10,134</td>
<td>11,160</td>
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<td>L1</td>
<td>7,455</td>
<td>8,275</td>
<td>9,095</td>
<td>9,915</td>
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<td>W</td>
<td>3,165</td>
<td>3,165</td>
<td>3,165</td>
<td>3,283</td>
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<tr>
<td>Dry mass</td>
<td>106</td>
<td>119</td>
<td>135</td>
<td>148</td>
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Output

<table>
<thead>
<tr>
<th>Speed</th>
<th>514</th>
<th>500</th>
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<tbody>
<tr>
<td>rpm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mep</td>
<td>19.1</td>
<td>19.1</td>
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<tr>
<td></td>
<td>bar</td>
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<tr>
<td>MAN 6L51/60DF</td>
<td>6,000</td>
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<td>7,800</td>
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<td>MAN 9L51/60DF</td>
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<td>8,775</td>
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</table>

LHV of fuel gas ≥ 28,000 kJ/Nm³
(Nm³ corresponds to one cubic meter of gas at 0 °C and 1.013 bar)
Minimum centreline distance for twin engine installation: 3,200 mm
Last updated August 2016