

# MAN

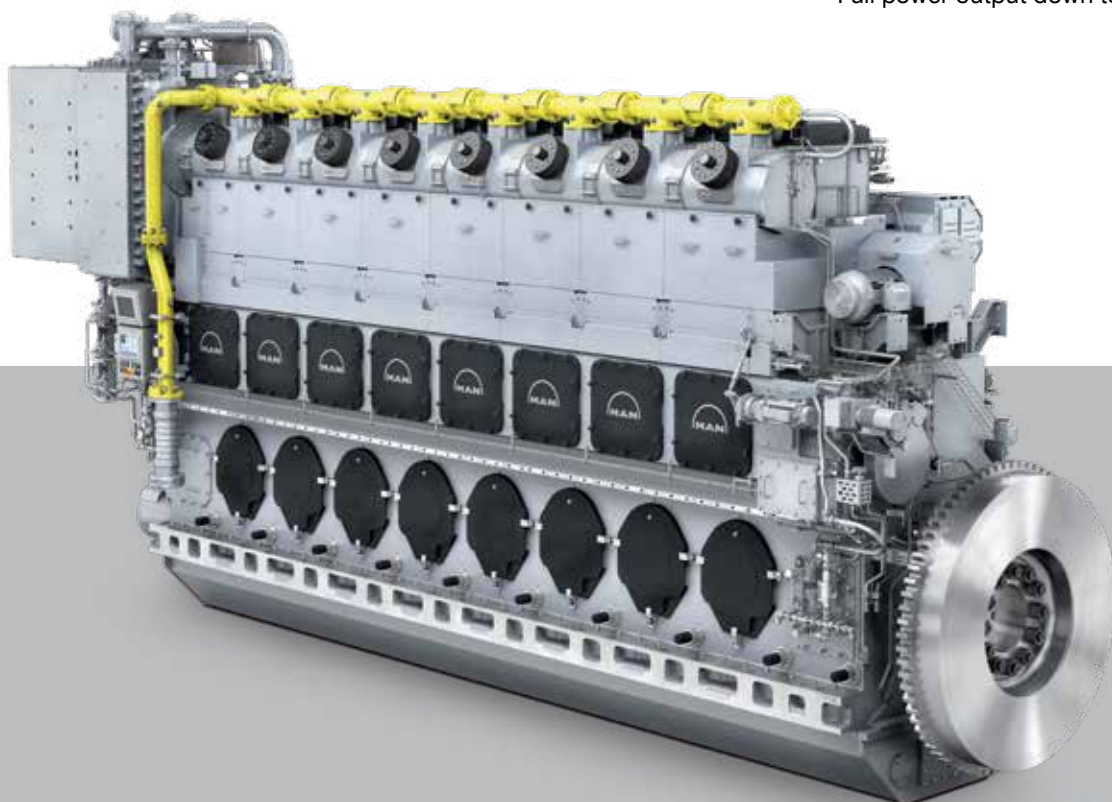
# L51/60DF

## Propulsion – High efficiency variant

Let your fuel take you further. By combining diesel and gas technologies in one engine, the MAN L51/60DF 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

- Best-in-class fuel consumption in gas mode
- Robust performance in gas mode
- Self-learning combustion control
- High reliability and long TBOs
- Gas start capability
- Full power output down to MN70

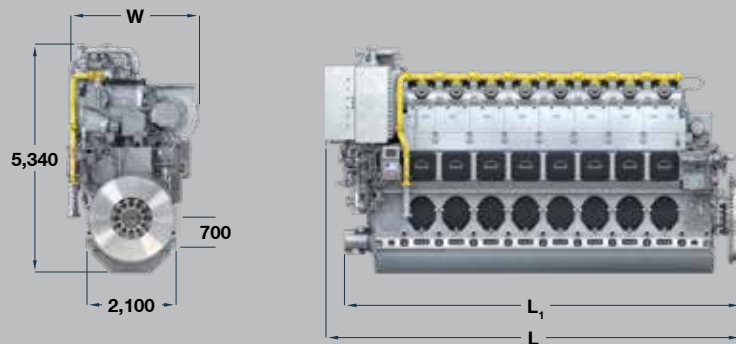


# MAN L51/60DF

## Propulsion – High efficiency variant

### Dimensions

Cyl. No.		6	7	8	9
L	mm	8,494	9,314	10,134	11,160
L <sub>1</sub>	mm	7,455	8,275	9,095	9,915
W	mm	3,165	3,165	3,165	3,283
Dry mass	t	110	124	137	155



### Output

Speed	rpm	514	500
mep	bar	20.0	20.6
MAN 6L51/60DF	kW	6,300	6,300
MAN 7L51/60DF	kW	7,350	7,350
MAN 8L51/60DF	kW	8,400	8,400
MAN 9L51/60DF	kW	9,450	9,450

LHV of fuel gas  $\geq 28,000$  kJ/Nm<sup>3</sup>  
(Nm<sup>3</sup> corresponds to one cubic meter of gas at 0°C and 1.013 bar)

Minimum centerline distance for twin engine installation: 3,200 mm

Last updated April 2024

### General

- Engine cycle: four-stroke
- No. of cylinders: 6, 7, 8, 9
- Bore: 510 mm – Stroke: 600 mm
- Swept volume per cyl: 122.6 dm<sup>3</sup>

### Fuel consumption at 85 % MCR

- Liquid fuel mode: 176 g/kWh
- Gas mode: 7,150 kJ/kWh

### Cylinder output (MCR)

- At 500/514 rpm: 1,050 kW
- Power-to-weight ratio: 17.8 – 19.2 kg/kW

### Compliance with emission regulations

- IMO Tier II
- IMO Tier III (gas mode)
- IMO Tier III (diesel mode with MAN SCR-LP)

### 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 MAN SaCoS<sub>one</sub>

#### Air management

- Variable turbine area allowing improved adaption for diesel and gas mode operation while maintaining highest turbocharger efficiency over entire engine load

#### Fuel system

- Common rail pilot fuel injection system
- Conventional main injection system
- Variable injection timing for lowest fuel consumption while meeting IMO Tier II emission limits in diesel mode

#### Gas system

- Cylinder individual low pressure gas admission system, 5.5 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

- Gas start capability
- 100 % power take-off at engine free end available
- Variable inlet valve timing for improved combustion in part load operation

MCR = Maximum continuous rating  
SCR-LP = Selective catalytic reduction (low pressure)

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