

MAN

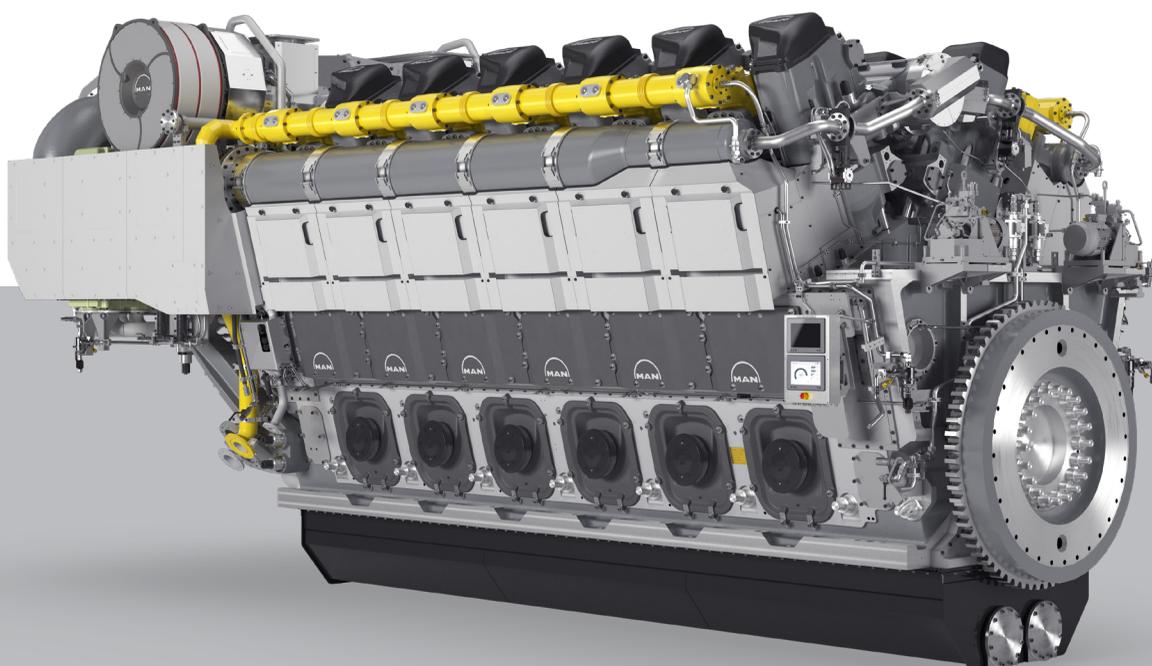
V49/60DF

Propulsion

The MAN 49/60DF is future-proof in multiple ways. Its benchmark fuel efficiency guarantees competitive vessel operation. The very low level of methane emissions ensures long-term CO₂ equivalent emission compliance. A modern engine platform with next-generation engine automation system can harness the benefits of a digitized marine operation. For this platform MAN Energy Solutions plans upgrades to future fuels.

Benefits at a glance

- Benchmark efficiency
- Very low methane emissions
- Robust performance in gas mode based on next-generation combustion control ACC 2.0
- Next-generation engine automation ready for future tasks such as cybersecurity
- Compact design by increased power density



MAN V49/60DF

Propulsion

Dimensions

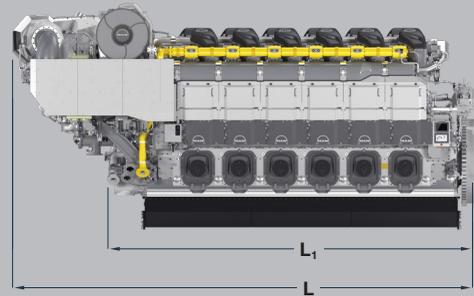
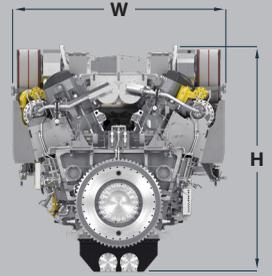
Cyl. No.		12V	14V
L	mm	10,898	11,878
L ₁ *	mm	9,350	10,330
W	mm	5,019	5,019
H	mm	5,681	5,681
Dry mass*	t	217	245

Output

Speed	rpm	600
mep	bar	23
MAN 12V49/60DF	kW	15,600
MAN 14V49/60DF	kW	18,200

*Drawing & dimensions without flywheel seating
Minimum centerline distance for twin-engine installation: 5,050 mm

Last updated October 2023



General

- Engine cycle: four-stroke
- No. of cylinders: 12V, 14V
- Bore: 490 mm – Stroke: 600 mm
- Swept volume per cyl: 113.14 dm³

Fuel consumption at 85 % MCR*

- Liquid fuel mode: 171.0g/kWh
- Gas mode: 6,990kJ/kWh

Cylinder output (MCR)

- At 600 rpm: 1,300 kW
- Power-to-weight ratio:
13.5 – 13.9 kg/kW

Compliance with emission regulations

- Gas mode: IMO Tier III
- Liquid mode: IMO Tier II und IMO Tier III with MAN SCR-LP
- Gas and liquid mode:
Fuel EU maritime

Main features

Turbocharging system

- High efficiency MAN TCT and MAN TCX two-stage turbocharging system

Engine automation and control

- Next-generation in-house developed safety and control system MAN SaCoS 5000
- Next-generation combustion control

Fuel system

- Cylinder individual solenoid gas admission valves for gas injection into charge air
- Next-generation MAN Common Rail injection system for liquid main fuel or HFO, developed in-house
- Common rail pilot fuel oil system

Cooling system

- 2-string high and low temperature cooling water systems or alternatively a combined cooling water system

Starting system

- Starting air valves within cylinder heads

Engine mounting

- Resilient

Optional equipment

- Additional insulation for maximum surface temperature of 110 °C
- High levels of cybersecurity compliance

MCR= Maximum continuous rating
SCR= Selective catalytic reduction

* According to IMO E2 test cycle

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