



## **MAN marine engine – V12-1224 / V12-1360**

Light duty operation – 900 kW (1224 hp) / 1000 kW (1360 hp)

## MAN engines have outstanding qualities

- High tractive power even at low speeds
- Powerful acceleration and rapid reaction to commands
- High performance combined with low weight
- Compact, space-saving design
- Large operation range owing to low consumption
- Low running costs
- Long service life
- Low emission values
- World-wide service network with rapid supply of spare parts

## Warranty

### MAN Gold Standard®

(for private use)

This seal of quality is awarded to yachts which meet proven top quality standards in the installation and tuning of the MAN engine system.

For yacht owners the MAN Gold Standard® quality certificate promises even greater safety and reliability. An extended warranty period is offered for installation to MAN's quality directives:

- 2 years full warranty on the engine
  - a further 3 years on the main components
- Detailed warranty conditions on request.

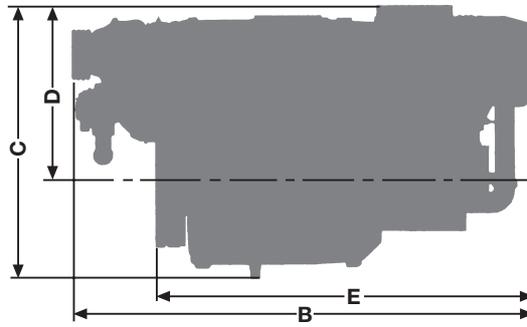
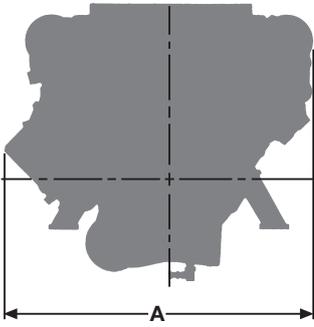
## Technical description

### Engine characteristic

Water-cooled 4-stroke diesel engine with direct injection with 12 cylinders in 90° V design, direct fuel injection (Common Rail), exhaust turbocharger, intercooler, boost pressure control with waste gate

## Components

Cylinder heads, valve gear	Single cylinder heads with 4 valves per cylinder Replaceable valve seat inserts and valve guides
Fuel system	Common Rail direct fuel injection, electronic injection control (EDC) Fuel fine filter and pre-filter with water separator
Engine block	High-strength casting with integrated oil and water ducts and with replaceable cylinder liners
Engine lubrication	Closed system with forced feeding, oil cooling and filtering Oil filters and sumps available in different designs
Type of cooling	Heat exchanger with engine and seawater circuit
Electric/electronics	Common Rail direct fuel injection, electronic injection control (EDC) Electronic engine monitoring including diagnostic unit System voltage 24 V Alternator 55 A, alternatively 120 A
Exhaust gas status	IMO/MARPOL 73/78, EPA TIER 2
Quality certificates	ISO 9001 certified by TÜV
Ambient conditions	To ISO 3046
Fuel	DMX to ISO 8217
Special equipment	On request



## Technical data:

Engine model	V12-1224 Common Rail	V12-1360 Common Rail
Bore	128 mm	128 mm
Stroke	142 mm	142 mm
Displacement	21.93 l	21.93 l
Compression ratio	15.5:1	15.5:1
Rotation looking on flywheel	left	left
Flywheel housing	SAE 1	SAE 1
Maximum output (light duty operation)*	900 kW (1224 hp)	1000 kW (1360 hp)
Rated speed	2300 rpm	2,300 rpm
Torque at rated speed	3737 Nm	4152 Nm
Mean effective pressure	21.4 bar	23.8 bar
Maximum torque	4150 Nm	4700 Nm
at speed	1200–1900 rpm	1400–1800 rpm
Weight	2000 kg	2000 kg
Power-to-weight ratio	2.22 kg/kW	2.00 kg/kW
Specific fuel consumption at rated power	215 g/kWh	225 g/kWh
Fuel consumption at rated power	230 l/h	268 l/h
Overall width of engine (A)**	1230 mm	1230 mm
Overall length of engine (B)**	1768 mm	1768 mm
Overall height of engine (C)**	1185 mm	1185 mm
Top of engine to crankshaft centre (D)**	730 mm	730 mm
Length of engine from front end to edge of flywheel housing (E)**	1492 mm	1492 mm

### Definition of light duty operation

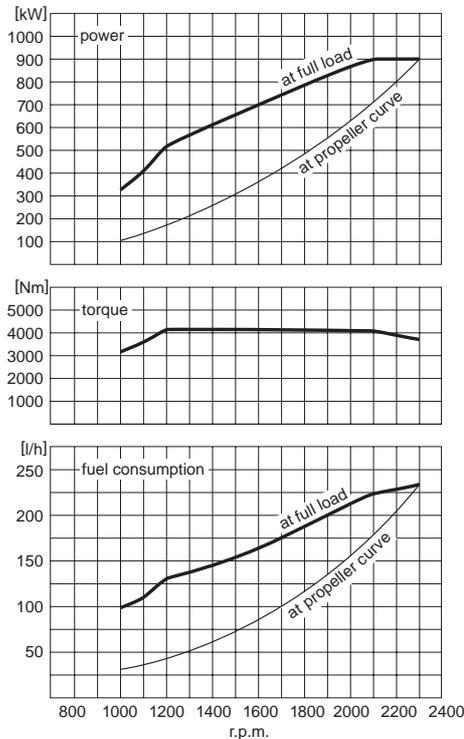
Operating hours per year	≤ 1000
Percentage of time at full load	≤ 20%
Average load application	≤ 50%
Particular operating conditions	No wide-open throttle below rated speed

### Typical application

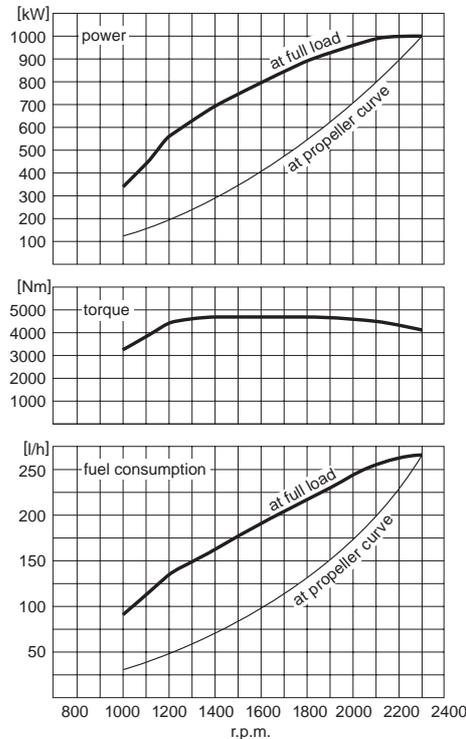
- Yachts
- Sportfishing boats
- other applications on request

\* The ratings are to DIN/ISO 3046/1, 100 kPa (1000 mbar) barometric pressure, 60% relative humidity, 305 K (32° C) sea water temperature. No change in rating for intake air temperature up to 318 K (45° C).

\*\* For detailed examinations of installation dimensions, please order drawings from our factory.



V12-1224, 900 kW (1224 hp)



V12-1360, 1000 kW (1360 hp)

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