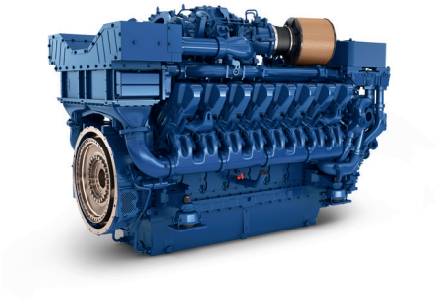
Marine

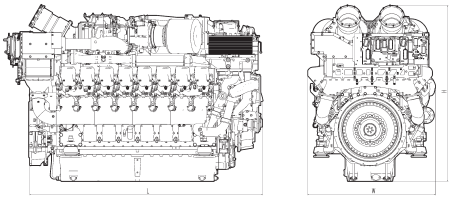
# DIESEL ENGINES 12/16/20V 4000 M05

## for on-board power generation and diesel-electric drives in continuous operation (3A/3B) - 60 Hz



| Engine | Dimensions (LxWxH) mm (in) | Mass, dry kg (lbs) |
|---|---|---|
| 12V | 2750 x 1793 x 2070 (108 x 71 x 81) | 8000 (17637) |
| 16V | 3190 x 1550 x 2070 (126 x 61 x 81) | 9300 (20500) |
| 20V | 3710 x 1550 x 2070 (146 x 61 x 81) | 11600 (25575) |

All dimensions are approximate, for complete information refer to the installation drawing.



Optional equipment and finishing shown. Standard may vary.

Typical applications: e.g. work boats, tugs, barges, ferries, governmental vessels

| Engine Model | | 12V 4000 M05 | | 16V 4000 M05 | | 20V 4000 M05 | |
|---|---|---|---|---|---|---|---|
| Rated power ICFN | kW | 1680 | 1932 | 2240 | 2576 | 2800 | 3220 |
| | (bhp) | (2253) | (2591) | (3004) | (3454) | (3755) | (4318) |
| Speed | rpm | 1800 | | 1800 | | 1800 | |
| No. of cylinders | | 12 | | 16 | | 20 | |
| Displacement | l (cu in) | 57.2 (3491) | | 76.3 (4656) | | 95.4 (5822) | |
| Emission legislation* | | IMO II/IMO III**/EPA 4** | | IMO II/IMO III**/EPA 4** | | IMO II/IMO III**,# | |

* IMO - International Maritime Organisation (MARPOL); EPA - US Marine Regulation 40 CFR 1042 ** IMO III with SCR

A Rolls-Royce solution

| Standard Equipment | |
|---|---|
| Starting system | Electric starter motor 24V, 2 pole |
| Oil system | Gear driven lube oil pump, switchable oil filter, centrifugal oil filter, lube oil heat exchanger, closed crankcase ventilation |
| Fuel system | Fuel delivery pump, duplex lube fuel filter with diverter valve, common rail fuel injection system with high-pressure pump, pressure accumulator and electronic fuel injection with cylinder cutout system, jacketed HP fuel lines,flame-proof hose lines, leak-off fuel monitoring, switchable pre-filter with water separator in conjunction with switchable additional secondary filter |
| Cooling system | Separate high and low temperature cooling circuit (engine version for separate heat exchanger), gear driven coolant circulation pumps |
| Combustion air system | Dry charge air manifolds, engine coolant temperature-controlled intercooler, turbocharging with 2 water-cooled turbochargers, on-engine seawater-resistant air filters, intake air silencer (16V/20V) |
| Exhaust system | Triple-walled, liquid-cooled, on-engine exhaust manifolds, 30° (upwards against horizontal) elbows discharge, exhaust bellow |
| Mounting system | Resilient engine mounting |
| Engine management system | Engine control and monitoring system (ADEC); engine interface module - EIM, engine mounted, expansion in ompliance with extended scope of monitoring* |
| Engine safety system | The scope of delivery for the engine fulfils SOLAS requirements for admissible surface temperature and shielding of fuel and lube oil lines |

| Optional Equipment | |
|---|---|
| Starting system | Coolant preheating system, air starter |
| Oil system | Lube oil priming system, oil level monitoring, automatic oil replenishment system with basic scope of monitoring, automatic oil filter, lube oil extraction pump |
| Fuel system | Fuel conditioning system with water separator |
| Cooling system | Gear driven coolant circulation pump, coolant-to-raw water plate core heat exchanger (engine mounted coolant expansion tank), self priming centrifugal raw-water pump, raw-water connection for generator cooling |
| Combustion air system | Intake air silencer (12V) |
| Exhaust system | 90° elbow for horizontal discharge |
| Auxiliary PTO | Bilgepump, PTOs at free end of engine, charging generator, 120A, 28V, 2 pole |
| Classification | ABS, BV, DNV, GL, LR including necessary extensions to scope of supply |

* only above 2250 kW
> Intake air temperature 25°C/Sea water temperature 25°C
> Barometric pressure 1000 mbar
Specifications are subject to change without notice. All dimensions are approximate, for complete information refer to installation drawing. For further information consult your MTU distributor.

Subject to change. | 32310471 | Edition 01/19 | ESM 2019-08.