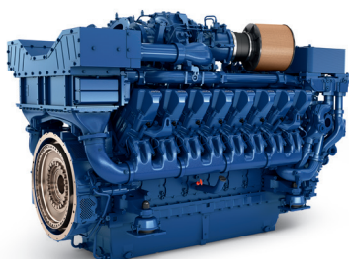## Marine

DIESEL ENGINES 12/16/20V 4000 M05

for vessels with unrestricted continuous operation (1A)

Engine	Dimensions (LxWxH) mm (in)	Mass, dry kg (lbs)
12V 4000	2750 x 1793 x 2070 (108 x 71 x 81)	8000 (17637)
16V 4000	3190 x 1550 x 2070 (126 x 61 x 81)	9300 (20500)
20V 4000	3710 x 1550 x 2070 (146 x 61 x 81)	11600 (25575)

All dimensions are approximate, for complete information refer to the installation drawing.
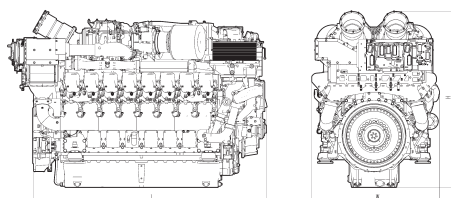
Optional equipment and finishing shown. Standard may vary.

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	1500	1680	1920	1840	2000	2240	2560	2800	3200
ICFN	(bhp)	(2012)	(2253)	(2575)	(2467)	(2682)	(3004)	(3433)	(3755)	(4291)
Speed	rpm	1600	1800	1800	1600	1600	1800	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 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	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	Coolant-to-raw water plate core heat exchanger, self priming centrifugal raw water pump, engine mounted coolant expansion tank, gear driven coolant circulation pump, raw-water connection for gearbox 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
Gearbox option	Various reserve reduction gearbox models, elec. actuated, gearbox mounts, PTO for hydraulic pump at driving shaft or at mediate shaft, trolling, trailing pump, propeller shaft flange
Classification	ABS, BV, DNV, GL, LR including necessary extensions to scope of supply
Power transmission	Torsional resilient coupling with bearing housing interface module, torsional resilient and off-set

* 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.

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