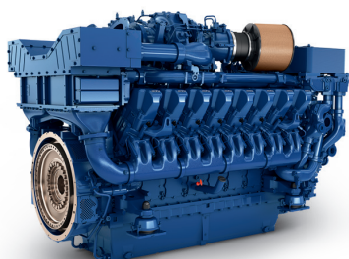




## Marine

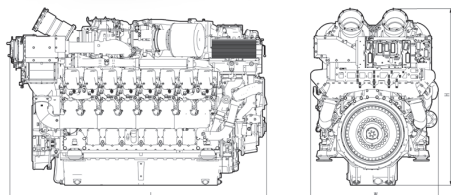
# DIESEL ENGINES 12/16/20V 4000 M05

for vessels with unrestricted continuous operation (1A)



Engine	Dimensions (LxWxH) mm (in)	Mass, dry kg (lbs)
12V 4000	2710 x 1794 x 2072 (107 x 71 x 81)	8000 (17637)
16V 4000	3180 x 1573 x 2072 (125 x 62 x 81)	9460 (20856)
20V 4000	3696 x 1573 x 2072 (146 x 62 x 81)	11180 (24648)

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	1119	1492	1680	1920	2176	2240	2350	2560	2800	3200
ICFN	(bhp)	(1500)	(2000)	(2252)	(2575)	(2918)	(3004)	(3151)	(3433)	(3755)	(4291)
Speed	rpm	1600	1600	1800	1800	1800	1800	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 <sup>1)</sup>		IMO II/IMO III <sup>2)</sup> /EPA 4 <sup>2)</sup>				IMO II/IMO III <sup>2)</sup> /EPA 4 <sup>2)</sup>				IMO II/IMO III <sup>2)</sup>	
SCR <sup>3)</sup>		Flat box				Cube box				Cube box	

1) IMO - International Maritime Organisation (MARPOL); EPA - US Marine Regulation 40 CFR 1042

2) with SCR

3) for IMO III / EPA 4 emission variant

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
Exhaust system	Triple-walled, liquid-cooled, on-engine exhaust manifolds, exhaust bellow
Mounting system	Resilient engine mounting
Engine management system	Engine control and monitoring system (ADEC); engine interface module - EIM, engine mounted, <b>mtu</b> smart injection
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, deep oil pan for enhanced inclinations
Fuel system	Fuel conditioning system with water separator, fuel booster pump
Cooling system	Coolant-to-raw water plate core heat exchanger, self priming centrifugal raw water pump, engine mounted coolant expansion tank, raw-water connection for gearbox cooling, secondary coolant pump
Combustion air system	Air filters for external installation
Exhaust system	Different discharge options (30° & 90°)
Power transmission	Torsional resilient and off-set compensating coupling
Auxiliary PTO	Bilgepump (as secondary coolant pump), PTOs at free end of engine, charging generator, 140 A, 28 V, 2 pole
Engine management system	Expansion in compliance with extended scope of monitoring (crank case monitoring and various monitoring systems)
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, CCS, NK (JG), KR, RS, RINA, CR, TL, LR including necessary extensions to scope of supply

> 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 installations drawing. For further information consult your **mtu** distributor/dealer.