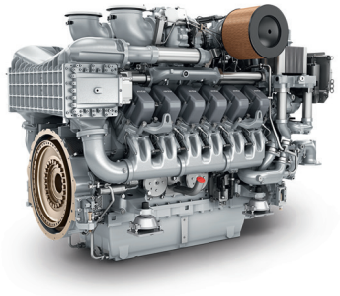
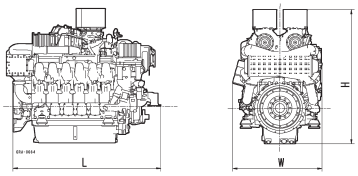
Marine

DIESEL ENGINES 12V 4000 M23/M33

for on-board power generation and diesel-electric drives (3A/3B) – 50/60 Hz





Engine	Dimensions (LxWxH) mm (in)	Mass, dry kg (lbs)
M23/M33	2740 x 1570 x 2370 (107.9 x 61.8 x 93.3)	7600 (16755)

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

Engine		
Bore/stroke	mm (in)	170/210 (6.7/8.3)
No. of cylinders		12
Displacement, total	l (cu in)	57.2 (3491)

		50 Hz		60 Hz	
Engine model		12V 4000 M23F	12V 4000 M33F	12V 4000 M23S	12V 4000 M33S
Application		3A	3B	3A	3B
Rated power ICXN	kW (bhp)	1140 (1529)	1320 (1770)	1380 (1851)	1560 (2092)
Speed	1/rpm	1500	1500	1800	1800
Optimzation of exhaust emissions[1)]		IMO II/EPA 2/CCNR II	IMO II/EPA 2/CCNR II	IMO II/EPA 2/CCNR II	IMO II/EPA 2/CCNR II

Application	Power definition	
3A	Continuous oper., unrestricted	Loadfactor: 100%, operating hours: unrestricted, overload: 10 % capability (ICXN)
3B	Continuous oper. with variable load	Loadfactor: < 75 %, operating hours: unrestricted, overload: 10 % capability (ICXN)

1) IMO - International Maritime Organization (MARPOL) EPA - US Marine Regulation 40 CFR 94 RheinSchUO-CCNR, Stage II

A Rolls-Royce solution

Fuel Consumption[1]		12V 4000 M23F	12V 4000 M33F	12V 4000 M23S	12V 4000 M33S
at rated power	g/kWh	200	197	205	206
	l/h (gal/h)	274.7 (72.6)	313.3 (82.8)	340.8 (90.1)	387.2 (102.3)

[1] Tolerance +5% per ISO 3046, Diesel fuel to DIN EN 590 with a min L.H.V. of 42800kJ/kg (18390 BTU/lb)

Standard equipment	
Starting system	Electric starter motor 24V, 2 pole
Oil system	Gear driven lube oil pump, non switchable oil filter, Centrifugal, lube oil heat exchanger, pump for lube oil extraction, lube oil priming system, 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 tank level monitoring, fuel pre-filter 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
Combustion air system	Water cooled charge air manifolds, engine coolant temperature-controlled intercooler, sequential turbocharging with 2 water-cooled turbochargers, on-engine seawater-resistant air filter
Exhaust system	Triple-walled, liquid-cooled, on-engine exhaust manifolds, 30° discharge elbow, exhaust bellows
Mounting system	Rigid engine mounting
Auxiliary PTO	Charging generator, 120A, 28V, 2 pole
Engine management system	Engine control and monitoring system (ADEC) engine interface module - EiM, engine mounted
Engine safety system	The scope of delivery for the engine fulfils SOLAS requrements for admissible surface temperature and shielding of fuel and lube oil lines

Optional equipment	
Starting system	Coolant preheating system; air starter
Oil system	Oil level monitoring, automatic oil replenishment system with basic scope of monitoring switchable oil filter with extended scope of monitoring
Fuel system	Switchable pre-filter with water separator in conjunction with switchable additional secondary filter
Cooling system	Separate cooling system
Combustion air system	Intake air silencer
Exhaust system	90° discharge elbow
Engine mounting	Resilient engine mounting
Auxiliary PTO	Bilgepump, PTOs at free end of engine
Engine management system	Expansion In compliance with extended scope of monitoring (individual exhaust temperature monitoring)
Classification	ABS, BV, CCS, CR, DNV, GL, KR, LR, NK, RINA including necessary extensions to scope of supply

> Power definition according ISO 3046
> Intake air temperature: 25°C/Sea water temperature: 25°C
> Design power for genset drive per DIN 6280/ISO 8528
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.

Subject to change. | 3233311 | Edition 01/20 | ESM 2020-03.