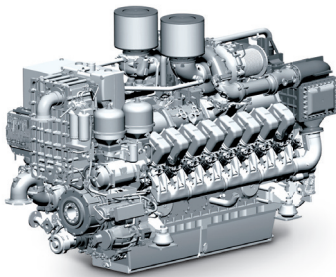




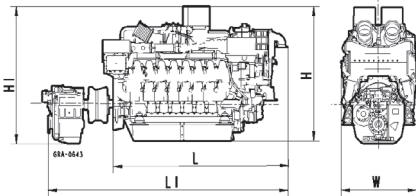
Marine

DIESEL ENGINES 12V 4000 M73/M73L

for fast vessels with high load factors (1B)



Engine	Dimensions (L x W x H) mm (in)	Mass, dry kg (lbs)
M73/M73L	2840 x 1465 x 2450 (111.8 x 57.7 x 96.5)	8410 (18541)
Engine with gearbox	Dimensions (L x W x H) mm (in)	Mass, dry kg (lbs)
ZF 7600	3760 x 1465 x 2500 (148.0 x 57.7 x 98.4)	9910 (21848)



Typical applications: Ferries, monohulls, hydrofoils, catamarans, surface effect ships and yachts

Optional equipment and finishing shown. Standard may vary.

Engine type		12V 4000 M73	12V 4000 M73L
Rated power ICFN	kW	1920	2160
	(bhp)	(2575)	(2895)
Speed	rpm	1970	2050
No. of cylinders		12	12
Bore/stroke	mm (in)	170/190 (6.7/7.5)	170/190 (6.7/7.5)
Displacement, total	l (cu in)	51.7 (3155)	51.7 (3155)
Flywheel housing		SAE 00	SAE 00
Gearbox type ²⁾		ZF 7600	ZF 7600
Optimization of exhaust emissions ¹⁾		IMO II/EPA 2	IMO II/EPA 2

- 1) IMO - International Maritime Organization (MARPOL)
EPA - US marine directive 40 CFR 94
- 2) gearbox variants "Down Angle (A)" and "V-Drive" available on request

Fuel consumption *		12V 4000 M73	12V 4000 M73L
at rated power	g/kWh	212	213
	l/hr	490.4	554.3
	gal/hr	130	146.4

* 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	24V electric starter, 2-pole
Oil system	Integral lube-oil pump; automatic oil filter, centrifuge, lube oil heat exchanger, pump for oil extraction
Fuel system	Fuel delivery pump, fuel duplex filter (switchable), common rail injection system with HP pump, pressure accumulator and electronic injection with cylinder cutout, jacketed HP fuel lines, flame-resistant hoses, leak-fuel tank with level monitoring, fuel conditioning system
Cooling system	MTU split-circuit cooling system, map-controlled coolant thermostats, raw water-cooled engine coolant-plate-core heat exchanger, self-priming raw water centrifugal pump, engine coolant circulating pump, raw water connection for gear oil cooling, flame-resistant hoses and rubber bellows
Combustion air system	Water-cooled charge-air pipework, coolant temperature controlled intercooler, sequential turbocharging with 2 water-cooled turbochargers, seawater-repellent intake air filter on engine with integral intake air silencer
Exhaust system	Triple-walled, liquid-cooled, exhaust manifolds on engine, exhaust bellows, exhaust outlet from horizontal 30° upwards
Mounting system	Resilient mounts
Power transmission	Torsionally-resilient couplings with offset compensation
Auxiliary PTO	Generator 120A, 28V, 2-pole
Engine management system	Engine control and monitoring system (ADEC), interface to gearbox controller, interface to remote control and monitoring system, local operating panel (LOP), fuel consumption display
Engine safety system	The scope of delivery for the engine fulfills SOLAS requirements for admissible surface temperature without additional insulation

Optional equipment	
Starter	Air starter
Oil system	Oil level monitoring, automatic oil replenishment, main bearing and conrod bearing temperature monitoring
Cooling System	Engine coolant preheater
Exhaust system	Exhaust outlet vertically up
Auxiliary PTO	Auxiliary PTO free crankshaft end
Engine management	Extension as per classification society specifications
Monitoring and control system	MTU MCS Monitoring and Control Systems, RCS Remote Control System
Gearbox options	Various marine reduction-reversing gears, electrically actuated, rigid or resilient gearbox mounting, drive for hydraulic pump on drive or intermediate shaft, Trolling system, under tow oil pump, propeller shaft flange
Classification	ABS, BV, CCS, CR, DNV, GL, KR, LR, NK, RINA including necessary extensions to scope of supply.

Reference conditions:

- > Power definition according ISO 3046
- > Intake air temperature: 25°C/Sea water temperature: 25°C
- > Intake air depression 15 mbar/Exhaust back pressure 30 mbar
- > Barometric pressure 1000 mbar
- > Power reduction at 45°C/32°C: 3%

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.