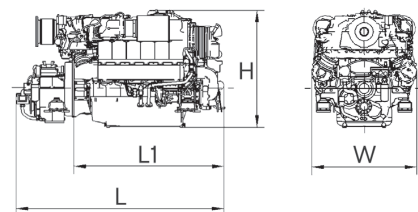
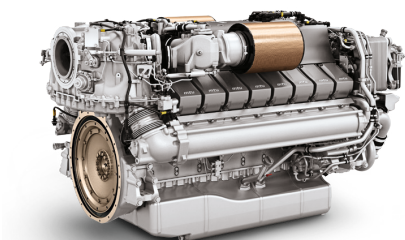




## Marine

# 10V/12V/16V 2000 M96L / 12V 2000 M96X

for fast vessels with low load factors (1DS)



Optional equipment and finishing shown. Standard may vary.

Typical applications: fast yachts, fast patrolboats, police crafts and fire-fighting vessels

Engine	Dimensions (LxWxH) mm (in)	Mass, dry kg (lbs)
10V	1604 x 1165 x 1347 (63.1 x 45.9 x 53.0)	2305 (5082)
12V <sup>1)</sup>	1812 x 1293 x 1414 (71.3 x 50.9 x 55.7)	2810 (6195)
12V <sup>2)</sup>	1847 x 1293 x 1414 (72.7 x 50.9 x 55.7)	2850 (6283)
16V	2258 x 1293 x 1453 (88.9 x 50.9 x 57.2)	3450 (7606)
Engine with gearbox type <sup>3)</sup>	Dimensions (L <sub>x</sub> WxH <sub>y</sub> ) mm (in)	Mass, dry kg (lbs)
10V - ZF 2050	2307 x 1165 x 1347 (85.0 x 45.9 x 53.0)	2766 (6098)
12V - ZF 2075 <sup>1)</sup>	2516 x 1293 x 1414 (99.1 x 50.9 x 55.7)	3305 (7286)
12V - ZF 2075 <sup>2)</sup>	2551 x 1293 x 1414 (100.4 x 50.9 x 55.7)	3369 (7427)
12V - ZF 3050 <sup>1) 4)</sup>	2632 x 1293 x 1414 (103.6 x 50.9 x 55.7)	3455 (7617)
12V - ZF 3050 <sup>2) 4)</sup>	2667 x 1293 x 1414 (105 x 50.9 x 55.7)	3510 (7738)
16V - ZF 3070	3078 x 1293 x 1453 (121.2 x 50.9 x 57.2)	4118 (9079)

1) 12V SAE 1 - fly wheel housing - standard

3) gear ratio on request

2) 12V SAE 0 - fly wheel housing - option

4) for 12V 2000 M96X

Engine type	10V 2000 M96L	12V 2000 M96L/X	16V 2000 M96L
Rated power ICFN	1193	1432 / 1472	1939
	(1600)	(1920 / 1974)	(2600)
Speed	2450	2450	2450
No. of cylinders	10	12	16
Bore/stroke	135/156 (5.3/6.1)	135/156 (5.3/6.1)	135/156 (5.3/6.1)
Displacement, total	22.3 (1362)	26.8 (1635)	35.7 (2179)
Flywheel housing	SAE 1	SAE 1, SAE 0	SAE 0
Gearbox type, standard	ZF 2050	ZF 2075 / ZF 3050	ZF 3070
Optimization of exhaust emissions *	IMO II / EPA 3 recreational / RCD 2013/53/EU/C2	IMO II / EPA 3 recreational / RCD 2013/53/EU/C2	IMO II / EPA 3 recreational / RCD 2013/53/EU/C2
Solas compliance	Yes	Yes	Yes

\* IMO - International Maritime Organisation, EPA - US Marine Directive 40 CFR 94, EU RCD - EU Marine Directive for recreational crafts, C2 - China Phase II Marine Engine Emission Certification

Standard equipment	
Starting system	Electric starter 24 V
Auxiliary PTO	Alternator, 80A, 28V, 2 pole
Oil system	Gear driven lube oil pump, lube-oil duplex filter doublestage, lube-oil heat exchanger, handpump for oil extraction
Fuel system	Fuel feed pump, fuel hand pump, fuel pre-filter, fuel main filter, on-engine fuel cooler, HP fuel pump, jacketed HP fuel lines, injection nozzles (common rail system) flame proof hose lines, leak-off collector
Cooling system	Coolant-to-raw water plate core heat exchanger, self priming centrifugal raw water pump, gear driven coolant circulation pump
Combustion air system	Sequential turbocharging with 3 exhaust-gas turbochargers, on-engine intake air filters
Exhaust system	Triple-walled, liquid-cooled, on-engine exhaust manifolds, single centrally located exhaust outlet, 1 exhaust bellows horizontal discharge
Mounting system	Resilient mounts at free end
Engine management system	Engine control and monitoring system (ADEC), engine interface module (EIM)
Optional equipment	
Starting system	Air starter*
Auxiliary PTO	Alternator, 140A or 190A, 28V, 2 pole, bilgepump, on-engine PTOs
Oil system	Oil replenishment system, diverter valve for duplex filter
Fuel system	Duplex fuel pre-filter, diverter valve for fuel filter, monitoring fuel leakage
Cooling system	Coolant preheating system freestanding or engine mounted, integr. seawater gearbox piping
Exhaust system	90° exhaust bellows discharge rotatable
Mounting system	Resilient mounts at driving end
Engine management system	In compliance with classification society regulations
Monitoring/control system	BlueVision NewGeneration
Power transmission	Torsionally resilient coupling
Gearbox options	Reverse reduction gearbox, el. actuated, gearbox mounts, trolling mode for dead-slow propulsion, free auxiliary PTO, hydraulic pump drives

\*only applies to 12V and 16V cylinder configurations

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: none

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.