2YM15

Engine Specifications

Parameter	Data
Configuration	4-cycle, Vertical, Water-Cooled Diesel
Crankshaft Rotation (Viewed from Stern)	Counterclockwise
Combustion System	Swirl Pre-Combustion Chamber
Aspiration	Naturally Aspirated
Number of Cylinders	2
Bore x Stroke	70 mm x 74 mm (2.76 in. x 2.92 in.)
Displacement	0.570 L (35 cu in.)
Continuous Rating Output at Crankshaft (at 3489 rpm)	9.4 kW* (12.8 hp metric)*
Brake Mean Effective Pressure (Continuous Rating Output)	0.57 MPa 5.80 kgf/cm^2 (82.68 psi)
Piston Speed (Continuous Rating Output)	8.61 m/sec. (28.25 ft/sec.)
Maximum Output at Crankshaft (at 3600 rpm)	10.0 kW* (13.6 hp metric)* or 9.7 kW** (13.2 hp metric)**
Brake Mean Effective Pressure (Maximum Output)	0.60 MPa* 6.15 kgf/cm^2* (87.03 psi)*
Piston Speed (Maximum Output)	8.88 m/sec. (29.13 ft/sec.)
High Idling Speed	3850 ± 25 rpm
Low Idling Speed	850 ± 25 rpm
Firing Order	180° 540° 1 - 2 - 1
Starter Motor	DC 12 V, 1.4 kW
Alternator	DC 12 V, 60A DC 12 V, 80A - Optional
Minimum Battery Capacity	DC 12 V, 64 Ah
Cooling System	Fresh water cooling by centrifugal fresh water pump and rubber impeller seawater pump
Coolant Capacity (Engine)	3.0 L (3.17 qt)
Coolant Recovery Tank Capacity	0.8 L (0.85 qt)
Engine Lubrication System	Forced lubrication with trochoid pump
Engine Oil Capacity at 8° Rake Angle (Effective / Maximum)	0.95 / 2.0 L (1.0 / 2.12 qt)
Engine Oil Capacity at 0° Rake Angle (Effective / Maximum)	0.9 / 1.8 L (0.95 / 1.90 qt)
Dry Weight (with KM2P-1)	113 kg (249 lb)
Dry Weight (with SD20)	134 kg (295 lb)
Recommended Installation Rake Angle	KM2P-1: 8°
	SD20: 0°
Maximum Installation Rake Angle	KM2P-1: 15°

Notes:

1. Rating condition:
   * Fuel temperature: 25°C at fuel pump inlet ISO 3046-1
   ** Fuel temperature: 40°C at fuel pump inlet ISO 8665
   Fuel density: 0.842 g/cm^3 at 15°C
2. 1 HP (hp metric) = 0.7355 kW

Marine Gear / Sail Drive Specifications

Use KM2P-1 or the SD20 with the 2YM15 engine. KM2P-1 is a parallel drive with a mechanical cone clutch and SD20 has a constant mesh gear with dog clutch.

KM2P-1

Parameter	Data
Reduction Ratio (Ahead)	2.21 / 2.62 / 3.22
Reduction Ratio (Astern)	3.06
Marine Gear Oil Capacity	0.3 L (0.32 qt)
Propeller Rotation (Viewed from Stern)	Clockwise
Dry Weight (without Engine)	10.3 kg (27.7 lb)

SD20

Parameter	Data
Reduction Ratio (Ahead)	2.64
Reduction Ratio (Astern)	2.64
Sail Drive Oil Capacity	Standard 2.2 L (2.3 qt)
	Long-reach 2.5 L (2.6 qt)
Propeller Rotation (Viewed from Stern)	Counterclockwise
Dry Weight (Without Engine)	30 kg (66.12 lb)

Fuel System Specifications

Parameter	Data
Maximum Fuel Feed Pump Suction Head	0.5 m (19.69 in.)
Maximum Fuel Feed Pump Discharge Volume (Engine at 3000 rpm)	9.2 L/min. (2.44 gal / min.)
Maximum Fuel Feed Pump Discharge Pressure (Engine at 3000 rpm)	12.73 kPa (1.85 psi)
Fuel Inlet Pipe Connector Outer Diameter	8.0 mm (0.315 in.)
Fuel Return Pipe Connector Outer Diameter	8.0 mm (0.315 in.)
Fuel Consumption at Continuous Rated Output	3.2 L/hr (0.85 gal/hr)

Cooling System Specifications

Parameter	Data
Maximum Seawater Pump Suction Head	0.5 m (19.69 in.)
Seawater Inlet Pipe Connector Outer Diameter	17.3 mm (0.682 in.)
Thermostat Operating Temperature (Full Open)	85°C (185°F)
Thermostat Operating Temperature (Opening)	69.5 - 72.5°C (157.1 - 162.5°F)
Maximum Overflow Pipe Length (Coolant Recovery Tank to Filler Cap)	1.0 m (39.37 in.)
Maximum Overflow Pipe Outer Diameter (Coolant Recovery Tank to Filler Cap)	9 mm (0.355 in.)
Water Heater Tank Connector Thread Size (Fresh Water Pump)	RC 3/8 (inlet) M16 (outlet)

Air Intake and Exhaust Specifications

Parameter	Data
Exhaust Pipe Outer Diameter Connection	51.0 mm (2.008 in.)
Minimum Engine Room Fresh Air Exchanges (Ventilator Capacity)	5.5 cu m/min. (194.23 cu ft/min.)
Maximum Back Pressure (measured within 250 mm [9.8 in.] of exhaust manifold inlet)	1500 mmAq 14.7 kPa (0.15 kgf/cm^2)
Maximum Output Exhaust Temperature (measured within 250 mm [9.8 in.] of exhaust manifold inlet)	500°C (932°F)
Maximum Turbocharger Boost Pressure	-
Maximum Engine Room Ambient Temperature	60°C (140°F)

Alarm System Specifications

Parameter	Data
Coolant Alarm Switch Operating Temperature	ON: 93 - 97°C (199.4 - 206.6°F) OFF: 88 - 93°C (190 - 199°F)
Lube Oil Switch Operating Pressure	9.8 - 29.4 kPa (1.43 - 4.27 psi)