



ITEM NO.	M0203-0007E (1/4)
DATE	March, 2012

Specification Sheets of S6B3-T2MPTAW Engine

Specification sheet of:

- S6B3-T2MPTAW (in compliance with IMO MARPOL 73/78, Annex VI, Regulation 13, Tier 2)

Revision	First Edition : March, 2012	Technology Department		
		Approved by	Checked by	Drawn by
		M. VERMEULEN		SC



GENERAL ENGINE DATA

Type	-----	4-Cycle, Water Cooled	
Aspiration	-----	Turbo-Charged, Inter Cooler (Fresh water to Cooler)	
Cylinder Arrangement	-----	Inline	
No. of Cylinders	-----	6	
Bore mm(in.)	-----	135	(5.31)
Stroke mm(in.)	-----	170	(6.69)
Displacement Liter(in. ³)	-----	14.60	(891)
Compression Ratio	-----	14.2 : 1	
Dry Weight - Engine only - kg(lb)	-----	1310	(2889)
Wet Weight - Engine only - kg(lb)	-----	1407	(3102)

PERFORMANCE DATA

Steady State Speed Stability Band at any Constant Load(Generator Use)			
Hydraulic (std.) or Electric Governor - %	-----	±0.25 or better	
Idling Speed -rpm	-----	600~650	
Maximum Overspeed Capacity - rpm	-----	2315	
Moment of Inertia of Rotating Components J - kg · m ² (lbf · ft ²)	-----	16.8	(1595)
(Includes 14 inch Flywheel)			
Cyclic Speed Variation with Flywheel at	1800rpm	-----	1/120
	1500rpm	-----	1/78

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Flywheel Housing - N · m (lbf · ft)	-----	1373	(1013)
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AIR INLET SYSTEM

Maximum Intake Air Restriction (Includes piping)- kPa (in. H ₂ O)	-----	3.92	(15.7)
Maximum Allowable Intake Air Temperature- °C (°F)	-----	45	(113)

EXHAUST SYSTEM

Maximum Allowable Back Pressure - kPa (in. H ₂ O)	-----	4.41	(17.7)
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LUBRICATION SYSTEM

Oil Pressure	at Idle - MPa (psi)	-----	0.2~0.3	(29~43)
	at Rate Speed - MPa (psi)	-----	0.5~0.6	(71~86)
Maximum Oil Temperature- °C (°F)	-----	110	(230)	
Oil Capacity of Marine Pan	High - liter (U.S.gal)	-----	70	(18.5)
	Low - liter (U.S.gal)	-----	52	(13.7)
Total System Capacity (Includes Oil Filter) - liter (U.S.gal)	-----	80	(21.1)	
Maximum Installation Angle	Front Up	-----	22°	
	Front Down	-----	12.5°	
	Maximum Instantaneous Operating Angle (Engine Level)	Front Up	-----	35°
	Front Down	-----	22.5°	
	Side to Side	-----	22.5°	

COOLING SYSTEM

Jacket water system

Cooling system: Closed fresh water type High Temperature (HT) system with treated water/glycol mixture

Coolant Capacity of Jacket Water System (Engine only) - liter (U.S.gal)	-----	30	(7.9)
Maximum External Friction Head at Engine Outlet-MPa(psi)	-----	0.034	(5.0)
Jacket Water Standard Thermostat (Modulating) Range- oC (oF)	-----	71~85	(160~185)
Maximum Allowable Coolant Temperature at Engine Outlet- oC (oF)	-----	95	(203)
Recommended Coolant Temperature at Engine outlet- oC (oF)	-----	80	(176)

Charge air cooler cooling system

Cooling system: Closed fresh water type Low Temperature (LT) system with treated water/glycol mixture

Coolant Capacity of Charge Air Cooler (Engine only) - liter (U.S.gal)	-----	3	(0.8)
Maximum External Friction Head at Intercooler Outlet-MPa(psi)	-----	0.035	(5.1)
Maximum Coolant Temperature at Intercooler Inlet	-----	see page 4/4	
Recommended Charge Air Cooler Thermostat Modulating Range- oC (oF)	-----	35~50	(95~122)
Minimum Coolant Expansion Space -% of System Capacity	-----	10	
Maximum Static Head of Coolant above Crankshaft Center - m(ft)	MAX.	-----	10 (32.8)

The specifications are subject to change without notice.

FUEL SYSTEM

Fuel Injection Pump	-----	Bosch S7S Type x 1
Maximum Suction Head of Feed Pump - kPa (in. Hg)	-----	14.7 (4.3)
Maximum Level of Fuel Tank - m	-----	5.0
	Continuous Use	-----
	Stand-by Use	-----
		2.0
Minimum Fuel Oil Supply Pipe Inner Diameter - mm(in.)	-----	16 (0.63)
Minimum Fuel Oil Leak Pipe Inner Diameter - mm(in.)	-----	12 (0.47)

STARTING SYSTEM

Battery Charging Alternator - V-Ah	-----	24-35
Starting Motor Capacity - V -kW	-----	24-6.0
Maximum Allowable Resistance of Cranking Circuit - m Ω	-----	2.5
Recommended Minimum Battery Capacity		
At 5°C (41°F) and above - Ah	-----	200
Below 5°C (41°F) through -5°C (23°F)	-----	400
Cranking Ampere of Starter at 5°C (41°F) / -5°C (23°F)		
Static Ampere -A		300 / 330
Momentary Ampere -A		525 / 585

ACCESSORY EQUIPMENT

Air Cleaner	Silencer Type
Exhaust Manifold	Water Cooled
Turbocharger	Air cooled
Air Cooler	Fresh Water Cooled
Breather	Conduction Type
Governor	Hydraulic PSG Type or electronic
Fuel Injection Pump	
Fuel Feed Pump	
Fuel Injection Pipe	Double walled Type
Fuel Injection Nozzle	
Fuel Filter	Paper Element Type
Lubricating Oil Pump	
Lubricating Oil Cooler	
Lubricating Oil Filter(Full-Flow)	Paper Element Type
Lubricating Oil Filter(By-Pass Flow)	Paper Element Type
Oil Pan	Large Capacity,aluminum
Lubricating Oil Thermostat	
Cooling Water Pump (HT)	
Cooling Water Thermostat (HT)	
Starter	Earth Floated Type
Alternator	Earth Floated Type
Stop Solenoid	DC24V-15A
Engine Support	Marine Type
Accessory Drive	Front Drive Pulley

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ENGINE RATING

All data represent net performance according to ISO 3046 with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the condition of 100 kPa (750 mm Hg) barometric pressure, 298 K (25 °C) ambient temperature and 30% relative humidity.

ITEM Engine Model	UNIT	propulsion use		auxiliary generator	
		-T2MPTAW-13		-T2MPTAW-15	-T2MPTAW-14
Rating		Heavy Duty		50 Hz	60 Hz
Rated engine speed	rpm	1940		1500	1800
Emission Regulation (Test cycle)	IMO Tier 2	E2 (CPP) or E3 (FPP)		D2	D2
No. of Cylinders		6			
Bore	mm (in.)	135 (5.31)			
Stroke	mm (in.)	170 (6.69)			
Displacement	liter (in. ³)	14.60 (891)			
Rated output	kW (HP)	320 (429)		335 (449)	375 (503)
Brake Mean Effective Pressure	MPa (psi)	1.35 (196)		1.83 (266)	1.71 (248)
Mean Piston Speed	m/s (ft/min)	11.0 (2165)		8.5 (1673)	10.2 (2008)
Maximum Regenerative Power Absorption Capacity	kW (HP)	36 (48)		28 (38)	33 (44)
Intake Air Flow	m ³ /min (CFM)	30 (1059)		30 (1059)	35 (1236)
Exhaust Gas Flow	m ³ /min (CFM)	79 (2789)		79 (2789)	92 (3249)
Coolant Flow	liter/min (U.S. GPM)	540 (143)		435 (115)	500 (132)
Coolant(Jacket water) Pressure (water pump outlet)	MPa (psi)	0.14 (21)		0.12 (18)	0.09 (13)
Recommended Coolant Flow to Inter Cooler (Max. Flow: 200 l/min)	liter/min (U.S. GPM)	150 (40)		150 (40)	150 (40)
Oil Flow	liter/min (U.S. GPM)	242 (64)		188 (50)	225 (60)
Radiated Heat to Ambient	kJ/hr (BTU/min)	63205 (998)		63452 (1002)	73394 (1159)
Heat Rejection to Coolant (include water cooled manifold)	kJ/hr (BTU/min)	821691 (12981)		824856 (13031)	954125 (15073)
Heat Rejection to Inter Cooler	kJ/hr (BTU/min)	284429 (4493)		285526 (4511)	330275 (5218)
Heat Rejection to Exhaust	kJ/hr (BTU/min)	839243 (13258)		792925 (12526)	962183 (15200)
Cooling system	Direct Sea Water Cooling Max. sea water temp. at intercooler inlet	°C	N/A		
	Intermediate Fresh Water Cooling Max. fresh water temp. at intercooler inlet	°C	Max. 38°C (When sea water temp. 32°C)		
	Radiator Cooling* Max. coolant temp. at intercooler inlet	°C	N/A		Max. 45°C (When Air Temp. 25°C)
Noise Level (1 m height & distance) (excludes, Intake, Exhaust)	dB(A)	-	-	-	-
Maximum No Load Governed Speed	rpm	2086		1575	1890

*In case of radiator cooling method at IACS standard reference conditions, 15% output de-rating has to be applied.

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APPLICATION: MARINE

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