



**MITSUBISHI DIESEL ENGINE  
TECHNICAL INFORMATION**

ITEM NO.

T0209-0015E (1/4)

DATE

Sep., 2012

**Specification Sheets of S6R2-T2MPTK3(L,M) Engine (IMO-Tier2 Certified Engine)**

Specification Sheets of S6R2-T2MPTK3(L,M) Engine that is satisfied with IMO-Tier2 certified engine are enclosed herein.

First Edition : Sep., 2012

Engine Engineering Department  
Engine System Design Section

Revision

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# S6R2-T2MPTK3(L,M) SPECIFICATION SHEET

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DIESEL ENGINES

## GENERAL ENGINE DATA

Type	-----	4-Cycle, Water Cooled	
Aspiration	-----	Turbo-Charged, Inter Cooler (Raw water to Cooler)	
Cylinder Arrangement	-----	Inline	
No. of Cylinders	-----	6	
Bore mm(in.)	-----	170	(6.69)
Stroke mm(in.)	-----	220	(8.66)
Displacement Liter(in. <sup>3</sup> )	-----	29.96	(1828)
Compression Ratio	-----	14.0 : 1	
Dry Weight - Engine only - kg(lb)	-----	2960	(6527)
Wet Weight - Engine only - kg(lb)	-----	3150	(6946)

## PERFORMANCE DATA

Idling Speed -rpm	-----	600~650	
Maximum Overspeed Capacity - rpm	-----	1750	
Moment of Inertia of Rotating Components J- kg·m <sup>2</sup> (lbf·ft <sup>2</sup> )	-----	11.96	(1135)
(Includes 18 inch Flywheel)			

## ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Flywheel Housing - N·m(lbf·ft)	-----	1961	(1447)
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## AIR INLET SYSTEM

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

## EXHAUST SYSTEM

Maximum Allowable Back Pressure - kPa (in.H <sub>2</sub> 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)	-----	0.5~0.64	(71~93)
Maximum Oil Temperature - °C(°F)		-----	110	(230)
Oil Capacity of Marine Pan	High - liter (U.S.gal)	-----	140	(37.0)
	Low - liter (U.S.gal)	-----	110	(29.1)
Total System Capacity (Includes Oil Filter) - liter (U.S.gal)		-----	160	(42.3)
Maximum Installation Angle	Front Up	-----	8°	
	Front Down	-----	8°	
Maximum Instantaneous Operating Angle	Front Up	-----	25°	
(Engine Level)	Front Down	-----	15°	
	Side to Side	-----	22.5°	

## COOLING SYSTEM

Coolant Capacity - liter (U.S.gal)	-----	55	(14.5)	
(Engine only)				
Maximum External Friction Head at Engine Outlet-MPa(psi)	-----	0.034	(5.0)	
Recommended Static Head of Coolant above Crankshaft Center - m(ft)				
	MAX.	-----	10	(32.8)
	MIN.	-----	7	(23.0)
Standard Thermostat (Modulating)Range- °C (°F)		-----	71~85	(160~185)
Maximum Coolant Temperature at Engine Outlet- °C (°F)		-----	95	(203)
Recommended Coolant Temperature at Engine outlet- °C (°F)		-----	80	(176)
Minimum Coolant Expansion Space-% of System Capacity		-----	10	
Maximum Coolant Temperature at Inter Cooler Inlet, TK type- °C (°F)		-----	32	(90)

The specifications are subject to change without notice.

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mitsubishi  
DIESEL ENGINES

## FUEL SYSTEM

Fuel Injection Pump	-----	Mitsubishi PS6 Type x 1
Maximum Suction Head of Feed Pump - kPa (in. Hg)	-----	14.7 (4.3)
Maximum Level of Fuel Tank - m	-----	-1.0~2.0
(Including All Press. Loss)		
Minimum Fuel Oil Supply Pipe Inner Diameter - mm(in.)	-----	16 (0.63)
Minimum Fuel Oil Leak Pipe Inner Diameter - mm(in.)	-----	16 (0.63)

## STARTING SYSTEM

Battery Charging Alternator - V- Ah	-----	24-35
Starting Motor Capacity - V - kW	-----	24-7.5
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)	-----	500
Cranking Ampere of Starter at 5°C(41°F) / -5°C(23°F)		
Static Ampere - A		370 / 500
Momentary Ampere - A		700 / 960

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## ENGINE RATING

All data represent net performance according to ISO3046 with standard accessories such as fuel injection pump, water pump L.O. pump and charging alternator under the condition of 100kPa(750 mm Hg), barometric pressure 298K(25°C) ambient temperature and 30% relative humidity.

ITEM	UNIT	Propulsion use	
		L	M
Engine Speed	rpm	1406	
No. of Cylinders		6	
Bore	mm (in.)	170 (6.69)	
Stroke	mm (in.)	220 (8.66)	
Displacement	liter (in. <sup>3</sup> )	29.96 (1828)	
Brake Horse Power at R/R Gear Output Shaft End (For Reference)	kW (HP)	736 (987)	670 (898)
Brake Horse Power at Flywheel End	kW (HP)	759 (1017)	691 (926)
Brake Mean Effective Pressure without Fan	MPa (psi)	2.10 (305)	1.91 (277)
Mean Piston Speed	m/s (ft/min)	10.3 (2028)	
Intake Air Flow	m <sup>3</sup> /min (CFM)	62 (2189)	57 (2013)
Exhaust Gas Flow	m <sup>3</sup> /min (CFM)	164 (5791)	150 (5297)
Coolant (Fresh Water) Flow Rate for Engine Jacket	liter/min (U.S. GPM)	760 (201)	
Coolant(Jacket water) Pressure (water pump outlet)	MPa (psi)	0.16 (23)	
Min. Coolant Flow Rate for Inter Cooler (Max. Flow Rate : 440L/min)	liter/min (U.S. GPM)	315 (83)	
Oil Flow	liter/min (U.S. GPM)	276 (73)	
Radiated Heat to Ambient	kJ/hr (BTU/min)	97764 (1545)	89211 (1410)
Heat Rejection to Coolant (include water cooled manifold)	kJ/hr (BTU/min)	1596806 (25229)	1457118 (23022)
Heat Rejection to Inter Cooler	kJ/hr (BTU/min)	260703 (4119)	237897 (3759)
Heat Rejection to Exhaust	kJ/hr (BTU/min)	1912186 (30212)	1750726 (27661)
Direct Sea Water Cooling Max. sea water temp. at inter cooler inlet		Max. 32°C	
Maximum No Load Governed Speed	rpm	1511	

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