

**MITSUBISHI DIESEL ENGINE
TECHNICAL INFORMATION**

ITEM No.

T0217-0003E Rev.3 (1/4)

DATE

November, 2016

Specification Sheets of S6R2-PTAA Engine

Used for 750kVA generator

Specification Sheets of S6R2-PTAA Engine are enclosed herein.

The specifications are subject to change without notice.

Revision	First Edition : Mar., 2013((T13-0353-E Feb. '00)	Engine Engineering Department High Speed Engine Designing		
	Rev.1 : October,2013			
	Rev.2 : February,2014	Approved by	Checked by	Drawn by
	Rev.3 : November,2016	T.HASHIGUCHI	S.MADAAN	S.M

GENERAL ENGINE DATA

Type	4-Cycle, Water Cooled	
Aspiration	Turbo-Charged, Air to Air Cooler	
Cylinder Arrangement	Inline	
No.of Cylinders	6	
Bore mm(in.)	170	(6.69)
Stroke mm(in.)	220	(8.66)
Displacement liter(in ³)	29.96	(1828)
Compression Ratio	14.0:1	
Dry Weight - Engine only - kg(lb)	2870	(6328)
- Radiator & Piping - kg(lb)	471	(1039)
Wet Weight - Engine only - kg(lb)	3015	(6648)
- Radiator & Piping - kg(lb)	557	(1228)

PERFORMANCE DATA

Steady State Speed Stability Band at any Constant Load		
Hydraulic (std.) or Electric Governor - %	±0.25 or better	
Maximum Overspeed Capacity - rpm	1750	
Moment of inertia of Rotating Components - (S.I.) kg·m ² (lb·ft ²)	11.83	(281)
(Includes Std.Flywheel) - (GD ²) kgf·m ² (lbf·ft ²)	47.33	(1123)
Cyclic Speed Variation with Flywheel a 1500rpm	1/103	

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Flywheel Housing - kgf·m(lbf·ft)	200	(1447)
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AIR INLET SYSTEM

Maximum Intake Air Restriction (Includes piping)		
With Clean Filter Element - mm H ₂ O (in.H ₂ O)	400	(15.7)
With Dirty Filter Element - mm H ₂ O (in.H ₂ O)	635	(25.0)

EXHAUST SYSTEM

Maximum Allowable Back Pressure - mm H ₂ O (in.H ₂ O)	600	(23.6)
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LUBRICATION SYSTEM

Oil Pressure at Idle - kgf/cm ² (psi)	2~3	(29~43)
at Rate Speed - kgf/cm ² (psi)	5~6.5	(71~93)
Maximum Oil Temperature - °C(°F)	110	(230)
Oil Capacity of Standard Pan High - liter (U.S.gal)	80	(21.1)
Low - liter (U.S.gal)	50	(13.2)
Total System Capacity (Includes Oil Filter) - liter (U.S.gal)	100	(26.4)
Maximum Angle of Installation (Std. Pan) Front Down	11.5°	
(Engine Only) Front Up	10°	
Side to Side	22.5°	

COOLING SYSTEM

Coolant Capacity - Engine only - liter (U.S.gal)	55	(14.5)
- Radiator & Piping - liter (U.S.gal)	86	(22.7)
Maximum External Friction Head at Engine Outlet - kgf/cm ² (psi)	0.35	(5.0)
Maximum Static Head of Coolant above Crankshaft Center - m(ft)	10	(32.8)
Maximum Outlet Pressure of Engine Water Pump - kgf/cm ² (psi)	2	(28.6)
Standard Thermostat (modulating)Range - °C(°F)	71~85	(160~185)
Maximum Coolant Temperature at Engine Outlet - °C(°F)	98	(208)
Minimum Coolant Expansion Space - % of System Capacity	10	
Maximum Cooling Air Temperature at Air to Air Cooler Inlet, TAA type - °C(°F)	40	(104)
Maximum Air Restriction on Discharge Side of Radiator and Fan-mm H ₂ O(in.H ₂ O)	10	(0.4)

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FUEL SYSTEM

Fuel Injector	Mitsubishi PS6 Type × 1
Maximum Suction Head of Feed Pump - mm Hg (in. Hg)	75 (3.0)
Maximum Static Head of Return & Leak Pipe - mm Hg (in.Hg)	150 (5.9)

STARTING SYSTEM

Battery Charging Alternator - V-Ah	24-30
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	250
Below 5°C(41°F) through - 5°C(23°F)	400

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ENGINE RATING

All data represent net performance with standard accessories such as air cleaner, inlet /exhaust manifolds, fuel oil system, L.O. pump, etc. under the condition of 100kPa(29.6inHg) barometric pressure, 77°F(25°C) ambient temperature and 30% relative humidity.

ITEM	UNIT	STAND-BY POWER			PRIME POWER		
		50Hz			50Hz		
Engine Speed	rpm	1500			1500		
No. of Cylinders		6					
Bore	mm (in.)	170 (6.69)					
Stroke	mm (in.)	220 (8.66)					
Displacement	liter (in. ³)	29.96 (1828)					
Brake Horse power without Fan	HP (kW)	978 (730)			892 (665)		
Brake Mean Effective Pressure without Fan	kgf/cm ² (psi)	19.9 (283)			18.1 (257)		
Mean Piston Speed	m/s (ft/min)	11.0 (2165)			11.0 (2165)		
Maximum Regenerative Power Absorption Capacity without Fan	HP (kW)	86 (64)			86 (64)		
Intake Air flow	m ³ /min (CFM)	67 (2366)			61 (2154)		
Maximum Air Temperature at Charge Air Cooler Inlet, TAA type	°C	220			220		
Maximum Air Temperature at Charge Air Cooler Outlet, TAA type	°C	70			70		
Allowable Pressure Drop at Charge Air Cooler	kgf/cm ² (kPa) (psi)	0.33 (32) (5)			0.33 (32) (5)		
Charge Air Cooler Working Pressure	kgf/cm ² (MPa) (psi)	2.8 (0.28) (40)			2.8 (0.28) (40)		
Exhaust Gas Flow	m ³ /min (CFM)	178 (6285)			163 (5756)		
Coolant Flow	liter/min (U.S. GPM)	670 (177)			670 (177)		
Cooling Air Flow (Std. Fan)	m ³ /min (CFM)	726 (25635)			726 (25635)		
Fan Loss Horse Power (Std. Fan)	HP (kW)	27 (20)			27 (20)		
Radiated Heat to Ambient	kcal/hr (BTU/min)	50756 (3357)			46293 (3062)		
Heat Rejection to Coolant	kcal/hr (BTU/min)	219942 (14547)			200602 (13268)		
Heat Rejection to Air to Air Cooler	kcal/hr (BTU/min)	203023 (13428)			185171 (12247)		
Heat Rejection to Exhaust	kcal/hr (BTU/min)	590818 (39076)			538865 (35640)		
Noise Level (1 m height & distance) (excludes, Intake,Exhaust & Fan)	dB(A)	TBD			TBD		

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