



MITSUBISHI DIESEL ENGINE TECHNICAL INFORMATION

ITEM NO.

T0217-0001C (1/4)

DATE

August, 2013

Specification Sheets of S6R2-PTA-C Engine

Specification Sheets of S6R2-PTA-C Engine are enclosed herein.

Revision

Engine Engineering Department
High Speed Engine Designing Section

Approved by

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MITSUBISHI HEAVY INDUSTRIES, LTD.
GENERAL MACHINERY & SPECIAL VEHICLE

HEADQUARTERS

GENERAL ENGINE DATA

Type	4-Cycle, Water Cooled	
Aspiration	Turbo-Charged, After Cooler (Jacket 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 ³)	29.96	(1828)
Compression Ratio	14.1:1	
Dry Weight - Engine only - kg(lb)	2900	(6395)
Wet Weight - Engine only - kg(lb)	3045	(6714)

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 - 1·m ² (lbf·ft ²)	409	(991)
(Includes Std. Flywheel)		
Cyclic Speed Variation with Flywheel at 1500rpm	1/103	

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Flywheel Housing - 1·m(lbf·ft)	1961	(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 - MPa(psi)	0.2~0.3	(29~43)
at Rated Speed - MPa(psi)	0.49~0.64	(71~93)
Maximum Oil Temperature - °C(°F)	110	(230)
Oil Capacity of Standard Pan High - liter (U.S. gal)	84	(22.2)
Low - liter (U.S. gal)	52	(13.7)
Total System Capacity (Includes Oil Filter) - liter (U.S. gal)	94	(24.8)
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)
Maximum External Friction Head at Engine Outlet - MPa(psi)	0.034	(5.0)
Maximum Static Head of Coolant above Crankshaft Center - m(ft)	10	(32.8)
Maximum Outlet Pressure of Engine Water Pump - MPa(psi)	0.20	(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 Coolant Temperature at Intercooler Inlet, TK type - °C(°F)		
Maximum Air Restriction on Discharge Side of Radiator and Fan - mm H ₂ O (in. H ₂ O)	10	(0.4)

FUEL SYSTEM

Fuel Injector	Mitsubishi PS6 × 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-A _h	24-30
Starting Motor Capacity - V -kW	24-7.5
Maximum Allowable Resistance of Cranking Circuit - mΩ	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

The specifications are subject to change without notice

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 with Fan	kW (HP)	635 (851)			575 (771)						
Brake Horse power without Fan	kW (HP)	655 (878)			595 (798)						
Brake Mean Effective Pressure with Fan	MPa (psi)										
Brake Mean Effective Pressure without Fan	MPa (psi)	1.7 (253)			1.6 (230)						
Mean Piston Speed	m/s (ft/min)	11.0 (2165)			11.0 (2165)						
Fuel Consumption	g/kWh (g/HPh)	194 (145)			195 (146)						
Maximum Regenerative Power Absorption Capacity without Fan	kW (HP)	64 (86)			64 (86)						
Intake Air flow	m ³ /min (CFM)	52 (1836)			47 (1660)						
Exhaust Gas Flow	m ³ /min (CFM)	137 (4837)			125 (4414)						
Coolant Flow	liter/min (U.S. GPM)	670 (177)			670 (177)						
Coolant Flow to Intercooler (TK only)	liter/min (U.S. GPM)	—			—						
Cooling Air Flow (Std. Fan)	m ³ /min (CFM)	720 (25423)			720 (25423)						
Fan Loss Horse Power (Std. Fan)	kW (HP)	20 (27)			20 (27)						
Radiated Heat to Ambient	kJ/hr (BTU/min)	163074 (2577)			149235 (2358)						
Heat Rejection to Coolant	kJ/hr (BTU/min)	1358947 (21471)			1243640 (19649)						
Heat Rejection to Inter Cooler (TK Version)	kJ/hr (BTU/min)	—			—						
Heat Rejection to Exhaust	kJ/hr (BTU/min)	1556296 (24589)			1439025 (22737)						
Noise Level (1 m height & distance) (excludes, Intake, Exhaust & Fan)	dB(A)	TBD			TBD						

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APPLICATION : GENERATOR

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