



**MITSUBISHI DIESEL ENGINE  
TECHNICAL INFORMATION**

ITEM NO.

T0217-0001E Rev.2 (1/4)

DATE

February, 2014

Specification Sheets of S6R2-PTA Engine

Specification Sheets of S6R2-PTA Engine are enclosed herein.

Revision	First Edition : September, 2007 (T13-0308-E Jun.99)	Engine Engineering Department High Speed Engine Designing Section		
	Rev.1 : Mar., 2013			
	Rev.2 : Feb., 2014	Approved by	Checked by	Drawn by
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## 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 <sup>3</sup> )	29.96 (1828)
Compression Ratio	14.0:1
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 - kgf·m <sup>2</sup> (lbf·ft <sup>2</sup> )	41.74 (991)
(Includes Std. Flywheel)	
Cyclic Speed Variation with Flywheel at 1500rpm	1/103
1200rpm	1/65
1000rpm	1/47

## 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 <sub>2</sub> O (in. H <sub>2</sub> O)	400 (15.7)
With Dirty Filter Element - mm H <sub>2</sub> O (in. H <sub>2</sub> O)	635 (25.0)

## EXHAUST SYSTEM

Maximum Allowable Back Pressure - mm H <sub>2</sub> O (in. H <sub>2</sub> O)	600 (23.6)
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## LUBRICATION SYSTEM

Oil Pressure at Idle - kgf/cm <sup>2</sup> (psi)	2~3 (29~43)
at Rate Speed - kgf/cm <sup>2</sup> (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)
Maximum External Friction Head at Engine Outlet - kgf/cm <sup>2</sup> (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 <sup>2</sup> (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 Coolant Temperature at Intercooler Inlet, TK type - °C(°F)	
Maximum Air Restriction on Discharge Side of Radiator and Fan - mm H <sub>2</sub> O (in. H <sub>2</sub> O)	10 (0.4)

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**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-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 .....	200
Below 5°C(41°F) through - 5°C(23°F) .....	500

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**S6R2-PTA**

**SPECIFICATION SHEET**

**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			CONTINUOUS C		CONTINUOUS D	
		50Hz	60Hz	50Hz	50Hz	60Hz	50Hz	50Hz	60Hz	50Hz	60Hz
Engine Speed	rpm	1500	1200	1000	1500	1200	1000	1500	1200	1500	1200
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 without Fan	HP (kW)	878 (655)	717 (535)	576 (430)	798 (595)	650 (485)	523 (390)	690 (515)	570 (425)	610 (455)	503 (375)
Brake Mean Effective Pressure without Fan	kgf/cm <sup>2</sup> (psi)	17.8 (253)	18.2 (259)	17.5 (249)	16.2 (230)	16.5 (235)	15.9 (226)	14.0 (199)	14.5 (206)	12.4 (176)	12.8 (182)
Mean Piston Speed	m/s (ft/min)	11.0 (2165)	8.8 (1732)	7.3 (1437)	11.0 (2165)	8.8 (1732)	7.3 (1437)	11.0 (2165)	8.8 (1732)	11.0 (2165)	8.8 (1732)
Maximum Regenerative Power Absorption Capacity without Fan	HP (kW)	86 (64)	59 (44)	44 (33)	86 (64)	59 (44)	44 (33)	86 (64)	59 (44)	86 (64)	59 (44)
Intake Air flow	m <sup>3</sup> /min (CFM)	52 (1836)	41 (1448)	34 (1201)	47 (1660)	37 (1306)	31 (1095)	41 (1448)	33 (1165)	37 (1306)	30 (1059)
Exhaust Gas Flow	m <sup>3</sup> /min (CFM)	137 (4837)	109 (3849)	90 (3178)	125 (4414)	99 (3496)	82 (2895)	110 (3884)	88 (3107)	98 (3460)	78 (2754)
Coolant Flow	liter/min (U.S. GPM)	670 (177)	540 (143)	450 (119)	670 (177)	540 (143)	450 (119)	670 (177)	540 (143)	670 (177)	540 (143)
Coolant Flow to Intercooler (TK only)	liter/min (U.S. GPM)	—	—	—	—	—	—	—	—	—	—
Cooling Air Flow (Std. Fan)	m <sup>3</sup> /min (CFM)	720 (25423)	582 (20550)	444 (15678)	720 (25423)	582 (20550)	444 (15678)	720 (25423)	582 (20550)	720 (25423)	582 (20550)
Fan Loss Horse Power (Std. Fan)	HP (kW)	27 (20)	20 (15)	14 (10)	27 (20)	20 (15)	14 (10)	27 (20)	20 (15)	27 (20)	20 (15)
Radiated Heat to Ambient	kcal/hr (BTU/min)	38957 (2577)	31155 (2061)	25557 (1690)	35651 (2358)	28244 (1868)	23206 (1535)	31249 (2067)	25116 (1661)	27999 (1852)	22318 (1476)
Heat Rejection to Coolant	kcal/hr (BTU/min)	324641 (21471)	259626 (17171)	212976 (14086)	297095 (19649)	235365 (15567)	193379 (12790)	260406 (17223)	209304 (13843)	233325 (15432)	185984 (12301)
Heat Rejection to Inter Cooler (TK Version)	kcal/hr (BTU/min)	—	—	—	—	—	—	—	—	—	—
Heat Rejection to Exhaust	kcal/hr (BTU/min)	371786 (24589)	287814 (19036)	243905 (16132)	343771 (22737)	260919 (17257)	221462 (14647)	307380 (20330)	237178 (15687)	280701 (18565)	212993 (14087)
Noise Level (1 m height & distance) (excludes, Intake,Exhaust & Fan)	dB(A)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

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