

**Model: T1540**

**Engine: MITSUBISHI, S12R-PTA2**

**Alternator: LEROY SOMER, LSA50.1L8**

## Specifications

- Electronic governor
- Mechanically welded chassis with anti-vibration suspension
- Radiator for wiring T° of 49°C [120°F] max with mechanical fan
- Protective grille for fan and rotating parts
- Exhaust outlet with flexible and flanges
- 24 V charging alternator and starter
- Supplied with oil and coolant -30°C
- User manual and commissioning guide



## Generator Ratings

Voltage	Power ESP kW/kVA	Power RRP kW/kVA	Standby Amps	Dimensions	Weight
415/240	1232/1540	1120/1400	2143	Length: 4422 Width: 2000 Height: 2365	10147kg Net 11046kg Gross
400/230	1232/1540	1120/1400	2223		
380/220	1232/1540	1120/1400	2340		

**RRP:** Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1. A 10% overload capability is available for a period of 1 hour within 12hour period of operation, in accordance with ISO 3046-1.

**ESP:** The standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO 8528-1. Overload is not allowed.

**Terms of Use:** Standard reference conditions 25 °C Air Inlet Temp, 100m A.S.L 60% relative humidity. All engine performance data based on the above mentioned continuous ratings.

## Canopy Version

Type	dB(A)@7m	Dimensions	Weight	Tank
ISO20	79	Length: 6058 Width: 2438 Height: 2896	15307kg Net 16221kg Gross	500L
CIR20SSi-R	74	Length: 6058 Width: 2438 Height: 2896	17446kg Net 19669kg Gross	2000L
CIR20SSi	74	Length: 6058 Width: 2438 Height: 2896	17071kg Net 17969kg Gross	500 L

All units supplied with canopy as standard except when requested.

## Engine Data

Manufacturer/Model	MITSUBISHI S12R-PTA2, 4-strokes, Turbo
Cylinder arrangement	12 x V
Displacement	49.03L [2992.0C.I.]
Bore and stroke	170mm [6.7in.] X 180mm [7.1in.]
Compression ratio	14 : 1
Rated RPM	1500 Rpm
Piston speed	9m/s [29.5ft./s]
Max. standby power at rated RPM	1315kW [1762BHP]
Frequency regulation, steady state	+/- 0.25%
BMEP	19.9bar [288psi]
Governor: type	ELEC

## Exhaust System

Exhaust temperature	520°C [968°F]
Exhaust gas flow	4216L/s [8934cfm]
Max back pressure	600mm CE [24in. WG]

## Fuel System

110% (Stand by power)	321L/h [84.8gal/hr]
100% (of the Prime Power)	288L/h [76.1gal/hr]
75% (of the Prime Power)	218L/h [57.6gal/hr]
50% (of the Prime Power)	155L/h [41.0gal/hr]
Total fuel flow	588L/h [155.3gal/hr]

## Oil System

Total oil capacity w/filters	180L [47.6gal]
Oil Pressure low idle	2.5bar [36.2psi]
Oil Pressure rated RPM	5.8bar [84.0psi]
Oil consumption 100% load	1L/h [0.264gal/hr]
Oil capacity carter	150L [39.6gal]

## Thermal balance 100% load

Heat rejection to exhaust	816kW [46398Btu/mn]
Radiated heat to ambient	84kW [4776Btu/mn]
Heat rejection to coolant	698kW [39688Btu/mn]

## Air intake

Max. intake restriction	400mm CE [16in. WG]
Engine air flow	1600L/s [3391cfm]

## Coolant system

Radiator & engine capacity	300L [79.3gal]
Max water temperature	98°C [208°F]
Outlet water temperature	95°C [203°F]
Fan power	30 kW
Fan air flow w/o restriction	25.9m <sup>3</sup> /s [54884cfm]
Available restriction on air flow	20mm CE [0.8in. WG]
Type of coolant	Gencool
Thermostat	82-94 °C

## Emissions

PM	100 mg/Nm <sup>3</sup>
CO	590 mg/Nm <sup>3</sup>
Nox	3900 mg/Nm <sup>3</sup>
HC	110 mg/Nm <sup>3</sup>

## Alternator Specifications

Manufacturer/Type	LEROY SOMER (LSA50.1L8)
NUMBER OF PHASE	3
POWER FACTOR (Cos Phi)	0.8
ALTITUDE	< 1000 m
OVERSPEED	2250 rpm
POLE: NUMBER	4
EXCITER TYPE	AREP
INSULATION: CLASS, TEMPERATURE RISE	H/H
VOLTAGE REGULATOR	R449
SUSTAINED SHORT CIRCUIT CURRENT	[N/A]
TOTAL HARMONICS (TGH/THC)	< 4%
WAVE FROM : NEMA = TIF- TGH/THC	< 50
WAVE FROM: CEI = FHT - TGH/THC	< 2%
BEARING: NUMBER	1
COUPLING	Direct
VOLTAGE REGULATION 0 TO 100% LOAD	+/- 1%
RECOVERY TIME (20% VOLT DIP) MS	< 500 ms
SkVA WITH 90% OF NORMAL SUSTAINED VOLTAGE (AT 0.4PF)	[N/A]

## Other Alternator Data

CONTINUOUS NOMINAL RATING @ 40° C	1425 kVA
STANDBY RATING @ 27° C	1570 kVA
EFFICIENCIES @ 4/4 LOAD	95.1 %
AIR FLOW	1.6m <sup>3</sup> /s [3390.19cfm]
SHORT CIRCUIT RATIO: 50 (Kcc)	0.37
DIRECT AXIS SYNCHRO REACTANCE UNSATURATED (Xd)	353 %
QUADRA AXIS SYNCHRO REACTANCE UNSATURATED (Xq)	212 %
OPEN CIRCUIT TIME CONSTANT: 50 (T'do)	2720 ms
DIRECT AXIS TRANSIENT REACTANCE SATURATED (X'd)	24.6 %
SHORT CIRCUIT TRANSIENT TIME CONSTANT (T'd)	222 ms

## Other Alternator Data Continued

DIRECT AXIS SUBTRANSIENT REACTANCE SATURATED (X'd)	13.5 %
SUBTRANSIENT TIME CONSTANT (T'd)	20 ms
QUADRA AXIS SUBTRANSIENT REACTANCE SATURATED (X'q)	16.9 %
ZERO SEQUENCE REACTANCE UNSATURATED (X <sub>0</sub> )	3.3 %
NEGATIVE SEQUENCE REACTANCE SATURATED (X <sub>2</sub> )	15.2 %
ARMATURE TIME CONSTANT (T <sub>a</sub> )	41 ms
NO LOAD EXCITATION CURRENT (i <sub>0</sub> )	1.3 A
FULL LOAD EXCITATION CURRENT (i <sub>c</sub> )	5 A
FULL LOAD EXCITATION VOLTAGE (u <sub>c</sub> )	63 V
RECOVERY TIME (DELTA U = 20% TRANSITOIRE)	< 500 ms
MOTOR START (DELTA = 20% PERM. OR 50% TRANS.)	2850 kVA
TRANSIENT DIP (4/4 CHARGE) - PF : 1.8AR	1.8 AR 12.5 %
NO LOAD LOSSES	15kW [15.00Kw]
HEAT REJECTION	54 kW