

Generator SDMO T12KM-IV

230V, 1Ph, 50hz
12Kw Stand-by Power; 11Kw Prime Power

- 1.75L engine / after cooled diesel fueled Mitsubishi engine type S4L2.SD
- 12.1 KVA alternator type ECO28-1L, 12 Leads, capable to sustain a 300% short circuit during 10s.
- 1% voltage regulation
- Cool flow Radiator with fan guards
- Fuel shut off solenoid valve
- Fuel Filter
- Solenoid activated starter motor
- Air cleaner and oil filter with internal bypass
- Oil and radiator drain extension
- Battery charging alternator
- 1 Battery 12vdc, 70AH
- Diesel fuel flex line
- Isolators between engine/alternator and base frame
- 50 Amps main line circuit breaker 2 Poles
- Mechanical governor with a 3% frequency regulation
- Digital Nexys type control panel displaying:
 - AC volts
 - AC amps
 - Frequency
 - Overspeed
 - Overcrank
 - Emergency Stop
 - Full keypad to allow to all unit operating parameters, alarms, resets and testing
- Sound Attenuated Enclosure 60.7 dB(a) @ 23ft with a critical silencer mounted inside
- Single walled fuel tank; 50L [13.2 US gal]
- Overall size; l x w x h, 1750mm [69in] x 715mm [28in] x 1230mm [48in]
- Weight; 565kg [1245lbs] Net 616kg [1358lbs] Brut



ENGINE DATA

Cylinder Arrangement.....	4 X L
Displacement.....	1.75L [106.8C.1.]
Bore and Stroke	78mm [3.1in.] X 92mm [3.6in.]
Compression ratio	22 : 1
Rated RPM.....	1500 Rpm
Piston Speed	4.6m/s [15.1ft./s]
Max. stand by Power at rated RPM	16.61kW [22BHP]
Frequency regulation, steady state	+/-2. 5%
BMEP	6.86bar [99psi]
Governor : type	Meca
Exhaust System	
Exhaust gas flow.....	48.7L/s [103cfm]
Exhaust temperature.....	410°C [770°F]
Max back pressure	700mm CE [28in. WG]
Fuel System	
100% (of the Prime Power)	4.4L/h [1.2gal/hr]
75% (of the Prime Power)	3.4L/h [0.9gal/hr]
50% (of the Prime Power)	2.6L/h [0.7gal/hr]
Total fuel flow	18L/h [4.8gal/hr]

Oil System	
Total oil capacity w/filters	5.9L [1.6gal]
Oil Pressure low idle.....	1bar [14.5psi]
Oil Pressure rated RPM.....	4bar [58.0psi]
Oil consumption 100% load.....	0.025L/h [0.0gal/hr]
Oil capacity carter	5.4L [1.4gal]
Thermal balance 100% load	
Heat rejection to exhaust.....	14kW [796Btu/mn]
Radiated heat to ambient.....	2kW [114Btu/mn]
Heat rejection to coolant.....	14kW [796Btu/mn]
Air intake	
Max. intake restriction	200mm CE [8in. WG]
Engine air flow	18.2L/s [39cfm]
Coolant System	
Radiator & engine capacity	4.9L [1.3gal]
Max water temperature	111°C [232°F]
Outlet water temperature	93°C [199°F]
Fan power.....	0.5 kW
Fan air flow	0.8m3/s [1695cfm]
Available restriction on air flow	10mm CE [0.4in. WG]
Type of coolant	Gencool
Thermostat	82-95 °C
Emissions	
HC.....	40 mg/Nm3
CO.....	120 mg/Nm3
Nox.....	1350 mg/Nm3
PM.....	100 mg/Nm3

ALTERNATOR SPECIFICATIONS

- Compliance with NEMA MG21, UTE NF C51.111, VDE 0530, BS 4999, CSA standards.
- Vacuum-impregnated windings with epoxy varnish.
- IP21 drip proof.

ALTERNATOR DATA

Manufacturer / Type	MECC ALTE ECO 28
Number of phase	3
Power factor (Cos Phi).....	0.8
Altitude	1000
Overspeed	rpm
Pole : number	4
Exciter type	No
Insulation : class, temperature rise.....	H / H
Voltage regulator	AVR
Sustained short circuit current	
Total harmonics (TGH/THC)	
Wave form : NEMA = TIF – TGH/THC	
Wave form : CEI = FHT – TGH/THC	
Bearing : number	1
Coupling.....	Direct
Voltage regulation 0 to 100% load	
Recovery time (20% Volt dip) ms	ms
kVA with 90 % of nominal sustained voltage (at 0.4 PF)	N/A

OTHER ALTERNATOR DATA

Continuous nominal rating @ 40°C	kVA
Standby rating @ 27°C	24,2 kVA
Efficiencies @ 4/4 load	84.2 %
Air flow	5.5m3/s [11653.79cfm]
Short circuit ratio;50 (Kcc)	0.65
Direct axis synchro reactance unsaturated (Xd)	175 %
Quadra axis synchro reactance unsaturated (Xq).....	76 %
Open circuit time constant;50 (T'do).....	0.87 ms
Direct axis transient reactance saturated (X'd)	16.5 %
Short circuit transient time constant (T'd).....	0.045 ms
Direct axis subtransient reactance saturated (X''d).....	9.4 %
Subtransient time constant (T''d)	0.015 ms
Quadra axis subtransient reactance saturated (X''q)	21 %
Zero sequence reactance unsaturated (Xo).....	3.2 %
Negative sequence reactance saturated (X2)	14.2 %
Armature time constant (Ta)	0.013 ms
No load excitation current (io).....	A
Full load excitation current (ic).....	A
Full load excitation voltage (uc).....	V
Recovery time (Delta U = 20% transitoire).....	ms
Motor start (Delta = 20% perm. Or 50% trans.).....	kVA
Transient dip (4/4 charge) – PF : 1.8 AR.....	%
No load losses	kW
Heat rejection.....	kW



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