T1900

Engine ref.	S16R-PTA
Alternator ref.	LSA 51.2 S55
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Voltage (V)	400/230
Optional control panel	M80
Optional Control Panel	TELYS
Optional control panel	APM802

POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	1520	1900	1382	1727	2643
400/230	1520	1900	1382	1727	2742
380/220	1520	1900	1382	1727	2887

DIMENSIONS COMPACT VERSION

Length (mm)	5497
Width (mm)	2286
Height (mm)	2479
Dry weight (kg)	12891
Tank capacity (L)	0

DIMENSIONS SOUNDPROOFED VERSION

Commercial reference of the enclosure	
Length (mm)	0
Width (mm)	0
Height (mm)	0
Dry weight (kg)	0
Tank capacity (L)	0
Acoustic pressure level @1m in dB(A)	0
Sound power level guaranteed (Lwa)	0
Acoustic pressure level @7m in dB(A)	0

DESCRIPTIVE

- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Radiator for wiring temperature of 48/50°C max with mechanical fan
- Protective grille for fan and rotating parts (CE option)
- Exhaust compensators with flanges
- 24 V charge alternator and starter
- Delivered with oil and coolant -30°C
- Manual for use and installation

POWER DEFINITION

PRP : Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1. 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

According to the standard, the nominal power assigned by the genset is given for 25°C Air Intlet Temperature, of a barometric pressure of 100 kPA (100 m A.S.L), and 30 % relative humidity. For particular conditions in your installation, refer to the derating table.

ASSOCIATED UNCERTAINLY

For the generating sets used indoor, where the acoustic pressure levels depends on the installation conditions, it is not possible to specify the ambient noise level in the exploitation and maintenance instructions . You will also find in our exploitation and maintenance instructions a warning concerning the air noise dangers and the need to implement appropriated preventive measures.

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ENGINE CHARACTERISTICS

GENERAL ENGINE DATA

Engine model	MITSUBISHI
Engine ref.	S16R-PTA
Air inlet	Turbo
Cylinders arrangement	V
Number of cylinders	16
Displacement (C.I.)	65.37
Air coolant	Air/Water DC
Bore (mm) x Stroke (mm)	170 x 180
Compression ratio	14 : 1
Speed (RPM)	1500
Pistons speed (m/s)	9
Maximum stand-by power at rated RPM (kW)	1620
Frequency regulation (%)	+/- 0.5%
BMEP (bar)	18.11
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	420
Max water temperature (°C)	98
Outlet water temperature (°C)	95
Fan power (kW)	43
Fan air flow w/o restriction (m3/s)	33.50
Available restriction on air flow (mm Water Column)	20
Type of coolant	Glycol-Ethylene
Thermostat (°C)	82-94

EMISSIONS

Emission PM (mg/Nm3)	110
Emission CO (mg/Nm3)	560
Emission HCNOx (g/kWh)	
Emission HC (mg/Nm3)	100

EXHAUST

Exhaust gas temperature (°C)	539
Exhaust gas flow (L/s)	5150
Max. exhaust back pressure (mm EC)	600

FUEL

Consumption @ 110% load (L/h)	388
Consumption @ 100% load (L/h)	353
Consumption @ 75% load (L/h)	266
Consumption @ 50% load (L/h)	188
Maximum fuel pump flow (L/h)	588

OIL

Oil capacity (L)	230
Min. oil pressure (bar)	2.50
Max. oil pressure (bar)	5.80
Oil consumption 100% load (L/h)	1.32
Carter oil capacity (L)	140

HEAT BALANCE

Heat rejection to exhaust (kW)	977
Radiated heat to ambiant (kW)	102
Haet rejection to coolant (kW)	852

AIR INTAKE

Max. intake restriction (mm EC)	400
Intake air flow (L/s)	1950

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ALTERNATOR CHARACTERISTICS

GENERAL DATA

Alternator ref.	LSA 51.2 S55
Number of Phase	Three phase
Power factor (Cos Phi)	0.80
Altitude (m)	0 to 1000
Overspeed (rpm)	2250
Number of pole	4
Capacity for maintaining short circuit at 3 In for 10 s	Yes
Insulation class	H
T° class, continuous 40°C	H / 125°K
T° class, standby 27°C	H / 163°K
AVR Regulation	Yes
Total Harmonic Distortion in no-load DHT (%)	<3.5
Total Harmonic Distortion, on load DHT (%)	<3.5
Wave form : NEMA=TIF	<50
Wave form : CEI=FHT	<2
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (+/- %)	
Recovery time (Delta U = 20% transcient) (ms)	
Indication of protection	IP 23
Technology	Without collar or brush

OTHER DATA

Continuous Nominal Rating 40°C (kVA)	1860
Standby Rating 27°C (kVA)	2046
Efficiencies 100% of load (%)	95.60
Air flow (m3/s)	2.50
Short circuit ratio (Kcc)	0.33
Direct axis synchro reactance unsaturated (Xd) (%)	374
Quadra axis synchro reactance unsaturated (Xq) (%)	224
Open circuit time constant (T'do) (ms)	2660
Direct axis transcient reactance saturated (X'd) (%)	28.40
Short circuit transcient time constant (T'd) (ms)	237
Direct axis subtranscient reactance saturated (X"d) (%)	14.80
Subtranscient time constant (T"d) (ms)	22
Quadra axis subtranscient reactance saturated (X"q) (%)	18.50
Subtranscient time constant (T"q) (ms)	19
Zero sequence reactance unsaturated (Xo) (%)	3.50
Negative sequence reactance saturated (X2) (%)	16.60
Armature time constant (Ta) (ms)	39
No load excitation current (io) (A)	1.30
Full load excitation current (ic) (A)	5.60
Full load excitation voltage (uc) (V)	64
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	3720
Transcient dip (4/4 load) - PF : 0,8 AR (%)	12.40
No load losses (W)	15300
Heat rejection (W)	68000
Unbalanced load acceptance ratio (%)	8

DIMENSIONS

CONTAINER ISO 40

Commercial reference of the enclosure	ISO40 Si
Length (mm)	12192
Width (mm)	2438
Height (mm)	2896
Dry weight (kg)	21810
Tank capacity (L)	500
Acoustic pressure level @1m in dB(A)	95
Sound power level guaranteed (Lwa)	118
Acoustic pressure level @7m in dB(A)	87

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CONTROL PANEL

M80, transfer of information

The M80 is a dual-function control unit. It can be used as a basic terminal block for connecting a control box and as an instrument panel with a direct read facility, with displays giving a global view of your generating set's basic parameters.

Offers the following functions:

Engine parameters: tachometer, working hours counter, coolant temperature indicator, oil pressure indicator, emergency stop button, customer connection terminal block, CE.

TELYS, ergonomic and user-friendly

The highly versatile TELYS control unit is complex yet accessible, thanks to the particular attention paid to optimising its ergonomics and ease of use. With its large display screen, buttons and scroll wheel, it places the accent on simplicity and communication.

The TELYS offers the following functions:

Electrical measurements: voltmeter, frequency meter, ammeter.

Engine parameters: working hours counter, oil pressure, coolant temperature, fuel level, engine speed, battery voltage.

Alarms and faults: oil pressure, coolant temperature, failure to start, overspeed, alternator min./max., battery voltage min./max., emergency stop, fuel level.

Ergonomics: wheel for navigating around the various menus.

Communication: remote control and operation software, USB connections, PC connection.

For more information on the product and its options, please refer to the sales documentation.

APM802 dedicated to power plant management

The new APM802 command/control system is specifically designed for operating and monitoring power plants for markets including hospitals, data centres, banks, the oil and gas sector, industries, IPP, rental and mining.
This unit is available as standard on all generating sets from 275 Kva designed for coupling. It is optional on the rest of our range.
The Human Machine Interface, designed in collaboration with a company specialising in interface design, facilitates operations with a large 100% touch screen. The pre-configured system for power plant applications features a brand new customisation function which complies with the international standard IEC 61131-3. New communication functions (PLC and regulation), improve the high level of equipment availability in the installation.

Advantages:
Dedicated to power plant management.
Specially researched ergonomics.
High level of equipment availability.
Modularity and long service life guaranteed.
Making it easy to extend the installation

For more information, please refer to the sales documentation.