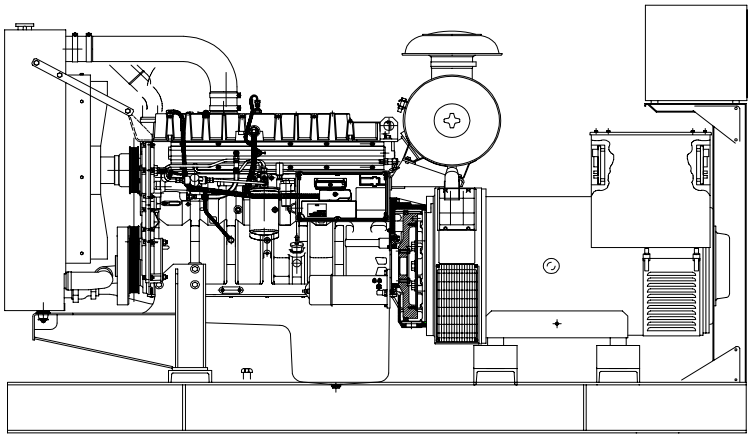
Perkins 1106C-E66TAG4 diesel engine

Mecc Alte ECO38-1SN/4 alternator



ISO 9001:2000

This generator is available with CE certification

Standard Generator Features

- AMF, Automatic mains failure unit
- Heavy duty type, 6 cylinder, water cooled engine
- 50°C tropical type radiator
- Starter motor
- Lead acid battery
- Charging alternator
- Battery charge redressor
- Heavy duty, brushless type alternator
- Base frame with anti-vibration units
- Industrial type silencers
- Flexible exhaust compensator
- Block water heater unit
- Control panel with digital-automatic main control module
- Fan, fan drive, charging alternator drive and all rotating parts covered
- Radiator matrix covered by metal mesh against the mechanical damages
- Fabricated and welded steel base frame
- Anti-vibration mountings
- Engine and alternator manufacturer test reports
- Factory load, performance and function tests

Optional Features

- Automatic load transfer panel
- Automatic syncronization and power sharing systems
- Soundproof canopy
- Container type enclosers
- Road trailer
- Job-site trailer
- Protection circuit breaker
- Air start
- Remote type radiator
- Base fuel tank
- External type fuel tank
- Automatic fuel transfer system
- Residential silencer

Model	Standby		Prime	
	kVA	kW	kVA	kW
CJ200PC	**196**	**157**	**180**	**144**

Perkins 1106C-E66TAG4 Engine

Standard Features

State of the Art Design

The 1106C-E66TAG4 incorporates the latest common-rail fuel system technologies with a closely optimised air-management system which is overseen by the latest generation of electronic engine control. This allows the 1106C ElectropaK range to deliver high power density,low exhaust emissions with the minimum of heat rejection and excellent fuel economy.

Worldwide Power Solution

The 1106C has been designed to be worldwide fuel tolerant, including kerosene, jet aviation fuel and 5% biofuel (RME).Options are available to meet local market needs.

Product Support

- Perkins actively pursues product support excellence by ensuring our distribution network invest in their territory - strengthening relationships and providing more value to you, our customer
- Through an experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year.They have a comprehensive suite of web based tools at their fingertips coveringtechnical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Throughout the entire life of a Perkins engine, we provide access togenuine OE specification parts and service. We give 100% reassurance that you receive the very best in terms of quality for lowest possible cost .. Wherever your Perkins powered machine is operating in the world

Model	Standby kW		Prime kW	
	Gross	Net	Gross	Net
1106C-E66TAG4	**180.4**	**175.5**	**163.3**	**158.4**

Lubricating System

Type	Pressurized
Max.total system oil capacity, Liters	28.3
Lub oil pressure (min), kPa	430

- Flat-bottomed isolated aluminium sump
- Oil filter

Fuel System

Injection components

Injector	electronic
Fuel Pump	CR200
Max.fuel flow	1.5 l/min
Maximum static pressure head	600 kPa
Tolerance on fuel consumption	3%

- Electronic governing (confirms to Class G3 ISO 8528-5)
- Fuel filter

Technical Specifications

Manufacturer	PERKINS
Model	1106C-E66TAG4
Type	4 cycle, water-cooled, diesel engine
Number of cylinders	6
Displacement, Liters	6.6
Bore X Stroke, mm	105 mm x 127 mm
Compression Ratio	16.2:1
Combustion System	Direct injection
Aspiration	Turbocharged, air to air charge cooled
Rotation	Anti-clockwise, viewed on flywheel
Gross engine power, kWb	180.4
Energy to cooling fan kWm	
BMEP gross, bar	
Combustion air flow, m³ / min	11.7
Exhaust gas temp.(after turbo), °C	499
Exhaust gas flow (after turbo),m³ / min	31,0
Mean piston speed, m / s	

Electrical System

Alternator	12 volts
Starter motor (DC)	12 volts

- 12 volt starter motor
- 12 volt, 100 amp alternator with DC output

Fuel Consumption

liters per hour	%110 Load	44.0 L
	%100 Load	40.2 L
	%75 Load	31.0 L
	%50 Load	20.5 L
grams per kWh	%110 Load	204.9 g/kWh
	%100 Load	206.9 g/kWh
	%75 Load	212.7 g/kWh
	%50 Load	211.6 g/kWh

Cooling System

Type	Tropical, heavy duty type
Ambient temperature, °C	50
Total system capacity	21
Max.permissible external sys.res.,kPa	35

- 27” belt-driven pusher fan and guards
- Radiator (incorporating air-to-air charge cooler + fuel cooler)
- Water pump

Mecc Alte ECO 38-1SN/4

Standard Features

Range

The ECO generators are available with a 50/60 Hz frequency, either with 2 poles ranging from 8 to 114 KVA or with 4 poles ranging from 6.5 to 3,000 KVA, with a single or double support.In order to couple them with the prime mover it is possible to choose among a wide range of flanges and couplings.

Mechanical Structure

The robust mechanical structure permits easy access to the connections and components during routine and extraordinary maintenance check-ups. The materials used for the manufacture of the mechanical structure are the following: FeP12 steel for the frame, C45 steel for the shaft and cast iron for the end-brackets.
The standard degree of protection is IP21 or IP23; upon the customer's request, other higher degrees of protection, such as IP45, IP54, etc., are available.

Insulation And Impregnation

Insulation is of class H standard. Impregnation is made with tropicalized epoxy resins by dipping and dripping, whilst for the high voltage parts by vacuum, so that the insulation level is always very good. In the highpower models, the stator windings undergo a further insulation. Special treatments for particular environmental conditions are available on request.

Regulation

The self-regulation is obtained through an electronic regulator.
The regulator is fed by an auxiliary winding which guarantees an almost constant supply under any possible operating condition of the generator.
The ECO series can be equipped with the new interchangeable U.V.R.6-F or S.R.7/2-G regulator,ensuring the same performance.

Voltage Accuracy

The voltage accuracy is ±1% in static condition with any power factor and with speed variation between 5% and +30% with reference to the rated speed.

Voltage Regulation

The voltage can be regulated by the "VOLT" potentiometer of the electronic regulator. By connecting a 100K potentiometer in the proper terminals it is also possible to obtain a remote voltage regulation in a range of 5% of the rated voltage.

Standards

The entire series is manufactured according to and complies with the most common specifications such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/CSA–C22.2 N°14-95 – N°100-95; special versions are available on request to meet specific specifications and regulations.

Model	Standby		Prime	
	kVA	kW	kVA	kW
ECO 38-1SN/4	**196**	**157**	**180**	**144**

Technical Specifications

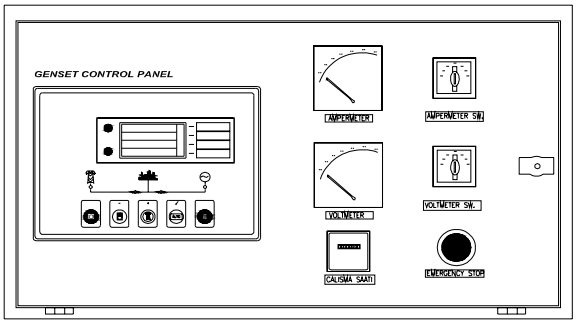
Manufacturer	Mecc Alte
Model	ECO 38-1SN/4
Type	4-Poles, Rotating Field, Brushless
Standby power at rated voltage, kVA	196
Efficiency, %	92,1
Power factor	0.8
Phase	3
Frequency, Hz	50
Speed, Rpm	1500
Voltage, V	380/415
Excitation	Self excited
Stator winding	12 ends
Regulation	Universal Voltage Regulator, sixth generation
Voltage Regulator	UVR6
Voltage Regulation, %	±1
R.F.I Suppression	EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory
Waveform Distors.at f. load LL/LN %	2,8 / 2,7
Waveform Distors.at no load LL/LN %	3,1 / 3
Rotor	with damping cage
Overspeed, Rpm	2250
Short circuit current	>300%
TIF Telephone Interference	THF < 2%
Insultion class	H
Stator Winding Resistance (20°C), Ω	0,013
Rotor Winding Resistance (20°C), Ω	3,905
DE bearing	6318.2RS
NDE bearing	6314.2RS
Protection class	IP 21 (other protection on request)

Optional Equipment

- Anti Condensation Heaters
- Air Filters
- Temperature Indication RTD's
- Winding Protection Thermistors
- SR7/2 AVR Simplified Regulator,seventh generation

Control Panel

Standard Equipments



- Deeapse 5220 digital automatic control module
- Hourmeter
- Voltmeter
- Voltmeter commutator
- Ampermeter
- Ampermeter commutator
- Emergency stop button

Deepsea 5220 Control Module

Description

- The model 5220 is an Automatic Mains Failure Control module.
- The modul is used to monitor a mains supply and automaticlly start a standby generator set.
- The module also provides indication of operational status and fault conditions automaticly shutting down the genset and indicating failures by means of an LCD display, and appropriate flashing LED on the front panel.
- Selected timers and alarms can be altered by the user from the front panel.
- Alterations to the system are made using the 810 interface and a PC. This interface also provides real time diagnostic facilities

Specifications

- 240mm x 172mm dimensions
- 70mm x 40mm dimensions, 4 segment grafical LCD monitor
- Developed 16-bit Microprocessor design
- Easy comprehended display (Hid-Til-Lit SMD LED technology)
- LED mimic diagram
- SMS messaging capability with suitable GSM Modem
- PC software is MS Windows based and allows the operator to control the module from a remote location (P810 Software Kit necessary)
- Easy pushbutton controls
- System parameters can be adjusted manually from the front panel
- kVA,kW ve Cosφ measurements
- Communication with MODEM

Pushbutton Controls

STOP / START
AUTO, TEST, MANUAL
LCD PAGE

Input Functions display on LCD

Generator Volts	Volts L1-N, L2-N, L3-N
Generator Volts	Volts L1-L2, L2-L3, L3-L1
Generator Amps	Amps L1, L2, L3
Generator Frequency	Hz
Mains Volts	Volts L1-N, L2-N, L3-N
Mains Volts	Volts L1-L2, L2-L3, L3-L1
Mains Frequency	Hz
Engine Speed	RPM
Plant Battery Volts	Volts
Engine Hours Run	Hour
Generator total power	kVA L1, L2, L3,total
Generator total power	kW L1, L2, L3,total
Generator power factor	Cosφ L1, L2, L3,total

Optional Input Functions

Engine Oil pressure	kPa
Fuel level	%
Engine Temperature	°C

Alarm Channels

Under/over generator voltage
Over-current
Under/over generator frequency
Under/over speed
Charge fail
Emergency stop
Low oil pressure
High engine temperature
Fail to start
Low/high DC battery voltage
Reverse power
Generator phase rotation error
Generator short-circuit protection
Loss of speed sensing signal
Mains out of limits

Environmental Testing Standards

Electromagnetic Compatibility

BS EN 50081-2:1992 and EN 61000-6-4:2000 EMC, Emission Standards for the Industrial Environment

EN 61000-6-2:1999 EMC, Immunity Standards for the Industrial Environment

Vibration

BS EN 60068-2-6 Ten sweeps (up and back down) at 1 octave/minute in each of the three major axes.

5Hz to @ +/-7.5mm constant displacement.

8Hz to 500Hz 2gn constant acceleration.

Temperature

Cold : BS EN 60068-2-1 to -30°C

Hot : BS EN 60068-2-2 to 70°C

Humidity

BS EN 2011 part 2.1 93% RH @ 40° for 48 hours

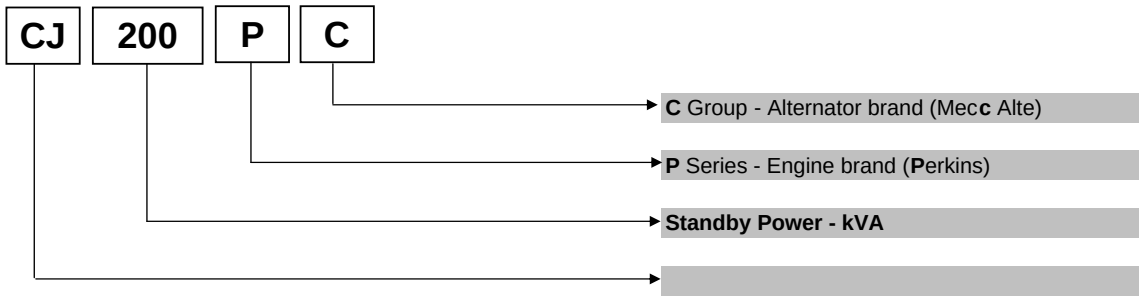
Shock

BS EN 6068-2-27 Three half sine shocks in each of the three major axes 15gn amplitude.11mS duration.

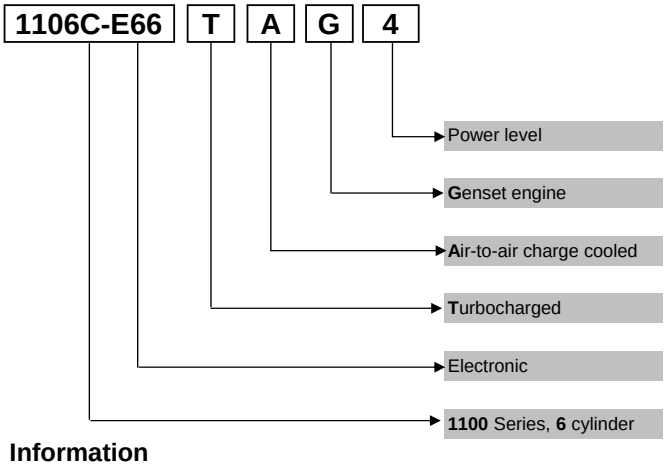
Electrical Safety

BS EN 60950 Low Voltage Dirctive/Safety of information technology equipments, including electrical business equipment

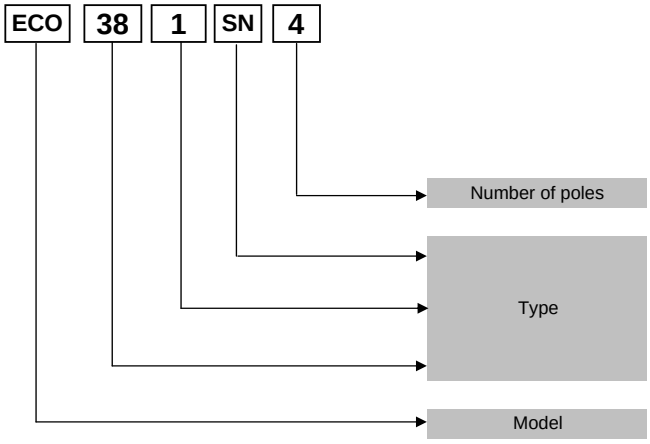
Model Codes and General Information



Perkins 1100 Series Diesel Engine



Mecc Alte Alternator



Information

Power Ratings

Standby power rating is for the supply of emergency power at variable load for the duration of the non-avalaibality of the mains power supply.No overload capacity is available at this rating.A standby rated engine should be sized for an avarage load factor of 80% based on published standby rating for 500 operating hours per year.Standby ratings should never be applied except in true emergency power failure conditions.

Prime power rating is available for unlimited hours per year with a variable load of which the average engine load factor is 80% of the published power rating, incorporation of a 10% overload for 1 hour in every 12 hours of operation which permitted

Continuous power rating is available for continuous full load operation.No overload is permitted.

Acc. to ISO 3046/1, BS 5514, DIN6271

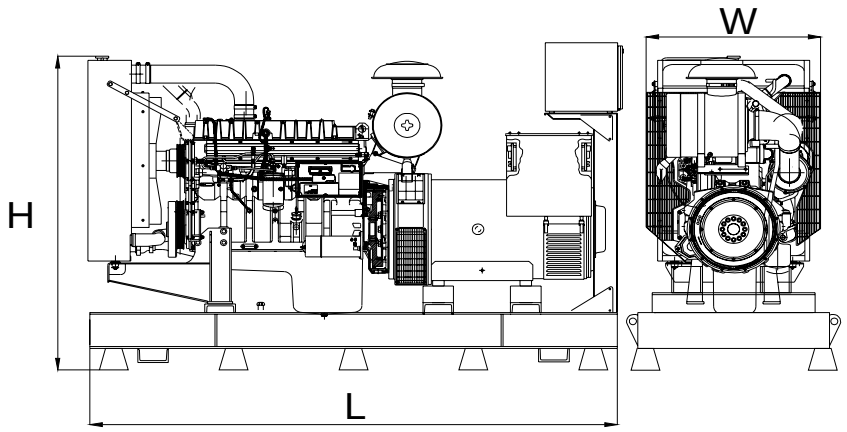
Electric Formulas

Values	Formula	
kWe	kWm X E	
kWe	(U x I x 1.73 x pf) / 1000	kVA x pf
kVA	(U x I x 1.73) / 1000	kWe / pf
I (Amp)	(kWe x 1000) / (U x 1.73 x pf)	(kVA x 1000) / (U x 1.73)
Frequency	(Rpm x N°Pole) / (2 x 60)	
Rpm	(2 x 60 x Frequency) / N°Pole	

kWm: Mechanical Power
kWe : Electrical Power
pf : Power factor
E : Alternator efficiency
I : Current (A)
U : Voltage (V)
kVA : Power
Rpm: Revolutions per minute

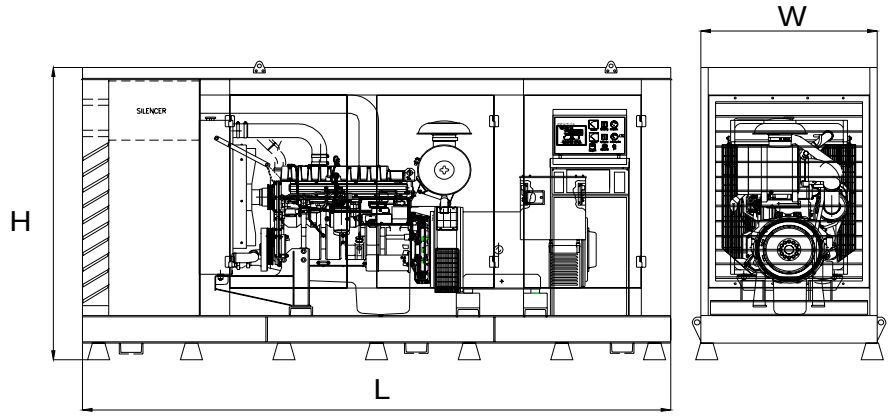
General Dimensions

Standard Generator



Length, L	2,75 m
Heigth, H	1,65 m
Width, W	1 m
Weight, Total	2200 kg

Generator with Soundproof Canopy



Length, L	4 m
Heigth, H	2,1 m
Width, W	1,2 m
Weight, Total	2950 kg

Generator Room Layout