



Main Features

Frequency	Hz	50
Voltage	V	400
Power factor	cos ϕ	0.8
Phase and connection		3

Power Rating

Standby power LTP	kVA	65.47
Standby power LTP	kW	52.38
Prime power PRP	kVA	58.69
Prime power PRP	kW	46.95

Ratings definition (According to standard ISO8528 1:2005)

PRP - Prime Power:

It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

LTP - Limited-Time running Power:

It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 h of operation per year (whose no more than 300 for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Engine Specifications

Brand	Deutz	
Model	BF4M2012	
Version	50 Hz	
Exhaust emission level	Non Emission Certified	
Engine cooling system	Water	
Nr. of cylinder and disposition	4 in line	
Displacement	cm ³	4040
Aspiration	Turbocharged intercooled	
Speed governor	Mechanical	
Operating Speed-Nominal	rpm	1500
Continuous gross power COP	kW	51
Prime gross power PRP	kW	54
Maximum gross power LTP	kW	60
Oil capacity	L	8.5
Lube oil consumption @ PRP (max)	%	0.15
Coolant capacity	L	21.9
Fuel	Diesel	
Specific fuel consumption @ 75% PRP	g/kWh	214
Specific fuel consumption @ PRP	g/kWh	216
Starting system	Electric	
Starting engine capability	kW	3
Electric circuit	V	12
Fuel consumption @ 75% PRP	L/h	10.39
Fuel consumption @ 100% PRP	L/h	13.88


Engine and block

- Watercooled cylinder in-line engine.
- Turbocharging and turbocharging with charge air cooling.
- Modern high-pressure fuel injection system with single injection pumps.
- All servicing points on one side.
- Exemplarily low fuel and oil consumption, long service intervals save operating costs.
- Outstanding load acceptance ensures immediate power supply.

Cooling system:

- HT cooling system, incl. charge air cooler, depending on engine type, pusher-type fan.

Exhaust system:

- Counterflange for exhaust system on turbocharger.

Filter:

- Lubeoil filter, air filter.

Alternator Specifications

Brand	Mecc Alte	
Model	ECO/P32-2L/4	
Class	H	
IP protection	21	
Poles	4	
Frequency	Hz	50
Frequency tolerance	%	5
Voltage tolerance	%	1.5
Power factor	cos ϕ	0.8
Efficiency @ 75% load	%	90.8
Standard AVR	DSR	


Mechanical structure

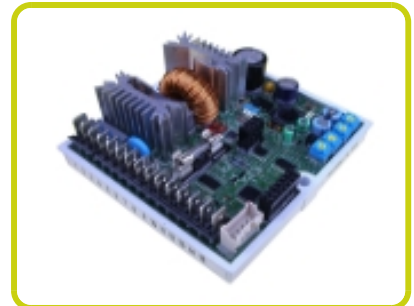
Robust mechanical structure which permits easy access to the connections and components during routine maintenance check-ups.

Voltage regulator

Voltage regulation with DSR. The digital DSR controls the range of voltage, avoiding any possible trouble that can be made by unskilled personnel. The voltage accuracy is $\pm 1\%$ in static condition with any power factor and with speed variation between 5% and +30% with reference to the rated speed.

Windings / Excitation system

Generator stator is wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th ...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches. MAUX (Standard): The MAUX MeccAlte Auxiliary Winding is a separate winding within the main stators that feeds the regulator. This winding enables to take an overload of 300% forced current (short circuit maintenance) for 20 seconds. This is ideal for motor starting requirements. PMAUX (optional): Alternator can be equipped with the optional PMAUX (Permanent Magnet Generator) which matches the performance and is capable of supporting both linear and distorted loads.


Insulation / Impregnation

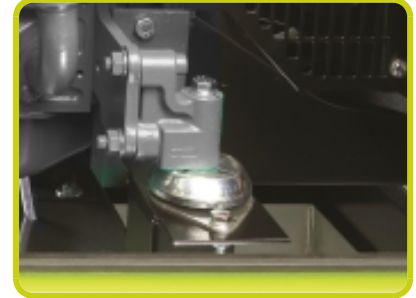
Insulation is of class H standard. Impregnation is made with premium tropicalised epoxy resins by dipping and dripping. High voltage parts are impregnated by vacuum, so the insulation level is always very good. In the high-power models, the stator windings undergo a second insulation process. Grey protection is applied on the main and exciter stator to give enhanced protection.

Reference standards

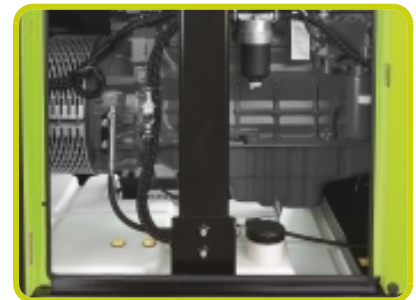
Alternator manufactured according to , and complies with , the most common specification such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/CSA-C22.2 No14-95-No100-95.

Genset equipment**BASE FRAME MADE OF WELDED STEEL PROFILE, COMPLETE WITH:**

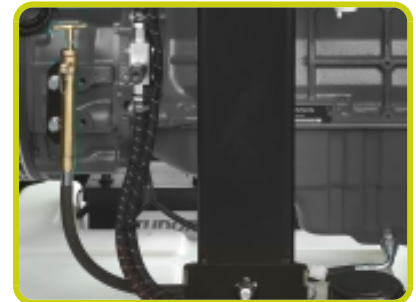
- Anti-vibration mountings properly sized
- Welded or Screwed support legs. (according to canopy size)

**PLASTIC FUEL TANK WITH THE FOLLOWING COMPONENT:**

- Filler neck
- Air breather (ventilation pipe)
- Minimum fuel level sensor

**OIL DRAININ PIPE WITH CAP:**

- Oil draining facilities

**ENGINE COMPLETE WITH:**

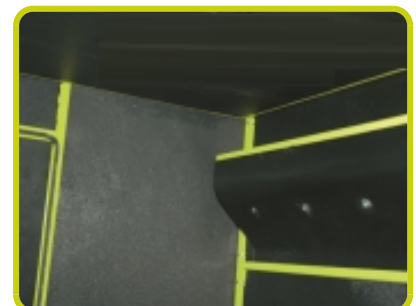
- Battery
- Liquids (no fuel)

**CANOPY:**

- Soundproof canopy made up of modular panels, realized with zinc steel as treatment against corrosion and aggressive conditions, properly fixed and sealed allowing a full weatherproof enclosure.
- Easy access to the genset for maintenance purposes thanks to: Wide lateral access doors fixed by stainless steel hinges and provided with plastic lockable handles and internal perforated galvanized steel-sheet; Detachable panels, with screws holes protected by rubber tap.
- Control panel protection door provided with suitable window and lockable handle.
- Lateral air inlet opening properly protected and soundproofed. Exhaust air outlet from the roof, trough wet section protected by proper grid.
- Single detachable lifting eye placed on the roof.

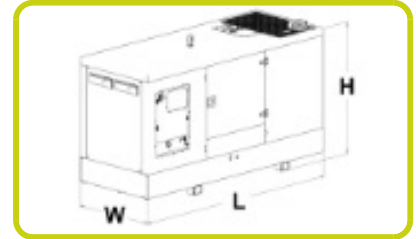
SOUNDPROOF:

- Noise attenuation thanks to soundproofing material (rock wool)
- Efficient residential silencer placed inside the canopy



Dimensional data

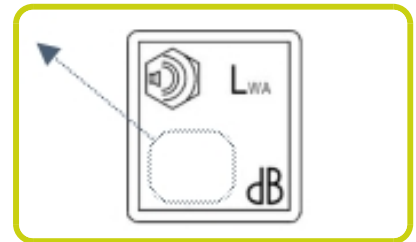
Length	mm	2400
Width	mm	1000
Height	mm	1546
Dry weight	kg	1205
Fuel tank capacity	L	340


Autonomy

Running time @ 75% PRP	h	32.72
Running time @ 100% PRP	h	24.50

Noise level

Guaranteed noise level (LWA)	db(A)	96
Noise pressure level @ 7 mt	db(A)	67


Installation data

Total air flow	m ³ /min	105.42
Exhaust gas flow @ PRP	m ³ /min	8.76
Exhaust gas temperature @ LTP	°C	526

Data Current

MAX current	A	94.51
Circuit breaker	A	125

CONTROL PANEL AVAILABILITY

MANUAL CONTROL PANEL	MCP
AUTOMATIC CONTROL PANEL	ACP

MCP - MANUAL CONTROL PANEL

Mounted on the genset and complete of: analogue instrumentation, control, protection of the generating set, protected through door with lockable handle.

INSTRUMENTATION (ANALOGUE)

- Voltmeter (1 phase)
- Ammeter (1 phase)
- Hours-counter

COMMANDS

- Start/stop selector switch with key (Glow plugs preheating function also included).
- Emergency stop button installed on canopy side.

PROTECTION WITH ALARM

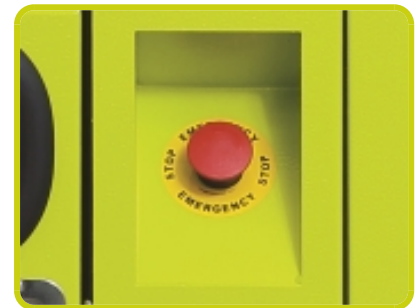
- Low fuel level
- Battery charger failure
- low oil pressure
- high engine temperature
- Earth Fault.

PROTECTIONS WITH SHUTDOWN

- Low fuel level
- Battery charger failure
- low oil pressure
- high engine temperature.
- Circuit breaker protection: III poles
- Emergency stop button

OTHERS

- Panel protected through door with lockable handle.



OUT PUT PANEL MCP

Power cables connection to Circuit Breaker.

Socket kit

Optional

ACP - AUTOMATIC CONTROL PANEL

Mounted on the genset, complete with digital control unit AC03 for monitoring, control and protection of the generating set, protected through door with lockable handle.

DIGITAL INSTRUMENTATION (through AC-03)

- Generating set voltage (3 phases).
- Mains voltage.
- Generating set frequency.
- Generating set current (3 phases).
- Battery voltage.
- Power (kVA - kW - kVAr).
- Power factor Cos ϕ .
- Hours-counter.
- Engine speed r.p.m.
- Fuel level (%).
- Engine temperature (depending on model)

COMMANDS AND OTHERS

- Four operation modes: OFF - Manual starting - Automatic starting - Automatic test.
- Pushbutton for forcing Mains contactor or Genset contactor.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Remote starting availability.
- DC system disconnection switch.
- Acoustic alarm.
- Automatic battery charger.
- RS232 Communication port.
- Settable PASSWORD for protection level.

PROTECTIONS WITH ALARM

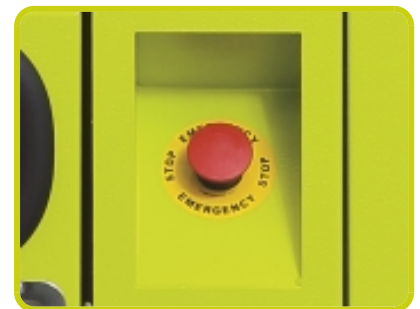
- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage

PROTECTIONS WITH SHUTDOWN

- Engine protections: low fuel level, low oil pressure, high engine temperature,
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure.
- Circuit breaker protection: III poles.
- Earth Fault included in the control unit.

OTHERS PROTECTIONS

- Emergency stop button.
- Panel protected through door with lockable handle.



OUT PUT PANEL ACP

Plinth row for connection from ACP to LTS panel.

Power cables connection to Circuit Breaker.

Predisposed for remote control optional:

RCG

Socket kit

Optional

SUPPLEMENTS:

Only Available when order _____ :

CONTROL PANEL SUPPLEMENT:

RCG - Various supplements for remote controls - available for models:	ACP MPP
ADI - Adjustable Differential Intensity - available only for models:	ACP
TIF - IV Poles Circuit Breaker instead of III - available for models:	ACP MCP
ETB - External Terminal Board - available for models:	MCP ACP



Socket kit

SKB socket kit B - available for models:	ACP MCP
Individual CB and Earth Fault protection	
400V/63A 3P+N+T CEE	n 1
400V/32A 3P+N+T CEE	n 1
400V/16A 3P+N+T CEE	n 1
230V/16A 2P+T CEE	n 1
230V/16A SCHUKO	n 1
NB: for assembly is necessary:	ETB



GENSET EQUIPMENT SUPPLEMENT

Component model	PEE 10-220 Canopy
KPR - Premium Kit (Leak Proof Tray - Leakage detection sensor - Manual oil drain pump)	
AFP - Automatic Fuel Pump	
Kit Rental for PEE gensets which includes fuel filter with water separator, 3-way fuel valve, battery switch, earth rod, docs folder)	

Extended Fuel Tank

Fuel tank capacity	L	890
Length (Genset)	mm	2414
Width (Genset)	mm	1168
Height (Genset)	mm	2275



ENGINE SUPPLEMENTS

PHS - Coolant Pre-Heating System - available for models:	ACP MPP
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ACCESSORIES

Items available as accessory equipment

STR - Site trailer

RTR - Road Trailer

LTS - LOAD TRANSFER SWITCH - Accessories ACP

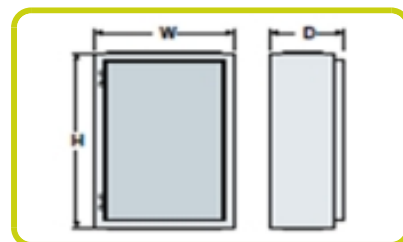
The Load Transfer Switch (LTS) panel operates the power supply changeover between the generator and the Mains in backup applications, guarantying the feeding to the load within a short period of time.

It consists of a standalone cabinet which can be installed separate from the generating set. The logic control of the power supply changeover is operated by means of the Automatic Control panel mounted on the generating set, so therefore none logic device is required on the LTS panel.


NOMINAL CURRENT & DIMENSIONS PANEL LTS (standard*)

Nominal Current	A	110
Width	mm	700
Height	mm	500
Depth	mm	290
Weight	kg	29

* = Available electrical power more



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