HSG20P - 30 + PV FR



Power Rating		
Voltage	V	400/230
Frequency	Hz	50
Power System	Type	Hybrid
Battery	Type	LiFePO4
Phases		3
Fuel		Diesel



Power rating – Diesel Generator (According to standard ISO8528-1)

Emergency Standby Power ESP	kVA	22.0
Emergency Standby Power ESP	kW	17.6
Prime power PRP	kVA	20.0
Prime power PRP	kW	16.0
Power factor	cosϕ	0.8



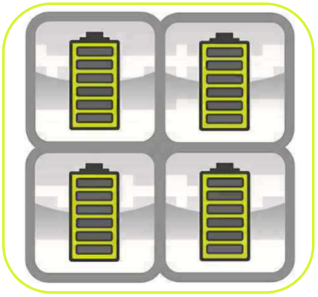
Power rating Hybrid Package		
Max Power	kVA	44.0
Max power	kW	35.2



*Max Power of Hybrid Package available when battery charge level > 20

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Battery Specification		
Battery	Type	LiFePO4
Battery rated voltage	V	48
Battery Nominal Energy (single pack)	kWh	4.8
Battery Nominal Current	Ah	100
Number of battery pack	n.	6
Battery Nominal Energy (total)	kWh	28.8
Cycles @80%DoD 25°	n	6000



Inverter Specification		
Inverter AC – Nominal Power 25°	kVA	24
Inverter AC – Nominal Power	kW	19.2
Power factor	cosϕ	0.8
AC voltage Input	V	400
AC voltage Output	V	400



PV Panel Specifications		
Pv Panel	Type	HC MONO
Pv Panel	n	3
Maximum Power at STC (single panel)	Wp	400
Maximum Power at STC (Total)	Wp	1200



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Engine specifications		
Engine Brand		Perkins
Model		404J-22G
Operation Speed Nominal	rpm	1500
Engine cooling System		Water
Exhaust Emission level		Stage V
Nr. Of cylinder and disposition		4 in line
Displacement	cm^3	2220
Aspiration	Type	Natural
Speed Governor		Mechanical
Gross engine Power ESP	kWm	20.6
Gross engine Power PRP	kWm	18.6
Fan Power	kWm	0.1
Fan Air flow	m^3 /min	40.2
Total Oil capacity	l	6
Total Coolant capacity	l	7
Fuel		Diesel
Specific Fuel consumption 75% PRP	g/kWh	243
Starting system		Electric
Electric circuit	V	12



Alternator specifications		
Alternator Model		Mecc Alte
Model		ECP28 M4 C
Winding		Standard
Winding Connections	Type	Series Star
Frequency	Hz	50
Voltage	V	400
Phases		3
Aspiration	Type	Natural
Power factor	cosϕ	0.8
Stand-by rating 27°	kVA	22
Continuous nominal Rating 40°C	kVA	18.6
Efficiency @100% of load	%	87
Type		Brushless
Poles		4
Vltage tolerance	%	1
Class		H
Ip protection		23



Installation data Genset		
Cooling air	m^3/min	49
Exhaust gas flow PRP	m^3/min	3.64
Exhaust gas temperature	°C	490
Fuel consumption 75% PRP	l/h	3.96
Fuel consumption 100% PRP	l/h	5.53



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Fuel tank		
PFT Plastic Fuel Tank		
8PFT Running time 75% PRP	h	20.20
8PFT Fuel tank capacity	l	80



Electrical Data		
Max current	A	63.5
Nominal current	A	63.5
Circuit breaker	A	63



Hybrid System

1) Hybrid Storage Module- Battery:
The battery pack is composed by Li – Ion Batteries. Being maintenance free, low self-discharge and capable to deliver high currents on demand make these batteries one of the best choice for mobile hybrid power applications.

2) Hybrid Power Module - Inverter:
Set inside the enclosure the HPM integrating the inverter and BMS, to allow get three phase AC voltage output combining diesel and battery power output in several operating modes.

3) Genset Control Panel:
It allows 3 operating modes according to use/combination of diesel genes and battery pack according to the functional mode selected.

4) Solar Panels:
Three solar panels installed on the genset roof with a metal directable structure, allows to have PV panels in a only one- hybrid solution also where installation space is not available.



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ACP – AUTOMATIC CONTROL PANEL

CONTROL SECTION

ON/OFF
Emergency push button
Three hybrid modes (STAND-BY, JUST BATTERY, ECO, FULL)
Genset starting battery charger
Hybrid system controller DSE M840 MKII:

- Maximized Hybrid System performances
- Complete monitoring of batteries, inverter and PVP panel
- For single genset operating and stand-by or prime power modes
- Full genset monitoring and protection
- Detailed event and performance log with time and date





POWER SECTION

Genset protected by 4 poles circuit breaker

SOCKET SECTION

	Type	:
Plug for auxiliary power supply and battery charge from the grid 400VCEE 32A 3P+N+T IP67	n	1
400V CEE 63A 3P+N+T IP67	n	1
400V CEE 32A 3P+N+T IP67	n	1
400V CEE 16A 3P+N+T IP67	n	1
230V SHUKO IP68	n	1
Each Sockets with its own circuit breaker		•
Common differential protection for three phase sockets		•
Three phases socket 63A with pilot for disconnection		•
Single phase socket provided with RCBO		•

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CANOPY VERSION

- Weatherproof enclosure made of galvanized sheet metal allows to protect genset from corrosion and aggressive condition
- Soundproofed enclosure tanks to high quality soundproof material and residential silencer,
  allows to have low noise emission level
- Big large lateral doors allows an easy service and maintenance operation
- Doors equipped with key lockable handles
- Base frame made of welded steel profile
- Anti-vibration mountings properly sized
- Moving and rotating parts protection against accidental contact
- Grounding point to connect all metal parts to ground



Dimensional data with close solar panel

Length	(L) mm	2205
Width	(W) mm	1220
Height	(H) mm	2082

Dimensional data with open solar panel

Length	(L) mm	2305
Width	(W) mm	3270
Height	(H) mm	3087

Weight	kg	1760

Genset noise level

Guaranteed noise level (LWA)	db(A)	88
Noise pressure level @ 1 m	db(A)	71
Noise pressure level @ 7 m	db(A)	59



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Scope of Supply	
Genset Document Holder	GDH
Plastic Fuel Tank	PFT
Earth Road Kit	ERK
Genset Starting Battery	BAT
Leak Proof Tray	LPT
Manual Battery Switch	MBS
Three Way fuel Valve	TWF
Water Separator Filter	WSP
Coolant Draining Pipe	CDP
Quick Fuel Connectors	QFC

Optional Features	
Cold Weather Kit	CWK
MPPT Sun Converter	MPPT
MPPT2	MPPT2

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