

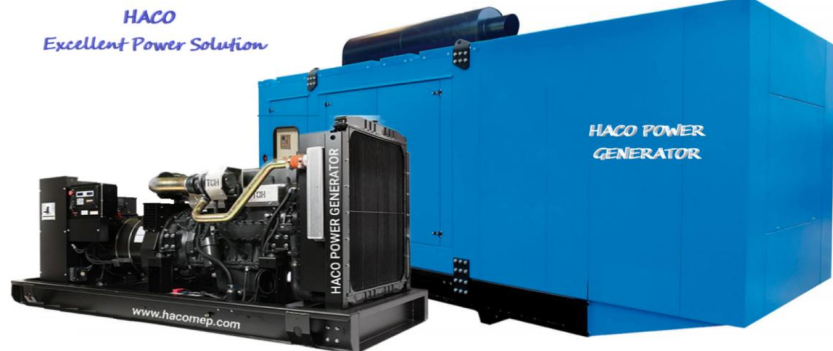
## HCV413

**Standby Power (KVA / KW): 413 / 330**

**Prime Power (KVA / KW): 380 / 304**

### Standard features

- Brand name: HACO POWER GENERATOR
- Engine : VMAN
- Charge alternator : 24V
- Governor : Electronic
- Single bearing alternator IP 23
- Rated speed : 1500 RPM
- Speed control type : Electronic
- Insulation class H/H
- Radiator 50°C max with coolant cap
- Skid and vibration isolators
- Dry type air filter
- Main line circuit breaker
- 24V battery and cable
- User's manual



(Figure)

### Weight and Dimensions

GEN-Set	Dimension (L x W x H)	Weight
Open Type	N/A	N/A
Silent Type	4000 x 1600 x 2000 mm	3700 kg

### Generator Ratings

Voltage	Hz	Phase	Power factor	Standby AMP	Standby Rating (KVA/KW)	Prime Rating (KVA/KW)
400/230	50	3	0.8	551	413/330	380/304

### Haco Power generator

User compliant with ISO 9001 and CE standard, which include the following directives:

- 2006/42/EC Machinery safety
- 2006/95/EC Low voltage
- EN 60204-1: 2006+A1: 2009, EN ISO 12100: 2010, EN ISO 13849-1: 2008, EN, 12601:2010
- IS/IEC60034-1, IS 1460, ISO 8528
- ISO3046, ISO 9001, IS 13018

### Standard reference Conditions

Note: Standard reference condition 25°C (77°F) air inlet temp, 100m (328ft) A.S.L 30% relative humidity. Fuel consumption dat with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998, Class A2

### Warranty

All equipment carries full manufacturer's warranty. Extended warranty terms available. For details on warranty cover please contact your local dealer, or visit our website: <http://www.hacomep.com>

### (1) PRP (Prime Power):

According to ISO8528-1, prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during at 24 hours period shall not exceed 80% of the prime power.10% overload available for governing purposes only.

### (2) ESP (Standby Power):

According to ISO 8528-1, 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 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

## Engine Data

# VMAN

Manufacturer	VMAN
Engine Specification	D15A2 - 4cycle
Made in	Shanghai - China
Rated RPM	1500 RPM
Prime Power	330 kWm
Stanby Power	363 kWm
Cycle	4 stroke, compression ignition
Induction system	Turbocharged, air to air charge cooling
Cylinder / Arrangement	8 / V
Displacement	14.618 L
Bore and Stroke	128 mm×142 mm

## Compression ratio

Compression ratio	14.6 : 1
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## Methods

Methods speed	Electronic
Methods lubrication	Forced oil pump
Methods colling	By water with blower

## Oil System

Total oil capacity w/filters	21 L
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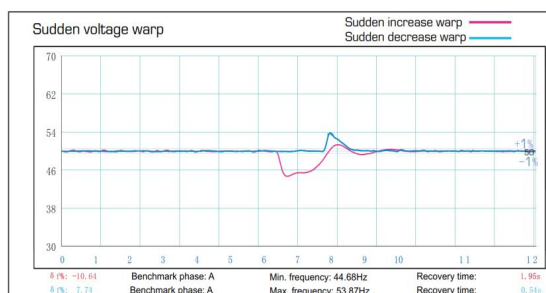
## Generator Data

# BURG

Alternator

Model	B-413-4
Number of phase power	3
Factor (Cos Phi)	0.8
Pole	4 number
Bearing	1 number
Coupling	Direct
Exciter type	AREP
Insulation system	Class H
Protection	IP23
Voltage regulation (Max.)	±1%
Winding Pitch	2/3

Emergency frequency curve

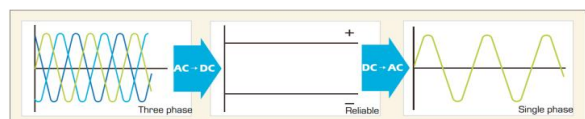


## Other

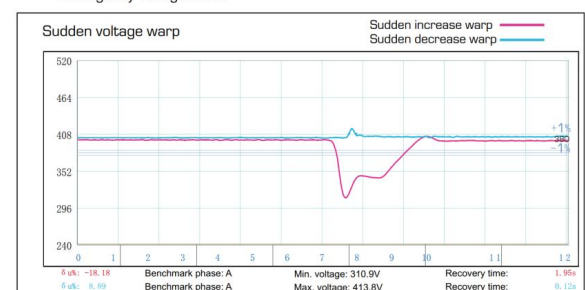
Fuel filter	Paper core, whole
Oil filter	Paper core, whole
Type lubricating oil	15W40 – CF4

## Fuel System

Fuel consumption 25% prime	22.87 L / h
Fuel consumption 50% prime	40.83 L / h
Fuel consumption 75% prime	59.10 L / h
Fuel consumption 100% prime	80.23 L / h



Emergency voltage curve



Stator Winding	Double layer lap
Waveform distortion	No load < 1.5 %
Total Harmonic Distortion	Non distorting balanced linear load < 5 %
Maximum Unbalanced Load across phases (With the condition that none of the phases exceeds its rated current)	Less than or equal to 25%
Telephone Interference	THF<2%
AVR	MX321

## Control Panel

# SmartGen

- Control Panel is Smartgen HGM6120 a new control module for single gen-set applications, and it is an Automatic Start Control Module and is simple to operate, and the module includes USB, RS232 and RS485 for expansion device connectivity.

- Specifications: Frequency meter, Ammeter, Voltmeter Alarms and faults Oil pressure, water temperature, No start-up, Overspeed, Min / max alternator, Min / max battery voltage, Low fuel level, Emergency stop.

- Engine parameters: Hours counter, Oil pressure, Water, temperature, Engine speed, Battery voltage, Fuel level.

## Option

Engine	Alternator	Generator Sets	Fuel System
<ul style="list-style-type: none"> <li>- Water Jacket Pre-heater</li> <li>- Fuel heater</li> </ul>	<ul style="list-style-type: none"> <li>- Winding Temp measuring Instrument</li> <li>- Alternator Pre - heater</li> <li>- PMG</li> <li>- Anti-damp and anti-corrosion treatment</li> <li>- Anti-condensation heater</li> <li>- Winding and bearing RTD</li> </ul>	<ul style="list-style-type: none"> <li>- Tools with the machine</li> <li>- Extended range fuel tank</li> <li>- Bunded fuel tank</li> </ul>	<ul style="list-style-type: none"> <li>- Low fuel level alarm</li> <li>- Automatic fuel feeding system</li> <li>- Fuel T-valves</li> </ul>
Canopy	Lub oil system	Cooling System	Control Panel
<ul style="list-style-type: none"> <li>- Rental type</li> <li>- Canopy</li> <li>- Trailer</li> </ul>	<ul style="list-style-type: none"> <li>- Oil temp sensor</li> <li>- Oil Pre-heater</li> </ul>	<ul style="list-style-type: none"> <li>- Front heat protection</li> </ul>	<ul style="list-style-type: none"> <li>- Remote control panel</li> <li>- ATS</li> <li>- Synchronizing controller</li> <li>- Adjustable earth leakage relay</li> </ul>

Note: All data sheets are for reference only and subject to change without prior notice.