HIMOINSA
A YANMAR COMPANY

MODEL

HGM-1120 T6 BIO

HEAVY RANGE
Container
Powered by MTU



- 40FT-HC
- WATER-COOLED
- THREE PHASE
- 60 HZ
- BIOGAS

Generating Rates

SERVICE		COP
Power	kVA	1118
Power	kW	1118
Rated Speed	r.p.m.	1.500
Main voltage	V	480/277
Rated at power factor	Cos Phi	1

HIMOINSA Company with quality certification ISO 9001
HIMOINSA gensets are compliant with EC mark which includes the following directives:

- 2006/42/CE Machinery safety.
- 2014/30/UE Electromagnetic compatibility.
- 2014/35/UE electrical equipment designed for use within certain voltage limits
- 2000/14/EC Sound Power level. Noise emissions outdoor equipment. (amended by 2005/88/EC)
- EN 12100, EN 13857, EN 60204

Ambient conditions of reference according to ISO 8528-1:2020 normative: 1000 mbar, 25ºC, 30% relative humidity.

Limited-time running power (LTP):
According to Standard ISO 8528-1:2020, this is the maximum power available for a limited operating time of 500 Hours a year between the maintenance times recommended by the manufacturer under the environmental conditions established by the same.

Emergency Standby Power (ESP):
According to ISO ISO 8528-1:2020, Emergency standby power is the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24 h of operation shall not exceed 70 % of the ESP

Continuous Power (COP): According to Standard ISO 8528-1:2020, this is the maximum power available for continuous loads for unlimited running hours a year between the maintenance times recommended by the manufacturer under the environmental conditions established by the same.

"Class G2" performance according to the load impact test according to ISO 8528-5:2020

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Engine Specifications 1.500 r.p.m.

ENGINE		COP
Rated Engine Output	kW	1200
Manufacturer		MTU
Model		12V4000L32
Engine Type		4-stroke Otto Cycle
Injection Type		Carburization
Aspiration Type		Turbocharged and after-cooled
Number of cylinders and arrangement		12-V
Bore and Stroke	mm	170 x 210
Displacement	L	57,2
Cooling System		Coolant
Lube Oil Specifications		SAE 40
Compression Ratio		13,9
Fuel Consumption 100% COP	Nm^3/h	551
Fuel Consumption 75 % COP	Nm^3/h	423,4
Fuel Consumption 50 % COP	Nm^3/h	303
Lube oil consumption with full load	g/kWh	0,2
Total oil capacity including tubes, filters	L	260
Governor	Type	Electrical
Air Filter	Type	Dry

Generator

Generator		
Manufacturer		STAMFORD
Poles	No.	4
Connection type (standard)		Star
Mounting type		S-00 21"
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter system		Self-excited, brushless
Voltage regulator		A.V.R. (Electronic)
Bracket type		Single bearing
Coupling system		Flexible disc
Coating type		Standard (Vacuum impregnation)

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Application Data

Exhaust System		
Maximum exhaust temperature	ºC	445
Exhaust Gas Flow	m^3/min	79,3
Maximum allowed back pressure	mbar	60

Necessary Amount Of Air		
Intake air flow	m^3/h	4415
Cooling Air Flow	m^3/s	34,44
Alternator fan air flow	m^3/s	3,45

Starting System		
Starting power	kW	9
Starting power	CV	12,24
Auxiliary Voltage	Vdc	24

Fuel System		
Fuel Oil Specifications		Biogas
Lower heating value (LHV)	kWh/Nm^3	5
Composition *		60% Methane and 40% Carbon Dioxide
Fuel supply connection size	mm	125
Fuel supply pressure	mbar	100 - 200
Fuel Tank	L	0

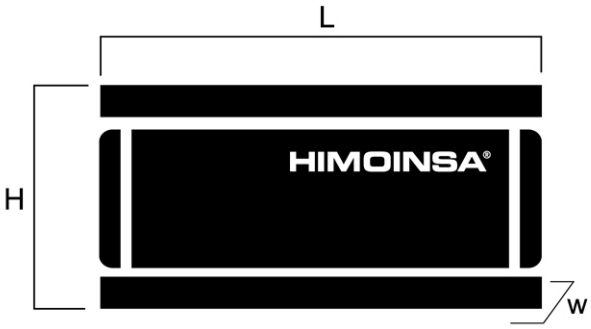
** Check other composition*

Gearbox		
Gearbox Efficiency	%	99,1

ISO 9001 SYSTEM CERTIFICATION
HIMOINSA CHINA CO. LTD - TLF. +86 519 8622 66 88 | FAX: +86 519 86 22 66 87 | E-mail: china@asia.himoinsa.com
Nº 10 FENGMING ROAD, SOUTH PART OF WUJIN, HI-TECH INDUSTRIAL DEVELOPMENT ZONE
CHANGZHOU 213164 JIANGSU PROVINCE P.R. CHINA
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Dimensions



40 hc	Weight and Dimensions		
(L)	Length	mm	12.190
(H)	Height	mm	2.900
(W)	Width	mm	2.440
	Maximum shipping volume	m^3	86,2
(*)	Weight with liquids in radiator and sump	kg	31.375
	Sound pressure level	dB(A)@7m	77 ± 2,4

(*) (with standard accessories)

STANDARD VERSION

Himoinsa China has the right to modify any feature without prior notice.
Weights and dimensions based on standard products. Illustrations may include optional equipment.
Technical data described in this catalogue correspond to the available information at the moment of printing.
Industrial design under patent.

Local Distributor

CONTROL PANEL MODEL

CC2

Himoinsa Switching cabinet WITH display. Digital control unit CEC7

M5

Control panel with CEM8 Auto-Start controller, thermal-magnetic and earth leakage relay (according to voltage and frequency). Digital control unit CEM 8

AS5

Automatic panel WITHOUT transfer switch and WITHOUT mains control with CEM8 unit. (*) AS5 as optional with CEA8 unit. Automatic panel without transfer switch and WITH mains control. Digital control unit CEM8 CEA8

AS5 + CC2

Automatic panel WITH transfer switch and with mains control. The display will be on the genset and on the cabinet. Digital control unit CEM8+CEC8

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Controller features (I)

• : Standard
x : Not included
• : Optional

Generator Readings	CEC 7	CEM 8
Voltage between phases	•	•
Voltage between neutral and phase	•	•
Current intensities	•	•
Frequency	•	•
Apparent power (Kva)	•	•
Active power (Kw)	•	•
Reactive power (kVAr)	•	•
Power factor	•	•
Low feed pressure	•	•
Sealing check solenoid valve	x	•
Mains Readings	**CEC 7**	**CEM 8**
Voltage between phases	•	x
Voltage between phases and neutral	•	x
Current intensities	•	x
Frequency	•	x
Apparent power	x	x
Active power	x	x
Reactive power	x	x
Power factor	x	x
Engine Readings	**CEC 7**	**CEM 8**
Coolant temperature	x	•
Oil pressure	x	•
Battery voltage	x	•
R.P.M.	x	•
Battery charge alternator voltage	x	•
Engine Protections	**CEC 7**	**CEM 8**
High water temperature	x	•
High water temperature by sensor	x	•
Low water temperature by sensor	x	•
Low oil pressure	x	•
Low oil pressure by sensor	x	•
Low water level	x	•

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Controller features (II)

• : Standard
x : Not included
• : Optional

Engine Protections	CEC 7	CEM 8
Unexpected shutdown	x	•
Stop failure	x	•
Battery voltage failure	x	•
Battery charge alternator failure	x	•
Overspeed	x	•
Underspeed	x	•
Start failure	x	•
Emergency stop	•	•
Alternator Protections	**CEC 7**	**CEM 8**
High frequency	•	•
Low frequency	•	•
High voltage	•	•
Low voltage	•	•
Short-circuit	x	•
Asymmetry between phases	•	•
Incorrect phase sequence	•	•
Inverse power	x	•
Overload	x	•
Genset signal drop	•	•
Counters	**CEC 7**	**CEM 8**
Total hour counter	•	•
Partial hour counter	•	•
Kilowatt meter	•	•
Starts valid counters	•	
Starts failure counters	•	•
Maintenance	•	•
Communications	**CEC 7**	**CEM 8**
RS232	•	x
RS485	•	•
Modbus IP	•	•
Modbus	•	•
CCLAN	x	•

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Controller features (III)

• : Standard
x : Not included
• : Optional

Communications	CEC 7	CEM 8
Software for PC	•	•
Analogue modem	•	•
GSM/GPRS modem	•	x
Remote screen	x	•
Tele signal	x	•
J1939	x	•
Features	**CEC 7**	**CEM 8**
Alarm history	• (100)	•
External start	•	•
Start inhibition	•	•
Mains failure start	•	x
Start under normative EJP	x	•
Pre-heating engine control	x	•
Genset contactor activation	•	•
Mains & Genset contactor activation	•	x
Engine temperature control	x	•
Manual override	x	•
Programmable alarms	x	•
Genset start function in test mode	•	•
Programmable outputs	x	•
Multilingual	•	•
Special Functions	**CEC 7**	**CEM 8**
GPS Positioning	x	x
Synchronisation	x	x
Mains synchronization	x	x
Second Zero elimination	x	x
RAM7	x	•
Remote screen	x	•

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Generator set features

Engine

· Biogas Engine
· 4-stroke cycle
· Water-cooled
· 24V electrical system
· Dry air filter
· Remote radiator
· HTW sender
· LOP sender
· Electronic governor
· Hot parts protection
· Moving parts protection

Alternator

· Self-excited and self-regulated
· 4 poles
· AVR governor
· IP23 protection
· H class insulation

Container version

· Soundproofing provided by high-density volcanic rock wool
· High mechanical resistance
· Low level of noise emissions
· Door with window to visualize control panel, alarms and measurements
· Reinforced lifting points for crane hoisting and lower ones for transportation by forklift
· Residential steel silencer with -35dB attenuation and tilting cap in the exhaust
· Anti-vibration shock absorbers
· Steel chassis
· Manual oil extraction pump
· Robust construction designed for continuous or emergency applications
· Stainless steel fittings
· Emergency stops
· Easy access to the power connection

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Generator set features

Container version

· Reinforced chassis for heavy range

· Easy access for chassis cleaning

· Silent-block with anti-corrosion protection between the genset and the chassis

· Easy access to fill radiator through the roof

Electrical System Container

· Control panel and emergency stop button

· Power panel

· Heating resistor (standard on sets with automatic control panels)

· Battery charge alternator with ground connection

· Starter battery/ies installed (cables and bracket included)

· Ground connection electrical installation with connection ready for ground spike (not supplied)

· Battery isolator

Gas ramp

· Gas filter

· Double solenoid valve

· Gas pressure regulator

· Low pressure switch

· High pressure switch

· Inlet pressure manometer

· Outlet pressure manometer

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PDF Summary

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