



SERVICE		COP
POWER	kVA	1893
POWER	kW	1893
RATED SPEED	r.p.m.	1.500
STANDARD VOLTAGE	V	400/230
RATED AT POWER FACTOR	Cos Phi	1,0



## HEAVY RANGE

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)
- 97/68/EC Emissions of gaseous and particulate pollutants. (amended by 2012/46/EU)
- EN 12100, EN 13857, EN 60204

Ambient conditions of reference according to ISO 8528-1:2018 normative: 1000 mbar, 25°C, 30% relative humidity.

Prime Power (PRP):

According to ISO 8528-1:2018, Prime power is 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 (Ppp) over 24 h of operation shall not exceed 70 % of the PRP.

Continuous Power (COP): According to Standard ISO 8528-1:2018, 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.

G2 class load acceptance in accordance with ISO 8528-5:2013

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DOMINICAN REPUBLIC | ARGENTINA | ANGOLA | SOUTH AFRICA



## OPEN SKID



OPEN SKID



WATER-COOLED



THREE PHASE



50 Hz



BIOGAS

Himoinsa 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.

The illustrations and images are indicative and may not coincide in their entirety with the product.

Industrial design under patent.



## Engine Specifications | 1.500 r.p.m.

Rated Output (COP)	kW	2000
Manufacturer		MTU
Model		20V4000L32
Engine Type		4-stroke Otto Cycle
Injection Type		Carburization
Aspiration Type		Turbocharged and after-cooled
Number of cylinders and arrangement		20-V
Bore and Stroke	mm	170 x 210
Displacement	L	95,3
Cooling System		Coolant
Lube Oil Specifications		SAE 40
Compression Ratio		13,9

Fuel Consumption 100% COP	Nm3/h	915,2
Fuel Consumption 75 % COP	Nm3/h	699,8
Fuel Consumption 50 % COP	Nm3/h	496,6
Lube oil consumption with full load	g/kWh	0,2
Total oil capacity including tubes, filters	L	378
Total coolant capacity	L	790
Governor	Type	Electrical
Air Filter	Type	Dry



- 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



## Generator Specifications | LEROY SOMER

Manufacturer		LEROY SOMER
Model		LSA 53.2 M9
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)



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

## WEIGHT AND DIMENSIONS

Standard Version		
Length (L)	mm	9.777
Height (H)	mm	2.775
Width (W)	mm	2.150
Maximum shipping volume	m <sup>3</sup>	58,33
Weight with liquids in radiator and sump	Kg	21010
Autonomy	Hours	Ask



## APPLICATION DATA

### EXHAUST SYSTEM

Maximum exhaust temperature	°C	443
Exhaust Gas Flow	m <sup>3</sup> /min	132,3
Maximum allowed back pressure	mbar	60

### NECESSARY AMOUNT OF AIR

Intake air flow	m <sup>3</sup> /h	7370
Cooling Air Flow	m <sup>3</sup> /s	36,7
Alternator fan air flow	m <sup>3</sup> /s	2,5

### STARTING SYSTEM

Starting power	kW	9 x 2
Starting power	CV	12,24 x 2
Auxiliary Voltage	Vdc	24

### FUEL SYSTEM

Fuel Oil Specifications		Biogas
Lower heating value (LHV)	kWh/Nm <sup>3</sup>	5
Composition *		60% Methane and 40% Carbon Dioxide
Fuel supply connection size	mm	150
Fuel supply pressure	mbar	130 - 200



## Open set version

- Steel chassis
- Emergency stop button
- Anti-vibration shock absorbers
- Steel industrial silencer -15db(A) attenuation
- Steel residential silencer -35db(A) attenuation. (Opcional).



## Gas ramp

- Gas filter
- Double solenoid valve
- Gas pressure regulator
- Low pressure switch
- High pressure switch
- Inlet pressure manometer
- Outlet pressure manometer



## FEATURES OF THE CONTROL UNITS

	CEM 7-G	CEA 7-G	CEC 7	CEM 7-G + CEC7
<b>Generator Readings</b>	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	●	●	●
<b>Mains Readings</b>	Voltage between phases		●	●
	Voltage between phases and neutral		●	●
	Current intensities		●	●
	Frequency		●	●
	Apparent power		●	
	Active power		●	
	Reactive power		●	
<b>Engine Readings</b>	Coolant temperature	●	●	●
	Oil pressure	●	●	●
	Battery voltage	●	●	●
	R.P.M.	●	●	●
	Battery charge alternator voltage	●	●	●
<b>Engine Protections</b>	High water temperature	●	●	●
	High water temperature by sensor	●	●	●
	Low water temperature by sensor	●	●	●
	Low oil pressure	●	●	●
	Low oil pressure by sensor	●	●	●
	Low water level	●	●	●
	Unexpected shutdown	●	●	●
	Stop failure	●	●	●
	Battery voltage failure	●	●	●
	Battery charge alternator failure	●	●	●
	Overspeed	●	●	●
	Underspeed	●	●	●
	Start failure	●	●	●
	Emergency stop	●	●	●

● Standard

⊙ Optional

	CEM 7-G	CEA 7-G	CEC 7	CEM 7-G + CEC7
<b>Alternator Protections</b>	High frequency	●	●	●
	Low frequency	●	●	●
	High voltage	●	●	●
	Low voltage	●	●	●
	Short-circuit	●	●	●
	Asymmetry between phases	●	●	●
	Incorrect phase sequence	●	●	●
	Inverse power	●	●	●
	Overload	●	●	●
	Genset signal drop	●	●	●
<b>Counters</b>	Total hour counter	●	●	●
	Partial hour counter	●	●	●
	Kilowatt meter	●	●	●
	Starts valid counters	●	●	●
	Starts failure counters	●	●	●
Maintenance	●	●	●	●
<b>Communications</b>	RS232	⓪	⓪	⓪
	RS485	⓪	⓪	⓪
	Modbus IP	⓪	⓪	⓪
	Modbus	⓪	⓪	⓪
	CCLAN	⓪	⓪	⓪
	Software for PC	⓪	⓪	⓪
	Analogue modem	⓪	⓪	⓪
	GSM/GPRS modem	⓪	⓪	⓪
	Remote screen	⓪	⓪	⓪
	Tele signal	⓪ (8 + 4)	⓪ (8 + 4)	⓪ (8 + 4)
J1939	⓪	⓪	⓪	
<b>Features</b>	Alarm history	● (10) / (opc. +100)	● (10) / (opc. +100)	● (10) / (opc. +100)
	External start	●	●	●
	Start inhibition	●	●	●
	Mains failure start	●	●	●
	Start under normative EJP	●	●	●
	Pre-heating engine control	●	●	●
	Genset contactor activation	●	●	●
	Mains & Genset contactor activation	●	●	●
	Engine temperature control	●	●	●
	Manual override	●	●	●
	Programmable alarms	●	●	●
	Genset start function in test mode	●	●	●
	Programmable outputs	●	●	●
	Multilingual	●	●	●
	<b>Special Functions</b>	GPS Positioning	⓪	⓪
Synchronisation		⓪	⓪	⓪
Mains synchronization		⓪	⓪	⓪
Second Zero elimination		⓪	⓪	⓪
RAM7		⓪	⓪	⓪
Remote screen		⓪	⓪	⓪
Programming timer		⓪	⓪	⓪

● Standard      ⓪ Optional



## CONTROL PANELS

### M5

Digital manual Auto-Start control panel and thermal magnetic protection (depending on current and voltage) and differential with CEM7.  
Digital control unit CEM7

### AS5

Automatic panel WITHOUT transfer switch and WITHOUT mains control with CEM7 unit. (\*) AS5 as optional with CEA7 unit. Automatic panel without transfer switch and WITH mains control.

### CC2

Himoinsa Switching cabinet WITH display.  
Digital control unit CEC7

### 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 CEM7+CEC7

### AC5

Automatic mains failure control panel. Wall-mounted cabinet WITH transfer switch and thermal magnetic protection (depending on current and voltage).  
Digital control unit CEA7



## Electrical system

- Electric control and power panel with measurements devices and control unit (according to necessity and configuration)
- 4-pole thermal magnetic circuit breaker
- Battery Switch
- Battery charger (standard on gensets with automatic control panels)
- Heating resistor (standard on sets with automatic control panels)
- Battery charger alternator with ground connection
- Starter battery/ies installed (cables and bracket included)
- Ground connection electrical installation with connection ready for ground spike (not supplied)