

MODEL: ERV-500 (VOLVO TAD 1641GE)

1.500 R.P.M. 50 Hz

TECHNICAL SPECIFICATIONS



ENGINE	MAKE	MODEL	CONTINUOUS POWER	500 kVA
	VOLVO	TAD 1641 GE	PRP prime power ISO 8528-1	
ALTERNATOR	MECC-ALTE	ECO-40-3SN/4	STAND-BY POWER	550 kVA
			LTP norma ISO 8528-1	
			400/230 V	

VOLTAGE	HZ	PHASE	COS	PRP KVA/KW	LTP KVA/KW	AMPERAGE A
415/240	50	3	0,8	500/400	550/440	766,07
400/230	50	3	0,8	500/400	550/440	794,8
380/220	50	3	0,8	500/400	550/440	836,63
240/139	50	3	0,8	500/400	550/440	1324,66
230/133	50	3	0,8	500/400	550/440	1382,26
220/127	50	3	0,8	500/400	550/440	1445,09



ERGA GENSET

Av. Conflent, Nave 28
08915 Badalona (Barcelona)
Spain

Tel. +34 93 159 5707
e-mail: info@erga-genset.com
www.erga-genset.com

ENGINE CHARACTERISTICS/ TAD 1641 GE

GENERAL DATA

POWER PRP (kWm)	430
POWER LTP (kWm)	473
No CYLINDERS	6
CYLINDERS CAPACITY (L)	16,12
DIAMETER PER STROKE (mm)	144 x 165
COMPRESSION RATIO	16,50
COOLING SYSTEM	LIQUID
INJECTION	COMMON RAIL
SUCTION	-
SERIES REGULATOR	ELECTRONIC
FLY WHEEL COUPLING	1 - 14"

LUBRICATION SYSTEM

OIL CAPACITY (L)	42
OIL CONSUMPTION (%)	0,1
MIN. ALARM OIL PRESSURE (BAR)	2,20

VENTILATION SYSTEM

AIR COOLING FLOW(m ³ /h)	36360
COMBUSTION AIR FLOW (m ³ /h)	2130

ELECTRICAL SYSTEM

VDC (V)	24
BATTERY (Ah)	2X180
ENGINE START UP (KW)	12



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ALTERNATOR CHARACTERISTICS/ ECO-40-3SN/4

GENERAL DATA

POWER PRP (kVA)	500
POWER LTP (kVA)	550
EFFICIENCY ALT. 3/4%	94,8
EFFICIENCY ALT. 4/4%	94,6
No POLES	4
VOLTAGE REGULATOR	DER-1
No WIRES	12
INSULATION	H
Xd (%)	250
X'd (%)	21
X	11,4
DEGREE OF PROTECTION	IP21

GENERATOR SET CONSUMPTION

% POWER USED	LITRES / HOUR
50%	52
75%	77
100%	102

DIMENSIONS (MM)

LENGTH	WIDTH	HEIGHT
3500	1300	2100

CAPACITIES

FUEL TANK (litres)	600
WEIGHT (kg)	3550
NOISE LEVEL (dB (A)) 7 m	-



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General Description

“ERGA” generator set is an electrical energy generating machine which is used in places where there is no mains supply or when there is a MAINS failure.

The mobile elements, distribution belt, fan, etc., and those parts which reach high temperatures during operation, exhaust manifold, etc, include their corresponding protections, in compliance with the requirements of the Machinery Directive 2006/42.

Regulations

The machine holds the “CE” marking, and the corresponding Declaration of Conformity is issued with each of them, in which it specifies that the machine complies with R.D 842/2002 Low Voltage Regulations and with the European Directives:

- **2006/42 on Safety in Machinery.**
- **2006/95/CE on Electrical Safety.**
- **2004/108/CE on Electromagnetic Compatibility.**
- **2005/88/CE on NOISE EMISSIONS by equipment for outdoor use (for SOUNDPROOF GENERATOR SETS)**



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SCOPE OF SUPPLY

INDUSTRIAL RANGE	Open Genset	Canopy Genset
Engine/alternator monobloc directly connected and installed via silent blocks on a frame made from high tensile electro welded steel profiles that are treated with degreasing liquids and applied with a phosphate coat and epoxy paint	incl.	incl.
Canopy of steel sheet sound proofed with fireproof rockwool, and treated with degreasing liquids and applied with a phosphate coat and epoxy paint	-	incl.
Fuel tank integrated in the chassis provided with fuel level gauge and fuel lines to the engine.	incl.	incl.
Engine with mechanical engine driven pusher fan	incl.	incl.
Industrial silencer with -15 db(A) noise reduction and exhaust outlet tube.	incl.	-
Residential silencer with -35 db(a) noise reduction with exhaust tube and protection cap	-	incl.
4 Pole thermal and magnetic circuit breaker with LTS (ABB)	incl.	incl.
Battery charge alternator	incl.	incl.
Starter battery complete with cables to the engine and pole protection	incl.	incl.
Installation prepared for earthing spike (spike not included).	incl.	incl.
Security protection for belts and moving parts as well as on electrical component.	incl.	incl.
External emergency stop push button	incl.	incl.
Manual engine oil extraction pump	incl.	incl.
Engine heater, fuel tank heater, fuel heater Control panel heater	incl.	incl.
Self excited and auto regulated alternator.	incl.	incl.
Integrated lifting hook for single point lifting with crane, gensets up to 450 kVA (Except in swing-out cover model)	-	incl.
4 Lifting points for gen sets from 450 kVA and bigger.	incl.	-
Prepare for extended fuel tank, fully bonded for leakage protection	incl.	incl.
Base frame prepared for trailer kit	incl.	incl.
Standard electronic speed governor on engines from 220 kVA and up	incl.	incl.
Electric control cubicle with digital control module, automatic mains failure, manual start or remote start on signal.	incl.	incl.
Electric engine coolant preheating on gen sets with automatic mains failure controller.	incl.	incl.
Horizontal outlet for hot air	-	incl.



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DSE 7320 AUTOMATIC CONTROL PANEL (any of the possible modules DSE)

PROTECTION, DISTRIBUTION AND AUTOMATIC CONTROL panel which starts the generator set when it detects a mains failure and stops it when the mains is restored with the control unit DSE 7320. It has a digital LCD screen, which provides easy reading of the information regarding the ENGINE, ALTERNATOR, MAINS and CHARGING.

ENGINE:

- Coolant temperature
- Fuel level
- Operating hours
- Oil pressure
- Battery voltage
- Number of start-ups
- Turning speed (rpm)
- Battery alternator voltage

ALTERNATOR:

- Voltages between phases and between phases and neutral.
- Intensities
- Reactive Power (kVAr)
- Apparent Power (kVA)
- Cos phi
- Frequency
- Active energy meter (kW-h)
- Active Power (kW)

MAINS

- Frequency
- Voltages between phases and (L1-L2, L2-L3, L1-L3).
- Phase rotation order
- Voltages between phases and neutral (L1-N, L2-N, L3-N).
- Earth current Voltages between phases and between phases and neutral.
- Intensities
- Reactive Power (kVAr)
- Apparent Power (kVA)
- Cos phi
- Frequency
- Active energy meter (kW-h)
- Active Power (kW)



PROTECTION OF THE ENGINE AND ALTERNATOR, WITH THE ALARMS ACTIVATED:

ENGINE

- Low oil pressure
- Failure of the alternator to charge batteries



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High coolant temperature
Low fuel level
Low and High battery Voltage
ALTERNATOR

Low and High Voltage
Power Overload (KW-kVA)
Low and High Frequency
Load control:
Overload due to Intensity (A)
Connection and disconnection of artificial loads.
Disconnection of non-essential loads
Negative Phase Sequence.
Short-circuit

OTHER CHARACTERISTICS

The real-time clock provides an exact record of events.

Communications Ethernet, RS 232 and RS 485

Extensive number of configurable inputs and outputs.

Programmer Clock with multiple maintenance events which can be configured for the optimal operation of the engine. Weekly and/or monthly programming of up to 16 starts and stops per week.

Configurable alarms and timers.

USB connectivity

Fully configurable via software and PC.

ALTERNATIVE CONFIGURATIONS, which open up the working possibilities

Modbus RTU

Possibility of SMS text messages



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