

Model: V94D5

Powered by VOLVO



Generator Specification

Service	PRP ₍₁₎	ESR ₍₂₎
Power (kVA)	85	94
Power (kW)	68	110
Rated speed (r.p.m)	1500	
Standard voltage (V)	400/230V	
Rated at power factor(cos phi)	0.8	



AGG Power gensets are 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

(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.

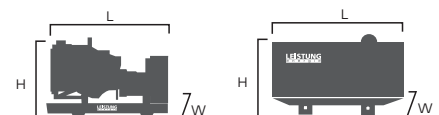
Powers	ESP		PRP		Standby
Voltage (V)	KVA	KW	KVA	KW	Amps
415/240	94	75	85	68	130.8
400/230	94	75	85	68	135.7
380/220	94	75	85	68	142.8

Performance Data

Model	V94D5	
Engine brand	Volvo	
Engine model	TAD530GE	
Speed control type	ECM	
Phase	3	
Control system	Digital	
Starter motor voltage	24V	
Frequency	50HZ	
Engine speed (RPM)	1500	
Fuel Consumption (L/H)	100% standby power	218
	100% prime power	217
	75% prime power	219
	50% prime power	231

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



Dimension and Weight

Dimension	Open	Silent
Length (L)	1860mm	2928mm
Width (W)	1035mm	1100mm
Height (H)	1485mm	1732mm
Net Weight	-	-
Fuel Tank (L)	-	-

■ Engine Specification: TAD530GE

General data

No. of cylinders	4
Cylinder arrangement	In-line
Cycle	4 stroke
Displacement	5 L
Bore	108 mm
Stroke	130 mm
Compression ratio	18:1
Dry weight: Engine and cooling	575 kg
Dry weight: Dry weight	1268 lb
Wet weight: Engine and cooling	606 kg
Wet weight: package	1336 lb

Cooling system

Heat rejection radiation from engine at	
- standby power	9 kW
- prime power	8 kW
Heat engine rejection to coolant at	
- standby power	48 kW
- prime power	43 kW
Fan power consumption	
- low temp cooling system	4.2 kW
- high temp cooling system	5.9 kW
Fan drive ratio	1.73:1
Coolant capacity-engine	7.2 L
Coolant capacity-std radiator	12.5 L
Coolant pump(drive/ratio)	1.73:1
Coolant flow with low temp system	2.7 L/S
Max. out circuit restriction	25 kPa
Thermostat-start to open	83 °C
Thermostat-fully open	95 °C
Max. static pressure head	100 kPa
Standard pressure cap setting	90 kPa
Max. top tank temp	105 °C

Inlet / Exhaust Data

Max. intake restriction	3.5 kPa
Heat rejection to exhaust	
- standby power	75kW
- prime power	66 kW
Exhaust gas temp after turbine at	
- standby power	540 °C
- prime power	527 °C
Max. back pressure in exhaust line	5 kPa
Exhaust gas flow at:	
- standby power	16.3 m ³ /min
- prime power	14.9 m ³ /min

Fuel system

Total fuel flow	360 L/H
Feed pump pressure	500-550 kPa
Feed pump max suction head	1.5 m
Fuel filter micron size	0.05mm
Prefilter / Water separator	0.063
Injection pump type/make	PFM 1 P100 S 2005

Lubrication system

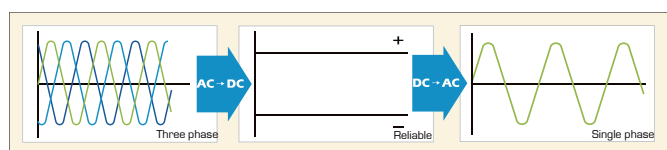
Oil consumption- standby power	0.08 L/H
Oil system capacity-include filters	13 L
Oil sump capacity-max.	11 L
Oil sump capacity- min.	9 L
Oil change intervals	500 H
Oil pressure at rated speed	450-480 kPa
Lubrication oil temperature-normal	110 °C
Lubrication oil temperature-max	125 °C
Oil filter micron size	0.04mm

Electrical system

Voltage	12 V
Alternator make/output	55 Amp
Starter motor	3.1 kW

■ Alternator Specification

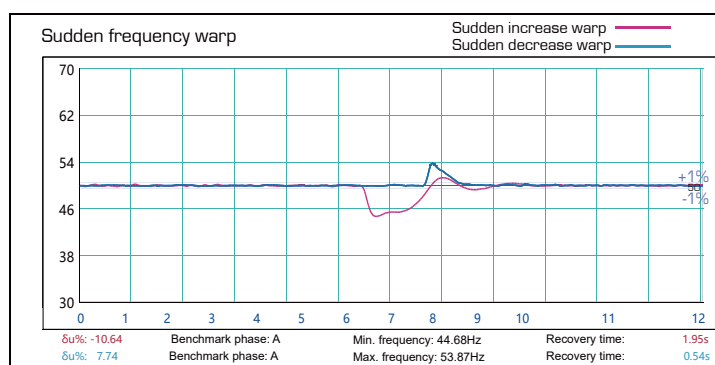
Alternator	
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding Connections (standard)	Star-serie
Terminals	12
Insulation type	H class
Winding Pitch	2/3
IP rating	IP23
Excitation system	Self-excited
Bearing	Single bearing
Coating	Vacuum impregnation
Voltage regulator	A.V.R
Couping	Flexible disc



Emergency voltage curve



Emergency frequency curve



■ Options

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

■ Control Panel

Configuration

- Emergency stop button
- Protection MCB
- Battery charger
- Integrated aviation plug
- ATS connection
- Digital control module

Features

- 3 phase generator set monitoring
- Support of engines equipped with electronic control unit
- Comprehensive diagnostic message
- Automatic or manual start/stop of the gensets
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display
- Parameters adjustable via keyboard or PC
- Mains measurements (50HZ/60HZ)
- Generator measurements (50HZ/60HZ)
- Comprehensive shutdown or warning on fault condition
- 3 phase Generator protections
 - Over-/under voltage
 - Over-/under frequency
 - Current/voltage asymmetry
 - Over current/overload
- 3 phase AMF function
 - Over-/under frequency
 - Over-/under voltage
 - Voltage asymmetry
- Configurable analog inputs
- Battery voltage, engine speed (pick-up) measurement
- Configurable programmable binary inputs and outputs
- Warm-up and cooling functions
- Generator C.B. and Mains C.B. control with feedback and return timer
- RS232 interface
- Modem communication support
- Hours counter
- Sealed to Ip65
- Event log

Benefits

- Less wiring and components
- Integrated solution
- Less engineering and programming
- User friendly set-up and button layout
- Module can be configured to suit individual applications
- PC software for simplified configuration
- Wide range of communication capabilities

Operation conditions

- Operation temp: -20 °C to + 70 °C
- Storage temp: -30 °C to + 80 °C
- Operating humidity: 95% w/o condensation
- Vibration : 5-25Hz, $\pm 1.6\text{mm}$
5-100Hz, $a=4g$
- Shocks: $a= 500\text{m/s}^2$

Options

- Ethernet interface (Remote monitoring and control)
- GSM modem/wireless internet (Remote monitoring and control)
- RS232-RS485 Dual port interface
- Synchronizing control panel
- Distribution board with sockets kit and power busbar
- Battery trickle charge ammeter
- Earth leakage protection
- Earth fault protection
- Low fuel level alarm
- Low fuel level shutdown
- High fuel level alarm
- Fuel transfer system control
- Low coolant level shutdown
- High lube oil temp shutdown
- Overload via alarm switch on breaker
- Engine coolant heater controls
- Control panel heater
- Speed adjust switch
- Oil temp displayed on LCD screen
- Additional 8 inputs and outputs