

GSW460V



Main Features

Frequency	Hz	50
Voltage	V	400
Power factor	cos ϕ	0.8
Phase and connection		3

Power Rating

Standby power LTP	kVA	455.62
Standby power LTP	kW	364.50
Prime power PRP	kVA	414.62
Prime power PRP	kW	331.70

Ratings definition (According to standard ISO8528 1:2005)

PRP - Prime Power:

It is defined as being 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 over 24 h of operation shall not exceed 70 % of the prime power.

LTP - Limited-Time running Power:

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 h of operation per year (whose no more than 300 for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Engine specifications

Engine manufacturer	Volvo	
Model	TAD1344GE	
Version	50 Hz	
Exhaust emission level	Stage II	
Engine cooling system	Water	
Nr. of cylinder and disposition	6 in line	
Displacement	cm ³	12780
Aspiration	Turbocharged intercooled	
Speed governor	Electronic	
Prime gross power PRP	kW	364
Maximum gross power LTP	kW	399
Oil capacity	l	36
Lube oil consumption @ PRP (max)	%	0.16
Coolant capacity	l	44
Fuel	Diesel	
Specific fuel consumption @ 75% PRP	g/kWh	197
Specific fuel consumption @ PRP	g/kWh	194
Starting system	Electric	
Starting engine capability	kW	7
Electric circuit	V	24



ENGINE EQUIPMENT

Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. Power output guaranteed within 0 to +2% at rated ambient conditions at delivery. Ratings are based on ISO 8528. Engine speed governing in accordance with ISO 3046/IV, class A1 and ISO 8528-5 class G3

Engine and block

- Optimized cast iron cylinder block with optimum distribution of forces
- Wet, replaceable cylinder liners
- Crankshaft induction hardened bearing surfaces and fillets with seven bearings for moderate load on main and high-end bearings
- Keystone top compression rings for long service life
- Replaceable valve guides and valve seats
- Tapered connecting rods for increased piston lifetime
- Over head camshaft and four valves per cylinder

Fuel system

- Electronic unit injectors
- Fuel prefilter with water separator and water-in-fuel indicator / alarm
- Fine fuel filter with manual feed pump and fuel pressure switch

Lubrication system

- Full flow oil cooler
- Full flow disposable spin-on oil filter, for extra high filtration
- Gear type lubricating oil pump, gear driven by the transmission

Cooling system

- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block.
- Reliable sleeve thermostat with minimum pressure drop
- Belt driven coolant pump with high degree of efficiency

Alternator Specifications

Brand	STAMFORD	
Model	HCI444F	
Voltage	V	400
Frequency	Hz	50
Power factor	cos ϕ	0.8
Type	Brushless	
Poles	4	
Voltage regulation system	Electronic	
Standard AVR	AS440	
Voltage tolerance	%	1
Efficiency @ 75% load	%	94
Class	H	
IP protection	23	

Insulation / Impregnation

Insulation is of class H standard. Impregnation is made with premium tropicalised epoxy resins by dipping and dripping. High voltage parts are impregnated by vacuum, so the insulation level is always very good. In the high-power models, the stator windings undergo a second insulation process. Grey protection is applied on the main and exciter stator to give enhanced protection.

Reference standards

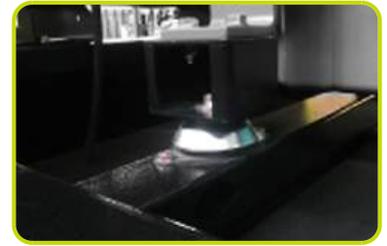
Alternator manufactured according to , and complies with , the most common specification such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/CSA-C22.2 No14-95-No100-95.



Genset equipment

BASE FRAME MADE OF WELDED STEEL PROFILE, COMPLETE WITH:

- Anti-vibration mountings properly sized
- Welded or Screwed support legs. (according to canopy size)



PLASTIC FUEL TANK WITH THE FOLLOWING COMPONENT:

- Filler neck
- Air breather (ventilation pipe)
- Minimum fuel level sensor



MANUAL OIL DRAININ PUMP:

- Oil draining facilities



ENGINE COMPLETE WITH:

- Battery
- Liquids (no fuel)



PROTECTIONS:

- Moving and rotating parts protection against accidental contacts

LIFTING:

- Lifting points frame structure.



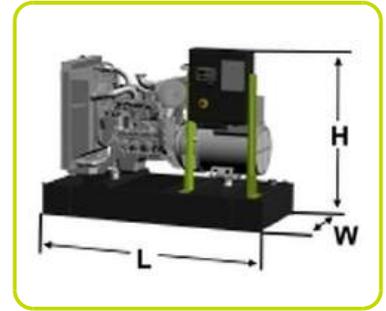
EXHAUST (STANDARD):

- Industrial silencer (loose)



Dimensional data

Length	(L) mm	3300
Width	(W) mm	1460
Height	(H) mm	1965
Dry weight	Kg	3370
Fuel tank capacity	l	636



Autonomy

Running time @ 75% PRP	h	9.87
Running time @ 100% PRP	h	7.57

Installation data

Total air flow	m ³ /min	471.00
Exhaust gas flow @ PRP	m ³ /min	63.5
Exhaust gas temperature @ LTP	°C	465

Data Current

Battery capacity	Ah	155
MAX current	A	657.66
Circuit breaker	A	800

Control panel availability

AUTOMATIC CONTROL PANEL	ACP
MODULAR PARALLEL PANEL	MPP

ACP - Automatic control panel

Mounted on the genset, complete with digital control unit AC03 for monitoring, control and protection of the generating set, protected through door with lockable handle

DIGITAL INSTRUMENTATION (through AC-03)

- Generating set voltage (3 phases)
- Mains voltage
- Generating set frequency
- Generating set current (3 phases)
- Battery voltage
- Power (kVA - kW - kVAr)
- Power factor Cos φ
- Hours-counter
- Engine speed r.p.m.
- Fuel level (%)
- Engine temperature (depending on model)

COMMANDS AND OTHERS

- Four operation modes: OFF - Manual starting - Automatic starting - Automatic test
- Pushbutton for forcing Mains contactor or Genset contactor
- Push-buttons: start/stop, fault reset, up/down/page/enter selection
- Remote starting availability
- DC system disconnection switch
- Acoustic alarm
- Automatic battery charger
- RS232 Communication port
- Settable PASSWORD for protection level

PROTECTIONS WITH ALARM

- Engine protections: low fuel level, low oil pressure, high engine temperature
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage

PROTECTIONS WITH SHUTDOWN

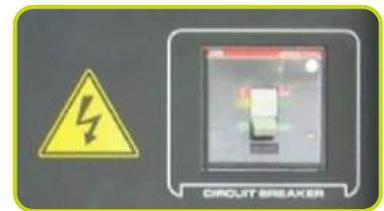
- Engine protections: low fuel level, low oil pressure, high engine temperature
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure
- Circuit breaker protection: III poles
- Earth Fault included in the control unit

OTHERS PROTECTIONS

- Emergency stop button

OUT PUT PANEL ACP

Plinth row for connection from ACP to LTS panel.	
Predisposed for remote control optional:	RCG
External Terminal Board (ETB)	Standard
Socket kit	Optional



MPP - Modular parallel panel

Mounted on the genset, complete with digital control unit IG-NTC for monitoring, control, protection and load sharing for both single and multiple gen-sets operating in standby or parallel modes (up to 32 gen-sets in island).

DIGITAL INSTRUMENTATION (through IG-NTC control unit)

- Mains: voltage, Intensity, Frequency.
- Mains kW - kVAr -Power factor Cos f.
- Generating set voltage (3 phases).
- Generating set frequency.
- Generating set current (3 phases).
- Generating set Power (kVA - kW - kVAr).
- Generating set Power factor Cos f.
- Generating set kWh and kVAh.
- Battery voltage.
- Hours-counter.
- Engine speed r.p.m.
- Fuel level (%).
- Engine temperature (depending on model).
- Oil pressure (depending on model).

COMMAND AND OTHERS

- Graphical display 128x64 pixels.
- Operation modes: OFF - AMF function - Single Parallel to mains Island application - Single Parallel to Mains AMF application - Multiple parallel genset Island application.
- Pushbutton for forcing Mains Breaker/contactor or Genset Breaker/contactor.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Multiple parallel and Power Management operation with digital load AVR sharing.
- Automatic synchronizing and power control (via speed governor or ECU)
- Baseload Import/Export and Peak shaving
- Voltage and PF control (AVR).
- Configurable digital I/O (12/12) and analogue inputs (3).
- Integrate PLC programmable functions.
- Event-based history (up to 500records).
- Selectable measurement range 120/277V and 0-1/0-5A.
- Remote starting and Blocking signal availability.
- DC system disconnection switch.
- Acoustic alarm.
- Automatic battery charger.
- 2xRS232/RS485/USB Comunication ports.
- Setable PASSWORD for protection level.

PROTECTION WITH ALARM AND SHUTDOWN

- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage
- Others: overcurrent, shortcircuit, reverse power, Earth fault

OTHERS PROTECTION:

- Circuit breaker protection: IV poles Motorized.
- Emergency stop button.

OUT PUT PANEL MPP

Multi-pin connectors (in and out) for parallel with other generators	n	2
Connecting cable with 2 connectors multipin (length 10m)	n	1
ETB External terminal board		ETB



Supplements:Only Available when order :
:**CONTROL PANEL SUPPLEMENT**

RCG - Various supplements for remote controls - available for models:	ACP MPP
TLP - Various supplements for remote signals - available for models:	ACP MPP
ADI - Adjustable Differential Intensity - available only for models:	ACP
TIF - IV Poles Circuit Breaker instead of III - available for models:	ACP

**Socket kit**

Kit SKB or Kit SKC (for total n. 4 socket) - available for model:	ACP
Individual CB and Earth Fault protection	
3P+N+T 400V 63A	n 1
3P+N+T CEE 400V 32A	n 1
3P+N+T CEE 400V 16A	n 1
230V/16A SCHUKO	n 1
With version SKB:	
With version SKC:	
400V/125A 3P+N+T CEE	n 1

**GENSET EQUIPMENT**

LPT - Leak Proof Tray	
AFP - Automatic Fuel Pump	ACP MPP
KRT- Kit Rental for HEI gensets which includes: 3-way fuel valve, battery switch	

ENGINE SUPPLEMENTS

PHS - Coolant Pre-Heating System - available for models:	ACP MPP
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Accessories

Items available as accessory equipment

RES - Residential silencer

FEC - Flexible Exhaust Compensator Bellow and flanges

LTS - LOAD TRANSFER SWITCH - Accessories ACP

Automatic under-load change-over (AC22, AC23) from and to any of positions "1", "0", "2" both electrical and manual (emergency change-over), transfer function with direct transition from position "1" to position "2" and vice versa.

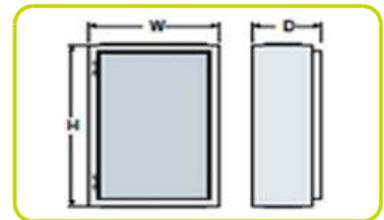
- Safety: locking by padlock preventing any electrical or manual operation, key lock for the selection of electrical or manual operation.- Quick operating time from pos. "1" to "2" and vice versa.
- Easy and fast electrical connections by means of terminal blocks of quick connection type.
- Conformity to standards: IEC 60947-1 IEC 60947-3, CEI EN 60947-1 / CEI EN 60947-3 IEC 439-1, CEI EN 60439-1 IEC 204-1, CEI EN 60204-1, VDE 0660 Teil 107



NOMINAL CURRENT & DIMENSIONS PANEL LTS (standard*)

Nominal Current	A	800
Width	(W) mm	1000
Height	(H) mm	800
Depth	(D) mm	400

* = Available electrical power more



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