

ORION G650VS

50Hz@1500RPM 400/230V 3PH

GENMAC
POWER PRODUCTS

VOLVO PENTA STAMFORD



Picture for illustration purposes only

Overall performance

G650VS

PRP Continuous power kVA	650
PRP Continuous power kW	520
LTP Stand-by power kVA	717
LTP stand-by power kW	574
Power factor cos ϕ	0.8
Voltage VAC	400/230
Frequency Hz	50
Ampere PRP/LTP	939 / 1036
Speed RPM	1500

Dimensions and noise level

Length mm	5520
Width mm	1860
Height mm	2570
Net Weight kg	6350
Gross Weight kg	-
Sound pressure at 7 mt dBA	-

Data reference

Standard reference conditions temperature 25°C, altitude 1-1000m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0.850 gr/lt. Power performance data as quoted can be obtained after the initial running-in period of the engine, during which one has to follow the instructions of the engine manufacturer as stated in the use and maintenance manual of the specific engine. The tolerance shown by the engine manufacturer is +/- 5%. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance.P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer.L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1.The number of hours per year is stated by the Manufacturer. Overload is not permitted.*For reasons of transport and/or storage, liquids (oil and antifreeze) and batteries might not be included in the delivery.

General features

Silent generator with following specifications:

Frame:

- Heavy duty fabricated welded base plate with high quality steel UNI S235 JR
- Heavy duty, bell type, rubber anti-vibration mountings
- Dedicated area to make easier the electrical connection to the load
- Fuel tank with drain plug and retention basin
- Oil draining mechanical pump
- Robust skid base with 4 towing eyes

Canopy:

- Large doors for easy access for service and maintenance
- Electro-galvanized sheet DC01+ZE25/25 (EN 10152: 2009)
- Weatherproof sealed joints
- High-tech Nylon hinges: rust-free, no need to lubricate
- Lockable handles in each door
- Windproof door stop
- White RAL 9010 "orange peel" specific powder coat paint for outdoor usage
- Rain cap on exhaust outlet
- Coolant refilling specific hatch
- Fuel filler outside enclosure
- Fuel tank cap with lock
- Ecological Sound foam: 100% Recyclable, 40mm thickness, fire-proof self-extinguishing class1 fire-reaction compliant washable, mechanically fixed to the frame

Muffler:

- Residential type, integrated in the canopy
- With high heat resistant paint coating

Control Panel:

- Self-standing control panel tower made with metal structure IP33
- Easy access to control panel through a canopy's door, equipped with lexan window
- Control panel is divided in two independent and insulated boxes separating Controls (Controller and numbered terminal board) from Power connection (circuit breaker and cable inlet)
- External dedicated area to make easier the electrical connection to the load
- Power connection between circuit breaker and alternator made with high resistance cables and using cable glands for waterproof connections

All units and components are prototype tested, factory build and production tested. A specific control procedure during the several stages of production ensures long life and reliability.

ORION G650VS

50Hz@1500RPM 400/230V 3PH



Engine general data

Engine brand	Volvo-Penta
Model	TWD1644GE
PRP Power kW	575.00
LTP Power kW	630.00
Fuel	Diesel
Nr. cylinders	6
Air intake	Turbo intercooler
Cooling	Water
Cubic capacity l.	16.12
Speed regulation	Electronic
Performance Class - steady state regulator accuracy +/- %	G3 - -
Load Step G1 - KWe	-
Load Step G2 - KWe	-
Load Step G3 - KWe	-
Voltage VDC	24
Emissions	Euro Stage 2

Alternator general data

Alternator brand	Stamford
Model	HCI544F
Type of excitation	Self-excited
Type of regulation	AVR
Regulator precision +/- %	1.00

Structure data

Type of structure	ORION
Tank capacity l.	950
Retention basin	yes
Exhaust diameter mm	168

Control panel features

QTVA-7320

Self-standing tower with metal box
 Circuit breaker
 AMF controller DSE7320
 - Voltmeter, Frequncymeter, Ammeter
 - Generator power (kW, kV Ar, kV A & pf) monitoring
 - Hour meter
 - Fuel level meter
 - Overload (kW & kV Ar) protection
 - Low oil pressure protection
 - High coolant temperature protection
 - Low fuel level protection
 - Battery charger alternator fault
 - Rpm protection
 Emergency stop button
 Audible alarm
 Terminal board for ATS connection
 RS232 & RS485 Port
 Can Bus reading Port (if standard on the engine)
 Battery charger
 On/off switch

Fuel consumption

Consumption 25% l./h	35.00
Consumption 50% l./h	70.00
Consumption 75% l./h	100.00
Consumption 100% l./h	130.00
Autonomy at 75% of load h.	≈ 10 h

Engine liquids and equipment

Type of lubricant	Oil SAE 15W40
Lubrication capacity l.*	48.00
Type of coolant	Antifreeze liquid VCS (Yellow)
Coolant capacity l.*	135.00
Air intake filter	Paper cartridge
Battery capacity Ah	120
Number of batteries*	2

Fuel system and energy balance

AC pump suction head kPa	-
Combustion air flow volume LTP m3/min	41.60
Cooling air capacity LTP m3/min	684.00
Exhaust gas flow-density LTP m3/min	98.70
Exhaust gas temperature LTP °C	477.00
Brake mean effective pressure kPa	10.00
Energy to exhaust LTP kWt	428.00
Energy to coolant LTP kWt	354.00
Energy to radiation LTP kWt	25.00



Dealer