

GKV-650

VOLVO 590KVA

590kVA Prime / 650kVA Standby

Comprehensive Specification Sheet
Electrical and Mechanical Data



**VOLVO
PENTA**

3ph

GKV-650

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590kVA Prime / 650kVA Standby / Three Phase

FEATURES & BENEFITS

- 650kVA standby power at 230/400v @ 50Hz 1500rpm
- High-quality and reliable six-cylinder 16.12l turbocharged Volvo diesel engine
- Ideal for commercial and business applications
- Silent canopy which can stand outside with lockable doors
- Automatic changeover (ATS), maintenance free batteries and trickle charger included
- H-specification insulation, brushless alternator with AVR provides stable output
- High-temperature and oil pressure sensor to protect against engine damage
- Easy to use digital controller with auto/manual start options
- All sets undergo a comprehensive testing/pre-delivery inspection prior to delivery
- Peace of mind of earlier of one year/1000 hour warranty



CANOPY

- Ventilation parts are designed with modular principles
- Weather resistant and lined with sound reducing foam
- All metal canopy parts are painted with powder paint
- Panel window
- Lockable doors on each side
- Easy maintenance and operation
- Easy lifting and moving
- Thermally insulated engine exhaust system
- Exterior emergency stop push button
- Sound attenuated

CHASSIS

- The complete generator set is mounted as a whole on a heavy duty fabricated, steel base frame
- Steel chassis and anti-vibration pads
- Base frame design incorporates an integral fuel tank
- The generator can be lifted or carefully pushed/pulled by the base frame
- Dial type fuel gauge on the fuel tank

CONTROL SYSTEM

Control supervision and protection panel is mounted on the genset base frame. The control panel is equipped as follows:

AUTO MAINS FAILURE CONTROL PANEL

- Controller with Smartgen automatic transfer switch
- Smartgen HGM7220 electronic controller
- Emergency stop push button
- Static battery charger
- Four-pole electrically and mechanically interlocked ATS

GENERATING SET CONTROL MODULE

SMARTGEN HGM7220 FEATURES

- This module is used to monitor a mains supply and automatically start a standby generating set
- Shutdown alarms
- STOP/RESET-MANUAL-AUTO-TEST-START

METERING VIA LCD DISPLAY

- Mains volts (L-L/L-N)
- Generator amps (L1, L2, L3)
- Generator frequency; generator (cos)
- Engine hours run; plant battery (volts)
- Engine oil pressure (psi and bar)
- Engine speed (rpm)

Overview

Standby power	650kVA
Prime power	590kVA
Phase	Three
Dry weight	5500kg
Length	4200mm
Width	1990mm
Height	2780mm
Fuel tank capacity	900l

- Engine temperature (degrees C)

AUTOMATIC SHUTDOWN AND FAULT CONDITIONS

- Under/over speed; fail to start
- High engine temperature; fail to stop
- Low oil pressure; charge fail
- Under/over generator volts
- Under/over generator frequency
- Emergency stop/start failure
- Under/over mains voltage
- Charge failure

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TECHNICAL SPECIFICATIONS

*All ratings are quoted at maximum ratings at sea level and derating will be applicable for altitude and power factor.

Engine

Engine make	Volvo
Engine model	TAD1642GE
Displacement	16.12l
Cylinder bore/Stroke	144mm x 165mm
Fuel system	In-line fuel injection pump
Governor	Electrical
Cylinders	Six cylinders water cooled
Engine output power (1500rpm)	485kW
Turbocharged/normally aspirated	Turbocharged
Cycle	Four stroke
Combustion system	Direct injection
Compression ratio	16.5:1
Fuel tank capacity	900l
Fuel consumption 100%	115.48 l/h
Fuel consumption 75%	84.44 l/h
Fuel consumption 50%	58.03 l/h
Fuel consumption 25%	31.47 l/h
Oil type	CD-15W-40
Engine oil capacity	42l
Cooling method	Water-cooled radiator/fan
Coolant capacity (including radiator)	60l
Starter	24v DC charge alternator
Engine speed	1500rpm
Filters	Replaceable fuel filter/oil filter/dry element air filter
Battery	Maintenance-free battery including rack and cables
Silencer	Exhaust silencer

Alternator

Alternator make	StromerPower
Standby power output	650kVA
Prime power output	590kVA
Insulation class	Class-H with circuit breaker protection
Type	Brushless
Phase and connection	Three phase/four wire
AVR	Included
AVR model	KR440
Voltage regulation	± 1%
Voltage	230/400v
Rated frequency	50Hz
Voltage regulate change	≤ ±10% UN
Phase change rate	± 1%
Power factor	0.8φ
Protection class	IP23 standard/screen protected/drip-proof
Stator	2/3 pitch
Rotor	Single bearing
Excitation	Self-exciting
Regulation	Self-regulating

General

Structure type	Silent weather resistant enclosure
Dimensions Length x Width x Height	4200mm x 1990mm x 2780mm
Dry weight	5500kg
ATS unit included	Included
Four-way protection system included	Included