



**22kVA / 17.6 kW
POWERED by PERKINS**

DIESEL GENERATING SET 400/230 V - 50 Hz

Power Pf. 0.8	Standby	kVA	22
		kW	17.6
	Prime	kVA	20
		kW	16

Standby: Continuous running at variable load for duration of an emergency. No overload is permitted on these ratings. In accordance with ISO 3046.

Prime: Continuous running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period. In accordance with ISO 8528, ISO 3046.

- ✓ High quality, reliable and complete power unit
- ✓ Compact design
- ✓ Easy start and maintenance possibility
- ✓ Every generating set is subject to a comprehensive test program which includes full load testing, checking and provision of all control and safety shut down functions testing
- ✓ Fully engineered with a wide range of options and accessories: Canopy, sound proof canopy and on-road trailer
- ✓ Fully bunded fuel tank



ENGINE

PERKINNS

Model	404A-22G	
Engine Power Output at rated rpm	kWm	20.6
	HP	27.6
Aspiration and Cooling		Natural
Total Displacement	Litre	2.216
No. of Cylinders and Build		4 - Inline
Engine Speed	rpm	1500
Bore and Stroke	mmxmm	84x100
Compression Ratio		23.3:1
Governor		Mechanical
Fuel Consumption at full load	L/hr	5.3
Fuel Tank Capacity	Litre	Open: 95/Canopy: 95
Oil Capacity	Litre	10.6
Coolant Capacity	Litre	7
Radiator Cooling Air	m³/min	40.2
Air Intake – Engine	m³/min	1.45
Exhaust Gas Flow	m³/min	3.94

- ✓ Heavy duty Perkins diesel engine
- ✓ Four stroke, water cooled, natural
- ✓ Direct injection fuel system
- ✓ Mechanical Governor system
- ✓ 12/24 V D.C. starter and charge alternator
- ✓ Replaceable fuel filter, oil filter and dry element air filter

- ✓ Cooling radiator and fan
- ✓ Starter battery (with lead acid) including Rack and Cables
- ✓ Flexible fuel connection hoses and manual oil sump drain valve
- ✓ Industrial capacity exhaust silencer and steel bellows
- ✓ Jacket water heater(at automatic models)
- ✓ Operation manuals and circuit diagram documents

ALTERNATOR

STAMFORD

Design	Brushless single bearing, revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible disc
Insulation System	Class H
Standard Temperature Rise	125 - 163°C Continuous
Exciter Type	Self Excited
Phase Rotation	A (U), B (V), C (W)
Alternator Cooling	Direct drive centrifugal blower fan
AC Waveform Total Harmonic Distortion	No load < 1.5%. Non distorting balanced linear load < 5%
Telephone Influence Factor (TIF)	<50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	<2%

- ✓ Brushless, single bearing system, flexible disc, 4 poles
- ✓ Insulation class H
- ✓ Standard degree of protection IP21 (*IP22/IP23 is available.)
- ✓ Self-exciting and self-regulating
- ✓ Impregnation with tropicalised epoxy varnish
- ✓ Solid state Automatic Voltage Regulator
- ✓ Stator winding with 2/3 pitch for improved harmonics

CONTROL SYSTEM

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

1. Auto Mains Failure Control Panel

Panel equipments:

- ✓ Control with AMF module
- ✓ Static battery charger
- ✓ Emergency stop push button

a) Generating set control module DSE 6020 features:

- ✓ The module is used to monitor main supply and starts and stops of a standby generating set
- ✓ Micro-processor based design
- ✓ Automatic control of main and generator contactors
- ✓ Monitors engine performance and AC power output LED alarm indication
- ✓ Front panel configuration of timers and alarm trip points
- ✓ CAN and magnetic pick-up versions(specify on ordering)
- ✓ 4 digital inputs/3 analogue inputs
- ✓ 6 outputs(4 configurable on Magnetic Pick-up, 6 configurable on CANbus version)
- ✓ Easy push button control

STOP/RESET - MANUAL - AUTO - TEST – START

b) Metering via LED display:

✓ Generator Volts (L-L / L-N)	Generator KVA
✓ Engine oil pressure (PSI-Bar)	Generator kW
✓ Generator Ampere (L1,L2,L3)	Generator Cos (σ)
✓ Engine temperature ($^{\circ}$ C & $^{\circ}$ F)	
✓ Generator Frequency (Hz)	
✓ Plant battery volts	
✓ Engine hours run	
✓ Mains Volts (Ph-Ph/Ph-N)	

c) Alarms:

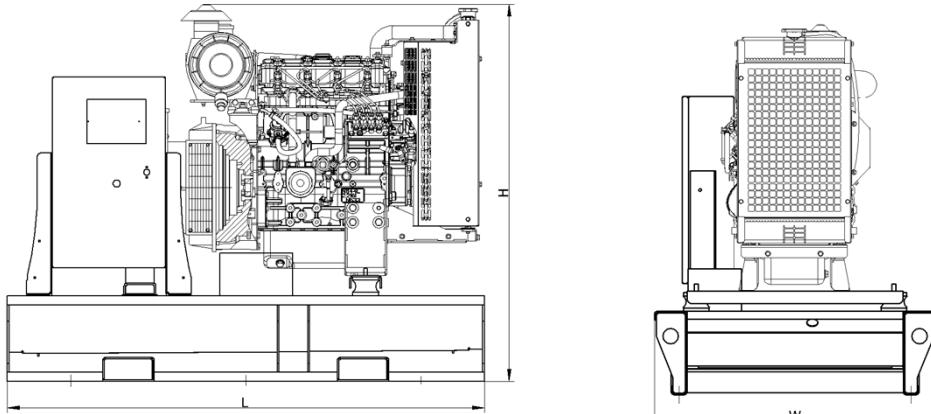
- ✓ Over and Under Speed
- ✓ Low and High Battery Volt.
- ✓ Start and Stop Failure
- ✓ Charge fail
- ✓ Over Current
- ✓ Under / Over Generator Voltage
- ✓ Low Oil Pressure
- ✓ Emergency stop
- ✓ High engine temperature

d) LED indications

- ✓ Mains available
- ✓ Generator available
- ✓ Mains on load
- ✓ Generator on load

2. Power Outlet Terminal Board Mounted on the Gen-set Base Frame





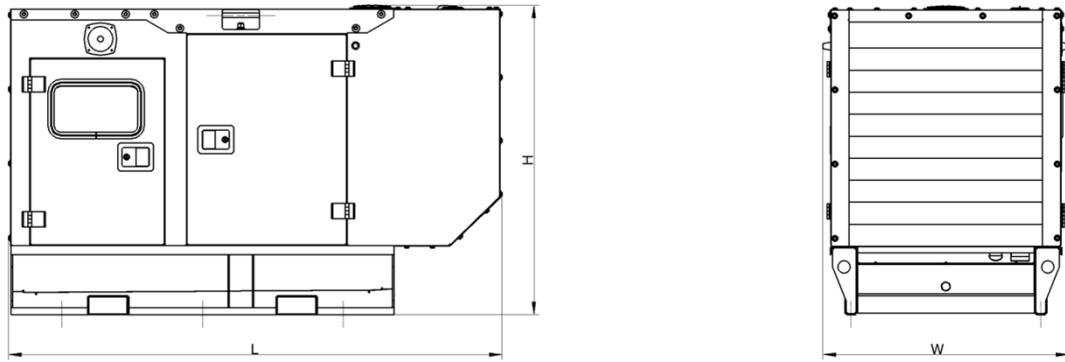
- ✓ The complete gen-set is mounted as whole on a heavy-duty fabricated, steel base frame
- ✓ Anti-vibration pads are fixed between the engine/ alternator feet and the base frame
- ✓ Base frame design incorporates an integral fuel tank (Up to 750 kVA)
- ✓ The generating set can be lifted or carefully pushed / pulled by the base frame
- ✓ Dial type fuel gauge and drain plug on the fuel tank
- ✓ Forklift pockets within base frame (up to 500kVA)

DIMENSIONS

SOUND ATTENUATED TYPE

DIMENSIONS (LxWxH)	mm	1933x963x1213
DRY WEIGHT	kg	885

CANOPY



- ✓ All canopy parts are designed with modular principles
- ✓ Without welding assembly
- ✓ Doors on each side
- ✓ All metal canopy parts are painted by electrostatic polyester powder paint
- ✓ Exhaust silencer is protected against environment influences
- ✓ Thermally insulated engine exhaust system
- ✓ Emergency stop push button is installed outside of the canopy
- ✓ Easy lifting and moving
- ✓ Easy maintenance and operation