

AP110 PEM -IIIA



POWER
YOUR
FUTURE

**110kVA / 88 kW
POWERED by PERKINS**

DIESEL GENERATING SET 400/230 V - 50 Hz

| MODEL | | | AP110 PEM IIIA |
|------------------|---------|-----|----------------------|
| Power Pf. 0.8 | Standby | kVA | 110 |
| | | kW | 88 |
| | Prime | kVA | 100 |
| | | kW | 80 |

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



Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice.

ENGINE

PERKINS

| Model | | 1104D-E44TAG2 |
|----------------------------------|--------|--|
| Engine Power Output at rated rpm | kWm | 103 |
| | HP | 138 |
| Aspiration and Cooling | | Turbocharged, air-to-air charge cooled |
| Total Displacement | Litre | 4,4 |
| No. of Cylinders and Build | | 4 ; In-line |
| Engine Speed | rpm | 1500 |
| Bore and Stroke | mmxmm | 105×127 |
| Compression Ratio | | 18:23 : 1 |
| Governor | | Electronic |
| Fuel Consumption at full load | L/hr | 22.6 |
| Fuel Tank Capacity | Litre | 240 |
| Oil Capacity | Litre | 8 |
| Coolant Capacity | Litre | 12.6 |
| Radiator Cooling Air | m³/min | 165,6 |
| Air Intake – Engine | m³/min | 6.27 |
| Exhaust Gas Flow | m³/min | 16.3 |

- Heavy duty Perkins diesel engine
- Four stroke, water cooled, turbocharged & intercooled
- Direct injection fuel system
- Electronic 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 (UCI274C)

| | |
|---------------------------------------|--|
| 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



DSE 6120

a) Generating set control module DSE 6120 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)
- Engine oil pressure (PSI-Bar)
- Generator Ampere (L1,L2,L3)
- Engine temperature ($^{\circ}$ C & $^{\circ}$ F)
- Generator Frequency (Hz)
- Plant battery volts
- Engine hours run
- Mains Volts (Ph-Ph/Ph-N)

Generator kVA

Generator kW

Generator Cos (ϕ)

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

OPTIONAL EQUIPMENTS

Diesel Engine

- Oil heater

Alternator

- 3/4 Pole Output Circuit Breaker
- Anti-condensation Heater

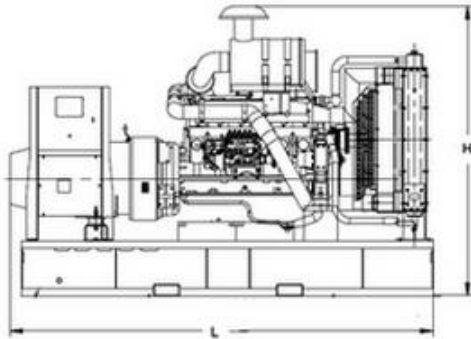
Panel

- Charge ammeter
- Transfer Switch 3 Pole
- Transfer Switch 4 Pole
- Earth Fault ,single set

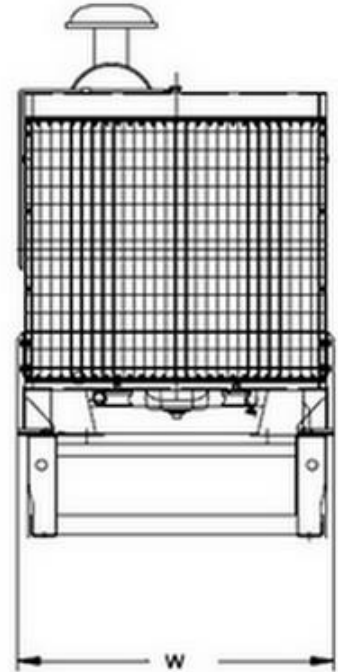
Accessories

- Bulk fuel tank
- Automatic filling system
- Fuel-water separator filter
- Low fuel level alarm
- Residential silencer
- Enclosure or sound proof canopy
- Trailer
- Manual oil drain pump
- Tool kit for maintenance

CHASSIS



- ✓ 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

OPEN TYPE

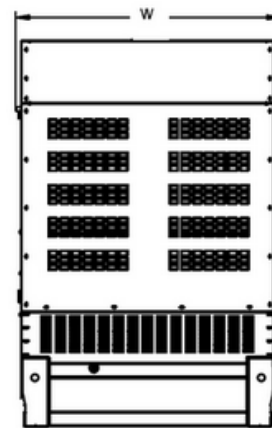
| | | |
|--------------------|----|----------------|
| DIMENSIONS (LxWxH) | mm | 2150*1050*1390 |
| DRY WEIGHT | kg | 1110 |

SOUND ATTENUATED TYPE

| | | |
|--------------------|----|----------------|
| DIMENSIONS (LxWxH) | mm | 3100*1110*1740 |
| DRY WEIGHT | kg | 1450 |

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