

AKSA Power Generation has been producing industrial generator sets with an innovative compact design and excellence in quality for over **30 years**. AKSA has been providing reliable power through three main production plants and over 15 branch offices worldwide.



General Characteristics

Model Name	AP103-6	Frequency / PF	60Hz, 1800 rpm, 0.8pf
Engine Make & Model	Perkins 1104A-44TG2	Alternator Make	Stamford
Control Panel Model	DSE 6020	Base Frame / Enclosure	AKSA AK40

Genset Rating – 60Hz, 1800rpm, 0.8pf

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
1104A-44TG2	UCI224F	480 / 277V	103kVA	93kVA	123 A
	UCI274C	380 / 222V	103kVA	93kVA	156 A
	UCI224G	220 / 127V	103kVA	93kVA	270 A
	UCI224G	208 / 120V	103kVA	93kVA	285 A

Stand-by Power (Maximum): Power available at variable load in the event of main power network failure. No over load is permitted.
 Prime Power: Power available at variable load in lieu of a main power network. Overload of 10% is permitted for 1 hour in every 12 hours of operation.
 The above ratings represent the engine performance capabilities to conditions specified in accordance with ISO 8528/5 & ISO3046.
Derating may be required for conditions outside of the test conditions.

Codes & Standards

The Generator set is designed and manufactured in a facility certified to **ISO9001** standards.

The Generator set is designed and manufactured in a facility certified to **ISO14001:2015** standards.

AKSA Power Generation provides **single source responsibility** for the generator set & accessories.

The generator set, with its components, are **prototype tested** and **production tested**



Engine Data

Manufacturer	Perkins
Model	1104A-44TG2
Displacement & Cylinders	4.4 L / 4 Cylinders
Engine Speed	1800rpm
Engine Standby Power	90.2 Kw
Engine Prime Power	82 kW
Aspiration	Turbocharged
Compression Ratio	17.25 : 1
Bore / Stroke	105 mm / 127 mm
Break Mean Effective Pressure	1409 kPa
Engine Coolant Flow	170 l/min
Combustion Air Flow	6.5 m ³ /min
Exhaust Gas Flow	15.85 m ³ /min
Exhaust Gas Temperature	560 °C
Overall Thermal Efficiency	39.5 %
Speed Variation at Constant Load	±0.5 %

Fuel System

Type of Injection	Direct Injection
Fuel Injection Pump	Rotary
Nozzle Opening Pressure	29 Mpa
Fuel Lift Pump Flow/hour	120-150 liters/hr

Fuel Consumption

Standby Power (110%)	4.7 L/h
Prime Power (100%)	4.3 L/h
Prime Power (75%)	3.2 L/h
Prime Power (50%)	2.4 L/h

Electric System

Engine Cranking Motor	12V
Engine Battery Charge System	Negative Ground
Battery Qty, Rating, CCA	1 x 60Ah

Cooling System

Radiator Face Area	0.276 m ²
Fan Number of Plates/Material	7 / Composite
Total System Capacity	13 L
Max Top Tank Temperature	110 °C
Thermostat Range	82 – 93 °C

Exhaust System

Maximum Back Pressure	10 kPa
Exhaust Outlet Size	64 mm

Lubrication System

Total System Capacity	8 L
Minimum Capacity	5.5 L
Max Oil Temp	125 °C
Oil Pressure – relief valve opens	415 – 470 kPa
Oil Consumption at full load as a % of fuel consumption	0.15 %

Energy Balance

Energy in fuel	236 Kw
Energy in power output – gross	93 Kw
Energy to cooling fan	2.8 kW
Energy to coolant and oil	57 kW
Energy to exhaust	71 kW

Alternator Data

Manufacturer	Stamford
Standards	BS EN 60034
Control System	Self Excited
A.V.R.	AS440
Voltage Regulation	± 1 %
Insulation System	Class H
Protection	IP23
Rated Power Factor	0.8
Stator Winding	Double Layer Concentric
Winding Pitch	Two Thirds
Winding Leads	12
Telephone Interference	THF < 2 %
Waveform Distortion	No Load < 1,5 %
Maximum Over speed	2250 rev/min

Battery Charger & Electrical System Data

Manufacturer	AKSA
Model	SmartGen BAC06A
Input Voltage	100V ~ 250V AC
Output Voltage / Current	13,8V DC / 6A

Jacket Water Heater Data

Manufacturer	AKSA
Model	HTR1000W 100-120F
Input Voltage	1 ph, Based on gen voltage
Power	1000W

Controller Data

Manufacturer	DSE
Model	6020
Type	Auto Mains Failure Control

Controller Features & Benefits

Microprocessor controlled
License free PC Software
IP65 rating offers increased resistance to water ingress
Front Panel Editing
Event log
Back-lit icon LCD display
LED and LCD alarm indication
Power save mode
PC and front panel configuration
Configurable timers and alarms
Alternative configuration
Three phase generator monitoring
Current monitoring and protection
Power monitoring (kW, kVA, kVAr)
Reverse power (kW & kVAr) protection
Three phase utility monitoring
Test feature
Battery voltage monitoring
Hours counter
Comprehensive warning or shutdown on fault condition

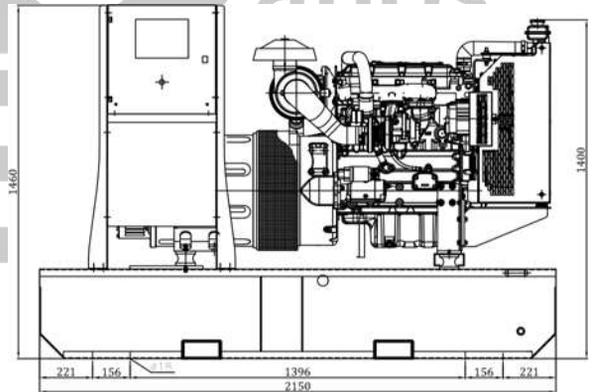
Enclosure Features

- ✓ Heavy Duty Steel Structure
- ✓ E-Stop on Enclosure
- ✓ Control Panel Eliminated from Engine Vibrations
- ✓ Control Panel Window
- ✓ Plastic Covered Corrosion Resistant Locks & Hinges
- ✓ Internally Mounted Exhaust System with Rain Cap
- ✓ Coolant Fill Cap
- ✓ Enclosure Top Lifting Hooks
- ✓ Base Fuel Tank
- ✓ Easy Access for Maintenance
- ✓ Sound Absorb High Density Foam



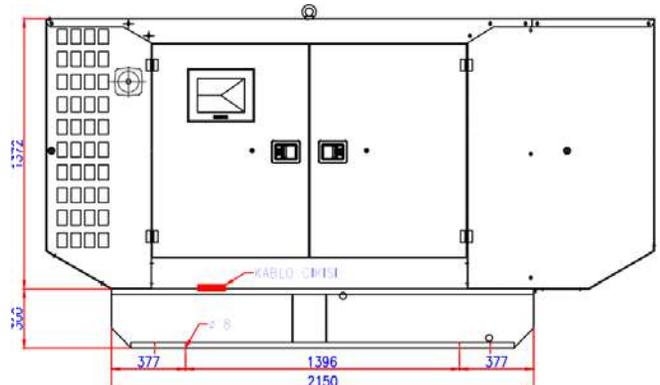
Open Skid Gen-Set Dimensions

Length	2150 mm
Width	1050 mm
Height	1460 mm
Dry Weight	1040 kg
Tank Capacity	240 L



Enclosed Gen-Set Dimensions

Length	3100 mm
Width	1113 mm
Height	1741 mm
Dry Weight	1380 kg
Tank Capacity	240 L
Sound Pressure @ 7 meters	66 dB(A)



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

Standard Features & Accessories

- ✓ Heavy Duty Steel Base Frame
- ✓ Integral Fuel Tank, Single Wall
- ✓ Fuel Drain Plug
- ✓ Control Panel Window
- ✓ Engine Jacket Water Heater
- ✓ Battery and Battery Rack
- ✓ Battery Charger
- ✓ Radiator fill cap on enclosure
- ✓ Anti Vibration Pads between Engine/Alternator & Base Frame
- ✓ Residential Grade Silencer Inside Enclosure
- ✓ Industrial Grade Silencer Set for Open Skid Sets
- ✓ Sound Absorb Foam for Enclosure
- ✓ Air Inlet & Outlet Rodent Guards
- ✓ Oil Drain Valve
- ✓ Coolant Drain Valve
- ✓ Flex Fuel Lines
- ✓ Air Filter Restriction Gauge
- ✓ Engine Manifold Cover
- ✓ Turbocharger Cover
- ✓ Protection Covers for Rotating Parts
- ✓ Exhaust Insulation Cover
- ✓ Control Panel Window
- ✓ Operations Manual
- ✓ 24 Months / 2000 hours Limited Standby Warranty

Optional Accessories

- Main Line CB (3 / 4 Poles)
- PMG
- Anti-condensation Heater
- Single wall fuel tank – 24hours capacity
- Double wall fuel tank
- Fuel Level Display & Alarm on Controller
- Low / High Fuel Alarms
- Fuel Water Separator Filter
- Auto Fuel Fill Control System
- Oil Temperature Display on Controller
- Manual Speed Adjust Rheostat
- Manual Voltage Adjust Rheostat
- Remote Annunciator Panel
- Remote Control & Monitoring Panel
- Advanced SMS Messaging
- Control Panel Heater
- Battery Disconnect Switch
- Battery Heater
- 10A Battery Charger
- Battery Charge Ammeter
- Tool Kit for Maintenance
- Power Plug Outlet Kit
- Automatic Transfer Panel (ATS) – Contactor Design
- Automatic Transfer Panel (ATS) – Changeover Design

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