

**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	<b>AP85-6</b>	Frequency / PF	<b>60Hz, 1800 rpm, 0.8pf</b>
Engine Make & Model	<b>Perkins 1104A-44TG1</b>	Alternator Make	<b>Stamford</b>
Control Panel Model	<b>DSE 6020</b>	Base Frame / Enclosure	<b>AKSA AK30</b>

**Genset Rating – 60Hz, 1800rpm, 0.8pf**

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
1104A-44TG1	UCI224F	480 / 277V	85kVA	77.5kVA	102 A
	UCI224G	380 / 222V	85kVA	77.5kVA	129 A
	UCI224F	220 / 127V	85kVA	77.5kVA	223 A
	UCI224F	208 / 120V	85kVA	77.5kVA	235 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-44TG1
Displacement & Cylinders	4.4 L / 4 Cylinders
Engine Speed	1800rpm
Engine Standby Power	75.5 Kw
Engine Prime Power	68.6 kW
Aspiration	Turbocharged
Compression Ratio	17.25 : 1
Bore / Stroke	105 mm / 127 mm
Break Mean Effective Pressure	1179 kPa
Engine Coolant Flow	170 l/min
Combustion Air Flow	5.5 m <sup>3</sup> /min
Exhaust Gas Flow	14.3 m <sup>3</sup> /min
Exhaust Gas Temperature	535 °C
Overall Thermal Efficiency	39.5 %
Speed Variation at Constant Load	± 0.75 %

**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%)	19.7 L/h
Prime Power (100%)	17.8 L/h
Prime Power (75%)	13.5 L/h
Prime Power (50%)	9.7 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 <sup>2</sup>
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	197 Kw
Energy in power output – gross	77.8 kW
Energy to cooling fan	2.3 kW
Energy to coolant and oil	48 kW
Energy to exhaust	58 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

**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

**Battery Charger & Electrical System Data**

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

- Alternative configuration
- Three phase generator monitoring
- Current monitoring and protection
- Power monitoring (kW, kVA, kVAr)
- Reverse power (kW & kVAr) protection

**Jacket Water Heater Data**

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

- Three phase utility monitoring
- Test feature
- Battery voltage monitoring
- Hours counter
- Comprehensive warning or shutdown on fault condition

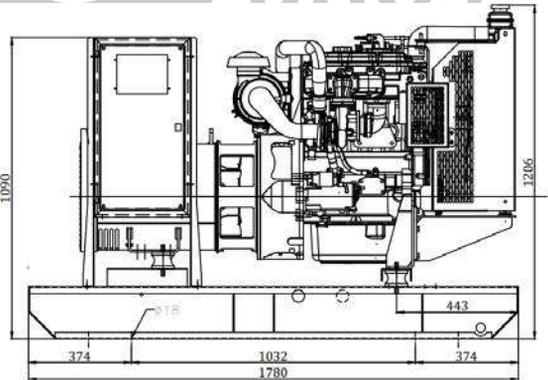
**Enclosure Features**

- ✓ 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



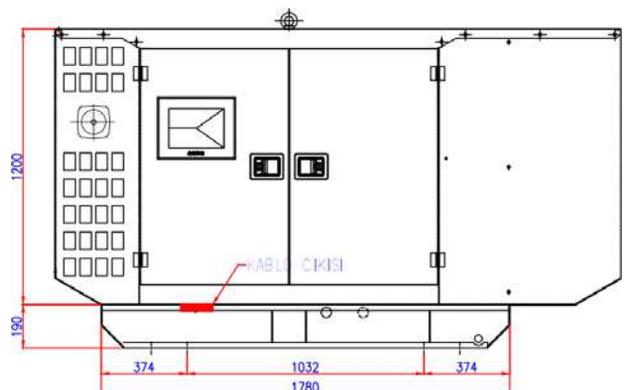
**Open Skid Gen-Set Dimensions**

Length	1780 mm
Width	950 mm
Height	1206 mm
Dry Weight	910 kg
Tank Capacity	100 L



**Enclosed Gen-Set Dimensions**

Length	2466 mm
Width	1010 mm
Height	1461 mm
Dry Weight	1165 kg
Tank Capacity	100 L
Sound Pressure @ 7 meters	68 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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**SEDE PRINCIPAL:**

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