

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	AP440-6	Frequency / PF	60Hz, 1800 rpm, 0.8pf
Engine Make & Model	Perkins 2206A-E13TAG2	Alternator Make	Stamford
Control Panel Model	DSE 7320	Base Frame / Enclosure	AKSA MS80

Genset Rating – 60Hz, 1800rpm, 0.8pf

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
2206A-E13TAG2	HCI444ES	480 / 277V	440kVA	400kVA	529A
	HCI444FS	380 / 222V	440kVA	400kVA	668A
	HCI444E	220 / 127V	440kVA	400kVA	1154A
	HCI444FS	208 / 120V	440kVA	400kVA	1221A

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**



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Engine Data

Manufacturer	Perkins
Model	2206A-E13TAG2
Displacement & Cylinders	12.5 L / 6 Cylinders
Engine Speed	1800rpm
Engine Standby Power - Net	381.4 Kw
Engine Prime Power - Net	348.8 Kw
Aspiration	Air to Air Aftercooled, Turbocharged
Compression Ratio	16.3 : 1
Bore / Stroke	130 mm / 157 mm
Break Mean Effective Pressure	2171 kPa
Engine Coolant Flow	TBA
Combustion Air Flow	29 m ³ /min
Exhaust Gas Flow	73.5 m ³ /min
Exhaust Gas Temperature	630 °C
Overall Thermal Efficiency	40.3 %
Speed Variation at Constant Load	± 0.25 %

Fuel System

Injection System	MEUI
Governor Type	Electronic
Lift Pump Type	Gear
Fuel Filter Spacing Primary/Secondary	10 microns / 2 microns

Fuel Consumption

Standby Power (110%)	87 L/h
Prime Power (100%)	81 L/h
Prime Power (75%)	62 L/h
Prime Power (50%)	43 L/h

Electric System

Engine Cranking Motor	24V
Engine Battery Charge System	Negative Ground
Battery Qty, Rating, CCA	2 x 120Ah

Cooling System

Radiator Face Area	1,238 m ²
Fan Number of Plates/Material	9 / Composite
Total System Capacity	51.4 L
Max Top Tank Temperature	104 °C
Thermostat Range	87 – 98 °C

Exhaust System

Maximum Back Pressure	10 kPa
Exhaust Outlet Size	123 mm

Lubrication System

Total System Capacity	40 L
Minimum Capacity	32.5 L
Max Oil Temp	113 °C
Lubricating Oil Specifications	API-CH4 / SAE 15W-40
Oil Consumption at full load as a % of fuel consumption	0.15 %

Energy Balance

Energy in fuel	945.7 Kw
Energy in power output – gross	406.5 kW
Energy to cooling fan	19 kW
Energy to coolant and oil	139.5 kW
Energy to exhaust	273.7 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	27,6V DC / 3A

Jacket Water Heater Data

Manufacturer	AKSA
Model	HTR3000
Input Voltage	Based on Gen Voltage
Power	3000W

Controller Data

Manufacturer	DSE
Model	7320
Type	Auto Mains Failure Control

Controller Features & Benefits

- Microprocessor controlled
- License free PC Software
- IP65 rating offers increased resistance to water ingress
- Modules can be integrated to building management systems
- Real time clock provides accurate event log
- Four line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- Support up to three remote display modules
- Configurable timers and alarms
- Multiple date and timer scheduler
- Integral PLC editor
- 'Protections disabled' feature
- kW & kVAR protection
- Reverse power (kW & kVAR) protection
- Power monitoring (kWh, kVAR, kVAh, kVARh)
- Load switching (load shedding and dummy load outputs)
- Unbalanced load protection
- Independent Earth Fault trip
- Fully configurable via DSE Configuration Suite PC Software
- SCADA monitoring via DSE Configuration Suite PC Software

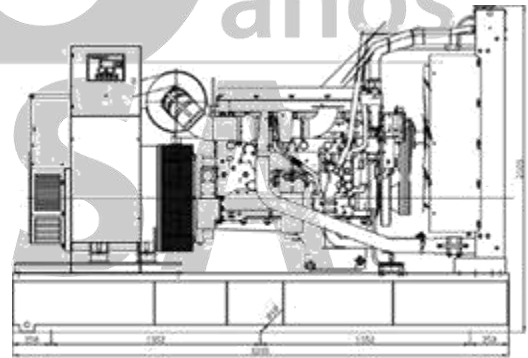


Enclosure Features

- ✓ 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
- ✓ Top Lifting Feature
- ✓ Base Fuel Tank
- ✓ Easy Access for Maintenance
- ✓ Sound Absorb High Density Foam

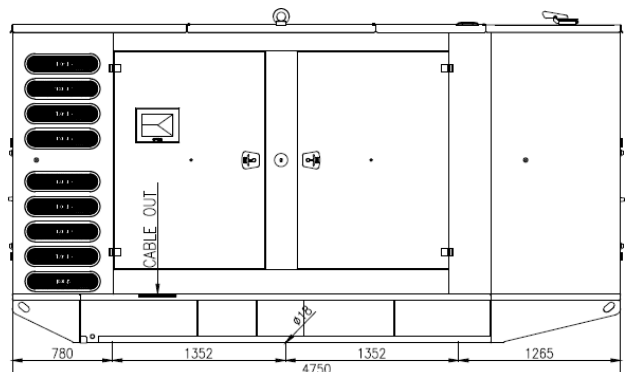
Open Skid Gen-Set Dimensions

Length	3210 mm
Width	1550 mm
Height	2110 mm
Dry Weight	3165 kg
Tank Capacity	850 L



Enclosed Gen-Set Dimensions

Length	4810 mm
Width	1610 mm
Height	2620 mm
Dry Weight	4215 kg
Tank Capacity	850 L
Sound Pressure @ 7 meters	TBA



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Standard Features & Accessories

- ✓ Heavy Duty Steel Base Frame
- ✓ Integral Fuel Tank
- ✓ Fuel Drain Plug
- ✓ Control Panel Window
- ✓ Engine Jacket Water Heater
- ✓ Battery and Battery Rack
- ✓ Battery Charger
- ✓ Anti Vibration Pads between Engine/Alternator & Base Frame
- ✓ Residential Grade Silencer Inside Enclosure
- ✓ Industrial Grade Silencer Set for Open Skid Sets
- ✓ Exhaust pipe rain cap and radiator fill cap
- ✓ 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
- Voltage Regulation $\pm 0.5\%$ w/MX321 AVR
- Anti-condensation Heater
- Double Wall Base 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
- Automatic Transfer Panel (ATS) – Contactor Design
- Automatic Transfer Panel (ATS) – Changeover Design

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