

**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>APD220C-6</b>	Frequency / PF	<b>60Hz, 1800 rpm, 0.8pf</b>
Engine Make & Model	<b>Cummins 6CTA8.3G2</b>	Alternator Make	<b>Stamford</b>
Control Panel Model	<b>DSE 6020</b>	Base Frame / Enclosure	<b>AKSA ASM6</b>

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

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
6CTA8.3G2	UCI274F	480 / 277V	220kVA	200kVA	264A
	UCI274H	380 / 222V	220kVA	200kVA	334A
	UCI274G	220 / 127V	220kVA	200kVA	577A
	UCI274H	208 / 120V	220kVA	200kVA	610A

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	Cummins
Model	6CTA8.3G2
Displacement & Cylinders	8.3L / 6 Cylinders
Engine Speed	180rpm
Engine Standby Power	180 kW / 241 HP
Engine Prime Power	163 kW / 218 HP
Aspiration	Turbocharged&Aftercooled
Compression Ratio	17.3 : 1
Bore / Stroke	114 mm / 135 mm
Governor Regulation	≤ 3%
Piston Speed	6.8 m/s
Friction Horsepower	17 kW
Engine Water Flow	3.3 litre/sec.
Intake Air Flow	206 litre/sec.
Exhaust Gas Flow	578 litre/sec.
Exhaust Gas Temperature	563 °C

**Electric System**

Engine Cranking Motor	24V
Engine Battery Charge System	40A, Negative Ground
Battery Qty, Rating, CCA	2 x 80Ah

**Cooling System**

Coolant Capacity	41.3 L
Max Coolant Friction Head External to Engine -1500rpm	28 kPa
Thermostat Range	82 – 95 °C
Min Pressure Cap	69 kPa
Max Top Tank Temperature	104 °C

**Exhaust System**

Max Back Pressure	10 kPa
Min Exhaust Pipe Size	75 mm
Manifold Insulation	Not Acceptable
Turbocharger Insulation	Not Acceptable

**Fuel System**

Type of Injection	BYC PB Direct Injection
Max Restriction @ Lift Pump	27 kPa
Max Allowable Head on Injector Return Line	33.7 kPa
Max Fuel Inlet Temperature	71 °C

**Air Intake System**

Max Intake Air Restriction	6 kPa (Dirty Element) 4 kPa (Clean Element)
Min Dirt Holding Capacity	25 g/cfm
Max Temp Rise from Ambient to Inlet of Turbo	17 °C

**Fuel Consumption**

Standby Power (110%)	49 L/h
Prime Power (100%)	44 L/h
Prime Power (75%)	33 L/h
Prime Power (50%)	23 L/h
Prime Power (25%)	14 L/h

**Lubrication System**

Max Oil Temperature	121 °C
Oil Capacity : High - Low	-
Min Required Lube Capacity	27.6 L

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## Alternator Data

Manufacturer	Stamford
Standards	BS EN 60034
Control System	Self Excited
A.V.R.	SX460
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	27,6V DC / 3A

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

## Jacket Water Heater Data

Manufacturer	AKSA
Model	HTR1500W 100-120F
Input Voltage	1 ph, Based on gen voltage
Power	1500W

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

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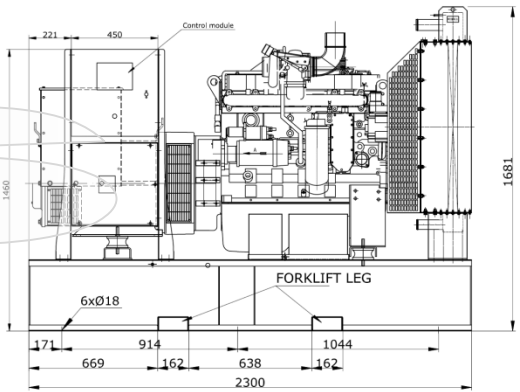
**Enclosure Features**



- ✓ 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
- ✓ Base Frame Lifting Hooks
- ✓ Base Fuel Tank and Forklift Pockets
- ✓ Easy Access for Maintenance
- ✓ Sound Absorb High Density Foam

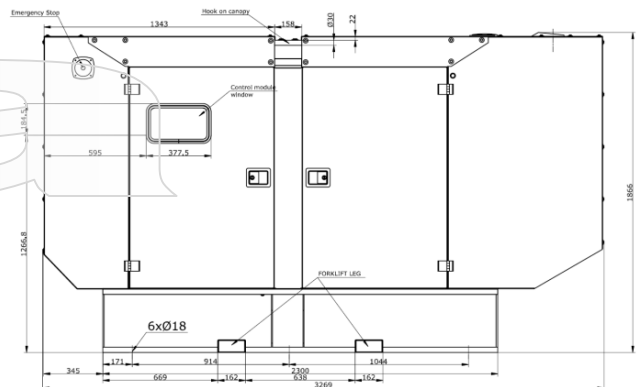
**Open Skid Gen-Set Dimensions**

Length	2300 mm
Width	1100 mm
Height	1681 mm
Dry Weight	1780 kg
Tank Capacity	350 L



**Enclosed Gen-Set Dimensions**

Length	3269 mm
Width	1168 mm
Height	1866 mm
Dry Weight	2280 kg
Tank Capacity	350 L
Sound Pressure @ 7 meters	73 dB(A)



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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
- ✓ 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
- 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
- Power Plug Outlet Kit
- Automatic Transfer Panel (ATS) – Contactor Design
- Automatic Transfer Panel (ATS) – Changeover Design

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