

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	APD165C-6	Frequency / PF	60Hz, 1800 rpm, 0.8pf
Engine Make & Model	Cummins 6BTAA5.9G2	Alternator Make	Stamford
Control Panel Model	DSE 6020	Base Frame / Enclosure	AKSA ASM5A

Genset Rating – 60Hz, 1800rpm, 0.8pf

Engine	Alternator	Voltage	Standby Power	Prime Power	Prime Current
6BTAA5.9G2	UCI274E	480 / 277V	165kVA	150kVA	198A
	UCI274F	380 / 222V	165kVA	150kVA	250A
	UCI274E	220 / 127V	165kVA	150kVA	433A
	UCI274E	208 / 120V	165kVA	150kVA	458A

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	Cummins
Model	6BTA5.9G2
Displacement & Cylinders	5.9L / 6 Cylinders
Engine Speed	1800rpm
Engine Standby Power	130 kW / 174 HP
Engine Prime Power	120 kW / 161 HP
Aspiration	Turbocharged and Charge Air Cooled
Compression Ratio	17.3 : 1
Bore / Stroke	102 mm / 130 mm
Governor Regulation	≤ 3%
Piston Speed	6 m/s
Friction Horsepower	12.7 kW
Engine Water Flow	2.0 litre/sec.
Intake Air Flow	120 litre/sec.
Exhaust Gas Flow	328 litre/sec.
Exhaust Gas Temperature	540 °C

Fuel System

Type of Injection	BYC PB Direct Injection
Max Restriction @ Lift Pump	13.6 kPa
Max Allowable Head on Injector Return Line	67.7 kPa
Total Drain Flow	30 L/h

Electric System

Engine Cranking Motor	24V
Engine Battery Charge System	40A, Negative Ground
Battery Qty, Rating, CCA	2 x 60Ah

Cooling System

Coolant Capacity	34.4 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

Air Intake System

Max Intake Air Restriction	6 kPa (Dirty Element) 4 kPa (Clean Element)
Min Dirt Holding Capacity	53 g/cfm
Max Temp Rise from Ambient to Inlet of Turbo	17 °C

Fuel Consumption

Standby Power (110%)	38 L/h
Prime Power (100%)	34 L/h
Prime Power (75%)	25 L/h
Prime Power (50%)	18 L/h
Prime Power (25%)	11 L/h

Lubrication System

Max Oil Temperature	121 °C
Oil Capacity : High - Low	14.2 L – 12.3 L
Min Required Lube Capacity	16.4 L

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

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	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

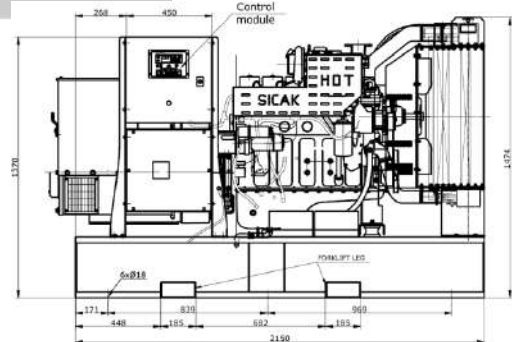
Enclosure Features

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



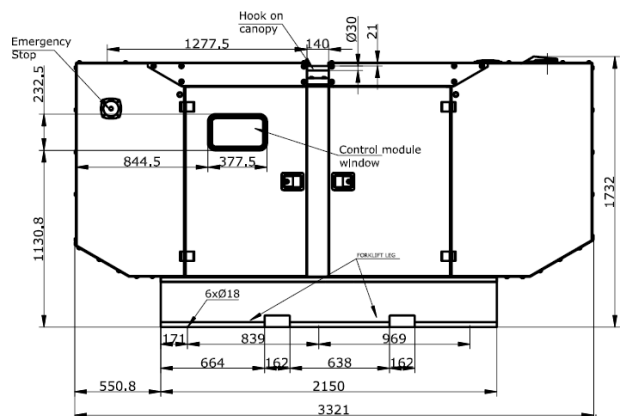
Open Skid Gen-Set Dimensions

Length	2150 mm
Width	1000 mm
Height	1474 mm
Dry Weight	1360 kg
Tank Capacity	195 L



Enclosed Gen-Set Dimensions

Length	3121 mm
Width	1068 mm
Height	1716 mm
Dry Weight	1700 kg
Tank Capacity	340 L
Sound Pressure @ 7 meters	75 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
- ✓ 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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