

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	APD50C-6	Frequency / PF	60Hz, 1800 rpm, 0.8pf
Engine Make & Model	Cummins 4BT3.9G2	Alternator Make	Stamford
Control Panel Model	DSE 6020	Base Frame / Enclosure	AKSA ASM4

Genset Rating – 60Hz, 1800rpm, 0.8pf

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
4BT3.9G2	PI144J	480 / 277V	50kVA	45kVA	60A
	PI144K	380 / 222V	50kVA	45kVA	75A
	PI144J	220 / 127V	50kVA	45kVA	131A
	PI144K	208 / 120V	50kVA	45kVA	138A

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	4BT3.9G2
Displacement & Cylinders	3.9L / 4 Cylinders
Engine Speed	1500rpm
Engine Standby Power	40 kW / 54 HP
Engine Prime Power	36 kW / 48 HP
Aspiration	Turbocharged
Compression Ratio	17.3 : 1
Bore / Stroke	102 mm / 120 mm
Governor Regulation	≤ 5%
Piston Speed	6 m/s
Friction Horsepower	8.2 kW
Engine Water Flow	2.2 litre/sec.
Intake Air Flow	45 litre/sec.
Exhaust Gas Flow	108 litre/sec.
Exhaust Gas Temperature	487 °C

Fuel System

Type of Injection	BYC A Direct Injection
Max Restriction @ Lift Pump	102 mmHg
Max Allowable Head on Injector Return Line	508 mmHg
Total Drain Flow	30 L/h

Fuel Consumption

Standby Power (110%)	11.7 L/h
Prime Power (100%)	10.7 L/h
Prime Power (75%)	8.4 L/h
Prime Power (50%)	6.2 L/h
Prime Power (25%)	4.2 L/h

Electric System

Engine Cranking Motor	24V
Engine Battery Charge System	40A, Negative Ground
Battery Qty, Rating, CCA	2 x 54Ah,

Cooling System

Coolant Capacity	19.2 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

Lubrication System

Max Oil Temperature	121 °C
Oil Capacity : High - Low	9.5 L – 8.5 L
Min Required Lube Capacity	10.9 L

Alternator Data

Manufacturer	Stamford
Standards	BS EN 60034
Control System	Self Excited
A.V.R.	AS480
Voltage Regulation	± 1 %
Insulation System	Class H
Protection	IP21
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	HTR500W 100-120F
Input Voltage	1 ph, Based on gen voltage
Power	500W

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

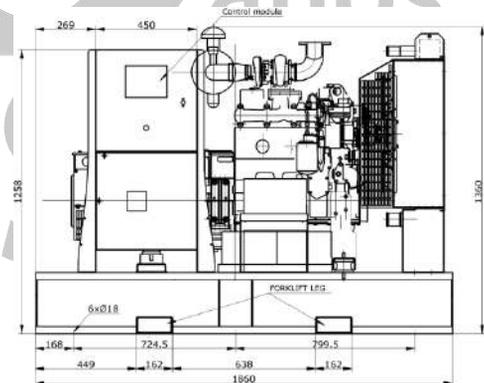
Enclosure Features

- ✓ 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



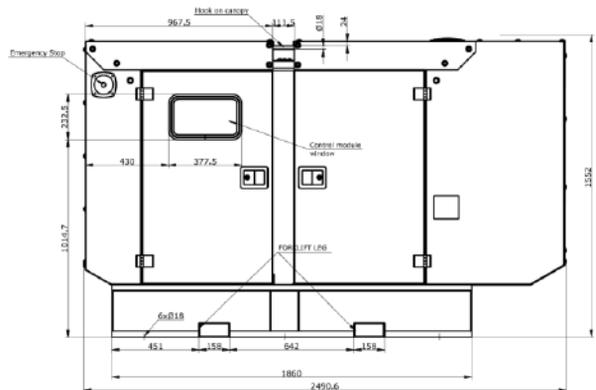
Open Skid Gen-Set Dimensions

Length	1860 mm
Width	900 mm
Height	1360 mm
Dry Weight	805 kg
Tank Capacity	154 L



Enclosed Gen-Set Dimensions

Length	2491 mm
Width	965 mm
Height	1552 mm
Dry Weight	1125 kg
Tank Capacity	154 L
Sound Pressure @ 7 meters	72 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)
- EBS
- Anti-condensation Heater
- Bulk Fuel Tank
- 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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