

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**



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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

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

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

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%)	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

Lubrication System

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

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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

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	Alternative configuration
Model	SmartGen BAC06A	Three phase generator monitoring
Input Voltage	100V ~ 250V AC	Current monitoring and protection
Output Voltage / Current	27,6V DC / 3A	Power monitoring (kW, kVA, kVAR)
		Reverse power (kW & kVAR) protection

Jacket Water Heater Data

Manufacturer	AKSA	Test feature
Model	HTR500W 100-120F	Battery voltage monitoring
Input Voltage	1 ph, Based on gen voltage	Hours counter
Power	500W	Comprehensive warning or shutdown on fault condition

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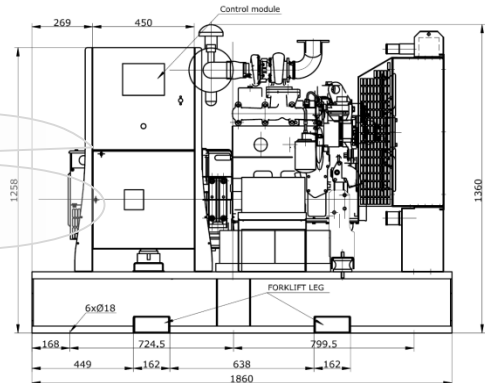
Enclosure Features



- ✓ 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

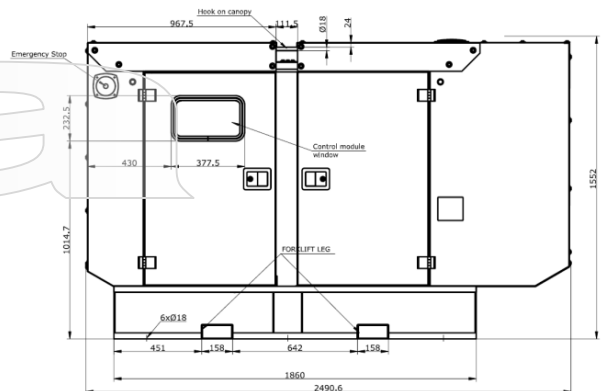
Open Skid Gen-Set Dimensions

Length	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)



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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)
- 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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