

**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>AD110-6</b>	Frequency / PF	<b>60Hz, 1800 rpm, 0.8pf</b>
Engine Make & Model	<b>Doosan D1146</b>	Alternator Make	<b>Stamford</b>
Control Panel Model	<b>DSE 6020</b>	Base Frame / Enclosure	<b>AKSA AK50</b>

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

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
D1146	UCI224G (Wnd-311)	480 / 277V	110kVA	100kVA	132A
	UCI274C (Wnd-14)	380 / 222V	110kVA	100kVA	167A
	UCI274C (Wnd-311)	220 / 127V	110kVA	100kVA	289A
	UCI274C (Wnd-311)	208 / 120V	110kVA	100kVA	305A

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**



\*Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice.



## Engine Data

Manufacturer	Doosan
Model	D1146
Displacement & Cylinders	8.071 L / 6 Cylinders
Engine Speed	1800rpm
Engine Standby Power	105 Kw
Engine Prime Power	96 kW
Aspiration	Naturally Aspirated
Compression Ratio	17.5:1
Bore / Stroke	111 mm / 139 mm
Break Mean Effective Pressure	0.87 Mpa
Mean Piston Speed	8.34 m/s
Over Speed Limit	1980 rpm
Friction Power	33 Kw
Dry Weight – w/fan	720 kg
Sound Pressure at Rated Power	94.5 dB(A)

## Electric System

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

## Cooling System

Cooling Fan	Blower Type, 6 Blades
Pressure Cap Setting	49 kPa
Coolant Capacity	34 L
Max Water Temperature	103 °C
Thermostat Range	71– 85 °C

## Exhaust System

Max Allowable Back Pressure	5.9 kPa
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## Fuel System

Injector Pump Type	Bosch In-line
Fuel Feed Pump Capacity	175 L/h
Max Fuel Inlet Restriction	10 kPa
Max Fuel Return Restriction	60 kPa

## Lubrication System

Oil Capacity, Max	15.5 L
Oil Capacity, Min	12 L
Max Oil Temp	120 °C
Min Oil Pressure	250 kPa

## Air Intake System

Max Intake Air Restriction	2.16 kPa – Clean Element
Max Intake Air Restriction	6.23 kPa – Dirty Element
Max Static Pressure After Rad	0.125 kPa

## Fuel Consumption

Standby Power (110%)	26.6 L/h
Prime Power (100%)	23.2 L/h
Prime Power (75%)	17.6 L/h
Prime Power (50%)	12.9 L/h
Prime Power (25%)	8.1 L/h

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## 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

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

## Jacket Water Heater Data

Manufacturer	AKSA	Test feature
Model	HTR1000W 100-120F	Battery voltage monitoring
Input Voltage	1ph, Based on gen voltage	Hours counter
Power	1000W	Comprehensive warning or shutdown on fault condition

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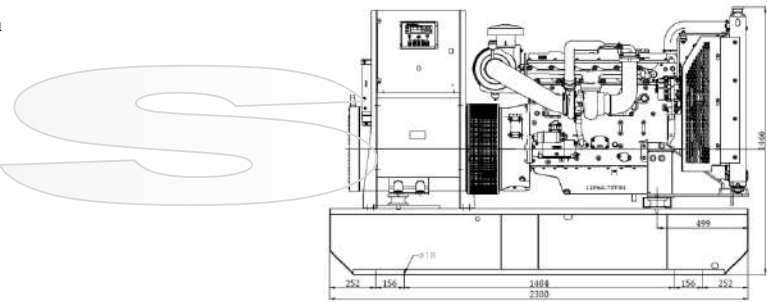
**Enclosure Features**

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



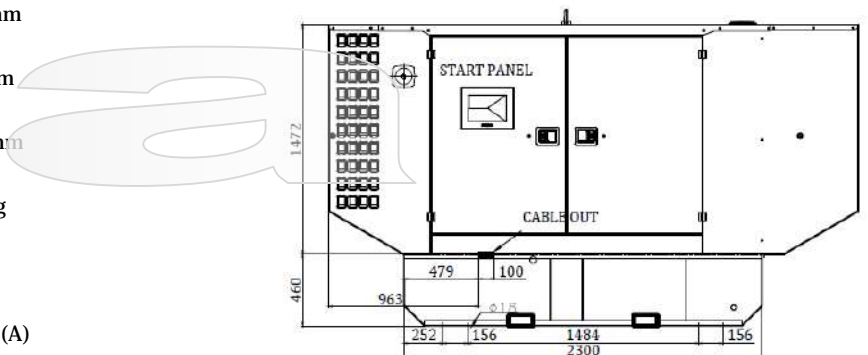
**Open Skid Gen-Set Dimensions**

Length	2690 mm
Width	1150 mm
Height	1620 mm
Dry Weight	1830 kg
Tank Capacity	380 L



**Enclosed Gen-Set Dimensions**

Length	3402 mm
Width	1217 mm
Height	2008 mm
Dry Weight	2205 kg
Tank Capacity	380 L
Sound Pressure @ 7 meters	75.5 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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