

**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>APD90A</b>	Frequency / PF	<b>50Hz, 1500 rpm, 0.8pf</b>
Engine Make & Model	<b>Aksa A4CRX46TI</b>	Alternator Make	<b>Aksa</b>
Control Panel Model	<b>DSE 6020</b>	Base Frame / Enclosure	<b>AKSA ASM5</b>

### Genset Rating – 50Hz, 1500rpm, 0.8pf

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
A4CRX46TI	AK370	400 / 230V	93kVA	85kVA	134A

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	Aksa
Model	A4CRX46TI
Displacement	4.58L
Cylinders	4 In-line
Engine Standby Gross Power	86 kWm
Engine Speed	1500 rpm
Aspiration	Turbocharger & Aftercooler
Compression Ratio	17: 1
Bore / Stroke	110 mm / 125 mm
Governor	Electronic
Direction of Rotation	Anti-clockwise (viewed on flywheel)
Firing Order	1-3-4-2
Combustion Cycle	Four stroke, compression ignition
Steady State Speed Stability at Constant Load	$\pm 0.25\%$
Total Weight (engine only - dry)	430 $\pm$ 20 kg
Sound Pressure	$\leq 113$ dBA

**Electric System**

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

**Cooling System**

Coolant Capacity – Engine only	6 liters
Thermostat Range	76 – 95 °C
Max Top Tank Temperature	99 °C
Coolant intake size	Φ45 mm
Coolant outlet size	Φ45 mm

**Exhaust System**

Max Back Pressure	6 kPa
Manifold Insulation	Not Acceptable
Turbocharger Insulation	Not Acceptable

**Fuel System**

Type of Injection	Direct Injection
Fuel Injection Pump	PM
Fuel Oil Type	0# or 10#

**Lubrication System**

Oil Type	L-ECD 15W/40
Oil Capacity	14 L
Oil temp max to Bearings	115 °C
Oil Pressure @ Governed Speed	294 ~ 490 kPa

**Fuel Consumption**

Standby Power (110%)	21.2 L/h
Prime Power (100%)	19.3 L/h
Prime Power (75%)	14.5 L/h
Prime Power (50%)	9.7 L/h
Prime Power (25%)	4.8 L/h

**Energy Balance**

Energy in Fuel	11259 btu/min
Gross Heat to Power	4208 btu/min
Energy to Coolant & Oil	3152 btu/min
Energy to Exhaust	3635 btu/min
Heat to Radiation	264 btu/min


**Alternator Data**

Manufacturer	Aksa
Standards	BS EN 60034
Control System	Self Excited
A.V.R.	SX460
Voltage Regulation	$\pm 1,5 \%$
Insulation System	Class H
Protection	IP22
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
Alternative configuration
Three phase generator monitoring
Current monitoring and protection
Power monitoring (kW, kVA, kVAR)
Reverse power (kW & kVAR) protection
Three phase utility monitoring

**Battery Charger & Electrical System Data**

Manufacturer	AKSA
Model	SmartGen BACo6A
Input Voltage	100V ~ 250V AC
Output Voltage / Current	27,6V DC / 3A

**Jacket Water Heater Data**

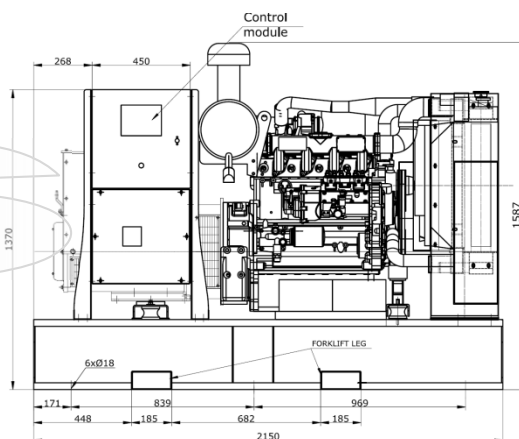
Manufacturer	AKSA	Test feature
Model	HTR1000W 100-120F	Battery voltage monitoring
Input Voltage	1 ph, based on gen voltage	Hours counter
Power	1000W	Comprehensive warning or shutdown on fault condition

### Enclosure Features



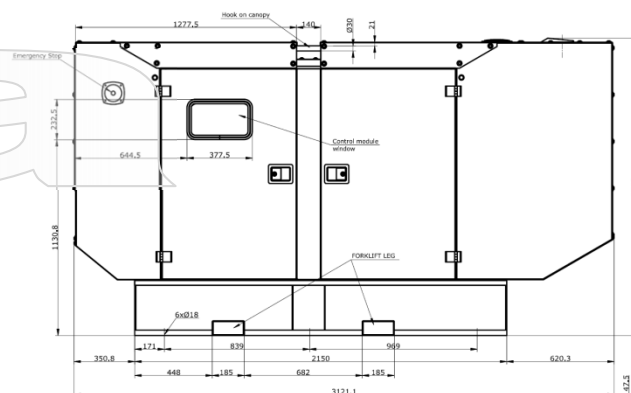
### Open Skid Gen-Set Dimensions

Length	2150 mm
Width	1000 mm
Height	1587 mm
Dry Weight	1265 kg
Tank Capacity	195 L



### Enclosed Gen-Set Dimensions

Length	3121 mm
Width	1068 mm
Height	1716 mm
Dry Weight	1685 kg
Tank Capacity	195 L
Sound Pressure @ 7 meters	72 dB(A)



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**Standard Features & Accessories**

- ✓ Heavy Duty Steel Base Frame
- ✓ Integral Fuel Tank, Single Wall
- ✓ 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
- ☐ 24 hours Capacity 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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