

**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>APD70A</b>	Frequency / PF	<b>50Hz, 1500 rpm, 0.8pf</b>
Engine Make & Model	<b>Aksa A4CRX46T</b>	Alternator Make	<b>Aksa</b>
Control Panel Model	<b>DSE 6020</b>	Base Frame / Enclosure	<b>AKSA ASM4A</b>

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

Engine	Alternator	Voltage	Standby Power	Prime Power	Standby Current
A4CRX46T	AK351	400 / 230V	70kVA	64kVA	101A

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	Aksa
Model	A4CRX46T
Displacement	4.58L
Cylinders	4 In-line
Engine Standby Gross Power	68 kWm
Engine Speed	1500 rpm
Aspiration	Turbocharged
Compression Ratio	17: 1
Bore / Stroke	108 mm / 125 mm
Governor	Mechanical
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	± 2.5%
Total Weight (engine only - dry)	420 ± 20 kg
Sound Pressure	≤ 113 dBA

**Electric System**

Engine Cranking Motor	12V
Engine Battery Charge System	Negative Ground
Battery Qty, Rating, CCA	1 x 54Ah

**Cooling System**

Coolant Capacity – Engine only	6 liters
Thermostat Range	76 – 95 °C
Max Top Tank Temperature	99 °C
Coolant intake size	Φ46 mm
Coolant outlet size	Φ46 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	6BB
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%)	18.8 L/h
Prime Power (100%)	17.1 L/h
Prime Power (75%)	12.8 L/h
Prime Power (50%)	8.5 L/h
Prime Power (25%)	4.3 L/h

**Energy Balance**

Energy in Fuel	9432 btu/min
Gross Heat to Power	3523 btu/min
Energy to Coolant & Oil	2638 btu/min
Energy to Exhaust	3042 btu/min
Heat to Radiation	222 btu/min



**Alternator Data**

Manufacturer	Aksa
Standards	BS EN 60034
Control System	Self Excited
A.V.R.	SX460
Voltage Regulation	± 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

**Battery Charger & Electrical System Data**

Manufacturer	AKSA
Model	SmartGen BAC06A
Input Voltage	100V ~ 250V AC
Output Voltage / Current	13,8V DC / 6A

- Alternative configuration
- Three phase generator monitoring
- Current monitoring and protection
- Power monitoring (kW, kVA, kVAr)
- Reverse power (kW & kVAr) protection
- Three phase utility monitoring

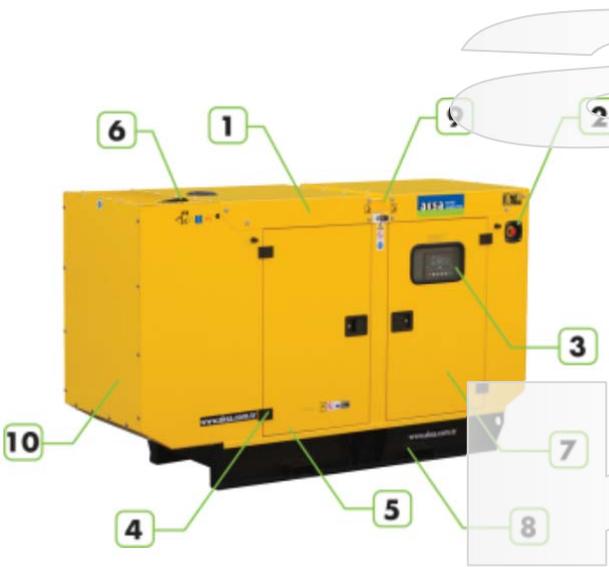
**Jacket Water Heater Data**

Manufacturer	AKSA
Model	HTR500W 100-120F
Input Voltage	1 ph, based on gen voltage
Power	500W

- Test feature
- Battery voltage monitoring
- Hours counter
- Comprehensive warning or shutdown on fault condition

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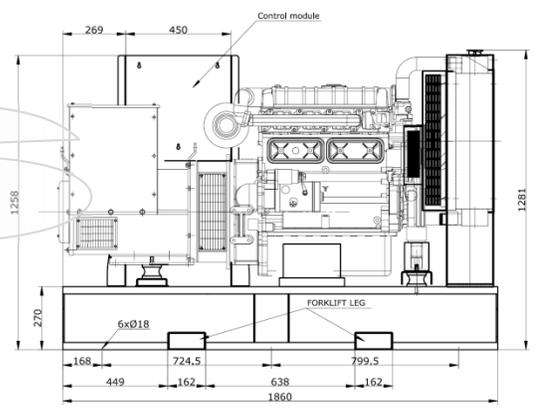
**Enclosure Features**



- ✓ 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

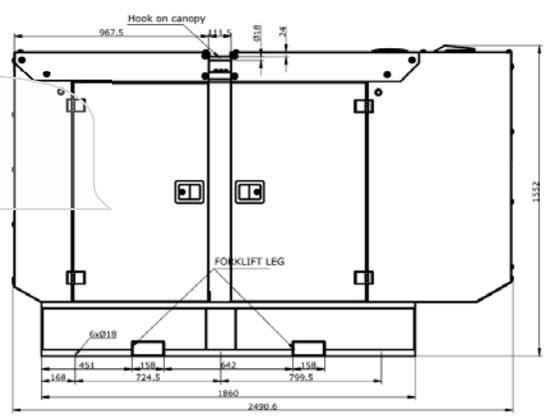
**Open Skid Gen-Set Dimensions**

Length	1860 mm
Width	900 mm
Height	1281 mm
Dry Weight	1060 kg
Tank Capacity	154 L



**Enclosed Gen-Set Dimensions**

Length	2491 mm
Width	965 mm
Height	1552 mm
Dry Weight	1380 kg
Tank Capacity	154 L
Sound Pressure @ 7 meters	77 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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