

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	APD-ULJ100
Engine Make	John Deere
Engine Model	4045HF285
Alternator Make	Stamford
Control Panel Make & Model	DSE 7320
Frequency & Speed	60Hz, 1800rpm
Enclosure Make & Model	AKSA AUL 41/42



Genset Rating

Engine	Alternator	Voltage	PF	Standby Power	Standby Current	Prime Power	Prime Current
4045 HF285	UCI274D (Wnd-311)	480/277V	0.8	100kW	150A	90kW	135A
	UCI274D (Wnd-06)	240/120V, 1ph	1	100kW	416A	90kW	375A
	UCI274D (Wnd-311)	208/120V	0.8	100kW	347A	90kW	312A
	UCI274C (Wnd-17)	600/347V	0.8	100kW	120A	90kW	108A

***EPA – Certified for Emergency Stationary Applications**

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** according to the UL test program.
 The generator set meets **NFPA70, 99, 110, 37** Level 1 when equipped with the necessary accessories and installed per NFPA standards.



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Engine Data

Manufacturer	John Deere
Model	4045HF285
Displacement & Cylinders	4.5 L / 4 Cylinders
Engine Type	In-line, 4 Cycle
Engine Speed	1800rpm
Engine Prime Power w/Fan	107kW
Engine Standby Power w/Fan	118 kW
Aspiration	Turbocharged & Air to Air Aftercooled
Compression Ratio	19.0 : 1
Bore / Stroke	106 mm / 127 mm
Governor type	Electronic
Engine crankcase vent system	Open
Fan Power	6.5 kW
Designed / Calibrated to Meet	EPA Tier 3

Fuel System

Combustion System	L16 Controller
Governor Type	Electronic
Total Fuel Flow	140 lb/hr

Fuel Consumption

110% Load	8.21 gal/h
100% Load	7.55 gal/h
75% Load	6.02 gal/h
50% Load	4.3 gal/h

Electric System

System Voltage	12V
Min Voltage at ECU during crank	6V
Battery Qty, Rating	1 x 60Ah

Cooling System

Radiator Cooling System Type	Closed Circuit
Radiator Ambient Temp	> 50 °C
Coolant Capacity, Engine Only	9 quart
Max Top Tank Temp	230 °F
Thermostat, Start – Fully Open	180– 203 °F

Exhaust System

Exhaust Temperature	1076 °F
Max Allowable Exhaust Restriction	7.5 kPa
Exhaust Gas Flow	22.8 m ³ /min

Lubrication System

Oil Pressure at Rated Speed	46 psi
Max Crankcase Pressure	0.5 kPa

Air Intake System

Engine Air Flow	8.16 m ³ /min
Max Intake Air Restriction (Clean Element)	3.75 kPa
Air Filter Type	Dry Paper Element

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Alternator Data

Manufacturer	Stamford
Standards	BS EN 60034
Control System	PMG
A.V.R.	MX341
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	7320
Type	Auto Mains Failure Control

Controller Features & Benefits

- Microprocessor controlled
- License free PC Software
- IP65 rating offers increased resistance to water ingress
- Modules can be integrated to building management systems
- Real time clock provides accurate event log
- Four line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- Support up to three remote display modules
- Configurable timers and alarms

Battery Charger & Electrical System Data

Manufacturer	ComAp
Model	InteliCharger
Input Voltage	85V ~ 264V AC
Output Voltage / Current	13.6V Float / 4.0A pk

- Integral PLC editor
- 'Protections disabled' feature
- kW & kVAr protection
- Reverse power (kW & kVAr) protection
- Power monitoring (kWh, kVAr, kVAh, kVArh)

Jacket Water Heater Data

Manufacturer	Hotstart
Input Voltage	120V
Power	1000W

- Load switching (load shedding and dummy load outputs)
- Unbalanced load protection
- Independent Earth Fault trip
- Fully configurable via DSE Configuration Suite PC Software
- SCADA monitoring via DSE Configuration Suite PC Software

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Enclosure Features

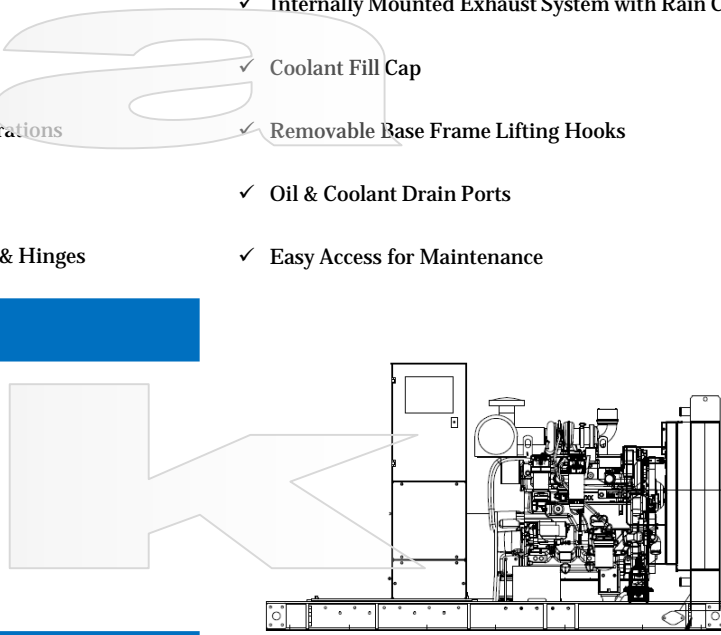
- ✓ Heavy Duty Steel / Aluminum Structure
- ✓ E-Stop on Enclosure
- ✓ Control Panel Eliminated from Engine Vibrations
- ✓ Standard Sound Attenuation Foam
- ✓ Plastic Covered Corrosion Resistant Locks & Hinges

Enclosure Features

- ✓ Internally Mounted Exhaust System with Rain Cap
- ✓ Coolant Fill Cap
- ✓ Removable Base Frame Lifting Hooks
- ✓ Oil & Coolant Drain Ports
- ✓ Easy Access for Maintenance

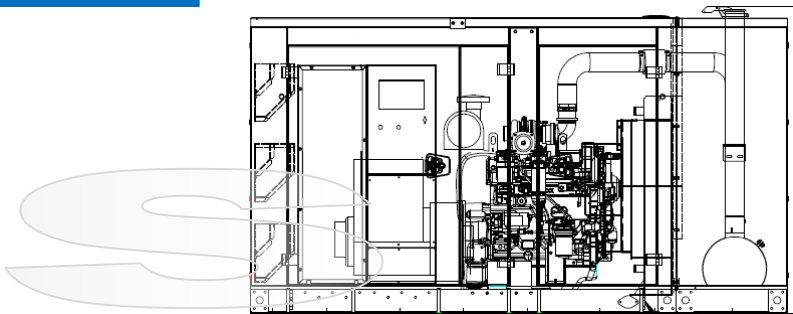
Open Skid Gen-Set Dimensions

Length	92.1 in
Width w/o lift hooks	43.3 in
Height	53.5 in
Dry Weight	2600 lb



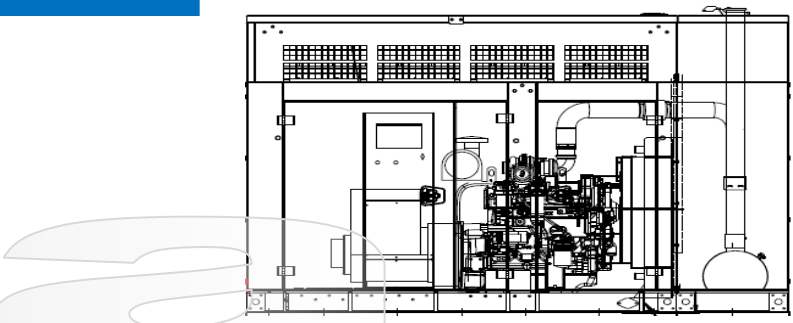
Enclosed Gen-Set Dimensions - Level 1

Length	116.5 in
Width w/o lift hooks	43.3 in
Height	66.3 in
Dry Weight	3800 lb
Sound Pressure @ 7 meters	74 dB(A)



Enclosed Gen-Set Dimensions – Level 2

Length	116.5 in
Width w/o lift hooks	43.3 in
Height	82 in
Dry Weight	4100 lb
Sound Pressure @ 7 meters	71 dB(A)



Fuel Tank - UL142 Listed Base Design

Size	24hr (190gal)	48hr (390gal)	72hr (590gal)
Dimensions (L/W/H) (in)	130 / 43.3 / 15.5	130 / 43.3 / 28.5	145 / 43.3 / 36
Weight (lb)	1260	1750	2180

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Standard Features & Accessories

- ✓ UL2200 Certification
- ✓ Heavy Duty Steel Base Frame
- ✓ PMG
- ✓ Engine Jacket Water Heater
- ✓ Battery and Battery Rack
- ✓ Battery Charger
- ✓ Anti Vibration Pads between Engine/Alternator & Base Frame
- ✓ Critical Grade Silencer Inside Enclosure
- ✓ Residential Grade Silencer Set for Open Skid Sets
- ✓ Exhaust outlet rain cap and radiator fill cap
- ✓ Sound Absorb Foam Material for Enclosure
- ✓ Emergency Stop Button
- ✓ Oil Drain Valve
- ✓ Coolant Drain Valve
- ✓ Jacket Water Heater Isolation Valves
- ✓ Flex Fuel Lines
- ✓ Air Filter Restriction Gauge
- ✓ Engine Manifold Cover
- ✓ Turbocharger Cover
- ✓ Protection Covers for Rotating Parts
- ✓ Exhaust Insulation Cover
- ✓ Enclosure DC Light
- ✓ Operations Manual
- ✓ 24 Months / 2000 hours Limited Standby Warranty

Optional Accessories

- Main Line CB (3 / 4 Poles – 80% / 100% rated)
- Upsize Alternator
- Voltage Regulation $\pm 0.5\%$ w/MX321 AVR
- Anti-condensation Heater
- Sub Base Fuel Tank (UL142 / UL2085)
- 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
- Battery Charger 10/20 Amp
- Shunt Trip / Aux Contacts
- Spring Anti-vibration Isolators
- Automatic Transfer Panel (ATS)
- 5 Years / 2000 hours Limited Comprehensive Warranty

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