

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-ULV600
Engine Make	Volvo
Engine Model	TWD1643GE
Alternator Make	Stamford
Control Panel Make & Model	DSE 7320
Frequency & Speed	60Hz, 1800rpm
Enclosure Make & Model	AKSA AUL 71/72



Genset Rating

Engine	Alternator	Voltage	Standby Power	Power Factor	Standby Current
TWD1643GE	HCI544F (Wnd-311)	480 / 277V	600kW	0.8	903A
	HCI544F (Wnd-311)	240/120V	600kW	0.8	1806A
	HCI544F (Wnd-311)	208 / 120V	600kW	0.8	2084A
	HCI544E (Wnd-17)	600 / 347V	600kW	0.8	722A

***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	Volvo Penta
Model	TWD1643GE
Displacement & Cylinders	16.12 L / 6 Cylinders
Engine Speed	1800rpm
Engine Standby Power w/Fan	644 kW
Engine Prime Power w/Fan	585 kW
Aspiration	Turbocharged
Compression Ratio	16.5 : 1
Bore / Stroke	144 mm / 165 mm
Effective Mean Pressure, Standby Power	2.8 Mpa
Max Combustion Pressure, Standby Power	19.8 Mpa
Total Mass Moment of Inertia	4.20 kgm ²
Friction Power	55 kW
Wet Weight – Engine Only	3902 lb
Wet Weight – GenPac	5225 lb
Engine Crankcase Vent System	Open

Fuel System

Injection Pump Type	Delphi / E3
System Supply Flow	55 g/h
System Return Flow	6.6 g/h
Max Allowable Inlet Fuel Temp	140 °F

Fuel Consumption

Standby Power (100%)	40.8 gal/h
Standby Power (75%)	29.7 gal/h
Standby Power (50%)	20.0 gal/h
Standby Power (25%)	11.0 gal/h

Electric System

Voltage & Type	24V, Insulated from Earth
Alternator Make / Output	Bosch / 80A
Battery Qty, Rating	2 x 120Ah

Cooling System

Radiator Cooling System Type	Closed Circuit
Fan Power Consumption	30 kW
Coolant Capacity	12.68 gal
Max Top Tank Temperature	217 °F
Thermostat, Start – Fully Open	180–198 °F

Exhaust System

Exhaust Gas Temp	862 °F
Max Allowable Back Pressure	10 kPa
Exhaust Gas Flow	130.1 m ³ /min

Air Intake System

Air Consumption	54.85 m ³ /min
Max Intake Air Restriction	5 kPa
Air Filter Type	Single Stage Paper Cartridge

Lubrication System

Total System Capacity	12.7 gal
Sump Capacity Max / Min	11.1 gal / 8.5 gal
Max Oil Temp	266 °F
Oil Pressure at Rated Speed	44-94 psi
Oil Consumption	0.029 gal/h



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

Battery Charger & Electrical System Data

Manufacturer	ComAp
Model	InteliCharger
Input Voltage	85V ~ 264V AC
Output Voltage / Current	27.2V Float / 2.5A pk

Jacket Water Heater Data

Manufacturer	Hotstart
Model	CTM25110-N00
Input Voltage	120V
Power	2500W

Controller Data

Manufacturer	DSE
Model	7320 MK II

Controller Features & Benefits

- Microprocessor controlled, UL & NFPA110 Compatible
- License free PC Software (Non-proprietary 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, two wire start/stop at Auto mode
- Front panel editing with PIN protection
- Support up to three remote display modules
- Configurable timers and alarms
- Multiple date and timer scheduler
- Integral PLC editor
- 'Protections disabled' feature
- Load switching (load shedding and dummy load outputs)
- Fully configurable via DSE Configuration Suite PC Software
- SCADA monitoring via DSE Configuration Suite PC Software

Protection

- ✓ Gen. Voltage – under / over
- ✓ Gen. Freq. – under / over
- ✓ Engine Speed – under / over
- ✓ Engine Oil Pressure – low
- ✓ Engine Temp – low / high
- ✓ Battery Voltage – low / high
- ✓ Weak Battery
- ✓ Fail to Start / Stop
- ✓ Charge Alternator Fail
- ✓ Over Current & Load (kW/kVAr)
- ✓ Unbalanced Load
- ✓ Independent Earth Fault
- ✓ Reverse Power
- ✓ Loss of Speed Signal

Instruments

- ✓ Gen. Voltage (L-L/L-N)
- ✓ Gen. Frequency
- ✓ Engine speed
- ✓ Oil Pressure
- ✓ Water Temperature
- ✓ Battery Voltage
- ✓ Run Time
- ✓ Phase Sequence
- ✓ Power monitoring (kWh/kVAh/kVArh)
- ✓ Power (kWh/kVAh/kVArh)
- ✓ Power Factor
- ✓ Generator Current
- ✓ Generator Load (%)
- ✓ Earth Current



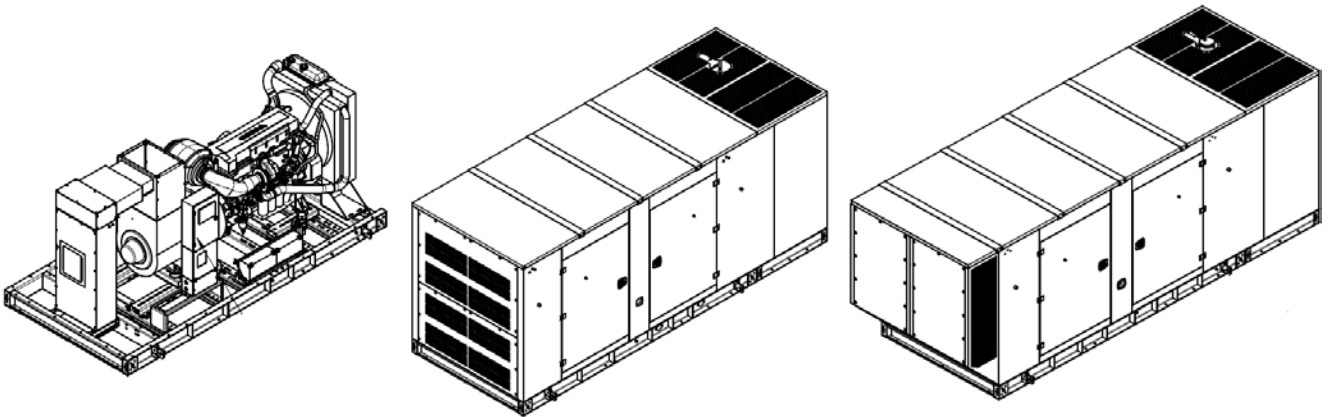
Enclosure Features

- ✓ 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		Level 1 Enclosure		Level 2 Enclosure	
Length	157.5 in	Length	205 in	Length	224.6 in
Width w/o lift hooks	74.8 in	Width w/o lift hooks	77 in	Width w/o lift hooks	77 in
Height	75.8 in	Height	89.9 in	Height	89.9 in
Dry Weight	9745 lb	Dry Weight	14690 lb	Dry Weight	15065 lb
		Sound Pressure @ 7 meters	80 dB(A)	Sound Pressure @ 7 meters	78 dB(A)



Fuel Tank - UL142 Listed Base Design

Size	24hr (1000gal)	48hr (2000gal)	72hr (3000gal)
Dimensions (L/W/H) (in)	225 / 74.8 / 22	250 / 74.8 / 36	350 / 74.8 / 36
Weight (lb)	3350	4600	6200

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**Standard Features & Accessories**

- ✓ UL2200 Certification
- ✓ Heavy Duty Steel Base Frame
- ✓ PMG w/MX341 AVR
- ✓ 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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