

## 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.



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

### 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 <sup>2</sup>
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 <sup>3</sup> /min

### Air Intake System

Air Consumption	54.85 m <sup>3</sup> /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 –
- ✓ 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

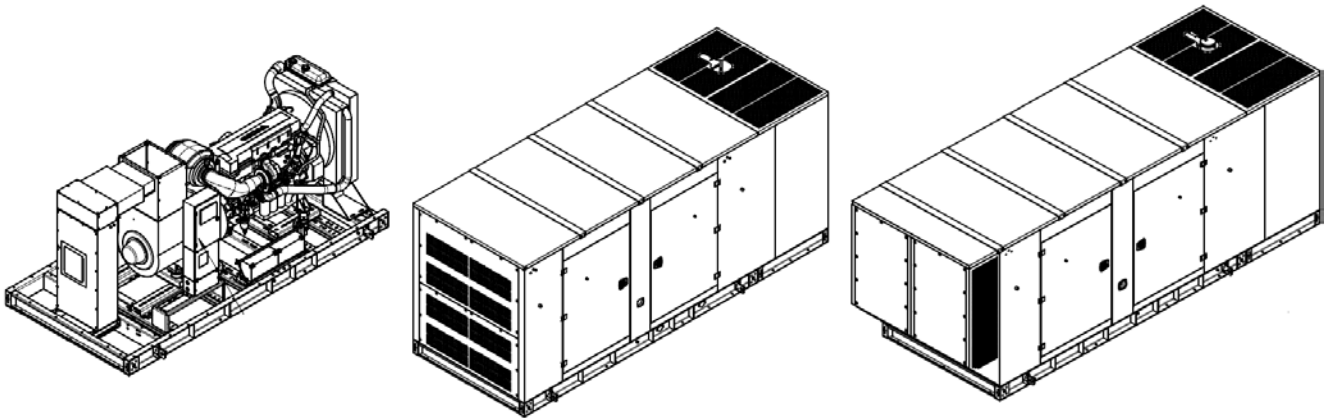
### Enclosure Features

- ✓ 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

### 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