APD-EPAV550T4

INTRODUCTION

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.

Power (kVA) 60 Hz

VOLTAGE	PHASE	Pf	STANDBY RATING (ESP)		Standby Ampere	PRIME RATING (PRP)		Prime Ampere
			kW	kVA		kW	kVA	
240/120								
208/120								
480/277								

STANDBY 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. Derating may be required for conditions outside of the test conditions.

GENERAL CHARACTERISTICS

	APD-EPAV550T4
Frequency (Hz)	
	Diesel
Engine Make and Model	
	STAMFORD HCI544E
Control Panel Model	

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ENGINE SPECIFICATIONS

	Volvo
Engine Model	TWD1672GE
	6 cylinders - in line
Max. power @ rated rpm; kWm (BHP)	615 (836)
	2.3 MPa @ prime
Aspiration & Cooling	Turbo Charged
	983.9 (16.12)
Bore; in. (mm)	5.67 (144)
	6.5 (165)
Compression Ratio	16.8:1
	Volvo/EMS 2.3
Rated rpm	1800
	CCW viewed on flywheel

ENGINE ELECTRICAL SYSTEM

	24V / insulated from earth
Alternator Rating; (amp)	300
Starter motor power; (kW)	7
Starter motor rated voltage; (dc)	12
Battery quantity x rating & CCA	2 x 225Ah

FUEL SYSTEM

Type of injection	Direct
Fuel injection pump	Unit injector hybrid
Max. fuel flow; L/hr (gal/hr)	210/55.5
Fuel filter & water separator	Available

FUEL CONSUMPTION

100% Load (Standby) (gal/hr)	42.4
100% Load (Prime) (gal/hr)	38.4
75% Load (Prime) (gal/hr)	29.1
50% Load (Prime) (gal/hr)	20.2

EXHAUST SYSTEM

Exhaust gas flow; (m3/min)	114
Max. back pressure; (kPa)	19
Max. exhaust gas temp after turbine (°C)	423

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COOLING SYSTEM

Radiator ambient temp; ^{o}C (^{o}F)	TBD
Coolant capacity; L (gal)	48 (12.68)
Thermostat operation range; ^{o}C	82-92
Combustion air flow; m^{3}/min	46.06
Engine coolant flow; L/min (gal/min)	360 (95.4)
Cooling fan air flow;	816 m^{3}/min
	5
Air filter	Volvo Penta filter

LUBRICATION SYSTEM

	48 (12.68)
Oil cooler	Water cooled
Oil temp (continuous operation); ^{o}C	130

ALTERNATOR CHARACTERISTICS

	Stamford
Model	HCI544E - 60Hz
	Double Layer Lap
Exciter type	Self Excited
	2/3 winding pitch
Rotor	Single bearing, flexible disc
	12
Insulation	Class H
	125^{o}C Prime
Max. over-speed; rev/min	2250
	MX321

OPTIONAL 3 POSITION VSS (kW Rating at 1800rpm/60Hz)

	550 kW - 826.9A
240/120V - 3ph - 0.8pf	544 kW - 1635.8A

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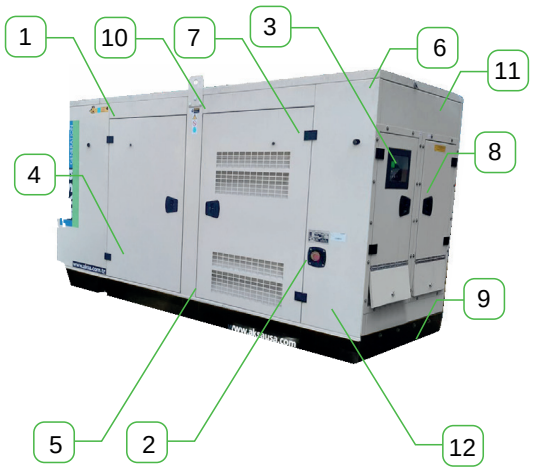
GEN.SET CANOPY DIMENSIONS

WIDTH (in)	88.82
DRY WEIGHT (lb)	18607
GENSET SOUND LEVEL (dBA@23ft)	79.5



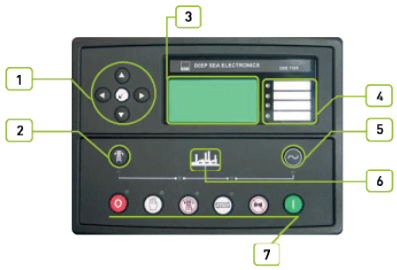
1. Steel structures.
2. Emergency stop push button.
3. Control panel is located at the rear side of the generator set.
4. Corrosion-resistant locks and hinges.
5. Oil could be drained via valve and a hose
6. Exhaust system in the canopy.
7. Special large access doors for easy maintanance
8. In front and back side special large access doors for easy maintanance
9. Base frame -fuel tank.
10. Lifting points similar to ISO container , located on each top corner of the canopy.
11. The cap on the canopy provides easy accsess to radiator cap.
12. Sound proofing materials

BASE-FRAME ENCLOSURE

- The complete gen-set is mounted entirely on a heavy duty base frame with an integral double wall fuel tank.
- Anti vibration isolators are installed between engine/alternator supports and the base frame.
- All enclosure parts are designed with module principles without welding
- Enclosure has four doors on each side for easy serviceability and back door for control system.
- Exhaust silencer is protected (Coated) against environmental outdoor conditions and is internally mounted within enclosure.
- Exhaust pipe thermally insulated on engine compartment.
- All metal enclosure parts are painted by electrostatic polyester powder paint.
- Fuel filling cap is within the Enclosure, and reachable through lockable door.
- Emergency stop switch externally mounted on enclosure.
- Components installed in sheet steel enclosure.
- Phosphate chemical, pre-coating of steel provides corrosion resistant surface
- Polyester composite powder topcoat forms high gloss and extremely durable finish
- Lockable hinged panel door provides for easy component access

CONTROL PANEL

Control Module Model	DSE 7320



1. Menu navigation buttons
2. Close mains button
3. Main Status and instrumentation display
4. Alarm LED's
5. Close generator button
6. Status LED's
7. Operation selecting buttons

GENERATING SET CONTROL UNIT

The DSE 7320 includes the additional capability of being able to monitor a mains (utility) supply and is therefore suitable for controlling a standby generating set in conjunction with an automatic transfer switch.

The DSE7320 also indicates operational status and fault conditions, automatically shutting down the generating set and indicating faults by means of its LCD display on the front panel.

- UL recognized, NFPA110 Level 1 compatible
- LCD text display, key menu navigation and front panel editing
- Off/Manual/Auto model switch
- Two wire starting/stopping in Auto mode
- Engine exerciser
- IP65 front panel rating with supplied sealing gasket
- Configurable 8 inputs, 6 analogue inputs, 6 DC outputs with expansion capability
- Real time clock provides accurate event logging
- Fully configurable via DSE Configuration Suite PC software
- Remote SCADA monitoring and BMS integration features
- License free PC software

Microprocessor controlled
- 132 x 64 pixel LCD display makes information easy to read
- Front panel programming and also via PC software
- Soft touch membrane keypad and five key menu navigation
- Remote communications via RS232, RS485 and ethernet.
- Event logging (50) showing date and time
- Multiple date and time engine exercise mode and maintenance scheduler
- Coolant heater control.
- Controls; stop, manuel, auto, test, start, mute lamb test/transfer to generator, transfer to mains, menu navigation.

ENGINE
- Engine speed
- Oil pressure
- Coolant temperature
- Run time Battery volts
- Engine maintenance due

MAINS
- Voltage (L-L, L-N)
- Frequency

GENERATOR
- Voltage (L-L, L-N)
- Current (L1-L2-L3)
- Frequency
- Earth current
- kW
- Pf
- kVAr
- kWh, kVAh, kVArh
- Phase sequence

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PRE-ALARMS
- Low oil pressure
- High engine temperature
- Low engine temperature
- Over /Under speed
- Under/over generator frequency
- Under/over generator voltage
- ECU warning

WARNING
- Charge failure
- Battery under voltage
- Fail to stop
- Low fuel level (opt.)
- kW over load
- Negative phase sequence
- Loss of speed signal

ELECTRICAL TRIP
- Earth fault
- kW over load
- Generator over current
- Negative phase sequence

SHUT DOWNS
- Fail to start
- Emergency stop
- Low oil pressure
- High engine temperature
- Low coolant level
- Over /Under speed
- Under/over generator frequency
- Under/over generator voltage
- Oil pressure sensor open
- Phase rotation

- High oil temperature shut down
- Low fuel level shut down
- Low fuel level alarm
- High fuel level alarm
- EXPANSION MODULES
- Editional LED module (2548)
- Expension relay module (2157)
- Expansion input module (2130)

- Elecrical Safety / EMC compatibility
- BS EN 60950 Electrical business equipment
- BS EN 61000-6-2 EMC immunity standard
- BS EN 61000-6-4 EMC emission standard

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STANDARD SPECIFICATIONS

Convenience Panel Accessories

- (2) Two 20A, 120V GFCI receptacles and breakers
- (3) Three 50A, 240V twist lock receptacles and breakers
- 5-15A, 125V inlet receptacles for battery charger and water heater
- Two wire remote start station
- Generator set voltage adjust rheostat
- (5) 400A rated, stud type quick connect cam-locks

Standard Features & Accessories

- Trailer w/spare tire and tool box
- Sound Attenuated Steel Enclosure
- Heavy Duty Steel Base-frame
- Exhaust system with Doc+SCR
- Flex Fuel Lines
- Oil Drain Valve & Extension
- Convenience Panel
- Voltage Selector Switch – 3 position
- Emergency Stop Switch
- Battery, Battery Rack & Cables
- Battery Charger (Input: 196-264V, Output: 27.6V 5A or 13.8V 5A)
- Main Line CB
- Jacket Water Heater (120 VAC, 1000 W)
- Operations Manual
- 1 Year / 2000 hours Limited Warranty

Voltage Selector Switch

- Three positions at 480/277V, 208/120V - 3ph & 240/120 - 1ph
- Product of Salzer or Kraus&Naimer

Trailer

- DOT approved 24,000lbs heavy duty triple axle trailer
- Spring axles w/electric brakes
- Breakaway kit with charger
- 5000lbs front jack and rear stabilizer jacks
- 7 pin trailer plug
- Tool box and spare tire

Circuit Breaker

- 250Amp capacity main line circuit breaker
- Shunt trip controller by generator set control

OPTIONAL ACCESSORIES

- Upsized Alternator
- PMG Excitation
- Alternator Anti-condensation Heater
- 4 Position VSS
- Fuel Level Monitoring on Controller & High Fuel Alarm
- Fuel Line Check Valve
- Oil Temperature Gauge
- Oil Heater
- Battery Charger 10Amp
- Battery Heater Blanket
- Main Line CB (100% rated)
- Remote Monitoring and Control
- Remote Annunciator

* Generator shall de-rate 3% for every 1,000 ft above 2,500 ft altitude.

AKSA CERTIFICATES

- CE
- 2000/14/EC

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