# APD631V-6



POWER YOUR FUTURE

KSA POWER

631 kVA / 504.8 kW POWERED by VOLVO

# **DIESEL GENERATING SET 220/127V-60 Hz**

MODEL			APD631V-6
Power Pf. 0.8	Standby	kVA	631
		kW	504.8
	Prime	kVA	574
		kW	459.2

Standby: Continuous running at variable load for duration of an emergency. No overload is permitted on these ratings. In accordance with ISO 3046. Prime: Continuous running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period. In accordance with ISO 8528,ISO 3046.

✓ High quality, reliable and complete power unit

- ✓ Compact design
- ✓ Easy start and maintenance possibility
- ✓ Every generating set is subject to a comprehensive test program which includes full load testing, checking and provision of all control and safety shut down functions testing
- ✓ Fully engineered with a wide range of options and accessories: Canopy, sound proof canopy and on-road trailer





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

## ENGINE

VOLVO PENTA					
Model		TAD1641GE			
Engine Power Output	kWm	565			
at rated rpm	HP	768			
Aspiration and Cooling		Turbocharged-intercooler			
Total Displacement	Litre	16.12			
No. of Cylinders and Build		6 Cylinder, In-Line			
Engine Speed	rpm	1800			
Bore and Stroke	mmxmm	144 × 165			
Compression Ratio		16.5:1			
Governor		Electronic control(Volvo / EMS 2)			
Fuel Consumption at full load	L/hr	122.1			
Fuel Tank Capacity	Litre	Open:850 / Canopy:1150			
Oil Capacity	Litre	48			
Coolant Capacity	Litre	60			
Radiator Cooling Air	m³/min	575.4			
Air Intake – Engine	m³/min	45.8			
Exhaust Gas Flow	m³/min	110.4			

✓ Heavy duty Volvo Penta diesel engine

✓ Four stroke, water cooled

✓ Direct injection fuel system

- ✓ Electronic Governor system
- ✓ 12/24 V D.C. starter and charge alternator
- ✓ Replaceable fuel filter, oil filter and dry element air filter
- Cooling radiator and fan  $\checkmark$

Starter battery (with lead acid) including Rack and Cables  $\checkmark$ 

- Flexible fuel connection hoses and manual oil sump drain valve Industrial capacity exhaust silencer and steel bellows
- $\checkmark$
- Jacket water heater(at automatic models)  $\checkmark$
- ✓ Operation manuals and circuit diagram documents

# **ALTERNATOR**

Design	Brushless single bearing, revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible disc
Insulation System	Class H
Standard Temperature Rise	125 - 163°C Continuous
Exciter Type	Self Excited
Phase Rotation	A (U), B (V), C (W)
Alternator Cooling	Direct drive centrifugal blower fan
AC Waveform Total Harmonic Distortion	No load < 1.5%. Non distorting balanced linear load < 5%
Telephone Influence Factor (TIF)	<50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	<2%

✓ Brushless, single bearing system, flexible disc, 4 poles

✓ Insulation class H

✓ Standard degree of protection IP21 (\*IP22/IP23 is available.)

✓ Self-exciting and self-regulating

✓ Impregnation with tropicalised epoxy varnish

 $\checkmark$ Solid state Automatic Voltage Regulator

✓ Stator winding with 2/3 pitch for improved harmonics

### **CONTROL SYSTEM**

Control supervision and protection panel is mounted on the genset base frame. The control panel is equipped as follows:

### 1. Auto Mains Failure Control Panel

Panel equipments:

- ✓ Control with AMF module
- ✓ Static battery charger
- ✓ Emergency stop push button

### a) Generating set control module DSE 7320 features:

- The module is used to monitor a mains supply and starts and stops a standby generating set
- ✓ Micro-processor based design
- ✓ Automatic control of mains and generator contactors
- ✓ Monitors engine performance and AC power output
- ✓ LED alarm indication
- ✓ Front panel configuration of timers and alarm trip points
- ✓ Easy push button control STOP/RESET - MANUAL -TEST- AUTO - MUTE ALARM - START

### b) Metering via LED display:

- Generator Volts (L-L / L-N)
- ✓ Engine oil pressure (PSI-Bar)
- ✓ Generator Ampere (L1,L2,L3)
- ✓ Engine temperature (° C&° F)
- ✓ Generator Frequency (Hz)
- ✓ Plant battery volts
- ✓ Engine hours run ✓ Mains Volts (Ph-Ph/Ph-N)
- ✓ Generator kVA, kWh
- ✓ Generator kW as % of rated kW setting
- ✓ Generator Cos ( $\sigma$ )

DSE 7320

#### c) Alarms:

- ✓ Over and Under Speed
- Low and High Battery Volt.
- ✓ Start and Stop Failure
- ✓ Charge fail
- ✓ Over Current
- ✓ Under / Over Generator Voltage
- ✓ Low Oil Pressure
- ✓ Emergency stop
- ✓ High engine temperature
- ✓ kW overload
- ✓ Unbalanced load
- ✓ Independent earth fault trip

#### d) LED indications

- Four configurable LED's like:
- ✓ Mains available
- ✓ Generator available
- ✓ Mains on load
- ✓ Generator on load

### 2. Power Outlet Terminal Board Mounted on the Genset Base Frame

### **OPTIONAL EQUIPMENTS**

#### **Diesel Engine**

✓ Oil heater

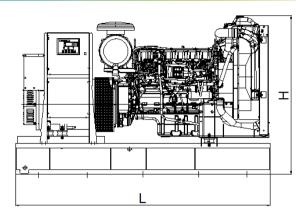
#### Alternator

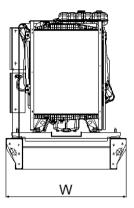
- ✓ 3/4 Pole Output Circuit Breaker
- ✓ Anti-condensation Heater
- Panel
- ✓ Charge ammeter
- Transfer Switch 3 Pole
- Transfer Switch 4 Pole  $\checkmark$
- ✓ Earth Fault ,single set

#### Accessories

- ✓ Bulk fuel tank
- Automatic filling system
- ✓ Fuel-water separator filter
- ✓ Low fuel level alarm
- ✓ Residential silencer
- ✓ Enclosure or sound proof canopy
- Trailer
- ✓ Manual oil drain pump
- Tool kit for maintenance

### **CHASSIS**





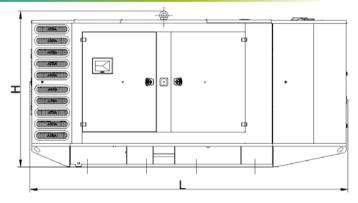
✓ The complete gen-set is mounted as whole on a heavy-duty fabricated, steel base frame

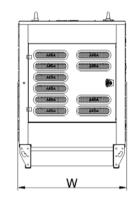
- ✓ Anti-vibration pads are fixed between the engine/ alternator feet and the base frame
- ✓ Base frame design incorporates an integral fuel tank (Up to 1000 kVA)
  ✓ The generating set can be lifted or carefully pushed / pulled by the base frame
- Dial type fuel gauge and drain plug on the fuel tank  $\checkmark$
- ✓ Forklift pockets within base frame (up to 500kVA)

### DIMENSIONS

OPEN TYPE						
DIMENSIONS (LxWxH)	mm	3295X1550X2210				
DRY WEIGHT	kg	3280				
SOUND ATTENUATED TYPE						
DIMENSIONS (LxWxH)	mm	5413x1856x2655				

## CANOPY





- All canopy parts are designed with modular principles
- Without welding assembly ~
- Doors on each side
- All metal canopy parts are painted by electrostatic √ polyester powder paint
- Exhaust silencer is protected against environment influences
- Thermally insulated engine exhaust system ✓
- √ Emergency stop push button is installed outside of the canopy
- √ Easy lifting and moving
- √ Easy maintenance and operation

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