



## DIESEL GENERATOR DATA SHEET

**Power By Perkins**

**Model: AP168**



### Output Ratings

Generator set model	Voltage	Hz	Phase	P.F.	Prime Power		Standby Power	
	(V)				KVA	KW	KVA	KW
AP168	127/220	60	3	0.8	153	122	168	134

•220/380V, 254/440V, 277/480V, is available

### Dimension & weight

Generator set model	Type	L*W*H(mm)	Weight(kg)
AP168	Open	2260*760*1570	1500
	Silent	3300*1120*1800	2000

### Other datas

Circuit Breaker capacity (A)	630
Battery brand	Varta
Base Fuel Tank Capacity(L)	281

### Notes:

- Standby power: Continuous running at variable load for duration of an emergency. No overload is permitted on these ratings. In accordance with ISO 3046 .
- Prime power: 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.
- Standard reference conditions 25°C (77°F) Air Inlet Temp, 100m(328 ft) A.S.L. 30% relative humidity.

### Warranty

- The standard warranty period: One year after ex-work or 1000 operation hours whichever come first shall apply.
- Consumable parts(air filter, fuel filter, lube oil filter) , All failures and damages due to the mal-operation, neglect of maintenance and operation not according to the operation manual, are out of the scope of warranty.

### Standard Configuration

- Engine include air,fuel,oil filters, starting motor and charge alternator etc.
- Brushless AC alternator,single bearing, flange connection, w/AVR
- Radiator with engine driven fan mounted on skid
- Channel steel base frame, <550KW base 8hrs mounted fuel tank as standard
- Anti-vibration pads between engine/alternator and base frame
- Circuit breaker 3P as standard, 4P optional
- Auto control panel
- Start battery w/ connecting cable and floating battery charger
- Flexbile pipe, exhaust elbow, industrial silencer etc.
- Standard tools kit
- Electric drawing, test report ,operation & maintaince manual of generator etc.
- Optional soundproof/Container canopy, ATS cabinet, remote control panel, synchronization panel, movable trailers, heat exchanger, remote horizontal water tank system, external fuel tank, etc



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

## Engine

### GENERAL ENGINE DATA

Engine manufacture	Perkins Engines Company Limited	
Engine brand	Perkins	
Engine model	1106A-70TG1	
Engine speed (rpm)	1800	
	Prime power	Standby power
Gross engine power (kWb)	140	155
Typical Genset electrical output 0.8pf 25°C (100 kPa) (KW)	122	135
Cylinders	6-cylinder, vertical in line	
Cycle	4 stroke	
Induction system	Turbocharged, air charge cooled	
ICombustion system	Direcct injection	
Compression ratio	18.2:1	
Bore * Stroke (mm)	105*135	
Cubic capacity (Litre)	7.01	

### FUEL SYSTEM

Injector	Mechanical	
Fuel pump	DP210G	
Fuel Consumption (litre/hour)		
	110%	38.8
	100%	35.2
	75%	26.5
	50%	18
	25%	10.5

### COOLING SYSTEM

Total system capacity(litre)	21
Engine capacity(litre)	9.5
Max. top tank temperature (°C)	110
Thermostat operating range (°C)	82-93
Shutdown switch setting(°C)	118

### LUBRICATION SYSTEM

Max. total system oil capacity(litre)	16.5
Min. oil capacity in sump(litre)	12.4
Max. oil capacity in sump(litre)	14.9
Oil temperature (in sump) normal continuous operation(°C)	125
Pressure at max. speed(kPa)	340
Oil consumption at full load(% of fuel)	<0.1

### INDUCTION SYSTEM

Maximum air intake restriction of engine (kPa)	
Clean filter	3
Dirty filter	5
Combustion air flow(standby/prime power) (m <sup>3</sup> /min)	11.86/11.28

### EXHAUST SYSTEM

Back pressure for total system (kPa)	6
Exhaust gas temp. after turbo(max)(°C)	526
Exhaust gas flow (standby/prime power) (m <sup>3</sup> /min)	29.72/27.83

### ELECTRICAL SYSTEM

Alternator voltage (volts)	12
Alternator output (amps)	65
Stater motor type (volts)	12
Starter motor power (kw)	4.2

## ALTERNATOR

Alternator manufacturer	Cummins Generator Technologies(China) Co. Ltd
Alternator brand	Stamford
Alternator model	UC274E
Control system	SELF EXCITED
A.V.R.	Included
Voltage regulation	±1.0%
Insulation system	Class H
Protection	IP23
Rated power factor	0.8
Winding pitch	Two thirds
Winding leads	12
Frequency (Hz)	60
Voltage (V)	220
Phase	3
Output ratings (kVA/kW)	
-----Cont.H-40°C	167.5/134.0
-----Standby-27°C	181.3/145.0
THF	<2%
TIF	<50
Max. overspeed (Rev/Min)	2250
Bearing	Single

## CONTROL SYSTEM

Ai Power adopts ComAp AMF9 or Deepsea DSE6120 as the standard controller for single gen-set applications..  
AMF25 or DSE7320 for option.



ComAP AMF9



Deepsea DSE6120

### Features

- Single-genset controller for stand-by and prime power applications
- 3 phase AMF function
- 3 phase generator protections
  - over/under frequency, over/under voltage, over current
- True RMS voltage measurement
- True RMS current measurement
- Event and performance log
  - Gen-set ext alarm, Engine hours history, ECU Text alarm, Test Run scheduler
- Power Measurements
- User interface
- Inputs and outputs
  - Configurable analogue/digital, binary
- Direct communication with EFI engines
- Engine Protections
  - Oil pressure, Coolant temperature, Fuel level
- Breaker control via fasica buttons
- Fuel Pump control
- Optional Active Calls(SMS alarm/event)
- Miscellaneous features
- Communication interface
  - USB plug-in, Optional RS232, RS485, GSM
- Multiple display languages
- Start on low battery
- Real-time clock
- Zero power mode
- LCD and LED alarm indication
- Configuration Suite PC Software.
- IP65 protection class
- Remote monitoring

### Protection function:

- Low oil Pressure
- High water temperature
- High voltage and low voltage
- Over current
- Over speed
- Emergency stop
- Low fuel alarm and shutdown
- Fail to start

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## Open and Silent Generator

Ai Power silent generator is widely used in residential area which require quiet environment, its reasonable and elegant design not only reduce the noise to applicable to the environment protection, but also a good view on the road. Our 10kva to 650kva generator adopts normal silent canopy, from 650kva to 1500kva adopts 20ft container canopy, the higher power adopts 40HQ container canopy.



### Open Generator Standard Supply

#### The Open Type Generator Includes:

1. Automatic control panel.
2. 3 phases or single phase brushless alternator.
3. anti-vibration pad.
4. different brand engine.
5. water cooled radiator.
6. battery protection switch.
7. sealed lead acid free maintenance battery.
8. trickle battery charger.
9. 3P Chinese brand Circuit breaker.
10. Exhaust silencer, elbow and flange.



### Silent Generator Standard Supply

#### Silent Generator Standard Supply:

1. AMF automatic control system
2. Fresh air inlet cooling system
3. Emergency stop
4. 3P Chinese brand Circuit Breaker
5. Cable output placement
6. 8hrs strong base fuel tank
7. stainless steel hinges
8. maintenance door



### Silent Canopy Features

#### Silent Canopy Features:

1. more than 2mm thick steel canopy.
2. High quality paint and strict powder paint processing.
3. large-scale impedance combined type silencer.
4. Stainless steel door locks and hinges.
5. High quality fireproof, soundproof and insulation materials.
6. Clear monitoring control panel and outer emergency stop.
7. Lifting ear is mounted in the base frame for easy pull.
8. Fuel and lub oil drainout is all connected to the canopy.
9. Fuel refill opening is on the outer canopy.



