

Power By Doosan

Model:AD688



## Output Ratings

| Generator set model | Voltage | Hz | Phase | P.F. | Prime Power |     | Standby Power |     |
|---------------------|---------|----|-------|------|-------------|-----|---------------|-----|
|                     | (V)     |    |       |      | KVA         | KW  | KVA           | KW  |
| AD688               | 400/230 | 50 | 3     | 0.8  | 625         | 500 | 688           | 550 |

•380/220V,415/240V,440/254V is available

## Dimension & weight

| Generator set model | Type   | L*W*H(mm)      | Weight(kg) |
|---------------------|--------|----------------|------------|
| AD688               | Open   | 3150*1270*2100 | 3600       |
|                     | Silent | 3700*1700*2100 | 4550       |

## Other datas

|                             |       |
|-----------------------------|-------|
| Circuit Breaker capacity(A) | 1000  |
| Battery Brand               | Varta |
| Base Fuel Tank Capacity(L)  | 1090  |

## 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.

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## Engine

### GENERAL ENGINE DATA

|                      |  |     |
|----------------------|--|-----|
| Engine manufacture   | Doosan Infracore Co., Ltd  |     |
| Engine brand         | Doosan   |     |
| Engine model         | DP180LB  |     |
| Engine speed (rpm)   | 1500   |     |
| Engine output(kWm)   |  |     |
|                      | Standby Power  | 612 |
|                      | Prime Power  | 556 |
| Engine Type          | 4-Cycle, V-type, 10-Cylinder, Turbo charged & intercooled (air to air) |     |
| Bore x Stroke (mm)   | 128 x 142  |     |
| Displacement (litre) | 18.273   |     |
| Compression Ratio    | 15:1   |     |

### FUEL SYSTEM

|                               |   |       |
|-------------------------------|---|-------|
| Type                          | Bosch type in-line pump with integrated, electromagnetic actuator |       |
| Governor                      | Electric type ( all speed control )                               |       |
| Fuel Consumption (litre/hour) |   |       |
|                               | 25% prime load  | 38.6  |
|                               | 50% prime load  | 71.2  |
|                               | 75% prime load  | 103.8 |
|                               | 100% prime load   | 136.4 |

### EXHAUST SYSTEM

|   |         |  |
|---|---------|--|
| Maximum Back Pressure (kPa)                               | 5.9     |  |
| Exhaust gas temp. after turbo. (prime/standby power) (°C) | 563/587 |  |
| Exhaust Gas Flow(prime/standby power) (m3/min)            | 107/118 |  |

### AIR INDUCTION SYSTEM

|   |                           |      |
|---|---------------------------|------|
| Maximum Intake Air Restriction (kPa)          |                           |      |
|   | with Clean Filter Element | 2.16 |
|   | with Dirty Filter Element | 6.23 |
| Intake Air Flow(prime/standby power) (m3/min) | 33.4/36                   |      |

### COOLING SYSTEM

|                           |   |     |
|---------------------------|---|-----|
| Cooling method            | Fresh water forced circulation  |     |
| Coolant capacity          | Engine Only : Approx. 21 lit., With Radiator : Approx 91 lit.(standard) |     |
| Water Temperature         |   |     |
|                           | Maximum for standby and Prime (°C)                                      | 103 |
|                           | Before start of full load (°C)  | 40  |
| Thermostat Type and Range | Wax – pellet type, Opening temp. 71°C , Full open temp. 85°C            |     |

### LUBRICATION SYSTEM

|                              |                                 |     |
|------------------------------|---------------------------------|-----|
| Lub. Method                  | Fully forced pressure feed type |     |
| Oil pan capacity             | Max. 34 liters , Min. 23 liters |     |
| Lub oil pressure (kPa)       |                                 |     |
|                              | Idle Speed Min.                 | 100 |
|                              | Governed Speed Min.             | 250 |
| Maximum Oil Temperature (°C) | 120                             |     |

### ELECTRICAL SYSTE

|                             |                          |  |
|-----------------------------|--------------------------|--|
| Battery Charging Alternator | 27.5V x 45A alternator   |  |
| Starting motor              | 24V x 7.0 kW             |  |
| Battery Voltage             | 24V                      |  |
| Battery Capacity            | 2 x 200 Ah (recommended) |  |

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## ALTERNATOR

|                          |   |
|--------------------------|---|
| Alternator manufacturer  | Cummins Generator Technologies(China) Co. Ltd |
| Alternator brand         | Stamford                                      |
| Alternator model         | HCI544FS                                      |
| Control system           | Self excited                                  |
| A.V.R.                   | Included                                      |
| Voltage regulation       | ±1%   |
| Insulation system        | Class H                                       |
| Protection               | IP23  |
| Rated power factor       | 0.8   |
| Winding pitch            | Two thirds                                    |
| Winding leads            | 12  |
| Frequency (Hz)           | 50  |
| Voltage (V)              | 400   |
| Phase                    | 3   |
| Output ratings (kVA/kW)  |   |
| -----Cont.H-40°C         | 625/500                                       |
| -----Standby-27°C        | 688/550                                       |
| THF                      | <2%   |
| TIF                      | <50   |
| Max. overspeed (Rev/Min) | 2250  |
| Bearing                  | Single  |

## CONTROL SYSTEM



The **DEEPSEA DSE 6120** is an Auto Mains (Utility) Failure Control Module developed to provide a wide range of operating and monitoring features for single diesel and gas gen-sets.

**DSE7320, ComAp AMF25 etc. for option.**

### Protection function:

- Low oil Pressure
- High water temperature
- High voltage and low voltage
- Over current
- Overspeed
- Volt adjuster and frequency adjuster.
- Emergency stop
- Low fuel alarm and shutdown
- Low coolant alarm and shutdown

### Key Functions:

- Multiple display languages
- Data logging facility
- Fully configurable via PC using USB communication
- Front panel configuration
- 3 phase generator sensing
- 3 phase mains (utility) sensing
- Generator/load power monitoring (kW, kV A, kV Ar, pf)
- Accumulated power monitoring (kW h, kVA h, kVAr h)
- Generator/load current monitoring and protection
- Generator overload protection (kW)
- Breaker control via fascia buttons
- Fuel and start outputs, configurable when using CAN
- 4 configurable DC outputs
- 4 configurable analogue/digital inputs
- Support for 0 to 10 V & 4 to 20 mA oil pressure sensors
- 6 configurable digital inputs
- Configurable staged loading outputs
- CAN, MPU and alternator speed sensing in one variant
- 3 engine maintenance alarms
- Engine hours counter
- Engine pre-heat
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel pump control
- Battery voltage monitoring
- Start on low battery voltage
- Configurable remote start input
- 1 alternative configuration
- Comprehensive warning, electrical trip or shutdown protection.
- LCD and LED alarm indication

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## SILENT CANOPY



- ① Durable stainless steel hinges
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- ③ Strong base fuel tank
- ④ High performance exhaust silencer
- ⑤ Deepsea control system
- ⑥ Emergency stop
- ⑦ High quality 3P Circuit breaker and terminal output
- ⑧ Fresh air inlet cooling system

- ① air inlet cooling system
- ② stainless door lock
- ③ fuel cap lock
- ④ tow holes
- ⑤ engine
- ⑥ radiator
- ⑦ insulation and soundproof materials
- ⑧ maintenance door

### Performance Features:

- More than 2mm thick steel to make the canopy.
- High quality paint materials and strict powder paint processing.
- large-scale impedance combined type silencer effectively reduce noise of the generator.
- Stainless steel door locks and hinges and 180° revolvable and disassemble door for easy maintenance.
- High quality soundproof and insulation materials could efficiently reduce noise.
- Transparent viewing window make the control panel clear at a glance.
- Lifting earis mounted in the base frame for easy pull.
- From 10kva to 700kva we use normal silent canopy, more than 700kva we are using containerized canopy.
- ISO standard 20', 40' and 40HQ sea container canopy for options.
- Standard sea container canopy is easier for shipping.

## AI POWER COMPANY SHOW



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