



Model :  
**KDC-23/S**

| PRP |     | ESP |     | Standby | Voltage/Ph | Hz/rpm  | PF  |
|-----|-----|-----|-----|---------|------------|---------|-----|
| kW  | kVA | kW  | kVA | Amps    |            |         |     |
| 18  | 23  | 20  | 25  | 65      | 220/3Ph    | 60/1800 | 0.8 |

### Prime power

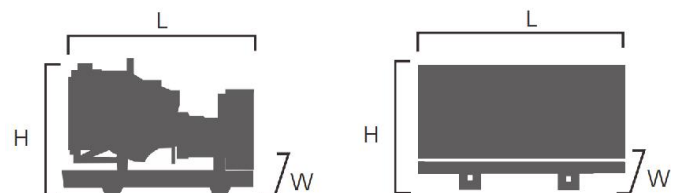
According to ISO8528-1, prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during at 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

### Standby power

According to ISO 8528-1, It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

### Diesel Generator Set

|                                  |                                       |
|----------------------------------|---------------------------------------|
| Engine Make /Model               | Cummins 4B3.9G11                      |
| Alternator Make /Model           | Brushless, self-exciting              |
| Control Panel                    | Smartgen HGM6120N                     |
| Base Frame / Silent Canopy       | Robust Structure/ Corrosion Resistant |
| Circuit Breaker Type             | 3pole MCCB (4P Available as option)   |
| Built in Base Fuel Tank Capacity | 8-10hrs (Silent)                      |
| Battery                          | Maintenance free Lead Acid            |



### Fuel Consumption ( L/H )

|                    |     |
|--------------------|-----|
| 100% standby power | 7.8 |
| 100% prime power   | 7.1 |
| 75% prime power    | 5.6 |
| 50% prime power    | 4.8 |

### Dimension and Weight

| Dimension  | Open   | Silent |
|------------|--------|--------|
| Length (L) | 1550mm | 2100mm |
| Width (W)  | 740mm  | 965mm  |
| Height (H) | 1200mm | 1300mm |
| Net Weight | 650KG  | 850KG  |

## § Engine Specification: 4B3.9G11

| Basic technical data |                     |
|----------------------|---------------------|
| No. of cylinders     | 4                   |
| Cylinder arrangement | In-line             |
| Cycle                | 4 stroke            |
| Induction system     | Naturally Aspirated |
| Compression ratio    | 18.0:1              |
| Bore                 | 102mm               |
| Stroke               | 120mm               |
| Displacement         | 3.9L                |

| Cooling system   |              |
|--|--------------|
| Coolant capacity-engine                                      | 7.2L         |
| Maximum coolant friction head external to engine:            |              |
| -1800 rpm  | 35kPa        |
| Maximum static head of coolant above engine crank centerline | 14.0m        |
| Standard Thermostat (Modulating) Range                       | 83 - 95 °C   |
| Minimum Pressure Cap   | 69 kPa       |
| Maximum Top Tank Temperature for Standby / Prime Power       | 110 / 104 °C |

| Fuel system                               |                       |
|---|-----------------------|
| Injection system                          | WF A Direct Injection |
| Governor type                             | Electronic            |
| Maximum restriction at lift pump          | 13.6kPa               |
| Maximum fuel inlet temperature            | /                     |
| Total drain flow (constant for all loads) | 30 litre hour         |

| Air intake system   |        |
|---|--------|
| Maximum intake air restriction with heavy duty air cleaner: |        |
| -Dir ty element   | 6.2kpa |
| -Clean element  | 3.7kpa |

| Lubrication system                                 |        |
|--|--------|
| Engine oil pressure for engine protection devices: |        |
| — Idle speed(Minimum )                             | 207kPa |
| — Governed speed(Maximum )                         | 345kPa |
| Maximum oil temperature                            | 121 °C |
| Maximum oil consumption                            |        |
| Oil pan capacity-low/high                          | 10.9 L |

| General installation        | Prime power |
|-----------------------------|-------------|
| Gross engine power output   | 23kw        |
| Piston speed                | 7.2 m/s     |
| Friction horsepower         | 8.2 kW      |
| Engine water flow to engine | 2.8 l/sec   |
| Air intake flow             | 36 l/sec    |
| Exhaust gas flow            | 69 l/sec    |
| Exhaust gas temperature     | 326 °C      |
| Radiated heat to ambient    | TBD         |
| Heat rejection to coolant   | 32 kW       |
| Heat rejection to fuel      | TBD         |

§ Diesel engine  
 § 4-stroke cycle  
 § Water-cooled  
 § 24V electrical system  
 § Water separator filter

§ Dry air filter  
 § Radiator with pusher fan  
 § Mechanical governor  
 § Hot parts protection  
 § Moving parts protection

§ Water jacked heater (Optional)  
 § Radiator water level sensor (Optional)  
 § Oil heater (Optional)  
 § Heavy duty air filter (Optional)

## § Alternator

| Alternator                     |                     |
|--------------------------------|---------------------|
| Number of phase                | 3                   |
| Power factor (Cos Phi)         | 0.8                 |
| Poles                          | 4                   |
| Winding Connections (standard) | Star-serie          |
| Terminals                      | 12                  |
| Insulation type                | H class             |
| Winding Pitch                  | 2/3                 |
| IP rating                      | IP23                |
| Excitation system              | Self-excited        |
| Bearing                        | Single bearing      |
| Coating                        | Vacuum impregnation |
| Voltage regulator              | A.V.R               |
| Couping                        | Flexible disc       |



## § Controller

### Configuration

- Emergency stop button
- Protection MCB
- Battery charger
- Integrated aviation plug
- ATS connection
- Digital control module



### Main Features

- Automatic mains failure
- Engine control, Generator protection
- Built in alarms and warnings
- Remote Start operation available
- Daily / weekly / monthly exerciser
- Weekly operation schedule programs
- Fuel pump control
- Mains simulation
- Block heater control
- Field adjustable parameters
- Free MS-Windows Remote monitoring
- LED displays
- Configurable analogue inputs
- I/O expansion capability

## § Options

### Engine

- Water Jacket Pre-heater
- Fuel heater

### Alternator

- Winding Temp measuring Instrument
- Alternator Pre-heater
- PMG
- Anti-damp and anti-corrosion treatment
- Anti-condensation heater
- Winding and bearing RTD

### Generator Sets

- Tools with the machine
- Extended range fuel tank
- Bunded fuel tank

### Fuel System

- Low fuel level alarm
- Automatic fuel feeding system
- Fuel T-valves

### Canopy

- Rental type Canopy
- Trailer

### Control Panel

- Remote control panel
- ATS
- Synchronizing controller
- Adjustable ear th leakage relay