WINTPOWER®

## WT-SC450 450KVA Technical Data sheet



WINTPOWER

ISO 9001 QUALITY ASSURANCE

**Professional Genset Manufacture On Your Side**

**FUZHOU WINTPOWER TECHNOLOGY CO., LTD.**

# DIESEL GENERATOR

WINTPOWER®

| Gensets model | Prime Power (50hz) | Standby Power (50hz) | Engine Model | Alternator Model |
|---|---|---|---|---|
| WT-SC450 | 400KVA/320KW | 450KVA/360KW | SC25G610D2 | WT444F |

## General Features:

ΔSDEC diesel engine made by SDEC China, with radiator at ambient temperature 40°C, fans are driven by belt, with safety guard

ΔWintpower Alternator with single bearing alternator; IP Protection, Insulation class H

ΔAir Filter,Oil filter and fuel filter fitted

ΔLube-oil drain valve fitted

ΔElectric Starter Charge motor 24 VD.C

Δ Battery Charger

ΔOptional soundproof and weatherproof canopy

Δ3 pole MCCB Delixi breaker/Optional ABB

ΔOperation & Maintenance manual

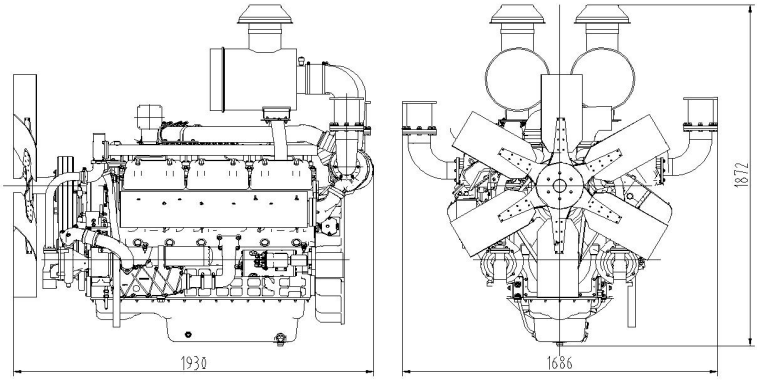
ΔAccessory: A suit of ripple flex exhaust pipe; exhaust siphon, muffler; and a set of spare parts & Tools

Δ The structure is built-up, the built-in residential muffler makes the noise lower.

ΔExhaust guide plate and air channel for air intake&noise reduction are mounted within soundproof canopies.

ΔOutside Emergency Stop Button.

Δ 8 Hours Base Fuel tank is equipped, With lifting ear and forklift slots. Outside fuel inlet/return, outside lub oil and coolant drain.




## Voltage Regulation:

Voltage regulation maintanined within ±0.5%

Between 0.8 and 1.0 lagging and unity

From no load to full load

At speed droop variation upto 4.5%

## Frequency Adjustable Ratio:

Change load from 0-100%,within 1.0%( electric speed regulator),within 4.5%( mechanical speed regulator)

## Frequency Undulation:

load from 0-100%,frequency undulation within 0.25%

No load wire volts max undulation ration\ within 1.8%

Three Phrase balanced load in the order of 5%

## Note:

1)The engine performance is as per GB/T2820/Ratings are based on GB/T1147.1.

2)Prime Power (PRP): Prime power is available for continuous 12-hours running, in accordance with GB/T2820, ISO8528; A 10% overload capability is available for a period of 1 hour within a 12-hours period of operation. Standby Power Rating (ESP): The standby power rating is applicable for supplying emergency power. No overload, soundproof gensets only run under rating power.

3)Standby power is available in the event of a utility power outage or under test conditions for up to 200 hours of operation per year. The permissible average power output over 24 hours of operation shall not exceed 80% of the standby power rating.

## Sales Promise:

(1) All the gensets are tested on load before they leave factory, various kinds of functions are tested . and test reports are provided.

(2) Warranty for all of our gensets and accessories is according to our standard conditions since testing: 24 months or 1500 running hours accumutively, subject to the earlier, kindly refer to our service terms.

## Engine Technical Data Sheet

### ◎ SPECIFICATIONS

| | |
|---|---|
| ○ Engine Model | SC25G610D2 |
| ○ Engine Type | V-type,4 strokes, water-cooled Turbo charged air-to-air intercooled |
| ○ Combustion type | Direct injection |
| ○ Cylinder Type | Wet liner |
| ○ Number of cylinders | 12 |
| ○ Bore × stroke | 135(5.32) ×150(5.9) mm(in.) |
| ○ Displacement | 25.8(1574) lit.(in3) |
| ○ Compression ratio | 16:01 |
| ○ Firing order | 1-12-5-8-3-10-6-7-2-11-4-9 |
| ○ Injection timing | 14.5°BTDC |
| ○ Dry weight | Approx. 2080kg (4585 lb) |
| ○ Dimension | 1930×1686×1872mm |
| ○ (L×W×H) | (76×66.4×75.8 in.) |
| ○ Rotation | Counter clockwise viewed from Flywheel |
| ○ Fly wheel housing | SAE NO. 1/2 |
| ○ Fly wheel | SAE NO.14 |

### ◎ FUEL CONSUMPTION

| ○ Power | lit/hr |
|---|---|
| 25% | 30.9 |
| 50% | 53.6 |
| 75% | 75.8 |
| 100% | 100.4 |
| 110% | 112.7 |

### ◎ FUEL SYSTEM

| | |
|---|---|
| ○ Injection pump | Yijie in-line “P” type |
| ○ Governor | Electric type |
| ○ Feed pump | Mechanical type |
| ○ Injection nozzle | Multi hole type |
| ○ Opening pressure | 240kg/cm2 (3414 psi) |
| ○ Fuel filter | Full flow, cartridge type |
| ○ Used fuel | Diesel fuel oil |

### ◎ MECHANISM

| | |
|---|---|
| ○ Type | Over head valve |
| ○ Number of valve | Intake 1, exhaust 1 per cylinder |
| ○ Valve lashes at cold | Intake 0.325mm (0.0128 in.) |
| ○ Valve lashes at cold | Exhaust 0.375mm (0.0148 in.) |

◎ VALVE TIMING

| | Opening | Close |
|---|---|---|
| ○ Intake valve | 20 deg. BTDC | 48 deg. ABDC |
| ○ Exhaust valve | 48 deg. BBDC | 20 deg. ATDC |

### ◎ LUBRICATION SYSTEM

| | |
|---|---|
| ○ Lub. Method | Fully forced pressure feed type |
| ○ Oil pump | Gear type driven by crankshaft |
| ○ Oil filter | Full flow, cartridge type |
| ○ Oil pan capacity | High level 65 liters ( 17.16 gal.) |
| ○ Oil pan capacity | Low level 55 liters ( 14.52 gal.) |
| ○ Angularity limit | Front down 25 deg. |
| ○ Angularity limit | Front up 35 deg. |
| ○ Angularity limit | Side to side 35 deg. |

### ◎ COOLING SYSTEM

### ◎ ENGINEERING DATA

| | | | |
|---|---|---|---|
| ⚬ Cooling method | Fresh water forced circulation | ⚬ Water flow | 740 liters/min @1,500 rpm |
| ⚬ Water capacity (engine only) | 48 liters ( 12.7 gal.) | ⚬ Heat rejection to coolant | 79 kcal/sec @1,500 rpm |
| ⚬ Pressure system | Max. 0.5 kg/cm2 ( 7.11 psi) | ⚬ Air flow | 32 m3/min @1,500 rpm |
| ⚬ Water pump | Centrifugal type driven by belt | ⚬ Exhaust gas flow | 86 m3/min @1,500 rpm |
| ⚬ Water pump Capacity | 740 liters ( 195.36 gal.)/min | ⚬ Exhaust gas temp. restrictions | 650 °C @1,500 rpm |
| ⚬ Thermostat | Wax–pellet type | ⚬ Intake system | 3 kPa initial |
| ⚬ Thermostat | Opening temp. 77°C | ⚬ Intake system | 6 kPa final |
| ⚬ Thermostat | Full open temp. 90°C | ⚬ Exhaust system | 6 kPa max. |
| ⚬ Cooling fan | Blower type,iron 1100 mm diameter, 6 blades | ⚬ Max. permissible altitude | 2,000 m |
| ⚬ Cooling air flow | 12.76 m³/s | | |

## ◎ ELECTRICAL SYSTEM

| | |
|---|---|
| ⚬ Charging generator | 28V×55A |
| ⚬ Voltage regulator | Built-in type IC regulator |
| ⚬ Starting motor | 24V×11kW |
| ⚬ Battery Voltage | 24V |
| ⚬ Battery Capacity | 200 AH |

## ◎ CONVERSION TABLE

| | |
|---|---|
| in. = mm × 0.0394 | lb/ft = N.m × 0.737 |
| PS = kW × 1.3596 | U.S. gal = lit. × 0.264 |
| psi = kg/cm2 × 14.2233 | kW = 0.2388 kcal/s |
| in3 = lit. × 61.02 | lb/PS.h = g/kW.h × 0.00162 |
| in. = mm × 0.0394 | lb/ft = N.m × 0.737 |
| hp = PS × 0.98635 | cfm = m3/min × 35.336 |
| lb = kg × 2.20462 | |

## Alternator Technical data

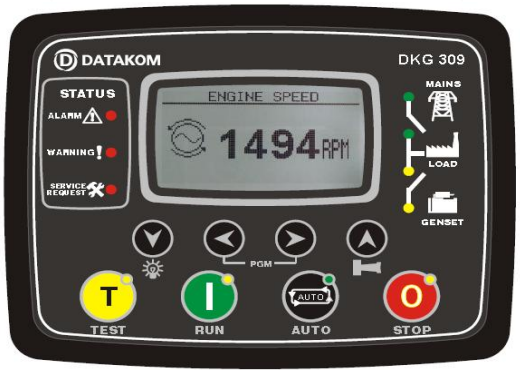
**WINTPOWER WT444F**

| | | |
|---|---|---|
| Δ Bruxhless,self exciting | Exciter | Brushless |
| Δ class "H" insulation | Cooling Fan | Cast alloy aluminum |
| Δ Standard degree of protection is IP23 | Bearing | Single,double shielded |
| Δ self regulating | Windings | 100% copper |
| Δ With fan cooling | Connection Type | Reconnectable |
| Δ Resist Humid grease | Insulation Type | Class H |
| Δ AC excitation,roating rectification tube | Pitch | 2/3 |
| Δ Stator grease insulation covered | Amortisseur Winding | Full |
| Δ Rotator and exciation high polymer,Resist the corruption of oil and acid | Voltage Regulator | AVR SX460 |
| | Voltage Regulator NL-FL | ±0.5% |
| Δ Rotator ballance is in accordance with BS5625 standard 12.5 | Underspeed Protection | Standard |
| | Overexcitation Protection | IP23 |
| Δ High-quality lubrication sealed long-time bearing | TIF (1960 Weightings) | <50 |
| Δ Rotator sillicon steel close tight | Exciation System | SHUNT |

## Control Panel -DATACOM DKG

The base mounted control panel in a vibration isolated sheet steel enclosure.The control panel is equipped as
a)Instruments:Analogue Volmeter,Hours Run Meter.Water pressure Meter.
b) Controls:Emergency Stop Pushbutton,Volmeter Phase Selector Switch.

c) Control module:Standard collocation is DATACOM DKG




Control module DATACOM DKG309

## Main Features:

Δ Automatic or manual start/stop of the genset

Δ 3 phase AMF function

Δ configuration analog inputs

Δ Configurable programmable binary inputs and outputs

Δ Warm-up and cooling functions

Δ Battery voltage,engine speed measurement

Δ Modem communication support(IL-AMF25 only)

Δ RS232 interface

Δ Support of engines equipped with Electronic Control Unit (J1939 interface)

Δ Graphic back-lit LCD display

Δ Comprehensive diagnostic messages; SPN/FMI codes;KWP2000 Support

Δ 6 LED indicators

Δ Sealed to IP65

Δ Generator C.B and Mains C.B control with feedback and return timer

## Optional SYK1 (SuYang) Automatic Transfer Switch Without/With Cabinet

**The Automatic Transfer Switch Without/With Cabinet Main Function as follows:**

**ATS can automatically transfer load between the main power and the emergency power(generationg set) without operator.When the main power fails or voltage drops below 80% of normal voltage,the ATS will start emergency generating set after a preset time 0-10 seconds(adjustable),and transfer the load to emergency power(generating set).Contrarily, when the main power revovers normal,the ATS will transfer the load from the emergecncy power(generating set) to the main power, and then stop the emergency power(generating set.)**

### Optional 1-ATS without Cabinet ( Can be installed on the control panel Directly)

Δ Small Size/Operator conveniently

Δ ATS 63A-1100A with Economical Cost

### Optional 2-ATS With Cabinet

ΔMains on lamp

ΔMains on load lamp

ΔGensets on lamp

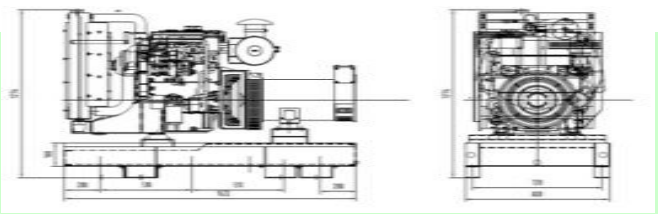
ΔGensets on load lamp

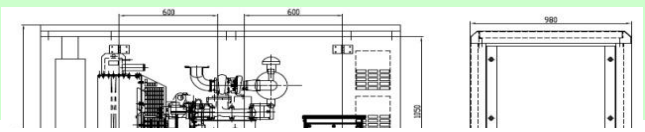
ΔMode Transfer Switchr

ΔEmergency Stop

ΔATS 63A-3200A


## Sound Attenuated Enclosure/Option





### Robust Corrosion Resustant Construction

Δ Black finish stainless stell lock and hinges

Δbody made from steelcomponents treated with

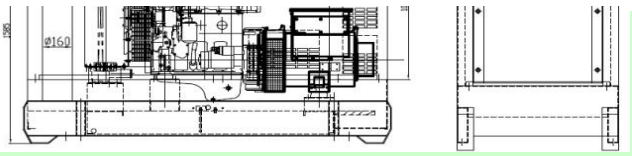
### Excellent Access for Maintenance

Δtwo large doors on each side

Δradiator fill access plate

Δlube oil and cooling water drains pipes to exterior of the enclosure

### Security and Safety



Δcontrol panel viewing window in a lockable access door
Δemergency stop push buttom (red)mounted on
Δcooling fan and battery charging alternator fully
Δexhaust silencing system totally enclosed for

## Dimensions and Weights-Open Type

| Length (L) | Width (W) | Height (H) | Dry | Wet |
|---|---|---|---|---|
| mm | mm | mm | kg | kg |
| 3510 | 1686 | 2000 | 4900 | 4950 |

## Dimensions and Weights-Canopy Type

| Length (L) | Width (W) | Height (H) | Dry | Wet |
|---|---|---|---|---|
| mm | mm | mm | kg | kg |
| 5000 | 1900 | 2400 | 5000 | 5500 |

## Sound Attenuated (SA) Sound Pressure Levels ( dBA)

| 7m (23ft) | | 1m (3ft) | |
|---|---|---|---|
| 75% Load | 100% Load | 75% Load | 100% Load |
| 76.9 | 77.8 | 77.9 | 79.7 |

General Information

## Wiring Diagram And Testing

A full set of operation and maintenance manuals and circuit wiring diagrams.

Ambient temperature: -25℃ to 45℃.The coolant heater is needed when the temperature is below 5℃

Humidity: Less than 80%.

Inspection items

Protection devices working test

Starting ability in normal temperature

50% rated power load moment capability

Voltage deviation and speed variation: 0%, 25%, 50%,

The customer could also choose the color which the manufacturer offers

Offer a range of optional features to tailor our generator sets to meet your power needs.

## Options

50°C High Temperature ● Permanent Magnet Gen ● Auto Control Panel ● Daily Fuel Tank Radiator -erator (PMG) ● Auto Transfer Switch(ATS) ● Base Fuel Tank

Water Separator ● Anti Condensation Heater ● Trailer Type

Water Jacket Heater ● Drop CT(For Paralleling) ● Manual Paralleling System ● Automatic Input System For

Oil Heater ● Auto Paralleling System Fuel

Oil Discharging Pump ● Electronic Indicator for● Maintenance Tools Fuel Level ● Accesory Bag