

WINTPOWER®



WT-SC138 138KVA Technical Data sheet



WINTPOWER



ISO
9001
QUALITY
ASSURANCE

Professional Genset Manufacture On Your Side
FUZHOU WINTPOWER TECHNOLOGY CO., LTD.

Gensets model	Prime Power (50hz)	Standby Power (50hz)	Engine Model	Alternator Model
WT-SC138	125KVA/100KW	138KVA/110KW	SC4H180D2	WT274G112

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 V.D.C

Δ Battery Charger

ΔOptional soundproof and weatherproof canopy

Δ3 pole MCCB Delixi breaker/Optional ABB

ΔOperation & Maintenance manual

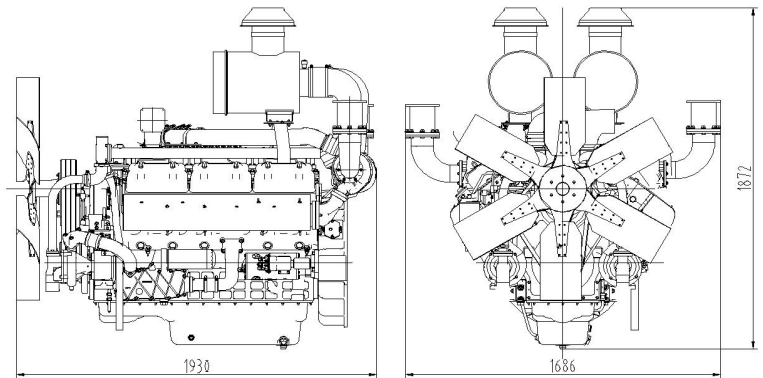
ΔAccessory: A suit of ripple flex exhaust pipe; exhaust siphon, muffler; and a set of spare parts & Tools

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 maintained within $\pm 0.5\%$

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 accumulatively, subject to the earlier, kindly refer to our service terms.

Engine Technical Data Sheet

◎ SPECIFICATIONS

○ Engine Model	SC4H180D2
○ Engine Type	In-line, 4 strokes, water-cooled 4 valves, Turbo charged air-to-air intercooled
○ Combustion type	Direct injection
○ Cylinder Type	Dry liner
○ Number of cylinders	4
○ Bore × stroke	105(4.14) × 124(4.89) mm(in.)
○ Displacement	4.3(262.4) lit.(in3)

◎ FUEL CONSUMPTION

○ Power	lit/hr
25%	7.3
50%	14.4
75%	20.4
100%	25.6
110%	28.7

◎ FUEL SYSTEM

○ Compression ratio	16:01	○ Injection pump	Longkou in-line "P" type
○ Firing order	1-3-4-2	○ Governor	Electric type
○ Injection timing	11° BTDC	○ Feed pump	Mechanical type
○ Dry weight	Approx. 450kg (992.1 lb)	○ Injection nozzle	Multi hole type
○ Dimension (L×W×H)	1053×717×1158 mm (41.5×28.3×45.6 in.)	○ Opening pressure	250 kg/cm ² (3556 psi)
○ Rotation	Counter clockwise viewed from Flywheel	○ Fuel filter	Full flow, cartridge type
○ Fly wheel housing	SAE NO.3	○ Used fuel	Diesel fuel oil
○ Fly wheel	SAE NO.11.5		

◎ MECHANISM

○ Type	Over head valve
○ Number of valve	Intake 2, exhaust 2 per cylinder
○ Valve lashes at cold	Intake 0.25mm (0.0099 in.)
○ Valve lashes at cold	Exhaust 0.50mm (0.0197 in.)

◎ 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 13 liters (3.4 gal.)
○ Oil pan capacity	Low level 11 liters (2.9 gal.)

◎ VALVE TIMING

	Opening	Close	◦ Angularity limit	Front down 25 deg.
◦ Intake valve	20.9°BTDC	44.9°ABDC	◦ Angularity limit	Front up 35 deg.
◦ Exhaust valve	51.7°BBDC	11.7°ATDC	◦ Angularity limit	Side to side 35 deg.
			◦ Lub. Oil	Refer to Operation Manual

◎ COOLING SYSTEM

◦ Cooling method	Fresh water forced circulation
◦ Water capacity (engine only)	6.8 liters (1.8 gal.)
◦ Pressure system	Max. 0.5 kg/cm ² (7.11 psi)
◦ Water pump	Centrifugal type driven by belt
◦ Water pump Capacity	155 liters (40.9 gal.)/min at 1,500 rpm (engine)
◦ Thermostat	Wax-pellet type
◦ Thermostat	Opening temp. 82°C
◦ Thermostat	Full open temp. 95°C
◦ Cooling fan	Blower type, plastic 620 mm diameter, 10 blades
◦ Cooling air flow	3.52 m ³ /s

◎ ENGINEERING DATA

◦ Water flow	155 liters/min @1,500 rpm
◦ Heat rejection to coolant	16.8 kcal/sec @1,500 rpm
◦ Heat rejection to CAC	8.7 kcal/sec @1,500 rpm
◦ Air flow	8.1 m ³ /min @1,500 rpm
◦ Exhaust gas flow	18.2 m ³ /min @1,500 rpm
◦ Exhaust gas temp.	600 °C @1,500 rpm
◦ Max. permissible	
◦ Intake system	3 kPa initial
◦ Intake system	6 kPa final
◦ Exhaust system	6 kPa max.
◦ Max.	2,000 m

◎ ELECTRICAL SYSTEM

◦ Charging generator	24V×55A
◦ Voltage regulator	Built-in type IC regulator
◦ Starting motor	24V×4.5kW
◦ Battery Voltage	24V
◦ Battery Capacity	120 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/cm ² × 14.2233	kW = 0.2388 kcal/s
in ³ = lit. × 61.02	lb/PS.h = g/kW.h × 0.00162
hp = PS × 0.98635	cfm = m ³ /min × 35.336
lb = kg × 2.20462	

Alternator Technical data

Wintpower

Δ Brushless, 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, rotating rectification tube	Pitch	2/3
Δ Stator grease insulation covered	Amortisseur Winding	Full
Δ Rotator and excitation high polymer, Resist the corruption of	Voltage Regulator	AVR SX460

oil and acid

Voltage Regulator NL-FL

±0.5%

Δ Rotator balance is in accordance with BS5625 standard 12.5

Underspeed Protection

Standard

Δ High-quality lubrication sealed long-time bearing

Overexcitation Protection

IP23

Δ Rotator silicon steel close tight

TIF (1960 Weightings)

<50

Excitation System

SHUNT

Control Panel - DEEPSEA DSE4620

The base mounted control panel in a vibration isolated sheet steel enclosure. The control panel is equipped as

a) Instruments: Analogue Voltmeter, Hours Run Meter, Water pressure Meter.

b) Controls: Emergency Stop Pushbutton, Voltmeter Phase Selector Switch.

c) Control module: Standard collocation is DEEPSEA DSE4620

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



DEEPSEA DSE4620 CONTROLLER

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 (generating 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 recovers normal, the ATS will transfer the load from the emergency 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

Δ Mains on lamp

Δ Mains on load lamp

Δ Gensets on lamp

Δ Gensets on load lamp

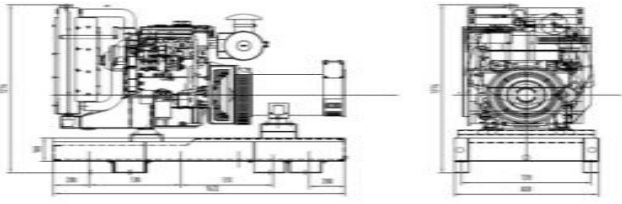
Δ Mode Transfer Switch

Δ Emergency Stop

Δ ATS 63A-3200A



Sound Attenuated Enclosure/Option



Robust Corrosion Resistant Construction

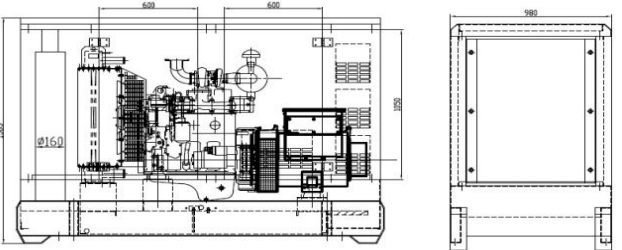
- Δ Black finish stainless steel lock and hinges
- Δ Body made from steel components treated with

Excellent Access for Maintenance

- Δ Two large doors on each side
- Δ Radiator fill access plate
- Δ Lube oil and cooling water drains pipes to exterior of the enclosure

Security and Safety

- Δ Control panel viewing window in a lockable access door
- Δ Emergency stop push button (red) mounted on
- Δ Cooling fan and battery charging alternator fully
- Δ Exhaust silencing system totally enclosed for



Dimensions and Weights-Open Type

Length (L)	Width (W)	Height (H)	Dry	Wet
mm	mm	mm	kg	kg
2190	850	1522	1790	1840

Dimensions and Weights-Canopy Type

Length (L)	Width (W)	Height (H)	Dry	Wet
mm	mm	mm	kg	kg
3280	1080	1765	1890	1940

Sound Attenuated (SA) Sound Pressure Levels (dBA)

7m (23ft)		1m (3ft)	
75%	100%	75%	100%
Load	Load	Load	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°C to 45°C. The coolant heater is needed when the temperature is below 5°C

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 ● Accessory Bag

