USR Generator

VEHICLE ENERGY

DIESEL GENERATORS

JEC series Manual

Installation

Please read this instruction manual carefully before installation and first use, and store it in a safe place. If you pass on the product to another person, hand over this instruction manual along with it.

1 Explanation of symboles

DANGER!
Safety instruction: Failure to observe this instruction will cause fatal or serious injury.

WARNING!
Safety instruction: Failure to observe this instruction can cause fatal or serious injury.

CAUTION!
Safety instruction: Failure to observe this instruction can lead to injury. serious injury.

CAUTION!
Failure to observe this instruction can cause material damage and impair the function of the product.

NOTE!
Supplementary information for operating the product.

2 Safety and installation instructions

Please observe the prescribed safety instructions and stipulations from the vehicle manufacturer and service workshops.
The manufacturer accepts no liability for damage in the following cases:.

- Faulty assembly or connection
- Damage to the product resulting from mechanical influences and excess voltage
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in the operating manual

Note the following basic safety information when using electrical devices to protect against:

- Electric shock
- Fire hazards
- Injury

2.1 Using the device

WARINING

- Installing and repairing the device may only be carried out by qualified personnel who are familiar with the risks involved and the relevant regulations. Inadequate repairs may cause serious hazards. For repair service, please contact the service centre in your country (addresses on the back page).
- Electrical devices are not toys
  Keep electrical devices out of reach of children or infirm persons. Do not allow them to use electrical devices without supervision.
- People (including children) whose physical, sensory or mental capacities prevent them from using this device safely may not be allowed to operate it without the supervision of a responsible adult.
- Exhaust fumes contain carbon monoxide which is a highly toxic, odourless and colourless gas. Do not inhale any exhaust fumes. Do not leave the generator motor running in a closed garage or in a room without windows.

CAUTION!

- Fire hazards
  Do not install the generator in a box or room without any openings, but in well-ventilated spaces instead.
- Only operate the generator if you are certain that the housing and the cables are undamaged.
- Install the generator on a stable surface.
- Do not tilt the generator more than 20° from the vertical position.

NOTICE!

- Only use the device as intended.
- The generator is not suitable for use in water vessels.
- Do not make any alterations or conversions to the device.
- If a welding operation has be done on the vehicle disconnect all generator cables, otherwise the electronics may be damaged.

2.2 Handling electrical cables

WARINING

- The electrical power supply may only be connected by a qualified electrician

CAUTION!

- Attach and lay the cables so that they cannot be tripped over or damaged.

NOTICE!

- Use cable ducts to lay cables through walls with sharp edges.
- Do not lay loose or bent cables next to electrically conductive materials (metal).
- Do not pull on the cables.

3 Target group for this manual

The instructions in this manual are intended for qualified personnel at workshops who are familiar with the guidelines and safety precautions to be applied.

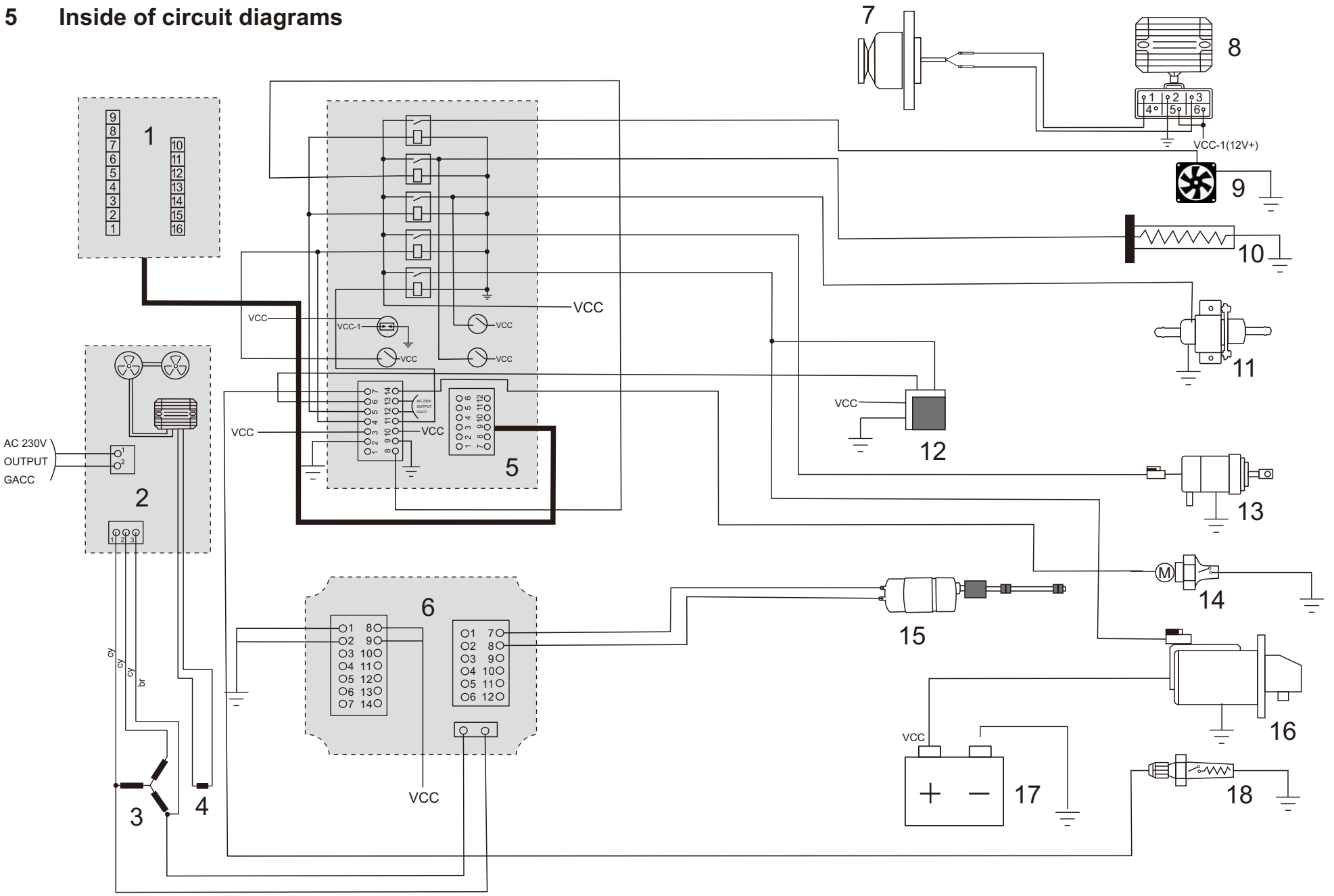
4 Scope of delivery

JEC Series generators

Packing list

No.	Name	Descripition	quantity	Unit
1	Genset JEC		1	PCS
2	Control penel		1	PC
3	remote control cable		5	Meter
4	Engine Maunaul		1	PC
5	User Manual		1	PC
6	Engine oil funnel		1	PC
7	Tubing components	1.6mm Fuel pipe 3m*1 2.6mm Fuel pipe 1m*1 3.6mm Fuel pipe 2m*1 4.fuel filter 1pc,	1	Set
8	Shock absorber	100kg	4	PCS
9	Hexagon Screw	M12*30	4	PCS
10	Steel Gasket	13*50*3	4	PCS
11	Current protection switch	50A	1	PC
12	External suppressor	1.8L	1	PC
13	Metal Hose	1.2*1M	1	PC

5 Inside of circuit diagrams

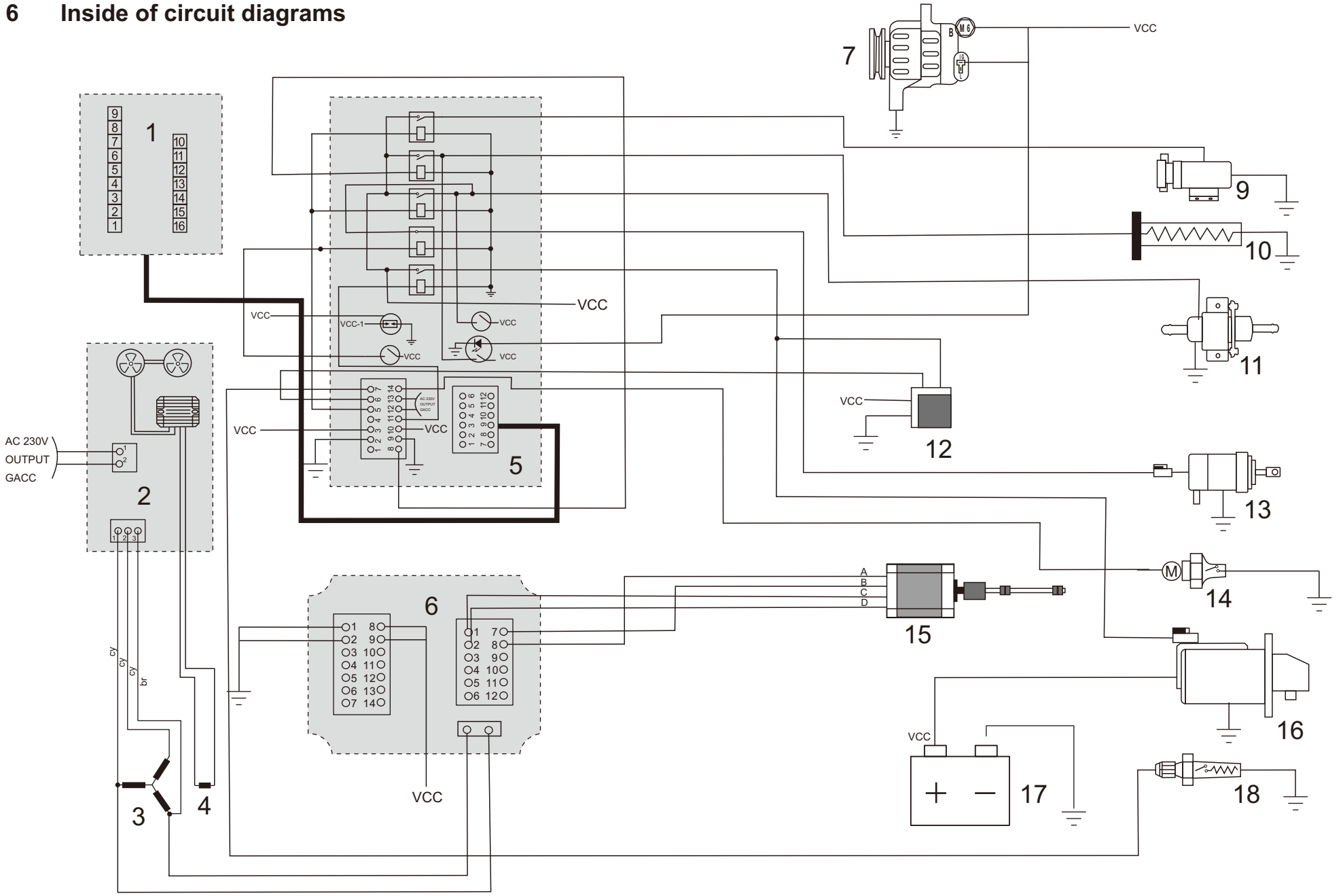


JEC Series generators

The inside circuit diagram can be found in fig page 7-8.

Item	Description
1	Control Panel
2	Inverter box
3	3-phase winding
4	Auxiliary winding
5	Junction box
6	Speed control module
7	12V Alternator
8	Regulator_2
9	DC 12v cooling Fan
10	Engine Heating
11	Fuel pump
12	Wireless remote control receiver
13	Shutdown solenoid valve
14	Oil pressure switch
15	Speed-regulated stepper motor
16	Starter motor
17	Battery
18	Water temperature switch

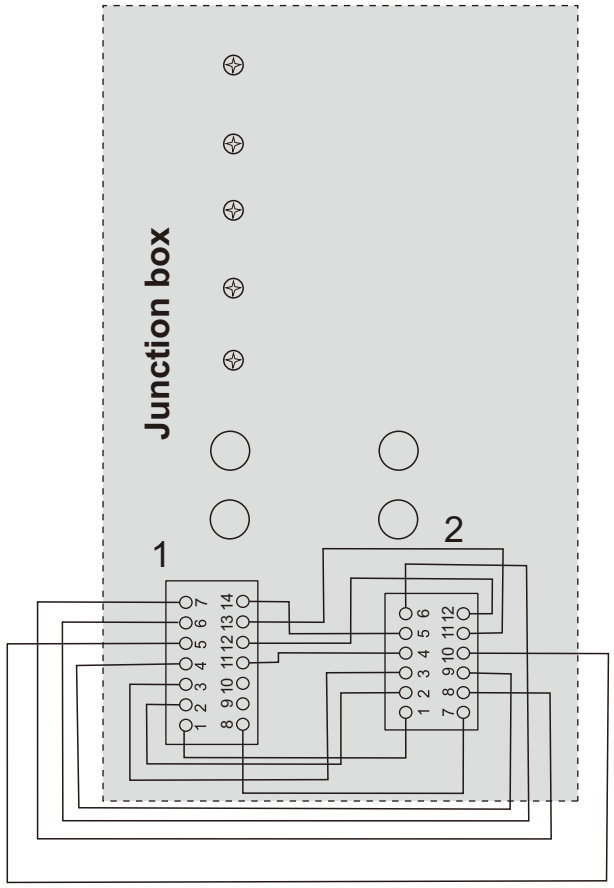
6 Inside of circuit diagrams



The inside circuit diagram can be found in fig page 11-12.

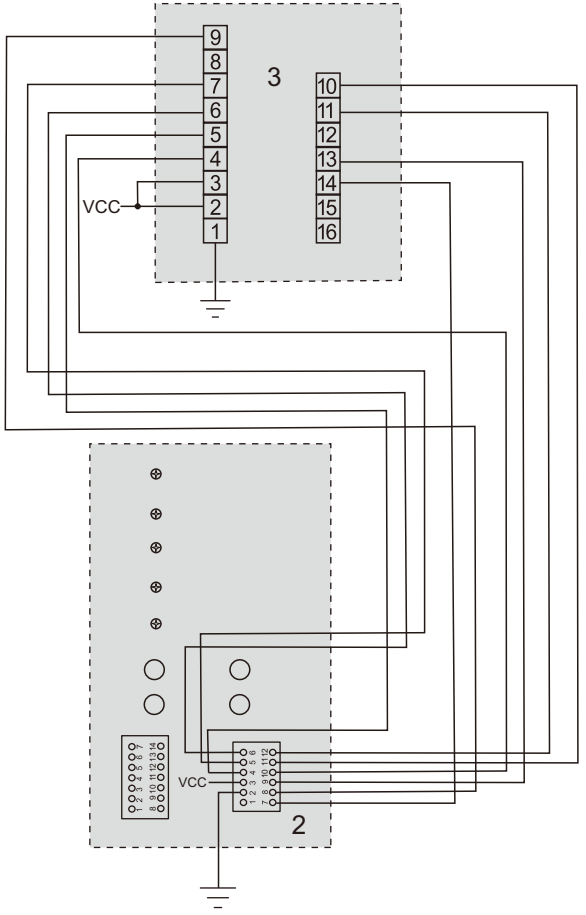
Item	Description
1	Control Panel
2	Inverter box
3	3-phase winding
4	Auxiliary winding
5	Junction box
6	Speed control module
7	12V Alternator
9	DC 12v cooling water pump
10	Engine Heating
11	Fuel pump
12	Wireless remote control receiver
13	Shutdown solenoid valve
14	Oil pressure switch
15	Speed-regulated stepper motor
16	Starter motor
17	Battery
18	Water temperature switch

The Junction box circuit diagram



Item	Description
1	Engine lead line
2	Controller (Control panel)

7 Outside of Circuit diagrams



Item	Description
1	Controller (Control panel)
2	Junction box 12 core line sockit

Description

1_1	2_1	Blank	
1_2	2_2	3_1	Battery DC 12V Negative (12v Earth)
1_3	2_3	3_2	Battery DC 12V Positive (VCC)
1_4	2_9	3_13	Stop relay
1_5	2_10	3_4	Fuel pump
1_6	2_6	3_6	Remote start input
1_7	2_8	3_9	Engine water temperature sensor/Fuel level
1_8	2_7	3_14	Engine heating(Heating relay)
1_9	2_2	3_1	Battery DC 12V Negative (12v Earth)
1_10	2_3	3_2	Battery DC 12V Positive (VCC)
1_11	2_4	3_5	Start motor relay
1_12	2_12	3_11	Generator output (L)
1_13	2_11	3_10	Generator output (N)
1_14	2_5	3_7	Oil pressure input/Fuel level

8 Intended use

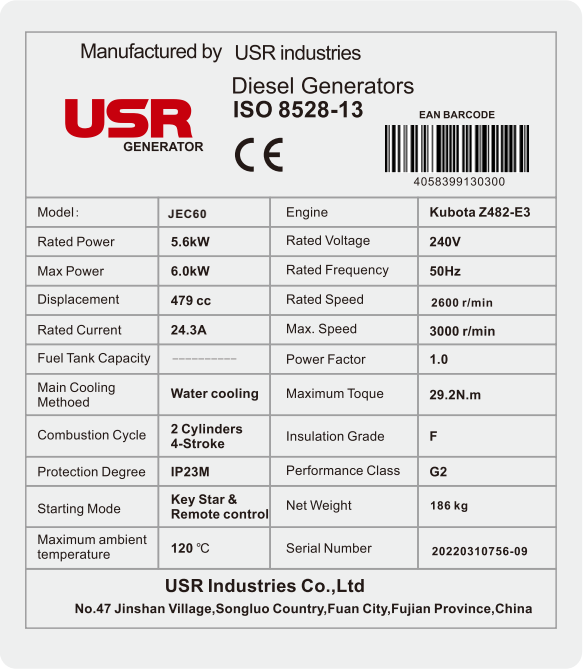
The JEC series generators are designed for use in motor homes, camper vans and vehicles for commercial use.

The generator is **not** suitable for installation in water vessels.
The generator produces a pure sine wave voltage of 230 V/50 Hz which can be connected to the consumer with a total continuous load of 2800 W. The power quality is also suitable for sensitive consumers (such as Pcs).

The generator can charge a 12 V battery.

9 Labels

A label is attached to the generator. This label provides the user and fitter with information on the device specifications.



Manufactured by USR industries

USR GENERATOR

Diesel Generators
ISO 8528-13

CE

EAN BARCODE
4058399130300

Model:	JEC60	Engine	Kubota Z482-E3
Rated Power	5.6kW	Rated Voltage	240V
Max Power	6.0kW	Rated Frequency	50Hz
Displacement	479 cc	Rated Speed	2600 r/min
Rated Current	24.3A	Max. Speed	3000 r/min
Fuel Tank Capacity	----------	Power Factor	1.0
Main Cooling Methoed	Water cooling	Maximum Toque	29.2N.m
Combustion Cycle	2 Cylinders 4-Stroke	Insulation Grade	F
Protection Degree	IP23M	Performance Class	G2
Starting Mode	Key Star & Remote control	Net Weight	186 kg
Maximum ambient temperature	120 ℃	Serial Number	20220310756-09

USR Industries Co.,Ltd
No.47 Jinshan Village,Songluo Country,Fuan City,Fujian Province,China

10 Technical description

Installing the generator must be configured according to one of the following options:

- Automatic mode switch,
  see chapter “Configuring the automatic mode” on page 29.
- Priority circuit which prioritises the 230 V external voltage over the voltage produced by the generator,
  see chapter “Creating a priority circuit” on page 30.

11 Installation

CAUTION! Beware of injury
The generator may only be installed by qualified personnel from a specialist company. The following information is intended for technicians who are familiar with the guidelines and safety precautions to be applied.

11.1 Note on Installation

Read the installation manual carefully before you install the generator.
When installing the generator, note the following:

DANGER! Danger of electrocution
Disconnect all power supplies when working on the generator.

- Improper installation of the generator can result in irreparable damage to the device and put the safety of the user at risk.
- Always wear the recommended protective clothing (e.g. protective goggles, gloves).

11.2 Securing the generator

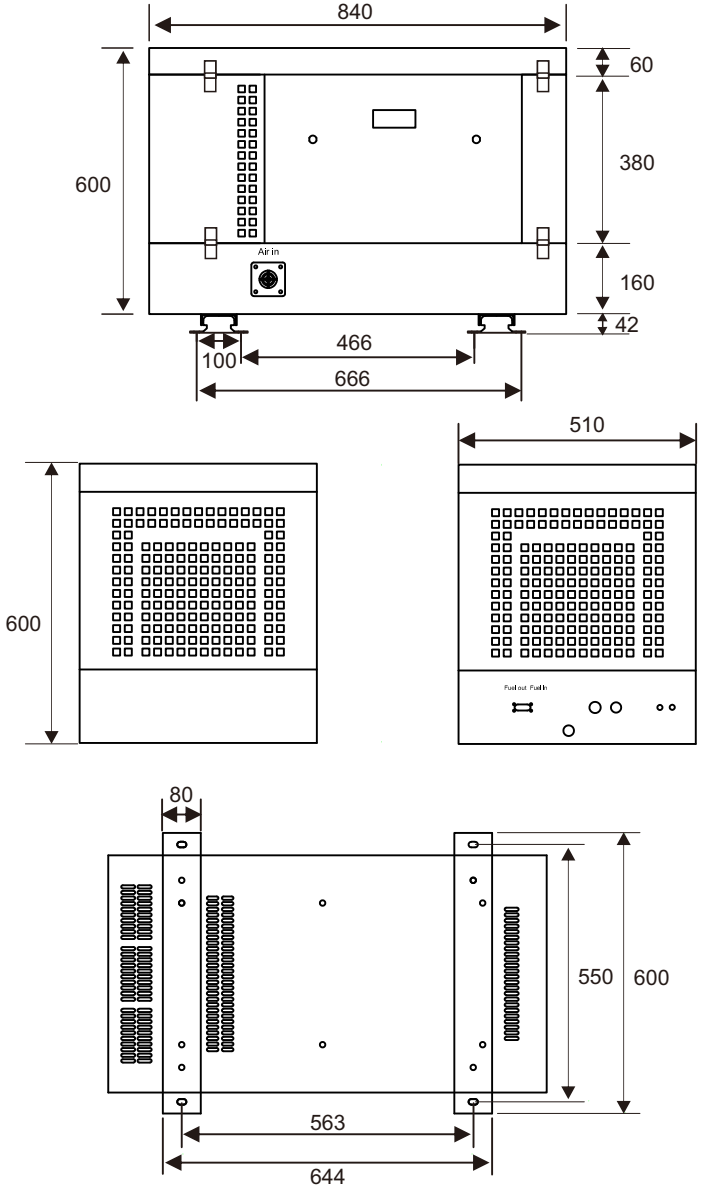
Note on installation location

- Make sure that no combustible objects are stored or installed near the air outlet or the ventilation slots. A distance of at least 50 cm should be kept.
- For a correct ventilation keep a distance of at least 30 cm from the generator's air outlet.
- For safety reasons, note the location of existing wiring harnesses, wires and other components within the installation area, in particular those which are not visible, when installing the generator (when drilling or screwing etc.).

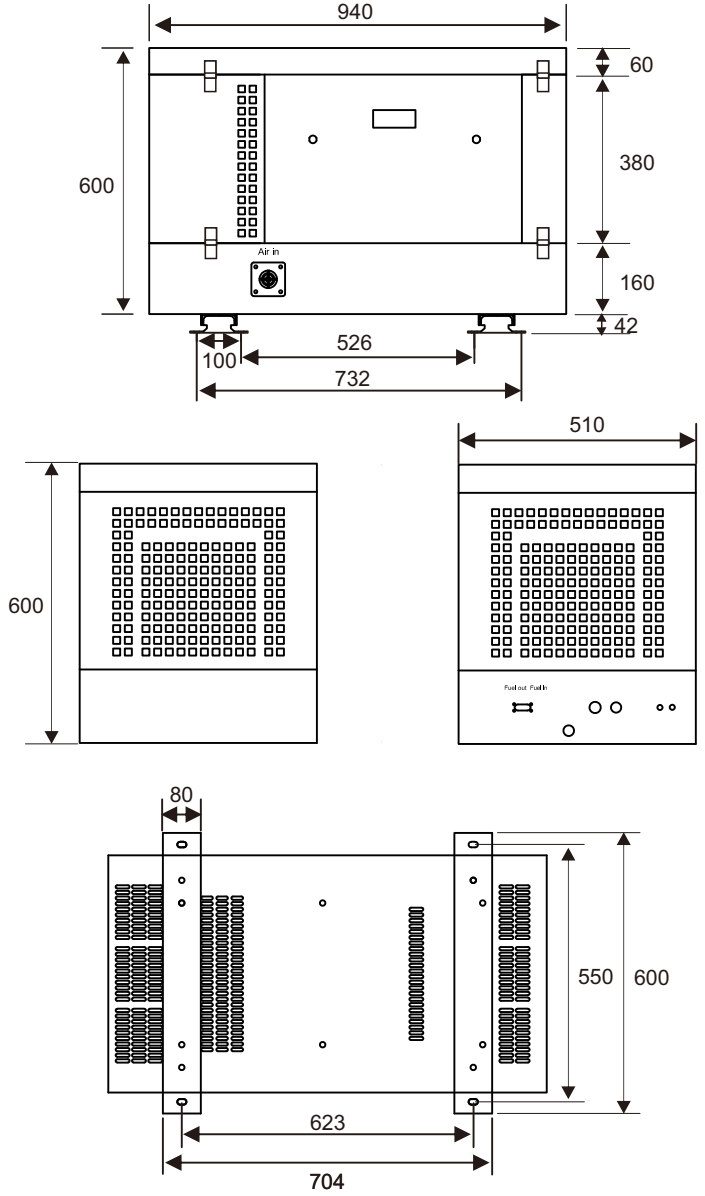
You can secure the generator with the holders supplied in two ways:

- External installation (fig. page 20):
  External installation has the following benefits: lower space requirement, fast installation, easy access for maintenance work.
  – To ensure the generator is attached securely, use the retaining bracket (fig. 4,5 , page 12) supplied.
  – If the air intake opening of the generator is located behind a vehicle wheel, you need to prevent the wheel from splashing any water into the generator interior when it rains (e.g. by using a splash guard).

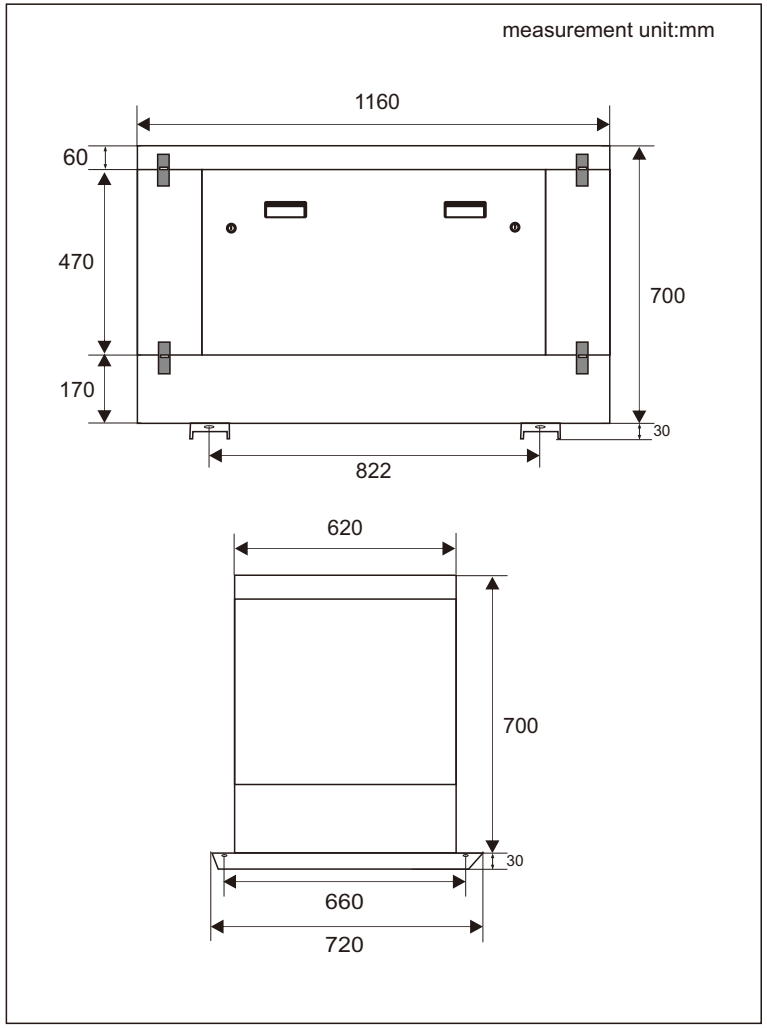
Outside Seawater Exchanger Model: JEC60/80
Inverter type, 3000rpm.



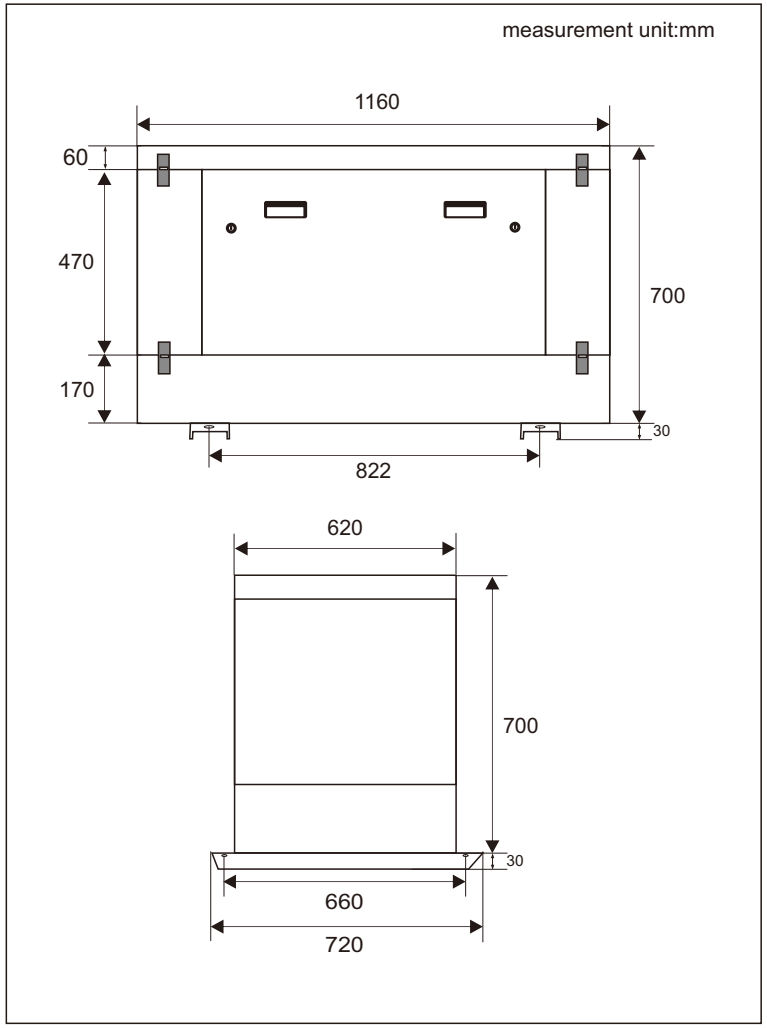
Inside Seawater Exchanger Model: JEC80/100
Inverter type, 3000rpm.



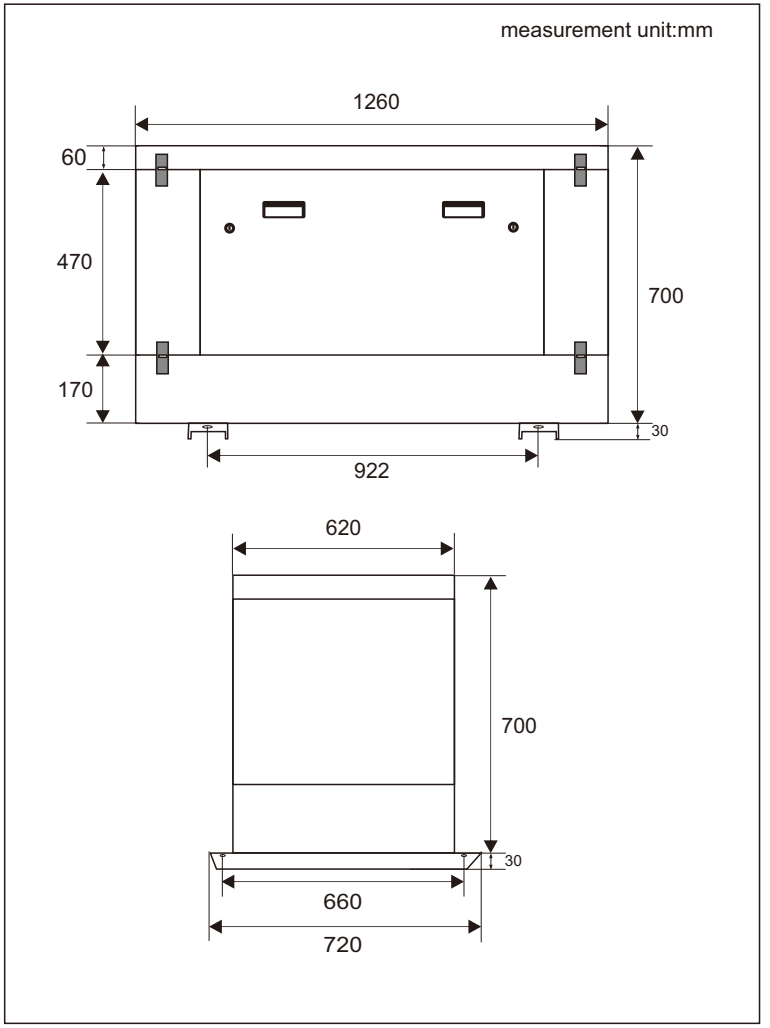
Outside Seawater Exchanger Model: JEC100
CFCS type, 1500rpm.



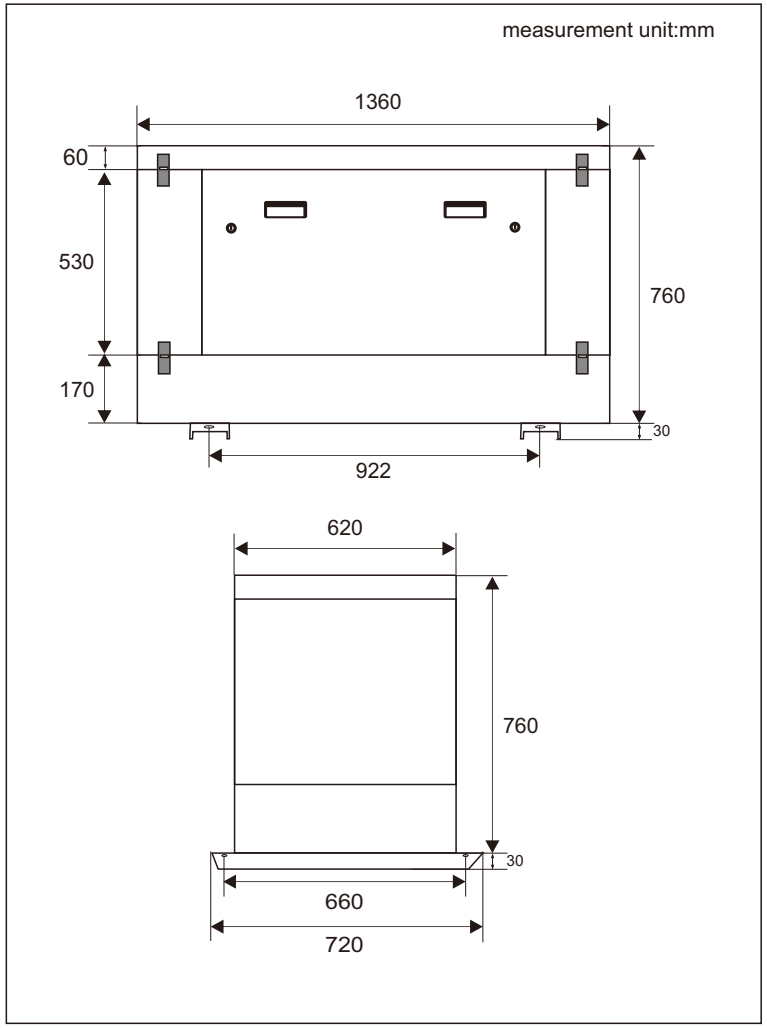
Outside Seawater Exchanger Model: JEC120
CFCS type, 1500rpm.



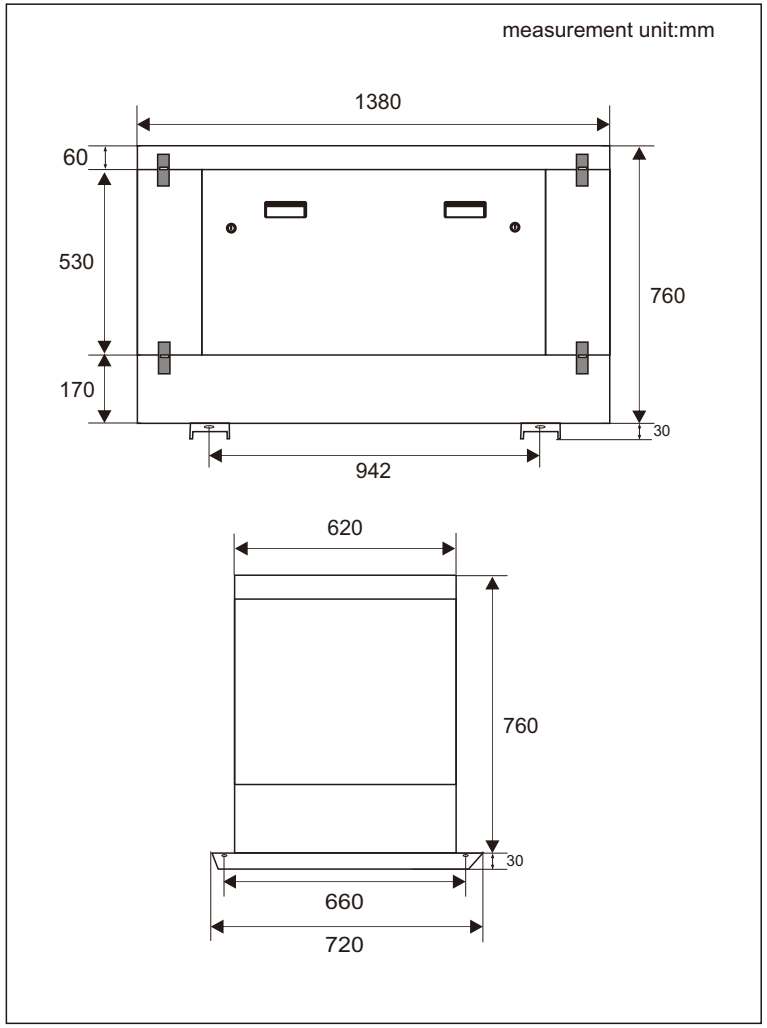
Outside Seawater Exchanger Model: JEC150/180
CFCS type, 1500rpm.



Outside Seawater Exchanger Model: JEC200/250
CFCS type, 1500rpm.



Outside Seawater Exchanger Model: JEC300
CFCS type, 1500rpm.



12 Connecting the electrical power to the Generator

DANGER! Danger of electrocution
Make sure there is no voltage at electrically operated components before carrying out work on them!

NOTE
Observe the applicable guidelines in the country of the consumer.

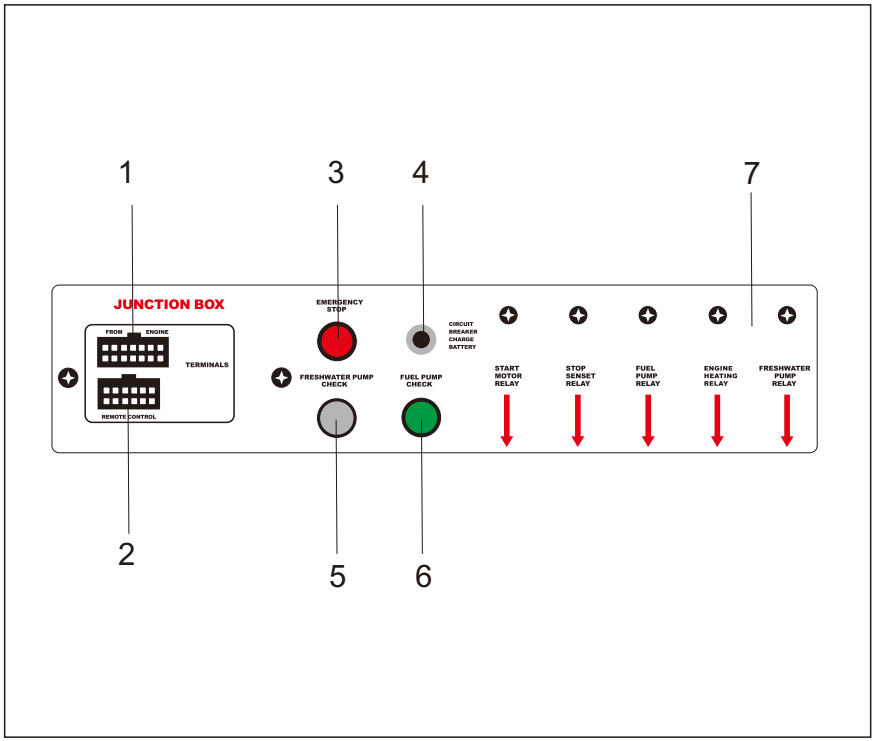
12. 1 Important notes on the electrical connection

- Only a qualified electrician should connect the generator to the electrical power.
- Check that the voltage specification on the type plate is the same as that of the power supply.
- Do not lay the 230 Vw mains cable and the 12 Vg cable together in the same cable duct.
- Do not lay cables which are loose or bent next to electrically conductive material (metal).
- Connect the generator to a power circuit which can supply the necessary current (see chapter “Technical data” on page 32).
- Select the cross-section of the cable as follows:
  - 230 V: 2.5 mm²
  - 12V battery charger: 4.0mm²
  - Battery connection (length < 6 m): 6 mm²
  - Battery connection (length > 6 m): 10 mm²
- Install a manual main switch which can disconnect all the consumers from the generator with the exception of the battery.

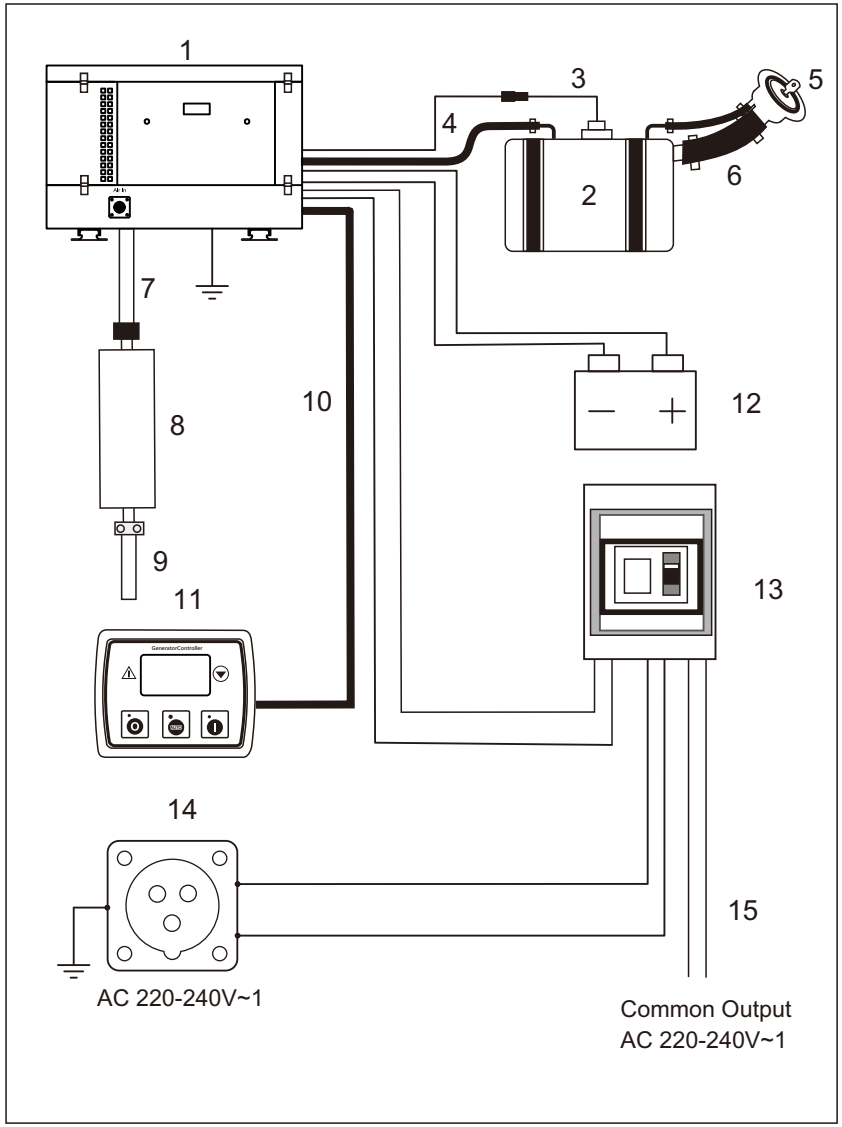
13 Internal junction box

Internal junction box as shown in fig page 28.

Item	Description
1	Motor connection
2	Remote control connection
3	Emergency shutdown switch
4	DC 12V Circuit Breaker Charge Battery
5	Freshwater pump check switch
6	Fuel pump check switch
7	Junction Box



14 Installation diagram (Inside water radiator type)



14.1 Accessories Group Antu

The Complete installation diagram as shown in fig page 29.

Item	Description
1	Generator
2	Fuel tank (Default: not provided)
3	Fuel level sensor (Default: not provided)
4	Fuel pipe (Default: not provided)
5	Fuel injection port (Default: not provided)
6	Oil filling hose (Default: not provided)
7	Metal hose with joint
8	Cilencer
9	Exhaust pipe
10	10-pin mini-fit plug
11	Control panel
12	Battery
13	AG-102 (Default: not provided)
14	City Electrical insert socket (Default: not provided)
15	Common Output cable

14.2 Installation Generator set

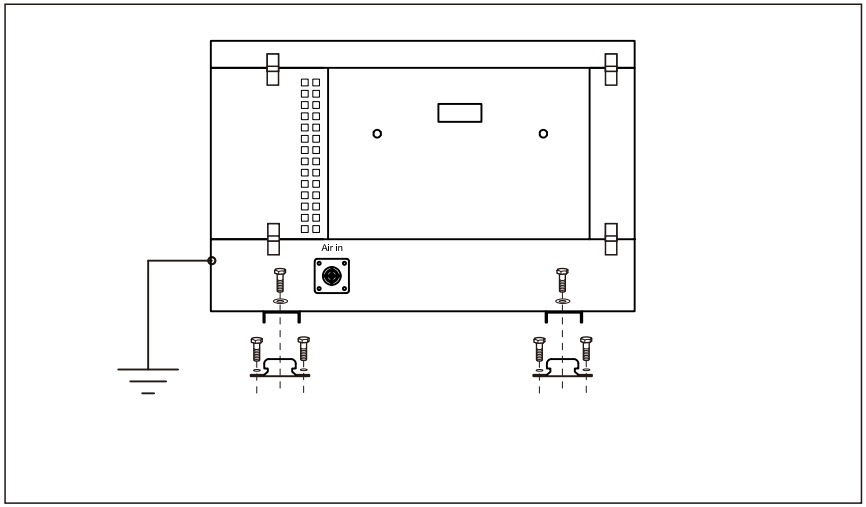
WARNING!
Safety instruction: Failure to observe this instruction can cause fatal or serious injury.

CAUTION!
Safety instruction: Generator exhaust will emit carbon monoxide which is harmful to the body

CAUTION!
The generator exhaust emits heat, which can cause burns to the body.
Pay attention to the installation and keep a safe distance.

CAUTION!
The generator cannot be installed in a closed space, and the left and right sides and the bottom cannot be covered. The left and bottom intake air, and the left air exits.

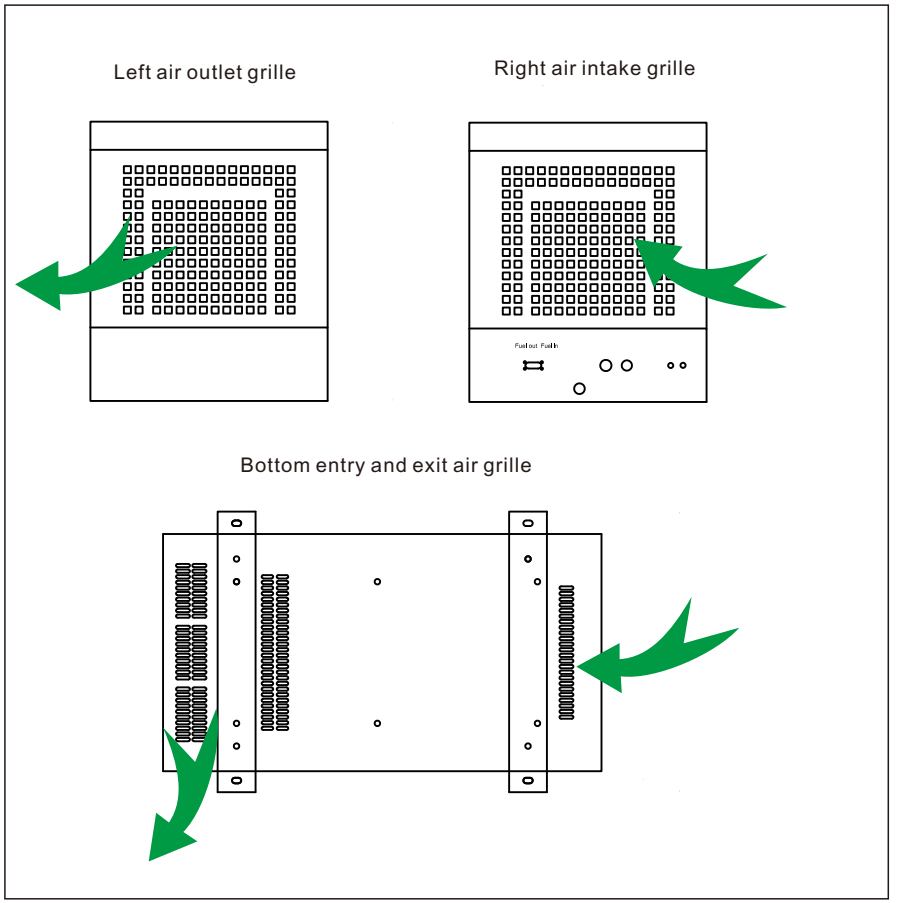
According to the installation and ventilation environment requirements of the generator, fix the shock absorber to the undercarriage of the generator at a suitable position, and fix the shock absorber to the vehicle. As shown below



14.3 Ventilation environment requirements for generator installation

CAUTION!
The generator cannot be installed in a closed space, and the left and right sides and the bottom cannot be covered. The left and bottom intake air, and the left air exits.

Generator installation should be strictly in accordance with the following ventilation environment requirements, so as to avoid overheating protection of the generator, or the power cannot reach the preset effect, please see if the ventilation diagram.



14.4 Installation Fuel tan (This product is not equipped with a fuel tank,This section can be ignored)

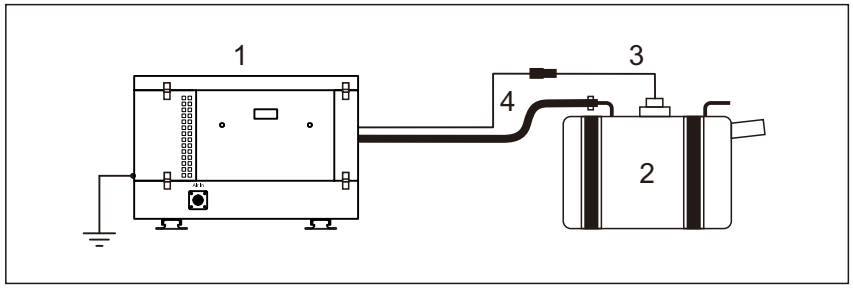
NOTE!
The installation does not need to be carried out in the order of the illustration, the order can be made according to the model and location

For installation of fuel tank, please refer to the installation diagram fig page 26

➤ Connect the fixed generator (1) with fuel tank (2)

– The length of the fuel pipe (4) from the fuel tank to the generator should not exceed 2 meters. If the length of the fuel pipe is too long, it will cause poor fuel delivery, and the generator will not operate stably or even start.

– Plug the two-core cable (3) fuel level sensor on the fuel tank and the two wires from the generator

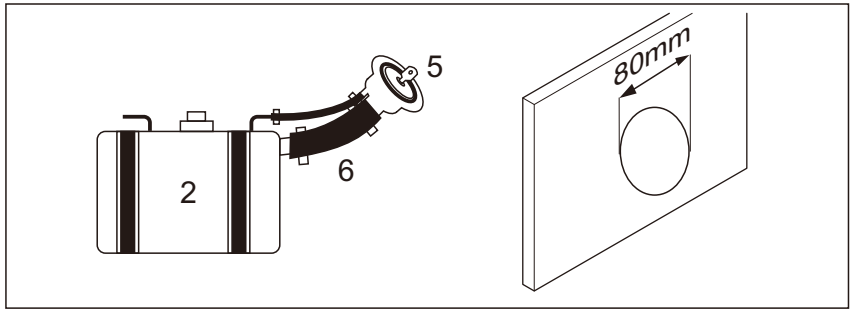


➤ Fix the Fuel injection port on the vehicle plate show down in fig.19,page 25.

– Make an 80mm hole in the proper position of the car body, and fix the fuel injection port (5) with three self-tapping screws

– Connect the fuel pipe with an inner diameter of 38mm to the fuel tank (2) and the fuel injection port (5), and lock it with a pipe buckle

– Connect the vent with an inner diameter of 10mm to the fuel tank (2) and the fuel injection port (5) respectively



14.5 Installation silencer

WARNING!
Safety instruction: Failure to observe this instruction can cause fatal or serious injury.

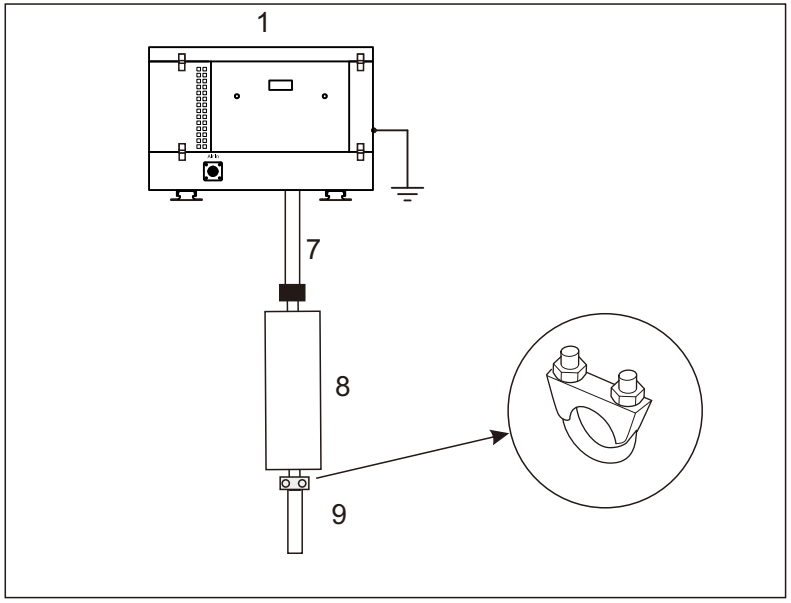
CAUTION!
Safety instruction: Generator exhaust will emit carbon monoxide which is harmful to the body

CAUTION!
The generator exhaust emits heat, which can cause burns to the body. Pay attention to the installation and keep a safe distance.

➤ Install external silencer show down in fig page 34.

– The external silencer (8) is fixed within 1 meter from the generator, and fixed with a wrench with a joint hose (7) with internal threads.

– Lock the extended threaded metal hose with a pipe buckle, and lead the other end of the hose to a suitable position for exhaust.



14.6 Installation control panel

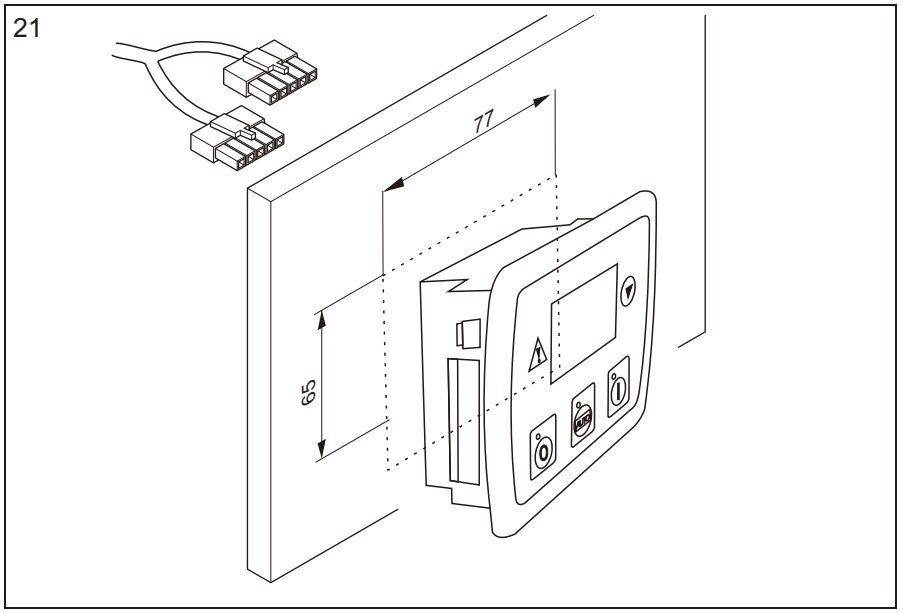
Install the control panel in a suitable location show down in fig page 35.

– The length of the 10-pin signal cable is 5m, and the installation position from the controller to the generator should not exceed 5m.

– The opening size is 77*65mm at a suitable position under the seat inside the vehicle

– Insert the wiring heads of the two rows into the corresponding sockets of the controller respectively, and make sure that they have been inserted tightly. Fix the control panel at the opening hole, stick it with glass glue, and make sure that it will not loosen.

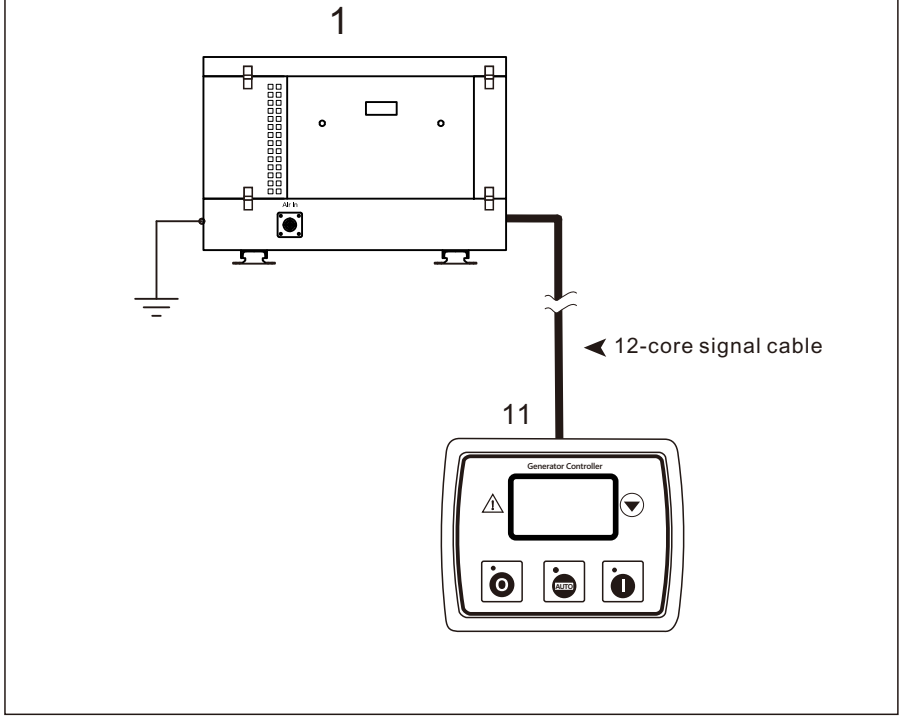
21



NOTE!

To install the controller, make sure that the two rows of connectors have been plugged into the socket of the controller, otherwise the generator will not start or it will stop immediately after it starts.

22



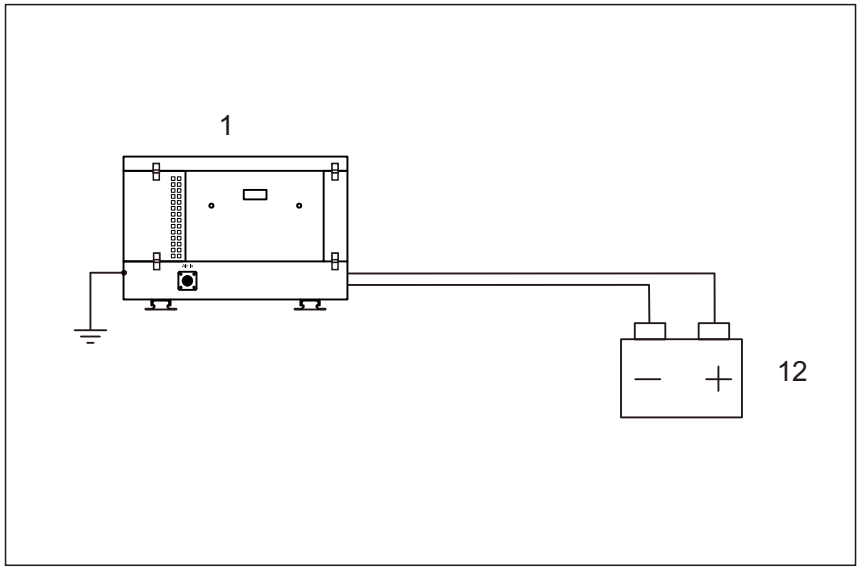
14.7 Connect the battery

Connect generator to battery cable show down in fig page 37.

- 12V battery charger: 4.0mm²
- Battery connection (length < 6 m): 6 mm²
- Battery connection (length > 6 m): 10 mm²

- Make sure that the positive pole + of the red cable is connected to the positive pole of the battery, and that the negative pole - of the black cable is connected to the negative pole of the battery.

- Make sure that the cable connector connected to the battery has been tightened



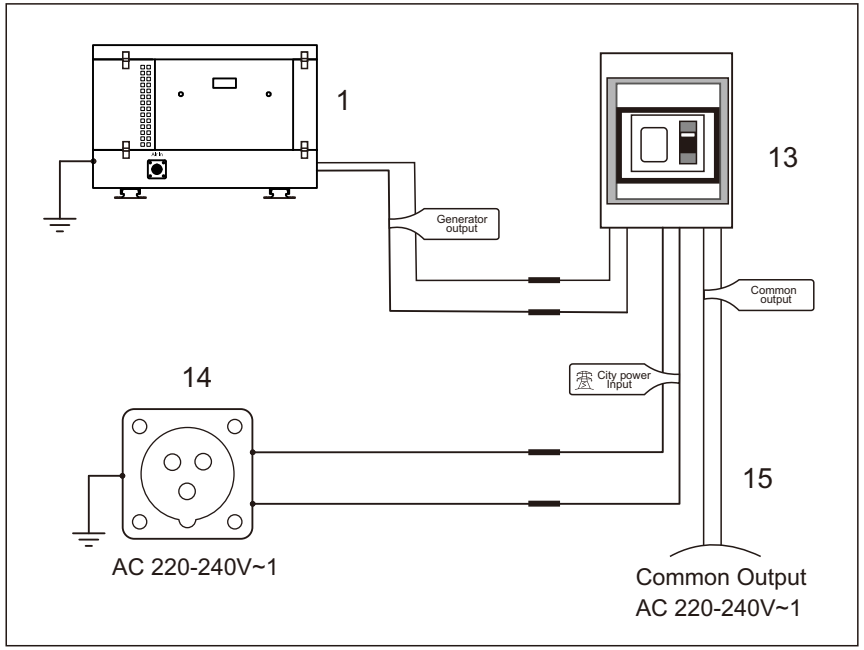
NOTE!
Make sure that the cable connector connected to the battery has been tightened. Poor contact will cause the generator to fail start or turn off the fire.

14.8 Connect the AG-102(Auto exchange switch box)

WARNING!
If the cable provided by the manufacturer is not long enough, please use a cable with a cross-section more than 2.5mm². When connecting the cable, make sure that the connection is strong. It is best to use an electric iron and solder to solder firmly, otherwise the power will not be smooth. Even cause a fire

➤ Installation of AG-102 (Automatic exchange city power and Generator) show down in fig.24,30.

- Fix the AG-102 in a suitable position in the car, preferably a position that can be touched by your hands.
- Connect the cable with a cross-section more than 2.5mm² to the lead of AG-102 with text. Please confirm that the cable connection corresponding to the text on the label is correct.



15 Disposal

➤ Place the packaging material in the appropriate recycling waste bins wherever possible.

If you wish to finally dispose of the product, ask your local recycling centre or specialist dealer for details about how to do this in accordance with the applicable disposal regulations.

16 Technical data

Generator	JEC40	JEC60 OX	JEC60 IX	JEC80 OX	JEC80 IX
Voltage	1-Phase 110-120V~ 60Hz 220-240V~ / 50 -60Hz				
Max power	4.5kW	6.0kW	6.0kW	8.0kW	8.0kW
Rated power	4.0kW	5.6kW	5.6kW	7.2kW	7.2kW
Rated Speed	2200-2600rpm	2200-2800rpm	2200-2800rpm	2200-3000rpm	2200-3000rpm
Battery charger output voltage	20A 12V				
Operating temp-erature range:	–15°C to +50°C				
Distortion factor	1%	1%	1%	1%	1%
Sound level	63 dB(A)	65 dB(A)	65 dB(A)	66 dB(A)	66 dB(A)
Fuel pump	DC12V	DC12V	DC12V	DC12V	DC12V
Weight:	156kg	176kg	176kg	186kg	186kg
Dimension:	620*510*540	620*510*540	720*510*540	620*510*540	720*510*540

Engine	Z482
Brand	KUBOTA Diesel Engine
Emission regulation	EPA/CARB Tier 4 level + EU Stage V
Type	Vertical, water cooled 4-cycle diesel engine
Cylinders	2
Bore and stroke	67.0 x 68.0 (2.64 x 2.68)mm (in)
Displacement	0.479 (29.23)L (cu.in)
Aspiration	Naturally aspirated
Stand-by output / speed*1	7.5 (10.1) / 3000 kW (HP) / rpm
Continuous output / speed*2	6.9 (9.2) / 3000 kW (HP) / rpm
Combustion system	indirect injection
Fuel system	In-line pump
Inspection/ certification:	CE · UNITED STATES ENVIRONMENTAL PROTECTION AGENCY · CALIFORNIA AIR RESOURCES BOARD

17 Technical data

Generator	JEC100	JEC100 CF	JEC120	JEC150	JEC180
Voltage	1-Phase 110-120V~ 60Hz 220-240V~ / 50 -60Hz				
Max power	10.0kW	12.0kW	13.0kW	16.0kW	20.0kW
Rated power	9.0kW	10.0kW	12.0kW	15.0kW	18.0kW
Rated Speed	2200-3000rpm	1500rpm	1500rpm	15000rpm	15000rpm
Battery charger output voltage	20A 12V	26A 12V			
Operating temp-erature range:	–15°C to +50°C				
Distortion factor	1%	1%	1%	1%	1%
Sound level	63 dB(A)	71 dB(A)	73 dB(A)	73 dB(A)	73 dB(A)
Fuel pump	DC12V	DC12V	DC12V	DC12V	DC12V
Weight:	216kg	476kg	486kg	506kg	526kg
Dimension:	640*510*540	1160*620*700		1260*620*700	1280*620*700

Engine	D722-E3	V2203-M-E3	V2403-M-E3
Brand	KUBOTA Diesel Engine		
Emission regulation	EPA/CARB Tier 4 level + EU Stage V		
Type	Vertical, water cooled 4-cycle diesel engine		
Cylinders	3	4	
Bore and stroke	67.0 x 68.0 (2.64 x 2.68) mm (in)	87.0 x 92.4 (3.43 x 3.64) mm (in)	87.0 x 102.4 (3.43 x 4.031) mm (in)
Displacement	0.719L	1.27L	1.44L
Aspiration	Naturally aspirated		
Stand-by output / speed*1	12.2 kW / 3000 rpm	20.1kW / 3000 rpm	22.0 kW / 3000 rpm
Combustion system	indirect injection		
Fuel system	In-line pump		
Inspection/ certification:	CE, EPA, CALIFORNIA AIR RESOURCES BOARD		

18 Technical data

Generator	JEC200	JEC250	JEC300	JEC400	JEC500
Voltage	1-Phase 110-120V~ 60Hz 220-240V~ / 50 -60Hz			3-Phase 220V~ 60Hz 380-440V~ / 50 -60Hz	
Max power	22.0kW	27.0kW	33.0kW	45.0kW	55.0kW
Rated power	20.0kW	25.0kW	30.0kW	40.0kW	50.0kW
Rated Speed	1500rpm	1500rpm	1500rpm	15000rpm	15000rpm
Battery charger output voltage	26A 12V				
Operating temp-erature range:	–15°C to +50°C				
Distortion factor	1%	1%	1%	1%	1%
Sound level	73 dB(A)	73 dB(A)	73 dB(A)	75 dB(A)	75 dB(A)
Fuel pump	DC12V	DC12V	DC12V	DC12V	DC12V
Weight:	546kg	576kg	686kg	706kg	756kg
Dimension:	1360*620*700	1360*620*750	1460*620*750	1280*620*700	

Engine	V2403-M-E3	V2403-M-T	V3300-M-E3	V3800DI-T	4BTA3.9-G2
Brand	KUBOTA Diesel Engine				Cummins
Emission regulation	EPA/CARB Tier 4 level + EU Stage IIIA				
Type	Vertical, water cooled 4-cycle diesel engine				
Cylinders	4				
Bore and stroke	87.0 x 102.4 (3.43 x 4.031) mm (in)		98.0 x 110.0 (3.86 x 4.331) mm (in)	100.0 x 120.0 (3.937 x 4.724) mm (in)	102 x120 (4.016 x 4.724) mm (in)
Displacement	2.434L		3.318L	3.769L	3.9L
Aspiration	Naturally aspirated				
Stand-by output / speed*1	26.5 kW / 1500 rpm	30.5 kW / 1500 rpm	33.6 kW / 1500 rpm	49.5kW / 1500 rpm	22.0 kW / 3000 rpm
Combustion system	indirect injection				
Fuel system	In-line pump				
Inspection/ certification:	CE, EPA, CALIFORNIA AIR RESOURCES BOARD				

USR Generator

VEHICLE ENERGY

DIESEL GENERATORS

JEC series Manual

Operation

Please read this instruction manual carefully before installation and first use, and store it in a safe place. If you pass on the product to another person, hand over this instruction manual along with it.

1 Explanation of symboles

WARNING!
Safety instruction: Failure to observe this instruction can cause fatal or serious injury.

CAUTION!
Safety instruction: Failure to observe this instruction can lead to injury. serious injury.

CAUTION!
Failure to observe this instruction can cause material damage and impair the function of the product.

NOTE!
Supplementary information for operating the product.

2 Safety and installation instructions

The manufacturer accepts no liability for damage in the following cases:

- Damage to the product resulting from mechanical influences and excess voltage
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in the operating manual

In particular, the manufacturer will not be liable for any consequential damage, especially consequential damage caused by failure of the generator.

Note the following basic safety information when using electrical devices to protect against:

- Electric shock
- Fire hazards
- Injury

2.1 General safety

WARNING!

- **Electrical devices are not toys**

  Keep electrical devices out of reach of children or infirm persons. Do not allow them to use electrical devices without supervision.
- People (including children) whose physical, sensory or mental capacities prevent them from using this device safely may not be allowed to operate it without the supervision of a responsible adult.
- Only use the device as intended.
- Do not make any alterations or conversions to the device.
- Installation, maintenance and repairs of the generator may only be carried out by qualified personnel who are familiar with the risks involved when handling generators as well as the relevant regulations. Inadequate repairs may cause serious hazards. For repair service, please contact the manufacturer's branch office in your country (addresses on the back page).
- Exhaust fumes contain carbon monoxide which is a highly toxic, odourless and colourless gas. Do not inhale any exhaust fumes. Do not leave the generator motor running in a closed garage or in a room without windows.

CAUTION!

- The generator may only be used with the front door closed.
- Remove all flammable materials such as petrol, paints, solvents, etc., from the vicinity of the generator.
- Ensure that hot parts of the generator do not come in contact with any flammable materials.
- Only refuel the generator when it is switched off and in a well-ventilated area. Petrol and liquid gas are highly flammable and can explode.
- Do not refuel the generator when the vehicle engine is running if the tank is in the vicinity of the generator.

2.2 Operating the device safely

WARNING

- Always disconnect the power supply when working on the device.

NOTICE!

- Only operate the device if you are certain that the housing and the cables are undamaged.

3 Operating the device safely

This operating manual is for the user of the generator.

4 Scope of delivery

JEC Series

Designation	Reference number
JEC generator	6587730278
Installation manual	
Operating manual	
Other	

5 Intended use

The generator is not suitable for installation in water vessels.
The generator produces a pure sine wave voltage of 120-240 V/50/60 Hz which can be connected to the consumer. The power quality is also suitable for sensitive consumers (such as PCs).
The generator can charge a 12 V battery.

6 Technical description

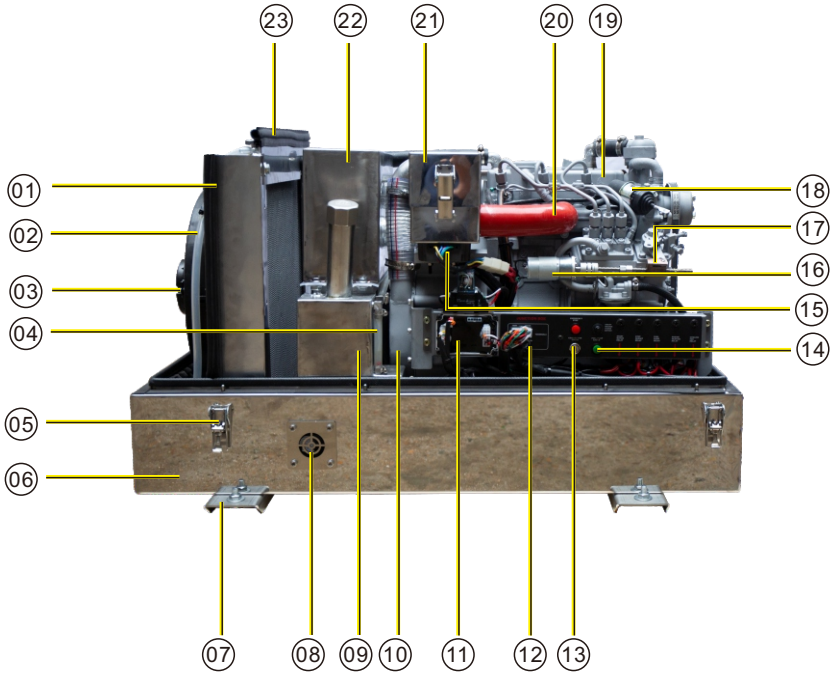
The combustion engine drives the alternator connected to it, which in turn generates AC voltage.
The inverter transforms this AC voltage into a stable voltage of 230 V and 50 Hz.
The terminals, the socket for the connection cable to the remote control and the main switch are installed in the internal control panel

The generator has the following features:

- Integrated battery charger for charging the connected battery
- Automatic mode for charging the connected battery automatically (must be configured accordingly when installed)

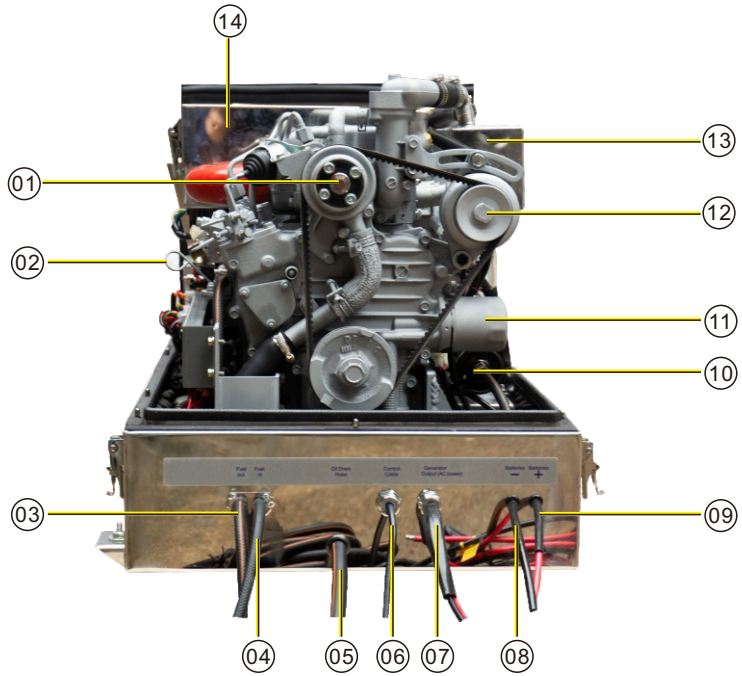
7 Description of the generator

7.1 Front view



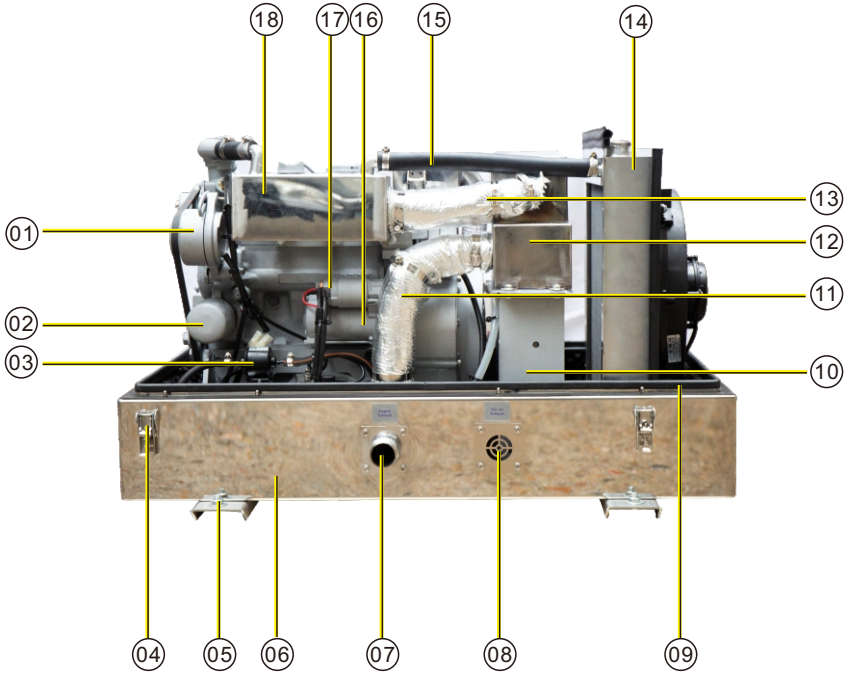
01 Cooling water radiator
02 Fresh water overflow pipe
03 DC cooling fan
04 Fresh water level observation tube
05 Stainless steel buckle
06 Chassis
07 Fixed bracket
08 Air intake
09 Fresh water tank
10 Alternator fan
11 Engine governor module
12 Junction box
13 12V DC Fan Debug Button
14 Oil pump debugging button
15 DC rectifier module
16 Adjustable speed DC motor
17 Threaded copper block
18 Fuel solenoid switch
19 Diesel Engine
20 Rubber intake elbow
21 Air filter box
22 Insulated exhaust silencer
23 Insulation rubber strip

7.2 right side view



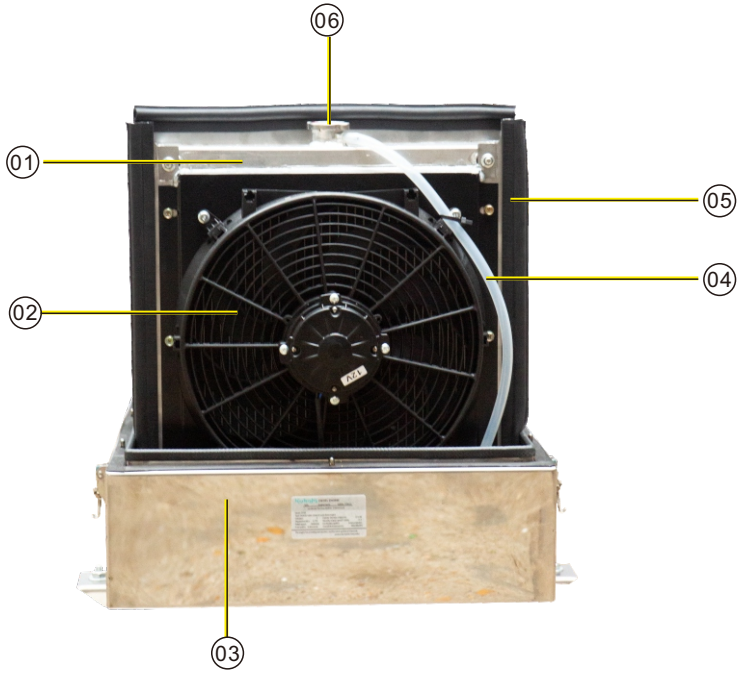
01 Pulley for internal cooling water pump
02 Oil dipstick
03 Fuel out
04 Fuel in
05 Oil drain hose
06 12-core control panel cable
07 Generator power output
08 12V battery positive
09 12V battery negative pole
10 Fuel pump
11 Oil filter
12 DC 12V alternator
13 Water-cooled exhaust elbow
14 Insulated exhaust silencer

7.3 Back view



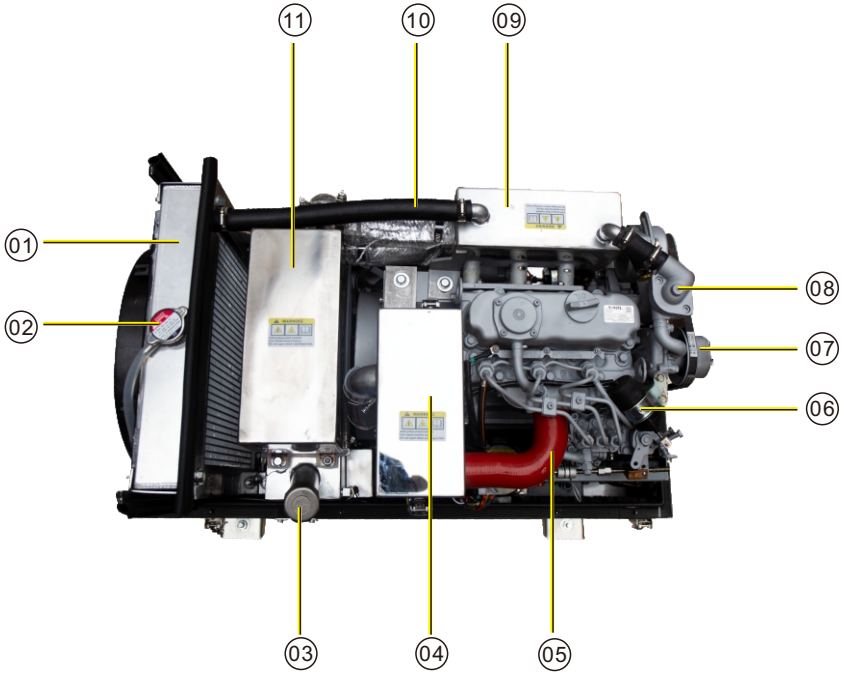
01 DC 12V alternator
02 Oil filter
03 Fuel pump
04 Stainless steel buckle
05 Fixed bracket
06 Chassis
07 Exhaust outlet
08 Hot air exhaust
09 Chassis sealing rubber
10 Inverter
11 Secondary exhaust pipe
12 Insulated exhaust silencer
13 Primary exhaust pipe
14 Cooling water radiator
15 Discharge hot water pipe
16 Start motor
17 Solenoid switch for starter motor
18 Water-cooled exhaust elbow

7.4 Left side view



01 Cooling water radiator
02 DC 12V electric fan
03 Chassis
04 Refrigerant Boiling Drain
05 Isolation seal rubber
06 Radiator cap

7.5 View from Above



01 Cooling water radiator
02 Radiator cap
03 Fresh water inlet
04 Air filter
05 Rubber intake elbow
06 Fuel solenoid switch
07 Pulley for internal cooling water pump
08 Thermostat housing
09 Water-cooled exhaust elbow
10 Discharge hot water pipe
11 Primary exhaust pipe

8 Operating the generator

DANGER!
Safety instruction: Failure to observe this instruction will cause fatal or serious injury.

WARNING!
Safety instruction: Failure to observe this instruction can cause fatal or serious injury.

CAUTION!
Safety instruction: Failure to observe this instruction can lead to injury. serious injury.

CAUTION!
Failure to observe this instruction can cause material damage and impair the function of the product.

NOTE!
Supplementary information for operating the product.

8.1 Basic notes on operation

NOTICE!
Do not run the generator over 70% of the maximum constant output for the first 50 operating hours (run-in phase).

NOTE
Run the generator at a maximum of approx. 75% of the maximum continuous load after the run-in phase.
By doing this you can prolong the service life of the generator and maximise its efficiency.

CAUTION! Beware of injury
Do not insert your fingers or objects into the air nozzles or the intake grille.

Please note the following basic information:

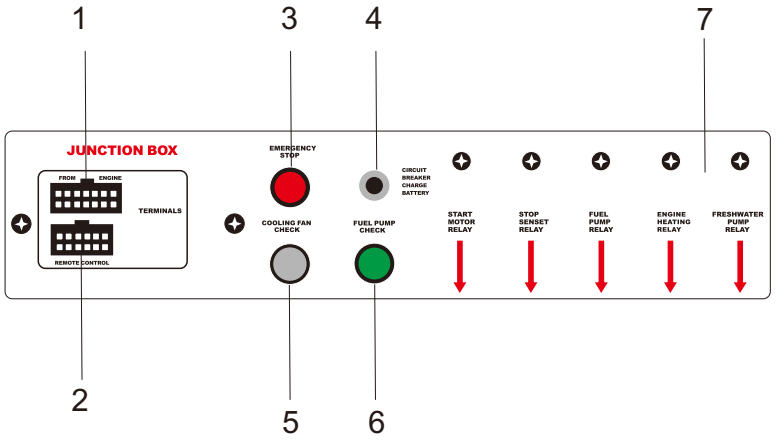
- Always check the oil level before use (chapter “Checking the oil level” on page 21).
- JEC LPG only: Check there are no leaks from the gas supply using a leak detection spray before every use.
- Even small overloads in the long-run will cause the cut-out switch or the fuses to trigger.
- Leave the generator running for a few minutes after use without any consumers before stopping it.
- Abrupt braking, accelerating and driving round bends in the vehicle can cause problems in the generator's pump system and lead to unwanted shutdown.
- If you are not using your generator for a longer period of time, start it up at least every 30 days and leave it running for 15 minutes or more.

8. 2 Internal junction box

Internal junction box as shown in fig. 14, page 21.

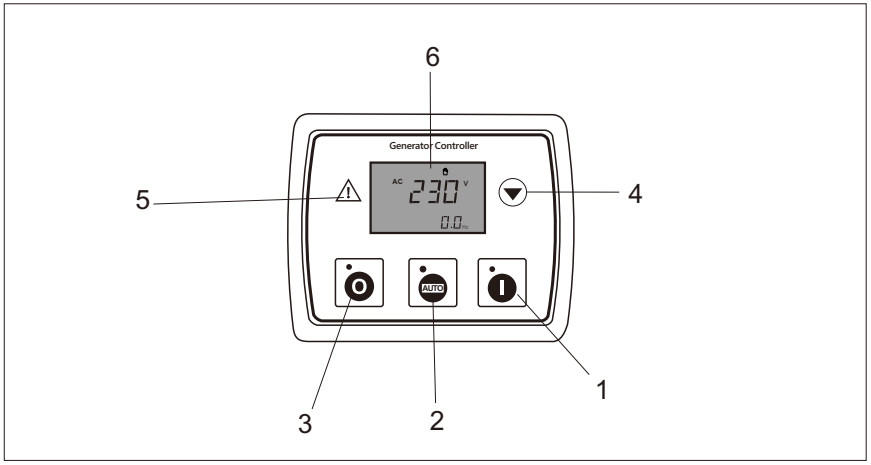
Item	Description
1	Motor connection
2	Remote control connection
3	Emergency shutdown switch
4	DC 12V Circuit Breaker Charge Battery
5	Cooling fan check switch
6	Fuel pump check switch
7	Junction Box

14



8. 3 Generator controller (control panel)

the control panel diagram show down in fig page 15.



No.	Defined	Description
1	Manual start button	Push this button, generator will start, and the module comes into manual state
2	Auto state button	Push this button, Wireless remote control mode
3	Stop buttn	Push this button, generator will stop, and the module comes into stop state. In the standby mode, if long pressing the button for 3 seconds all LED lights
4	LCD page button / confirm button	Change the page display, used for LCD and can move the cursor in the parameter Settings and confirm set information
5	Alarm light	When an alarm occurs, exhibit of lanterns flicker
6	LCD Display	Show current content

8.3 Controller function

The meaning of each icon of the controller

Symbol	Defined	Symbol	Defined
	High Temperature	AUTO	Automatic state
	Low OilPress	O	Stop state
	Over Speed		Manual states
	Under speed	AC	Generator voltage
	Emergency Stop	DC	Batteryvoltage
	High voltage	%	Amount of fuel
	Low voltage	RPM	Speed units(rpm/minute)
	Over Crank	kPa	Oilpressure unit
	Warning	V	Voltage unit
	Stop alert	A	Current unit
	Stop Failure	%	Fuel levelunits(Percentage)
	Rotationduringnormal operation	℃	Temperature unit
	flywheeltoothnumber	Hz	Frequency unit
	Batteryvoltageis abnormal	H	Totalrunningtime
	Externalalarm	SET	Parameter setup instructions
	Low fuellevel	L1-L2	L1-L2 Line voltage
L2-L3	L2-L3 Line voltage	L3- L1	L3-L1 Line voltage
L1- -N	L1 Phase voltage	L2- -N	L2 Phase voltage
L3-N	L3 Phase voltage		Panel lock (Close button function)

8.4 Display discripion

Generate output voltage V,
Frequency Hz

Battery voltage,
Engine speed

Oil pressure

Fresh water/Fuel level %,
Total running time

8.4.1 Operation of Controller

Module has three states: stop state AUTO state Man start state

8.4.2 Man start

Start by pressing the start button on the control panel is a manual start.

At this time, a small hand will be displayed on the LDC.

8.4.3 AUTO state

- The generator is in the state of wireless remote control when it leaves the factory, the AUTO light is on.
- When the generator is under manual control, first press the stop button, then press the AUTO button, the generator is in the wireless remote control state, and the wireless remote control can be used to control the switch.

8.4.4 Stop state

- When the generator is in the AUTO state, it can be stopped by the wireless remote control, or it can be stopped by the stop button on the control panel

- When in manual mode, press the stop button to stop

  In the case of troubleshooting, when the Alarm light ⚠ is flashing, you can use the stop button to cancel

8.4.5 Alarm light ⚠

Alarm light will flash in the following situations

- Low Oil Pressure: check after the safe delay, the duration of 5 seconds above, the module will alarm and stop engine.
- High Temperature：check after the safe delay, the duration of 10 seconds above,the module will alarm and stop engine.
- Low Fuel Level: When the fuel level is consistently below the preset value of 10 seconds, and issuing fuel level is too low signal, this value is only a warning will not stop.
- Over speed: check after the preheat delay, the duration of 2 seconds above, the module will alarm and stop engine.
- Under speed: check when engine run at full tilt, the duration of 15 seconds above, the module will alarm and stop engine.
- Over Crank: when engine crank fail over the times of configure, the module will alarm and stop engine.
- Stop Failure: when engine is stop fail, the module will warn.
- Battery over voltage: The DC supply has risen above the high volts setting level for the duration of the high battery volts 20 seconds.
- Battery under voltage: The DC supply has low above the under volts setting level for the duration of the low battery volts 20 seconds.
- Emergency Stop: When emergency stop input, ETS solenoid stop immediately output, and then fuel disconnect, preheat and start signal emit emergency stop alarm signal.
- Gen Over Voltage: When the continuous sampling voltage higher than the preset value, at the end of the abnormal delay, signal generator voltage is too high, ouage alarm at the same time.
- Gen Under Voltage: When sampling the voltage is lower than the preset value continuously, at the end of the abnormal delay signal generator voltage is too low, outage alarm at the same time.

9 Inject engine oil, show following in fig.3,page 19

NOTICE!
No oil is added to the generator when it leaves the factory.

NOTICE!
This manual is a series of product manuals. The amount of oil added to engines of various models is also different. Please refer to the yellow oil volume prompt outside the chassis.

NOTICE!
Tplease use SAE 20W-50 engine oil

➢ Pour fresh oil into the nozzle. The amount of oil is injected according to the yellow tip stuck to the chassis of the housing.

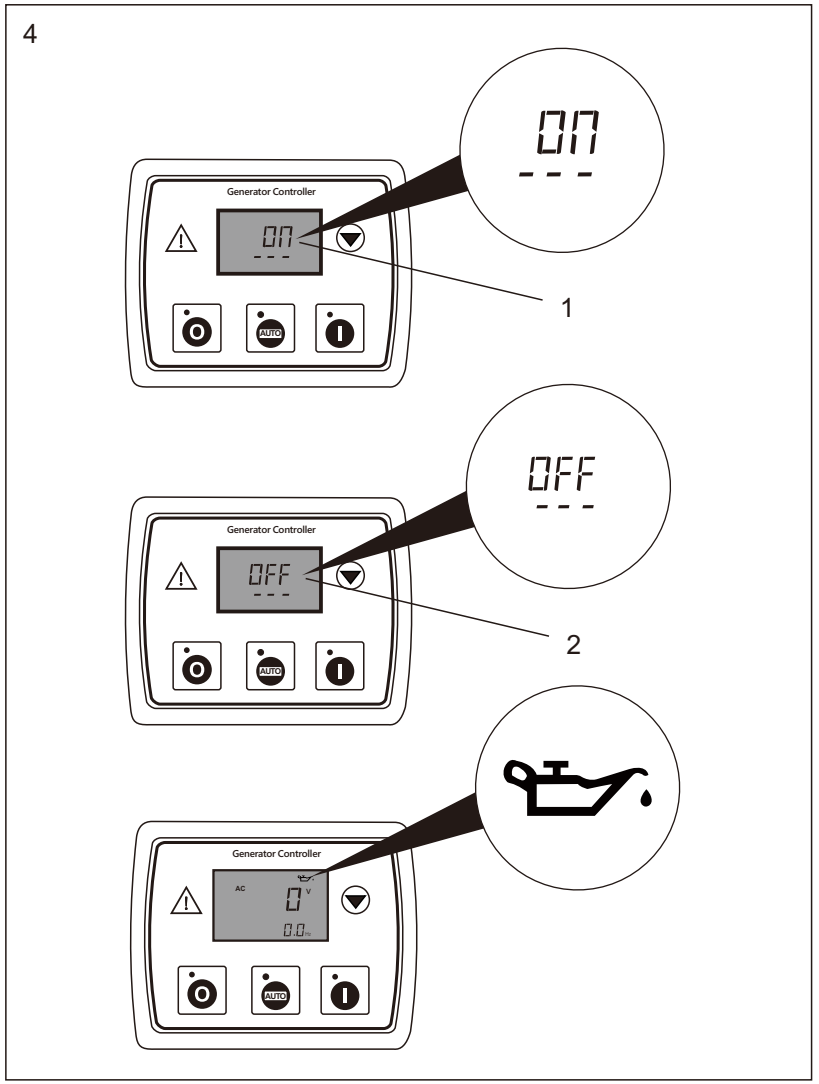
Please use SAE 20W-50 engine oil

- Open the generator door, find the oil injection port, and unscrew the oil dipstick.
- According to the amount of oil injected into different generator models, there is a sticker on the outer box of each generator to indicate the amount of oil that needs to be added to the generator, until the oil dipstick marks the middle level.

Check whether the oil is also added show down in fig.4,page 20.

- Press the LCD page button ⏬ to check whether the oil has been added, ON (1) will appear on the LCD screen after the oil has been added, and OFF (2) will appear if the oil has not been added.

4



10 Start and control the generator with the control panel

WARNING !
Please check multiple times before starting the generator, the cable wiring is correct, the air intake is sufficient, the exhaust is smooth, and the oil pipeline is unobstructed

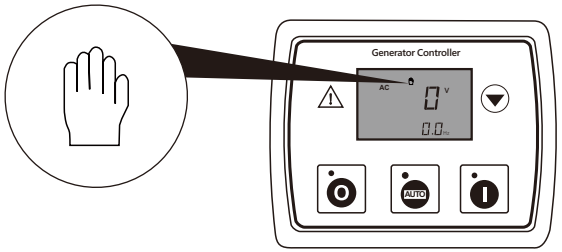
NOTICE!
It usually takes 5-9 times to start the generator for the first time, please be patient and wait

The generator controller is designed to start a group of 1 times, and it will start continuously 1 times until it starts.

DANGER!
Safety instruction: The generator is modulated to start a group of 5 times. During the start of the generator, it is forbidden to perform any operation on the generator. It is forbidden to open the generator cover or reach out to touch the flywheel of the generator, which may cause injury and electric shock.

Control panel button to start the generator: diagram show down in fig page 23

8



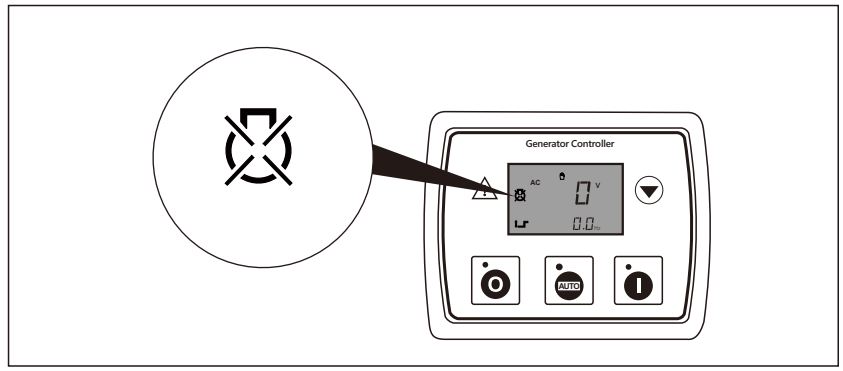
➤ The generator is in the state of wireless remote control when it leaves the factory, the AUTO light AUTO is on.

➤ Start by pressing the start button I on the control panel is a manual start. At this time, a small hand will be displayed on the LDC.

➤ Press the start button I to start the generator, and you will hear the sound of the starter motor driving the rotor. The generator controller is designed to start a group of 5 times, and it will start continuously 5 times until it starts.

NOTICE!
The new generator needs to run-in with low power for about 20 hours, and the load power should be kept within 2000W

➤ When the generator is not started for the first 5 times, the control panel will display the start failure icon , then press the stop button O to clear the start failure icon, and then press the start button I to start 5 times until the generator is started, diagram as following fig page24



➤ The new generator needs to run-in with low power for about 20 hours, and the load power should be kept within 2000W

Control panel button to stop the generator:

➤ Press the stop button O to stop the generator

➤ Press the stop button O and the generator will stop after 11 seconds, and press the generator again to stop immediately

NOTICE!
Press the stop button and the generator will stop after 11 seconds, and press the generator again to stop immediately

11 Use wireless remote control

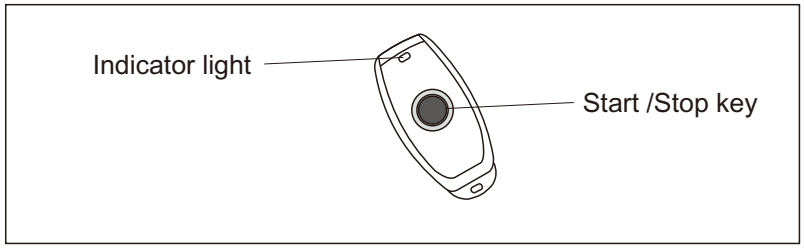
NOTICE!
Due to export customs restrictions, there is usually no battery installed inside the wireless remote control

The wireless remote control can only start and stop, and has no other functions. If you need to use the wireless remote control, please install the battery in the wireless remote control.

NOTICE!
Press the AUTO button before using the wireless remote control

NOTE!
This is a self-locking wireless remote control. Just press it once and release it for an operation. Do not press for a long time or press continuously. This will cause the generator to be out of control.

the wireless remote control show down in fig page25.

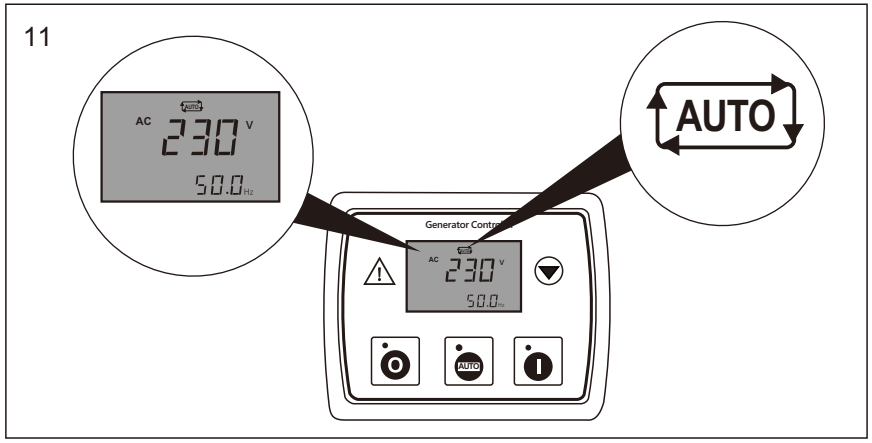


- Before using the wireless remote control, first install the 3V battery in the wireless remote control
- Press the AUTO button (AUTO) before using the wireless remote control, At this time, the generator is in the automatic wireless remote control state. The AUTO icon will appear on the LCD screen of the generator (automatic control mode can be used if necessary)
- This is a self-locking wireless remote control. Just press it once and release it for an operation. Do not press for a long time or press continuously. This will cause the generator to be out of control.

LCD screen show down in fig page 26.

- When you press the Start/Stop key of the wireless remote control, the indicator light will light up. You can release it and wait for 10 seconds for the generator to start. When you press the Start/Stop key again, wait 35 seconds for the generator to stop. Please wait patiently. Don't press continuously, and don't press for a long time to relax
- When the generator starts normally, the LCD displays the voltage and frequency

11



11.1 Operating two generators in parallel (optional)

NOTICE!
The maximum power of two generators in parallel cannot exceed the sum of the rated powers of the two generators.

Without the parallel cable or with a damaged parallel cable the proper operation of the system is not guaranteed, especially in terms of load sharing.

You can independently turn each generator on and off. If the load is more than rated power, you can start both generators in parallel.

In case both generators are turned on:
Disconnect the load before switching off the system.

12 Engine temperature rise reminder and protection

NOTICE!
Before using the generator, please confirm that there is enough refrigerant in the water tank to avoid damage to the generator due to overheating or overheating protection.

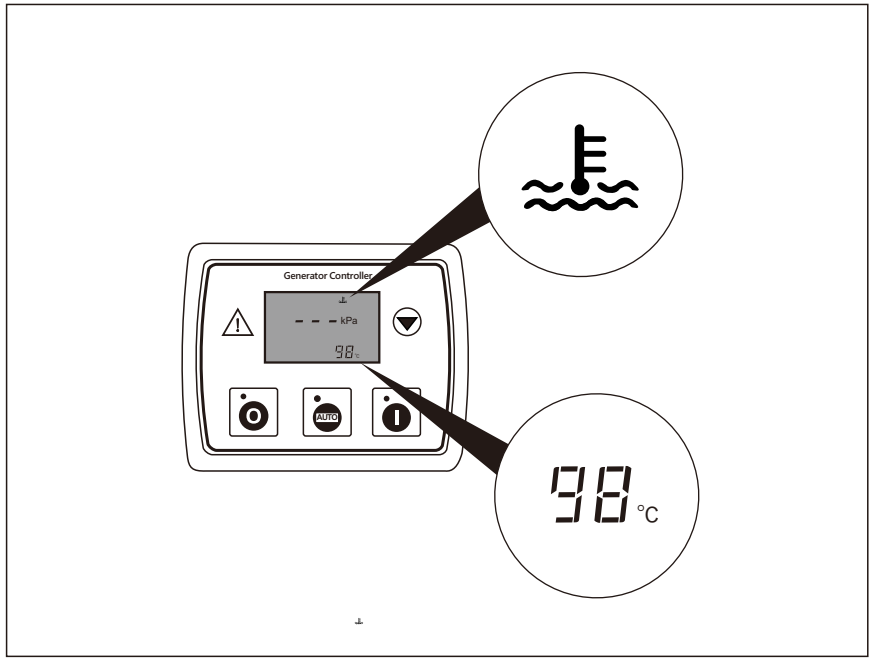
NOTICE!
When the generator is running for a long time, the load power cannot exceed 50%.Otherwise, the temperature of the generator will rise, if the fresh water temperature of the engine reaches 98 degrees,The generator will turn on the overheat protection function and stop immediately.

NOTICE!
Before using the generator, please check whether the water pipe oints are tightened and observe whether there is any water leakage.

Please see the water heating and protection functions of the controller as follows in fig page27.

- Press the LCD page button ⏬ twice, the same interface as the right will be displayed on the LCD screen, and you can check the water temperature at this time.
- When the water temperature of the engine exceeds 98 degrees, the generator will immediately start overheat protection and stop

The water temperature interface of the controller is as follows in fig page 28.

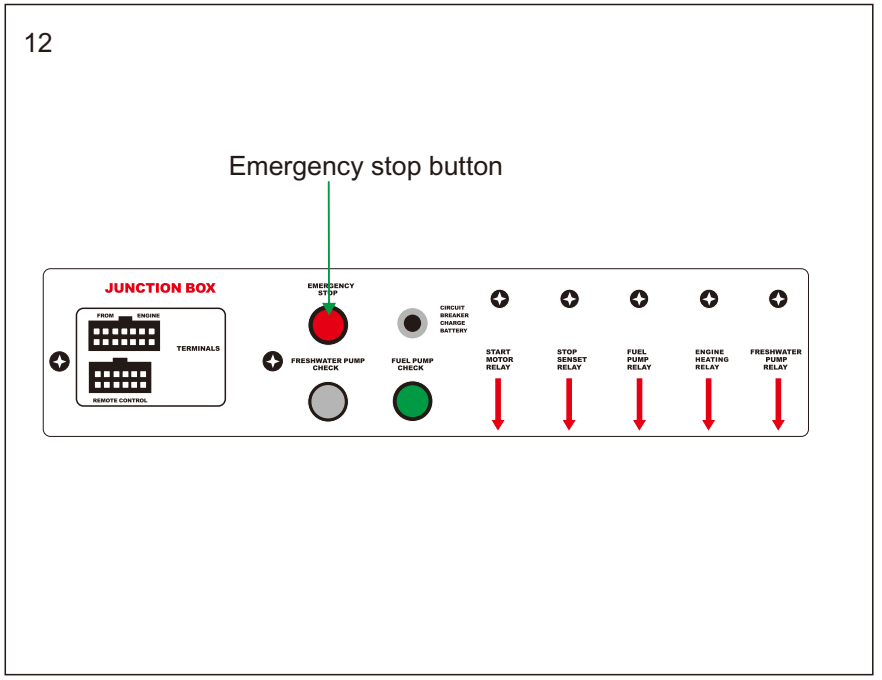


13 Stopping the generator

There are three modes of stopping the generator show down in fig page 29.

- When the generator is in the AUTO state, it can be stopped by the wireless remote control, or it can be stopped by the stop button on the control panel
- When in manual mode, press the stop button to stop
- You can also open the cover of the generator, and use the emergency stop on the junction box to turn off to stop.

12



14 Generator commissioning

After the generator installation is completed, enter the commissioning stage

WARNING !

Please check multiple times before starting the generator, the cable wiring is correct, the air intake is sufficient, the exhaust is smooth, and the oil pipeline is unobstructed

NOTICE!

It usually takes 5-9 times to start the generator for the first time, please be patient and wait

The generator controller is designed to start a group of 1 times, and it will start continuously 1 times until it starts.

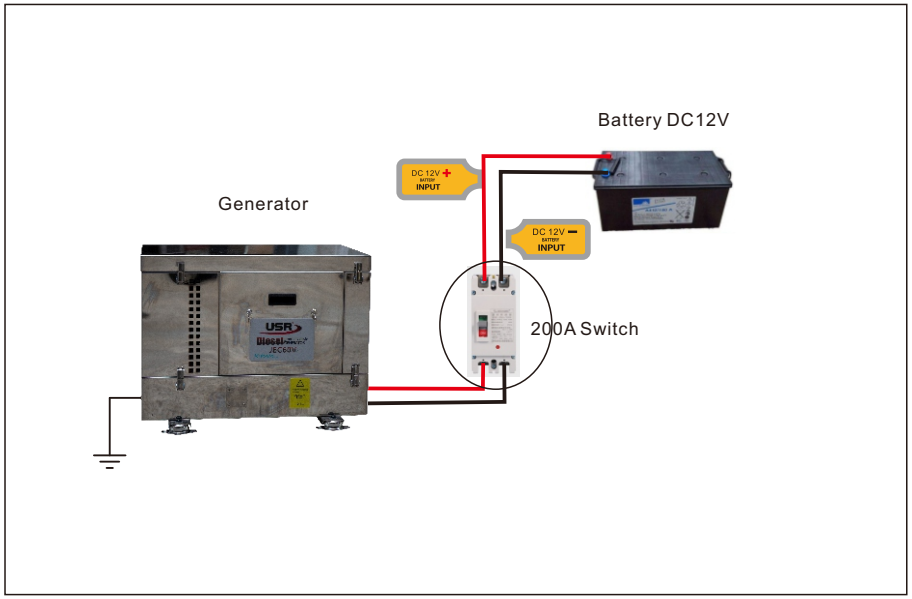
DANGER!

Safety instruction: The generator is modulated to start a group of 5 times. During the start of the generator, it is forbidden to perform any operation on the generator. It is forbidden to open the generator cover or reach out to touch the flywheel of the generator, which may cause injury and electric shock.

14.1 Connect the battery DC12V to the generator

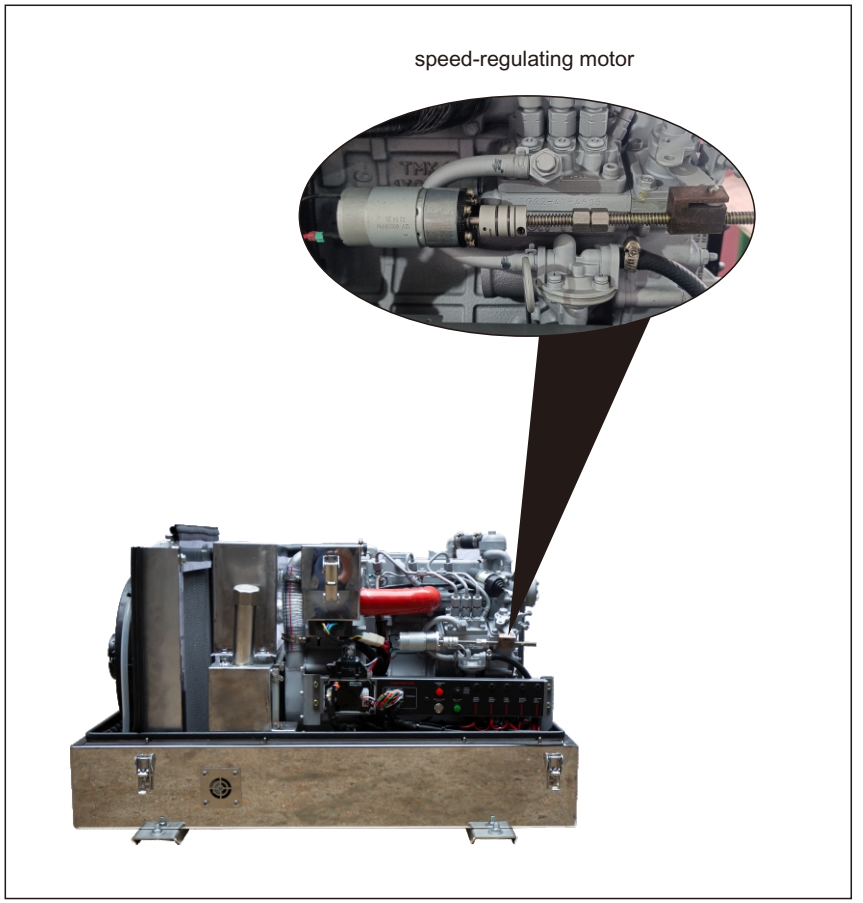
Different models use different battery capacities, please match the battery capacity according to the following models:

JEC40,JEC60,JEC80 Battery 45Ah/DC12V
JEC100,JEC120,JEC150 Battery 120Ah/DC12V
JEC180,JEC200,JEC250 Battery 150Ah/DC12V
JEC300,JEC400,JEC250 Battery 180Ah/DC12V
JEC500 Battery 100Ah/DC24V



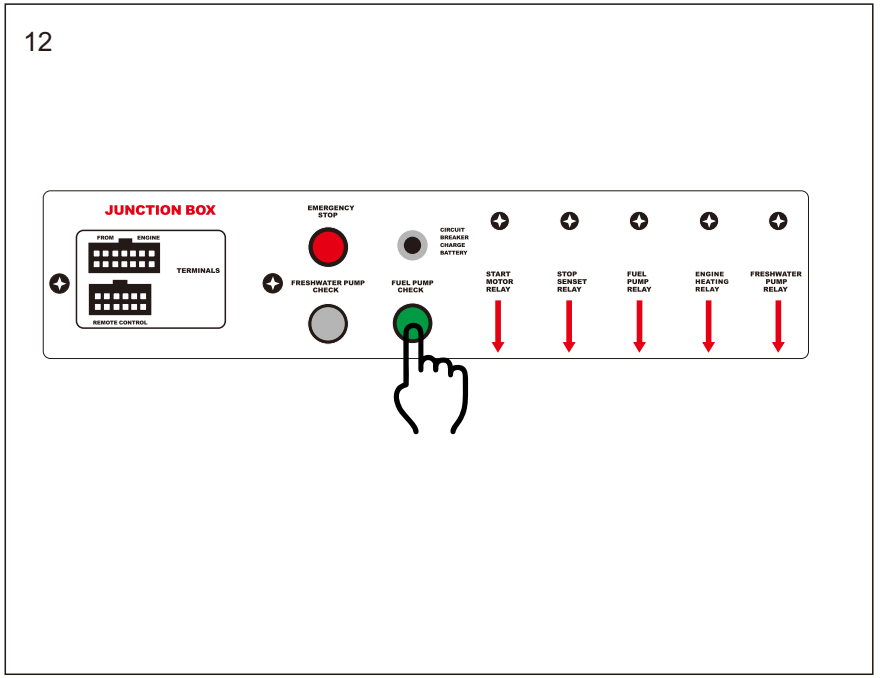
Please see the picture below for the location of the speed regulating motor

- Turn on the 200A switch and observe whether the speed-regulating motor of the generator can rotate and return to its original position. If it can rotate and return to its original position, it means that your installation is correct.
- Because of the different resistances, the speed-regulating motor sometimes turns to the right and blocks it, and it will not return and will make a buzzing sound, which is normal.

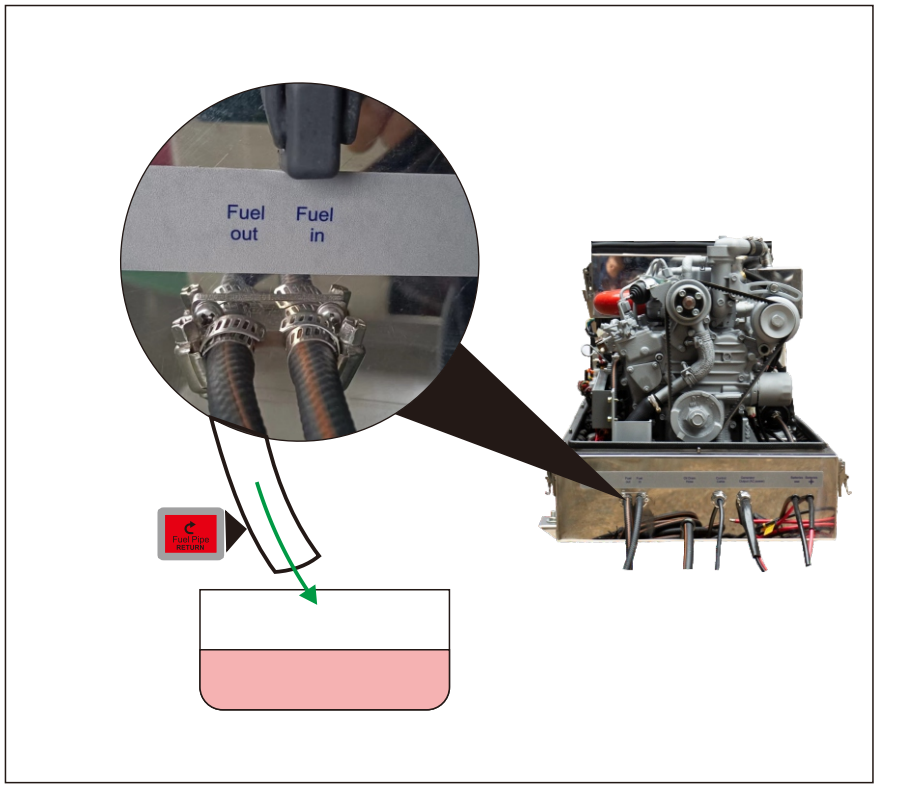


14.2 Fuel pump check

Press the Fuel pump check button with your finger and don't release it, you will hear the sound of the electronic fuel pump turning until the fuel is pumped out, and the fuel will come out continuously in the fuel return pipe.

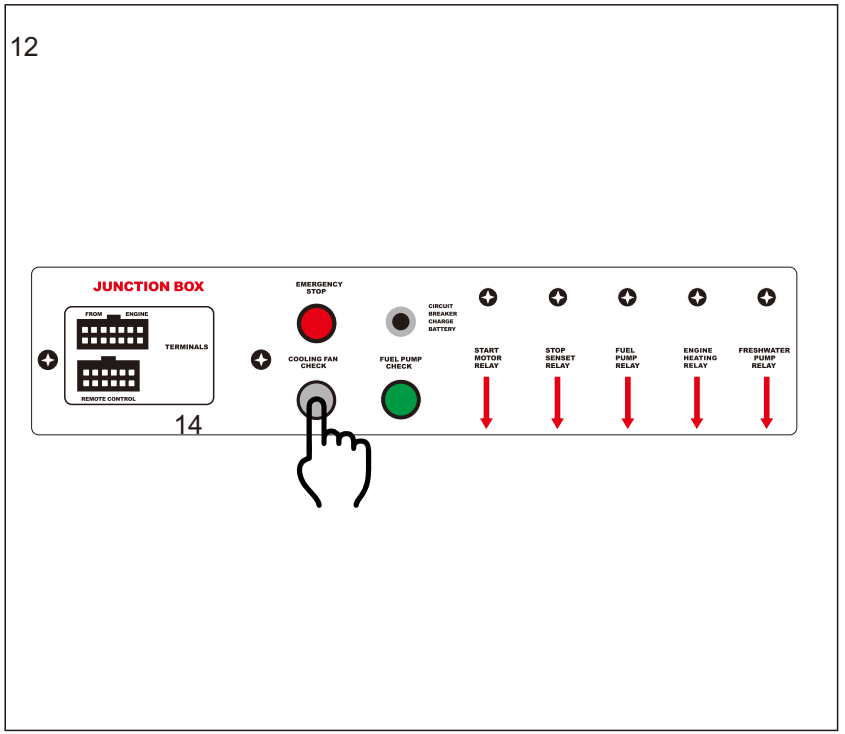


Press and hold the Fuel pump check button with your finger until the fuel is pumped out, and the fuel will come out continuously from the fuel return pipe, which proves that the fuel pipe of the generator is unblocked and installed correctly.



14.3 Checking the DC Cooling Fan

Press the COOLING FAN CHECK button with your fingers and release it to confirm that the DC fan is operating normally



The picture of the fan is as follows

WARNING !
Before installing the generator, make sure that the left and right sides and the bottom of the fan are not blocked by objects, and keep the ventilation.

NOTICE!
Before using the generator, make sure nothing is stuck to the blades and nothing is blocking the fan.

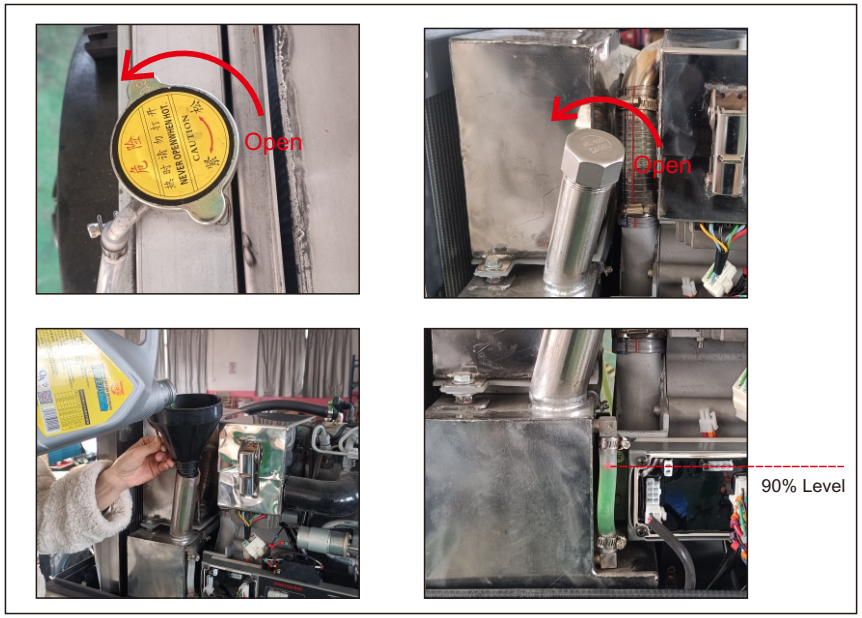
14.4 inject coolant (Freshwater）

WARNING！
The engine needs to use low-temperature -35 degrees high-temperature refrigerant with a boiling point of 129 degrees to prevent the refrigerant from overflowing after boiling.

NOTICE!
Check whether the refrigerant is sufficient every 50 hours of use, so as to avoid overheating and shutdown of the generator in the middle of use.

In order to facilitate the user to check the refrigerant liquid level in the controller, in some models of this series of generators, we adjust the fuel liquid level to cost the refrigerant liquid level as shown in the following page.

Iinject coolant (Freshwater)
1. For the first injection of coolant (fresh water), firmly press the radiator cap of the radiator and screw it counterclockwise to the notch to loosen it, and remove the radiator cap of the radiator. Twist the coolant cap counterclockwise and take it off, pour in coolant until the red floating ball of the transparent water pipe on the side of the main coolant tank reaches 90% of the top.

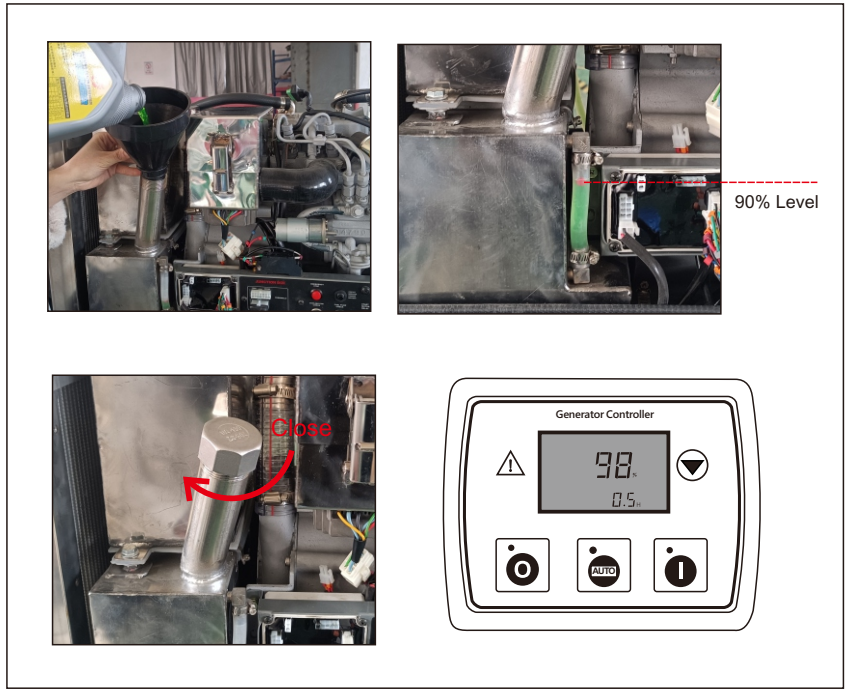


NOTICE!
The generator starts, please check the operation in next page.

2. Add coolant dynamically (add coolant for the second time)
The dynamic addition of refrigerant is to add refrigerant again after the generator starts.

As the generator starts, the coolant will enter the radiator of the water tank and the water-cooled exhauster, and the coolant level will drop rapidly. At this time, it is necessary to add coolant immediately until the red ball on the transparent rubber tube reaches 90% of the water level.

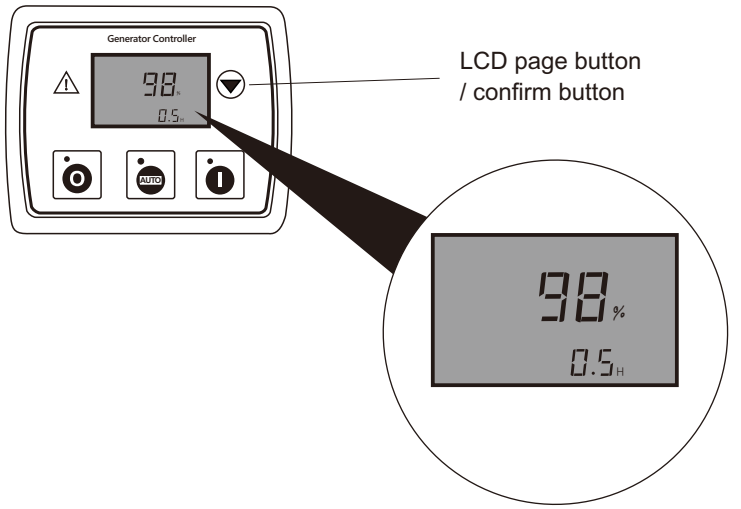
Observe that the coolant level on the control panel shows 100%. When the red floating ball in the transparent water pipe of the main coolant tank cannot be seen, the coolant level on the control panel still shows 100%, because the coolant in the auxiliary water tank is still full. The sensor is installed in the attached water tank. When the coolant in the attached water tank is less than 50%, it will add coolant and prompt the following page.



15 Check the coolant level

Check the coolant level on the control panel

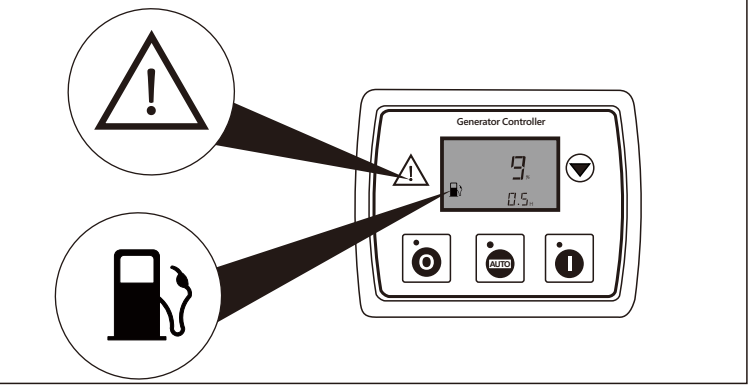
6



➤ Press the LCD page button, when the coolant level is displayed as %, it means the current coolant level

➤ When the fuel in the fuel tank is less than 30%, the Alarm light ⚠ will flash and the low coolant level icon will appear on the LCD screen.

7



16 start the generator

WARNING!

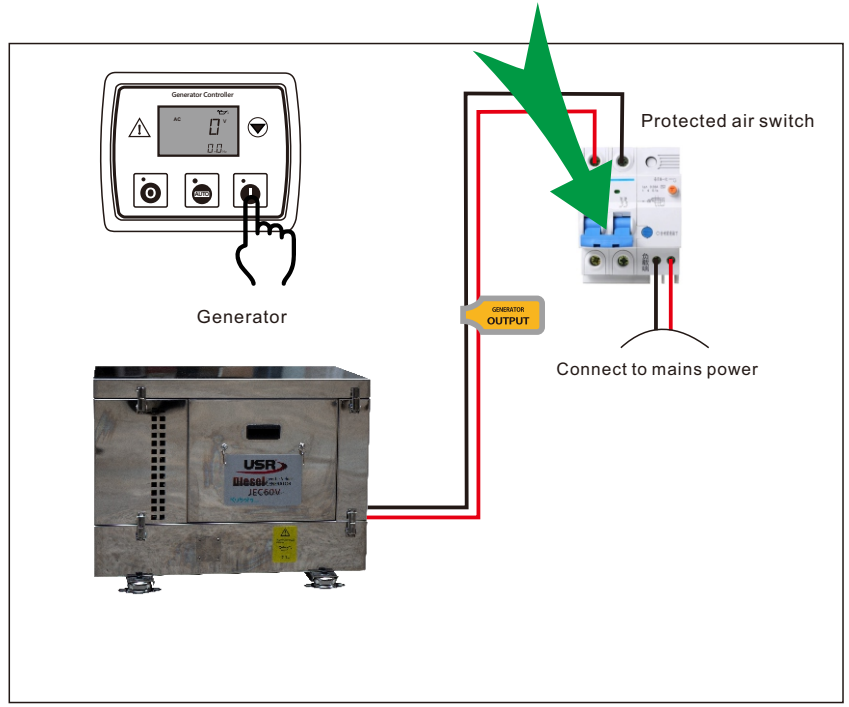
When the generator is connected, it must be ensured that the generator is stopped to avoid electric shock.otherwise it may cause fatal or serious injury.

➤ Generator output connected to mains power show down in fig.22,page 29.

– Make sure that the power output switch of the generator is disconnected before starting, and then close the switch when the generator runs smoothly.

– Press the manual start button ⏻ on the control panel and the generator will start

– This generator has a heating function. When the start button ⏻ of the control panel .is pressed, the engine starts to heat for 3 seconds (the heating time can be changed by the USB data cable of the computer), the starter motor starts to rotate and the generator starts. It can take 2-5 times to start the generator for the first time.



- ➢ Open the generator front door.
- ➢ Turn the emergency switch on the junction box to the O position.
- ➢ Disconnect the positive terminal of the supply battery.
- ➢ Take the dipstick out of the filler neck .
- ➢ Clean the dipstick with a cloth.
- ➢ Put the dipstick back into the filler neck.
- ➢ Take the dipstick out of the filler neck.
- ➢ Check that the oil level is between the notch (maximum filling level) and the tip of the dipstick If not, top up with more oil.
- ➢ Put the dipstick back into the filler neck .
- ➢ Check that the oil level is not above the maximum level.
- ➢ Connect the generator to the positive terminal of the supply battery.
- ➢ Turn the emergency switch on the junction box to the I position.
- ➢ Close the generator front door.

17 Changing the oil, diagram in fig page 42.

CAUTION !
Hot oil can cause burns.

NOTE!
Only dispose of used oil at a specialist recycling station and observe the local laws for environmental protection.

You may use the following oil:

- API SG or SF grade oil for four-stroke engines.
- SAE 10W-30 grade oil (can be used at any temperature).
- Oil with single grade oil viscosity.

Select the appropriate viscosity according to the average temperature on-site.

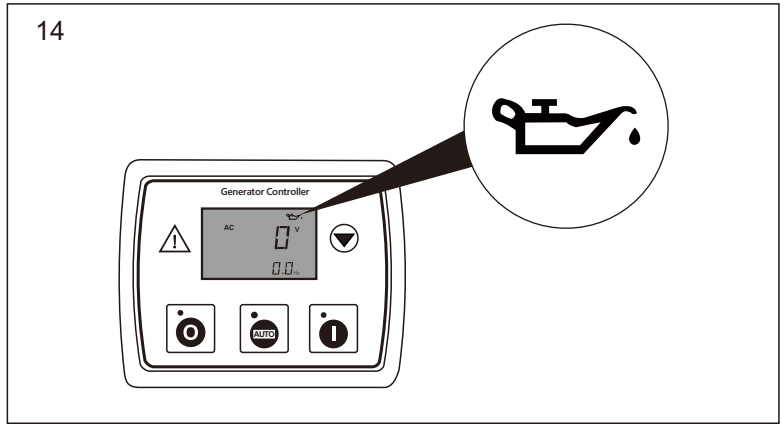
Change the oil as follows:

- ➢ Allow the generator to run until warm so that the oil can drain off faster and completely.
- ➢ Place a suitable receptacle under the drain plug (1).
- ➢ Take out the drain plug (1).

Low oil reminder and replacement:

➢ When there is no engine oil or insufficient engine oil, the Alarm light ⚠ will flash, and the Low oil Press icon will appear in the upper right corner of the LCD screen.

14



- ➢ The oil drains off
- ➢ Pour fresh oil into the nozzle. The amount of oil is injected according to the yellow tip stuck to the chassis of the housing.

18 Cleaning the generator, diagram in fig.16,page 31.

OTICE! Beware of damage

- Do not clean the generator with a high-pressure cleaner. Exposure to water can damage the generator.
- Do not use sharp or hard objects or cleaning agents for cleaning as these may damage the generator.
- To clean the generator, use water with a gentle cleaning agent. Never use petrol, diesel or solvents.

➢ Loosen the screws (1) on both sides

➢ Hold the generator shell (3) and pull out the chassis(2) with the generator

➢ Clean the generator with a damp cloth from time to time.

➢ Remove any dirt from the air vents in the generator at regular intervals. Make sure you do not damage the grilles of the generator in the process.

19 Servicing the air filter

WARNING! Danger of explosions

Do not use diesel oil or solvents with low boiling points for cleaning the air filter. They could ignite or explode.

NOTICE!

Never leave the engine running without an air filter. Otherwise this quickly wears out the engine.

NOTE!

If the air filter is dirty, the air flow to the carburettor is reduced. Check the filter regularly so that the carburettor can function properly. Check this more frequently if the generator is being used in particularly dusty environments.

➢ Prepare the maintenance work and pull the generator out of the housing slightly: see chapter “Preparing maintenance work” .

➢ Remove the butterfly nut and the filter cover.

➢ Remove the butterfly nut .

➢ Take out the air filter.

The air filter consists of two parts: a sponge filter and a paper filter.

➢ Check the condition of both parts of the filter carefully. Replace the damaged filter parts.

➢ Clean the undamaged filter parts; see the following section.

➢ Finish the maintenance work, see chapter “Finishing maintenance work” .

Cleaning the sponge filter

➢ Wash the sponge with a neutral detergent solution and rinse it thoroughly.

➢ Leave the sponge to dry completely.

➢ Soak the sponge in fresh engine oil.

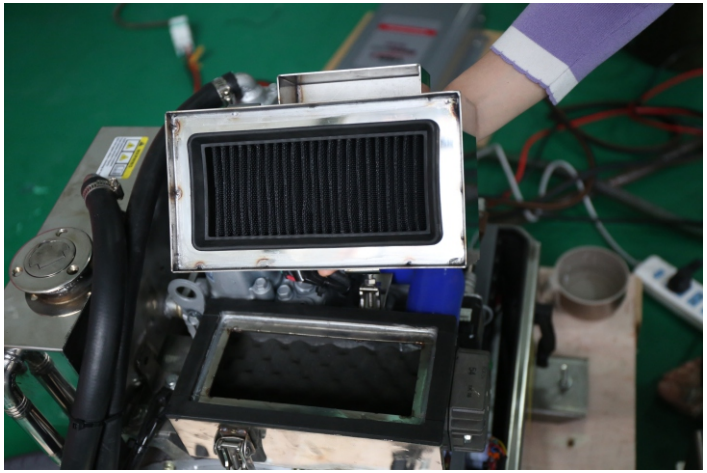
➢ Squeeze out the excess oil.

20 Cleaning the air filter, diagram in fig.17,page 33.

➢ Knock the dirt off the paper by banging it lightly on a hard surface or use compressed air to blow through the filter.

Do not brush the paper as this will push the dirt into the fibres of the paper filter.

➢ Change the paper filter if it is heavily soiled.



21 Servicing the generator

NOTE
Find your local agent
http://www.usrgenerator.com

21.1 Maintenance table

WARNING!
Only have maintenance work carried out by specialist personnel who are familiar with the relevant regulations. Inadequate maintenance may cause serious hazards.

NOTE
Have the following maintenance work performed at regular intervals or after the specified number of operating hours, whichever is sooner.

Interval	Inspection/maintenance
In the first month or after 20 hours	➢ Change the oil ➢ Check the air filter (chapter “Servicing the air filter”)
Every 3 months or aer 50hours	➢ Check the airfilter (chapter “Servicing the air filter”)
Every 6 months or aer 100hours	➢ Change the oil ➢ Check the spark plug (chapter “Servicing the spark plugs).
Once a year or every 300 hours	➢ Check the valves‘ adjustment. ➢ Check the fuel tank and fuel filter. ➢ Check the vibration damper (rubber feet).
Every two years	➢ JEC Check the petrol supply lines. ➢ LPG model Check the gas supply lines.

21.2 Preparing maintenance work

CAUTION!

Note the following for all maintenance work:

- The generator must not be running.
- All the parts must be cooled down.

➤ Switch the generator to no function with the main switch.

➤ Disconnect the positive terminal of the supply battery.

➤ Open the generator front door.

For maintenance work, you can take the generator out

WARNING!

The mounting plate with generator is very heavy (> 40 kg) and could fall out the housing if you take it out too far.

➤ Undo the fastening screws (1).

➤ Remove the mounting plate (2) with the generator from the housing (3).

21.3 Finishing maintenance work

➤ Connect the generator to the positive terminal of the supply battery.

➤ Switch the generator to standby with the main switch.

➤ Close the generator front door.

22 Troubleshooting

Fault	Cause	Remedy
The controller does not come on when the on/off switch is pressed.	Starter battery is flat.	➤ Charge the starter battery.
	Power cable is disconnected or the plug is removed.	➤ Contact an authorised workshop.
	Generator earth cable is disconnected or the fuse (if available) is blown.	
The starter does not work when the start button is pressed.	Starter battery is flat.	➤ Charge the starter battery.
	The main switch is at “0”.	➤ Set the main switch to “I” or “1”.
	Starter sha is dirty.	➤ Clean the starter shaft.
	Too much oil in the engine.	➤ Drain the oil.
	Inverter is damaged.	➤ Contact an authorised workshop or agent.
	Power cable is disconnected or the plug is removed.	
	Generator earth cable is disconnected or the fuse (if available) is blown.	
	Starter is not receiving any p	
The starter turns but the generator does not start.	No petrol/LPG.	➤ Fill up with petrol/LPG.
	Spark plug is not receiving any power.	➤ Check the electric connections.
	Carburettor is not receiving any petrol.	➤ Clean the carburettor.
	Air intake is blocked.	➤ Check the air filter (see chapter “Servicing the air filter
	The ambient temperature is below 0°C.	➤ Use pure propane gas.
	Inverter is damaged.	➤ Contact an authorised workshop.
	Power cable is disconnected or the plug is removed.	

Fault	Cause	Remedy
The generator tends to stall.	Too much oil in the engine.	➤ Drain the oil.
	Load is over Rated power.	➤ Reduce the consumers.
	Carburettor is not receiving any petrol.	➤ Clean the carburettor.
	Air intake is blocked.	➤ Check the air filter (see chapter “Servicing the air filter
	Inverter is damaged.	➤ Contact an authorised workshop.
	Electromagnet is blocked.	
	Air filter is dirty.	
The generator is running but does not supply any voltage.	Inverter is damaged.	➤ Contact an authorised workshop.
	The stepper motor is faulty or the cable is disconnected	
	Electromagnet is blocked.	
	The throttle valve is blocked.	
The generator start up very fast and then the “GENERATOR ALERT”message appears.	Inverter damaged	➤ Contact an authorised workshop.
	The stepper motor is faulty or the cable is disconnected	
The generated voltage is unstable.	Inverter damaged	➤ Contact an authorised workshop.
	The stepper motor is faulty or the cable is disconnected	

23 Warranty

The statutory warranty period applies. If the product is defective, please contact the service partner in your country.

Our experts will be happy to help you and will discuss the warranty process with you in more detail.

24 Disposal

➤ Place the packaging material in the appropriate recycling waste bins wherever possible.

If you wish to finally dispose of the product, ask your local recycling centre or specialist dealer for details about how to do this in accordance with the applicable disposal regulations.

25 Technical data

Generator	JEC40	JEC60 OX	JEC60 IX	JEC80 OX	JEC80 IX
Voltage	1-Phase 110-120V~ 60Hz 220-240V~ / 50 -60Hz				
Max power	4.5kW	6.0kW	6.0kW	8.0kW	8.0kW
Rated power	4.0kW	5.6kW	5.6kW	7.2kW	7.2kW
Rated Speed	2200-2600rpm	2200-2800rpm	2200-2800rpm	2200-3000rpm	2200-3000rpm
Battery charger output voltage	20A 12V				
Operating temp-erature range:	–15°C to +50°C				
Distortion factor	1%	1%	1%	1%	1%
Sound level	63 dB(A)	65 dB(A)	65 dB(A)	66 dB(A)	66 dB(A)
Fuel pump	DC12V	DC12V	DC12V	DC12V	DC12V
Weight:	156kg	176kg	176kg	186kg	186kg
Dimension:	620*510*540	620*510*540	720*510*540	620*510*540	720*510*540

Engine	Z482
Brand	KUBOTA Diesel Engine
Emission regulation	EPA/CARB Tier 4 level + EU Stage V
Type	Vertical, water cooled 4-cycle diesel engine
Cylinders	2
Bore and stroke	67.0 x 68.0 (2.64 x 2.68)mm (in)
Displacement	0.479 (29.23)L (cu.in)
Aspiration	Naturally aspirated
Stand-by output / speed*1	7.5 (10.1) / 3000 kW (HP) / rpm
Continuous output / speed*2	6.9 (9.2) / 3000 kW (HP) / rpm
Combustion system	indirect injection
Fuel system	In-line pump
Inspection/ certification:	CE · UNITED STATES ENVIRONMENTAL PROTECTION AGENCY · CALIFORNIA AIR RESOURCES BOARD

26 Technical data

Generator	JEC100	JEC100 CF	JEC120	JEC150	JEC180
Voltage	1-Phase 110-120V~ 60Hz 220-240V~ / 50 -60Hz				
Max power	10.0kW	12.0kW	13.0kW	16.0kW	20.0kW
Rated power	9.0kW	10.0kW	12.0kW	15.0kW	18.0kW
Rated Speed	2200-3000rpm	1500rpm	1500rpm	15000rpm	15000rpm
Battery charger output voltage	20A 12V	26A 12V			
Operating temp-erature range:	–15°C to +50°C				
Distortion factor	1%	1%	1%	1%	1%
Sound level	63 dB(A)	71 dB(A)	73 dB(A)	73 dB(A)	73 dB(A)
Fuel pump	DC12V	DC12V	DC12V	DC12V	DC12V
Weight:	216kg	476kg	486kg	506kg	526kg
Dimension:	640*510*540	1160*620*700		1260*620*700	1280*620*700

Engine	D722-E3	V2203-M-E3	V2403-M-E3
Brand	KUBOTA Diesel Engine		
Emission regulation	EPA/CARB Tier 4 level + EU Stage V		
Type	Vertical, water cooled 4-cycle diesel engine		
Cylinders	3	4	
Bore and stroke	67.0 x 68.0 (2.64 x 2.68) mm (in)	87.0 x 92.4 (3.43 x 3.64) mm (in)	87.0 x 102.4 (3.43 x 4.031) mm (in)
Displacement	0.719L	1.27L	1.44L
Aspiration	Naturally aspirated		
Stand-by output / speed*1	12.2 kW / 3000 rpm	20.1kW / 3000 rpm	22.0 kW / 3000 rpm
Combustion system	indirect injection		
Fuel system	In-line pump		
Inspection/ certification:	CE, EPA, CALIFORNIA AIR RESOURCES BOARD		

27 Technical data

Generator	JEC200	JEC250	JEC300	JEC400	JEC500
Voltage	1-Phase 110-120V~ 60Hz 220-240V~ / 50 -60Hz			3-Phase 220V~ 60Hz 380-440V~ / 50 -60Hz	
Max power	22.0kW	27.0kW	33.0kW	45.0kW	55.0kW
Rated power	20.0kW	25.0kW	30.0kW	40.0kW	50.0kW
Rated Speed	1500rpm	1500rpm	1500rpm	15000rpm	15000rpm
Battery charger output voltage	26A 12V				
Operating temp-erature range:	–15°C to +50°C				
Distortion factor	1%	1%	1%	1%	1%
Sound level	73 dB(A)	73 dB(A)	73 dB(A)	75 dB(A)	75 dB(A)
Fuel pump	DC12V	DC12V	DC12V	DC12V	DC12V
Weight:	546kg	576kg	686kg	706kg	756kg
Dimension:	1360*620*700	1360*620*750	1460*620*750	1280*620*700	

Engine	V2403-M-E3	V2403-M-T	V3300-M-E3	V3800DI-T	4BTA3.9-G2
Brand	KUBOTA Diesel Engine				Cummins
Emission regulation	EPA/CARB Tier 4 level + EU Stage IIIA				
Type	Vertical, water cooled 4-cycle diesel engine				
Cylinders	4				
Bore and stroke	87.0 x 102.4 (3.43 x 4.031) mm (in)		98.0 x 110.0 (3.86 x 4.331) mm (in)	100.0 x 120.0 (3.937 x 4.724) mm (in)	102 x120 (4.016 x 4.724) mm (in)
Displacement	2.434L		3.318L	3.769L	3.9L
Aspiration	Naturally aspirated				
Stand-by output / speed*1	26.5 kW / 1500 rpm	30.5 kW / 1500 rpm	33.6 kW / 1500 rpm	49.5kW / 1500 rpm	22.0 kW / 3000 rpm
Combustion system	indirect injection				
Fuel system	In-line pump				
Inspection/ certification:	CE, EPA, CALIFORNIA AIR RESOURCES BOARD				