# DC FAST CHARGER


**Model:** **EVD-A30W-C**
**EVD-A40W-CC**
**EVD-A60W-C**

READ AND SAVE THESE INSTRUCTIONS
Installer: Leave this manual with the owner

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# SAFETY INSTRUCTIONS

**Important note:** Please read this manual before installing and switching on the charger. The manufacturer accepts no responsibility for incorrect installation and usage. Retain this instruction manual for future reference. All the information in the manual is valid for the charging station models listed in this manual.

**DANGER:**It is necessary to comply with relevant local and national safety regulations and strictly follow the precautions and special safety instructions provided for the relevant equipment during operation of the unit.

This manual details the installation guidance for the charger. If you're unsure which model you have, please check the rating label on the charger.

The unit is designed for installations indoors or outdoors with the Innovative safety systems we have built into the charger ensuring its safe usage. This manual provides information to assist when installing the unit. The charger must be professionally installed by a qualified electrician according to local and national regulations applicable at the time of installation and used in accordance with the manufacturer's manual.

● **WARNING**:This unit must be grounded (Earthed).
● **WARNING**:To avoid a risk of fire or electric shock, do not use this device with an extension cord.
● To reduce the risk of electric shock,connect only to properly grounded outlets.
● **WARNING**: Do not use this product if there is any damage to the unit.
● **WARNING**: Risk of electric shock. Do not remove cover or attempt to open the enclosure. No user serviceable parts inside. Refer servicing to qualified service personnel.
● For use only with Electric Vehicles.
● Ventilation is required.
● **CAUTION**: During servicing Insulated tools must be used.
● **WARNING**:This unit is only to be installed by a qualified electrician to work with high DC voltage up to 1000Vdc and 3 phase AC voltage up to 500Vac.It is necessary to comply with relevant National Safety Regulations during installation of the DC Charger.
● **WARNING**:This unit is designed to connect a 3 phase electrical supply voltage of 400V AC
● **DANGER**: The charger must be installed on a secure solid surface that can support the weight of the charger. Failure to install on a secure surface or not in accordance with electrical regulations could lead to death, personal injury, or property damage.
● This appliance is designed to be used by adults, do not allow children to play with the appliance or let them hang over the charger.
● **WARNING**: The wiring area and the area where the line passes through for AC cables must comply with the local and national regulations.
● Do not use this unit other than its intended purpose.
● **WARNING**: Do not use if the socket or connector or cable is damaged.
● Disconnect the charging cable from the vehicle prior to driving off.
● **DANGER**: To prevent electrical shock, do not plug-in or un-plug with wet hands .
● **CAUTION**: Do not use a power washer to clean or wash the charger.

# SAFETY INSTRUCTIONS

● The charger must be protected from strong vibration or exposure to high temperature and humidity. Use within an ambient temperature on the rating label.
● **CAUTION**:The ventilation vents at the side of the charger shall not be covered to ensure their is adequate airflow and heat dissipation.
● **WARNING**:During the handling of equipment by hand, it is necessary to wear protective gloves.
● **DANGER**: Do not put fingers into the socket or connector.
● **DANGER**: Operation, it is strictly prohibited to short-circuit the positive and negative lines of the DC Charger DC distribution or short-circuit any DC distribution polarity to Ground. The DC Charger is a high voltage DC power supply, and short circuit may cause damage to the DC Charger and personnel.
● **DANGER:**Working with the High Voltage DC output , it is necessary to strictly check the polarity of cables and interface terminals.
● **CAUTION**:Before starting any installation work, attention should be paid to planning cable routing, etc.
● **CAUTION**:Adapters or conversion adapters are not allowed to be used.
● **CAUTION**:The cord extension sets are not allowed to be used.
● This unit is not suitable for use in dangerous places where there is high amounts of dust, dangerous gas or in an explosive and flammable environment.
● In order to ensure the electrical safety of the unit, the product body shell must be fixed to the correct position with fasteners that come with the product and the seals used to ensure the IP rating is maintained.
● **CAUTION**: Do not use to charge non rechargeable batteries.
● Do not wear watches,rings, bracelets and other conductive object whilst installation and maintenance.
● **CAUTION**:The unit’s inlet position must be tightly sealed to be waterproof and dustproof to ensure the products sealing level.
● **CAUTION**: Use a crash barrier to protect the charger.

**Important:** Under no circumstances will compliance with the information in this manual relieve the user of his/her responsibility to comply with all applicable codes or safety standards.

## TECHNICAL DATA

| Type / Item | Model | EVD-A30-C | EVD-A40-CC | EVD-A60-C |
|---|---|---|---|---|
| **Input** | Power Supply | 3/N/PE | | |
| | Rated Voltage | 230/400V 50Hz | | |
| | Rated current | 47A | 62A | 93A |
| **Output** | Output Voltage | 200-1000V DC | | |
| | Maximum Current | 100A | 133A | 200A |
| | Rated Power | 30kW | 40kW | 60kW |
| **Configuration** | Charger connector | CCS2 | 2×CCS2 | CCS2 |
| | Material | Galvanized sheet powder spraying | | |
| | Colour | Gray+Green | | |
| | Indicator light | Three colour LED | | |
| | Start Mode | RFID card； Credit card payment,OCPP 1.6J | | |
| **Safety** | Protection degree | IP54 | | |
| | Protection | Over voltage protection | | |
| | | Under voltage protection | | |
| | | Surge protection | | |
| | | Over load protection | | |
| | | Short circuit protection | | |
| | | Earth leakage protection | | |
| | | Over-temp protection | | |
| | Certification | CE, UKCA | | |
| **Power consumption** | Standby power consumption | <30W | | |
| **Enviroment** | Installation | Wall mounted,Floor mounted(Optional) | | |
| | Work Temperature | -25°C to 50°C | | |
| | Work Humidity | 5% to 95% non-condensing | | |
| | Work Altitude | <2000m | | |
| **Dimension** | Product Dimension (H*W*D) | 960×690×300(mm) | | |

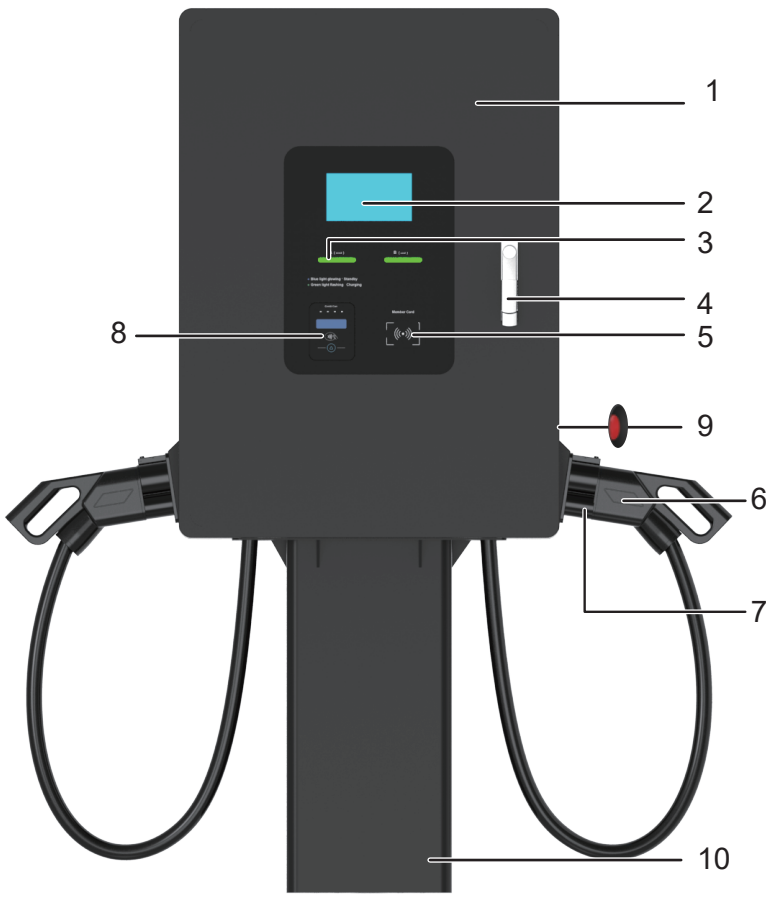
**Note 1:** The DC Charger provides full output power up to 50°C, output power derating above 90°C.
**Note 2:** The protection level of the DC Charger is IP54.

# USER INSTRUCTIONS

## STANDARDS

1.IEC 61851-1 2017: Electric vehicle conductive charging system. Part 1: General Requirements.
2.IEC 61851-23 2014: Electric vehicle conductive charging system - Part 23: DC electric vehicle charging station.
3.IEC 61851-24 2014: Electric vehicle conductive charging system - Part 24: Digital communication between a DC EV charging station and an electric vehicle for control of DC charging.
4.EN 61851-1 2019: Electric vehicle conductive charging system. Part 1: General Requirements.
5.EN 61851-23 2014: Electric vehicle conductive charging system - Part 23: DC electric vehicle charging station.
6.EN 61851-24 2014: Electric vehicle conductive charging system - Part 24: Digital communication between a DC EV charging station and an electric vehicle for control of DC charging.

## PRODUCT DESCRIPTION




1. Front cover
2. LCD display
3. Indicator light
4. Gate lock
5. RFID area
6. Charging lead and connector
7. Cable holder
8. POS/Payter
9. Stop button
10. Wall mounting bracket

## INDICATOR LIGHT

| Light Display Status | Product Status |
|---|---|
| Blue light glowing | Standby |
| Green light glowing | Connection confirmation |
| Green light flashing | Charging |
| Red light glowing | Fault |

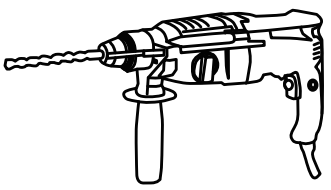
# PREPARATION

Since the working voltage inside the charging system is very high and the current is very large, the following rules should always be observed to ensure personal safety.

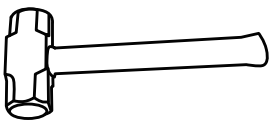
• Only personnel who are qualified can install the charger. During installation, always observe the safety precautions mentioned in this document and all relevant National Safety Regulations.

• Check if the exterior packaging has been damaged by mechanical impacts or any accidents during transportation.

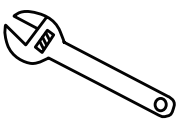
## TOOLS / MATERIALS REQUIRED (NOT INCLUDE)



Hammer drill

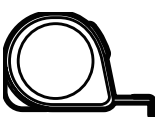


Hammer

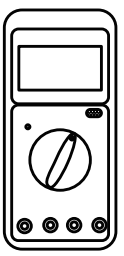


Wrench

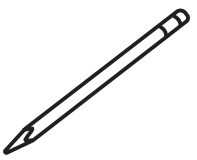
Safety gloves



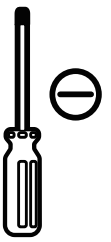
Measuring tape



Multimeter



Pencil



Slotted screwdriver

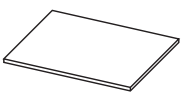
Phillips screwdriver

## ATTACHMENT

4×Expansion bolts

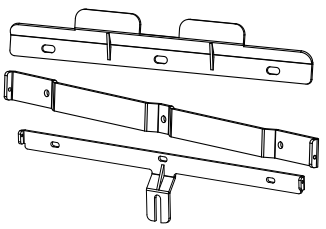
6×bolts(M8×30)

2 x Keys



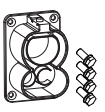
1×Filter cotton

Manual

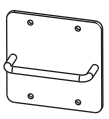


Wall fixing brackets**

3 x RFID cards

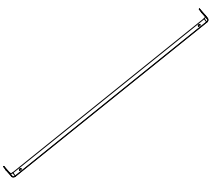


For One charger point model:
1 x Cable holder and 4 x screws
For Two charger points model:
2 x Cable holders and 8 x screws



2×Handle and mounting bolts(M6×30)

4×bolts(M6×12)**



2xRack baffles**

8×nuts
for Stand fixing **



4 x Spring washers
for Stand fixing **



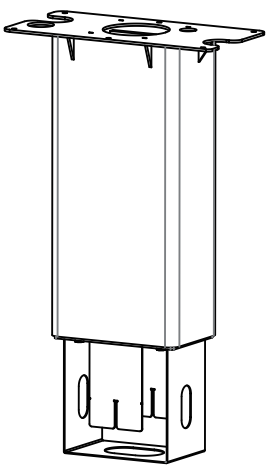
4 x flat washers
for Stand fixing **

6×bolts(M8×20 )
for Stand fixing

Wall installation template

6×bolts(M8×20 )
for Stand fixing **

2 x Keys
for stand bracket **



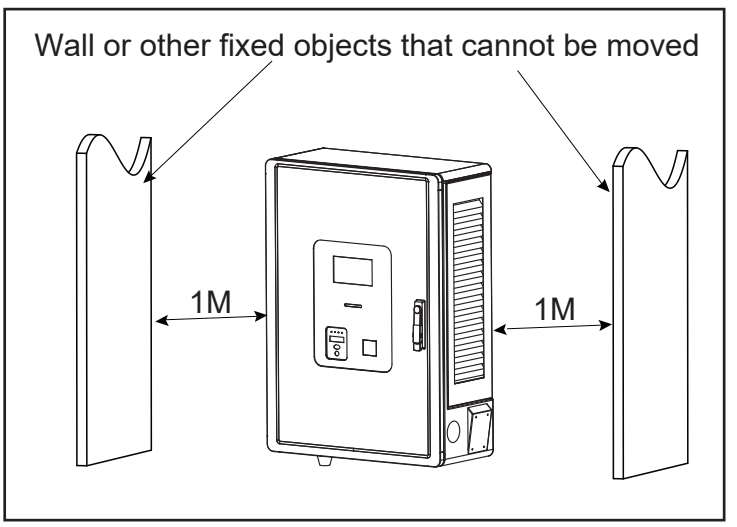
Stand fixing bracket
and pedestal assembly**

**NOTE:** ** This is an optional extra.

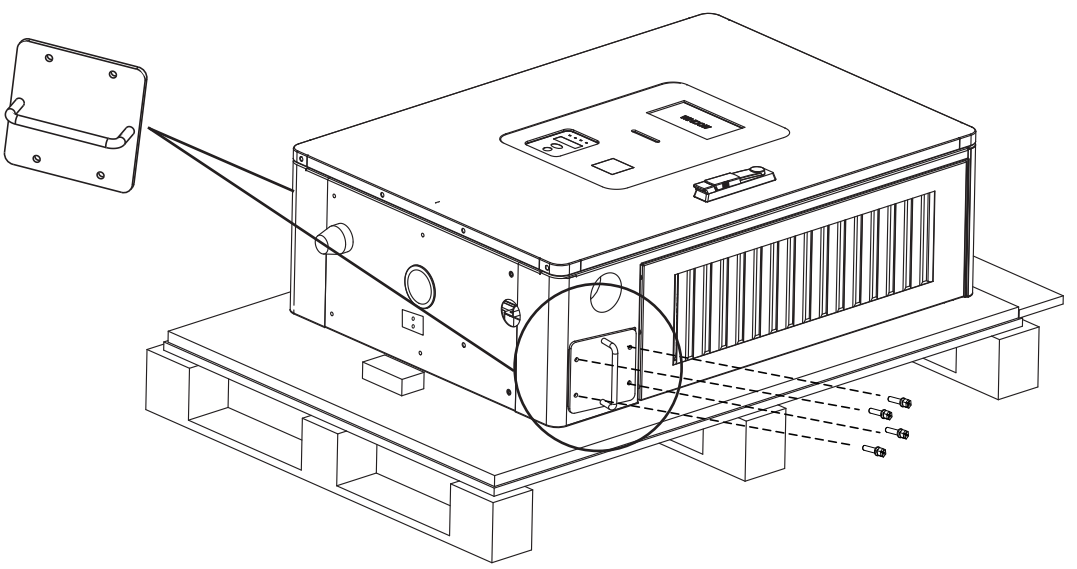
# PREPARATION

## INSTALLATION CONDITIONS

1. There should be a certain space around the unit for installation and future maintenance.
**SUGGESTION:** minimum 1M.
2. The wall must be a solid concrete wall or red brick wall, the thickness of the wall is greater than 200mm, to ensure sufficient suspension strength, otherwise it will cause damage to the machine and the human body!
3. The vertical installation method of the charger must installed on a customized concrete cement foundation.




## PRE INSTALL HANDLING HANDLES



Take out the handle fittings, and fix the handle to the shell with 8 M6*30 bolts according to the figure below, which is convenient for the handling and installation of the shell; After the installation is complete, remove it to facilitate subsequent installation of the gun mounting base. Secure the side without the gun mounting base of the single-gun machine to the mounting hole of the gun mounting base using four M6*30 bolts.

# INSTALLATION

## WALL INSTALLATION

1. Take out six M8x30 bolts and install bracket A and bracket B on the unit.
2. Locate the drilling position according to the installation template. Drill 4 holes (depth: 98 to 100mm) with Φ16 by using a hammer drill, and remove debris from the holes after drilling. Take out four M12 expansion bolts, insert the bolts into the holes, tighten the expansion bolt heads until they do not loosen, and remove the bolts and washers.

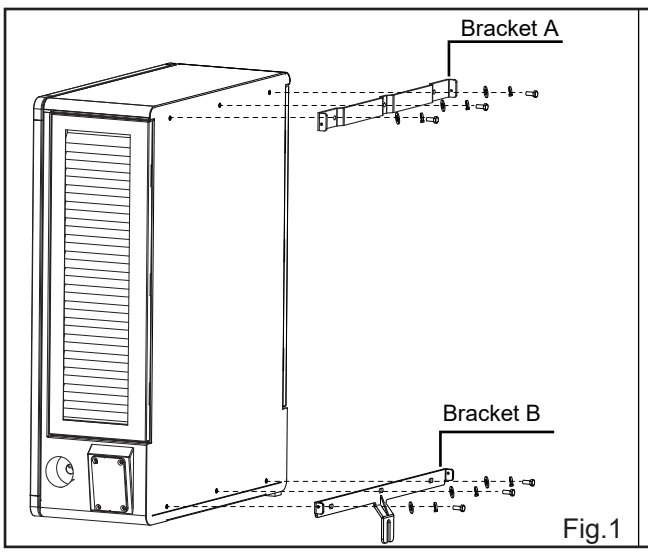


Fig.1

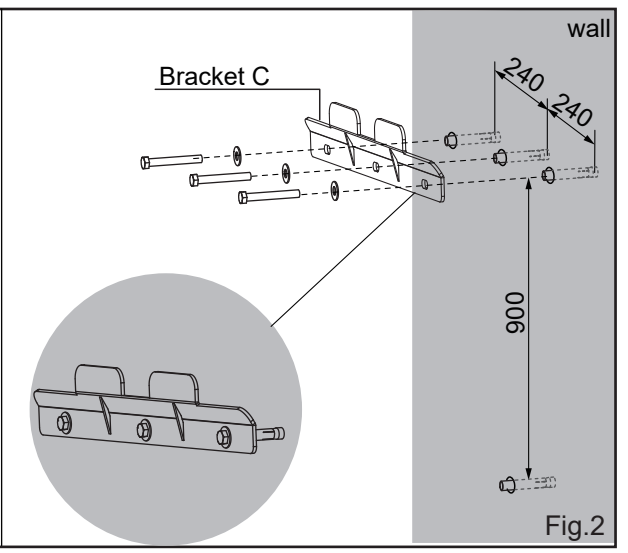


Fig.2

3. Install support C using the removed bolts and gaskets. The locking torque is 55N·m.
4. Hang the installed machine on the fixed support C, adjust the level, and fix the support B to the wall with bolts and flat pads. The locking torque is 55N·m.
5, install the pylon baffle, and use M6x12 bolts to fix it on the support A and B.

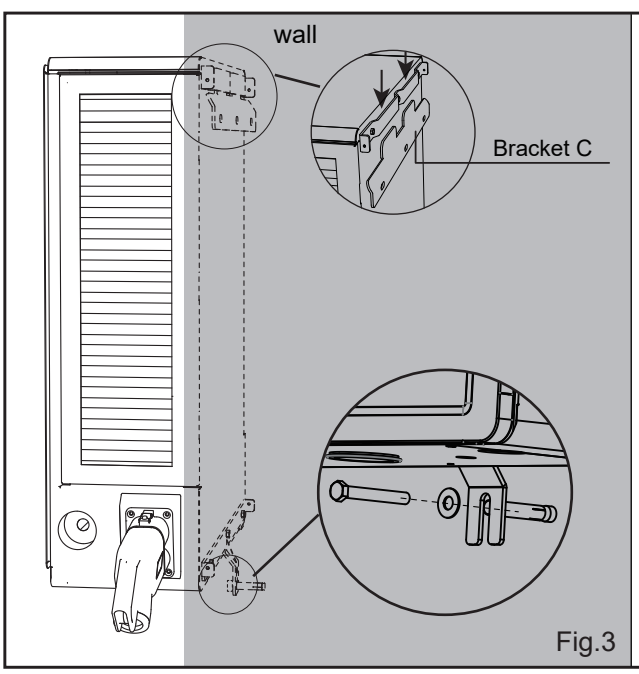


Fig.3

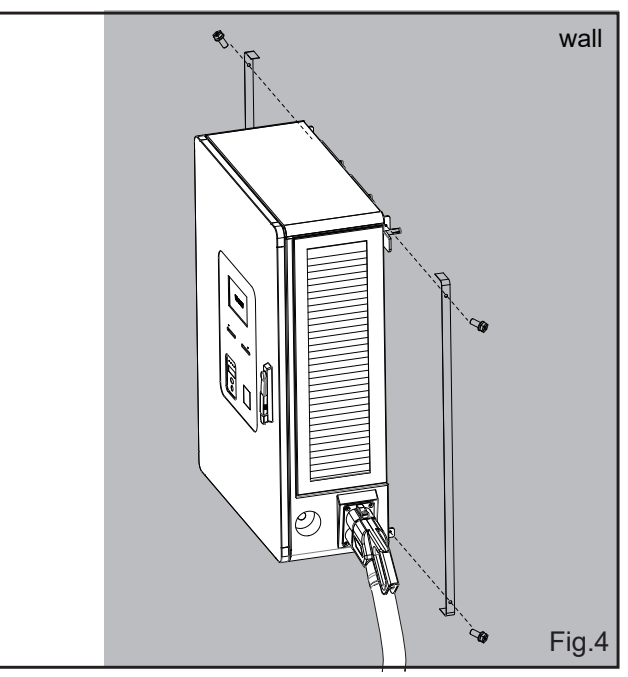


Fig.4

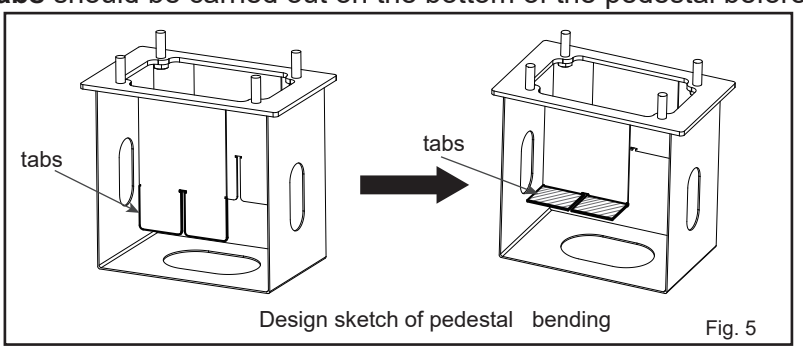
# INSTALLATION

## VERTICAL STAND INSTALLATION

**1.Split stand fixing bracket and pedestal**

1-1 Use the key to open the back panel of the bracket and remove it. Remove the pedestal from the assembly before installation.

1-2. In order to ensure that the pedestal is firm and won't move during pouring the concrete, the following bending of the **tabs** should be carried out on the bottom of the pedestal before placing into the ground(Fig 5).




Design sketch of pedestal bending Fig. 5

**2.Concrete pouring**

2-1.The unit needs to be installed on a sturdy poured concrete base.The concrete should be poured to ensure sufficient strength (increase reinforcement), and the concrete bulk weight is greater than 2000kg/m². At the same time, it is necessary to consider the factors that affect the use strength of the charging pile, such as the wind force in the use environment, and increase the size and bulk density of the concrete.

2-2. Refer to the following figure. When pouring, the metal pedestal and plastic pipe should be embedded into the reinforced concrete in advance.Ensure that the upper mounting surface of the embedded pedestal is level. During the pouring process, pay attention to protecting the bolts to prevent thread damage, otherwise the unit cannot be installed ! At the same time, reserve enough wiring length to facilitate power supply to the unit.

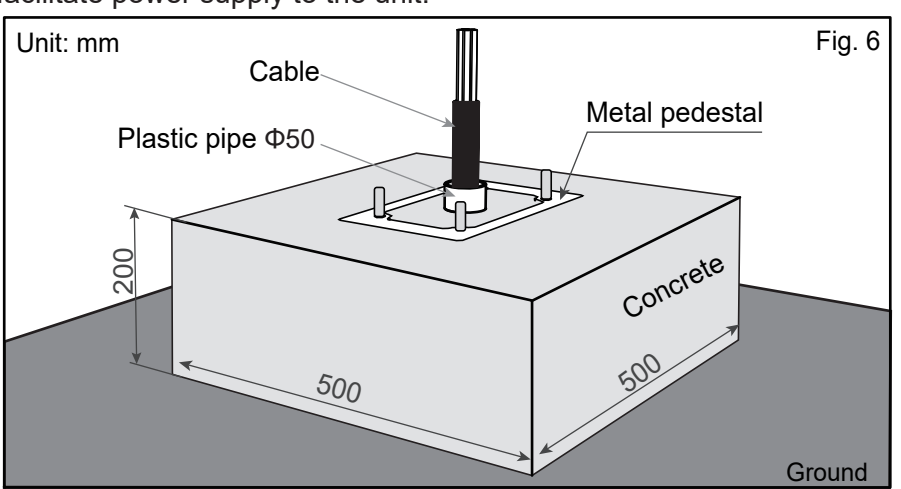



Fig. 6

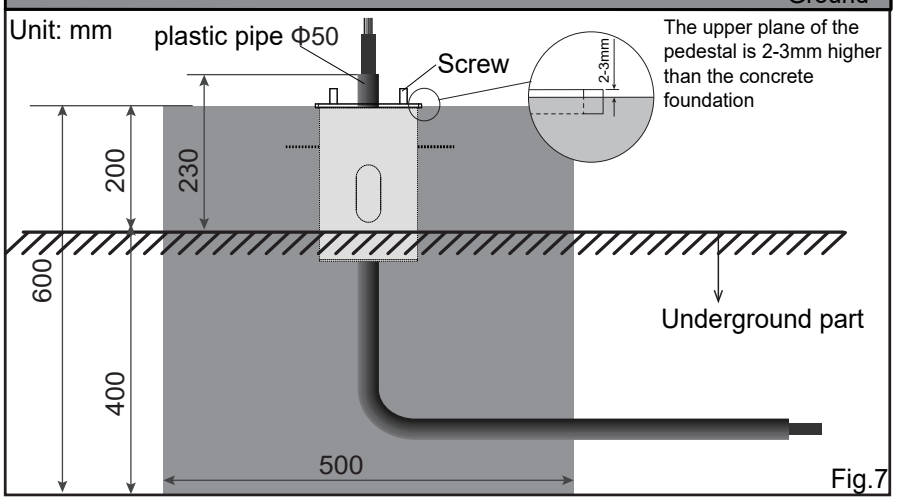



Fig.7

# INSTALLATION

3. After the reinforced concrete is fully cured, open the rear cover of the base, route cables through the middle hole of the base, and install the base on the bolts embedded in the metal base. Secure the nuts, spring washers, and flat washers in place(Fig.8).

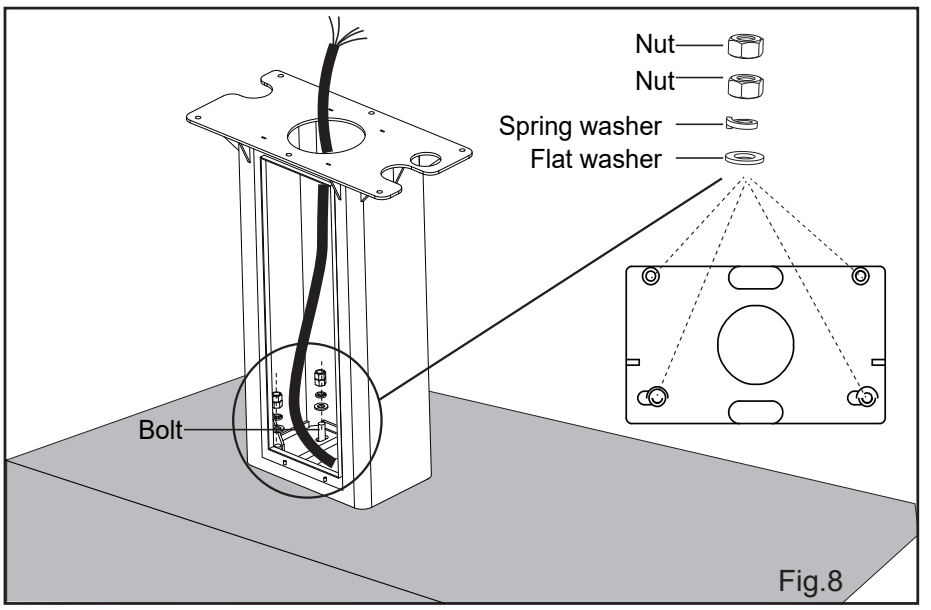


Fig.8

4. Install the unit on the base of the machine with 6 M8* bolts according to Fig.9, and tighten the bolts in place and install and lock the rear panels.

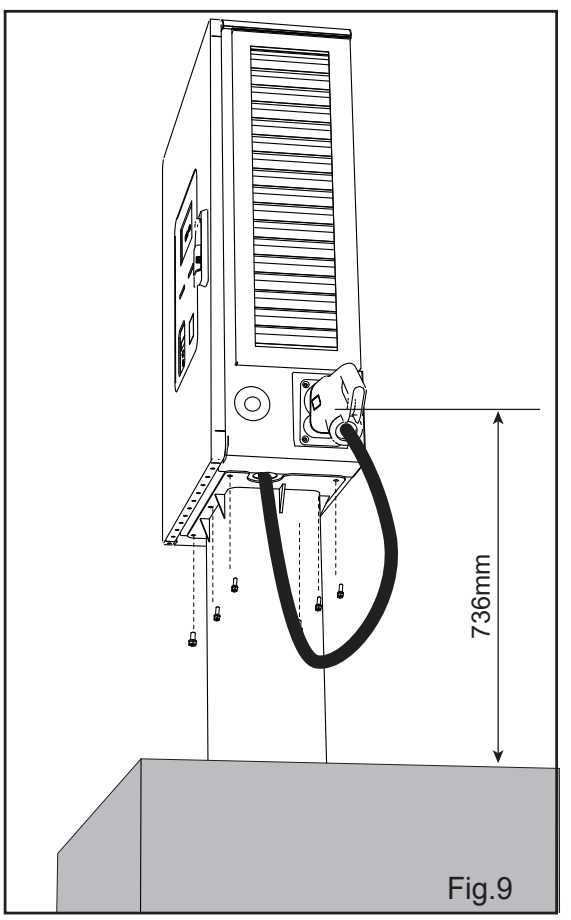


Fig.9

# INSTALLATION

## INSTALLATION OF THE CABLE HOLDER

1. Take out the charger holder.
2. Screw the charger holder (including waterproof gasket) to the unit.
3. Installation is complete.

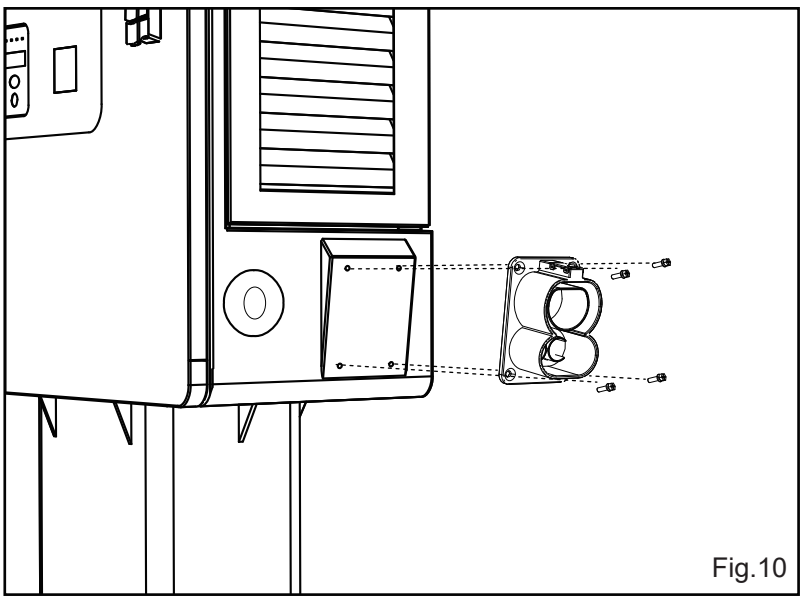


Fig.10

## AC INPUT WIRING CABLES CHOOSE

| NO. | The section for AC feed cables | Amperage at 400Vac | Max. Power of charger | Split-bolt (recommend) |
|---|---|---|---|---|
| 1 | 3x16mm²+2x16mm² | 47A | 30kW | L1/L2/L3/N/PE is M8(10-12 N·M) |
| 2 | 3x25mm²+2x16mm² | 62A | 40kW | L1/L2/L3/N/PE is M8(10-12 N·M) |
| 3 | 3x25mm²+2x16mm² | 93A | 60kW | L1/L2/L3/N/PE is M8(10-12 N·M) |

**Notes:**

・ The AC feed power cables to the charger are not included.

・The disconnecting switch has to be installed on the customer's distribution board. The rated current of Upper AC input MCB is recommended to be at least 1.25* In.

・The section for feed cables is 16 to 25mm ² . However, within this range, selected section is based on the distance between distribution board and charger (to be decided by customer's electrician for installation).

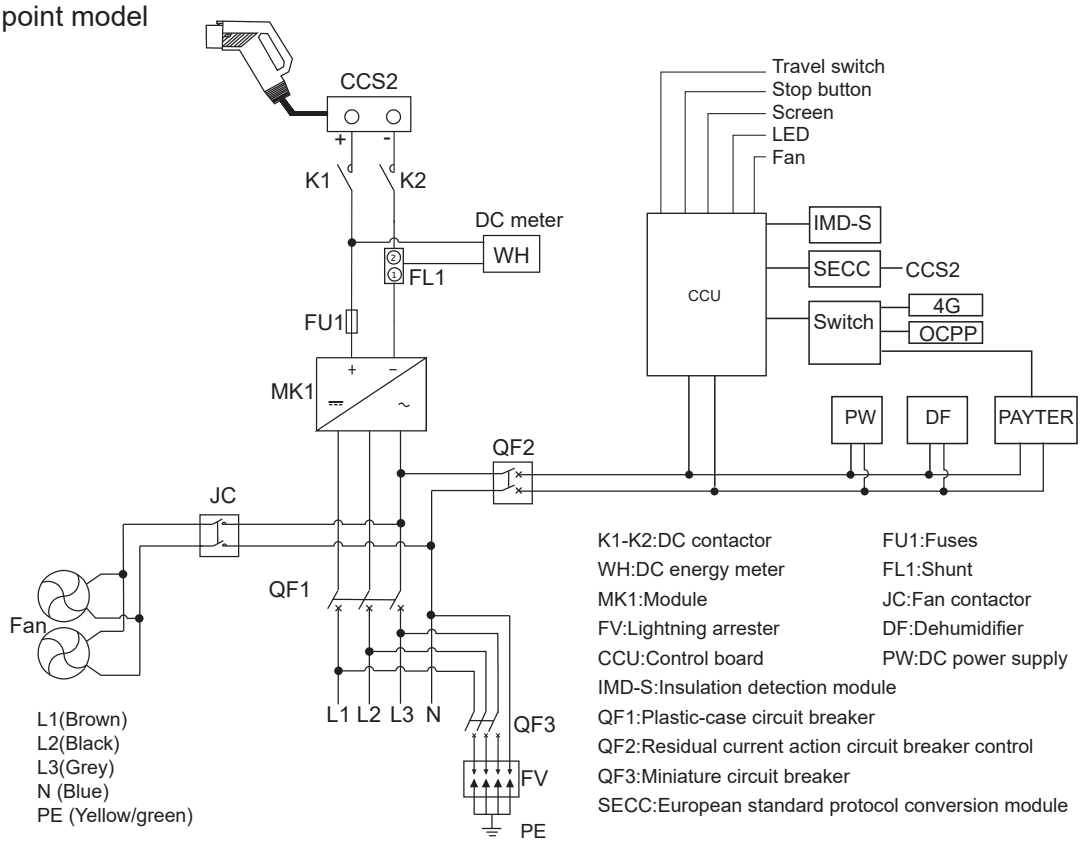
・A disconnecting switch has to be installed on the customer's distribution board.Must be installed type B RCBO.

**Warning: Before electrical connection, all switches shall be placed in the disconnection position.**

# INSTALLATION

## CONNECT ELECTRICAL WIRING

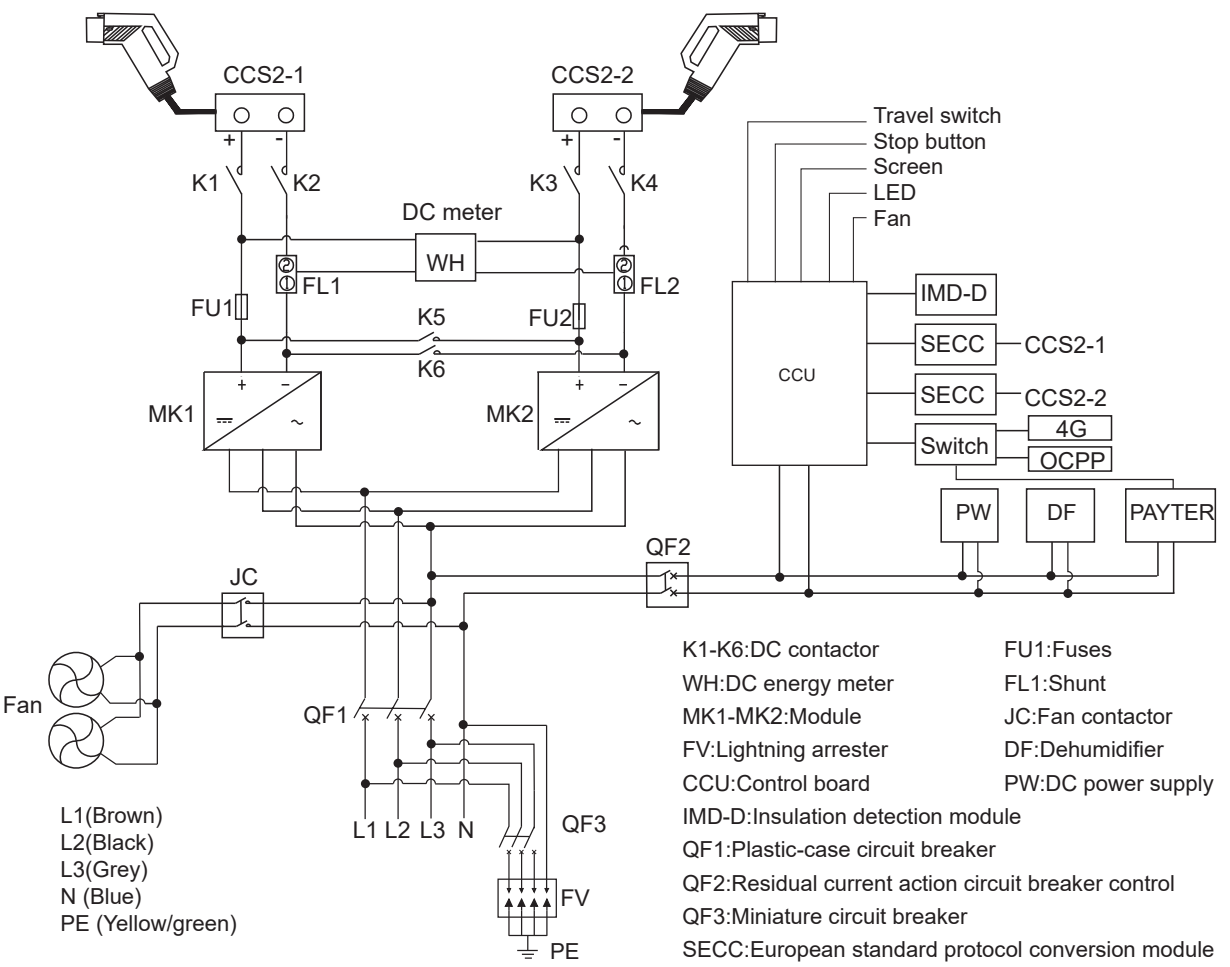
For 1 charger point model




L1(Brown)
L2(Black)
L3(Grey)
N (Blue)
PE (Yellow/green)

K1-K2:DC contactor
WH:DC energy meter
MK1:Module
FV:Lightning arrester
CCU:Control board
IMD-S:Insulation detection module
QF1:Plastic-case circuit breaker
QF2:Residual current action circuit breaker control
QF3:Miniature circuit breaker
SECC:European standard protocol conversion module
FU1:Fuses
FL1:Shunt
JC:Fan contactor
DF:Dehumidifier
PW:DC power supply

For 2 charger points model




L1(Brown)
L2(Black)
L3(Grey)
N (Blue)
PE (Yellow/green)

K1-K6:DC contactor
WH:DC energy meter
MK1-MK2:Module
FV:Lightning arrester
CCU:Control board
IMD-D:Insulation detection module
QF1:Plastic-case circuit breaker
QF2:Residual current action circuit breaker control
QF3:Miniature circuit breaker
SECC:European standard protocol conversion module
FU1:Fuses
FL1:Shunt
JC:Fan contactor
DF:Dehumidifier
PW:DC power supply

# INSTALLATION

• The position of cable entrance is shown mark in the figure below.

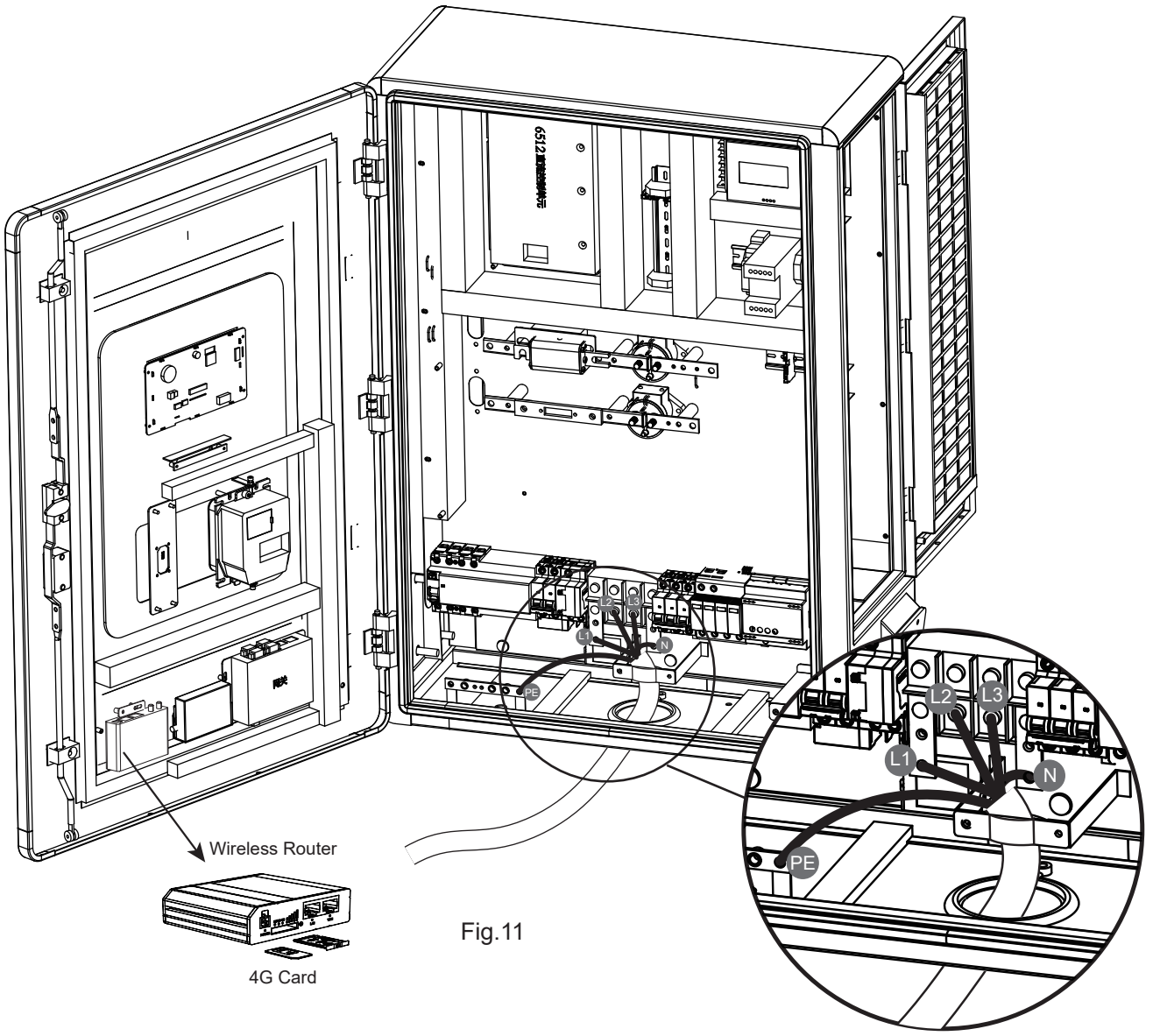
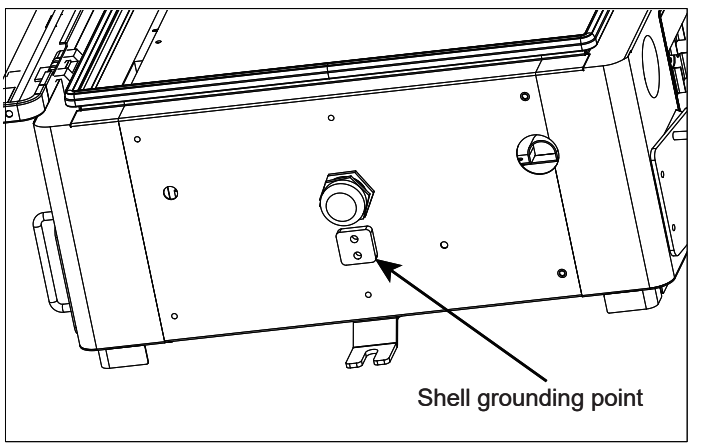



Fig.11

## GROUNDING INSTRUCTIONS

An equipment grounding conductor or a grounded, metal, and permanent wiring system is required for the charger connection. This should be run with circuit conductors and connected to the equipment grounding bar or lead on the charger.



# INSTALLATION

## START UP

**Verification and inspection**

• Check if the clamps of the AC and protective ground cables of the charger are correctly tightened to the specified torque.

• Check the resistance between the charger protective ground and the low voltage switchboard ground connection; the value must be according to local codes.

• Connect L1, L2, L3, N, and PE AC input cables respectively according to the figure. Tighten the bolts to a torque of 10-12N·m.

• Before switching on all the circuit breakers, check the supply voltage between lines: it must be 400V a.c，50Hz.

## SWITCH ON

• Switch on all the circuit breakers in the charger power cabinet.

# OPERATING INSTRUCTION

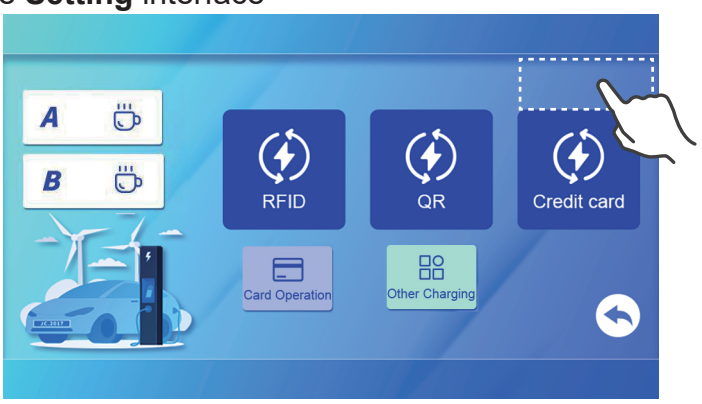
**Warning:**Before attempting to install or start up the charger must ensure that the safety instructions in this manual have been carefully read and observed by technically competent personnel. Keep this manual with the charger for future reference.
This charger must not be started or put into use without having been commissioned by a fully trained and authorized person.

## OPERATING INSTRUCTION

Idle  Charging  Insert the gun

### 1.Background Settings

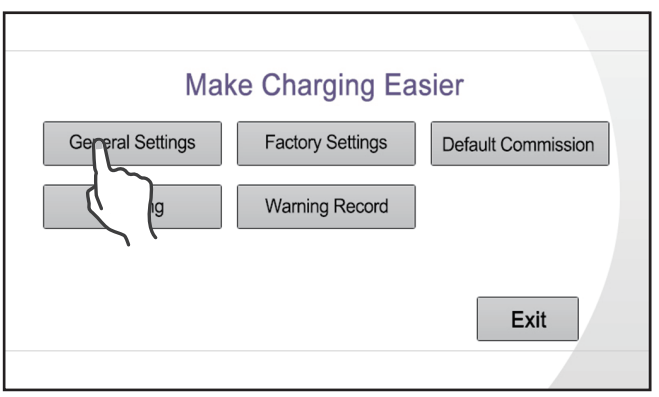
Click on the blank space in the upper right corner of the screen on this standby interface to enter the **Setting** interface



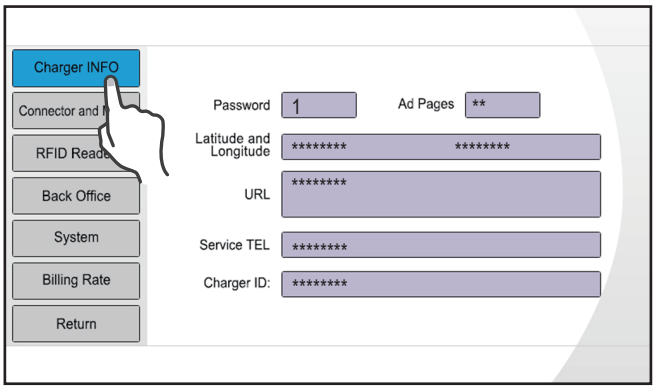

Click "**Setting**" and enter the password to enter the settings menu. **Initial password: 1**. Then "**OK**".



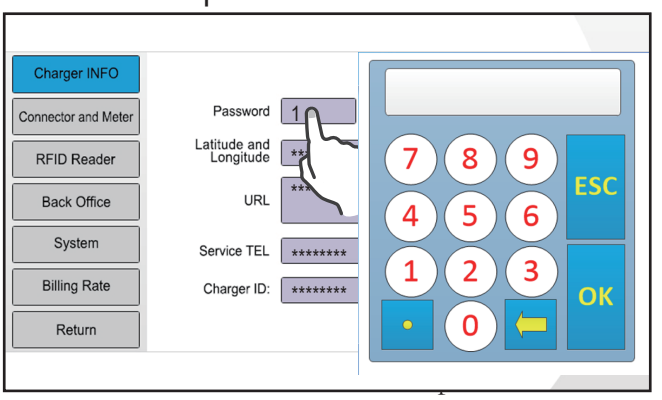
Select "**General Settings**" to enter the general setting.



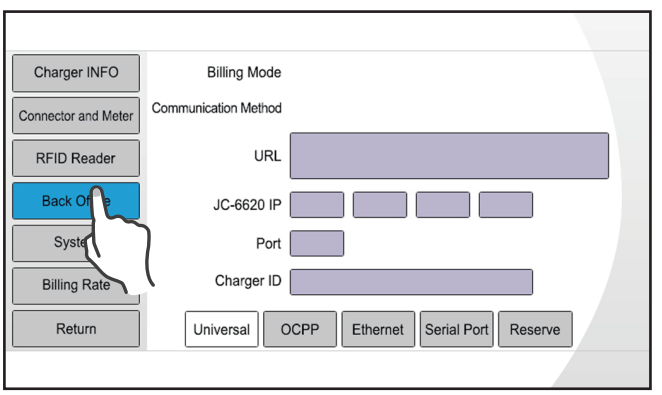
Select “**Charger INFO**” to configure the URL and ID.(For networked products)




Select “**Password**” , you can set a new password.

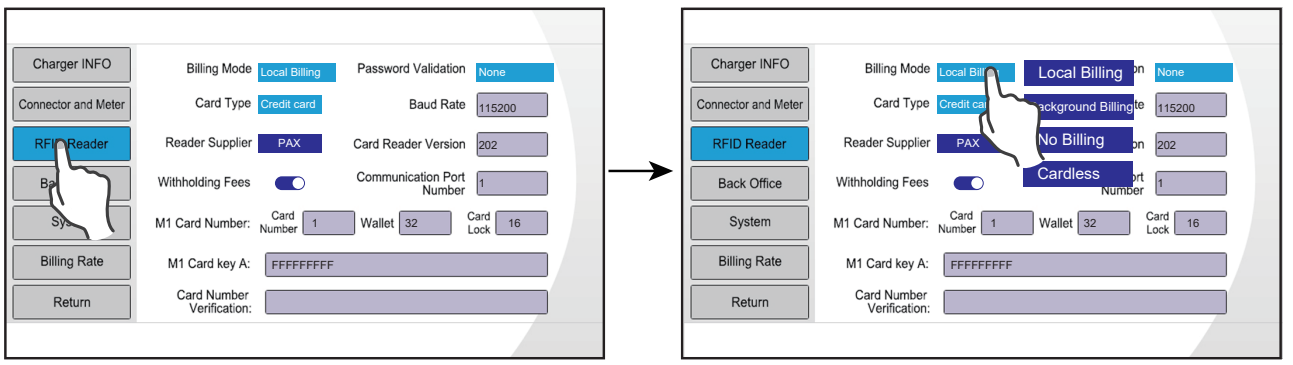



Select Universal in “**Back Office**” to configure background information.



# OPERATING INSTRUCTION

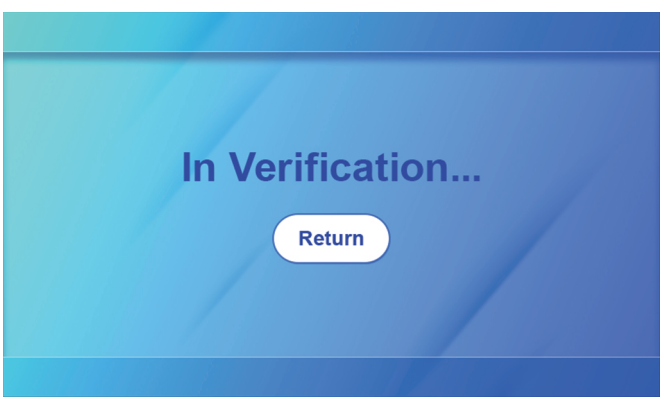
Billing mode can be selected as needed: Local Billing, Background Billing,No Billing,Cardless
**Local Billing:**Offline card swiping requires recharging. (swiping credit card)
**Background Billing:**OCPP platform billing mode. Online backend usage
**No Billing:**Offline card swiping does not need to recharge.
**Cardless:**Offline does not require card swiping - Click on 'full charging' in RFID mode, no need to swipe your card

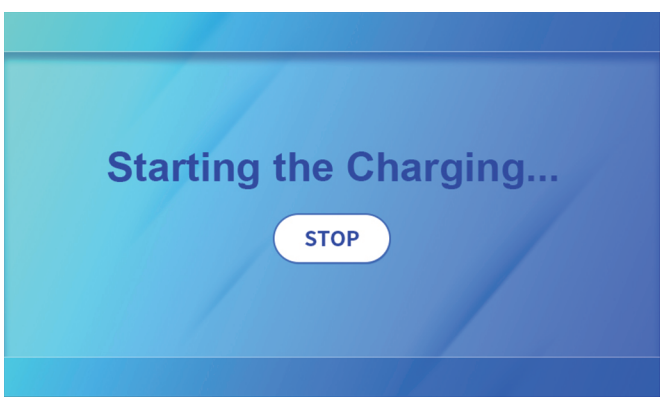



## 2.Charging process-（No Billing Mode）

Insert gun, select gun number according to the charging gun.Click “RFID” and Choose charging method , the swipe card to start charging.



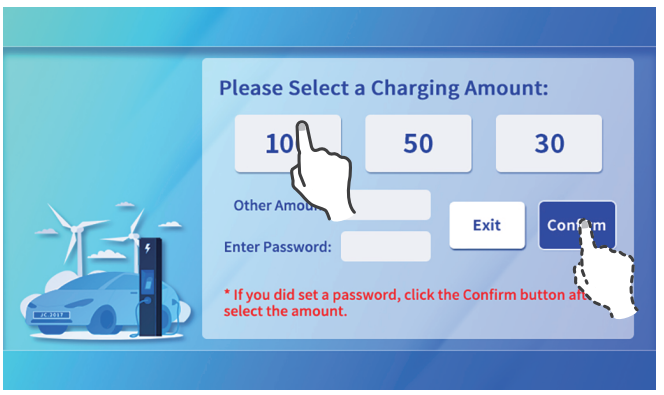



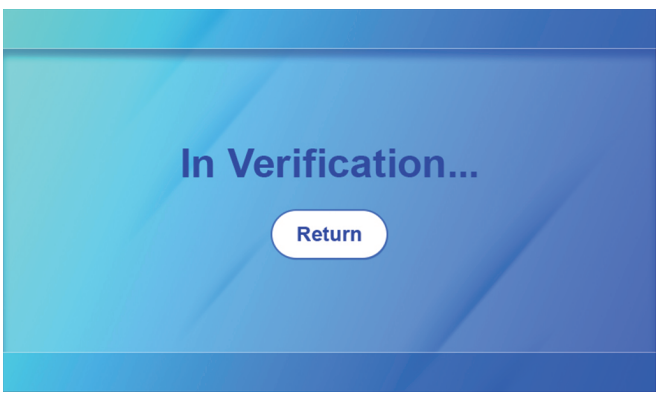
# OPERATING INSTRUCTION

**Charging process-（Local Billing Mode）**

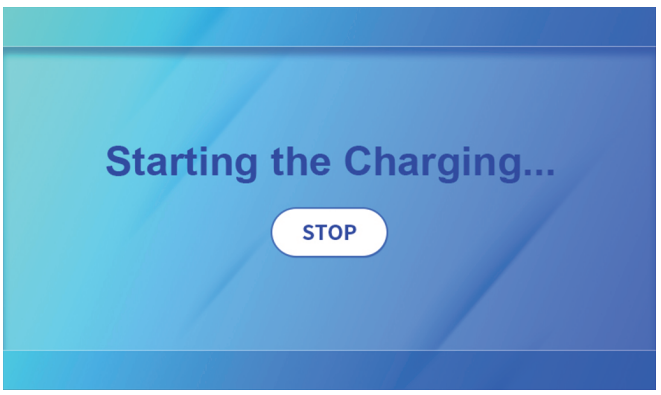
Insert gun, select gun number according to the charging gun.Click “Credit card” and Choose charging method and recharge , Then swipe your credit card on the **POS machine** to start charging.



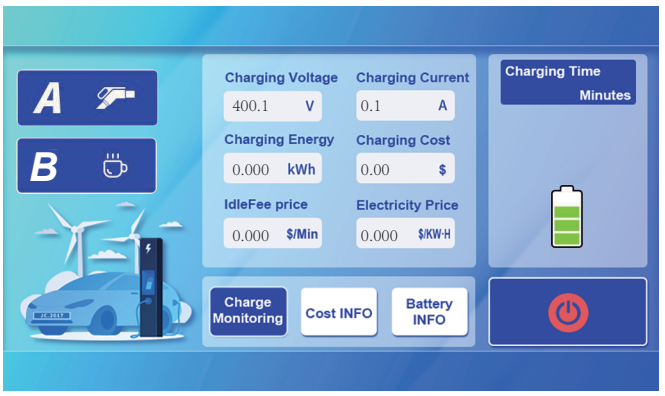




swipe credit card on the
POS(Point of sales terminal)



# OPERATING INSTRUCTION

**Enter charging state**

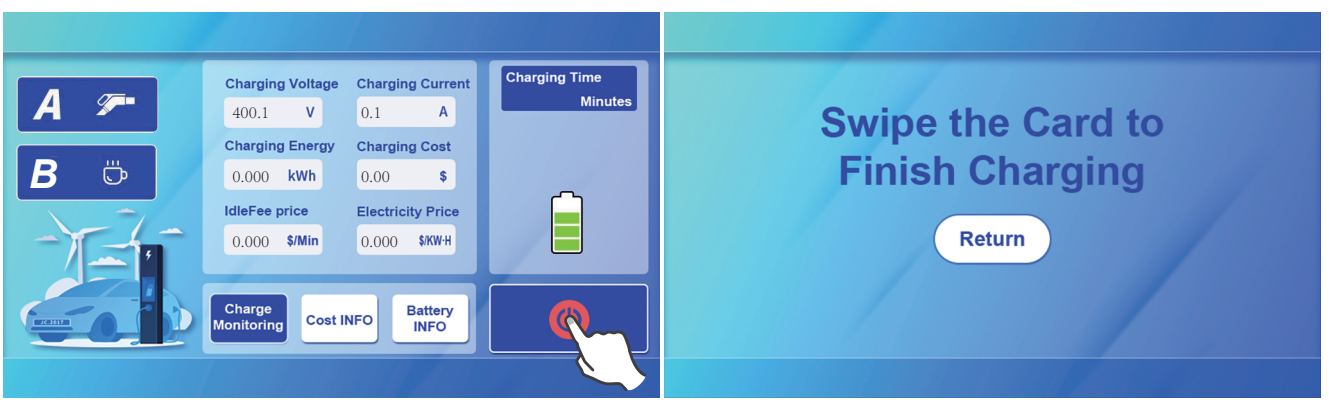



**Stop charging**

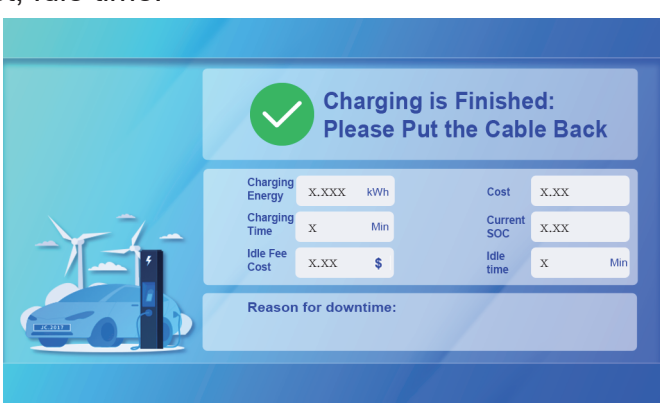
**Background billing ,No billing modeand Card-Free mode**

,you can click "⏻ " to stop charging.


**Local billing** ,you can click " ⏻ " ,then swipe the card to finish charging.



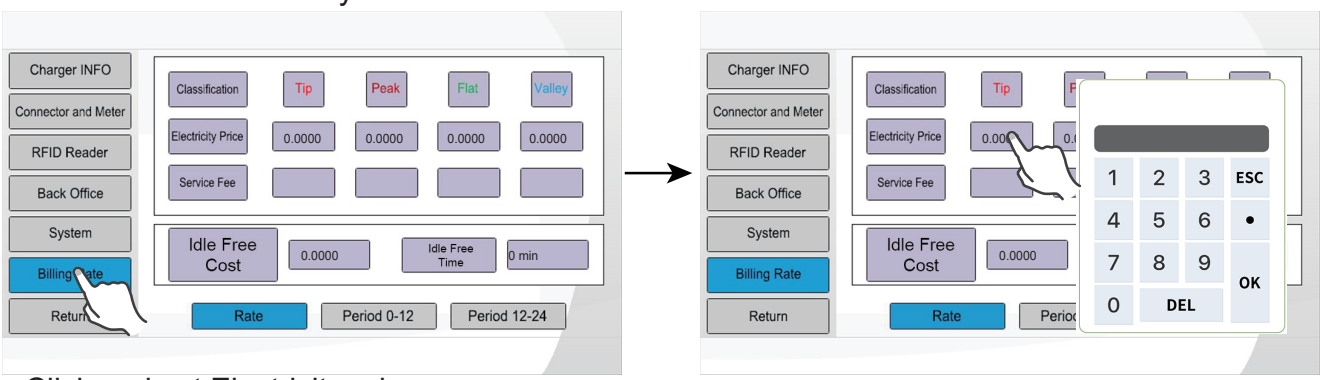

This interface can view charging fee information： Charging energy, Cost, Charging time, Current, Idle Fee Cost, Idle time.



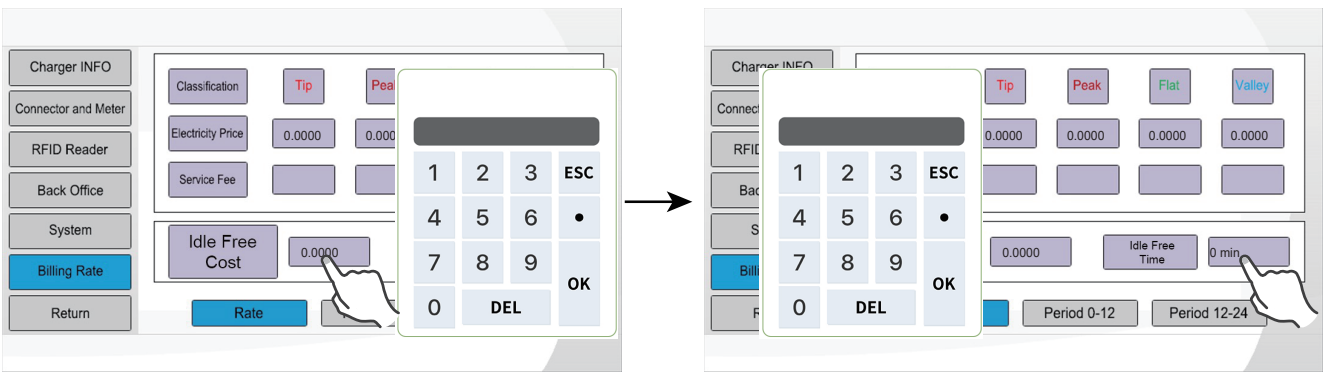
### 3.Billing Rate setting

Charging rates, occupancy fees, and free duration can be set through the background.
Click the“billing Rate“can setting peak , off peak ,Electricity Price ,service fee,idle free cost and idle free time.

Click and set Electricity Price




Click and set Electricity price

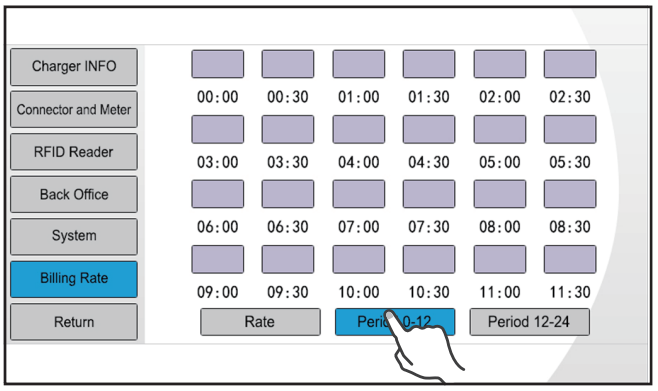


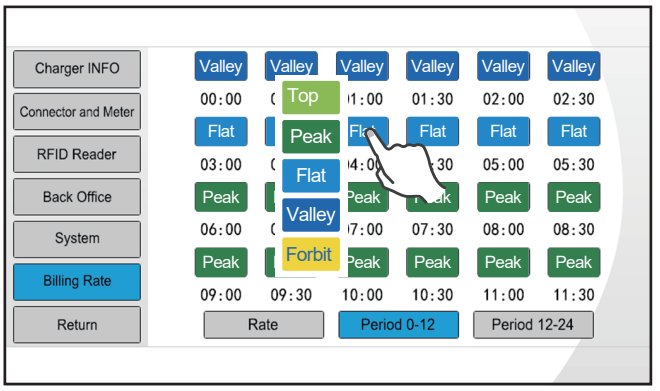

Click and set Idle free cost,Idle free time.

# OPERATING INSTRUCTION

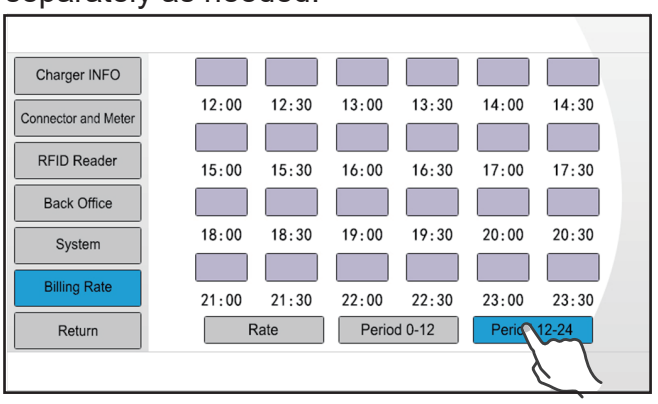
Set “peak”and “Offpeak” period

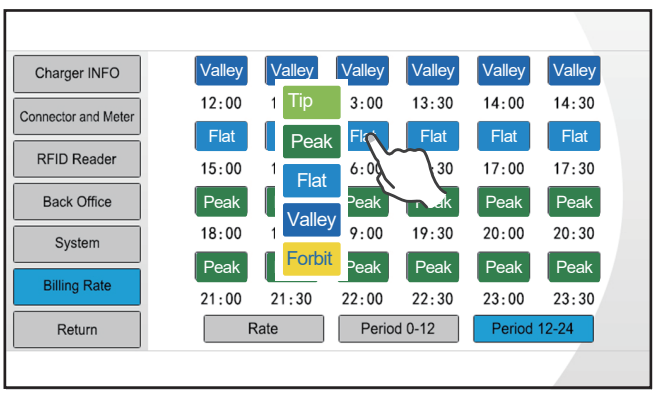
Click period 0-12, Set the status“ Tip / Peak / Flat / Valley / Forbit ” for each time period separately as needed.




Click period 12-24, Set the status“ Tip / Peak / Flat / Valley / Forbit ” for each time period separately as needed.



# MAINTENANCE

Before checking the charger device, make sure that the AC and DC side switches of the power supply circuit have been disconnected and that the DC output voltage is 0V before maintenance.

1. Dust the air inlet, exhaust outlet, fan and filter screen once every 2-3 months. Regularly replace the filter cotton.It is recommended to remove dust once a week in areas with severe dust.
2. Regularly inspect the exterior of the equipment for visual damage, if damage affects safety, isolate the equipment and prevent its use until appropriate repairs have been completed.
3. Once a year, the charger and switch gear (if installed) should be electrically inspected by an appropriately qualified electrician in accordance with the current legislation for the installation location. A record of the tests and results must be kept.
4.Regularly check whether the ventilation facilities in the place where the equipment is located are in good condition and whether the indoor temperature meets the requirements;
5.Clean the charger with dry cloth or anti-static cloth. Do not use chemical or abrasive cleaning agent to avoid damaging the shell.
6.When it is not used for a long time, the AC power supply must be disconnected, and it should be placed in a dry and ventilated place indoors and covered with a hood. After a period of time, it should also be electrified to remove moisture.

# TROUBLESHOOTING

If abnormal situation happens while running, and charger need to stop to do inspection, following steps must be strictly followed:
Quickly press the "off" button to stop the charger;
Disconnect the control power switch, disconnect the main power switch Turn off the main switch power supply (not affecting other equipment);
Wait after 10 minutes to open the cabinet door, measure the DC output voltage with a multi-meter, and confirm that the DC output voltage is 0V then the internal maintenance operation can be carried out;
When implement internal maintenance, AC line power supply must be disconnected, charger and battery connection line or charging gun disconnect.
After the maintenance is completed, test and commissioning to confirm the charger is normal before it can be put into formal operation.
In the maintenance process, only one person can operate, the other personnel monitor, and the guardian personnel and the operator need to maintain a certain distance.
It must be completed by professional engineers to ensure safety of both personal and equipment!

**Product Disposal**

In accordance with European Directive 2002/96/EC on waste electrical and electronic equipment and its implementation in national law, used electrical devices must be collected separately and recycled in an environmentally responsible manner. Ensure you return your used device to your dealer or obtain information regarding a local, authorised collection and disposal system. Failure to comply with this EU Directive may result in a negative impact on the environment.

**USE MANUAL PICTURES JUST AS REFERENCE ONLY, DETAILS SUBJECT TO ACTUAL PRODUCT.**