



User manual

HPC CE 480 / 640

Copyright

All rights to copyrights, registered trademarks, and trademarks reside with their respective owners.

Copyright ©ChargeDot. All rights reserved.

Contents

1	About this document.....	5
1.1	Function of this document.....	5
1.2	Target group.....	5
1.3	Revision history.....	5
1.4	Language.....	5
1.5	Illustrations.....	5
1.6	Units of measurement.....	5
1.7	Typographical conventions.....	5
1.8	How to use this document.....	5
1.9	General symbols and signal words.....	6
1.10	Related documents.....	6
1.11	Manufacturer and contact data.....	7
1.12	Abbreviations.....	7
1.13	Terminology.....	7
1.14	Orientation agreements.....	8
1.14.1	Power cabinet.....	8
1.14.2	Air-cooled charging post.....	9
1.14.3	Liquid-cooled charging post.....	9
1.14.4	Control box.....	10
2	Description.....	11
2.1	Type plate.....	11
2.2	Intended use.....	12
2.3	Overview.....	12
2.3.1	Overview of the system.....	12
2.3.2	Overview of the power cabinet.....	20
2.3.3	Overview of the air-cooled charging post.....	23
2.3.4	Overview of the liquid-cooled charging post.....	25
2.3.5	Overview of the control box.....	27
2.4	Authorization to charge.....	29
2.5	Description of the touchscreen.....	29
2.5.1	Boot screen.....	29
2.5.2	Main page.....	29
2.5.3	Authorization screen.....	30
2.5.4	Charging screen.....	31
3	Safety.....	32
3.1	Liability.....	32
3.2	General safety instructions.....	32
3.3	Responsibility for the owner.....	33

3.4	Personal protective equipment.....	33
3.5	Safety instructions during installation.....	33
3.6	Safety instructions during transportation.....	34
3.7	Safety instructions for earthing.....	34
3.8	Discard parts or the EVSE.....	34

4 Operation.....35

4.1	Prepare before use.....	35
4.2	Stop the EVSE if there is an emergency status.....	35
4.3	Reset the EVSE after an emergency status.....	35
4.4	Charge session.....	36
4.4.1	Charge an EV.....	36
4.4.2	Start a charge session.....	36
4.4.3	Stop a charge session.....	36
4.5	Energize the EVSE.....	36
4.6	De-energize the EVSE.....	37
4.6.1	De-energize the EVSE-general procedure.....	37
4.6.2	Measure the AC voltage.....	38
4.6.3	Measure the DC voltage.....	39
4.7	Maintenance and cleaning.....	40
4.7.1	Maintenance schedule.....	40
4.7.2	Clean the cabinet.....	40
4.7.3	Do a check on the cabinet.....	40
4.7.4	Removing and replacing the filter.....	40

5 Troubleshooting.....43

5.1	Troubleshooting process.....	43
5.2	Troubleshooting table.....	43
5.2.1	Power cabinet.....	43
5.2.2	Air-cooled charging post.....	43
5.2.3	Liquid-cooled charging post.....	44
5.2.4	Control box.....	44

6 Access to parts.....45

6.1	Power cabinet.....	45
6.1.1	Open the doors.....	45
6.1.2	Close the doors.....	45
6.2	Air-cooled charging post.....	45
6.2.1	Open the doors.....	45
6.2.2	Close the doors.....	46
6.3	Liquid-cooled charging post.....	46
6.3.1	Open the doors.....	46
6.3.2	Close the doors.....	47

6.4	Control box.....	47
6.4.1	Open the doors.....	47
6.4.2	Close the doors.....	47

7 Technical data.....48

7.1	EVSE type.....	48
7.2	General specifications.....	49
7.3	Maintenance schedule for the service engineer.....	49
7.3.1	Power cabinet.....	49
7.3.2	Air-cooled charging post.....	50
7.3.3	Liquid-cooled charging post.....	51
7.3.4	Control box.....	52
7.4	Part replacement schedule.....	53
7.4.1	Power cabinet.....	53
7.4.2	Air-cooled charging post.....	53
7.4.3	Liquid-cooled charging post.....	54
7.4.4	Control box.....	54
7.5	Cleaning specification.....	54
7.6	Floor space requirements.....	55
7.6.1	Power cabinet.....	55
7.6.2	Air-cooled charging post.....	56
7.6.3	Liquid-cooled charging post.....	57
7.6.4	Control box.....	58
7.7	Coolant filling for liquid cooling system.....	59
7.8	Ambient conditions.....	59
7.9	Logic interface specifications.....	59
7.10	AC output specification.....	60
7.11	DC output specification.....	61
7.11.1	Air-cooled charging post.....	61
7.11.2	Liquid-cooled charging post.....	61
7.11.3	Control box.....	61
7.12	Power consumption.....	61
7.12.1	General specifications.....	61

1 About this document

1.1 Function of this document

The document is only applicable for this EVSE (HPC CE), including the variants and options listed in section 7.

1.2 Target group

The document is intended for qualified installation engineers.
For a description of the required qualifications, refer to section 3.3.

1.3 Revision history

Version	Date	Description
001	July 2026	Initial version

1.4 Language

The original instructions of this document are in English (EN-US). All other language versions are translations of the original instructions.

1.5 Illustrations

It is not always possible to show the configuration of your EVSE. The illustrations in this document show a typical setup. They are for instruction and description only.

1.6 Units of measurement

SI units of measurement (metric system) are used. If necessary, the document shows other units between parentheses () or in separate columns in tables.

1.7 Typographical conventions

The lists and steps in procedures have numbers (123) or letters (abc) if the sequence is important.

1.8 How to use this document

1. Make sure that you know the structure and contents of this document.
2. Read the safety chapter and make sure that you know all the instructions.
3. Do the steps in the procedures fully and in the correct sequence.
4. Keep the document in a safe location that you can easily access. This document is a part of the EVSE.

1.9

General symbols and signal words

Symbol	Description
	You must read the manual or relative documents before you install the EVSE.
	General warning, if you do not obey the instruction, this can cause injury or death.
	Hazard voltage that gives risk of electrocution.
	Hot surface that gives risk of burn injuries.
	Electrotechnical expertise is required, according to the local rules.
	Protective Earth (PE)
	Alternative current
	Direct current
	The symbol indicating separate collection for EEE consists of the crossed-out wheeled bin, as shown below. The symbol must be printed visibly, legibly and indelibly.

1.10

Related documents

Document name	Target group
Product data sheet	All target groups
Installation manual	Qualified installation engineer
User manual	Owner
Declaration of conformity	All target groups

1.11 Manufacturer and contact data

Chargedot Shanghai New Energy Technology Co., Ltd.
No. 2368, Hongjian Road, Pinghu Economic Development Zone, Jiaxing, Zhejiang
Province, P.R. China
E-mail address: afterservice@chargedot.com

1.12 Abbreviations

Abbreviation	Definition
AC	Alternating current
DC	Direct current
CAN	Controller area network
EV	Electric vehicle
EVSE	Electric vehicle supply equipment
CCS	Combined Charging System, a standard charging method for EV
CPU	Central processing unit
EMC	Electromagnetic compatibility
HMI	Human Machine Interface
MCCB	Molded Case Circuit Breaker
MCB	Miniature circuit breaker
NFC	Near field communication
OCPP	Open charge point protocol
PE	Protective earth
PPE	Personal protective equipment
RFID	Radio-frequency identification
SPD	Surge protective devices



Note: It is possible that not all abbreviations are present in this document.

1.13 Terminology

Term	Definition
Network operating center of the manufacturer	Facility of the manufacturer to do a remote check on the correct operation of the EVSE
Cabinet	Enclosure of the EVSE, including the components on the inside
Contractor	Third party that the owner or site operator hires to do engineering, civil and electrical installation work
Grid provider	Company that is responsible for the transport and distribution of electricity

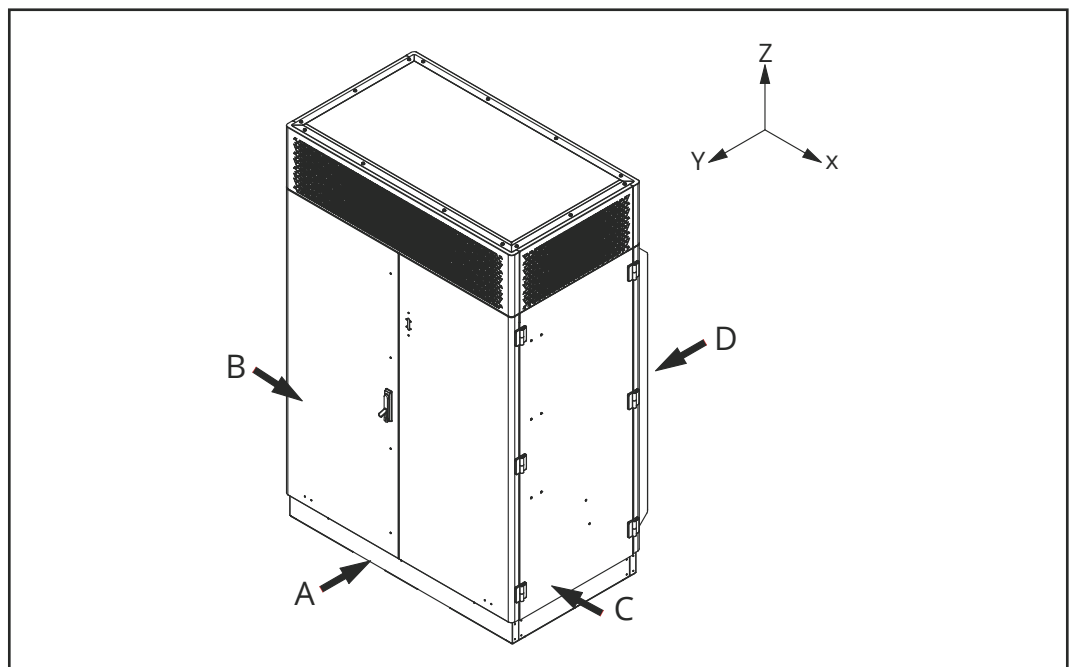
Term	Definition
Local rules	All rules that apply to the EVSE during the entire lifecycle of The EVSE. The local rules also include the national laws and regulations.
Open charge point protocol	Open standard for communication with charge station
Protective devices	Devices for the personal protection of individuals against the risk of injury or electrical shock when they do commissioning, operation and maintenance activities. Examples of protective devices are a door, the electrical parts covers, the latches, etc.
Qualified installer	The installer is a qualified person to install the EVSE according to the applicable local rules and fully knows the EVSE and its safe installation. The qualified installer obeys all local rules and the instructions in the operation and installation manual.
Owner	Legal owner of the EVSE
Site operator	Entity that is responsible for the day-to-day control of the EVSE. The site operator does not have to be the owner.
User	Owner of an EV, who uses the EVSE to charge the EV



Note: It is possible that not all terms are present in this document.

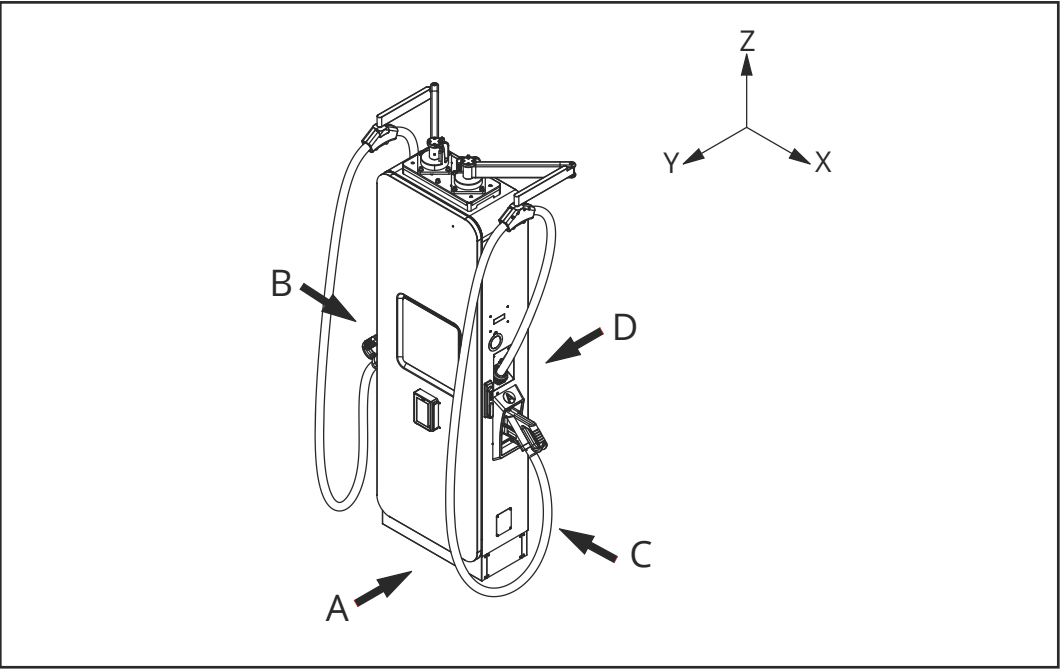
1.14 Orientation agreements

1.14.1 Power cabinet



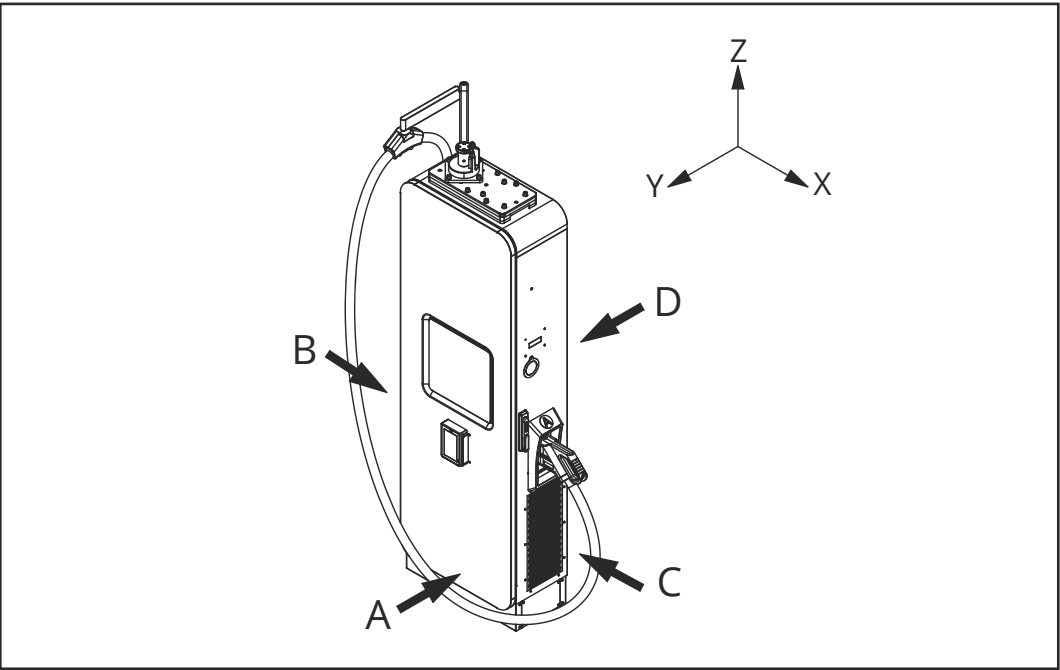
- | | | | |
|---|--|---|--|
| A | Front side: face forward to the EVSE (during normal use) | X | X-direction (positive is to the right) |
| B | Left side | Y | Y-direction (positive is rearward) |
| C | Right side | Z | Z-direction (positive is upward) |
| D | Rear side | | |

1.14.2 Air-cooled charging post



- | | | | |
|---|--|---|--|
| A | Front side: face forward to the EVSE (during normal use) | X | X-direction (positive is to the right) |
| B | Left side | Y | Y-direction (positive is rearward) |
| C | Right side | Z | Z-direction (positive is upward) |
| D | Rear side | | |

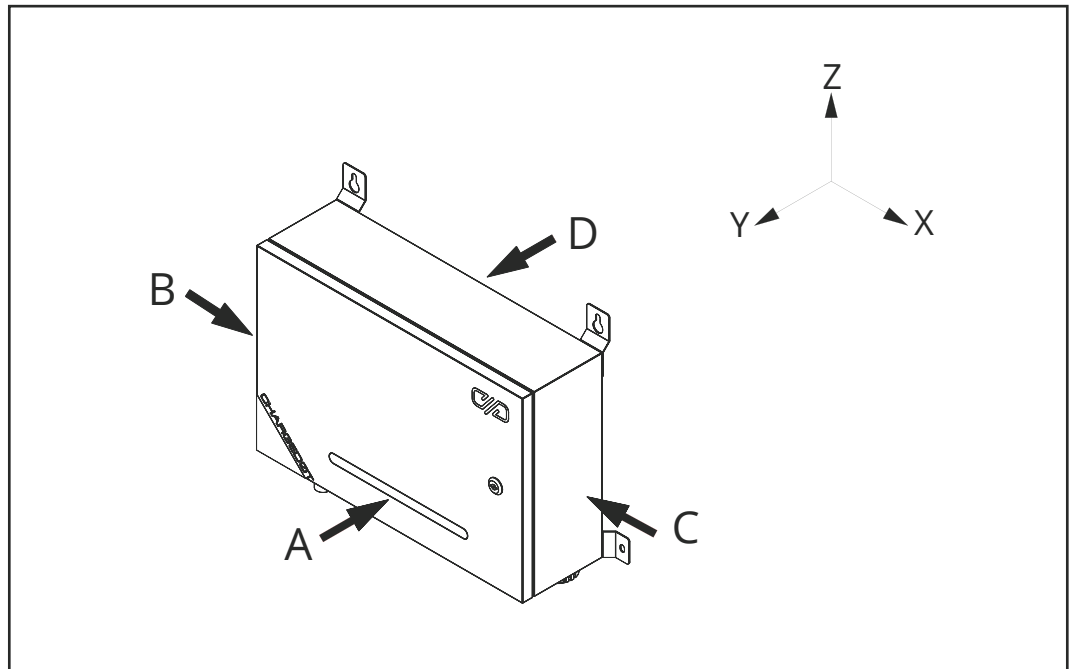
1.14.3 Liquid-cooled charging post



- | | | | |
|---|--|---|--|
| A | Front side: face forward to the EVSE (during normal use) | X | X-direction (positive is to the right) |
| B | Left side | Y | Y-direction (positive is rearward) |
| C | Right side | Z | Z-direction (positive is upward) |
| D | Rear side | | |

1.14.4

Control box



- | | | | |
|---|--|---|--|
| A | Front side: face forward to the EVSE (during normal use) | X | X-direction (positive is to the right) |
| B | Left side | Y | Y-direction (positive is rearward) |
| C | Right side | Z | Z-direction (positive is upward) |
| D | Rear side | | |

Type plate

*The nameplate information contained in the template shall be subject to the physical product. Changes, if any, will not be notified separately.

2.2 Intended use

The EVSE is intended for the DC charging of EVs. The EVSE is intended for indoor or outdoor use.

The properties of the electrical grid, the ambient conditions and the EV must comply with the technical data of the EVSE. Refer to chapter 7.

Only use the EVSE with accessories that the manufacturer provides or that obey the local rules.

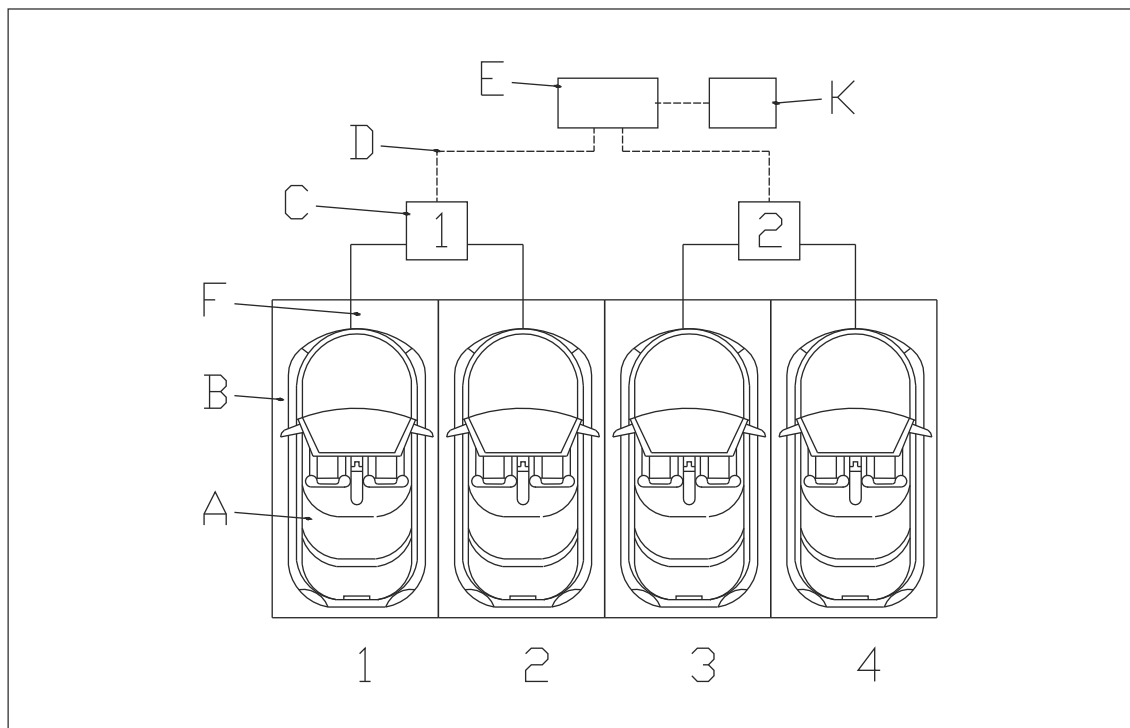
2.3 Overview

2.3.1 Overview of the system

2.3.1.1 Full air-cooled solution

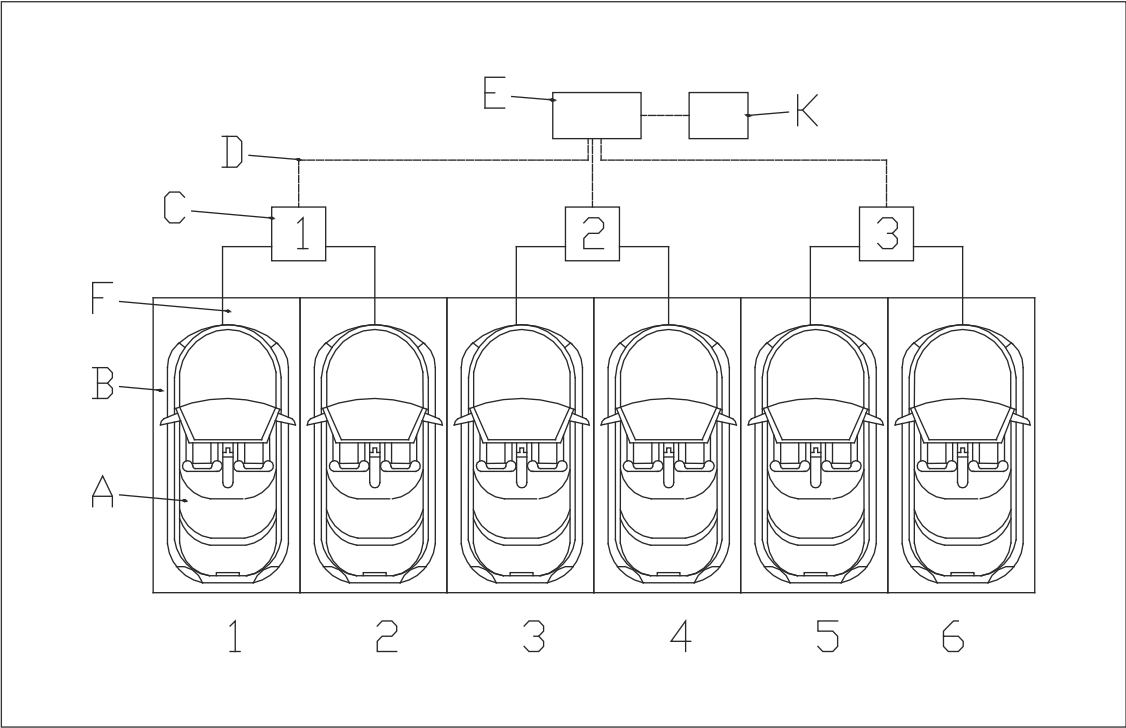
Full air-cooled schemes covering a power range of 240 kW to 640 kW are available in 1V4, 1V6, 1V8, 1V10 and 1V12 layouts.

A	EV	F	EV charge cable
B	Parking space	G	Liquid colling Charge post
C	Air Cooling Charge post	H	Control Box
D	DC input cable	K	Power distribution cabinet
E	Power Cabinet		

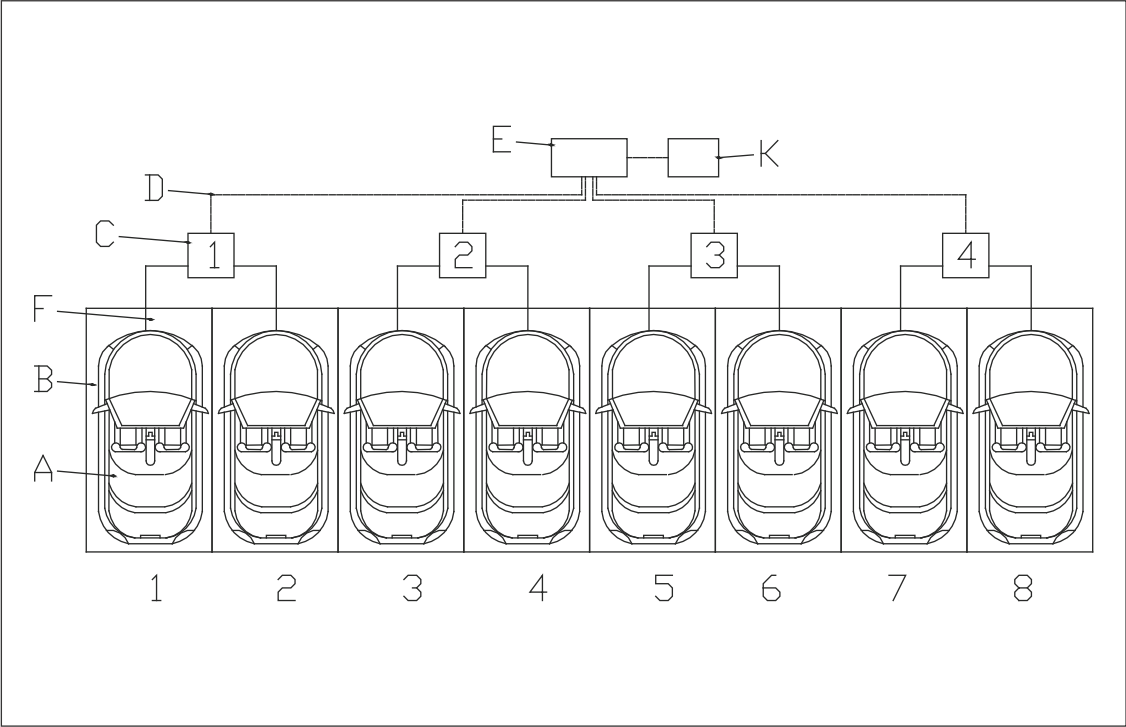


1V4: 1 power cabinet, 4 charging guns

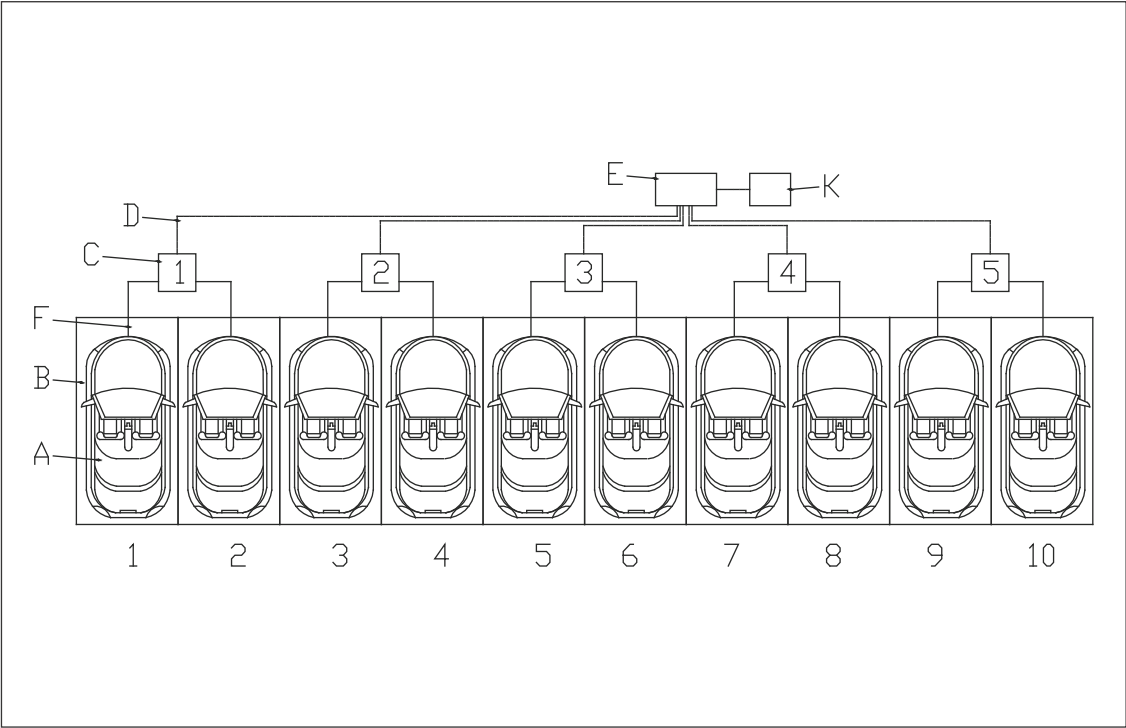
Description



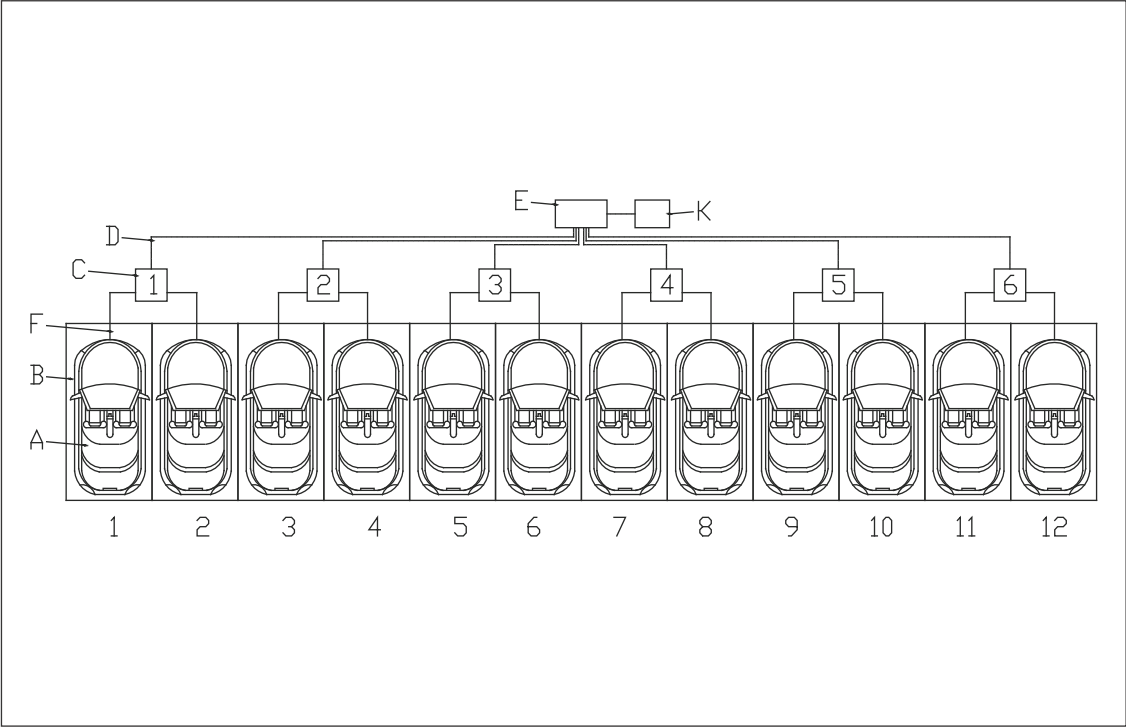
1V6: 1 power cabinet, 6 charging guns



1V8: 1 power cabinet, 8 charging guns



1V10: 1 power cabinet, 10 charging guns

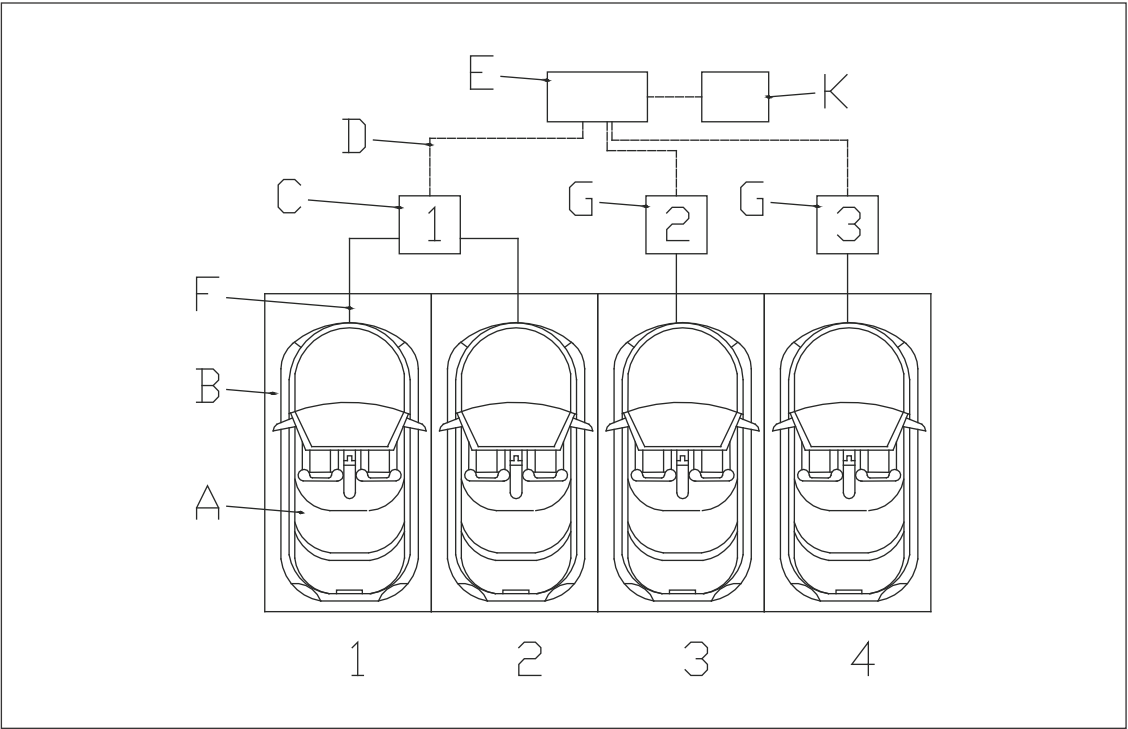


1V12: 1 power cabinet, 12 charging guns

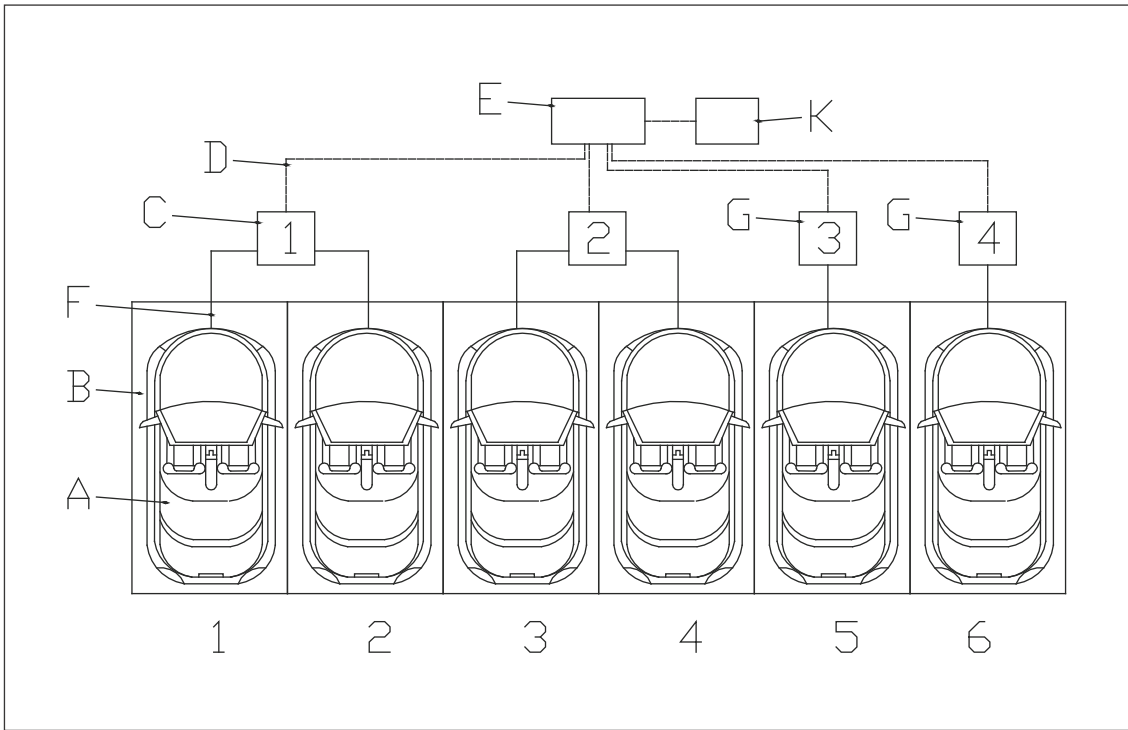
2.3.1.2

Self-Cooled & Liquid-Cooled Post combined solution

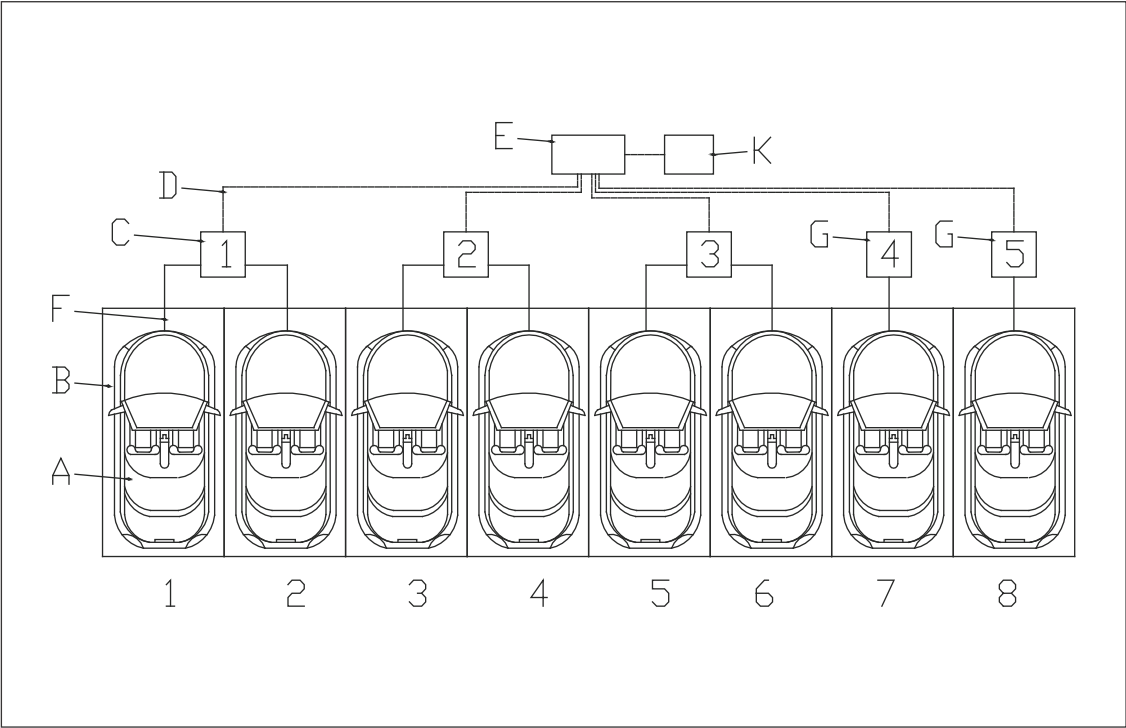
240–640 kW combined air & liquid cooling solutions with 1V4, 1V6, 1V8, 1V10, 1V12 layouts.



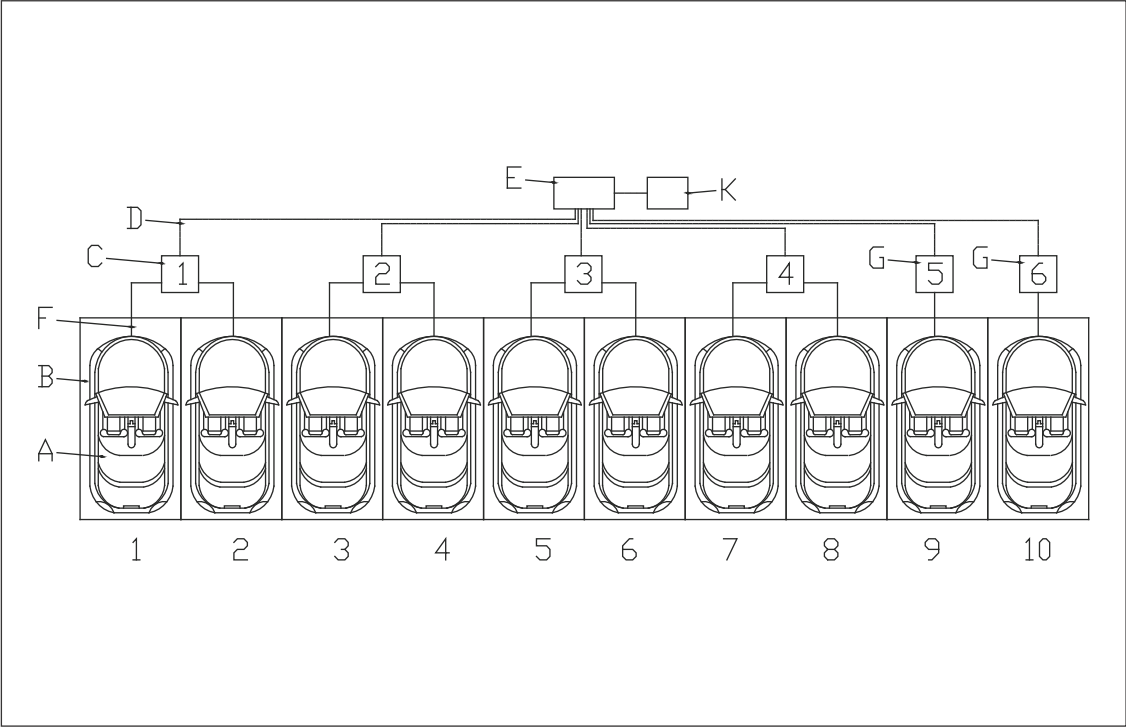
1V4: 1 power cabinet, 4 charging guns



1V6: 1 power cabinet, 6 charging guns

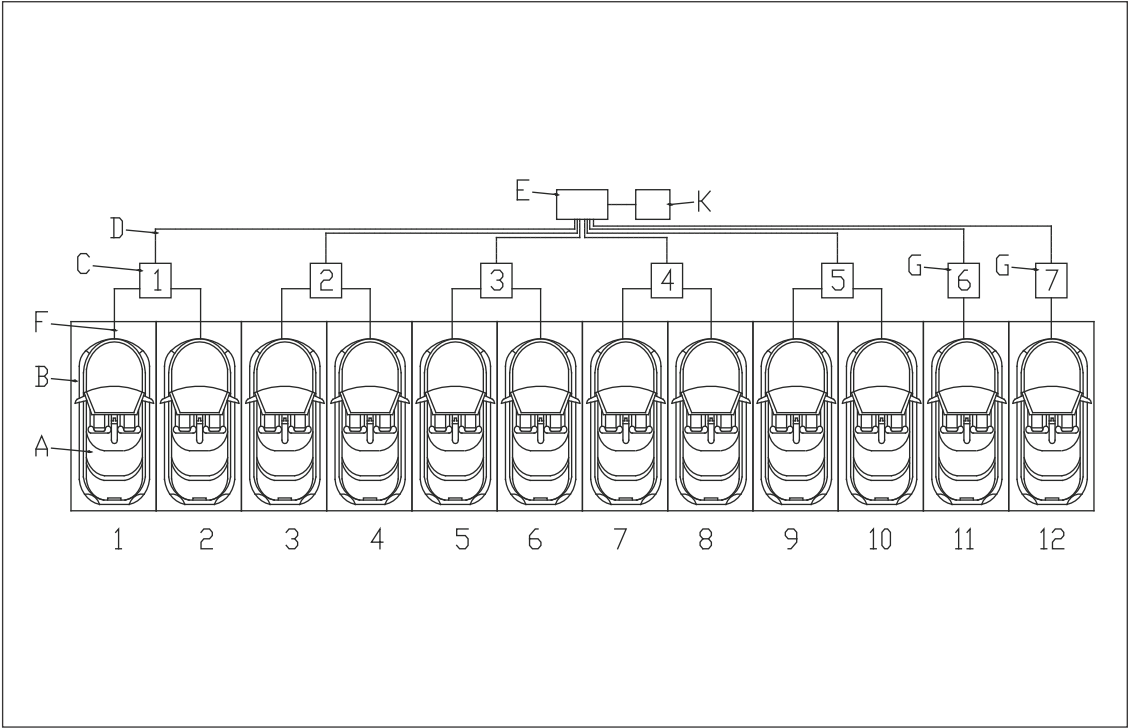


1V8: 1 power cabinet, 8 charging guns



1V10: 1 power cabinet, 10 charging guns

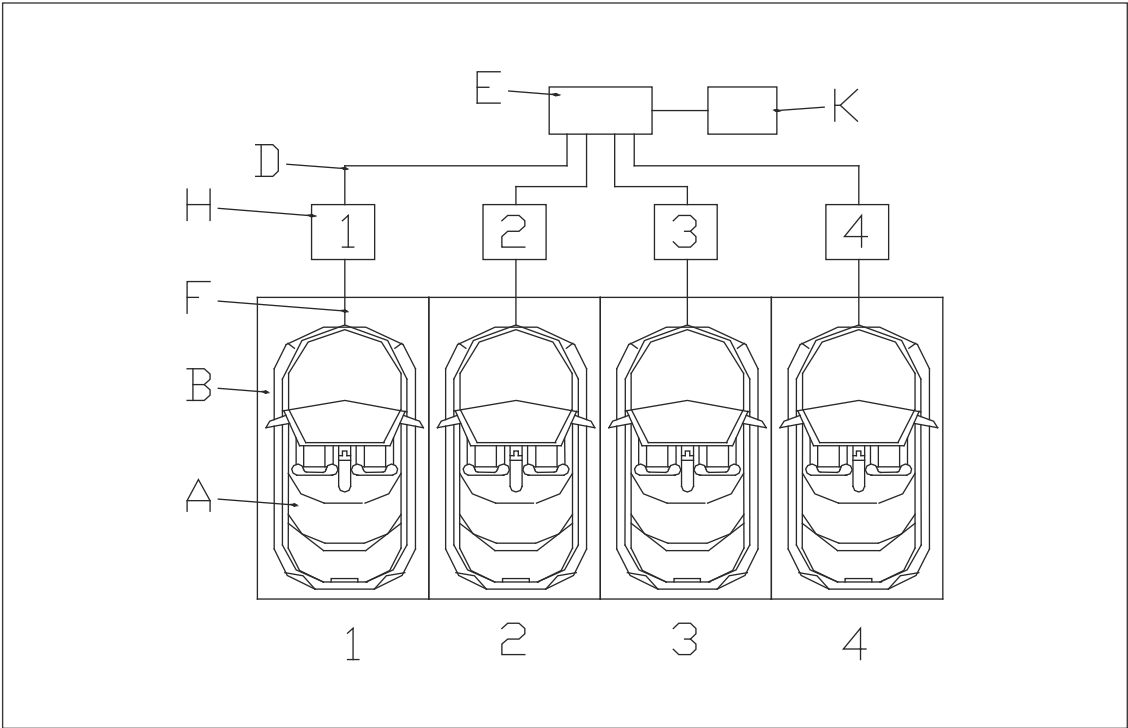
Description



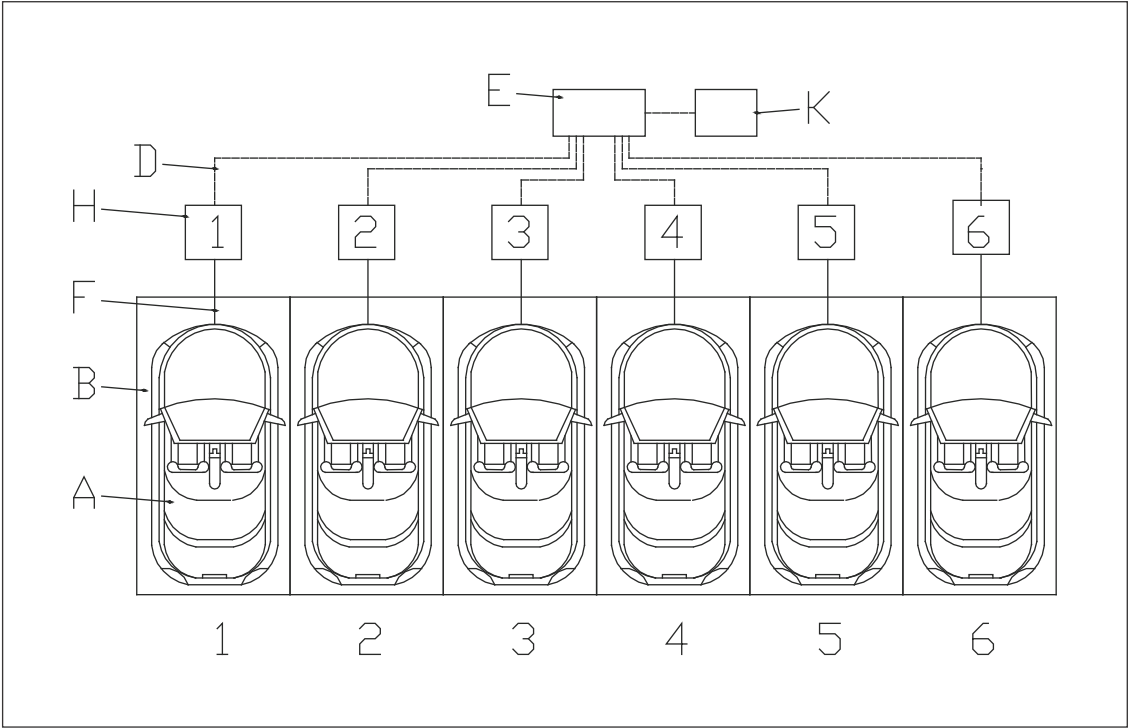
1V12: 1 power cabinet, 12 charging guns

2.3.1.3 Top hanging solution

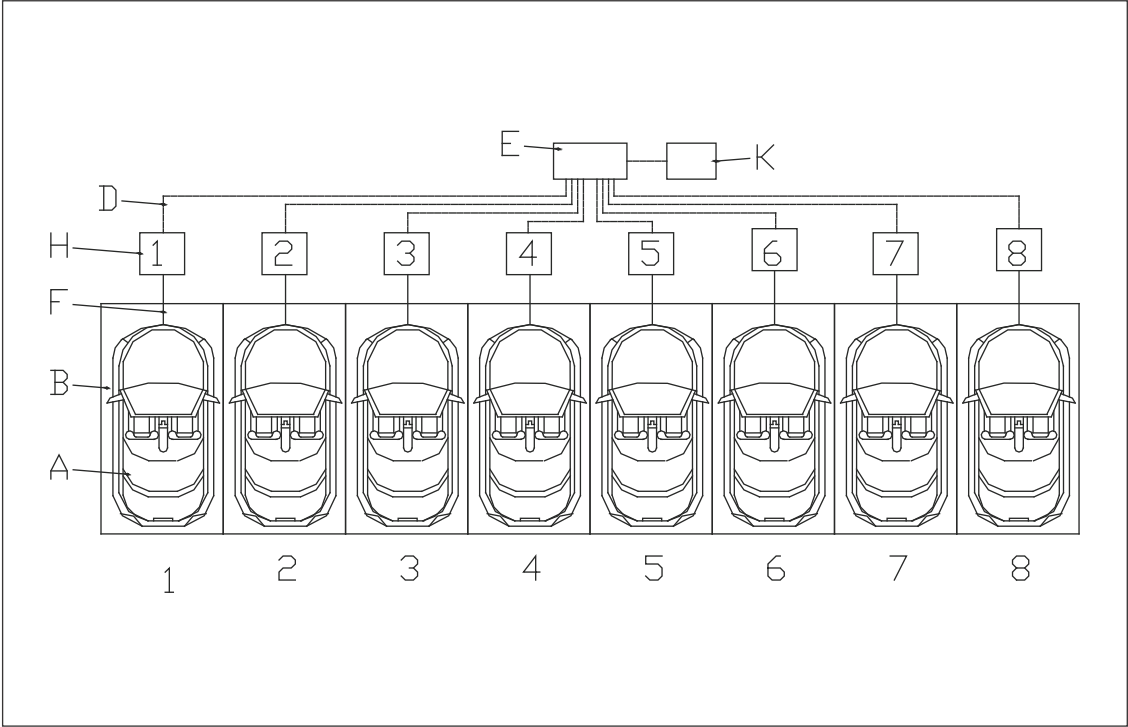
It covers a power range of 240 kW to 640 kW and supports configurations of 1V4, 1V6, 1V8, 1V10 and 1V12.



1V4: 1 power cabinet, 4 charging guns

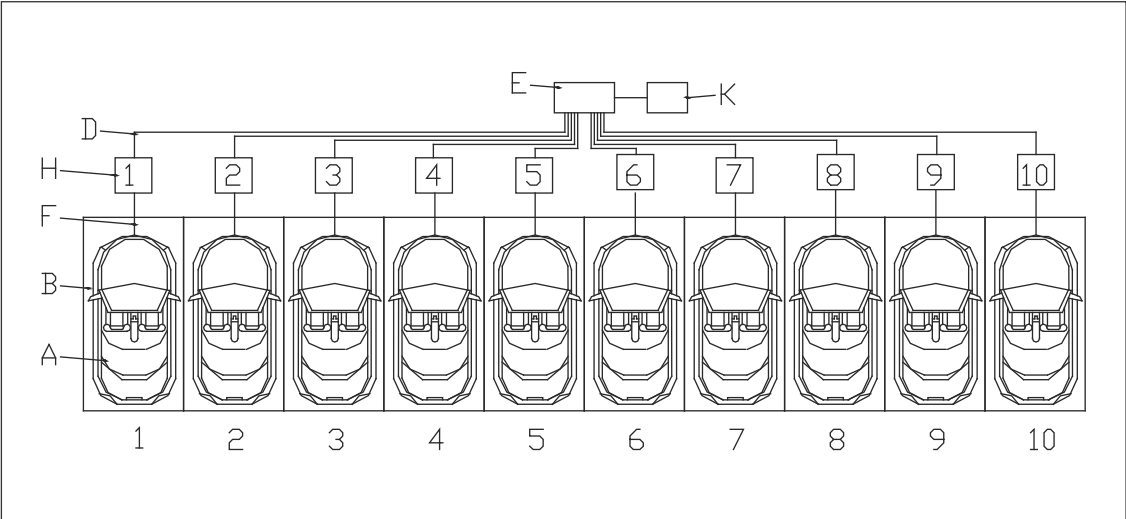


1V6: 1 power cabinet, 6 charging guns

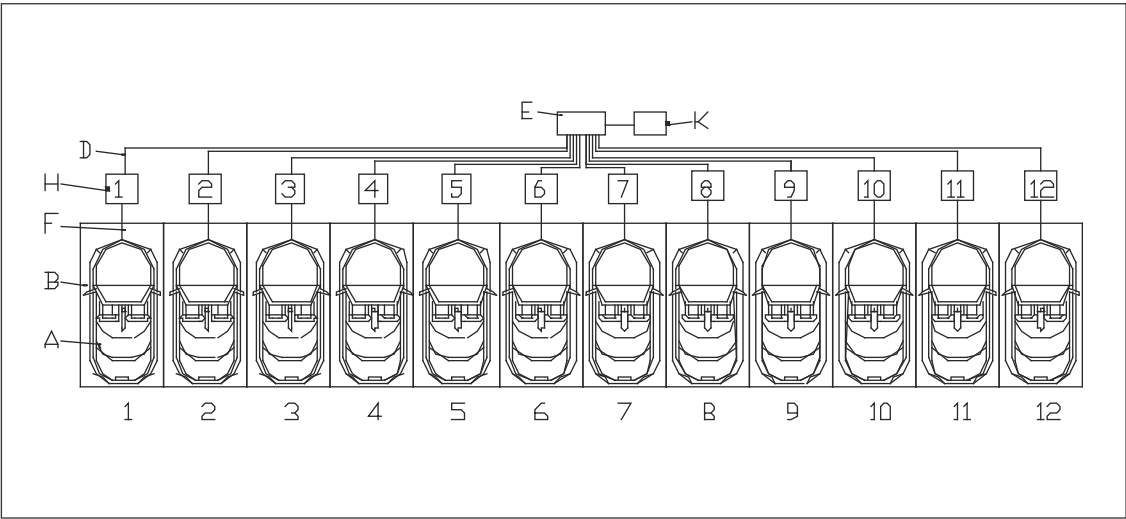


1V8: 1 power cabinet, 8 charging guns

Description



1V10: 1 power cabinet, 10 charging guns



1V12: 1 power cabinet, 12 charging guns

- | | | | |
|---|-------------------------|---|----------------------------|
| A | EV | F | EV charge cable |
| B | Parking space | G | Liquid colling Charge post |
| C | Air Cooling Charge post | H | Control Box |
| D | DC input cable | K | Power distribution cabinet |
| E | Power Cabinet | | |

Part	Function
EVSE	Refer to section 2.4.2.
AC input cable	To supply the electrical energy to the EVSE
EV charge cable	To conduct the current from the EVSE to the EV
EV	The EV of which the batteries need to be charged
Parking space	Location for the EV during the charge session
Power distribution cabinet	To connect the EVSE to the AC grid input

2.3.2 Overview of the power cabinet

2.3.2.1 Overview of the power cabinet (outside)

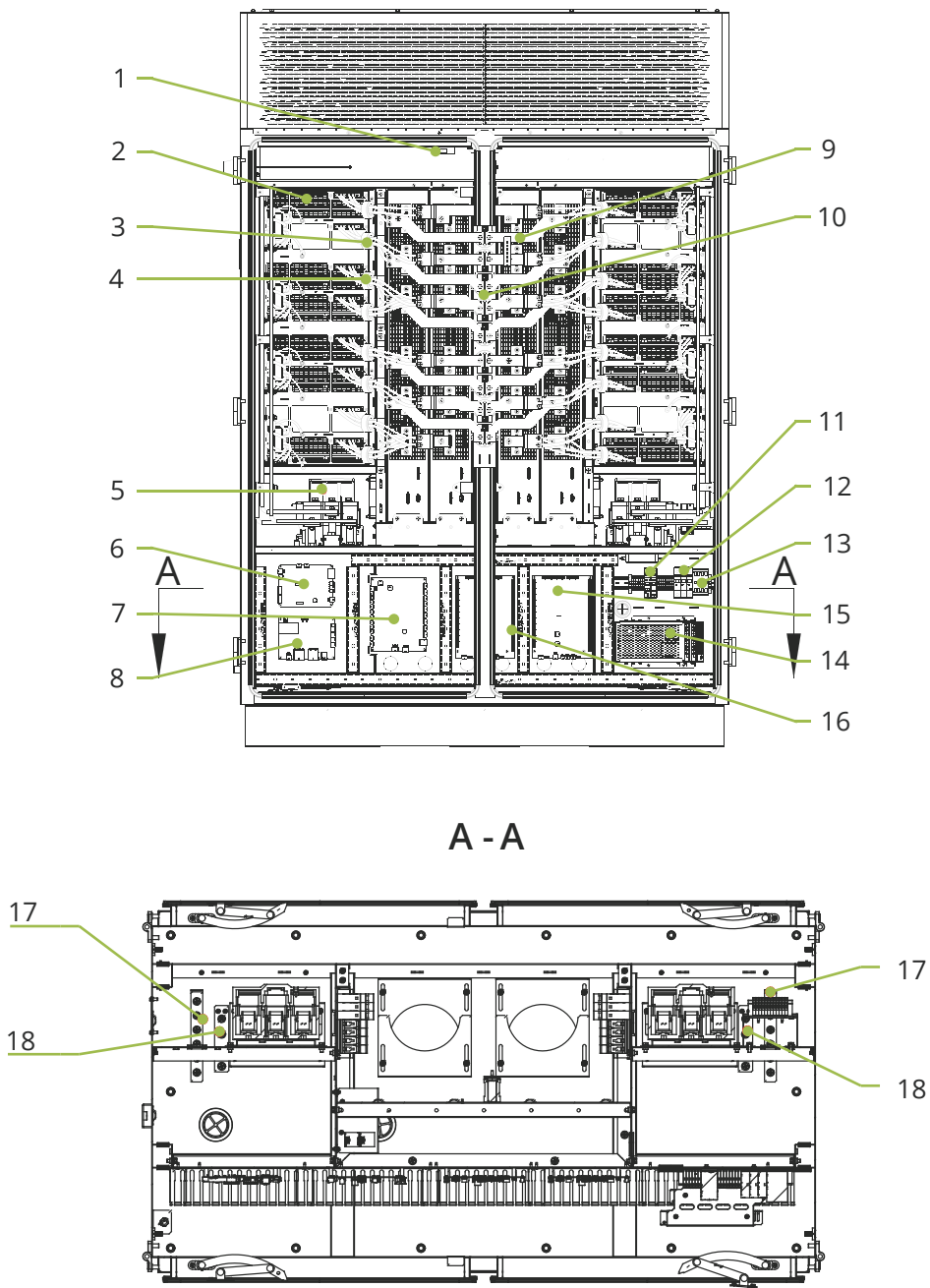


HPC CE Power Cabinet

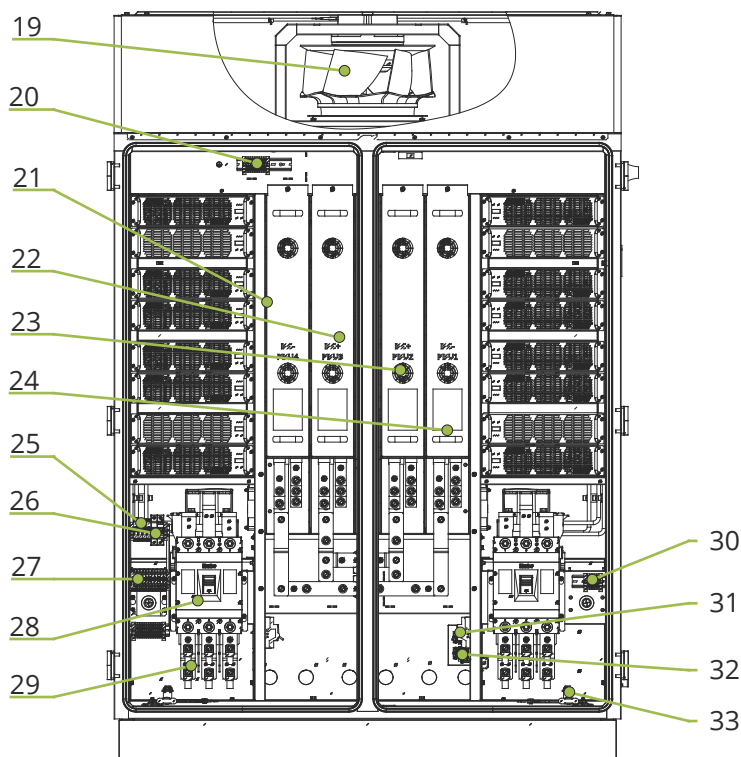
- A LED indicator light
- B Front Door
- C Integrated Base
- D Door Lock
- E Emergency Stop Button
- F Air Inlet

- G Rear Door
- H Grounding Terminal Block
- J Antenna
- K Air Outlet
- L Nameplate

2.3.2.2 Overview of the power cabinet (inside)



The inside view of power cabinet



Rear inside view of power cabinet

The difference between HPC CE 240kW~640kW, is as following:

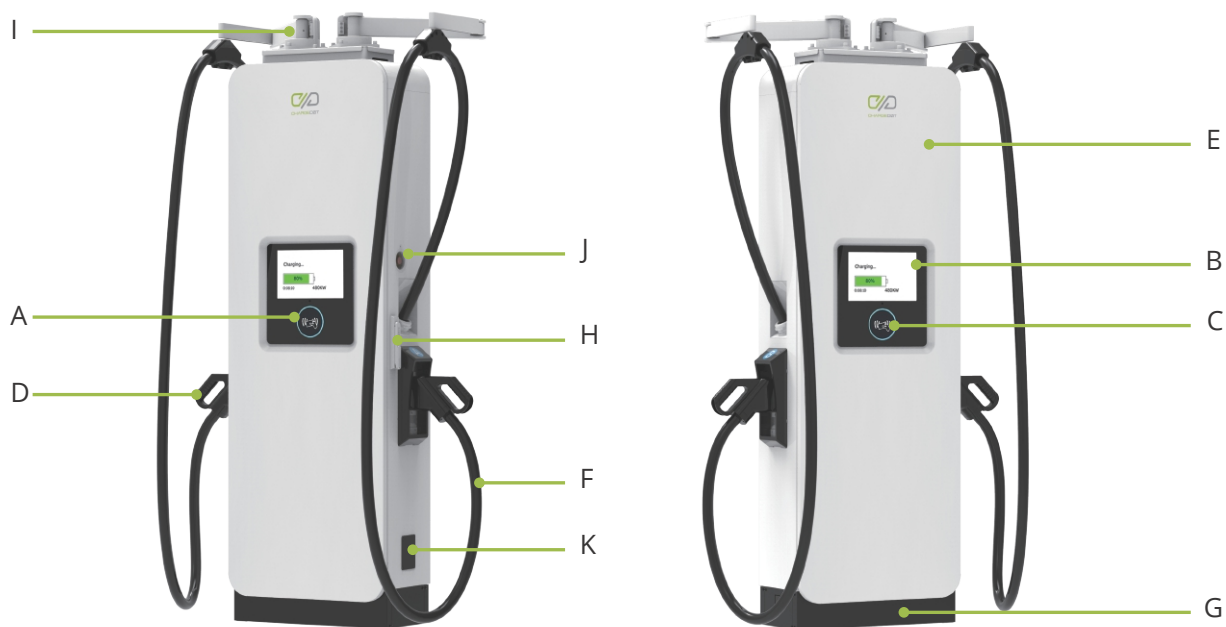
- The quantity of power modules.
- The specification and quantity of components (for example: RCD, DC contactor.etc)
- The quantity of charging output interfaces.

- | | |
|----------------------------|----------------------|
| 1、Door sensor | 18、N Busbar |
| 2、Power module | 19、FAN |
| 3、Magnetic loop | 20、Terminal |
| 4、Magnetic loop | 21、PDU4 |
| 5、AC contactor | 22、PDU3 |
| 6、Voltage collection board | 23、PDU2 |
| 7、PMU board | 24、PDU1 |
| 8、BCU board | 25、Fuse terminal |
| 9、Busbar | 26、RCBO |
| 10、DC contactor | 27、Terminal |
| 11、RCBO | 28、Master MCB |
| 12、Mini MCB | 29、AC Busbar |
| 13、Mini AC contactor | 30、Terminal |
| 14、Switch power supply | 31、SPD |
| 15、SCU1 board | 32、Switch board |
| 16、SCU2 board | 33、Door limit switch |
| 17、PE Busbar | |

Description

2.3.3 Overview of the air-cooled charging post

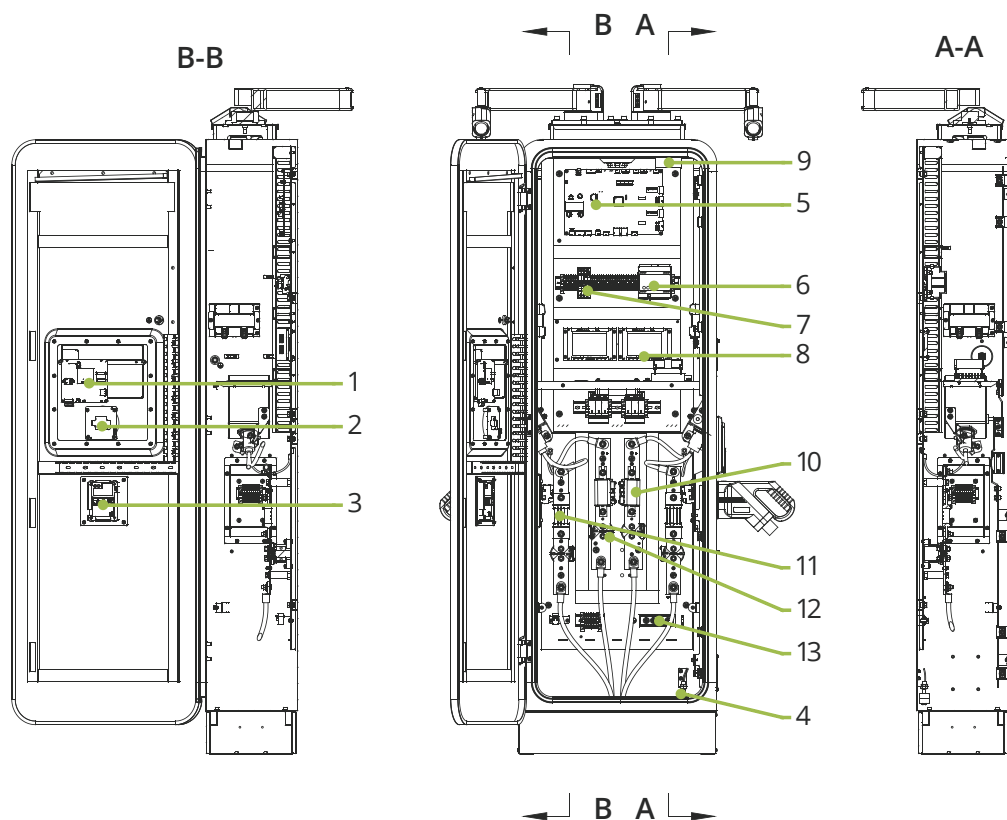
2.3.3.1 Overview of the air-cooled charging post (outside)



HPC CE air-cooled charging post

- | | | | |
|---|---------------------|---|-----------------------|
| A | LED indicator light | G | Integrated Base |
| B | HMI Display Screen | H | Door Lock |
| C | Card Swipe Area | I | Cantilever |
| D | Charging Gun | J | Emergency Stop Button |
| E | Front Door | K | Nameplate |
| F | Charging Cable | | |

2.3.3.2 Overview of the air-cooled charging post (inside)



- 1、Touch screen
- 2、Card reader
- 3、POS terminal
- 4、Water immersion sensor
- 5、CCU board
- 6、Energy meter
- 7、MCB

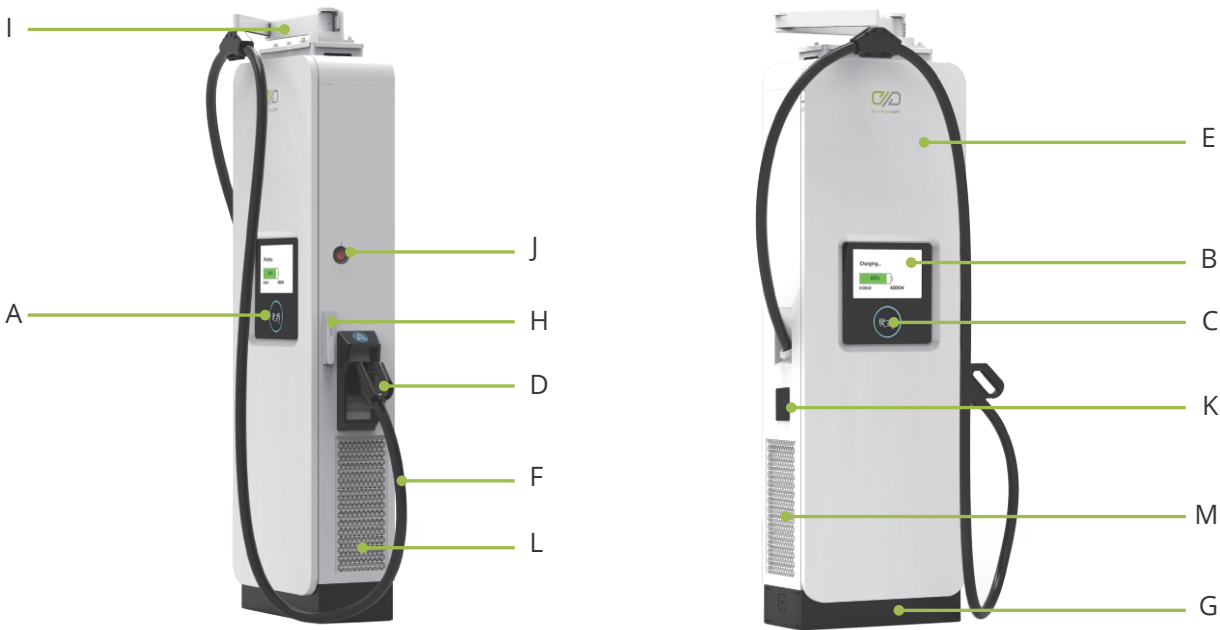
- 8、Insulation Monitoring Device
- 9、Door sensor
- 10、DC fuse
- 11、DC shunt
- 12、DC contactor
- 13、PE

2.3.4

2.3.4.1

Overview of the liquid-cooled charging post

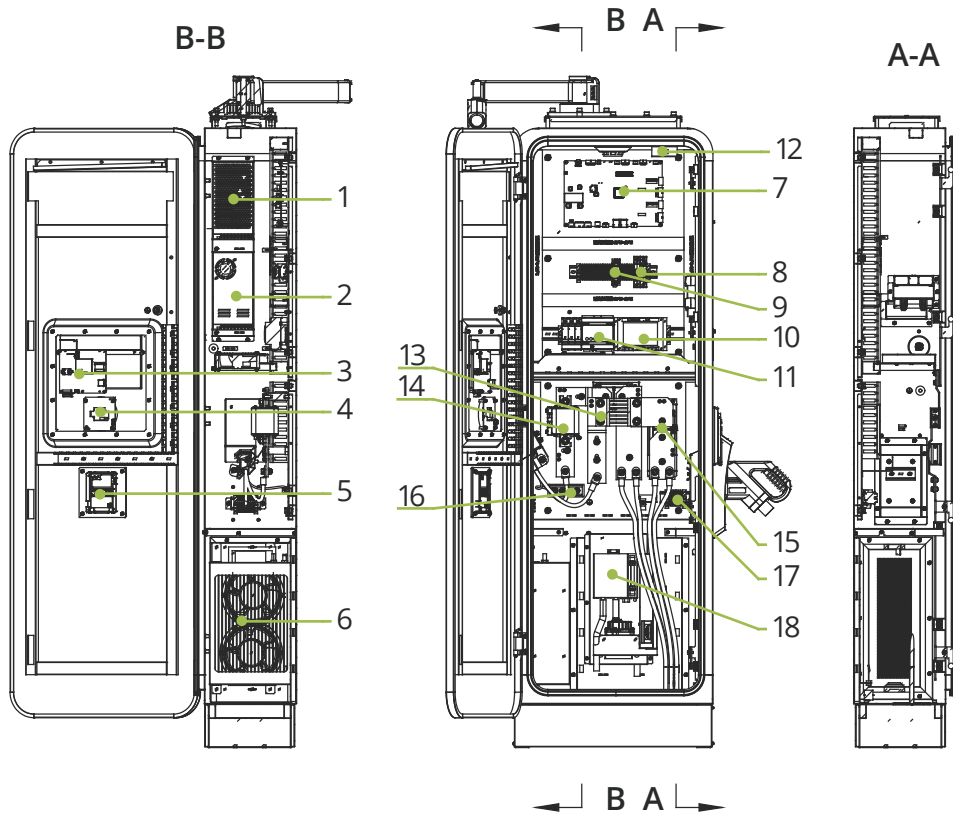
Overview of the liquid-cooled charging post (outside)



HPC CE liquid-cooled charging post

- | | | | |
|---|---------------------|---|-----------------------|
| A | LED indicator light | H | Door Lock |
| B | HMI Display Screen | I | Cantilever |
| C | Card Swipe Area | J | Emergency Stop Button |
| D | Charging Gun | K | Nameplate |
| E | Front Door | L | Air Inlet |
| F | Charging Cable | M | Air Outlet |
| G | Integrated Base | | |

2.3.4.2 Overview of the liquid-cooled charging post (inside)

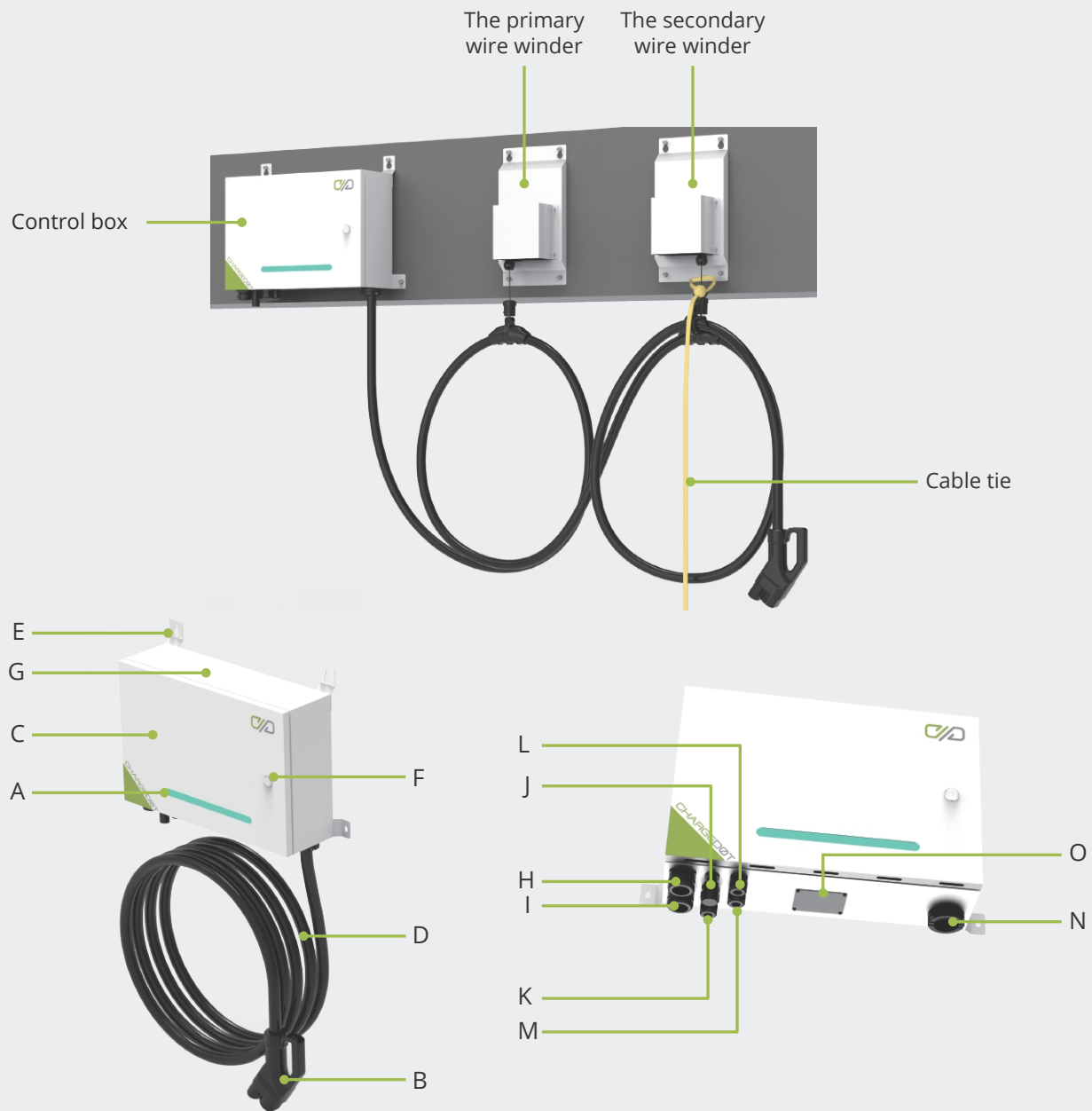


- 1、Auxiliary power supply
- 2、Auxiliary power supply
- 3、Touch screen
- 4、Card reader
- 5、POS terminal
- 6、Inlet louver
- 7、CCU board
- 8、MCB
- 9、Relay

- 10、Insulation Monitoring Device
- 11、Energy meter
- 12、Door sensor
- 13、DC shunt
- 14、Master MCB DC fuse
- 15、DC contactor
- 16、PE
- 17、Connection terminal
- 18、Liquid cooling system

2.3.5 Overview of the control box

2.3.5.1 Overview of the control box (outside)

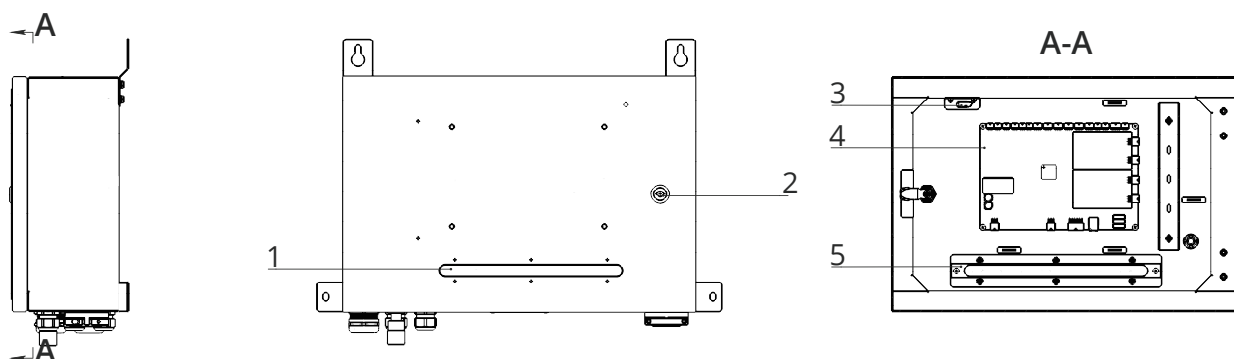


HPC CE control box

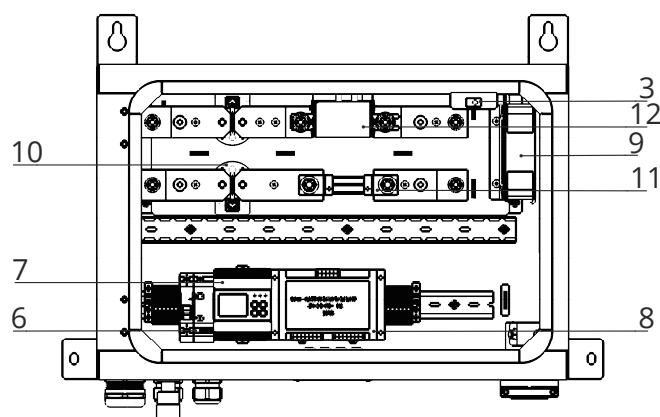
- | | | | |
|---|---------------------|---|------------------------------|
| A | LED indicator light | H | DC+ cable entry gland |
| B | Charging gun | I | DC- cable entry gland |
| C | Access door | J | ETH cable entry gland |
| D | Charging cable | K | PE/AUX 24V cable entry gland |
| E | Mounting bracket | L | Can1 cable gland |
| F | Lock | M | Can2 cable gland |
| G | Main Cabinet | N | Charging cable outlet gland |
| | | O | Nameplate |

2.3.5.2

Overview of the control box (inside)



The front(outside and inside) and side view of control box



Inside view of control box

- | | |
|-------------------------|-----------------|
| 1、LED | 7、DC meter |
| 2、Door lock | 8、IMD |
| 3、Limit switch | 9、Axial fan |
| 4、Charging Control Unit | 10、DC contactor |
| 5、LED board | 10、Shunt |
| 6、Circuit breaker | 12、Fuse |

2.4 Authorization to charge

It is possible to use the EVSE with or without authorization.
An authorization can be based on RFID, a personal identification number, or a mobile authentication method. Authorization requires a subscription to a back office.
Authorization can be a standard solution from the manufacturer, or from an external company that offers authorization solutions via OCPP.

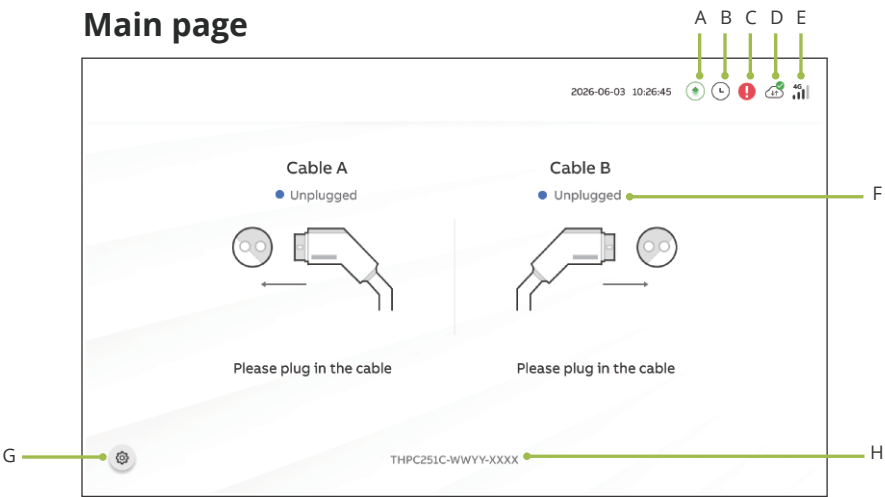
2.5 Description of the touchscreen

2.5.1 Boot screen



During the startup of the EVSE, the display shows the Boot screen.

2.5.2 Main page



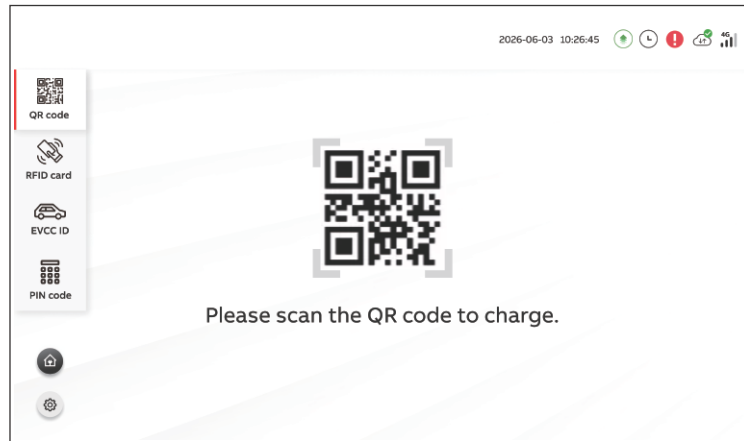
The display shows the main page after the EVSE start up.
Then, the EVSE is available for a charge session.

- | | | | |
|---|------------------|---|---------------------------|
| A | Software upgrade | E | 4G |
| B | Time scheduled | F | Charging gun status |
| C | Warning | G | Setting |
| D | Cloud connection | H | The ID number of the EVSE |

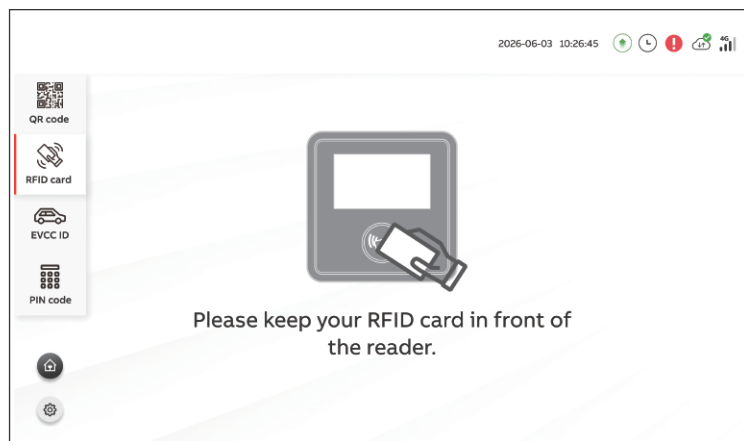
2.5.3

Authorization screen

The display shows different authorization screens, dependent on the situation.



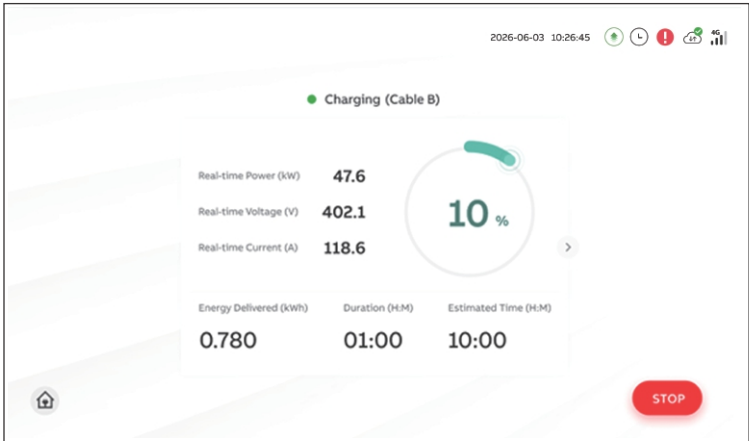
The display shows the QR cord scan mode.



The display shows the RFID card authorization mode.

2.5.4 Charging screen

The display shows the charging screen during the charging.



The display shows the charging status for single charging gun.



The display shows the detailed charging data for single charging gun.

3 Safety

3.1 Liability

The manufacturer is not liable to the purchaser of the EVSE or to third parties for damages, losses, costs or expenses incurred by the purchaser or third parties if any target group mentioned in the related documents does not obey the rules below:

- Obey the instructions in the related documents. Refer to section 1.11.
- Do not misuse or abuse the EVSE.
- Only make changes to the EVSE, if the manufacturer approves in writing of the changes.

This EVSE is designed to be connected to and to communicate information and data via a network interface. It is the sole responsibility of the owner to provide and continuously ensure a secure connection between the EVSE and the network of the owner or any other network.

The owner shall establish and maintain any appropriate measures (such as - but not limited to the installation of firewalls, application of authentication measures, encryption of data and installation of anti-virus programs) to protect the EVSE, the network, its system and the interface against any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information.

The manufacturer is not liable for damages and/or losses related to such security breaches, any unauthorized access, interference, intrusion, leakage and/or theft of data or information.

The manufacturer declares that the equipment complies with the regulations currently in force in the country of installation and has issued the corresponding declaration of conformity.

3.2 General safety instructions

This document, the related documents and the warnings included do not replace your responsibility to use your common sense when you do work on the EVSE.

- Only do the procedures that the related documents show and that you are qualified for.
- Obey the local rules and the instructions in this manual. If the local rules contradict the instructions in this manual, the local rules will apply.
- If and to the extent permitted by law, in case of inconsistency or contradiction, between any requirements or procedure contained in this document and any such local rules, obey the stricter between the requirements and procedures specified in this document and the local rules.

3.3 Responsibility for the owner



- Know and implement the local rules.
- Identify the hazards (in terms of a risk assessment), resulting from the working conditions on the site.
- Operate the EVSE with the protective devices installed.
- Make sure that all protective devices are installed after installation or maintenance work.
- Make an emergency plan that instructs people what to do in case of an emergency.
- Make sure that all employees and third parties are qualified to work on high-voltage and high-current electrical installations.
- Make sure that there is sufficient space around the EVSE to safely do maintenance and installation work.
- Identify a site operator who is responsible for the safe operation of the EVSE and for the coordination of all work, if the owner does not do these tasks.

3.4 Personal protective equipment

Symbol	Description
	Protective clothing
	Safety gloves
	Safety shoes
	Safety glasses

3.5 Safety instructions during installation

- Do not use adaptors or conversion adapters.
- Do not use cord extension sets.
- Make sure that there is no voltage on the AC input cables during the complete installation procedure.
- Keep unqualified personnel at a safe distance during installation.
Only use electrical wires of sufficient gauge and insulation to handle the rated.

- Current and voltage demand. Make sure that the load capacity of the grid is in accordance with the EVSE Earth the EVSE correctly. Refer to section 3.7. Make sure that the wiring inside the EVSE is protected from damage and can not get trapped when you open or close the cabinet.
- Make sure that water cannot enter the cabinet.
- Protect the EVSE with safety devices that the local rules specify.
- If it is necessary to remove safety devices, immediately install the safety devices after the work.
- Put on the correct personal protective equipment. Refer to section 3.4.

3.6 Safety instructions during transportation

- Make sure that the hoisting equipment or forklift truck can lift the EVSE safely.
- Take into account the mass and the center of gravity of the EVSE.
- Obey the safety instructions that apply to the hoisting equipment or the forklift truck.
- Put on the correct personal protective equipment. Refer to section 3.4.

3.7 Safety instructions for earthing

- Make sure that the EVSE is connected to an earthed, metal, permanent electrical system. Alternatively, install an equipment-earthing conductor with circuit conductors. Connect this earthing conductor to an equipment-earthing terminal lead on battery charger.
- Make sure that the connections to the EVSE comply with all applicable local rules.

3.8 Discard parts or the EVSE

- Obey the local rules to discard parts, packaging material or the EVSE.

4 Operation

4.1 Prepare before use

1. Appoint a site operator and an installation engineer, if these are other persons than you.
2. Make sure that the EVSE is installed according to the instructions in the installation manual.
3. Make an emergency plan that instructs people what to do in case of an emergency.
4. Give these instructions to each end user:
 - Emergency stop. Refer to section 4.2.
 - Charge session. Refer to section 4.4.
5. Make sure that the manufacturer commissions the EVSE.
Contact the manufacturer when the EVSE is ready for commissioning.
Refer to section 1.12.
6. Make sure that the space around the EVSE cannot get blocked.
Think of snow or other objects. Refer to the floor space requirements.
Refer to section 7.6.
7. Make sure that maintenance is done on the EVSE. Refer to section 4.8.1.
8. If the EVSE is de-energized for more than two hours, activate the internal heater to remove condensation from the cabinet. Refer to section 4.7.

4.2 Stop the EVSE if there is an emergency status

1. If there is an emergency, push the emergency stop button.
 - The EVSE stops all charge sessions.
 - The touchscreen shows a message.
2. Do not start the EVSE until the situation is safe.

Controlbox is not fitted with an emergency stop button. The equipment can be stopped in an emergency by using the emergency stop button on the power cabinet.

4.3 Reset the EVSE after an emergency status

1. Make sure that the situation is safe again.
2. Turn the emergency button clockwise to release it.
 - The EVSE starts.
 - The message disappears from the touchscreen.
 - The EVSE resumes the normal operation.

4.4 Charge session

4.4.1 Charge an EV

1. Park an EV in the parking space. Make sure that the connector of the EV charge cable can reach the connector on the EV.
2. De-energize the EV.
3. Start the charge session. Refer to section 4.4.2.
4. Stop the charge session. Refer to section 4.4.3.

4.4.2 Start a charge session

1. Remove the EV charging cable from the EVSE.
2. Connect the EV charging cable to the connector on the EV.
3. If the touchscreen shows a message to authorize the charge session, do the instruction that the touchscreen shows.
4. The EVSE charges the EV and shows the progress on the touchscreen.

Controlbox:

1. Pull the cable tie connected to the charging gun head to lower the gun vertically to a sufficient length, ensuring the unwound charging cable is long enough for the gun to be smoothly inserted into the vehicle charging port.
2. Connect the EV charging cable to the connector on the EV.
3. Wait until the indicator light of the cabinet turns green, which means charging has started.
4. The charging progress can be displayed via the corresponding charging platform software.

4.4.3 Stop a charge session

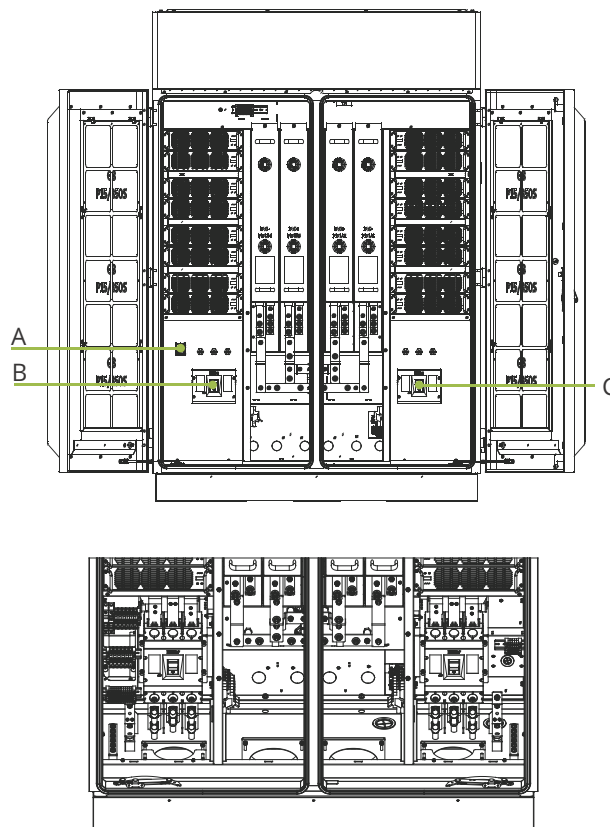
1. On the touchscreen, press the stop button.
2. If the touchscreen shows a message to authorize the charge session, do the instruction that the touchscreen shows.
3. Disconnect the EV charge cable from the EV.
4. Hang the EV charge cable on the hook.

Controlbox:

1. The charging process can be stopped via the corresponding charging platform software.
2. Disconnect the EV charge cable from the EV.
3. Pull the charging gun head down a section to release the self-locking state of the top wire winder, then release the gun head to allow the charging gun to retract automatically. Before retraction, make sure the cable tie is free of knots or tangles.

4.5 Energize the EVSE

1. Open the front door. Refer to section 6.1.1.
2. Confirm that the input voltage is within the normal range, refer to 4.6.2.
3. Turn off the switches B,C in turn, making sure that each switch is closed.
4. Turn switches A off and verify that the EVSE is running (the lights on the PCBA light up).



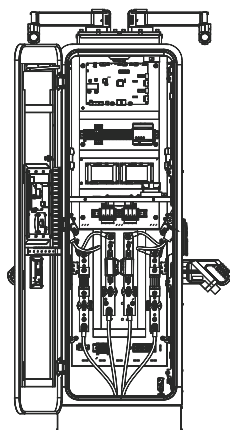
5. Close the front door. Refer to section 6.1.2.
The EVSE starts. The display shows a message when the EVSE is ready for operation.

4.6 De-energize the EVSE

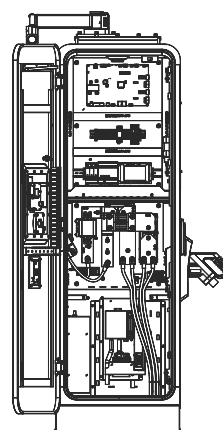
4.6.1 De-energize the EVSE-general procedure

Procedure

1. Open the door. Refer to section 6.2.1/6.3.1.
2. Turn on the switches B and confirm that the EVSE has stopped (the indicator on the PCBA goes out).



Air Cooling Charger Post



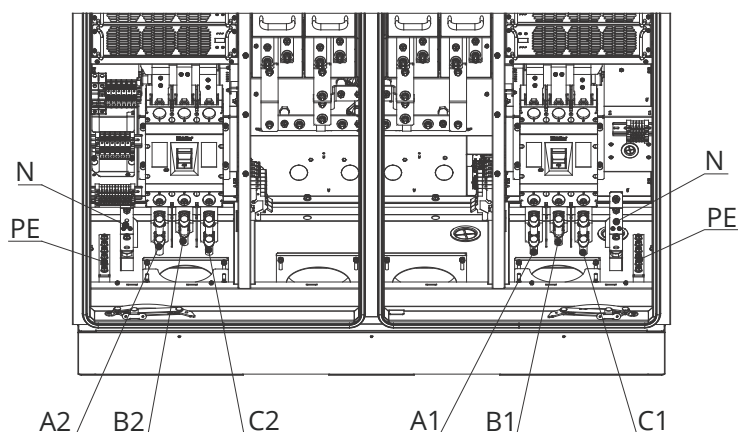
Liquid Cooling Charger Post

- Wait for all the power modules to shut down.
 - All the LEDs on the power modules are off.
 - The fans stopped.
3. Close the doors. Refer to section 6.2.2/6.3.2.

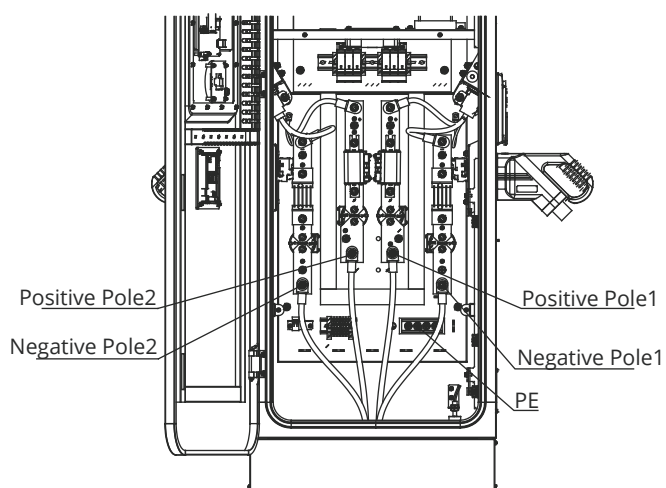
4.6.2

Measure the AC voltage

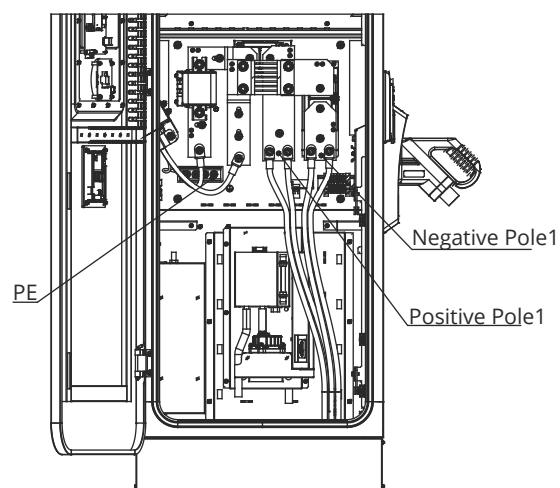
1. Prepare the measurement tool: multimeter.
2. Setting the multimeter to AC voltage measurement mode.
3. Measure the voltage between L and PE.
 - PE to L1 = $230 \pm 10\%$ V
 - PE to L2 = $230 \pm 10\%$ V
 - PE to L3 = $230 \pm 10\%$ V
4. Measure the voltage from L to L.
 - L1 to L2 = $400 \pm 10\%$ V
 - L1 to L3 = $400 \pm 10\%$ V
 - L2 to L3 = $400 \pm 10\%$ V



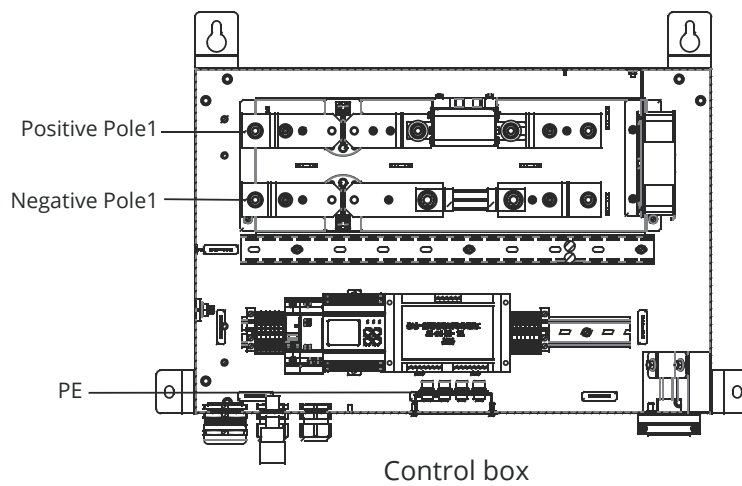
Power Cabinet



Air Cooling Charger Post



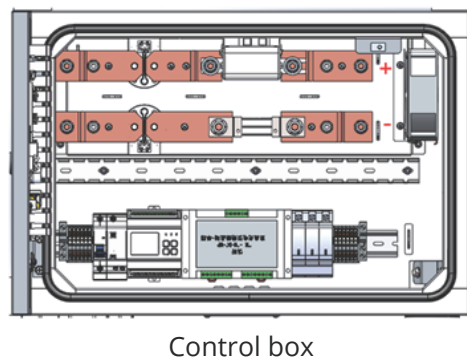
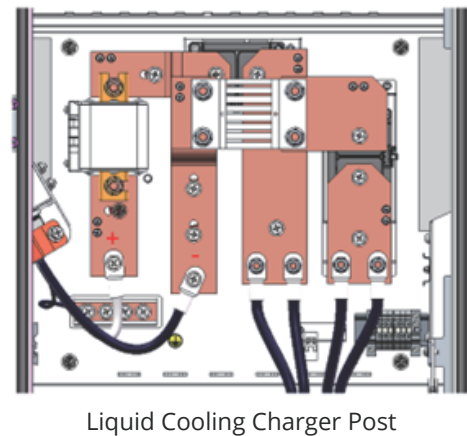
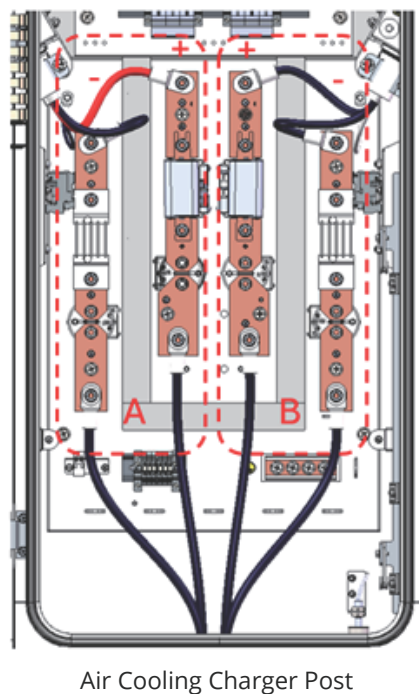
Liquid Cooling Charger Post



4.6.3

Measure the DC voltage

1. Prepare the measurement tool: multimeter (1000V CAT III).
2. Confirm whether the EVSE is in the charging session, be aware of the high voltage.
3. Setting the multimeter to DC voltage measurement mode.
4. Connect the red probe of the testing tool to the positive terminal of charging gun A/B, and the black probe to the negative one. Making sure that the probes are connected to the different terminals.



4.7 Maintenance and cleaning

4.7.1 Maintenance schedule

Task	Frequency	Procedure
Clean the cabinet	6 months	Refer to 4.7.2
Do a check for damage on the EV charge cables and connectors	6 months	Refer to 4.7.3
Do a check for damage on cabinet	6 months	Refer to 4.7.3
Replace the filter for the air inlets	6 months	Refer to 4.7.4

4.7.2 Clean the cabinet

1. Flush with a low-pressure air gun to remove the dirt.
2. Apply cleaner solution to the cabinet.
3. Remove dirt manually, use the non-abrasive tools.
4. If necessary, wax the front side for added protection and gloss.
5. If rust has occurred before, the rust inhibiting primer can be applied to prevent further rusting. Ask the manufacturer for specifications and instructions.

4.7.3 Do a check on the cabinet

Do a check for damage on these parts:

Part	Damage
EV charge cables and connectors	Cracks or ruptures
	Internal wires of the cable are visible
Touchscreen	Cracks
	Touch screen does not work
Coating of the cabinet	Cracks or ruptures
Cabinet	Signs of rust that cause ingress of water

4.7.4 Removing and replacing the filter

HPC CE Power Cabinet

Replacement of Air Inlet Filter Cotton:

1. Open the rear door with the key and turn the door lock handle clockwise, see Figure 1.
2. Open the left and right rear doors, then twist to release the filter cotton retaining latches on both doors, see Figure 2.
3. Pull the filter cotton assemblies outward and remove the fixing nuts for the filter cotton, see Figure 3.
4. Take out the old filter cotton from the assemblies, install the new filter cotton with the printed side facing the inside of the cabinet, ensure the filter cotton lies flat, and tighten the filter cotton fixing nuts.

5. Insert the filter cotton assemblies into the filter cotton slots of the left and right doors, reset the filter cotton retaining latches on both doors to secure the assemblies firmly. Afterwards, close the left and right doors, lock the door locks properly, and keep the key in a safe place.

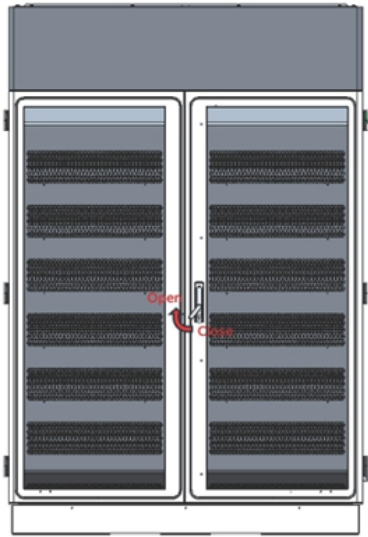


Figure 1

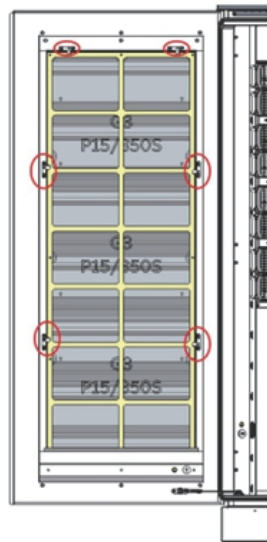


Figure 2

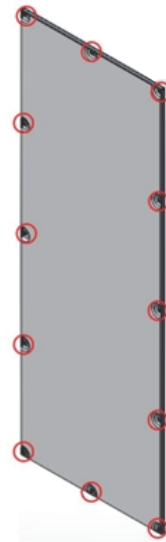


Figure 3

Replacement of Air Outlet Filter Cotton:

1. Remove the top cover fixing screws with an M6 socket wrench and open the top cover, as shown in Figure 4.
2. Remove the wing nuts of the filter cotton pressure plates around the top, then take off the pressure plates, as shown in Figure 5.
3. Take out the old filter cottons one by one from left to right.
4. Install the new filter cottons sequentially from right to left, with the printed side of each filter cotton facing the inner side of the cabinet. Press the filter cottons tightly with the filter cotton pressure plates and fasten the plates with wing nuts. Finally, fit the top cover back and tighten all its fixing screws.



Figure 4

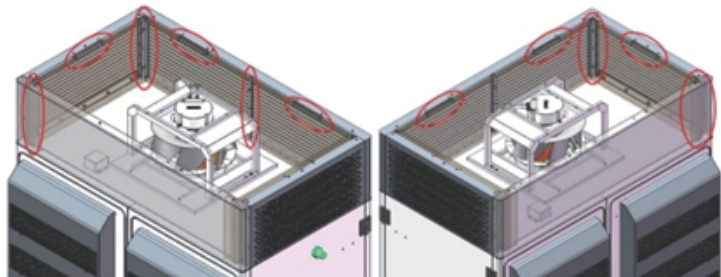


Figure 5

HPC CE Liquid cooling Charger Post

Replacement of Air Inlet Filter Cotton:

1. Unlock the side door lock with the key and turn the lock handle clockwise to open the front door, see Figure 6.
2. After opening the front door, twist the filter cotton retaining latch on the right side at the bottom of the cabinet, then pull out the filter cotton frame outward, see Figure 7.
3. Take out the old filter cotton from the rear side of the filter cotton frame and install a new one. Make sure the filter cotton is laid flat and closely attached to the front wire mesh, with the printed side of the filter cotton facing the wire mesh, see Figure 8.
4. Insert the filter cotton frame into the air inlet louver, tighten the retaining latch, fully close the front door, and store the key properly.

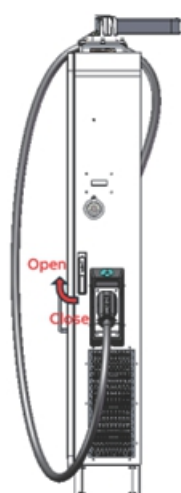


Figure 6

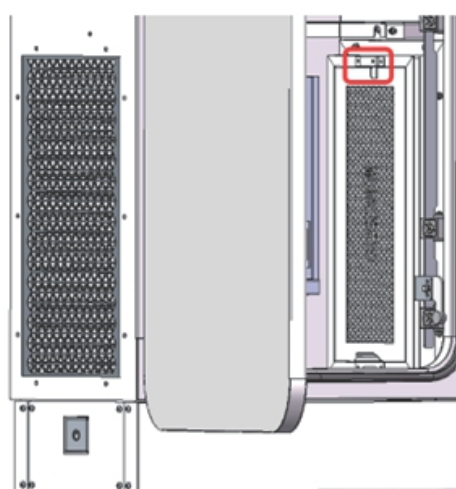


Figure 7

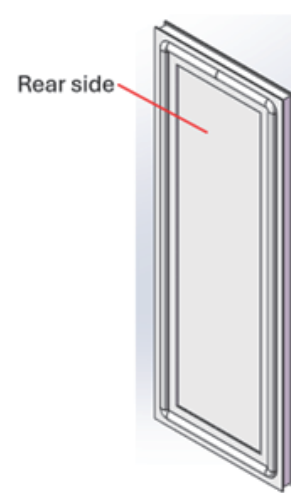


Figure 8

Controlbox and Self-cooling Terminal are not equipped with filter structures.
Only regular cleaning of the cabinet exterior is required to maintain a clean appearance of the cabinets.

5 Troubleshooting

5.1 Troubleshooting process

1. Try to find a solution for the problem with the aid of the information in this document.
2. If you cannot find a solution for the problem, contact your local representative of the manufacturer. Refer to section 1.11.

5.2 Troubleshooting table

5.2.1 Power cabinet

Problem	Possible cause	Possible solution
Emergency Stop	Emergency stop button pressed	Recovery button knob
MCB Error Stop	MCB don't work	Check status of MCB
Charging Module Stop signal Error	Charging Module Stop charging signal	Restart charge station
Charging Module Communication Error	Module is not powered on	Open the front door and check the air switch
Fan Error Stop	Fan blocking	Check status of the fan
AC Contactor Error Stop	AC Contactor don't work	Check status of the AC Contactor
DC Contactor Error Stop	DC Contactor don't work	Check status of the DC Contactor

5.2.2 Air-cooled charging post

Problem	Possible cause	Possible solution
Emergency Stop	Emergency stop button pressed	Recovery button knob
CP State Change Stop	EV check message overtime	Recharge again
Insulation Module Communication Error	Insulation Module run exceedingly	Restart charge station
Fan Error Stop	Fan blocking	Check status of the fan
Insulation Error Stop	The DC output bus is abnormal	Check the DC output bus
DC Contactor Error Stop	DC Contactor don't work	Check status of the DC Contactor

5.2.3**Liquid-cooled charging post**

Problem	Possible cause	Possible solution
Emergency Stop	Emergency stop button pressed	Recovery button knob
CP State Change Stop	EV check message overtime	Recharge again
Insulation Module Communication Error	Insulation Module run exceedingly	Restart charge station
Fan Error Stop	Fan blocking	Check status of the fan
Insulation Error Stop	The DC output bus is abnormal	Check the DC output bus
DC Contactor Error Stop	DC Contactor don't work	Check status of the DC Contactor

5.2.4**Control box**

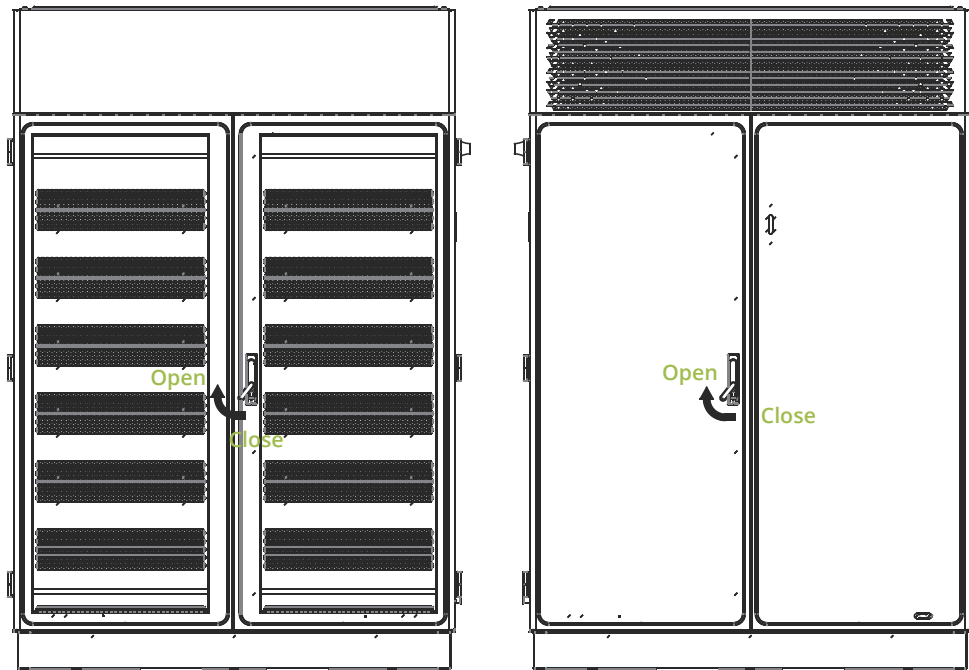
Problem	Possible cause	Possible solution
CP State Change Stop	EV check message overtime	Recharge again
Insulation Module Communication Error	Insulation Module run exceedingly	Restart charge station
Fan Error Stop	Fan blocking	Check status of the fan
Insulation Error Stop	The DC output bus is abnormal	Check the DC output bus
DC Contactor Error Stop	DC Contactor don't work	Check status of the DC Contactor

6 Access to parts

6.1 Power cabinet

6.1.1 Open the doors

Insert the key into the door lock hole, turn the handle 90 degrees clockwise, hold the handle and pull the front door outward.



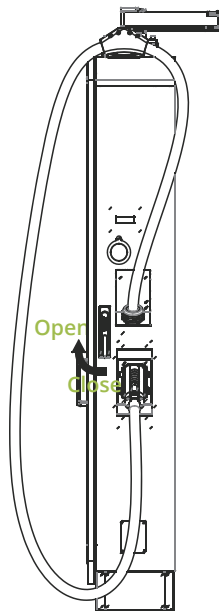
6.1.2 Close the doors

Hold the handle, then rotate it 90 degrees counterclockwise, and press it into the lock slot. After confirming the door is locked, pull out of the key.

6.2 Air-cooled charging post

6.2.1 Open the doors

Stand on the right side of the cabinet. Insert the key into the door lock hole, turn the handle 90 degrees clockwise, hold the handle and pull the front door outward.



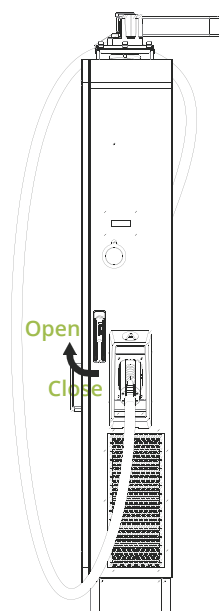
6.2.2 Close the doors

Stand on the right side of the cabinet. Hold the handle, then rotate it 90 degrees counterclockwise, and press it into the lock slot. After confirming the door is locked, pull out of the key.

6.3 Liquid-cooled charging post

6.3.1 Open the doors

Stand on the right side of the cabinet. Insert the key into the door lock hole, turn the handle 90 degrees clockwise, hold the handle and pull the front door outward.



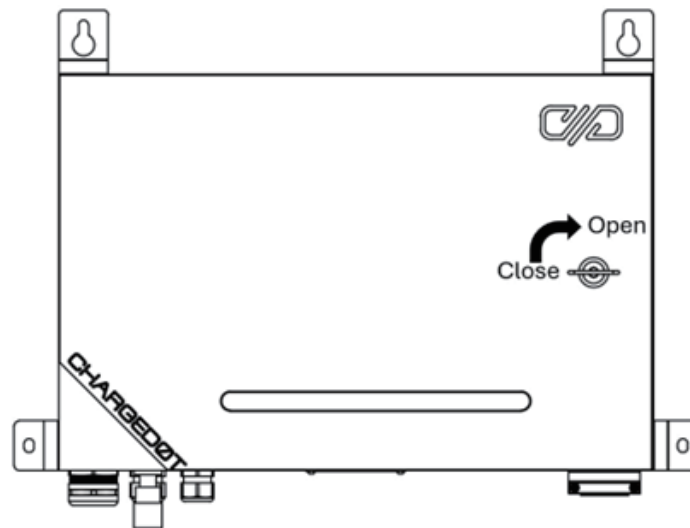
6.3.2 Close the doors

Stand on the right side of the cabinet. Hold the handle, then rotate it 90 degrees counterclockwise, and press it into the lock slot. After confirming the door is locked, pull out of the key.

6.4 Control box

6.4.1 Open the doors

Insert the key into the door lock hole, turn the handle 90 degrees clockwise, hold the handle and pull the front door outward.



6.4.2 Close the doors

Hold the handle, then rotate it 90 degrees counterclockwise. After confirming the door is locked, pull out of the key.

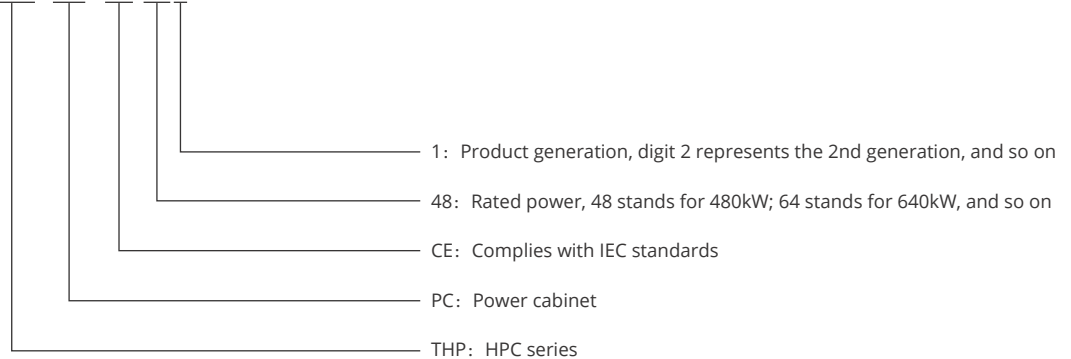
7 Technical data

7.1 EVSE type

The EVSE type is a code.

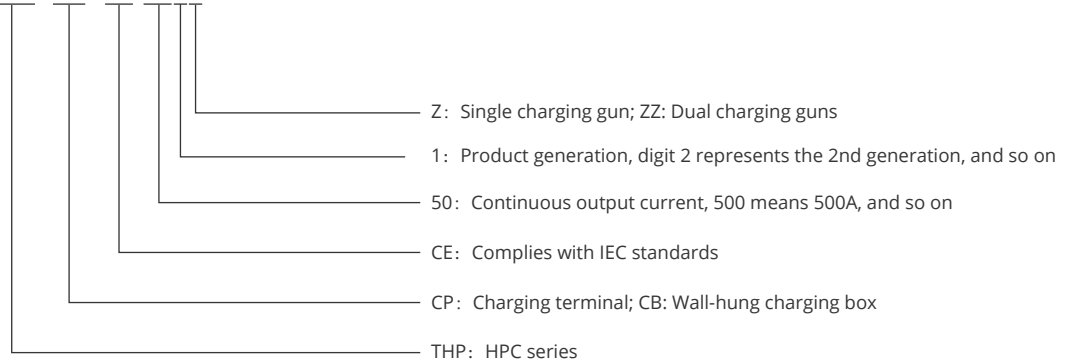
Power cabinet

THP PC CE 48 1



Charger post

THP CP CE 50 1 Z



7.2 General specifications

Parameter	Description			
	Power cabinet	Charger post	Liquid cooling Charger post	Control box
Compliance and safety	CE, RED			
IP rating	IP55			
IK	IK10	IK10 (screen IK08)	IK10 (screen IK08)	IK10
EMC classification	Class A			

7.3 Maintenance schedule for the service engineer

7.3.1 Power cabinet

Maintenance Schedule:										
I	I nspection (visual inspection and required maintenance action if needed)									
P	P hysical action/check									
E	E lectrical action/check (measurements, tests etc.)									
C	C leaning of component									
X	N o action needed									
		Years from commissioning								
Service		1	2	3	4	5	6	7	8	9 10
Improvements based on campaigns		I	I	I	I	I	I	I	I	I
Visual Inspection										
Exterior of the Charger		I	I	I	I	I	I	I	I	I
Interior of the charger										
- Fan										
- Air filters*		I	I	I	I	I	I	I	I	I
- Plexiglass covers*										
- Power module										
- Door alignment		I	I	I	I	I	I	I	I	I
- PCB Boards		I	I	I	I	I	I	I	I	I
Physical Checks										
Bolts and nuts		X	P	X	P	X	P	X	P	X P
Door lock and hold mechanism		X	P	X	P	X	P	X	P	X P
Electrical checks										
Earthing measurements		X	E	X	E	X	E	X	E	X E
Phases check/measurements		X	E	X	E	X	E	X	E	X E
RCD check by self-test on charger		E	E	E	E	E	E	E	E	E
Local rules may apply										
Aux power supply measurements/check		X	E	X	E	X	E	X	E	X E
Cleaning										
Cleaning the exterior of the charger		X	C	X	C	X	C	X	C	X C
Cleaning the interior of the charger										
- Ventilation area										
- AC&DC area		X	C	X	C	X	C	X	C	X C
- Filter area										
- PCB boards area										

*Check structural integrity of the components. If there is any damage (crack, puncture, heat sourced discoloration), replace the components according to the service manuals.

NOTE 1: The air filters must be inspected every 12 months and replaced if required. Environment characteristic and number of charging sessions may increase or decrease the number of replacements during the life time of the charger.

NOTE 2: Intervals between a cleaning session can greatly differ per region due to environmental circumstances.

NOTE 3: Parts replacement schedule is based on a fully maintained charger which has been operating correctly over time. Intervals of parts changing can be smaller due to usage and/or environmental influences.

NOTE 4: Apart from the time related maintenance there are a number of components which wear with the use (amount of switches, amount of mating etc.). At this moment this use is not counted or calculated.

7.3.2

Air-cooled charging post

[illegible]

7.3.3 Liquid-cooled charging post

Maintenance Schedule:													
I	I Inspection (visual inspection and required maintenance action if needed)												
P	P Physical action/check												
E	E Electrical action/check (measurements, tests etc.)												
C	C Cleaning of component												
X	No action needed												
				Years from commissioning									
Service				1	2	3	4	5	6	7	8	9	10
Improvements based on campaigns				I	I	I	I	I	I	I	I	I	I
Visual Inspection													
Exterior of the Charger				I	I	I	I	I	I	I	I	I	I
Interior of the charger													
- Fan				I	I	I	I	I	I	I	I	I	I
- Air filters*													
- Door alignment				I	I	I	I	I	I	I	I	I	I
- PCB Boards				I	I	I	I	I	I	I	I	I	I
- Charging cable				I	I	I	I	I	I	I	I	I	I
Physical Checks													
Bolts and nuts				X	P	X	P	X	P	X	P	X	P
Door lock and hold mechanism				X	P	X	P	X	P	X	P	X	P
Electrical checks													
Earthing measurements				X	E	X	E	X	E	X	E	X	E
Phases check/measurements				X	E	X	E	X	E	X	E	X	E
Cleaning													
Cleaning the exterior of the charger				X	C	X	C	X	C	X	C	X	C
Cleaning the interior of the charger													
- Ventilation area													
- DC area				X	C	X	C	X	C	X	C	X	C
- Filter area													
- PCB boards area													
Cleaning the charging cable and connector				C	C	C	C	C	C	C	C	C	C
Liquid cooling system				I	I	I	I	E	I	I	I	I	E

7.3.4

Control box

Maintenance Schedule:													
I	I nspection (visual inspection and required maintenance action if needed)												
P	P hysical action/check												
E	E lectrical action/check (measurements, tests etc.)												
C	C leaning of component												
X	N o action needed												
				Years from commissioning									
Service				1	2	3	4	5	6	7	8	9	10
Improvements based on campaigns				I	I	I	I	I	I	I	I	I	I
Visual Inspection													
Exterior of the Charger				I	I	I	I	I	I	I	I	I	I
Interior of the charger													
- Fan				I	I	I	I	I	I	I	I	I	I
- Door alignment				I	I	I	I	I	I	I	I	I	I
- PCB Boards				I	I	I	I	I	I	I	I	I	I
- Charging cable				I	I	I	I	I	I	I	I	I	I
Physical Checks													
Bolts and nuts				X	P	X	P	X	P	X	P	X	P
Door lock and hold mechanism				X	P	X	P	X	P	X	P	X	P
Electrical checks													
Earthing measurements				X	E	X	E	X	E	X	E	X	E
Phases check/measurements				X	E	X	E	X	E	X	E	X	E
Cleaning													
Cleaning the exterior of the charger				X	C	X	C	X	C	X	C	X	C
Cleaning the interior of the charger													
- DC area				X	C	X	C	X	C	X	C	X	C
- PCB boards area													
Cleaning the charging cable and connector				C	C	C	C	C	C	C	C	C	C

*Check structural integrity of the components. If there is any damage (crack, puncture, heat sourced discoloration), replace the components according to the service manuals.

NOTE 1: Intervals between a cleaning session can greatly differ per region due to environmental circumstances.

NOTE 2: Parts replacement schedule is based on a fully maintained charger which has been operating correctly over time. Intervals of parts changing can be smaller due to usage and/or environmental influences.

NOTE 3: Apart from the time related maintenance there are a number of components which wear with the use (amount of switches, amount of mating etc.). At this moment this use is not counted or calculated.

7.4 Part replacement schedule

7.4.1 Power cabinet

Part Replacement Schedule											
R		Replacement of component (see related service manuals)									
X		No action needed									
		Years from commissioning									
Parts		1	2	3	4	5	6	7	8	9	10
AIR FILTER INLET KIT		R	R	R	R	R	R	R	R	R	R
AIR FILTER OUTLET KIT		R	R	R	R	R	R	R	R	R	R
CCU		X	X	X	X	X	R	X	X	X	R
BCU		X	X	X	X	X	R	X	X	X	R
AC-DC POWER SUPPLY		X	X	X	X	X	R	X	X	X	R
POWER MODULE		X	X	X	X	X	X	X	X	X	R
FAN		X	X	X	X	R	X	X	X	X	R
DC CONTACTORS		X	X	X	X	R	X	X	X	X	R
AC CONTACTORS		X	X	X	X	R	X	X	X	X	R

7.4.2 Air-cooled charging post

Part Replacement Schedule											
R		Replacement of component (see related service manuals)									
X		No action needed									
		Years from commissioning									
Parts		1	2	3	4	5	6	7	8	9	10
CCU		X	X	X	X	X	R	X	X	X	R
IMD		X	X	X	X	X	R	X	X	X	R
FAN		X	X	X	X	R	X	X	X	X	R
DC-METER		X	X	X	X	R	X	X	X	X	R
DC CONTACTORS		X	X	X	X	R	X	X	X	X	R
CHARGING GUN		X	X	X	X	R	X	X	X	X	R
DC FUSE		X	X	X	X	R	X	X	X	X	R

7.4.3 Liquid-cooled charging post

Part Replacement Schedule											
R	Replacement of component (see related service manuals)										
X	No action needed										
		Years from commissioning									
Parts		1	2	3	4	5	6	7	8	9	10
CCU		X	X	X	X	X	R	X	X	X	R
IMD		X	X	X	X	X	R	X	X	X	R
FAN		X	X	X	X	R	X	X	X	X	R
DC-METER		X	X	X	X	R	X	X	X	X	R
DC CONTACTORS		X	X	X	X	R	X	X	X	X	R
AC-DC POWER SUPPLY		X	X	X	X	R	X	X	X	X	R
CHARGING GUN		X	X	X	X	R	X	X	X	X	R
DC FUSE		X	X	X	X	R	X	X	X	X	R
LIQUID COOLING SYSTEM		X	X	X	X	X	X	R	X	X	X
LIQUID COOLING SYSTEM COOLANT		X	X	R	X	X	R	X	X	R	X

7.4.4 Control box

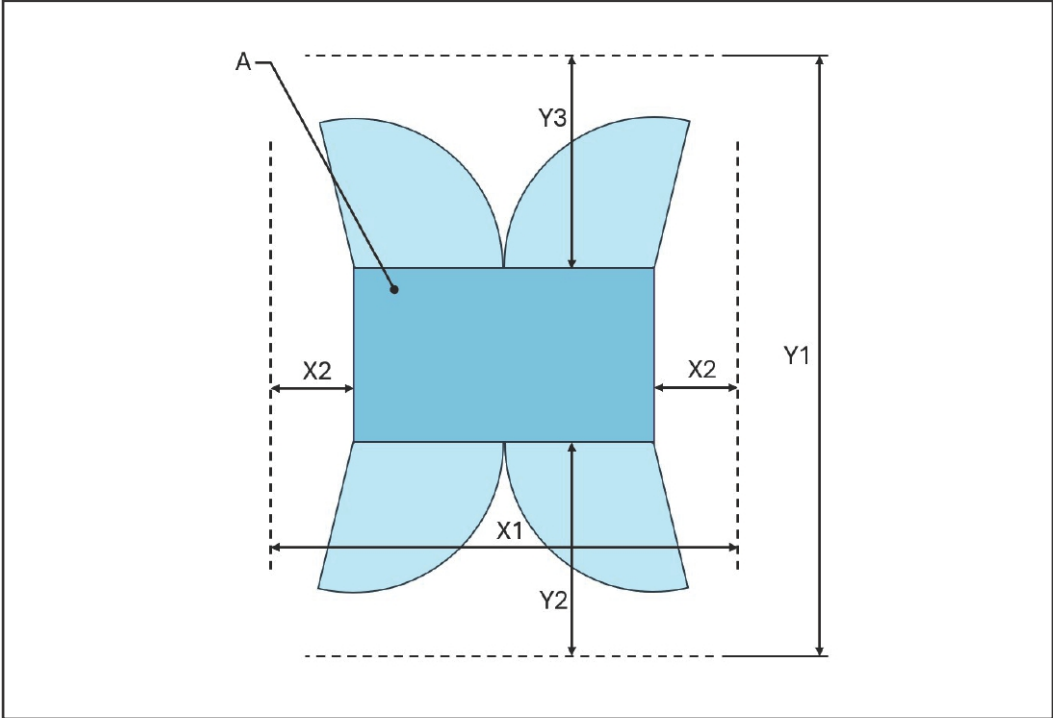
Part Replacement Schedule											
R	Replacement of component (see related service manuals)										
X	No action needed										
		Years from commissioning									
Parts		1	2	3	4	5	6	7	8	9	10
CCU		X	X	X	X	X	R	X	X	X	R
IMD		X	X	X	X	X	R	X	X	X	R
FAN		X	X	X	X	R	X	X	X	X	R
DC-METER		X	X	X	X	R	X	X	X	X	R
DC CONTACTORS		X	X	X	X	R	X	X	X	X	R
CHARGING GUN		X	X	X	X	R	X	X	X	X	R
DC FUSE		X	X	X	X	R	X	X	X	X	R

7.5 Cleaning specification

Parameter	Specification
Cleaning agent	pH value between 6 to 8
Non-abrasive tool	Non-woven nylon hand pad

7.6 Floor space requirements

7.6.1 Power cabinet



- A

Cabinet
- X1

Total width
- X2

Space for air inlet and to open the left and right doors
- Y1

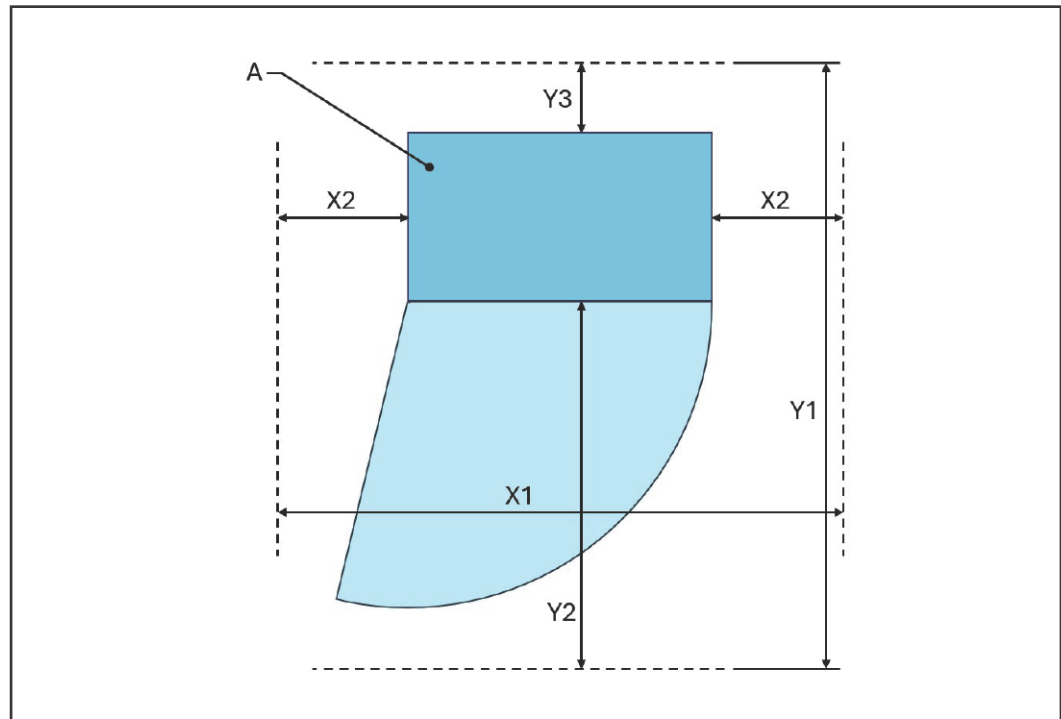
Total depth
- Y2

Space to open the front door
- Y3

Space for air outlet

Parameter	Specification [mm]
X1	2000
X2	300
Y1	2300
Y2	750
Y3	750

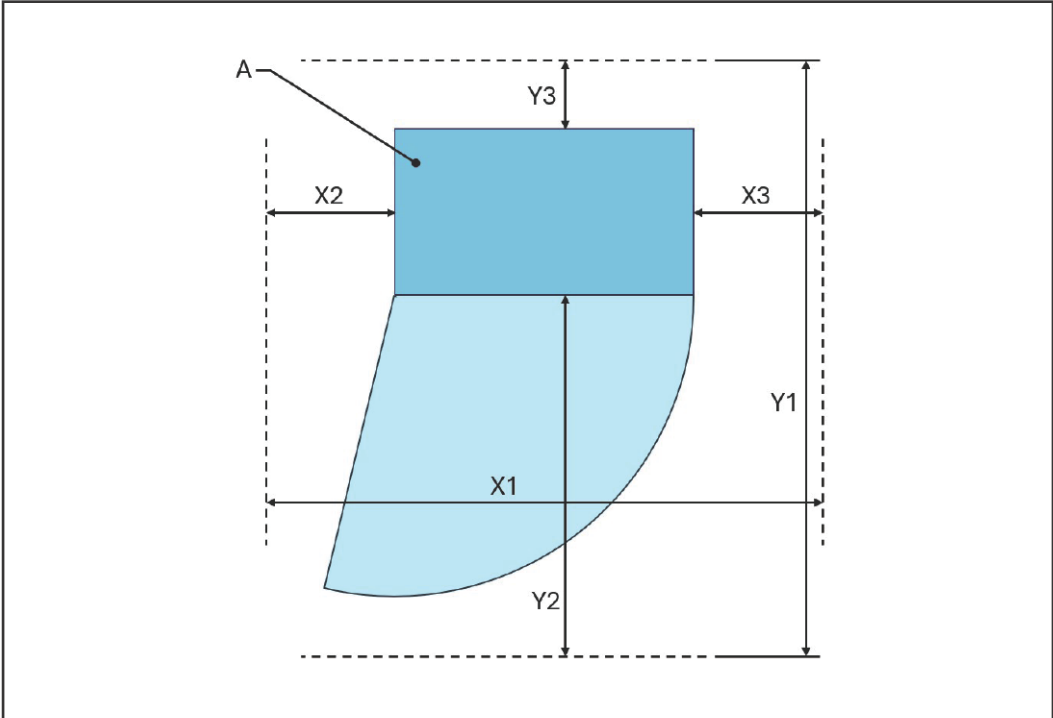
7.6.2 Air-cooled charging post



A	Cabinet	Y1	Total depth
X1	Total width	Y2	Space to open the front door
X2	Space for plugging and unplugging charging gun	Y3	Space for heat dissipation and charging cable

Parameter	Specification [mm]
X1	1750
X2	600
Y1	1050
Y2	570
Y3	200

7.6.3 Liquid-cooled charging post



- A

Cabinet
- X1

Total width
- X2

Space for charging cable
- X3

Space for plugging and unplugging charging gun
- Y1

Total depth
- Y2

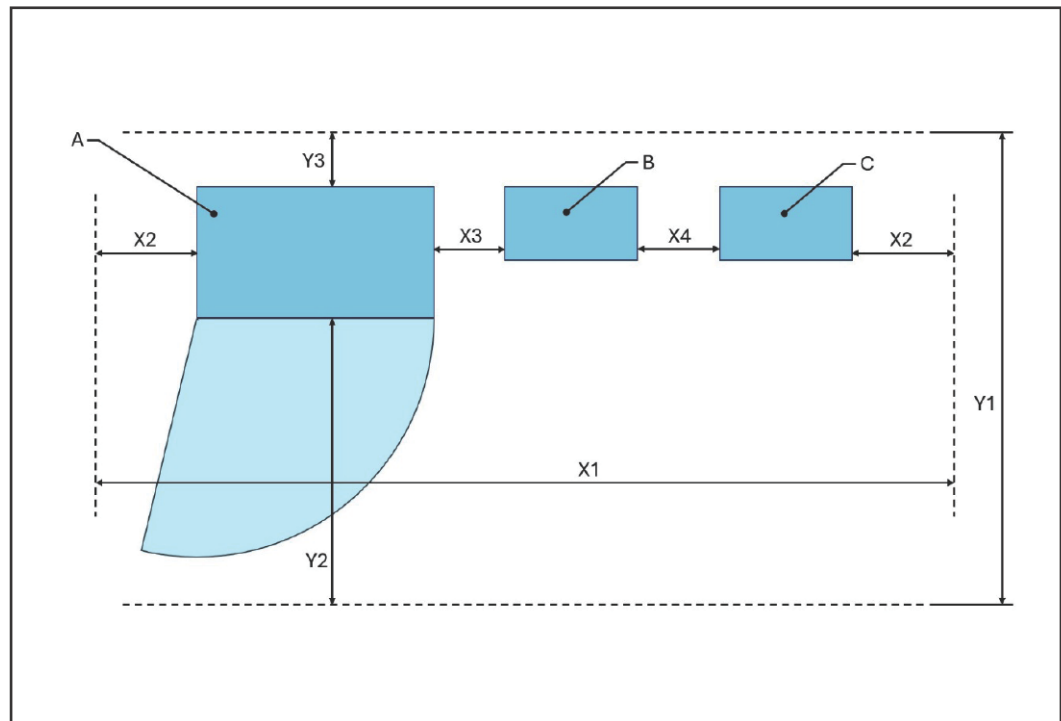
Space to open the front door
- Y3

Space for heat dissipation

Parameter	Specification [mm]
X1	1450
X2	300
X3	600
Y1	1050
Y2	570
Y3	200

7.6.4

Control box



A	Cabinet	Y1	Total depth
B	The primary wire winder	Y2	Space to open the front door
C	The secondary wire winder	Y3	Space for air outlet
X1	Total width		
X2	Space to open the front door		
X3	The space between the control box and the primary wire winder	X4	The space between the control box and the secondary wire winder

Parameter	Specification [mm]
X1	2100~2300
X2	100
X3	450~550
X4	350~450
Y1	897
Y2	700
Y3	17 (Mounting bracket height)

7.7 Ambient conditions

Caution:

- Using non-manufacturer-specified coolant may lead to system leakage or material degradation. Do not mix different types of coolant.
- Cut off the main power supply of the charger and wait for the liquid cooling system to fully cool down;
- Slowly unscrew the filling cap of the expansion tank to release residual pressure inside the pipeline;
- Add the factory-specified insulating coolant up to the liquid level marking range (Coolant Model: HQ-C1) ;
- Complete air exhaust of the liquid cooling circuit after filling to avoid air blockage affecting heat dissipation;
- Tighten the filling cap, power on the equipment and run the cooling pump to check for liquid leakage at each pipeline joint.

NOTE: For details, see the installation manual.

7.8 Ambient conditions

Parameter	Specification
Environment, general	Indoor, Outdoor
Storage temperature	-40°C ~ 70°C
Working temperature	-25°C ~ 55°C (> 50°C derating)
Altitude	2000m
Humidity	5% ~ 95%

7.9 Logic interface specifications

General specifications

Parameter	Specification
RFID standard	ISO 14443A+B to part4 and ISO 7816-3
RFID-supported applications	Offline authorize
Network connection	4G or Ethernet
QR scan	The image shown on the screen

RF specifications

RF Technology	Frequency Band	Maximum E.I.R.P (dBm)
LTE-FDD	B1	
LTE-FDD	B3	
LTE-FDD	B5	
LTE-FDD	B7	
LTE-FDD	B8	
LTE-FDD	B20	
LTE-FDD	B28	
LTE-FDD	B38	
LTE-FDD	B40	
LTE-FDD	B41	
TD-SCDMA	B1	
TD-SCDMA	B5	
TD-SCDMA	B8	

7.10**AC output specification**

Parameter	Specification
Input AC power connection	3P+PE
Earthing systems	TT
	TN-S
	TN-C-S
Input voltage range	400VAC $\pm$ 10% (50Hz or 60Hz)
Power factor	>0.99% @100% Po
	>0.98 @50%Po without control
Efficiency	$\geq$ 95% peak
	>94% @50%~100% load
Total harmonic distortion	<5% @50%~100% load

7.11 DC output specification

Parameter	Specification
DC output voltage range, CCS2	200 ~ 1000V
Connection standard	CCS2

7.11.1 Air-cooled charging post

Parameter	Specification [A]
Rated output current	250A DC
Maximum output current	300A DC

7.11.2 Liquid-cooled charging post

Parameter	Specification [A]
Rated output current	500A DC
Maximum output current	650A DC

7.11.3 Control box

Parameter	Specification [A]
Rated output current	250A DC
Maximum output current	300A DC

7.12 Power consumption

7.12.1 General specifications

Parameter	Specification [W]
Standby power	16.7

