



MaxiCharger DS480

Installation Manual

Version 1.1

CE Model

Trademarks

Autel® and MaxiCharger® are trademarks of Autel Digital Power Co., Ltd., registered in China, the United States and other countries. All other marks are trademarks or registered trademarks of their respective holders.

Copyright Information

No part of this manual may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Autel.

Disclaimer of Warranties and Limitation of Liabilities

All information, specifications, and illustrations in this manual are based on the latest information available at the time of printing. Autel reserves the right to make changes at any time without notice. While information in this manual has been carefully checked for accuracy, no guarantee is given for the completeness and correctness of the contents, including but not limited to the product specifications, functions, and illustrations.

Autel will not be liable for any direct damages or for any special, incidental, or indirect damages or for any economic consequential damages (including the loss of profits).

For Services and Support:

Web: www.autelenergy.eu

Tel: 00-800-0825-1039 (United Kingdom, Netherlands, Germany, France, Italy, Switzerland)

00-800-0825-1052 (Denmark, Iceland)

20798959 (Sweden)

Working Time: Monday-Friday, CET 9:00 AM-6:00 PM, local working days

Email: evsupport.eu@autel.com

Address: Laan van Waalhaven 217, 2497GL 's-Gravenhage, the Netherlands

For technical assistance in all other markets, please contact your local distributor.

CONTENTS

1. Using This Manual	1
1.1 Signal Word.....	1
1.2 Target Group.....	2
1.3 Revision History	2
1.4 Terminology.....	2
2. Safety.....	4
2.1 Safety Warnings	4
2.2 Owner Responsibilities.....	5
2.3 Installation Engineer Qualifications	5
2.4 Usage Instructions	5
2.5 Usage Environment.....	6
2.6 Signs on the Charging Station	6
2.7 Disposal Instructions	6
2.8 Cyber Security.....	7
3. General Introduction	8
3.1 Power Cabinet Overview.....	10
3.1.1 Power Cabinet Overview (Outside).....	10
3.1.2 Power Cabinet Overview (Inside).....	12
3.2 Dispenser Overview	15
3.2.1 Dispenser Overview (Outside)	15
3.2.2 Dispenser Overview (Inside)	19
3.3 Product Dimensions	24
3.3.1 Power Cabinet Dimensions.....	24
3.3.2 Dispenser Dimensions	25
3.4 Direction of Airflow	29
3.4.1 Direction of Airflow of the Power Cabinet	29
3.4.2 Direction of Airflow of Dispensers	30
3.5 Electrical Diagram	32
3.5.1 Electrical Diagram of the Power Cabinet.....	32
3.5.2 Electrical Diagram of Dispensers.....	33
3.6 Additional Options	35
3.6.1 RCD	35
3.6.2 POS.....	35
4. Preparation	36
4.1 Installation Site Design.....	36

4.1.1	<i>Location Requirements</i>	37
4.1.2	<i>Space Requirements</i>	38
4.1.3	<i>Preparing the Foundation</i>	42
4.2	Electrical Design	46
4.2.1	<i>Wiring Requirements</i>	46
4.2.2	<i>Cable Laying</i>	53
4.2.3	<i>Use of RCD</i>	54
4.2.4	<i>Grounding Requirements</i>	54
4.3	Unpacking	54
4.4	Packing List	57
4.4.1	<i>Power Cabinet</i>	57
4.4.2	<i>Liquid-cooled Dispenser (DT800)</i>	58
4.4.3	<i>Air-cooled Dispenser (DT500)</i>	60
4.5	Recommended Tools	62
5.	Installation.....	63
5.1	Before Installing	63
5.2	Installing the Power Cabinet	64
5.2.1	<i>Using a Forklift</i>	64
5.2.2	<i>Using Hoisting Equipment</i>	69
5.3	Installing the Liquid-cooled and Air-cooled Dispenser	74
5.4	Electrical Wiring	80
5.4.1	<i>Connecting AC Input Cable</i>	81
5.4.2	<i>Connecting DC Output Cable</i>	83
5.4.3	<i>Connecting the AC Auxiliary Cable</i>	85
5.5	Connecting to the Internet.....	86
5.5.1	<i>To the Cabinet</i>	86
5.5.2	<i>To the Dispenser</i>	89
5.6	Installing or Replacing Modules (Optional)	90
5.7	Finishing Installation	93
6.	Operation	94
6.1	Before Use	94
6.2	Powering Up the Charging Station	94
6.3	Emergency Situations.....	95
6.4	Charge Sessions	95
6.4.1	<i>Standby Screen</i>	96
6.4.2	<i>Authorization</i>	97
6.4.3	<i>Start Charging</i>	99
6.4.4	<i>Charging</i>	99
6.4.5	<i>Stop Charging</i>	100

6.4.6	<i>Finish Charging</i>	100
6.5	Charging Errors	101
6.5.1	<i>Charging Handle Connection Error</i>	101
6.5.2	<i>Authorization Failure</i>	101
6.5.3	<i>Charge Start Failure</i>	101
6.5.4	<i>Charging Failure</i>	101
7.	Maintenance	102
7.1	Routine Maintenance	102
7.1.1	<i>Cleaning the Charging Station</i>	102
7.1.2	<i>Cleaning and Replacing the Air Filters</i>	102
7.1.3	<i>Connectivity of the SIM Card</i>	104
7.2	Inspection and Maintenance	105
7.3	Remote Maintenance	106
7.4	Maintenance Schedule.....	106
8.	Technical Specifications.....	107
8.1	Power Cabinet Specifications.....	107
8.2	Dispenser Specifications	110
8.2.1	<i>Liquid-cooled Dispenser (DT800)</i>	110
8.2.2	<i>Air-cooled Dispenser (DT500)</i>	112
8.3	Detailed AC Input Specifications	115
8.4	Wireless Communication Parameters.....	116

1. Using This Manual

This manual describes the installation and use of the MaxiCharger DS480 power cabinet, together with the DT500 and DT800 dispensers. Prior to installation, read through this manual to become familiar with the instructions of this equipment to ensure a successful installation and smooth operations. This manual is intended for dual-connector dispensers, with illustrations in the document using dual-connector examples.

1.1 Signal Word



DANGER

Indicates an imminently hazardous situation with a high-risk level which, if the danger is not avoided, will cause death or serious injury.



WARNING

Indicates a potentially hazardous situation with moderate risk level which, if the warning is not obeyed, can cause death or serious injury.



CAUTION

Indicates a potentially hazardous situation with a medium risk level which, if the caution is not obeyed, may cause minor or moderate injury or damage to the equipment.



ESD PROTECTION AREA

Indicates certain electronic components that are sensitive to electrostatic discharge and must be protected to prevent damage.



NOTICE

Provides helpful information such as additional explanations, tips, and comments.

1.2 Target Group

This documentation is intended for:

- Owner of the equipment (see [2.2 Owner Responsibilities](#))
- Installation Engineer (see [2.3 Installation Engineer Qualifications](#))

1.3 Revision History

Version	Date	Descriptions
Version 1.0	2025.08	Initial Version
Version 1.1	2025.09	Updated structural figures of the power cabinet

1.4 Terminology

Term	Definition
AC	Alternating current
CCS	Combined charging system, a standard charging method for electric vehicles
CCU	Charging control unit: a control unit used to communicate with the BMS (Battery Management System) and control the power delivery to the EV
CHAdeMO	Abbreviation of CHARge de MOve, a standard charging method for electric vehicles
DC	Direct current
ECU	Equipment control unit
EV	Electric vehicle
MCCB	Molded case circuit breaker
OCPP	Open charge point protocol, open standard for communication with charge stations
RBU	Routing business unit, used for communication control and provides communication function including 4G/5G, Wi-Fi, and Ethernet.

Term	Definition
RCD	Residual current device; a device that breaks an electrical circuit when it detects a current leakage
RFID	Radio-frequency identification; a method of charging authentication
SPD	Surge protective device
TCU	Transaction control unit; intelligent hardware to handle the human-machine interface, metering, transaction, and communication with back office

2. Safety

The safety messages herein cover situations of which Autel is aware. Autel cannot know, evaluate or advise you as to all of the possible hazards. You must be certain that any condition or service procedure encountered does not jeopardize your personal safety.

- Preview the standard operating procedures and ensure that local building and electrical codes are reviewed before installing the equipment.
- Read the manual before installing or using the equipment.
- Do not install or use the equipment if the enclosure is broken, cracked, open, or has any other indication of damage.
- The information provided in this manual in no way exempts the user of responsibility to follow all applicable codes or safety standards.
- This document provides instructions for the equipment and should not be used for any other product. Before installation or use of this equipment, review this manual carefully and consult with a licensed contractor, licensed electrician or trained installation expert to ensure compliance with local building codes and safety standards.

2.1 Safety Warnings

- Ensure there is no voltage on the AC input cables during the complete installation procedure.
- Keep unqualified personnel at a safe distance during installation.
- All electrical wires used in the installation must comply with local rules to meet the rated current and voltage demand.
- Ensure the load capacity of the grid is in accordance with the equipment.
- Ensure the equipment is connected to a grounded, metal, and permanent wiring system. Otherwise, an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the product.
- Ensure the connections to the equipment comply with all applicable local rules.
- Ensure the wiring inside the equipment is protected from external factors. The cabinet doors should open and close freely without obstructing the wiring.
- Ensure there is no damage to the gasket that may cause water intrusion.
- Protect the equipment with safety devices and measures that the local rules specify.
- Installation personnel must have the correct protective equipment such as protective clothing, safety gloves, safety shoes, and safety glasses.

2.2 Owner Responsibilities

The owner runs the equipment for commercial or business use or has authorized a third party to use it. The owner should protect the user, other employees or third parties when the equipment is in use. The owner bears the responsibilities as follows:

- Know and obey the local codes and ordinances.
- Ensure all employees and third parties are qualified to operate the equipment.
- Ensure the equipment has installed the protective devices.
- Ensure all the protective devices are installed after installation or maintenance.
- Ensure the space around the equipment is sufficient to carry out installation or maintenance work.
- Ensure there is a plan in place in case of an emergency.
- Ensure there are no safety hazards on the site.
- Have a site operator available who undertakes the safe operation of the equipment and all the coordination of work if the owner takes no part in the work.
- Ensure the installation engineer follows the local codes and ordinances, the installation instructions, as well as the specifications of the equipment.

2.3 Installation Engineer Qualifications

- Complete certification training before performing the installation task.
- Fully understands the equipment and its safe installation procedures.
- Qualified according to local regulations to carry out the installation work.
- Able to follow all the local regulations and this manual to complete the installation of the equipment.

2.4 Usage Instructions

Do not operate the charging station and immediately contact the manufacturer if any of the following situation arises:

- Damage on the enclosure, charging cable or charging handle
- Lightning has struck the equipment
- Fire or flames at or near the equipment
- Any sign of water damage on the equipment

2.5 Usage Environment

The recommended usage environment during the warranty period is as follows:

- Avoid use in marine environments or on land near strong pollution sources, and in environments with only simple shelter. Otherwise, it may easily lead to product corrosion, water ingress and other problems, causing equipment failure. The resulting functional abnormalities or component damage are not covered by the warranty. Pollution sources refer to areas within the following radius:
 - 0.5 kilometers from salt water (e.g. ocean).
 - 3 kilometers away from heavy pollution sources such as metallurgy, coal mines, and thermal power plants.
 - 2 kilometers away from medium pollution sources such as chemical industry, rubber, electroplating and so on.
 - 1 kilometer away from light pollution sources such as food, leather, and heating boilers.
- For applications in offshore environments, the equipment shell may be subject to spot corrosion or the life of the entire machine may be shortened, so you need to choose carefully. Please consult the relevant service department for details. The offshore range value is an area within the following radius: 0.5 kilometers to 3.7 kilometers from salt water (such as the ocean).

2.6 Signs on the Charging Station

Symbol	Risk Description
	Hazardous voltage that gives risk of electrocution
	Ground/Earth connection

2.7 Disposal Instructions

Potential hazardous substances of the equipment can have a negative impact on the environment and human health if the waste is not handled properly. Dispose any waste as needed to protect the environment and promote the reuse and recycling of the materials.

- Obey the local rules when discarding parts, packaging materials or the charging station.
- Discard electrical and electronic equipment separately in compliance with the WEEE-2012/19/EU Directive on waste of electrical and electronic equipment.
- Do not mix or dispose the charging station with the household waste.

2.8 Cyber Security



NOTICE

This section is applicable to the Ethernet and Wi-Fi connection.

The charging station can use a network interface for connection and information and data communication. The owner bears the responsibility of a secure connection between the equipment and the owner's network or any other networks.

Appropriate measures shall be taken by the owner to shield the charging station, the network, the system, and the interface from any security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. These measures may include firewall building, authentication methods, data encryption, and anti-virus programs installation, etc.

Autel is not liable for damages and/or losses pertaining to the security breaches described above.

3. General Introduction

In this manual, the MaxiCharger DS480 is supplied together with DT800 and DT500 dispensers. This charging station is designed to charge an electric vehicle (hereinafter called EV). The equipment provides you with safe, reliable, fast, and smart charging solutions.

Intended Use

This equipment is intended for the DC charging of EVs. It is intended for both indoor and outdoor use.

- Fleet
- Highway
- Commercial Parking
- Others

The manual introduces two main components:

- Power cabinet — receives power from the grid and converts AC supply power to DC charging power
- Dispenser — the charging station connected to the power cabinet and charges the electric vehicle

The MaxiCharger DS480 offers 480 kW solution with varied dispenser configurations. See the table below for details.

Table 3-1 Dispenser Configuration

Power Rating	Dispenser	Max. Dispensers per DS480
480 kW	Liquid-cooled dispenser with single charging handle	≤ 4 pcs
480 kW	Liquid-cooled dispenser with dual charging handles	≤ 2 pcs
480 kW	Air-cooled dispenser with single charging handle	≤ 8 pcs
480 kW	Air-cooled dispenser with dual charging handles	≤ 4 pcs



NOTICE

Each DS480 power cabinet supports up to four liquid-cooled charging handles.

DANGER



- The equipment must be operated as described in this manual or other related documents released by Autel. Failure to comply may result in human injury and/or damage to the property.
- Use the equipment only as intended.
- For the connection between the equipment and electric vehicle, no additional cables are required. A charging cord shall not be altered to extend or divide the cable length.
- Adaptors or conversion adaptors are not allowed to be used.
- Cord extension sets are not allowed to be used.
- The use of Y-cables or similar devices is not permitted.
- National application guidelines and specifications for charging stations must be taken into account.

ESD PROTECTION AREA



The equipment contains components and assemblies that are susceptible to electrostatic discharge (ESD). Appropriate ESD measures should be taken to protect the electronics during any work on the equipment:

- Wear a grounding bracelet and ground it at one of the potential equalization points on the charging station, e.g. on the doors.
- If the gloves are used, they must be ESD compliant.

NOTICE



- When operating charging stations without CMS and the charging cables are longer than 7.5 meters, use cable management devices such as cable reels and cable bridges to prevent cable tangling, wear, or tripping.
- The images and illustrations depicted in this manual may differ slightly from the actual product.

3.1 Power Cabinet Overview

3.1.1 Power Cabinet Overview (Outside)

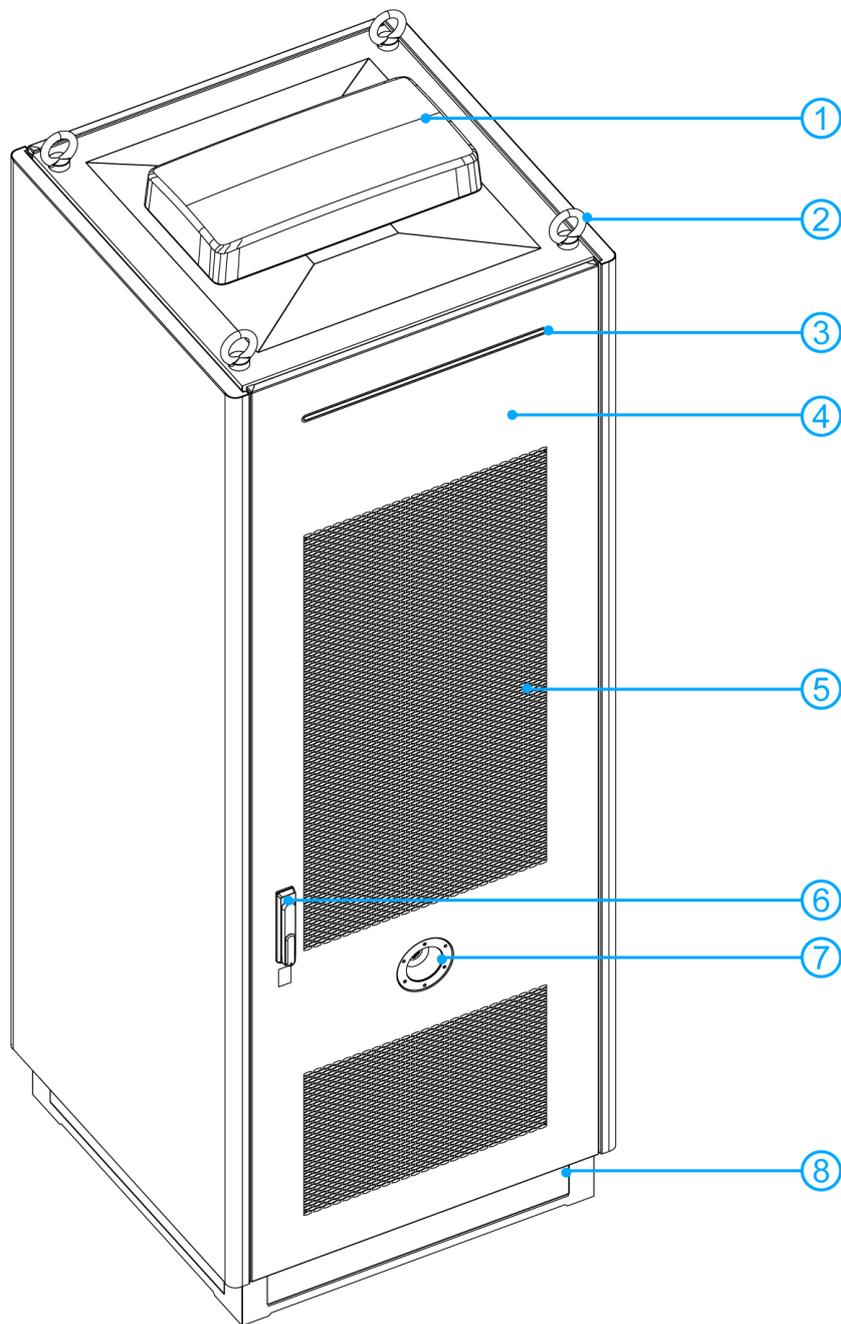


Figure 3-1 Power Cabinet Overview (Outside)

1. Antenna	5. Vent
2. Eye Bolt	6. Handle Lock
3. Charging Status Indicator (Refer to Table 3-3)	7. Emergency Stop Button
4. Left Door	8. Base

Table 3-2 Description of the Four Doors of the Charging Station

No.	Description
A	Front Door
B	Left Door (with the emergency stop button)
C	Rear Door (not shown in the figure; opposite to the front Door)
D	Right Door



WARNING

- Opening the front and rear doors is not recommended.
- Ensure all the doors are locked before operating the charging station.

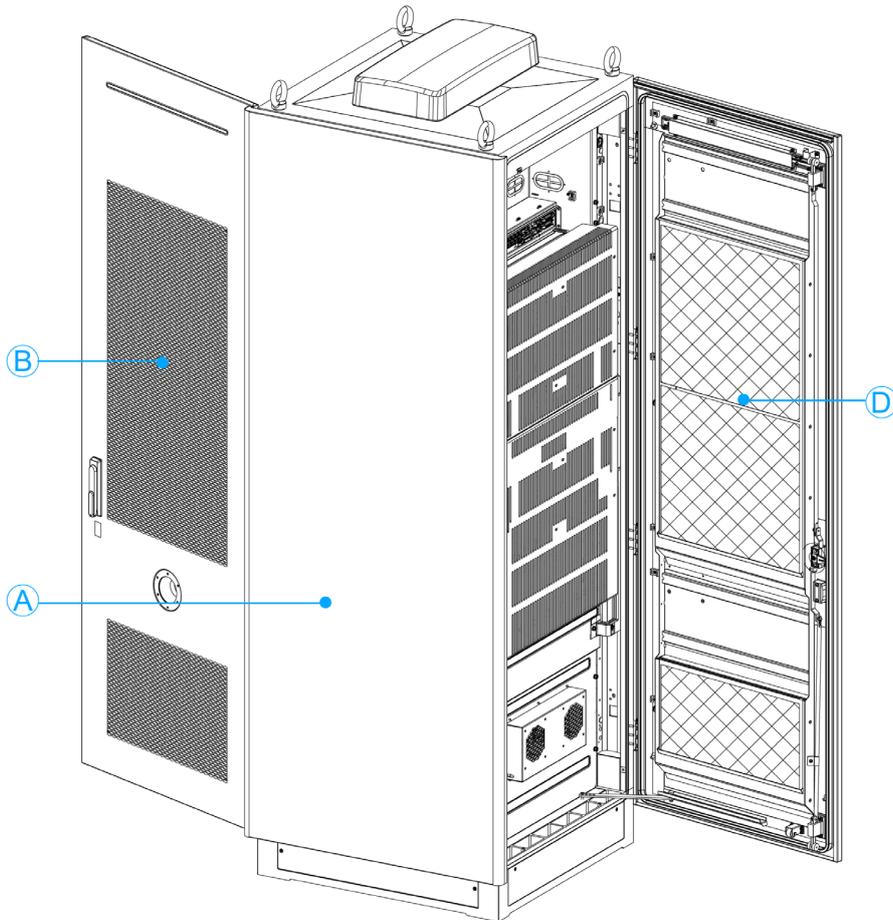


Figure 3-2 Four Doors of the Power Cabinet

3.1.2 Power Cabinet Overview (Inside)

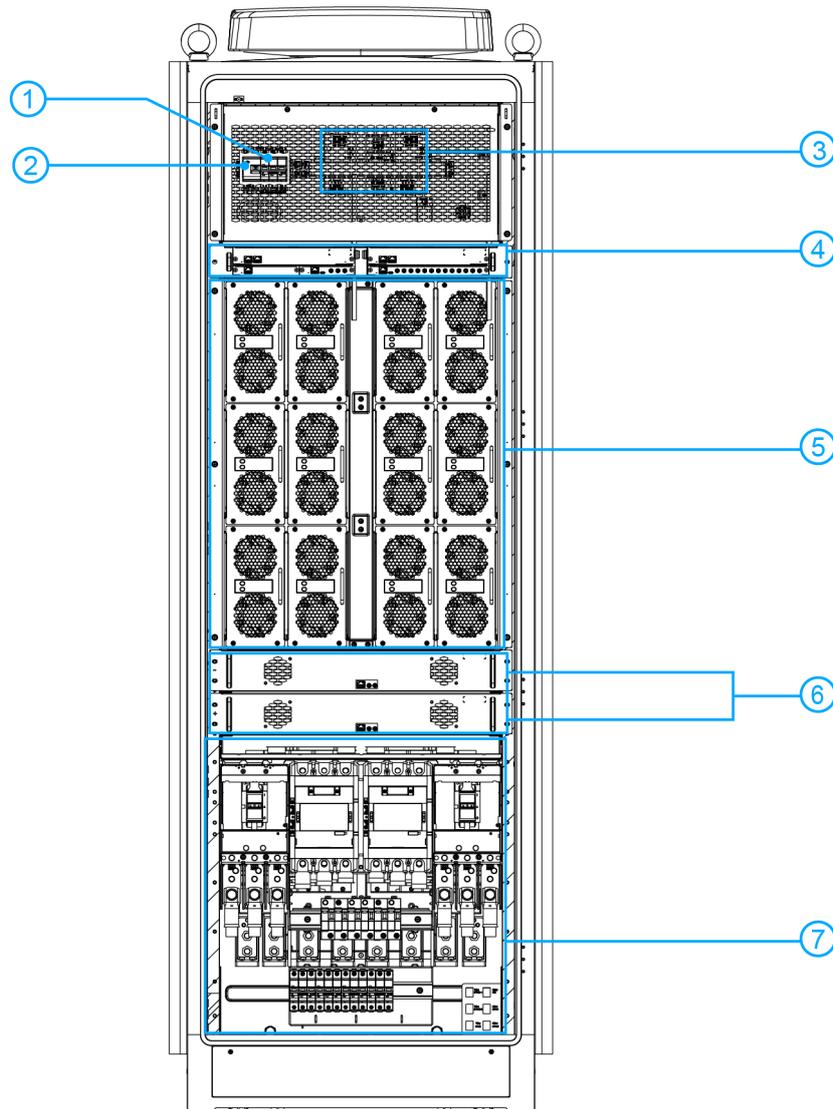


Figure 3-3 Power Cabinet Overview (Inside - Left Door Open)

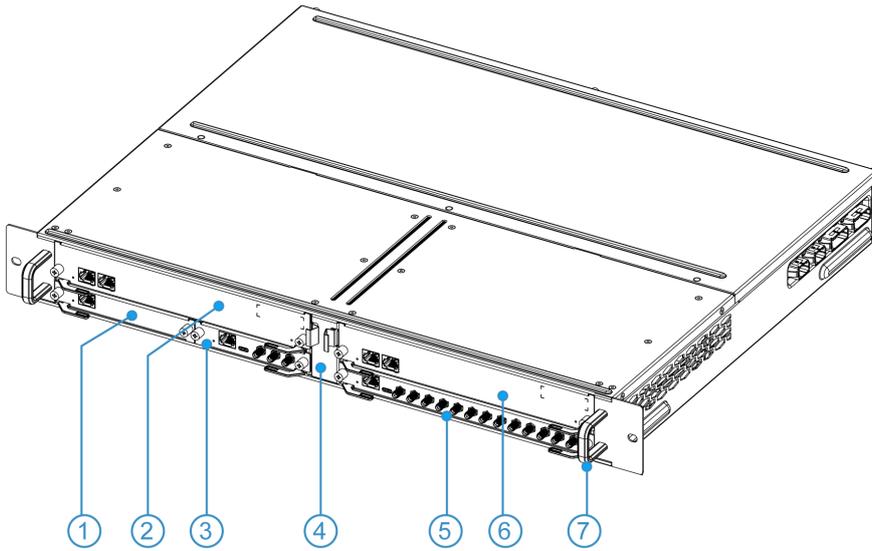
1. MCB	5. Charging Module
2. RCD	6. Matrix Module
3. Auxiliary Power Supply	7. AC Input Unit
4. Control Module	



NOTICE

Open the left door and remove the front cover plate to access the AC input unit.

3.1.2.1 Control Module

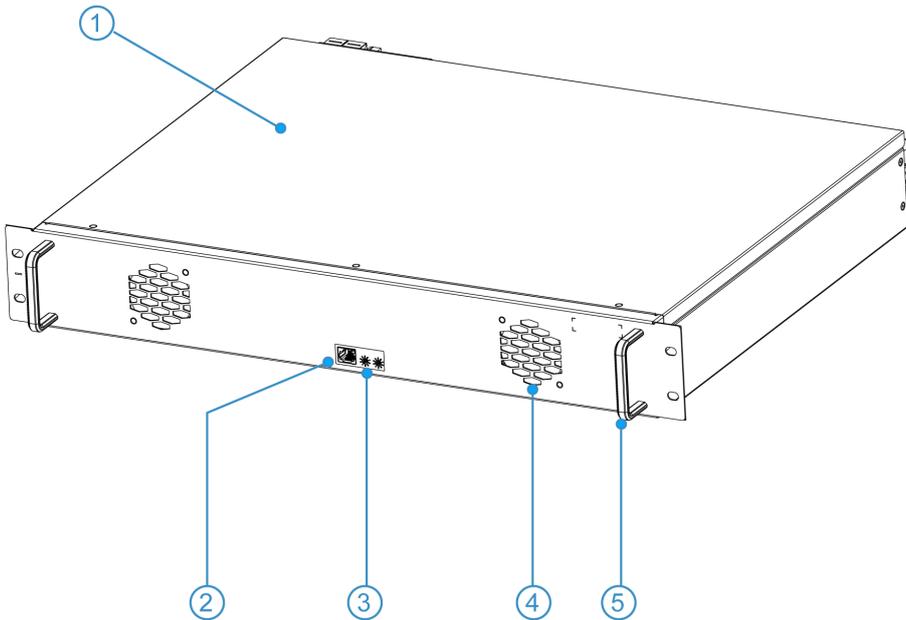


Dimensions (W x D x H):
 Approx. 570 x 457 x 70.6 mm
Weight: Approx. 12 kg

Figure 3-4 Control Module

1. ECU	5. RBU
2. CCU 2	6. CCU 1
3. TCU	7. Handle
4. Cooling Fan	

3.1.2.2 Matrix Module



Dimensions (W x D x H):
 Approx. 568 x 483 x 85 mm
Weight: Approx. 23 kg

Figure 3-5 Matrix Module

1. Cover	4. Cooling Fan
2. Debugging Port	5. Handle
3. DIP Switch	

3.1.2.3 AC Input Unit (Inside)

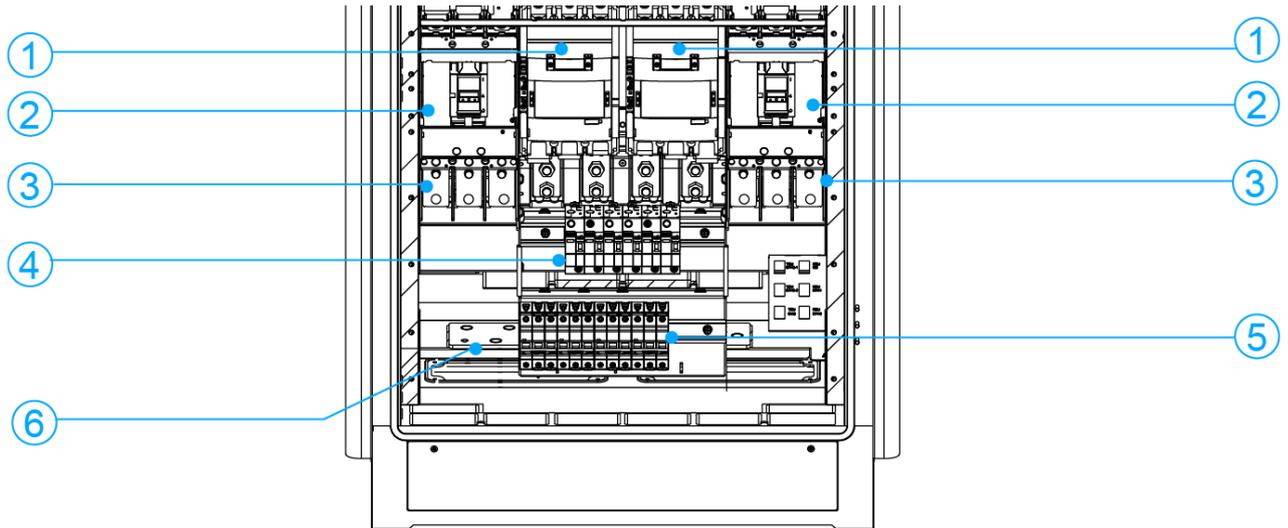


Figure 3-6 AC Input Unit (Inside)

1. KM	4. SPD
2. MCCB	5. MCB
3. AC Input Connector	6. PE Bus Bar



NOTICE

Open the left door and remove the front cover plate to access the AC input unit.

3.2 Dispenser Overview

3.2.1 Dispenser Overview (Outside)

3.2.1.1 Liquid-cooled Dispenser (DT800)

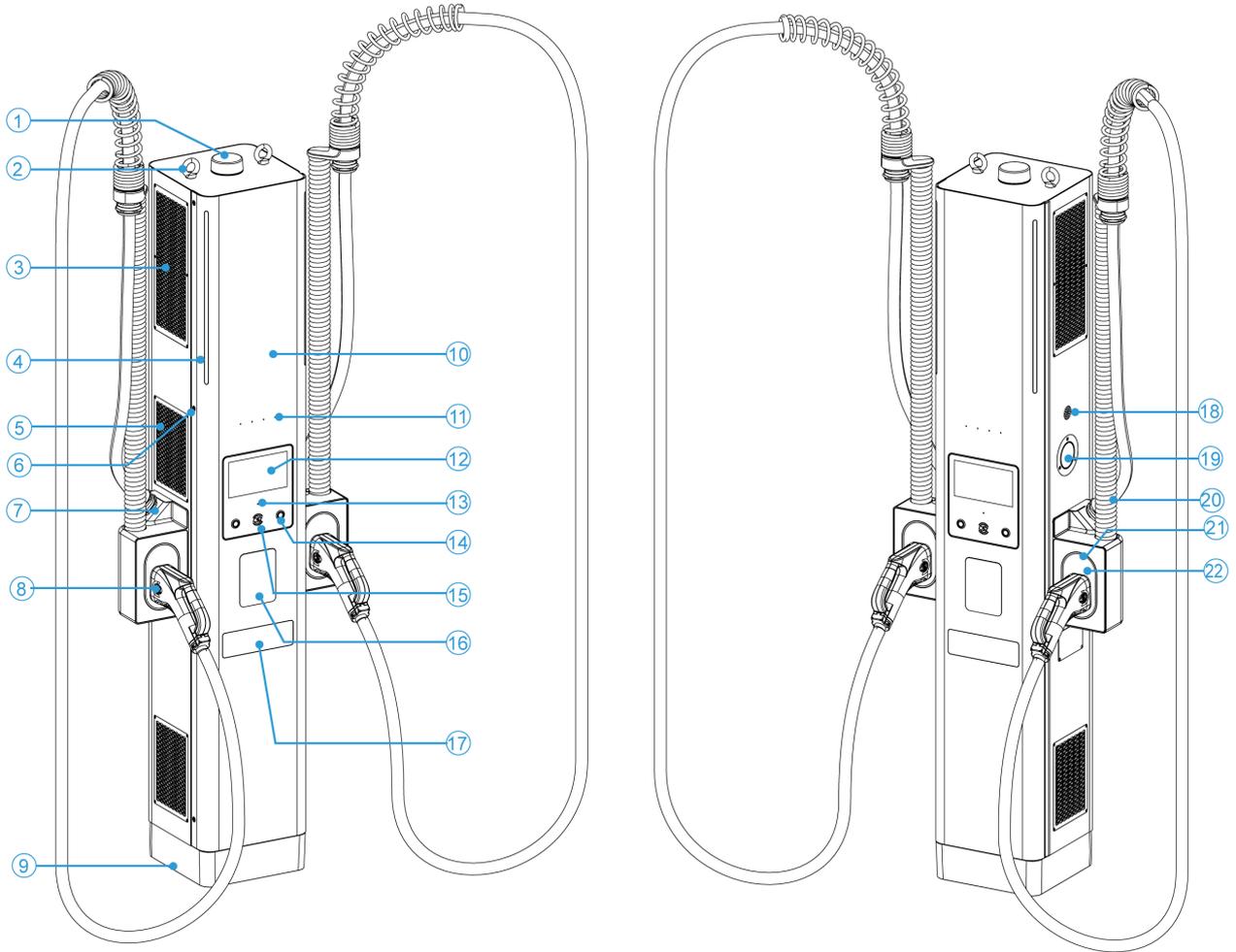


Figure 3-7 DT800 Overview (Dual Charging Handles) (Outside)

1. Antenna	12. Touchscreen
2. Eye Bolt	13. Ambient Light Sensor
3. Vent of Liquid Cooling System	14. Operation Button
4. Charging Status Indicator (Refer to Table 3-3)	15. RFID Reader
5. Vent of Electrical Unit	16. POS Device (Optional)
6. Door Fastening Screw	17. Window of Energy Meter
7. Waterproof Cable Fixing Connector	18. Loudspeaker
8. Charging Handle	19. Emergency Stop Button
9. Base	20. CMS
10. Front Door	21. Socket Indicator (Refer to Table 3-3)
11. Microphone	22. Socket

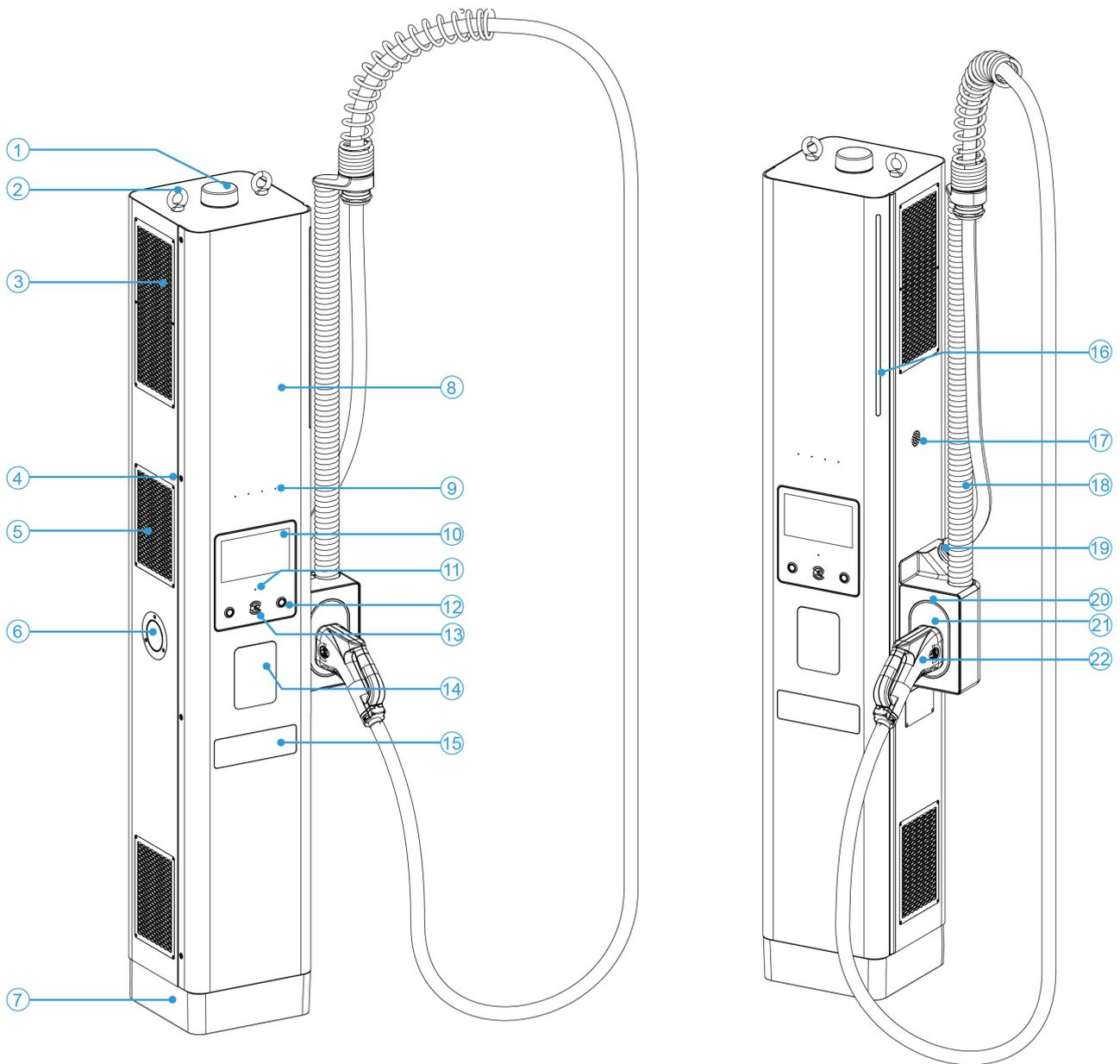


Figure 3-8 DT800 Overview (Single Charging Handle) (Outside)

1. Antenna	12. Operation Button
2. Eye Bolt	13. RFID Reader
3. Vent of Liquid Cooling System	14. POS Device (Optional)
4. Door Fastening Screw	15. External Meter Display
5. Vent of Electrical Unit	16. Charging Status Indicator (Refer to Table 3-3)
6. Emergency Stop Button	17. Loudspeaker
7. Base	18. CMS
8. Front Door	19. Waterproof Cable Fixing Connector
9. Microphone	20. Socket
10. Touchscreen	21. Socket Indicator (Refer to Table 3-3)
11. Ambient Light Sensor	22. Charging Handle

3.2.1.2 Air-cooled Dispenser (DT500)

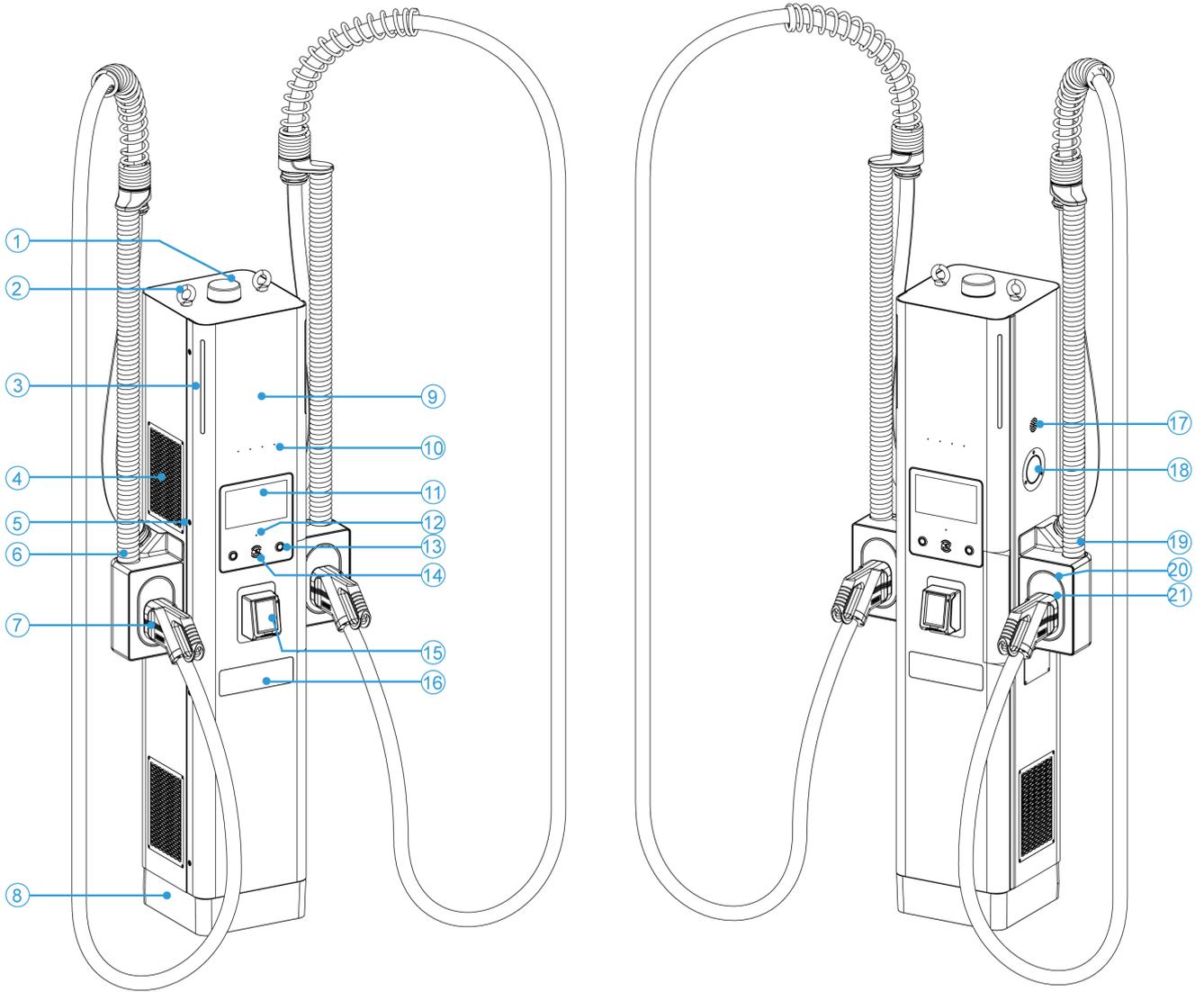


Figure 3-9 DT500 Overview (Dual Charging Handles) (Outside)

1. Antenna	12. Ambient Light Sensor
2. Eye Bolt	13. Operation Button
3. Charging Status Indicator (Refer to Table 3-3)	14. RFID Reader
4. Vent of Air-cooled System	15. POS Device (Optional)
5. Door Fastening Screw	16. External Meter Display
6. Waterproof Cable Fixing Connector	17. Loudspeaker
7. Charging Handle	18. Emergency Stop Button
8. Base	19. CMS
9. Front Door	20. Socket Indicator (Refer to Table 3-3)
10. Microphone	21. Socket
11. Touchscreen	

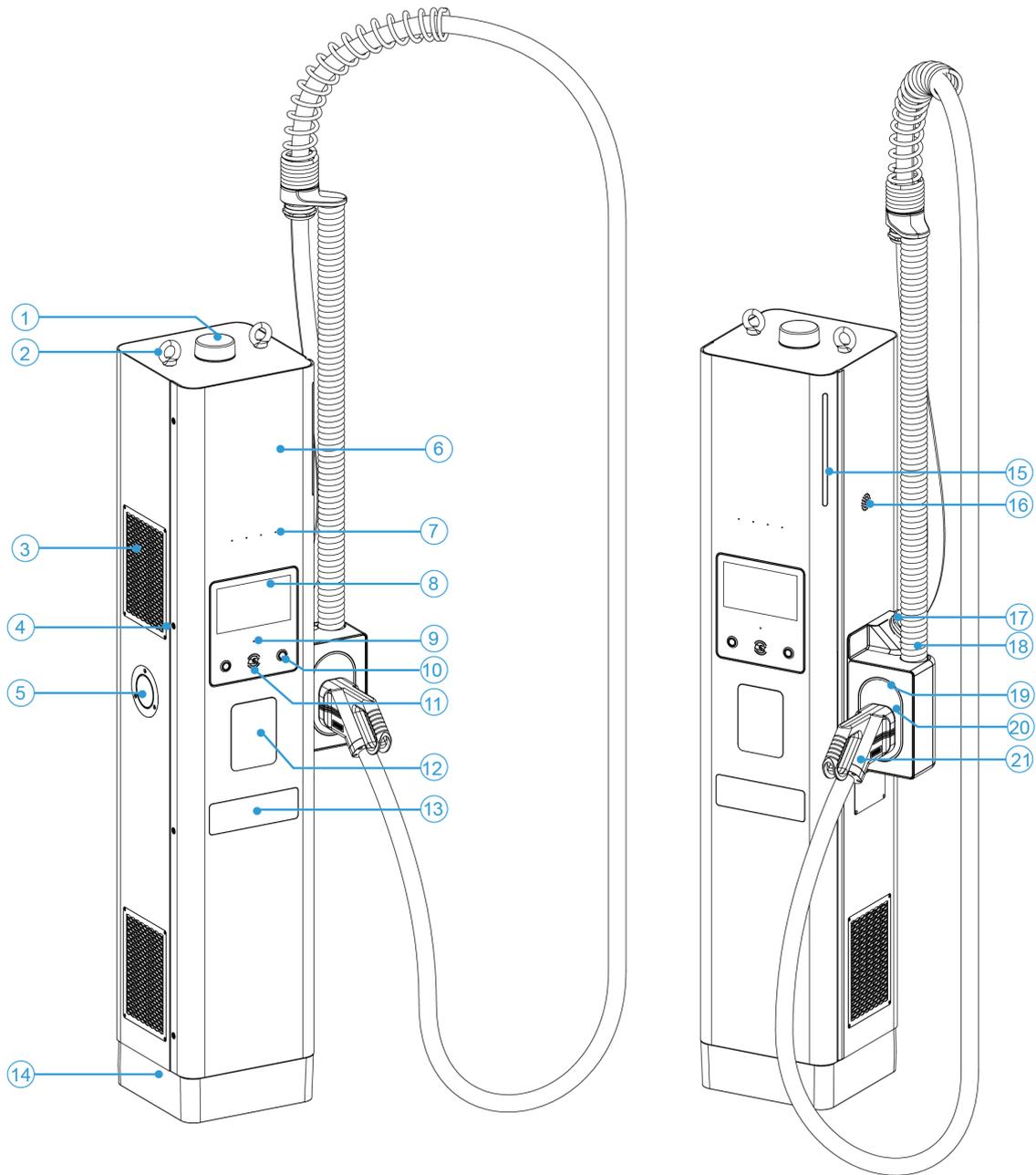


Figure 3-10 DT500 Overview (Single Charging Handle) (Outside)

1. Antenna	12. POS Device (Optional)
2. Eye Bolt	13. Window of Energy Meter
3. Vent of Air-cooled System	14. Base
4. Door Fastening Screw	15. Charging Status Indicator (Refer to Table 3-3)
5. Emergency Stop Button	16. Loudspeaker
6. Front Door	17. Waterproof Cable Fixing Connector
7. Microphone	18. CMS
8. Touchscreen	19. Socket Indicator (Refer to Table 3-3)
9. Ambient Light Sensor	20. Socket
10. Operation Button	21. Charging Handle
11. RFID Reader	

3.2.2 Dispenser Overview (Inside)

3.2.2.1 Liquid-cooled Dispenser (DT800)

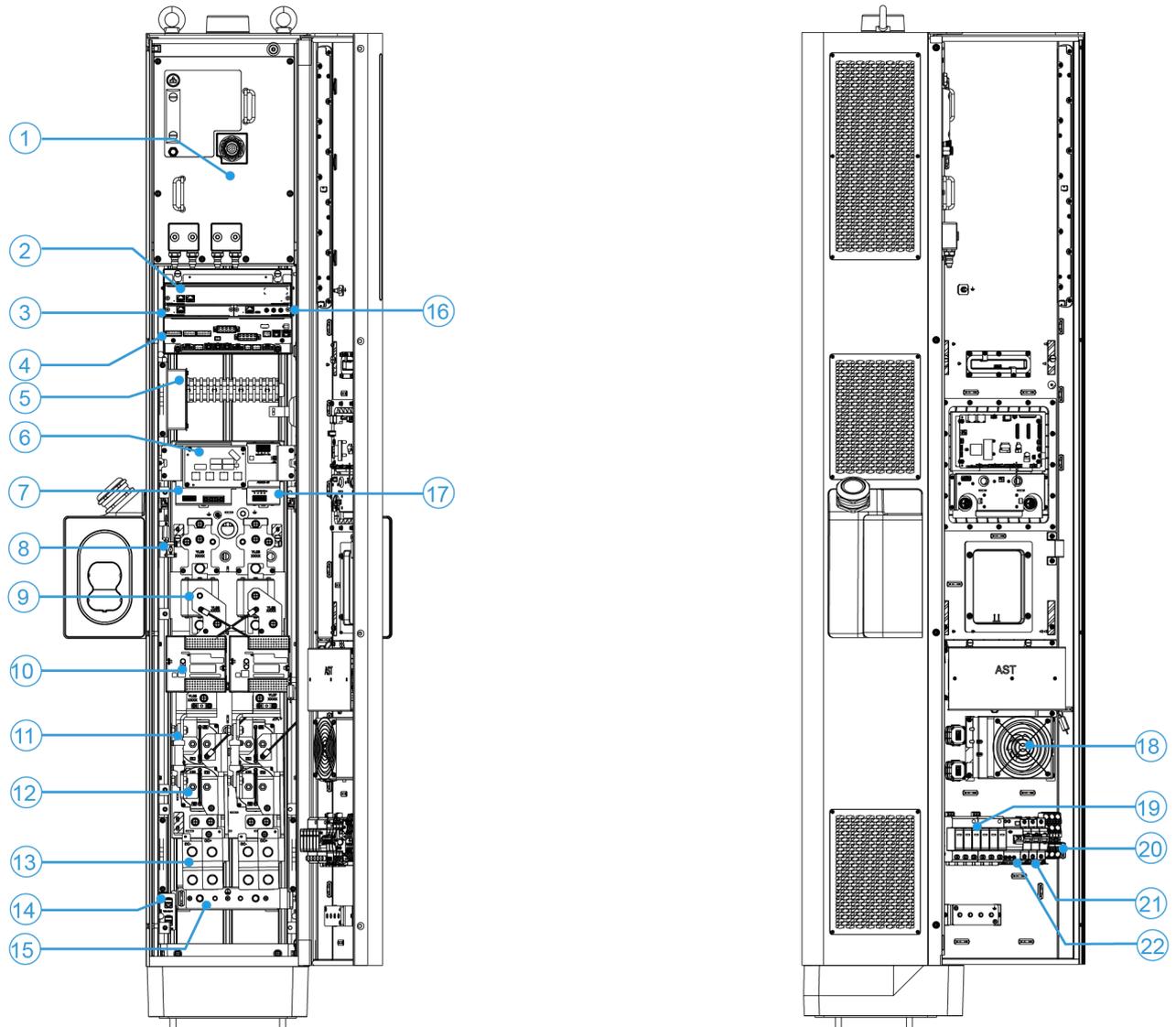


Figure 3-11 DT800 Overview (Dual Charging Handles, Inside - Front Door Open)

1. Liquid-cooled System	12. Contactor
2. CCU	13. DC Input Terminal
3. ECU	14. Ethernet Port
4. Control Backplane	15. PE Bus Bar
5. Cooling Fan	16. TCU
6. AC SPD	17. Auxiliary Power Supply (480 W)
7. Auxiliary Power Supply (960 W)	18. Internal Turbulence Fan
8. Door Limit Switch	19. DC Surge Protective Device
9. Fuse	20. AC Auxiliary Input Terminal
10. Meter	21. MCB
11. Shunt	22. RCD

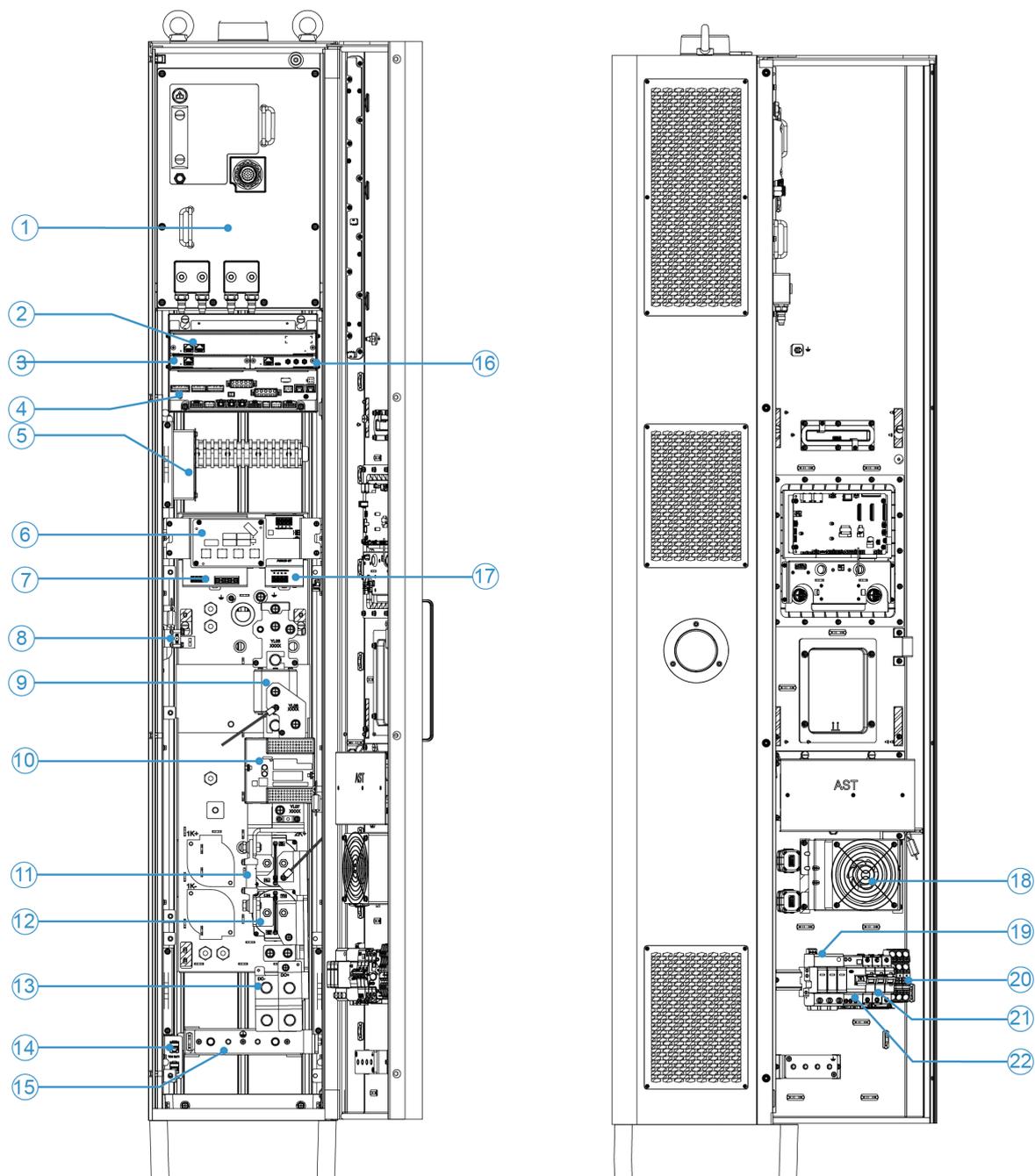


Figure 3-12 DT800 Overview (Single Charging Handle, Inside - Front Door Open)

1. Liquid-cooled System	12. Contactor
2. CCU	13. DC Input Terminal
3. ECU	14. Ethernet Port
4. Control Backplane	15. PE Bus Bar
5. Cooling Fan	16. TCU
6. AC SPD	17. Auxiliary Power Supply (480 W)
7. Auxiliary Power Supply (960 W)	18. Internal Turbulence Fan
8. Door Limit Switch	19. DC Surge Protective Device
9. Fuse	20. AC Auxiliary Input Terminal
10. Meter	21. MCB
11. Shunt	22. RCD

3.2.2.2 Air-cooled Dispenser (DT500)

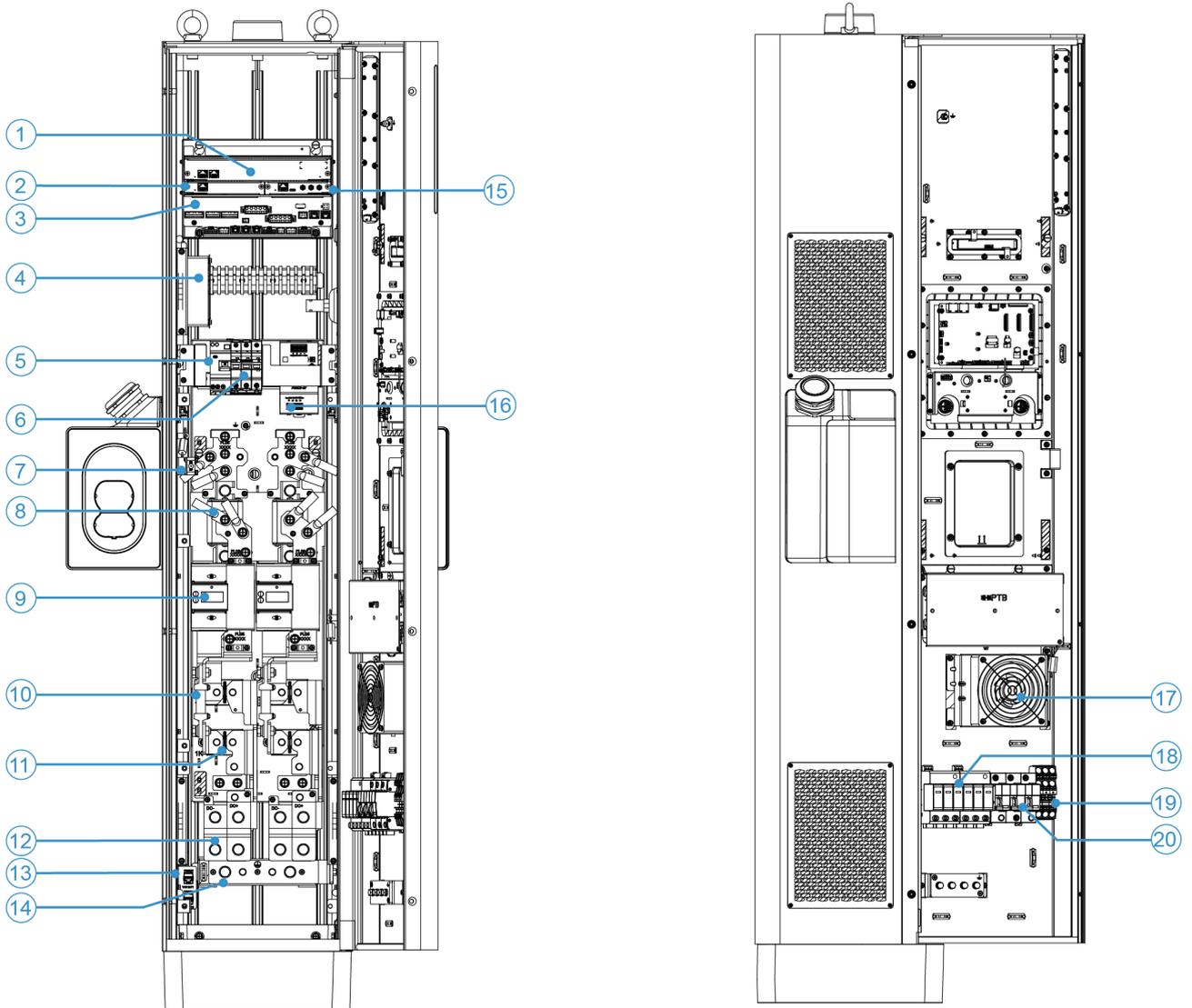


Figure 3-13 DT500 Overview (Dual Charging Handles, Inside - Front Door Open)

1. CCU	11. Contactor
2. ECU	12. DC Input Terminal
3. Control Backplane	13. Ethernet Port
4. Cooling Fan	14. PE Bus Bar
5. RCD	15. TCU
6. MCB	16. Auxiliary Power Supply (480 W)
7. Door Limit Switch	17. Internal Turbulence Fan
8. Fuse	18. DC SPD
9. Meter	19. AC Auxiliary Input Terminal
10. Shunt	20. AC SPD

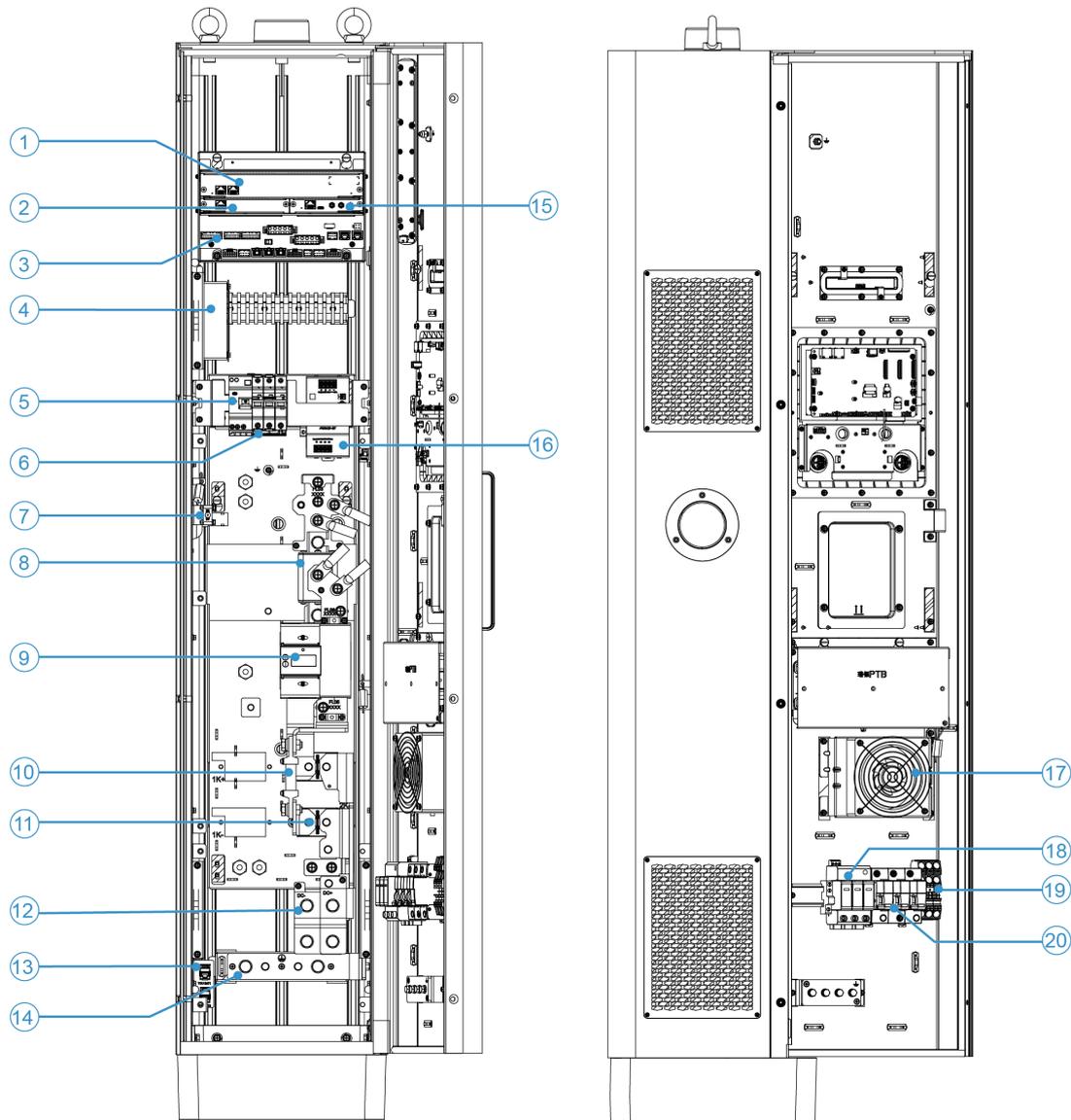


Figure 3-14 DT500 Overview (Single Charging Handle, Inside - Front Door Open)

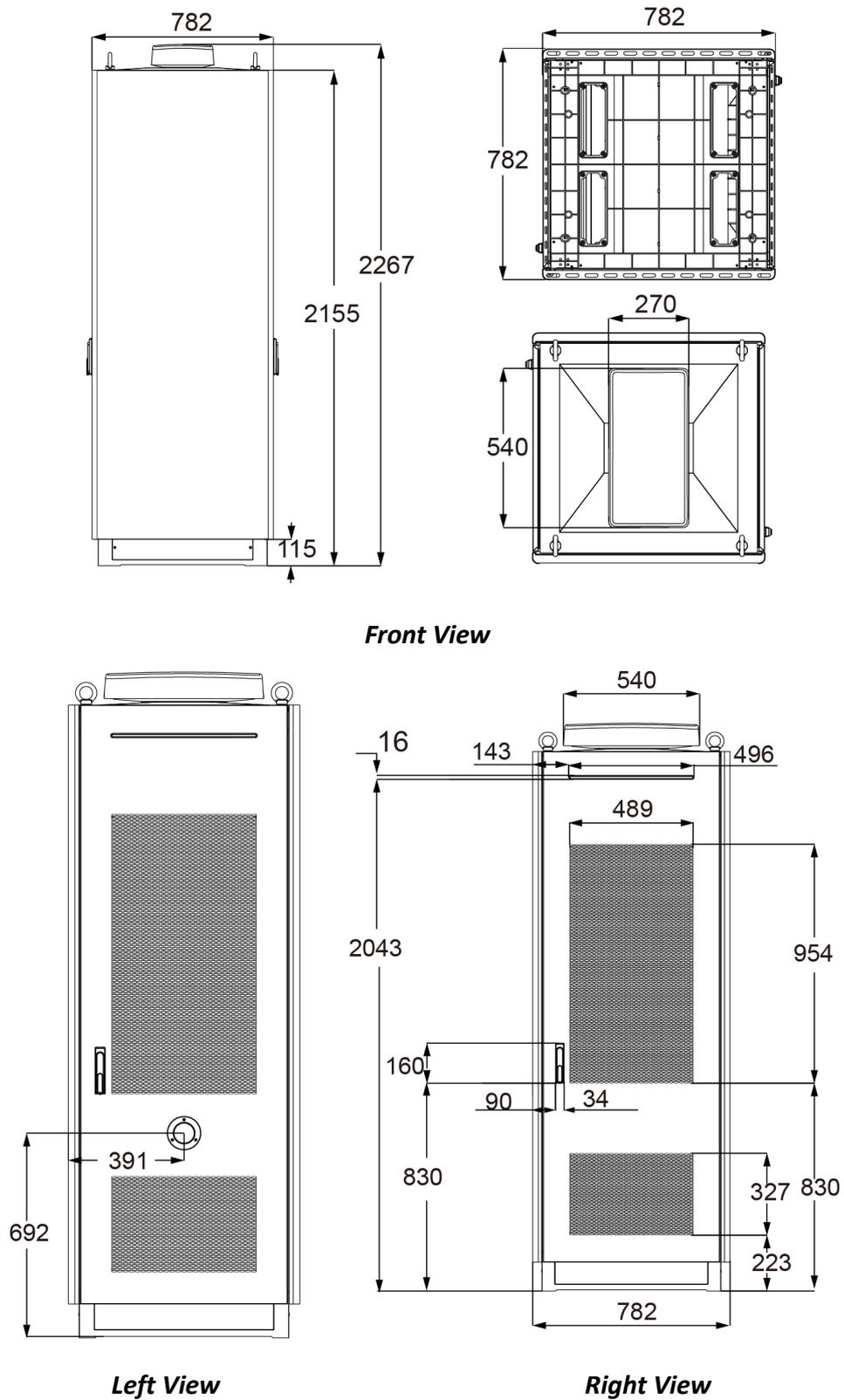
1. CCU	11. Contactor
2. ECU	12. DC Input Terminal
3. Control Backplane	13. Ethernet Port
4. Cooling Fan	14. PE Bus Bar
5. RCD	15. TCU
6. MCB	16. Auxiliary Power Supply (480 W)
7. Door Limit Switch	17. Internal Turbulence Fan
8. Fuse	18. DC SPD
9. Meter	19. AC Auxiliary Input Terminal
10. Shunt	20. AC SPD

Table 3-3 Charging Status Indicator Description

Color			Description
Power Cabinet	Dispenser		
	Top Indicator	Socket Indicator	
Solid Green	Solid Green	Solid Green	The charging handle is available.
Solid Green	Solid Blue	Solid Blue	An EV is connected to the charging station.
Solid Green	Solid Blue (lower) + Downward Flowing Blue (upper)	Breathing Blue	Charging status. For dispensers, the top indicator's lower section shows the charged portion, and the upper section indicates charging progress.
Solid Green	Solid Blue	Solid Blue	The charging handle is not unplugged from the EV after the EV is fully charged or stops charging.
N/A	Solid Cyan	Solid Cyan	The charging station is reserved.
Solid Yellow	Solid Yellow	Solid Yellow	The charging station is being upgraded.
Solid Red	Solid Red	Solid Red	An error occurs.

3.3 Product Dimensions

3.3.1 Power Cabinet Dimensions

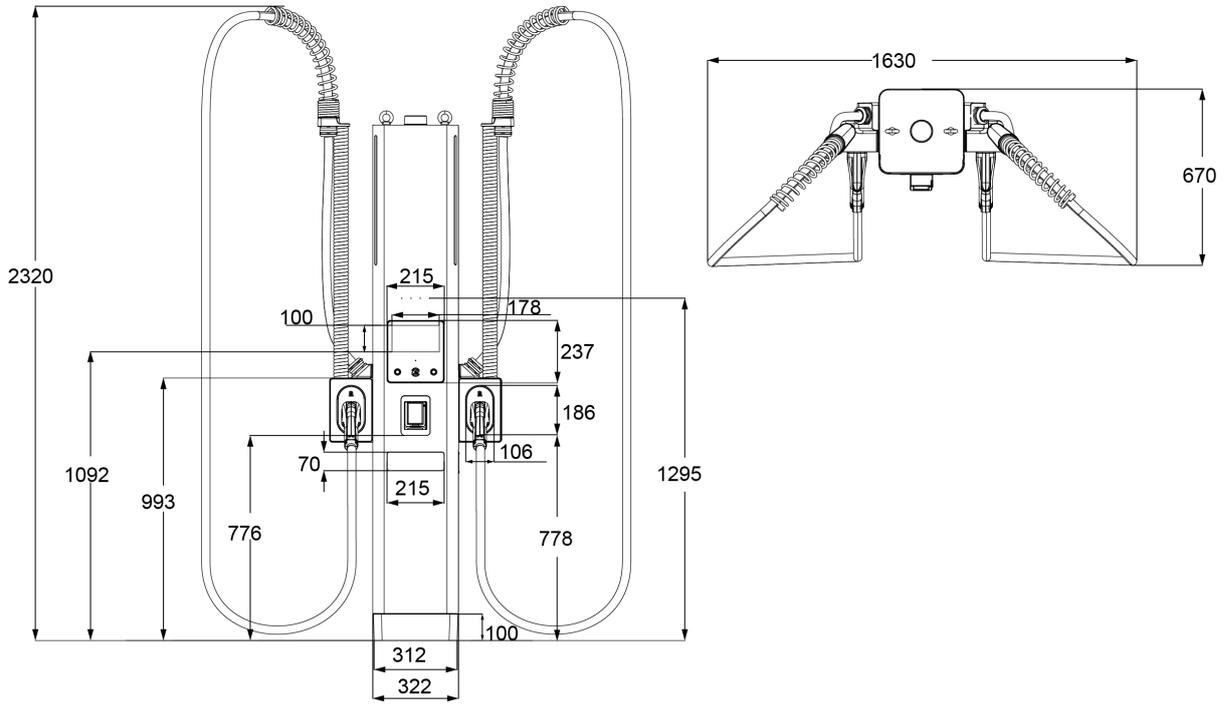


Unit: mm

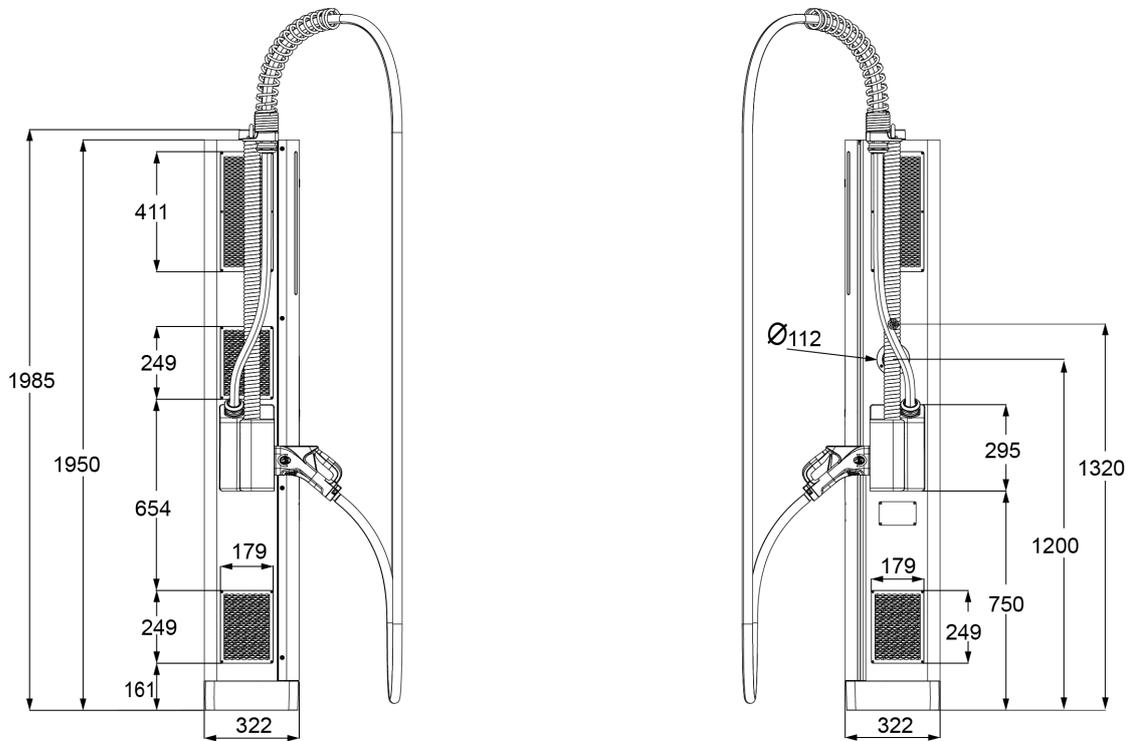
Figure 3-15 Power Cabinet Dimensions

3.3.2 Dispenser Dimensions

3.3.2.1 Liquid-cooled Dispenser (DT800)



Front View

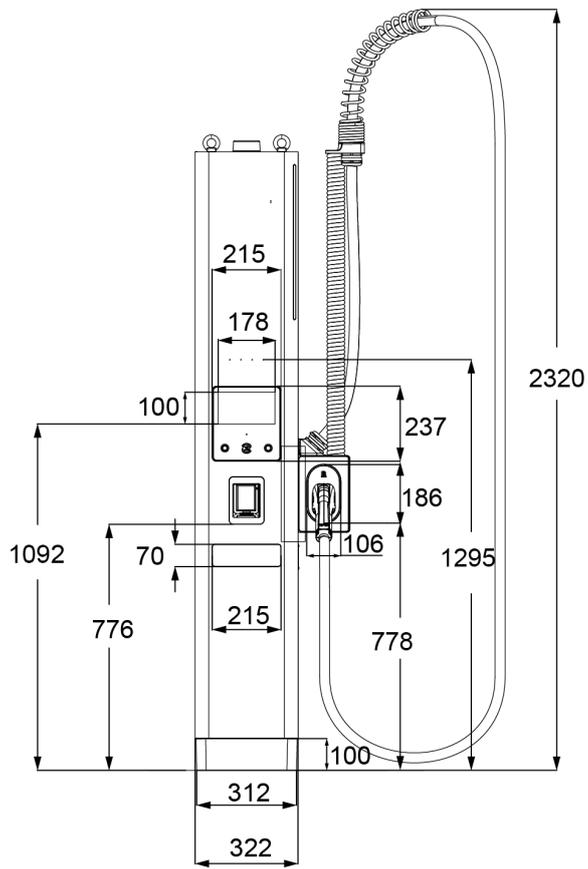


Left View

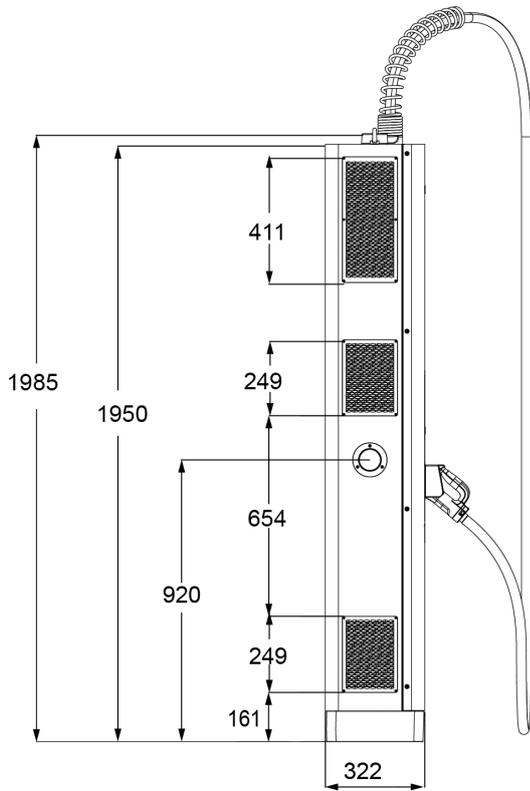
Right View

Unit: mm

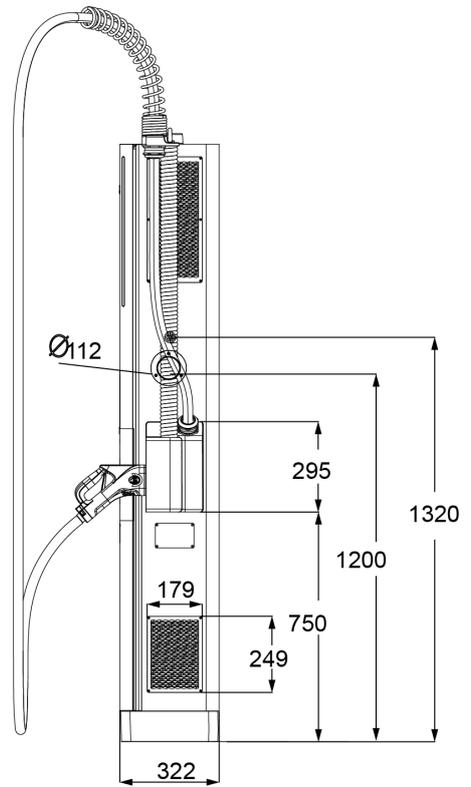
Figure 3-16 DT800 Dimensions (Dual Charging Handles)



Front View



Left View

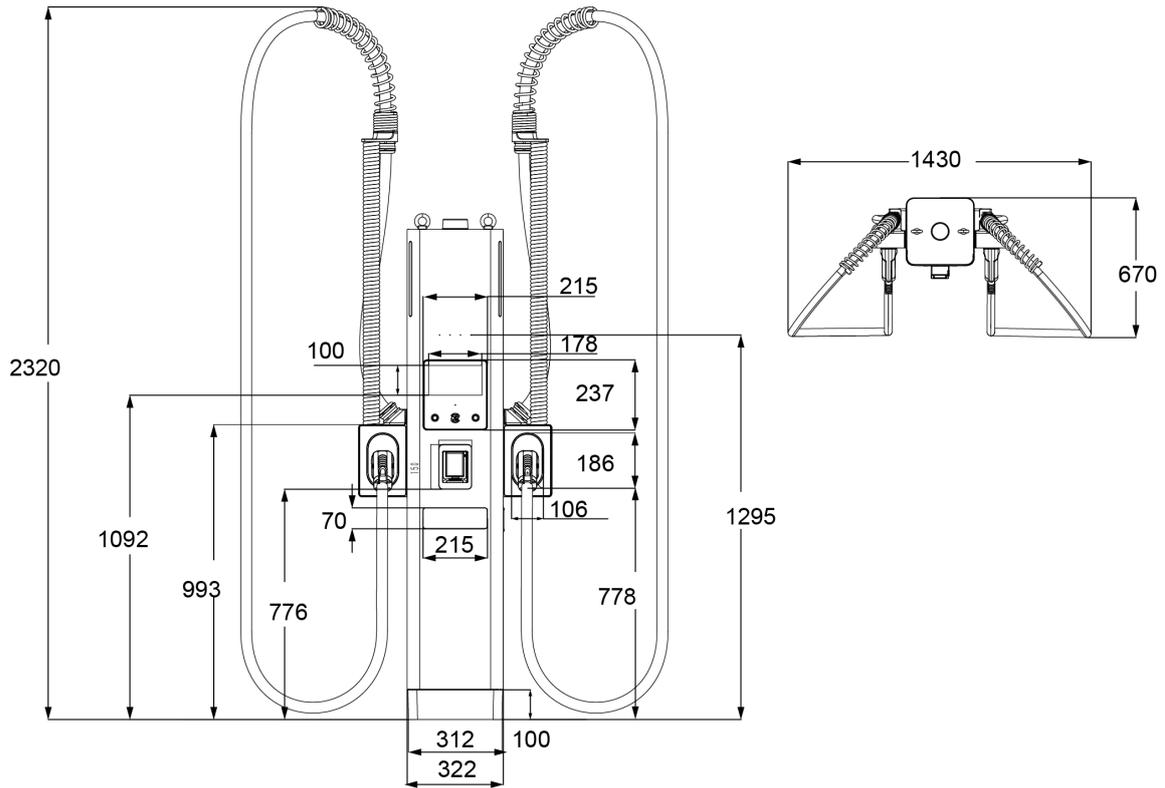


Right View

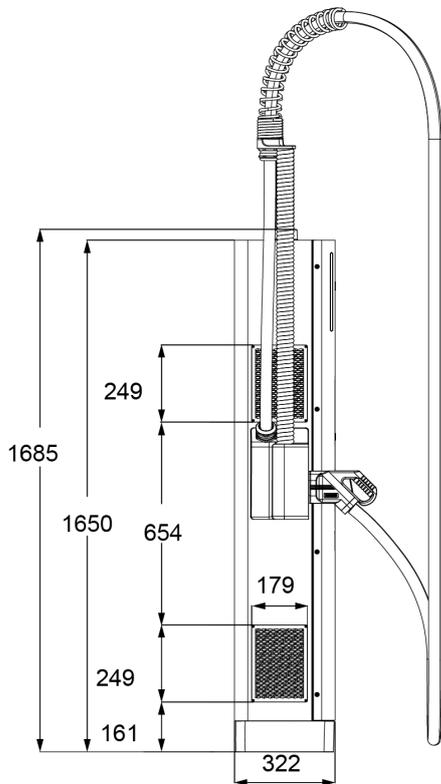
Unit: mm

Figure 3-17 DT800 Dimensions (Single Charging Handle)

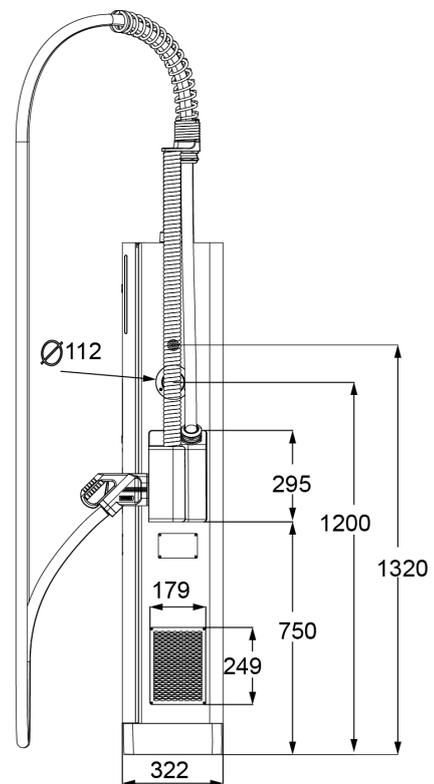
3.3.2.2 Air-cooled Dispenser (DT500)



Front View



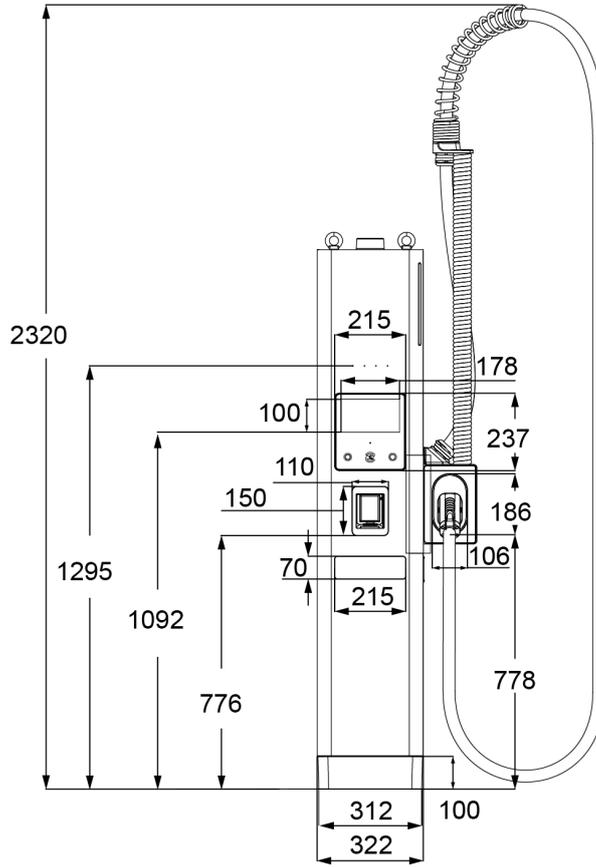
Left View



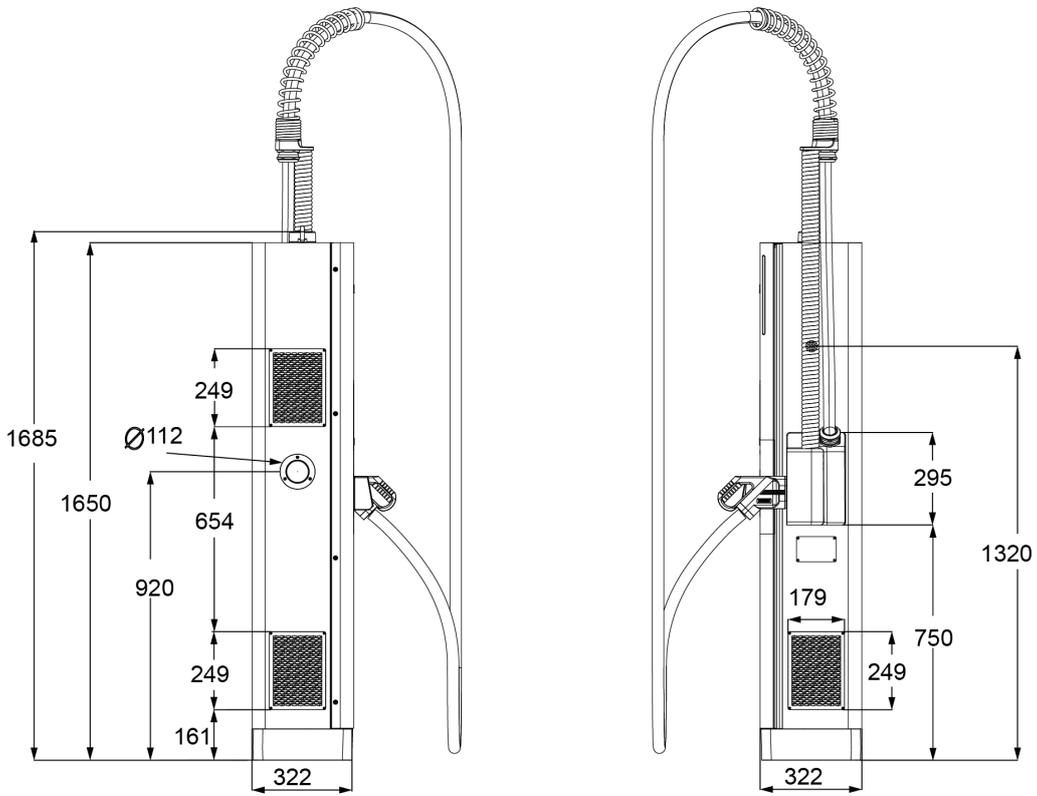
Right View

Unit: mm

Figure 3-18 DT500 Dimensions (Dual Charging Handles)



Front View



Left View

Right View

Unit: mm

Figure 3-19 DT500 Dimensions (Single Charging Handle)

3.4 Direction of Airflow

3.4.1 Direction of Airflow of the Power Cabinet

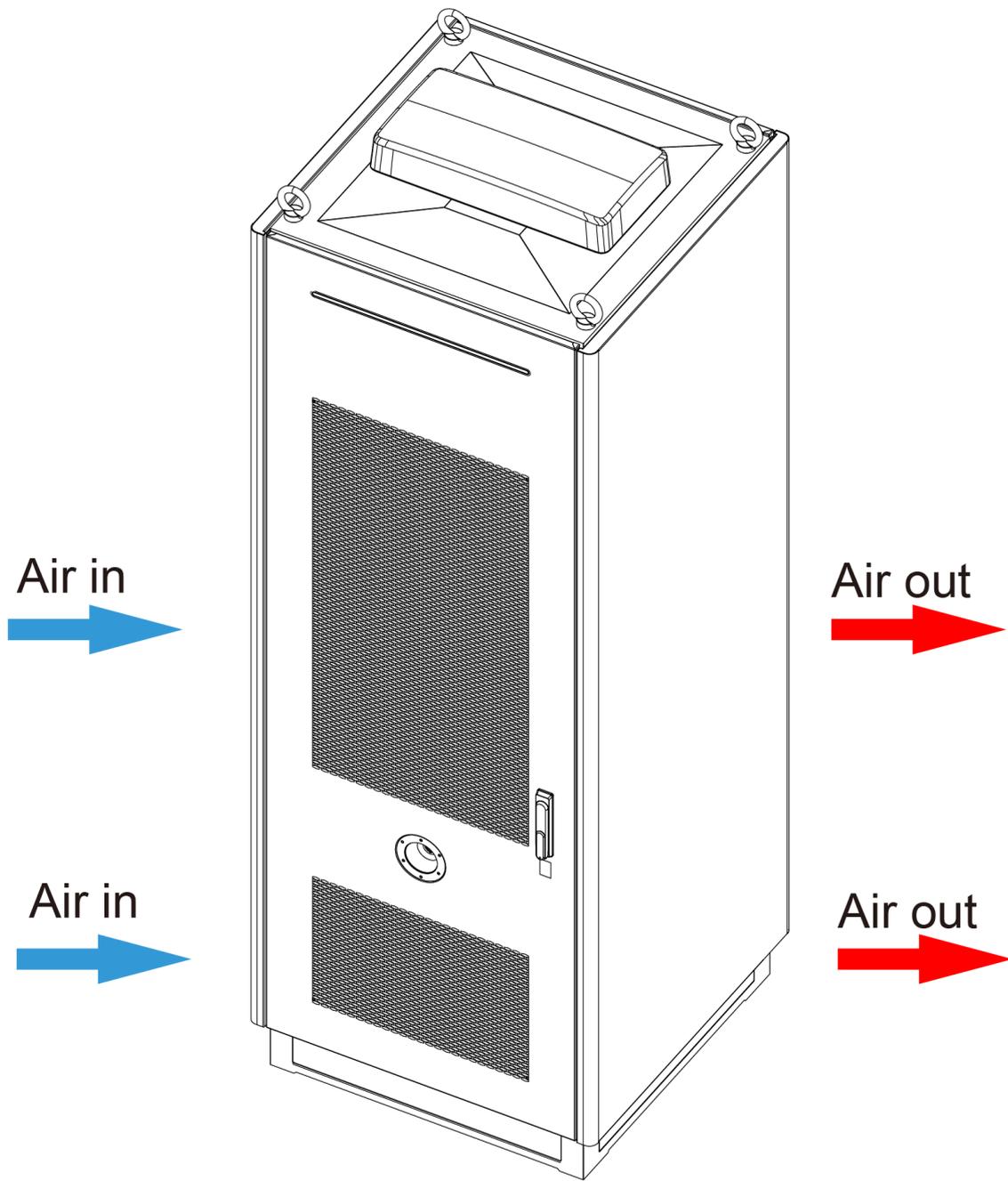


Figure 3-20 Direction of Airflow

3.4.2 Direction of Airflow of Dispensers

3.4.2.1 Liquid-cooled Dispenser (DT800)

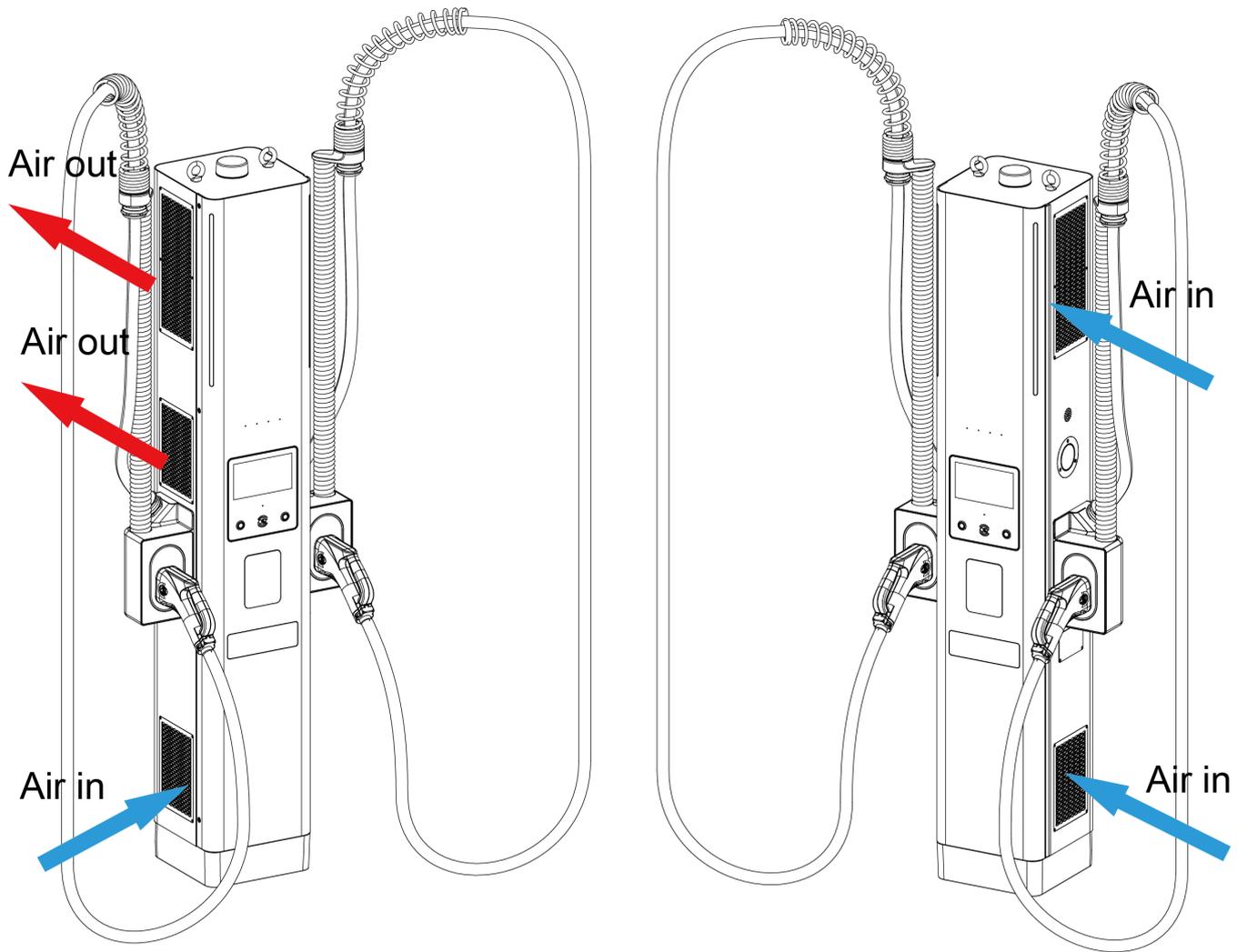


Figure 3-21 Direction of Airflow of DT800

3.4.2.2 Air-cooled Dispenser (DT500)

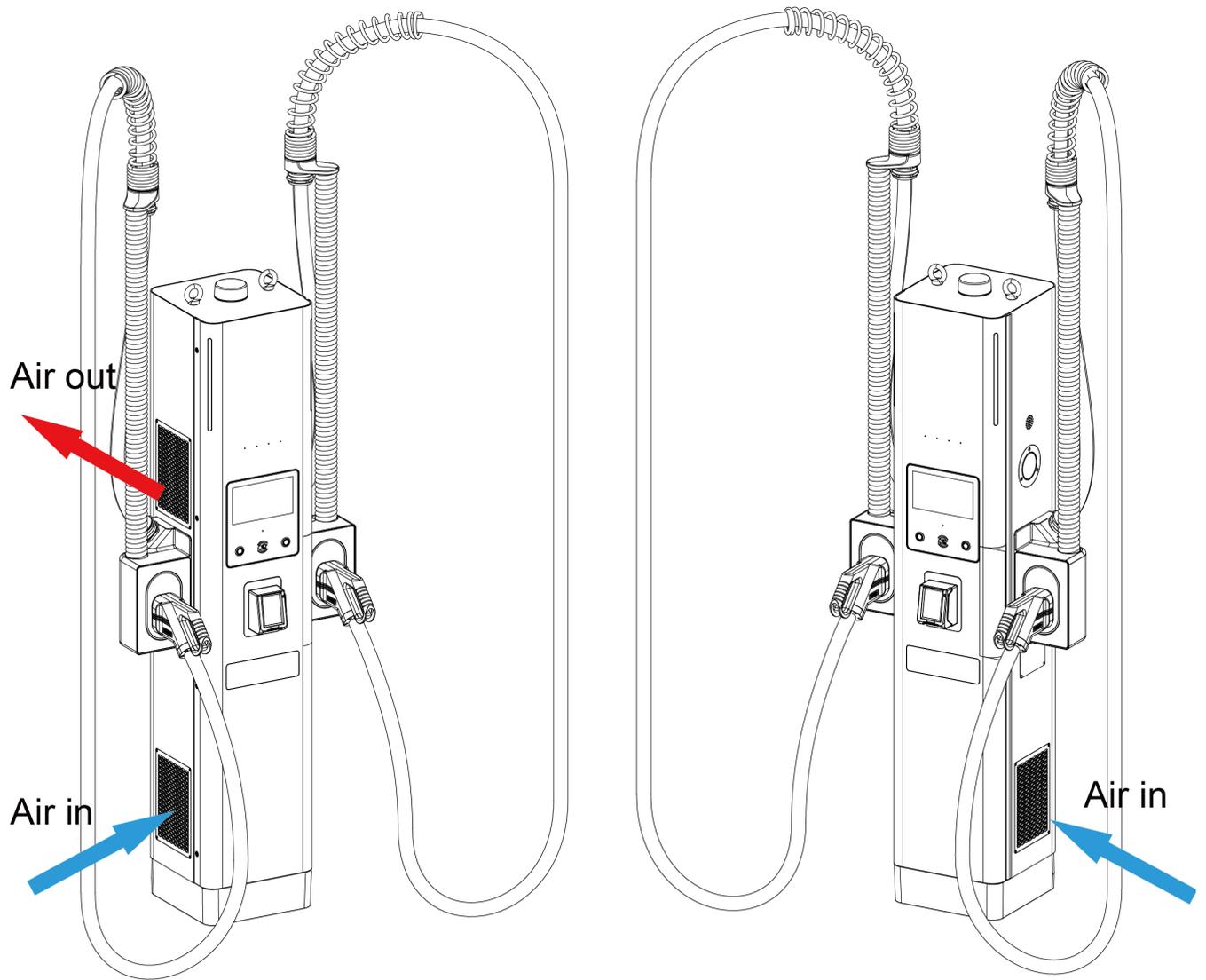


Figure 3-22 Direction of Airflow of DT500

3.5 Electrical Diagram

3.5.1 Electrical Diagram of the Power Cabinet

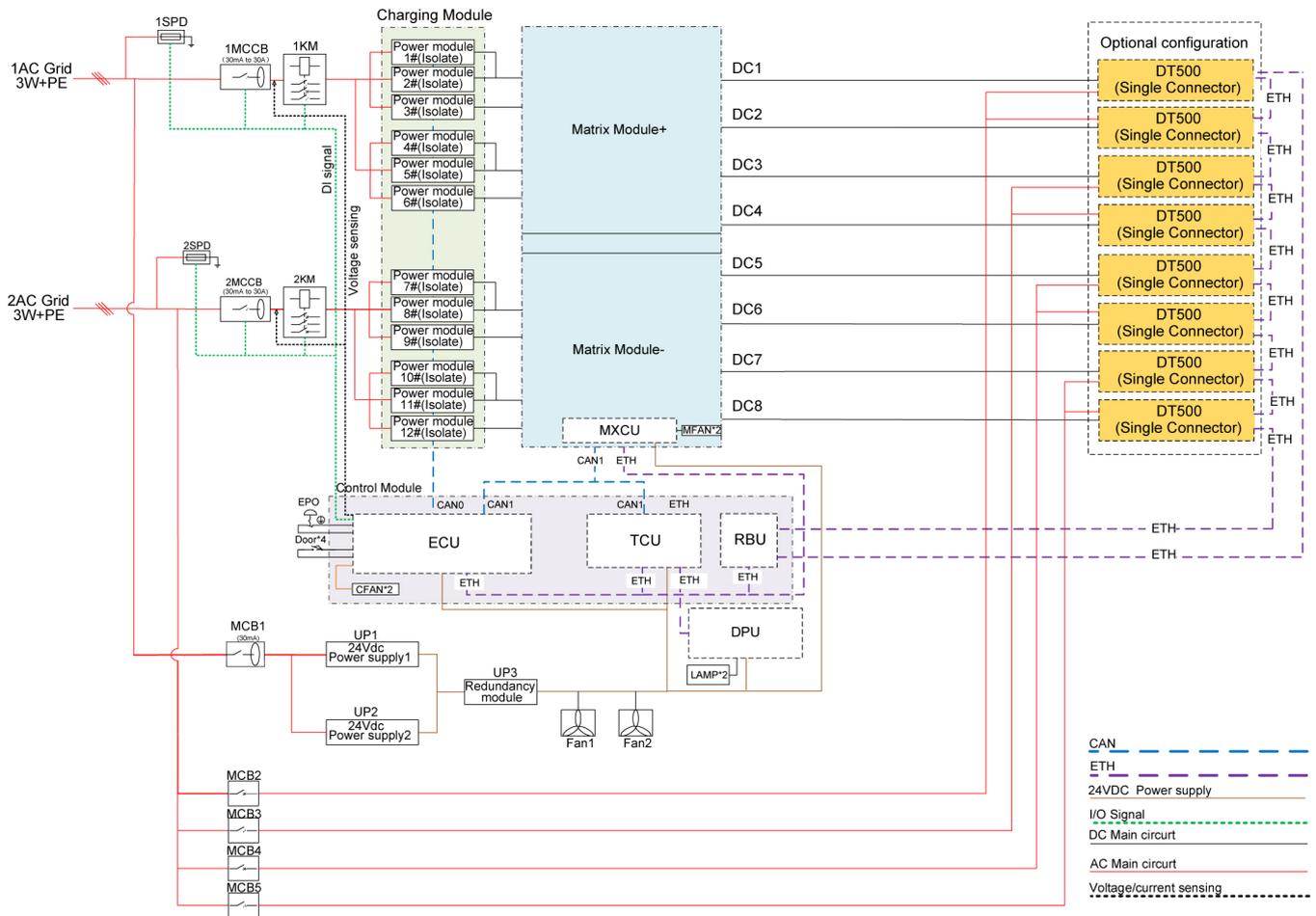


Figure 3-23 Recommended Electrical Diagram of DS480

3.5.2 Electrical Diagram of Dispensers

3.5.2.1 Liquid-cooled Dispenser (DT800)

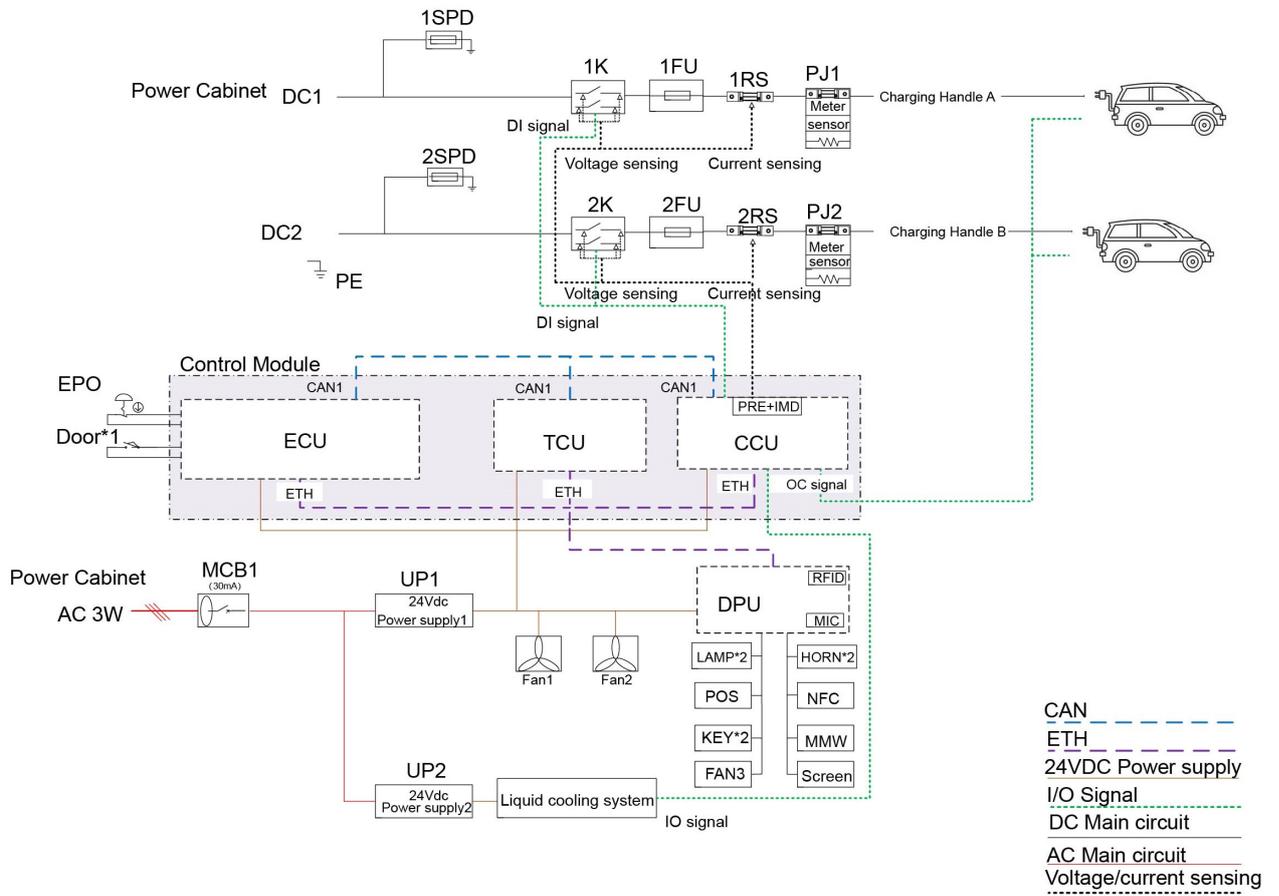


Figure 3-24 Electrical Diagram of DT800

3.5.2.2 Air-cooled Dispenser (DT500)

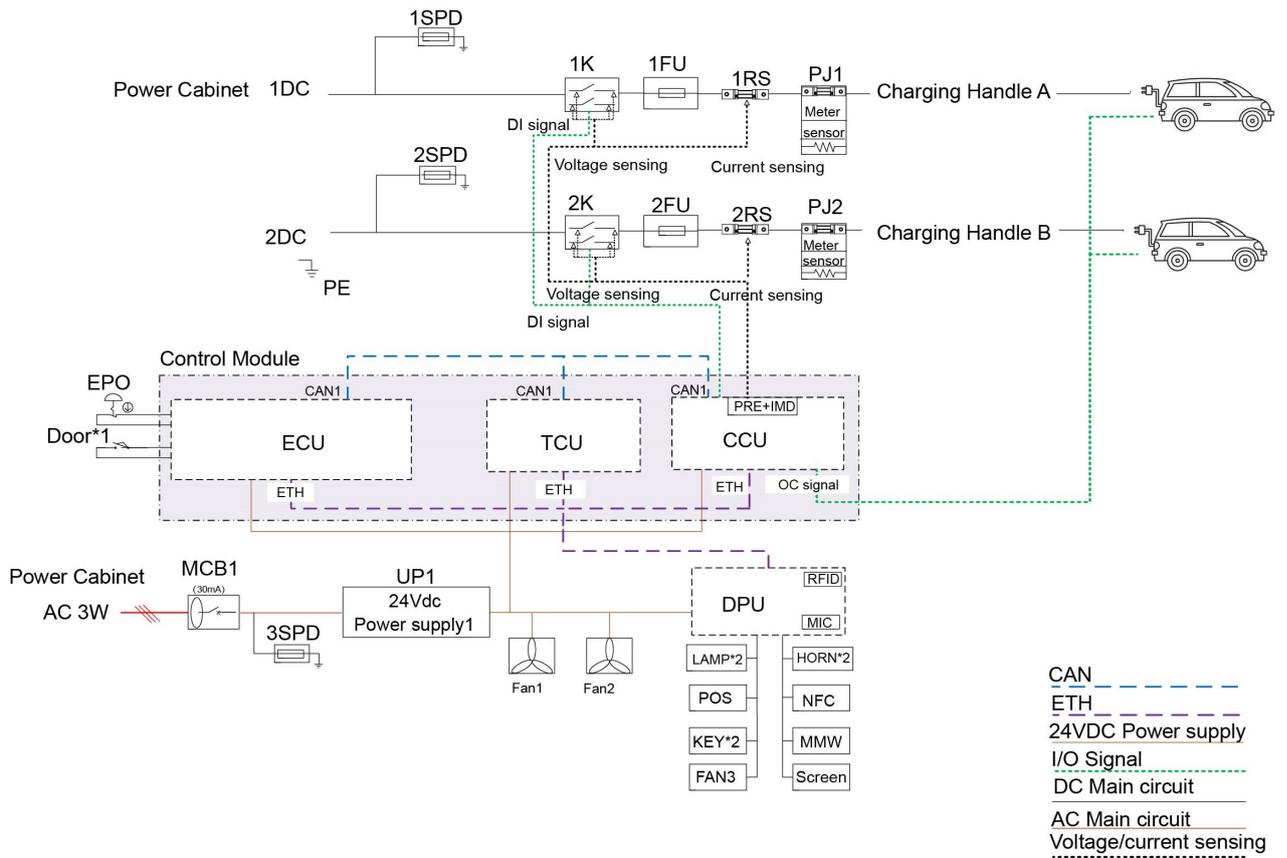


Figure 3-25 Electrical Diagram of DT500

3.6 Additional Options

3.6.1 RCD

Autel can deliver the power cabinet with the RCDs as shown below.

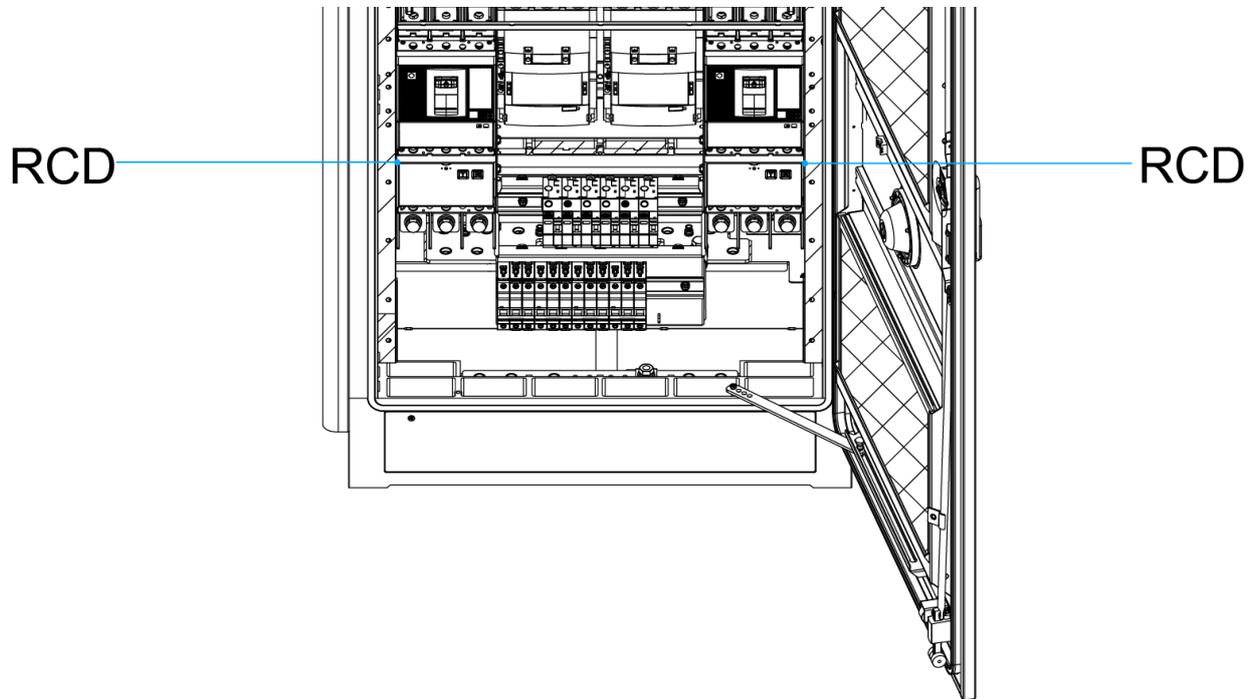


Figure 3-26 Position of the Additional RCDs in the Power Cabinet

3.6.2 POS

Autel can deliver the charging station with different payment terminals. The available options vary depending on the region of the installation. Consult Autel's customer service to obtain more information about the different payment options.

4. Preparation

4.1 Installation Site Design

An installation site design is prerequisite for determining conduit and wiring requirements from the panel to the proposed parking spaces, as well as for measuring cellular signal strength and identifying suitable locations for any necessary cellular signal booster equipment.



CAUTION

Always check local codes or consult an engineer to ensure the site is prepared in accordance with all applicable regulations. Local authorities might not permit a unit to operate if it is not installed to code.



DANGER

The EV charging equipment must be kept at a safe distance from any potential explosive environment.

General installation site design procedure:

1. Select a suitable site. Refer to [4.1.1 Location Requirements](#) and [4.1.2 Space Requirements](#).
2. Prepare the foundation for the cabinet and dispenser. Refer to [4.1.3 Preparing the Foundation](#).
3. Complete the electrical design. Prepare the cables, including the AC input cable, PE cable, Earth cable, and Ethernet cable (if no cellular network is available). Ensure that the cable slack is sufficient to guide the cables into the cabinet and the dispenser. Refer to [4.2 Electrical Design](#).

NOTICE



- Consider the bending space of the cables when installing the equipment near walls. The cables enter the cabinet from the bottom.
 - Ensure the maximum opening of the inlet of the power cabinet and dispenser can sufficiently fit all cables.
 - The length of the Ethernet cable should not exceed 100 meters.
 - The lightning protection design of the installation site must comply with local rules.
-

4.1.1 Location Requirements

- Ensure the equipment's installation location can sufficiently reach the parked EV with the chosen charging cable length.
- Take into account the limited reach of a wheelchair user.
- Determine appropriate ground anchoring locations where concrete exists or can be installed (no asphalt surfaces).
- If the equipment is to be installed indoor, contact Autel to verify the location and ensure the air flow is sufficient.
- Consider locations where it will be easy to add future stations.
- Determine optimum conduit layout to minimize linear conduit costs to multiple parking spaces. If possible, avoid or minimize trenching requirements.
- Evaluate existing electrical infrastructure to determine if the existing utility service and electrical panel capacity is sufficient. Identify costs for any necessary upgrades and/or a new dedicated electrical panel. A certified electrician or project engineer is highly recommended when it comes to evaluating available capacity and identifying required upgrades.
- If a dedicated EV electrical panel is required, choose a panel location in close proximity to the existing electrical supply.
- Measure cellular signal strength to ensure adequate cellular coverage at the installation site. Cellular repeaters may be required for underground or enclosed parking structures to ensure adequate signal strength.
- Avoid locations under trees where sap, pollen or leaves may fall on the charging station increasing the station's maintenance requirements.
- Perpendicular parking stalls are recommended to allow a vehicle to enter front-first or rear-first, accommodating the various charging port locations on different EV's.



NOTICE

While Autel tests the charging station with a majority of upcoming vehicles, we cannot guarantee the port locations of future vehicles and cannot warrant the configurations proposed will work for all vehicles.

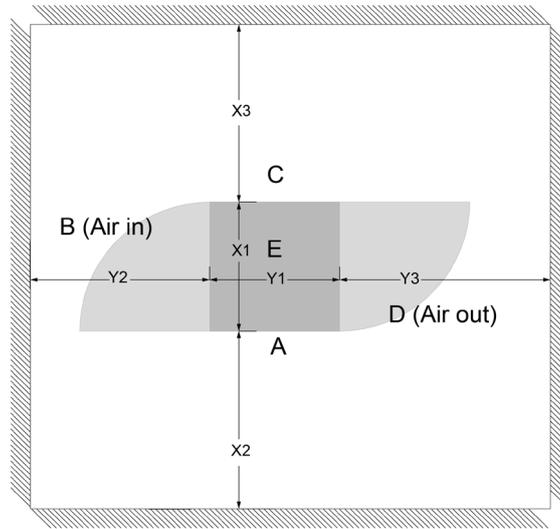
- Choose adjacent parking spaces in an area with adequate lighting.
- Consider how easily drivers can find the stations they need to access.
- Check local requirements for accessibility and pathway width, sometimes called “path of travel”, to ensure station placement does not restrict sidewalk use.
- Pull-through parking (gas station model) is not recommended.

4.1.2 Space Requirements

The equipment requires the installation space as described below to ensure the normal operation and airflow around the equipment.

4.1.2.1 Power Cabinet

The space requirements are as below:



Unit: mm

Figure 4-1 Space Requirements for DS480

- A. Front side of the charging station
- B. Left side of the charging station (Air in)
- C. Rear side of the charging station
- D. Right side of the charging station (Air out)
- E. Cabinet

Table 4-1 Space Specifications (1)

Parameter	Specification
X1	782 mm
X2	500 mm
X3	500 mm
Y1	782 mm
Y2	≥ 2000 mm (recommended)
Y3	≥ 2000 mm (recommended)

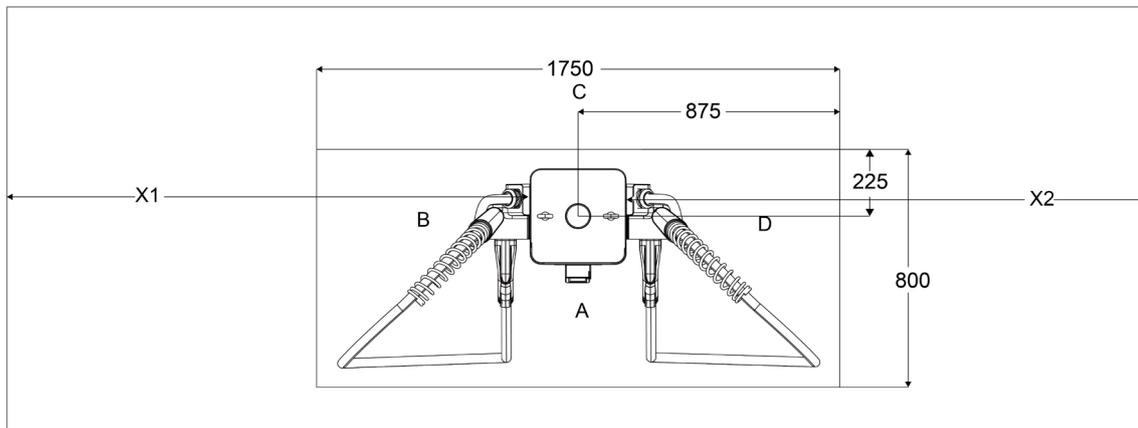


NOTICE

Ensure good ventilation around the product. The air inlet must be positioned away from any high-temperature airflow discharged by nearby heat sources.

4.1.2.2 Dispenser

- Dispenser with dual charging handles



Unit: mm

Front

Figure 4-2 Space Requirements for Dispenser with Dual Charging Handles

- A. Front side of the dispenser
- B. Left side of the dispenser
- C. Rear side of the dispenser
- D. Right side of the dispenser

Table 4-2 Space Requirements (2)

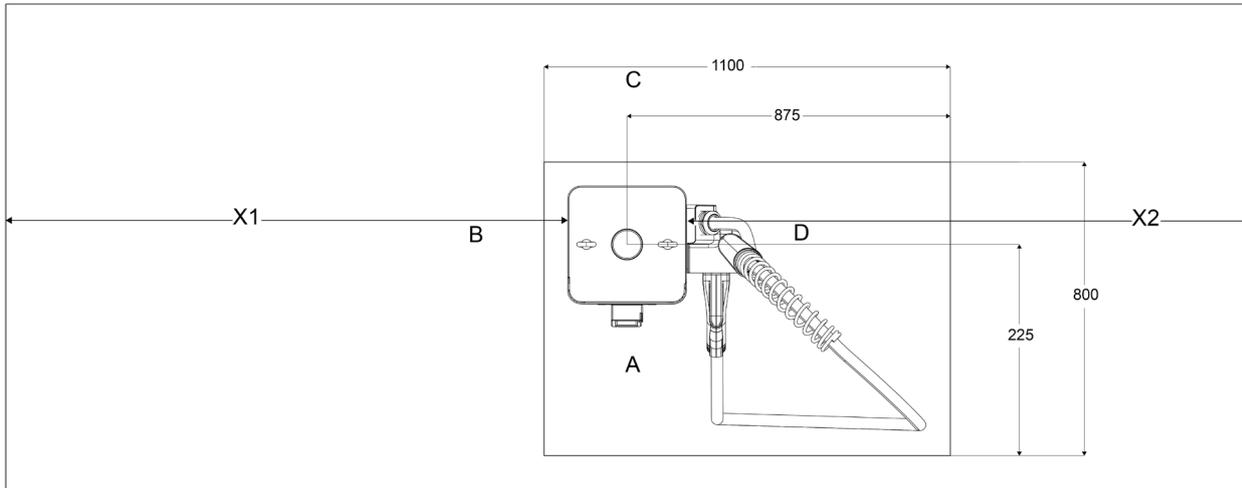
Parameter	Specification
X1	≥ 2000 mm (recommended)
X2	≥ 2000 mm (recommended)

NOTICE



- Refer to the direction of airflow of DT800 and DT500 in [3.4.2 Direction of Airflow of Dispensers](#) for the air inlet and outlet of the dispensers.
- Ensure good ventilation around the dispensers. Keep high-temperature airflow discharged from heat sources away from the air inlet.

- Dispenser with single charging handle



Unit: mm

Figure 4-3 Space Requirements for Dispenser with Single Charging Handle

- A. Front side of the dispenser
- B. Left side of the dispenser
- C. Rear side of the dispenser
- D. Right side of the dispenser

Table 4-3 Space Requirements (3)

Parameter	Specification
X1	≥ 2000 mm (recommended)
X2	≥ 2000 mm (recommended)

NOTICE

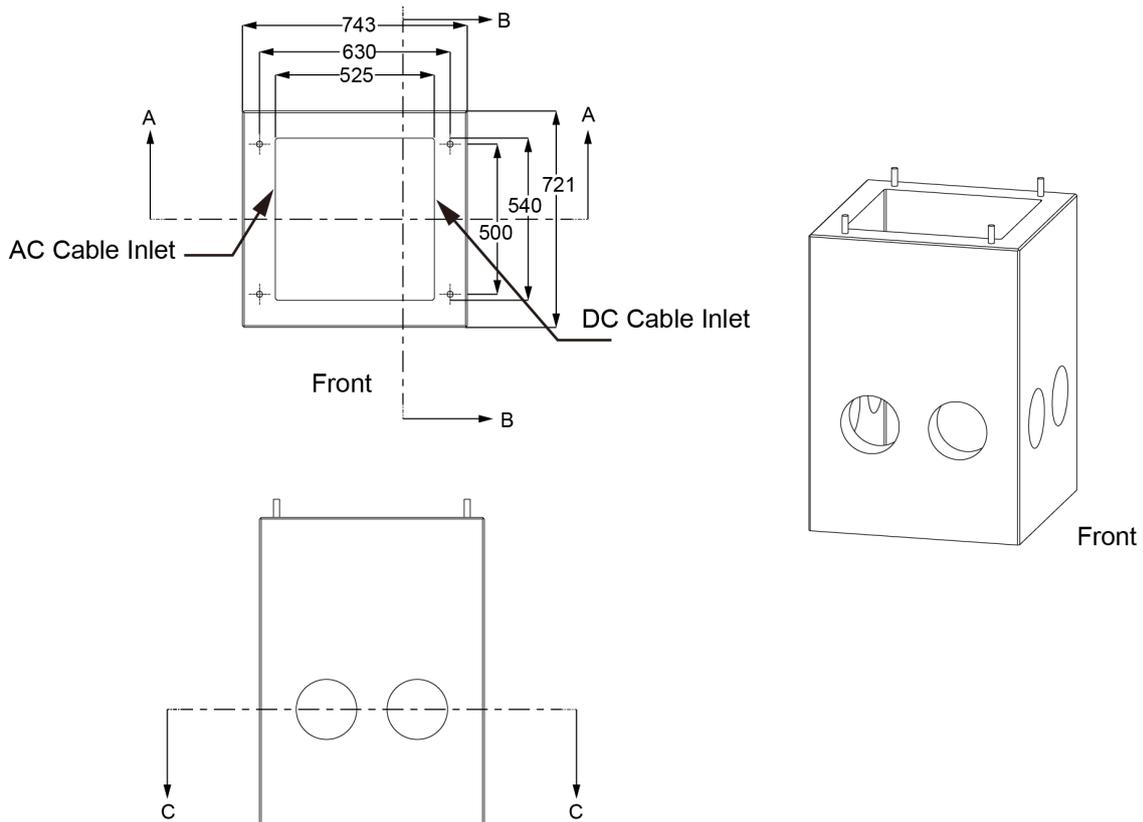


- Refer to the direction of airflow of DT800 and DT500 in [3.4.2 Direction of Airflow of Dispensers](#) for the air inlet and outlet of the dispensers.
- Ensure good ventilation around the dispensers. Keep high-temperature airflow discharged from heat sources away from the air inlet.

4.1.3 Preparing the Foundation

4.1.3.1 Power Cabinet

1. Prepare the cable well according to the foundation dimensions below. The recommended foundation dimensions are: 743 x 721 x 1020 mm (L x W x H).
2. Prepare the foundation as recommended below.



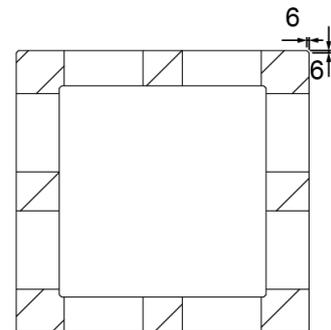
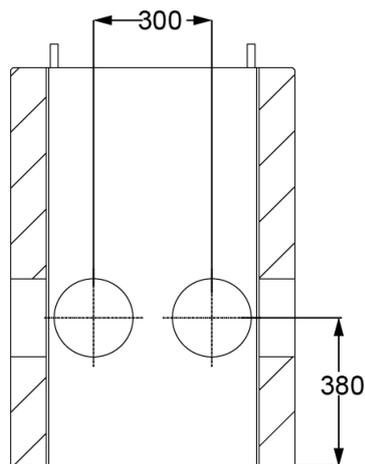
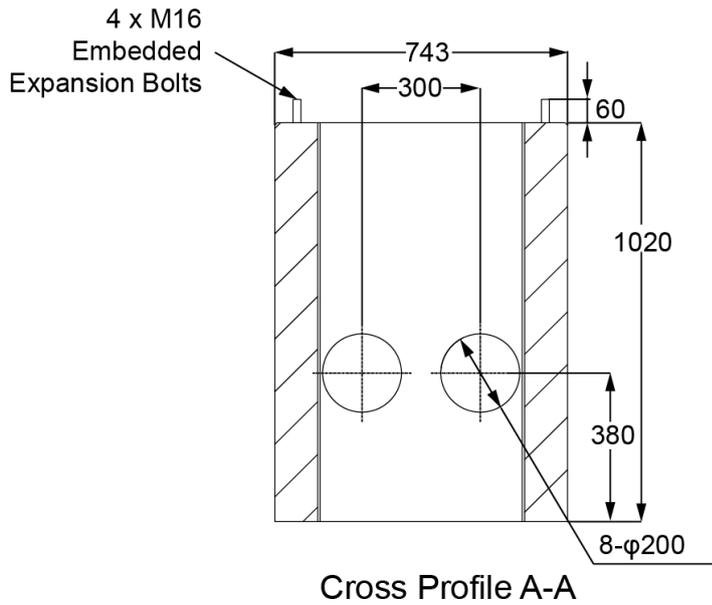
Unit: mm

Figure 4-4 Foundation (1)

NOTICE



When placing the foundation into the cable well, the surface of the foundation should be level with the ground. But in low-lying areas, or if the installation area experiences frequent water accumulation, the surface of the foundation should be more than 200 mm above the ground.



Unit: mm

Figure 4-5 Foundation (2)

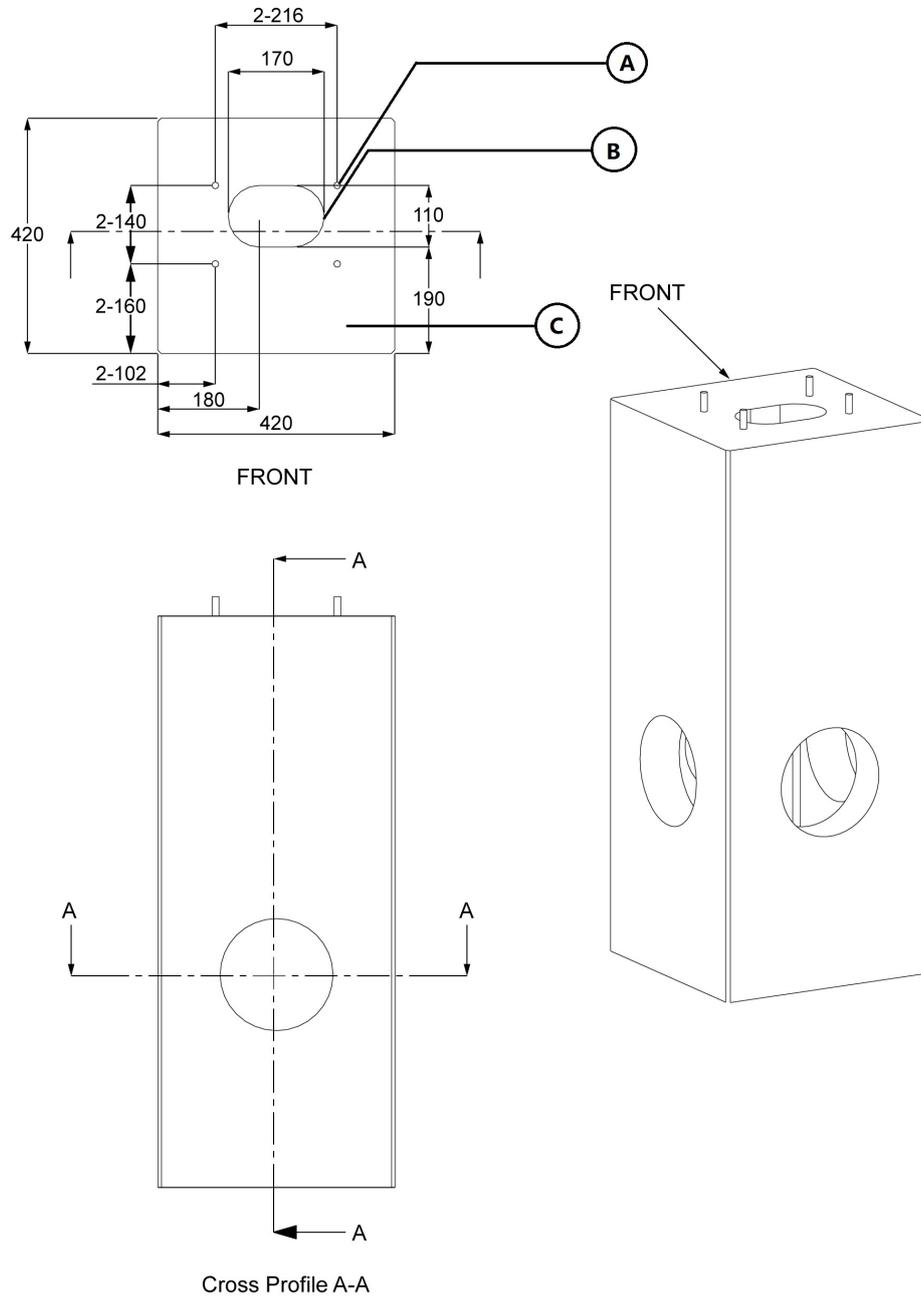
NOTICE



- Find the four M16 x 200 expansion bolts from the package and remove the nuts and gaskets from them. Set the nuts and gaskets aside. Then embed the four bolt bodies when pouring the concrete into the foundation. The bolt bodies should be 60 mm above the surface.
- Apart from using the dimensions mentioned above, the drilling template in the package can also be used to locate the mounting holes on the charging station's foundation.

4.1.3.2 Dispenser

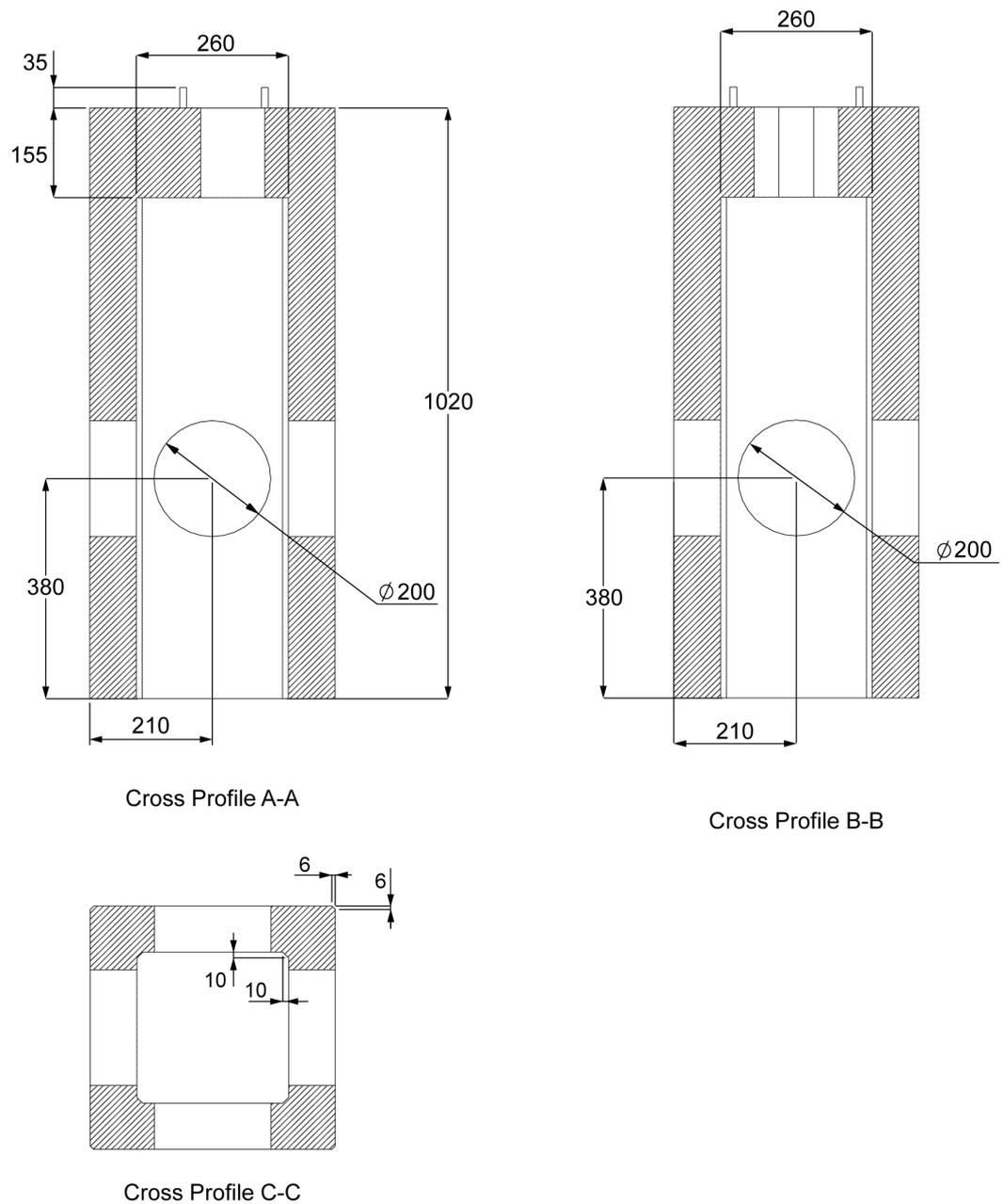
1. Prepare the cable well according to the foundation dimensions below. The recommended foundation dimensions are: 420 x 420 x 1020 mm (L x W x H).
2. Prepare the foundation as recommended below.



Unit: mm

Figure 4-6 Foundation (3)

A. Mounting Hole B. Cable Well C. Foundation



Unit: mm

Figure 4-7 Foundation (4)

NOTICE



- Find the four M12 X 100 expansion bolts from the package and remove the nuts and gaskets from them. Set the nuts and gaskets aside. Then embed the four bolt bodies when pouring the concrete into the foundation. The bolt bodies should be at least 35 mm above the surface.
- Apart from using the dimensions mentioned above, the drilling template in the package can also be used to locate the mounting holes on the equipment's foundation.

4.2 Electrical Design



NOTICE

The information provided herein is based on optimal conditions. The final design and implementation are the sole responsibility of the designer or the installer.

The charging station requires underground wiring. The size of conduit and cables is based on the length of runs from the electrical panel to the installation site. The cables must be run through the conduit or ducting, or an armored cable must be used in accordance with local electrical codes. Consult the national and local codes or a service engineer for the quality, grade, and size of the conduit or cable.

When the Type 1 or Type 1 + Type 2 surge protection device is not installed at the service panel and the charging station, the entire power supply line and the charging station should not be directly exposed to the lightning protection zone (LPZOA).

4.2.1 Wiring Requirements

4.2.1.1 Power Cabinet

Table 4-4 AC Input Specifications

Parameter	Specification
Wire Shielding (optional)	If the local regulations require shielded wires, connect the wire shielding to the PE bus at both ends of the wire.
Material	XLPE (90 °C) recommended
Recommended Cable Class	Class 2R or 5F or 6F
Recommended Cable Gauge	120 mm ² x 3 x 2 + 120 mm ² x 1, single core, 2 routes
Recommended Cable Lug	One-hole lugs (M12) for AC Input Cable One-hole lugs (M12) for PE Cable Lugs' Type: LCMB120-12-X (PANDUIT Brand)
Diameter of the Phase Conductors	Refer to the local regulations.

Parameter	Specification
Diameter of the PE Conductor	Refer to the local regulations.
Surface and Diameter	Based on the current rating of the charging station and local regulations.
Conductor	Copper

The table below describes the recommended cable length reserved above the surface of the foundation to the cabinet.

Table 4-5 Recommended Cable Length Reserved

No.	Cable Connection	Cable Length
1	AC Input Cable	520 mm
2	PE Cable	320 mm
3	Earth Cable	500 mm
4	Ethernet Cable	500 mm

Table 4-6 DC & Auxiliary Supply Output Specifications

Parameter	Specification
Wire Shielding (optional)	If the local regulations require shielded wires, connect the wire shielding to the PE bus at both ends of the wire.
Material	XLPE (90 °C) recommended
Recommended Cable Class	Class 2R or 5F or 6F

Parameter	Specification
Recommended Cable Gauge	<p>1. Main circuit (DC Connections & PE):</p> <p>For DT500 Dispenser (dual charging handles): DC Connections: 120 mm² x 2 x 2, single core, 2 routes PE: 120 mm² x 1, single core, 1 route</p> <p>For DT500 Dispenser (single charging handle): DC Connections: 120 mm² x 2 x 2, single core, 1 route PE: 120 mm² x 1, single core, 1 route</p> <p>For DT800 Dispenser (dual charging handles): DC Connections: 185 mm² x 2 x 2, single core, 2 routes PE: 185 mm² x 1, single core, 1 route</p> <p>For DT800 Dispenser (single charging handle): DC Connections: 185 mm² x 2 x 2, single core, 1 route PE: 185 mm² x 1, single core, 1 route</p> <p>2. Control circuit (AC auxiliary power supply line): 2.5 mm² x3, 1 route</p>
Recommended Cable Lug	<p>1. Main circuit cable: One-hole lugs (M12) Lugs' Type: (PANDUIT Brand) LCMB120-12-X for DT500 LCMB185-12-X for DT800</p> <p>2. Control circuit cable: Line: Insulated blade terminals: 131445 (TE) or 131444 (TE)</p>
Diameter of the Phase Conductors	Refer to the local regulations.
Diameter of the PE Conductor	Refer to the local regulations
Surface and Diameter	Based on the current rating of the charging station and local regulations.
Conductor	Copper

Except for the information above, refer to [8. Technical Specifications](#) of the equipment to ensure that the service wiring at the installation location supports the charging station power requirements.

4.2.1.2 Dispenser

1. Liquid-cooled Dispenser (DT800) with Dual Charging Handles:

Table 4-7 DC & Auxiliary Supply Input Specifications (1)

Parameter	Specification
Wire Shielding (optional)	If the local regulations require shielded wires, connect the wire shielding to the PE bus at both ends of the wire.
Material	XLPE (90 °C) recommended
Recommended Cable Class	Class 2R or 5F or 6F
Recommended Cable Gauge	<ol style="list-style-type: none"> Main circuit (DC connections & PE): DC connections: 185 mm² x 2 x 2, single core, 2 routes PE: 185 mm² x 1, single core, 1 route Control circuit (AC auxiliary power supply cable): 2.5 mm² x3, 1 route
Recommended Cable Lug	<ol style="list-style-type: none"> Main circuit cable: One-hole lugs (M10) Lugs' Type: LCMB185-10-X (PANDUIT Brand) Control circuit cable: Line: Insulated Blade Terminals: 131445 (TE) or 131444 (TE)
Diameter of the Phase Conductors	Refer to the local regulations.
Diameter of the PE Conductor	Refer to the local regulations
Surface and Diameter	Based on the current rating of the charging station and local regulations.
Conductor	Copper

2. Liquid-cooled Dispenser (DT800) with Single Charging Handle:

Table 4-8 DC & Auxiliary Supply Input Specifications (2)

Parameter	Specification
Wire Shielding (optional)	If the local regulations require shielded wires, connect the wire shielding to the PE bus at both ends of the wire.
Material	XLPE (90 °C) recommended
Recommended Cable Class	Class 2R or 5F or 6F
Recommended Cable Gauge	<ol style="list-style-type: none"> 1. Main circuit (DC Connections & PE): 185 mm² x 2 x 2 + 185 mm² x 1, single core, 1 route 2. Control circuit (AC auxiliary power supply cable): 2.5 mm² x3, 1 route
Recommended Cable Lug	<ol style="list-style-type: none"> 1. Main circuit cable: One-hole lugs (M10) Lugs' Type: LCMB185-10-X (PANDUIT Brand) 2. Control circuit cable type: Line: Insulated Blade Terminals: 131445 (TE) or 131444 (TE)
Diameter of the Phase Conductors	Refer to the local regulations.
Diameter of the PE Conductor	Refer to the local regulations
Surface and Diameter	Based on the current rating of the charging station and local regulations.
Conductor	Copper

3. Air-cooled Dispenser (DT500) with Dual Charging Handles:

Table 4-9 DC & Auxiliary Supply Input Specifications (3)

Parameter	Specification
Wire Shielding (optional)	If the local regulations require shielded wires, connect the wire shielding to the PE bus at both ends of the wire.
Material	XLPE (90 °C) recommended
Recommended Cable Class	Class 2R or 5F or 6F
Recommended Cable Gauge	<ol style="list-style-type: none"> 1. Main circuit (DC Connections & PE): DC Connections: 120 mm² x 2 x 2, single core, 2 routes PE: 120 mm² x 1, single core, 1 route 2. Control circuit (AC auxiliary power supply line): 2.5 mm² x3, 1 route
Recommended Cable Lug	<ol style="list-style-type: none"> 1. Main circuit Cable: One-hole lugs (M10) Lugs' Type: LCMB120-10-X (PANDUIT Brand) 2. Control circuit Cable Line: Insulated Blade Terminals: 131445 (TE) or 131444 (TE)
Diameter of the Phase Conductors	Refer to the local regulations.
Diameter of the PE Conductor	Refer to the local regulations
Surface and Diameter	Based on the current rating of the charging station and local regulations.
Conductor	Copper

4. Air-cooled Dispenser (DT500) with Single Charging Handle

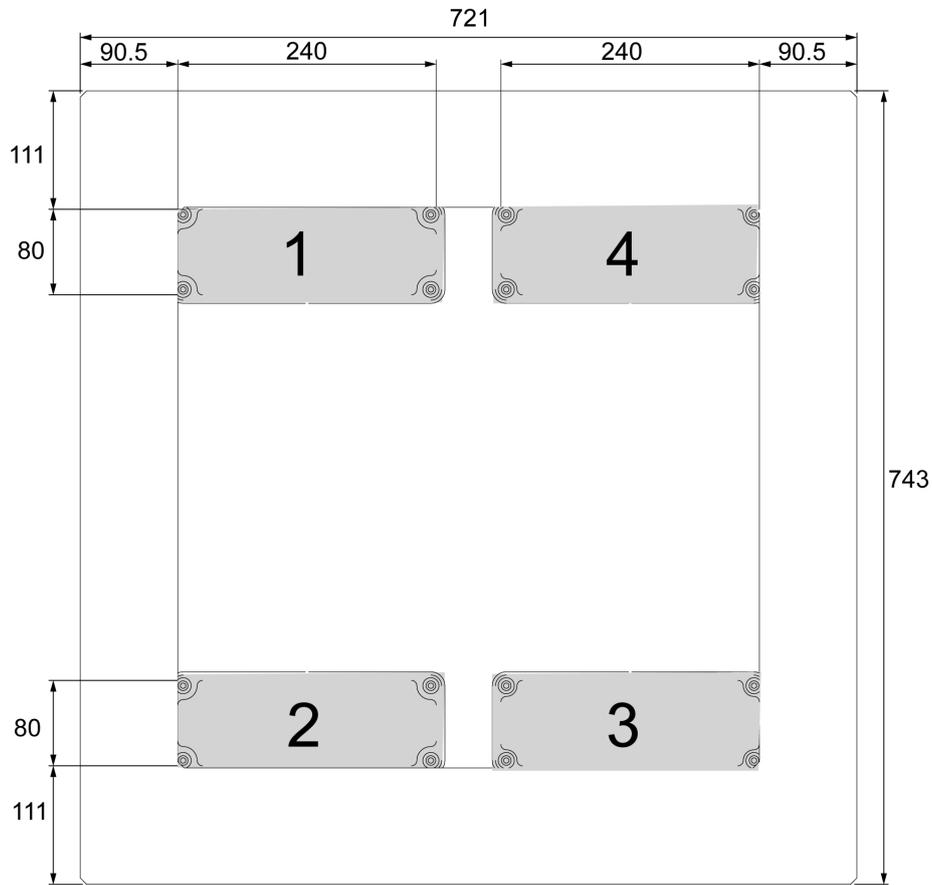
Table 4-10 DC & Auxiliary Supply Input Specifications (4)

Parameter	Specification
Wire Shielding (optional)	If the local regulations require shielded wires, connect the wire shielding to the PE bus at both ends of the wire.
Material	XLPE (90 °C) recommended
Recommended Cable Class	Class 2R or 5F or 6F
Recommended Cable Gauge	<ol style="list-style-type: none"> 1. Main circuit (DC Connections & PE): 120 mm² x 2 x 2 + 120 mm² x 1, single core, 1 route 2. Control circuit (AC auxiliary power supply line): 2.5 mm² x3, 1 route
Recommended Cable Lug	<ol style="list-style-type: none"> 1. Main circuit cable: One-hole lugs (M10) Lugs' Type: LCMB120-10-X (PANDUIT Brand) 2. Control circuit cable: Line: Insulated Blade Terminals: 131445 (TE) or 131444 (TE)
Diameter of the Phase Conductors	Refer to the local regulations.
Diameter of the PE Conductor	Refer to the local regulations
Surface and Diameter	Based on the current rating of the charging station and local regulations.
Conductor	Copper

Except for the information above, refer to [8. Technical Specifications](#) of the equipment to ensure that the service wiring at the installation location supports the charging station power requirements.

4.2.2 Cable Laying

Route the cable through the pre-embedded conduit, with one end connected to the power cabinet and the other to the dispenser. All the cables to the dispenser enter from the bottom opening. See the cable opening layout for the power cabinet:



Front

Figure 4-8 Cable Opening Layout of Power Cabinet

Table 4-11 Layout Descriptions

Number	Description
1	<ul style="list-style-type: none"> ■ AC input cable & PE cable for power cabinet ■ AC auxiliary power cable from power cabinet to dispenser
2	<ul style="list-style-type: none"> ■ AC input cable & PE cable for power cabinet ■ AC auxiliary power cable from power cabinet to dispenser
3, 4	<ul style="list-style-type: none"> ■ DC output cable & PE cable from power cabinet to dispenser ■ Ethernet cable

4.2.3 Use of RCD

Ensure the RCD is installed between the upstream supply and the charging station, and the grounding system must comply with IEC 60364-4-41 and IEC 60479-1.

Power Cabinet

- If the RCD is installed by Autel, the main circuit and control circuit of the power cabinet will be equipped with RCD, details as follows:
 - For the main circuit:
 - Trip threshold: 300 mA (can be adjusted according to the actual situation)
 - Trip delay: 150 ms
 - For the control circuit, the trip threshold is 30 mA
- If the RCD is installed by the customer, the following settings are recommended:
 1. Type: A, F or B (the latter two are preferred)
 2. Trip threshold: 300 mA
 3. Trip delay: 150 ms

4.2.4 Grounding Requirements

Ensure that a grounding conductor that complies with local codes is properly grounded to earth at the service equipment.

4.3 Unpacking

1. Autel recommends to move the power cabinet and the dispenser to the installation site using a forklift and unpack them there. Ensure the forks (A) of the forklift truck in the gaps go through the gaps in the side of the pallet.

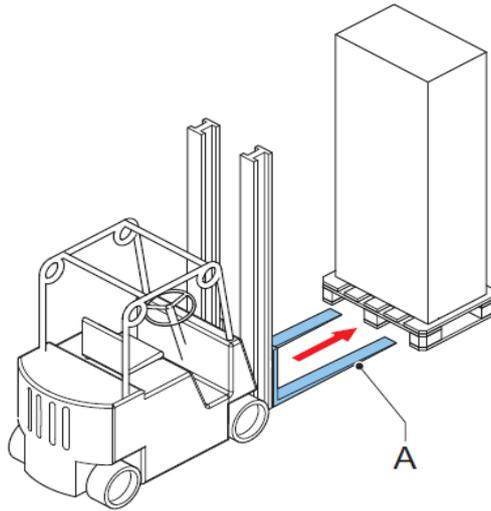


Figure 4-9 *Transporting the Power Cabinet and Dispenser by Forklift Truck*

WARNING



Risk of pinching or crushing. Heavy Equipment.

- Ensure that the forklift truck can lift the cabinet safely.
- Obey the safety instructions that apply to the forklift truck.
- Take into account the dimensions, mass, and center of gravity of the equipment.



CAUTION

DO NOT drop the cabinet or subject it to strong impact.

2. Check the tilt and inversion indicators and Shockwatch.

- Observe the sensors attached to the package for the degree of the tilt and complete overturn. If the sensors demonstrate over 30° of tilt or total overturn, **do not** refuse shipment and note on bill of lading degree of tilt.

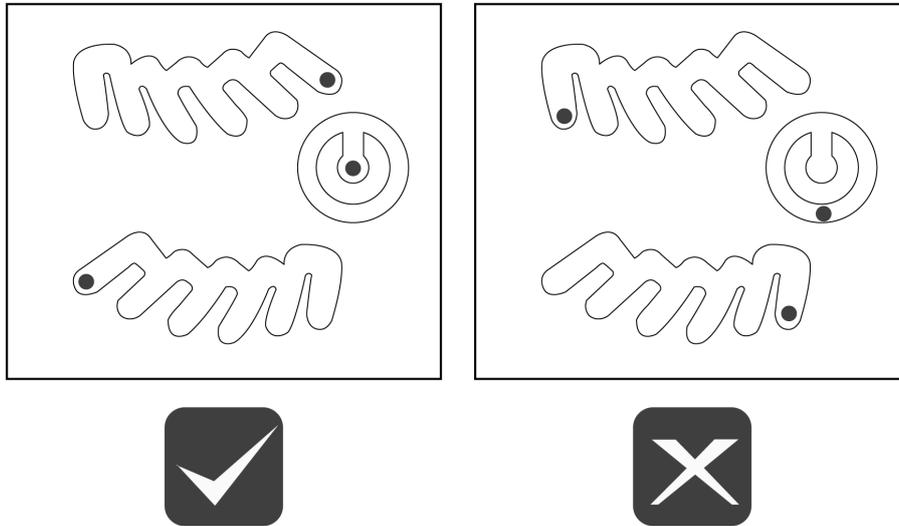


Figure 4-10 Tilt and Inversion Indicators

- If the Shockwatch displays red, contact Autel customer service and the delivery personnel, and then inspect the product for any damage.
- 3.** Remove the outside packaging and interior protection materials using appropriate tools.
 - 4.** Inspect the power cabinet, the dispenser, and the parts for installation for damage. If you find damage or the parts are not consistent with the order, contact your local dealer.
 - 5.** Ensure that all parts are delivered according to the order.

4.4 Packing List

4.4.1 Power Cabinet

**Power Cabinet
(DS480)**

1 PC



Expansion Bolt

(M16 x 200)

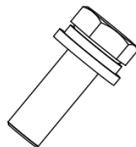
4 PCS



Combination Screw

(M12 x 40)

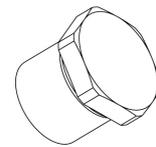
50 PCS



Hexagon Metal Plug

(M20 x 10)

4 PCS



Flange Nut (M12)

6 PCS



Combination Screw

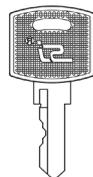
(M6 x 16)

8 PCS



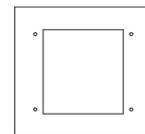
Cabinet Door Key

4 PCS



Drilling Template

1 PC



Jumper

1 PC



**TR25 Torx
Screwdriver**

1 PC



Packing List

1 PC

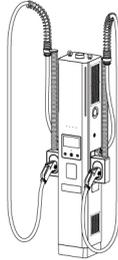


4.4.2 Liquid-cooled Dispenser (DT800)

- Liquid-cooled dispenser with dual charging handles (DT800)

Dispenser

1 PC



Expansion Bolt

(M12 x 100)

4 PCS



Combination Screw (M6 x 16)

2 PCS



Combination Screw

(M10 x 25)

10 PCS



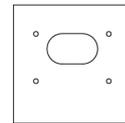
Hexagon Metal Plug (M12 x 10)

2 PCS



Drilling Template

1 PC



Packing List

1 PC



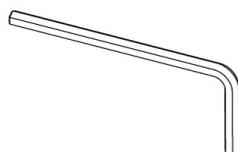
Jumper

1 PC



L-shaped Hex Key (4mm)

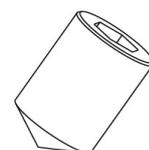
1 PC



Hex Socket Set Screw with Cone Point

(M8 x 12)

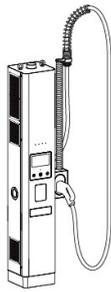
6 PCS



- **Liquid-cooled dispenser with single charging handle (DT800)**

Dispenser

1 PC



Expansion Bolt

(M12 x 100)

4 PCS



Combination Screw

(M6 x 16)

2 PCS



Combination Screw

(M10 x 25)

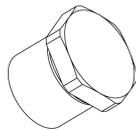
6 PCS



Hexagon Metal Plug

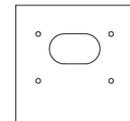
(M12 x 10)

2 PCS



Drilling Template

1 PC



Packing List

1 PC



Jumper

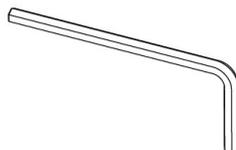
1 PC



L-shaped Hex Key

(4mm)

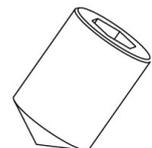
1 PC



Hex Socket Set Screw with Cone Point

(M8 x 12)

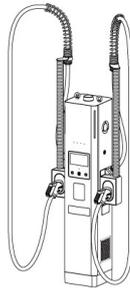
3 PCS



4.4.3 Air-cooled Dispenser (DT500)

- Air-cooled dispenser with dual charging handles (DT500)

Dispenser
1 PC



Expansion Bolt
(M12 x 100)
4 PCS



Combination Screw
(M6 x 16)
2 PCS



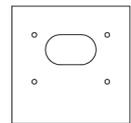
Combination Screw
(M10 x 25)
10 PCS



Hexagon Metal Plug
(M12 x 10)
2 PCS



Drilling Template
1 PC



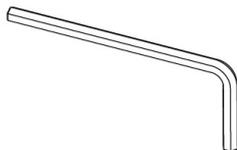
Packing List
1 PC



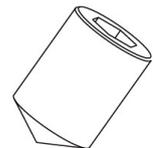
Jumper
1 PC



L-shaped Hex Key
(4mm)
1 PC



Hex Socket Set Screw
with Cone Point
(M8 x 12)
6 PCS



● **Air-cooled dispenser with single charging handle (DT500)**

Dispenser

1 PC



Expansion Bolt

(M12 x 100)

4 PCS



Hexagonal Phillips Screw (M6 x 16)

2 PCS



Hex Head Combination Screw (M10 x 25)

6 PCS



Hexagon Metal Plug (M12 x 10)

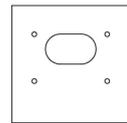
(M12 x 10)

2 PCS



Drilling Template

1 PC



Packing List

1 PC



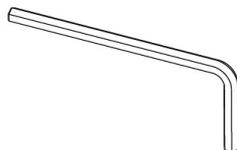
Jumper

1 PC



L-shaped Hex Key (4 mm)

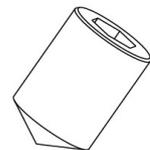
1 PC



Hex Socket Set Screw with Cone Point

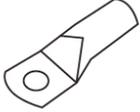
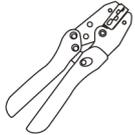
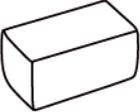
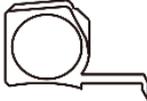
(M8 x 12)

3 PCS



4.5 Recommended Tools

The following tools are recommended when installing the equipment.

Forklift Truck		Hoisting Equipment	
Multimeter		Power Drill	
Marker		Drill Bit (15/20 mm)	
Brush		Phillips Screwdriver	
Wire Stripper		Twin-step Ladder	
Cable Lug		Socket Wrench (10/14/16/18/22/24 mm)	
Crimping Plier		Fireproof Mortar	
Tape Measure			

NOTICE



- The tools mentioned above are not part of the delivery. Ensure the professional personnel have all the listed tools for installation.
- This tool list does not necessarily include all the tools you may need.

5. Installation

5.1 Before Installing

Prior to installation, check the following:

- The installation site is prepared.
- The appropriate service wiring, circuit protection, and metering is in place at the installation site.
- A grounding conductor that complies with local codes is properly grounded to earth.
- The cellular coverage at the installation site should be consistently strong when choosing to communicate over cellular network for the equipment. Use a cellular signal detection device to ensure the signal is above -90 dBm. If the signal is below -90 dBm, install repeaters to boost the strength of the cellular signals. Repeaters are often required when installing the equipment in an underground environment such as an underground garage or enclosed parking space.
- There is enough space available around the installation site to accommodate using a forklift or other lifting equipment, to unpack, and to allow people to work around freely.
- All the parts and tools are available.



CAUTION

A supplement surge protection breaker must be installed at the service panel if the installation area experiences frequent thunderstorms.



NOTICE

The installation of the charging station must be performed only by professionally qualified personnel, as per local regulations and safety standards. These personnel must have successfully completed the mandatory training courses provided by Autel.

General Installation Procedure:

1. Ensure the installation site is ready and you have all the parts and tools described in the sections above.
2. Install the power cabinet. Refer to [5.2 Installing the Power Cabinet](#).
3. Install the dispenser. Refer to [5.3 Installing the Liquid-cooled and Air-cooled Dispenser](#).
4. Complete the electrical wiring. Refer to [5.4 Electrical Wiring](#).
5. Connect the charging station to the Internet. Refer to [5.5 Connecting to the Internet](#).
6. Install the charging module into the power cabinet. Refer to [5.6 Installing or Replacing Modules \(Optional\)](#).
7. Finish the installation. Refer to [5.7 Finishing Installation](#).

5.2 Installing the Power Cabinet

There are two ways to move the cabinet to the foundation:

- Forklift
- Hoist

5.2.1 Using a Forklift



NOTICE

When moving the equipment to the site using the forklift truck, **ensure the forks of the forklift truck are properly aligned to pass through the openings of the left and right bases.**

STEP 1 Removing the Base Covers

1. Use the cabinet door key to open the left and right doors.
2. Then remove the eight screws (A) using a TR25 Torx screwdriver to remove the front, rear, left, and right base covers. **Set them aside.**

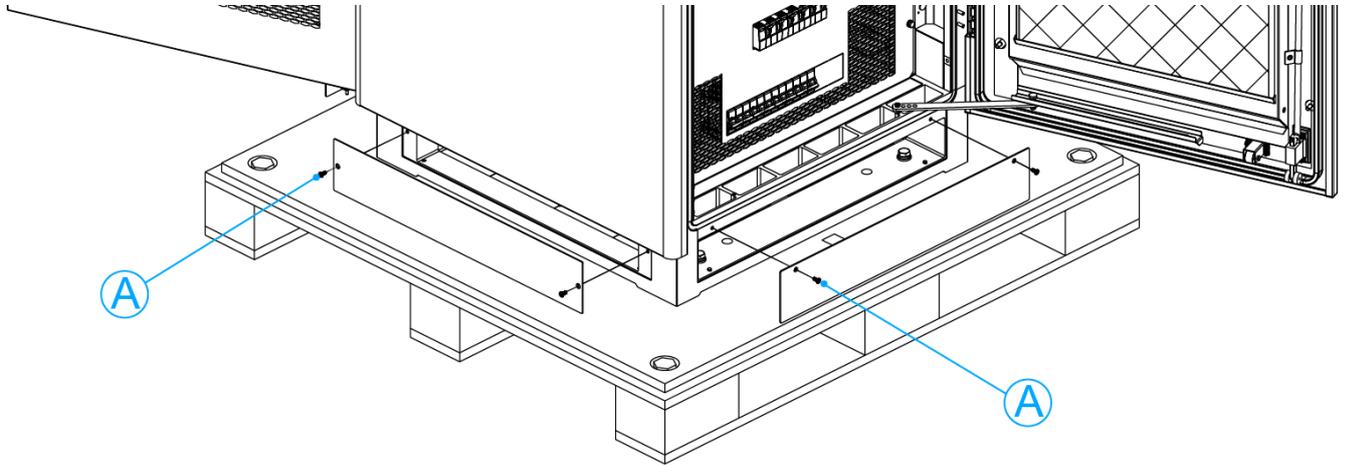


Figure 5-1 Removing the Base Covers

STEP 2 Removing from the Pallet

Remove the power cabinet from the pallet by removing the bolt (A), spring washer (B), steel gasket (C), and nylon gasket (D) using an 18 mm socket wrench. Set them aside.

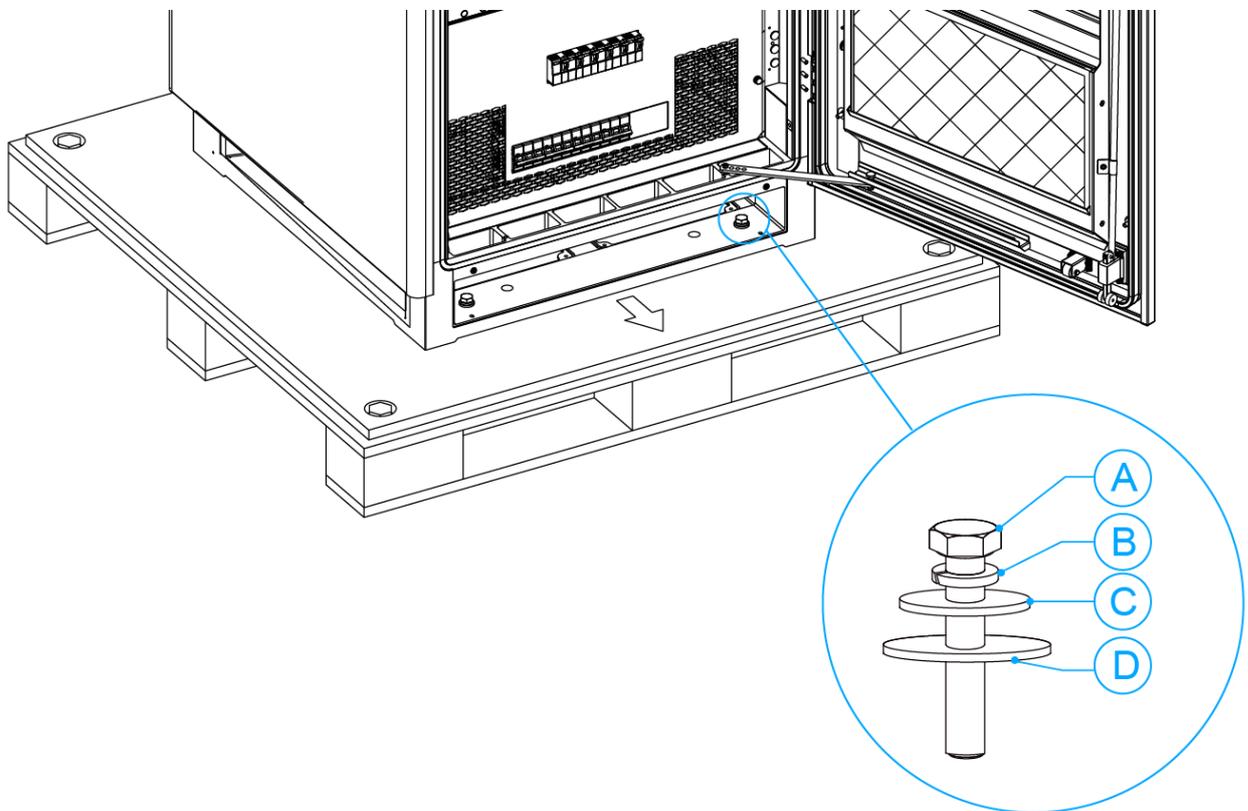


Figure 5-2 Removing from the Pallet

STEP 3 Closing the Doors

Lift the limit linkage with foot to close the left and right doors.

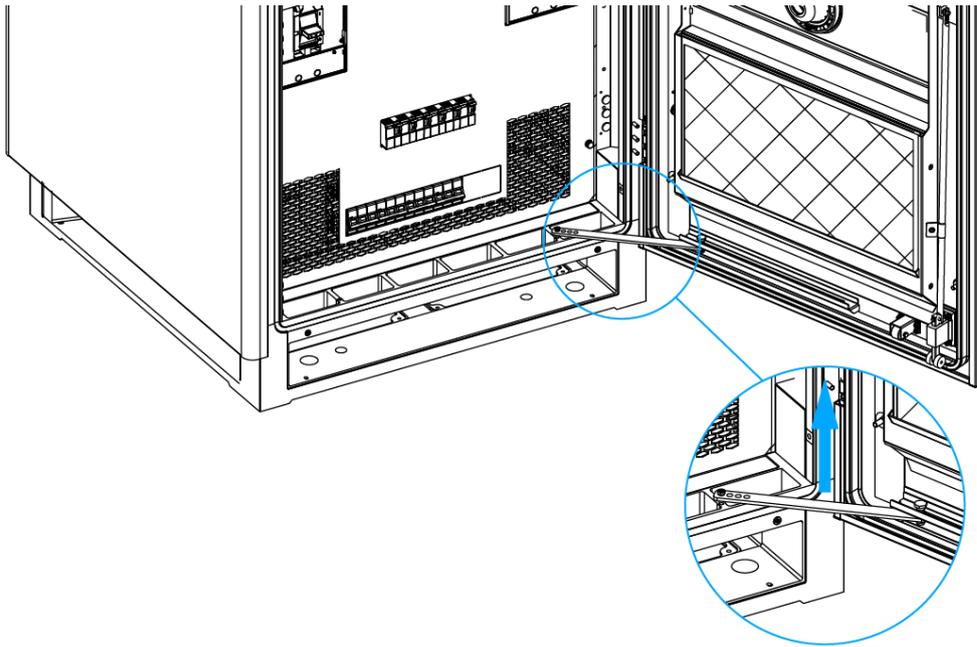


Figure 5-3 Lifting the Limit Linkage

STEP 4 Positioning the Cabinet on the Foundation

1. Use the forklift to move the cabinet to the foundation. Ensure the forks of the forklift go through the gaps of the front and rear bases.
2. Carefully lower the power cabinet approximately 500 mm above the foundation, aligning with the four expansion bolts (A). Then route the cables through the cable inlet hole.

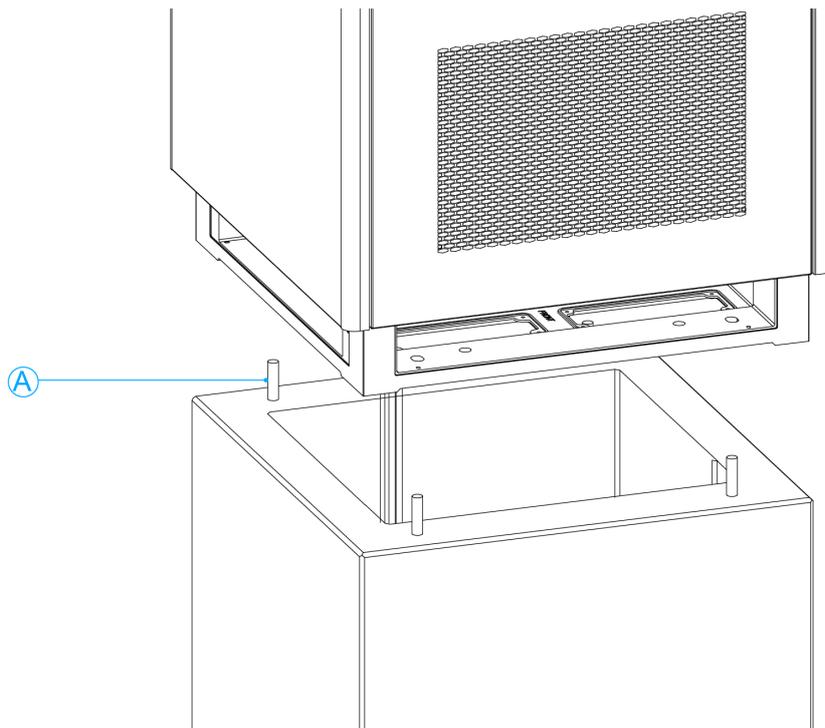


Figure 5-4 Lowering the Cabinet

STEP 5 Securing the Cabinet

Reinstall the gaskets and nuts which were removed earlier and tighten them using a 24 mm socket wrench to secure the power cabinet onto the foundation.

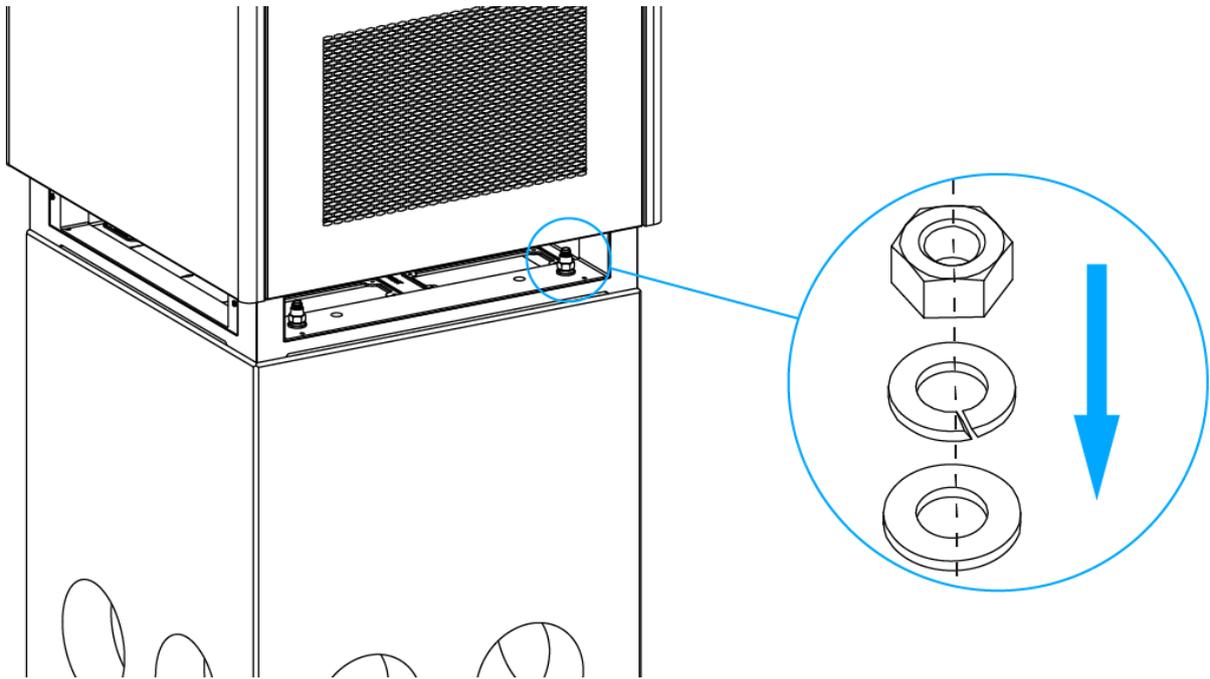


Figure 5-5 Securing the Cabinet onto Foundation

STEP 6 Finishing Touches

1. Loosen and remove the four eye bolts (A).

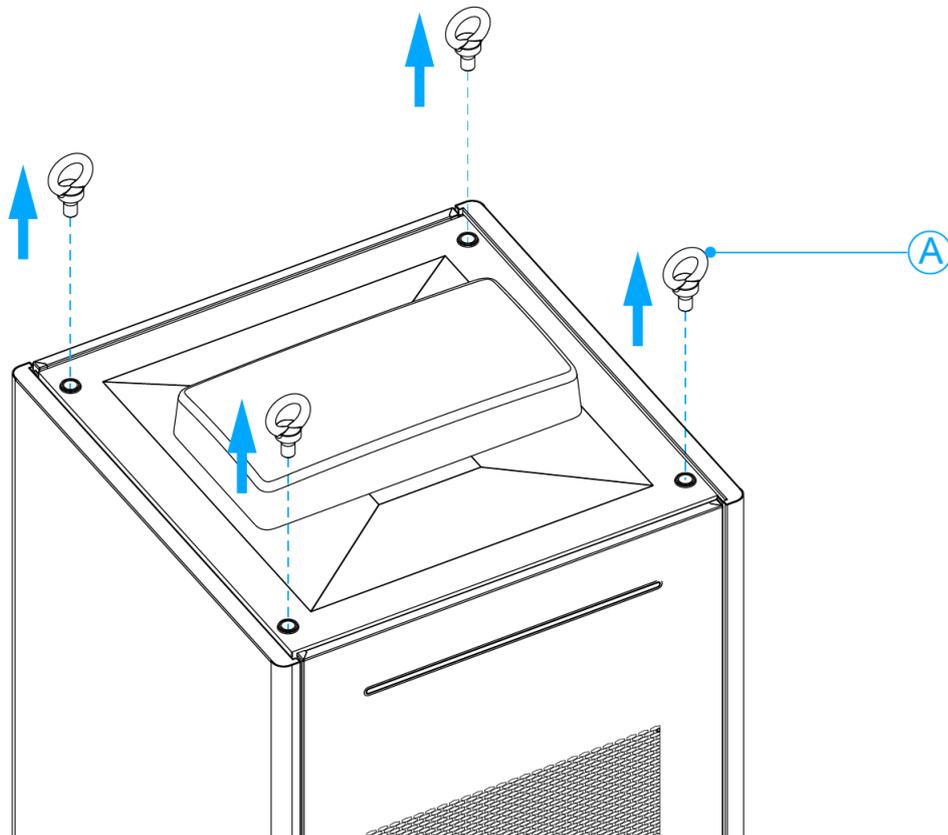


Figure 5-6 Removing the Eye Bolts

- 2.** Screw in the hexagon metal plugs (B) using a 22 mm socket wrench.

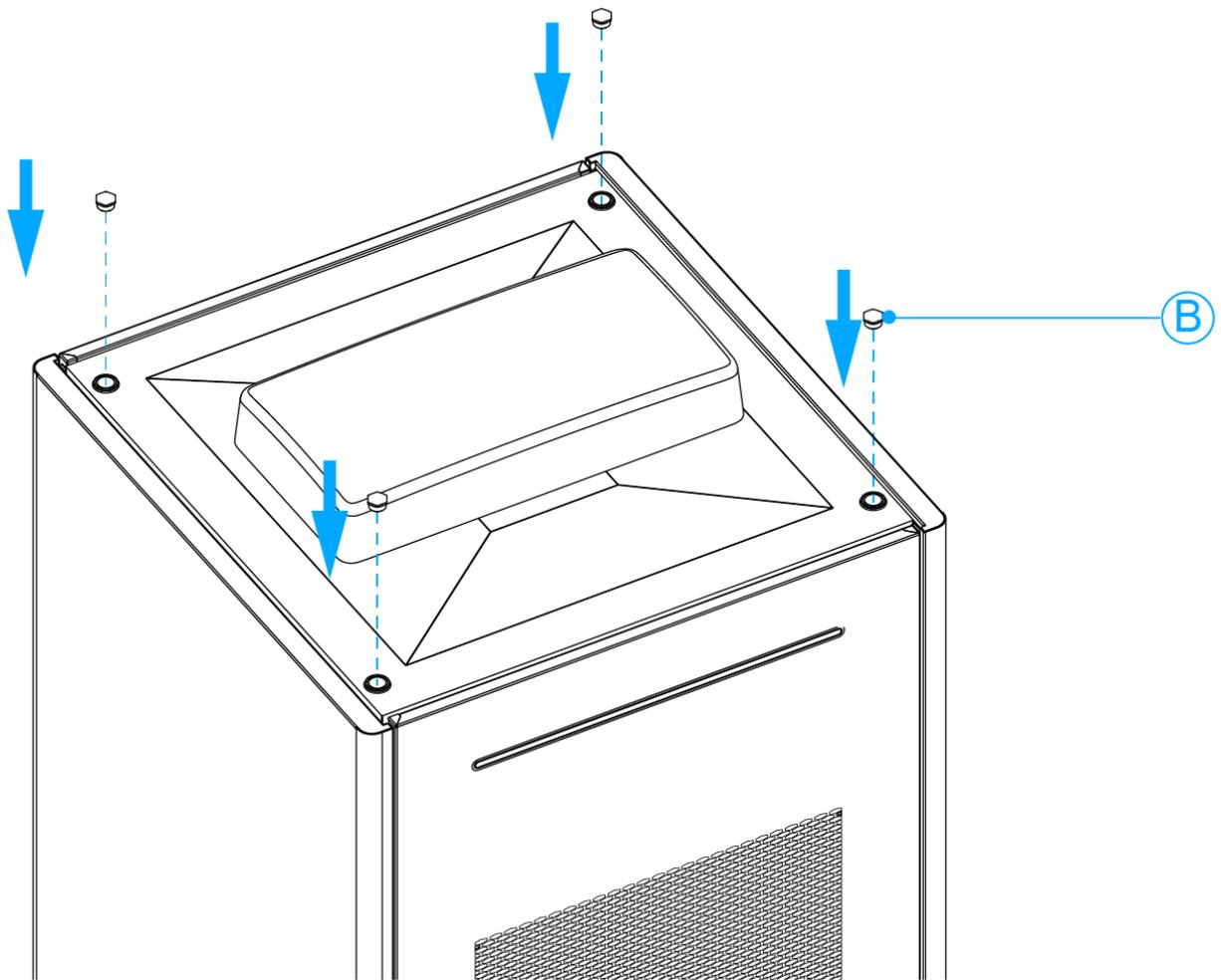


Figure 5-7 *Installing the Plugs*

- 3.** Open the left and right doors, and reinstall the front, rear, left, and right base covers.

5.2.2 Using Hoisting Equipment

STEP 1 Removing the Base Covers

1. Use the cabinet door key to open the left and right doors.
2. Then remove the four screws (A) using a TR25 Torx screwdriver to remove the left and right base covers. **Set them aside.**

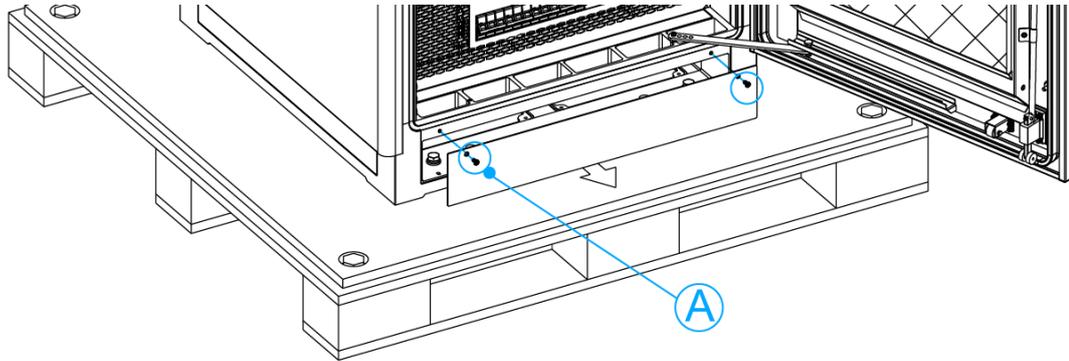


Figure 5-8 Removing the Base Covers

STEP 2 Removing from the Pallet

Remove the power cabinet from the pallet by removing the bolt (A), spring washer (B), steel gasket (C), and nylon gasket (D) using an 18 mm socket wrench. Set them aside.

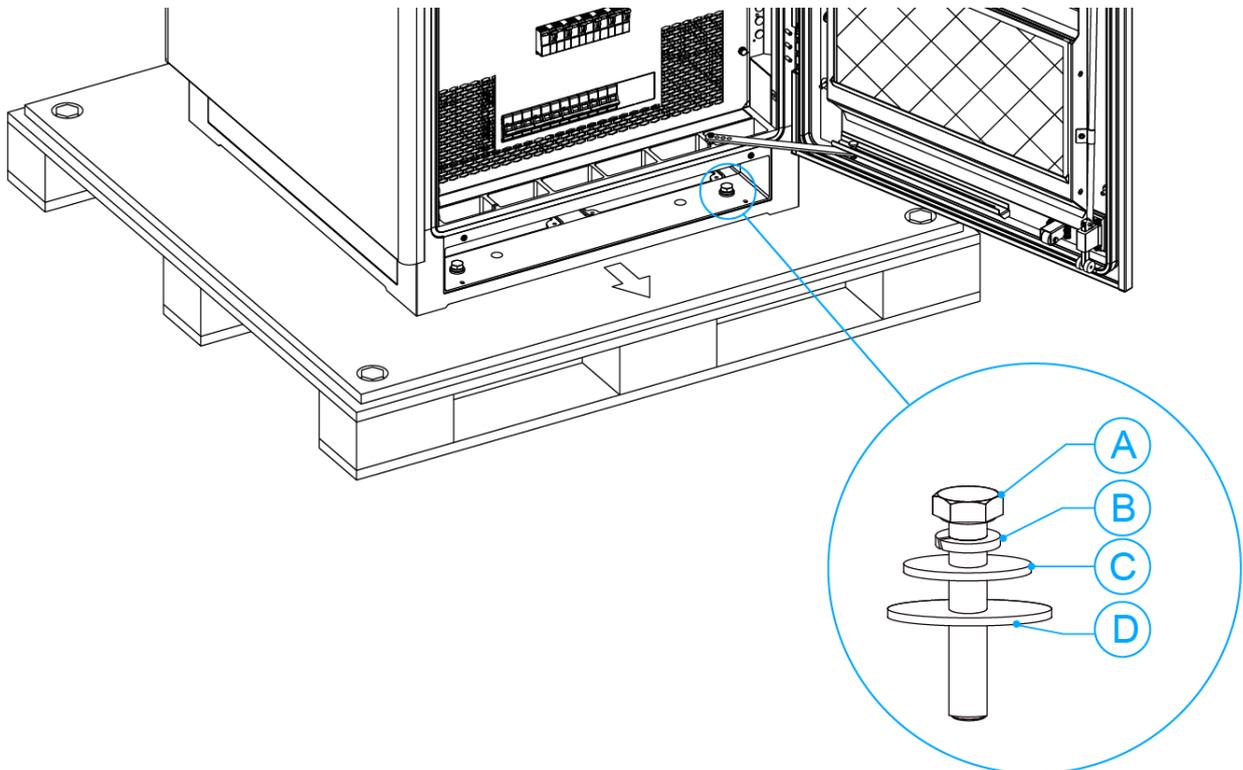


Figure 5-9 Removing from the Pallet

STEP 3 Closing the Doors

Lift the limit linkage with foot to close the left and right doors.

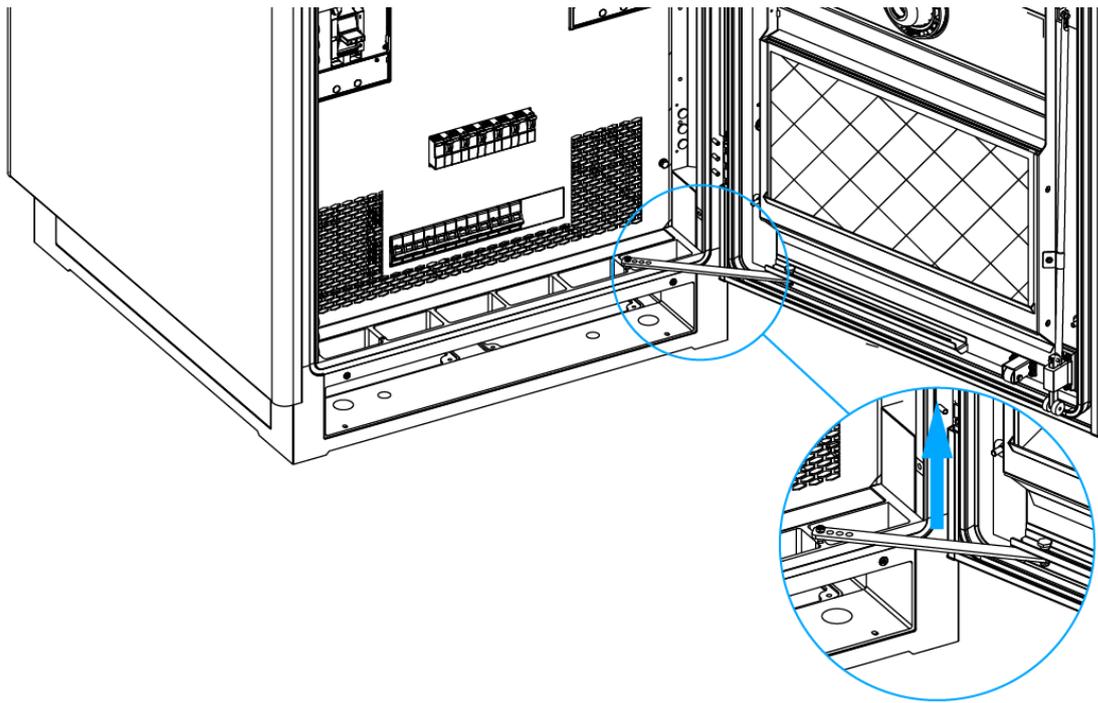


Figure 5-10 Lifting the Limit Linkage

STEP 4 Hoisting the Cabinet on the Foundation

1. Connect the cables of the hoisting equipment to the eye bolts. Then move the cabinet to the foundation.

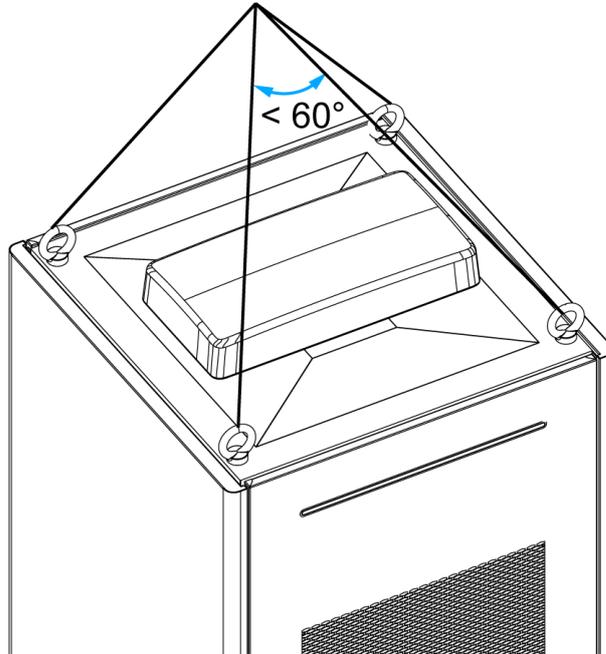


Figure 5-11 Hoisting the Cabinet

WARNING



Risk of pinching or crushing. Heavy Equipment.

- Ensure that the hoisting equipment can lift the power cabinet safely.
- Obey the safety instructions that apply to the hoisting equipment.
- Take into account the dimensions, mass, and center of gravity of the equipment.



CAUTION

- **DO NOT** drop the power cabinet or subject it to strong impact.
 - Ensure that there is no dynamic force on the hoisting points.
-

- 2.** Carefully lower the power cabinet approximately 500 mm above the foundation, aligning with the four expansion bolts (A). Then route the cables through the cable inlet hole.

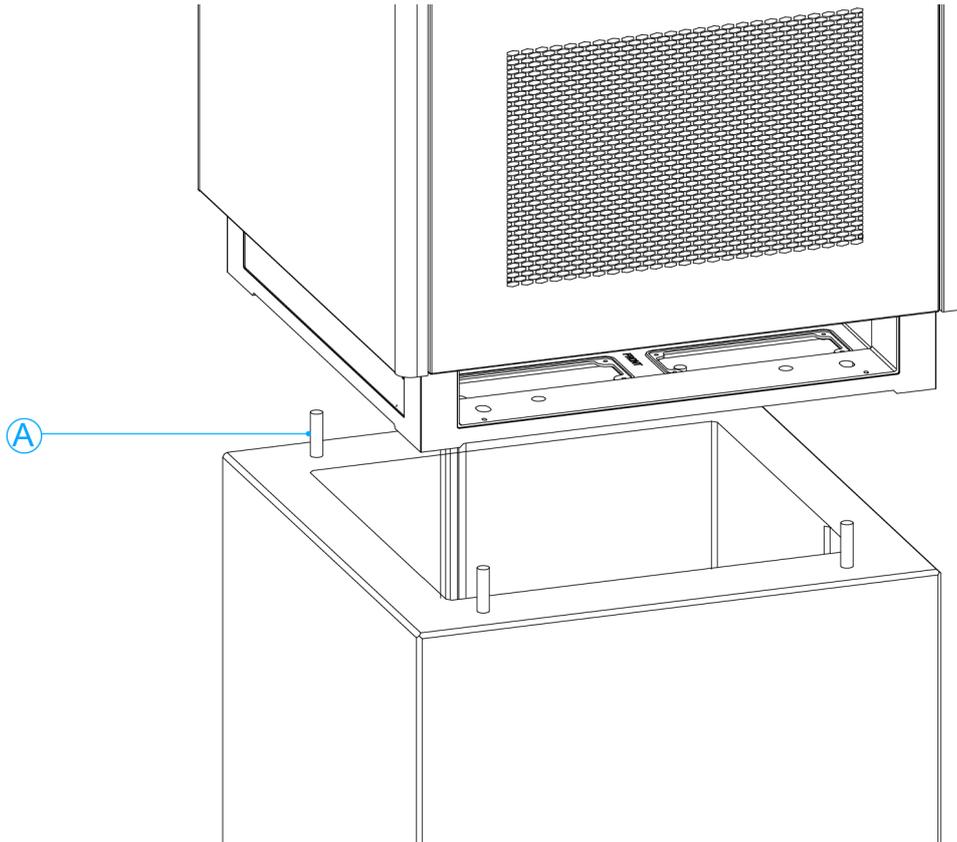


Figure 5-12 Lowering the Cabinet

STEP 5 Securing the Cabinet

Reinstall the gaskets and nuts which were removed earlier and tighten them using a 24 mm socket wrench to secure the power cabinet onto the foundation.

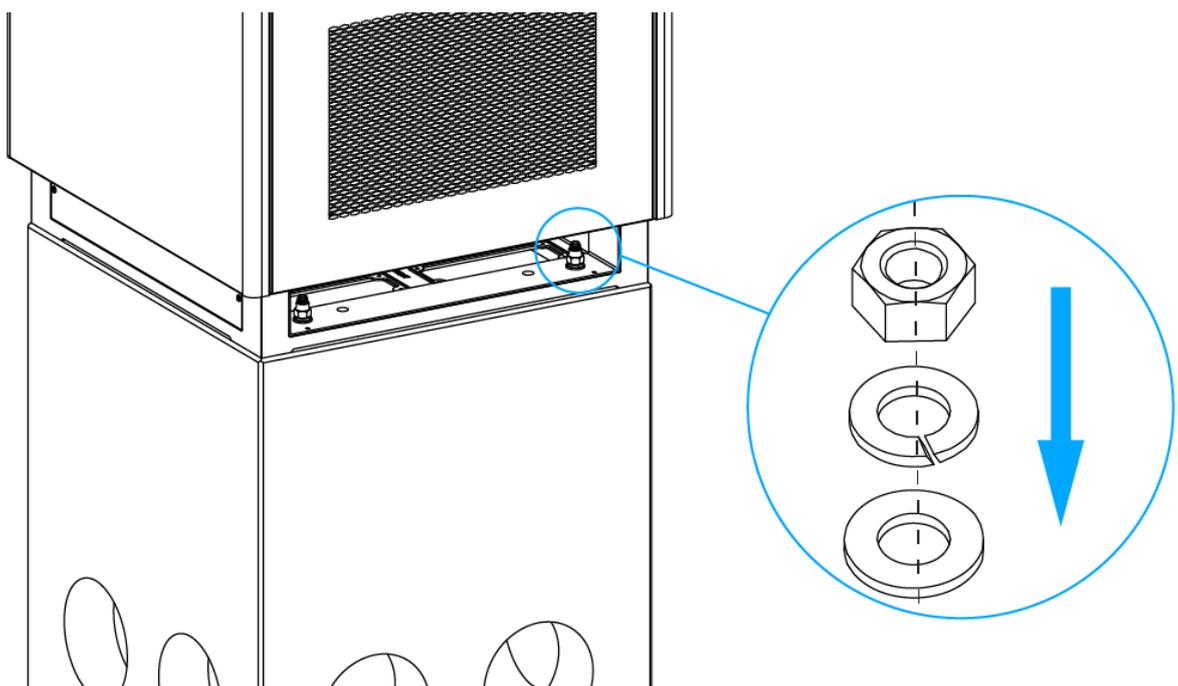


Figure 5-13 Securing the Cabinet onto Foundation

STEP 6 Finishing Touches

1. Loosen and remove the four eye bolts (A).

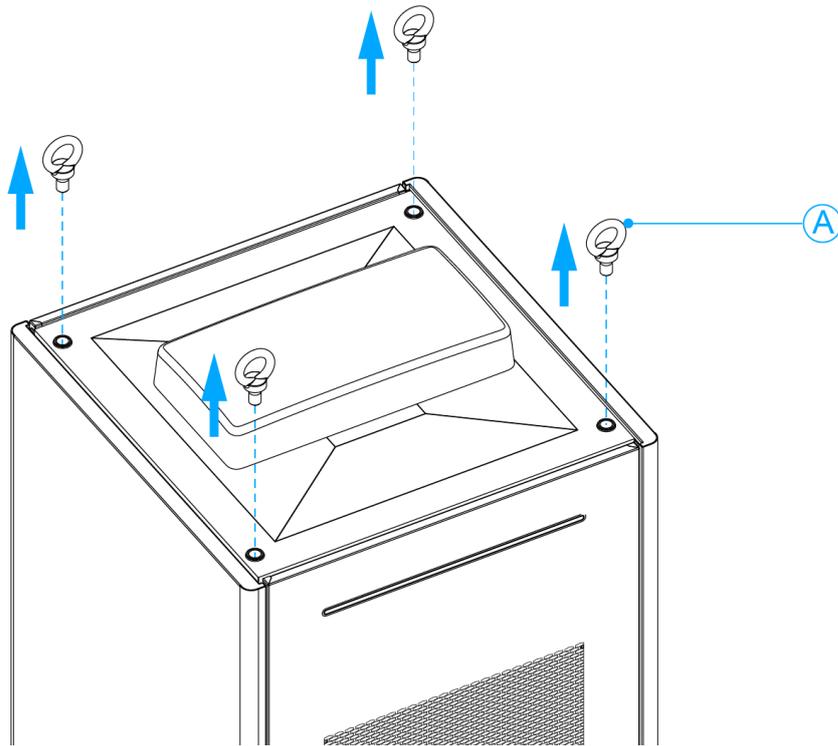


Figure 5-14 Removing the Eye Bolts

2. Screw in the hexagon metal plugs (B) using a 22 mm socket wrench.

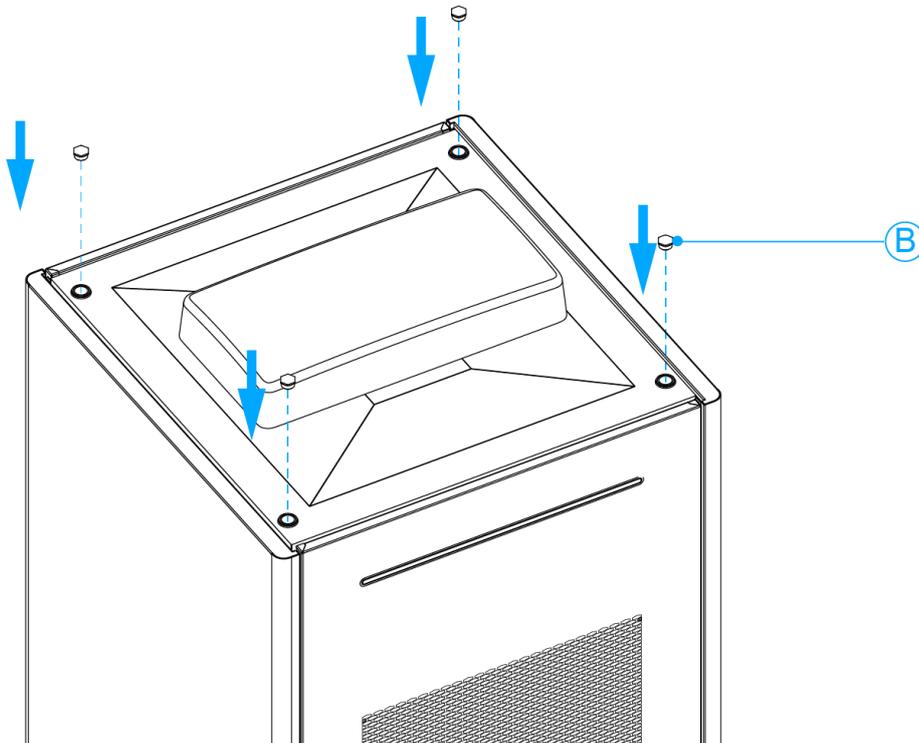


Figure 5-15 Installing the Plugs

3. Open the left and right doors, and reinstall the left and right base covers.

5.3 Installing the Liquid-cooled and Air-cooled Dispenser



NOTICE

The way to install liquid-cooled dispensers (DT800) and air-cooled dispensers (DT500) with both dual charging handles and single handle is the same. The illustrations in this section use the liquid-cooled dispenser (DT800) with dual charging handles as an example.

STEP 1 Opening the Door

Open the door by removing the four screws using a 4 mm L-shaped hex key. **Set them aside.**

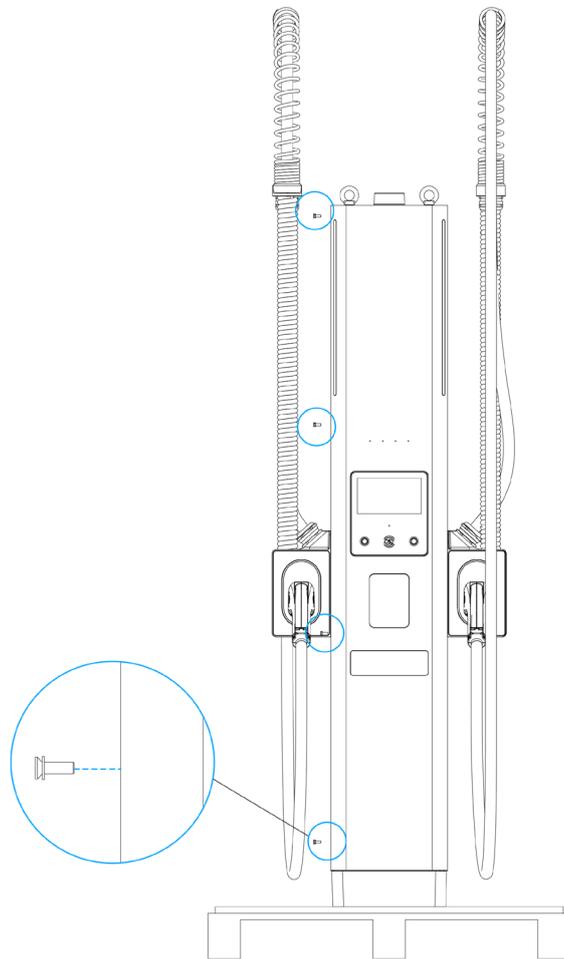


Figure 5-16 Opening the Door of the Dispenser



NOTICE

If a charging handle is inserted in the right socket, remove it before opening the front door.

STEP 2 Removing the Insulation Barrier

Loosen the two screws (A) using a Philips screwdriver to remove the insulation barrier. **Set them aside.**

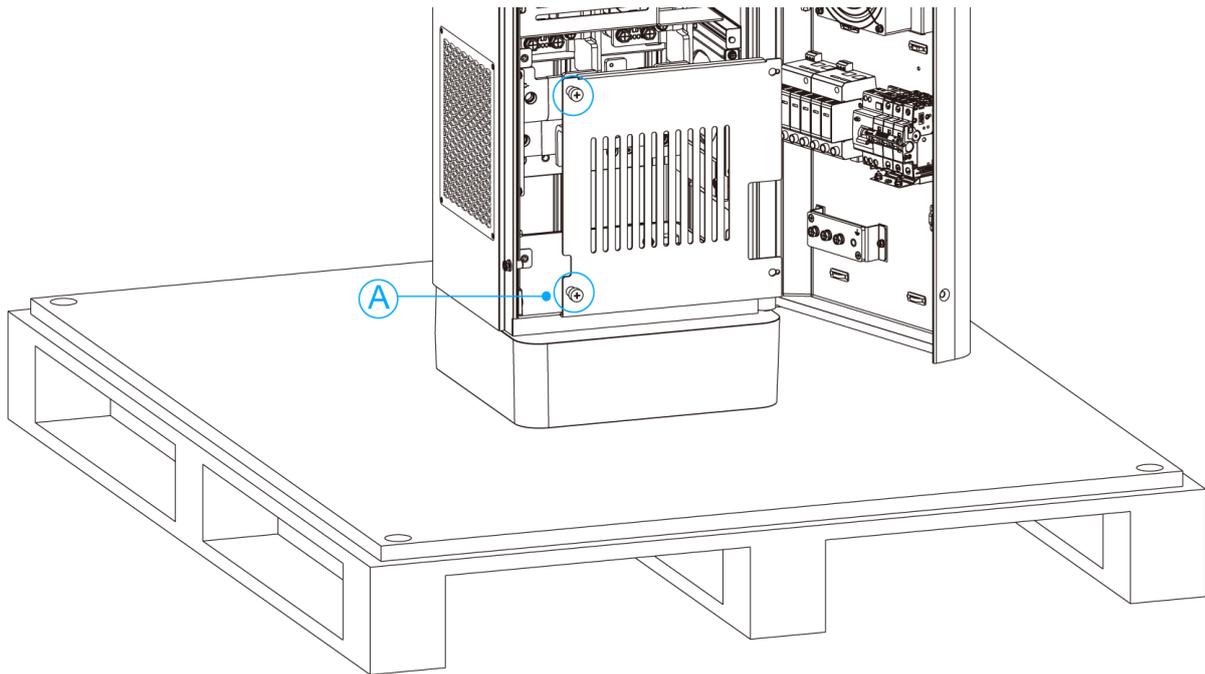


Figure 5-17 Removing the Insulation Barrier

STEP 3 Removing from the Pallet

Remove the dispenser from the pallet by removing the bolt (A), spring washer (B), steel gasket (C), and nylon gasket (D) using an 18 mm socket wrench. Set them aside.

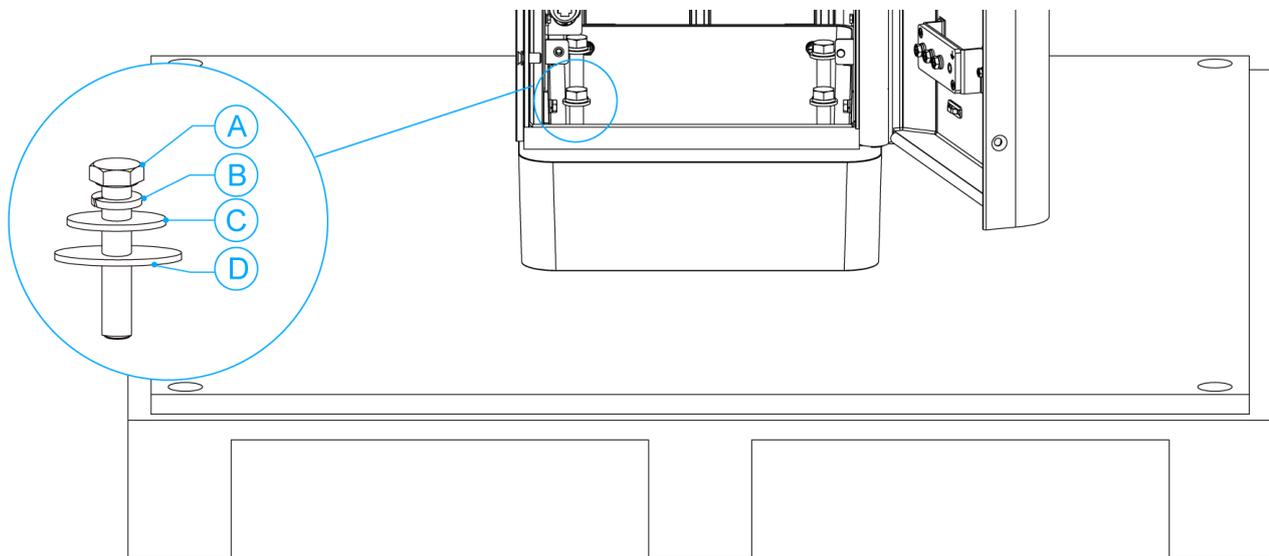


Figure 5-18 Removing the Combination Screws

STEP 4 Hoisting the Dispenser on the Foundation

1. Connect the cables of the hoisting equipment to the eye bolts. Then move the dispenser to the construction site.

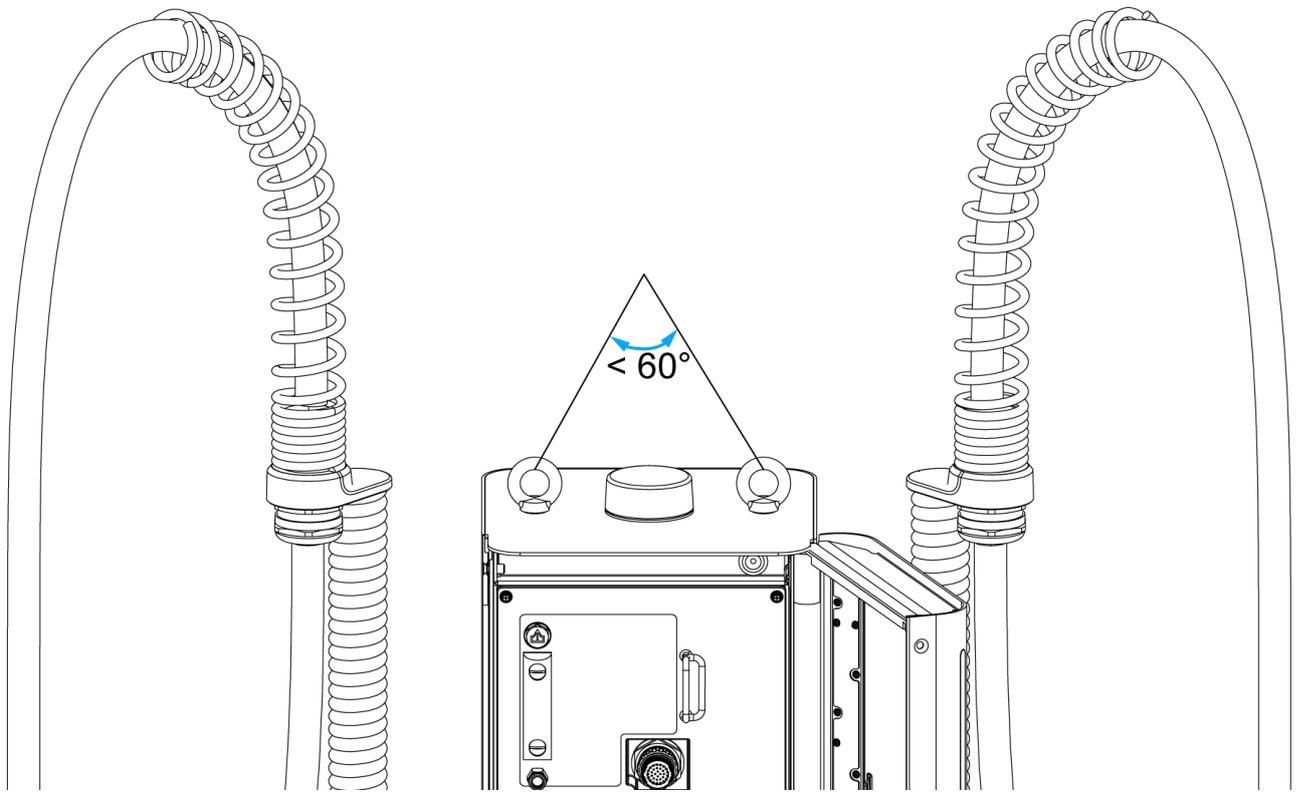


Figure 5-19 Hoisting the Dispenser

WARNING



Risk of pinching or crushing. Heavy Equipment.

- Ensure that the hoisting equipment can lift the dispenser safely.
- Obey the safety instructions that apply to the hoisting equipment.
- Take into account the dimensions, mass, and center of gravity of the equipment.



CAUTION

- **DO NOT** drop the dispenser or subject it to strong impact.
 - Ensure that there is no dynamic force on the hoisting points.
-

2. Carefully lower the dispenser approximately 500 mm above the foundation, aligning with the four expansion bolts (A). Then route the cables needed through the cable inlet hole.

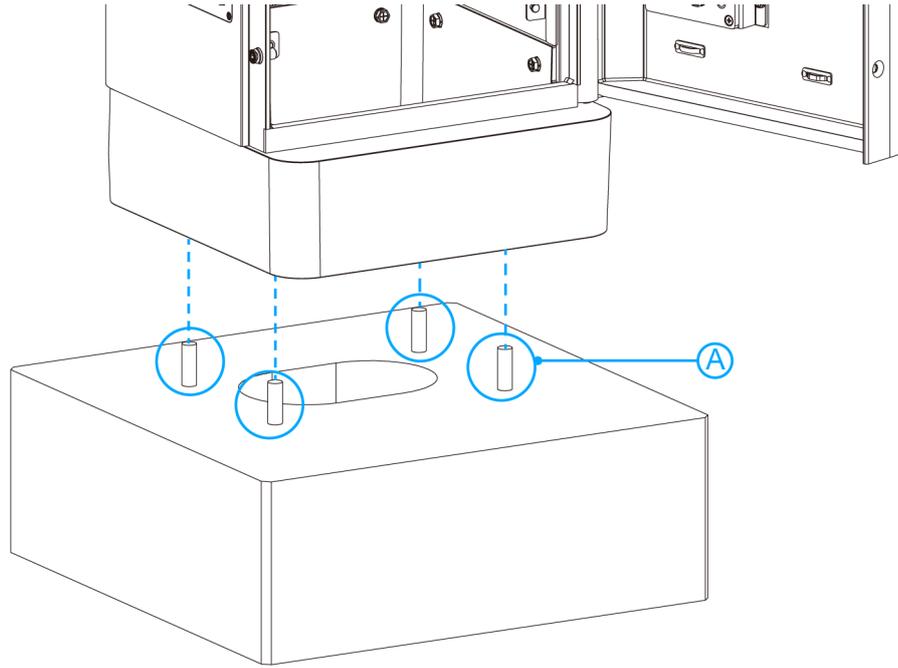


Figure 5-20 Lowering the Dispenser

STEP 5 Securing the Dispenser

1. Reinstall the gaskets and nuts which were removed earlier and tighten them using an 18 mm socket wrench to secure the dispenser onto the foundation.

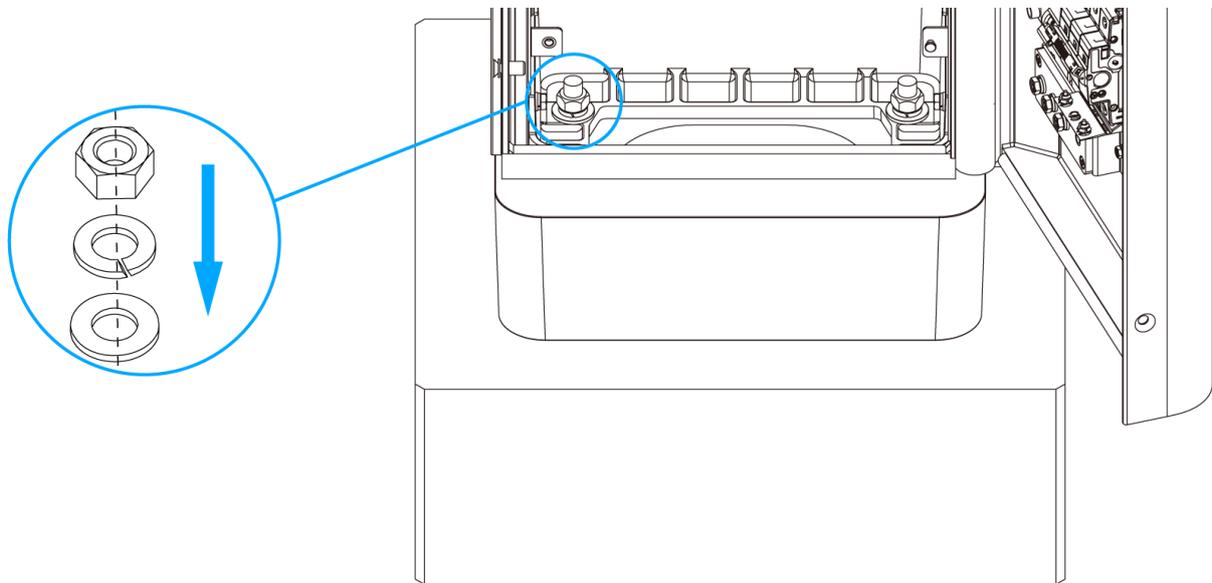


Figure 5-21 Securing the Dispenser onto Foundation

STEP 6 Finishing Touches

1. Remove the two eye bolts (A) and the nylon washers (B).

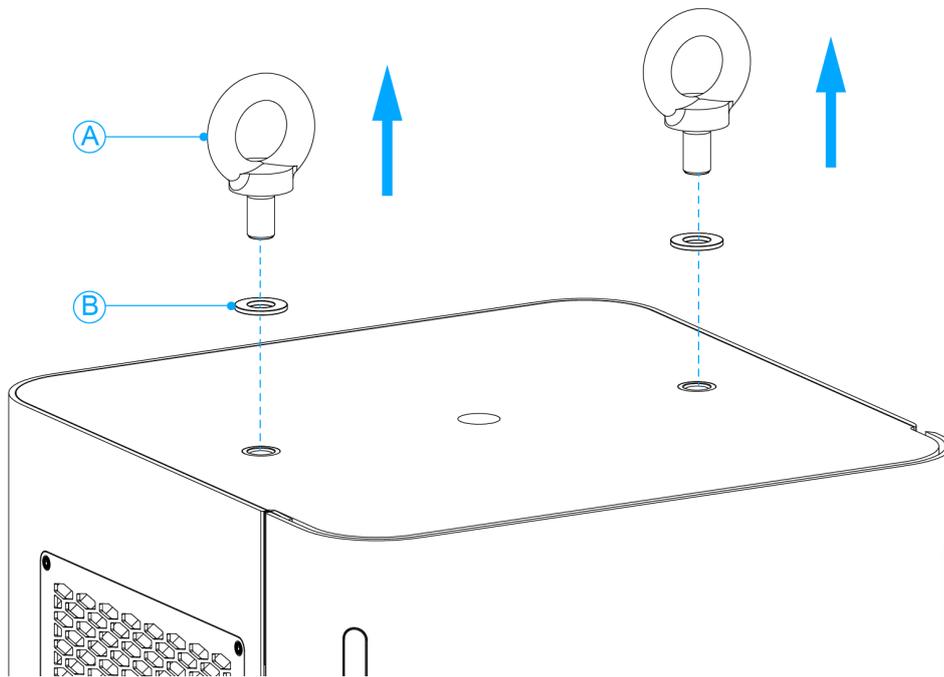


Figure 5-22 Removing the Eye Bolts

2. Screw in the hexagon metal plugs (C) using a 14 mm socket wrench.

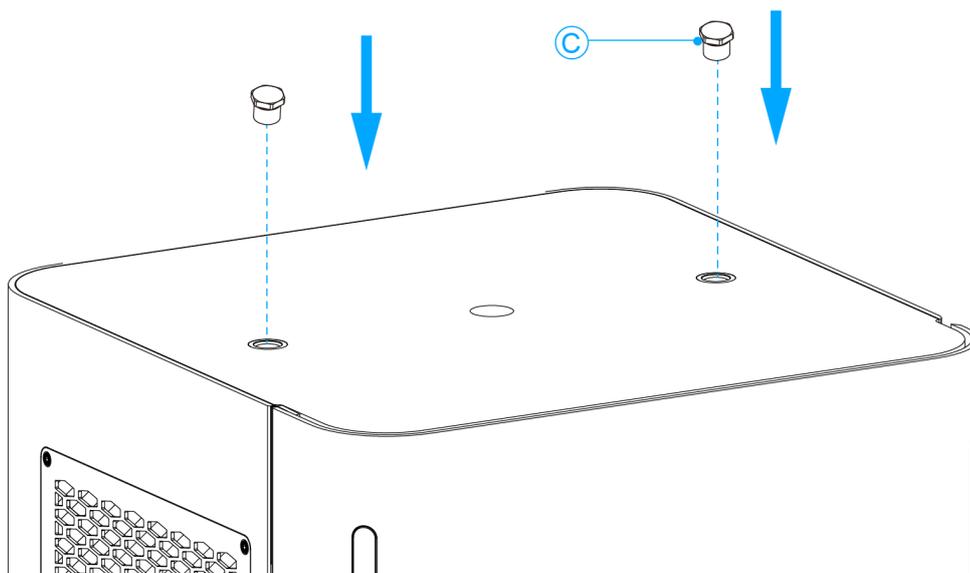


Figure 5-23 Installing the Plugs

STEP 7 Adjusting the CMS

1. Manually turn the CMS to the correct position as shown.

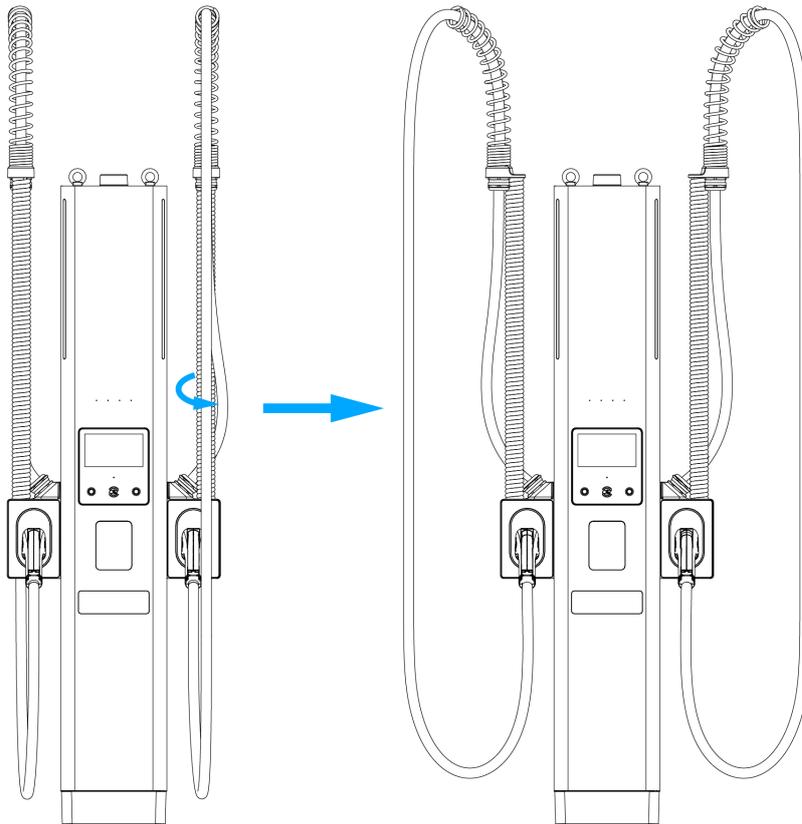


Figure 5-24 Adjusting the CMS

2. Find the six M8 x 12 hex socket set screws from the package. Tighten three screws (A) on each CMS using a 4 mm L-shaped hex key to secure them in place.

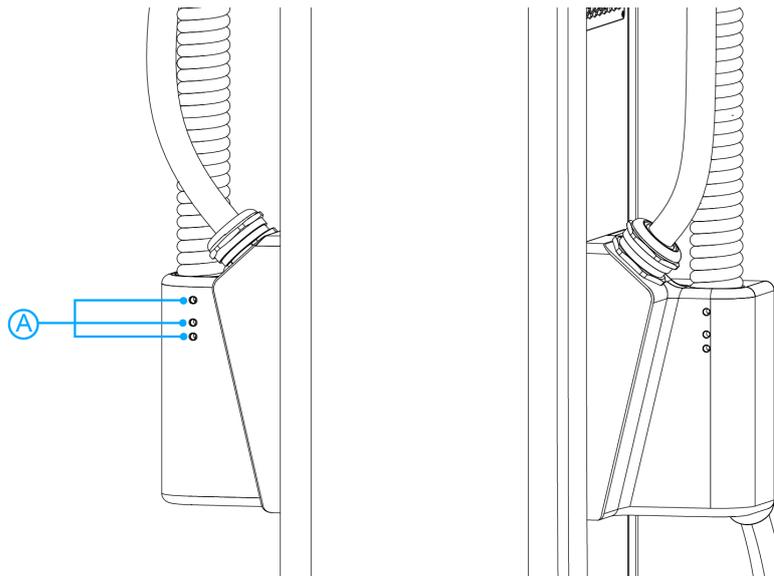


Figure 5-25 Fixing the CMS

5.4 Electrical Wiring



DANGER

Hazardous voltage

Ensure that only qualified personnel have access to the door key.

NOTICE



- Refer to [4.2.1 Wiring Requirements](#) prepare the power cables. Ensure the local rules are followed.
 - Refer to local code for specific design verification.
 - Use proper cable routing methods (such as underground conduit and cable grooves, etc.) to ensure environment factors are taken into consideration.
 - If local laws and regulations have different requirements, the provisions of local laws and regulations shall prevail.
 - XLPE insulated power cable is recommended.
 - Ensure that the cable lugs are properly crimped and sized before connection.
-

5.4.1 Connecting AC Input Cable

STEP 1 Removing the Cover Plates of the Cabinet

1. For the left door:

Remove the four M6 nuts (A) using a 10 mm socket wrench to remove the cover plate. Set them aside.

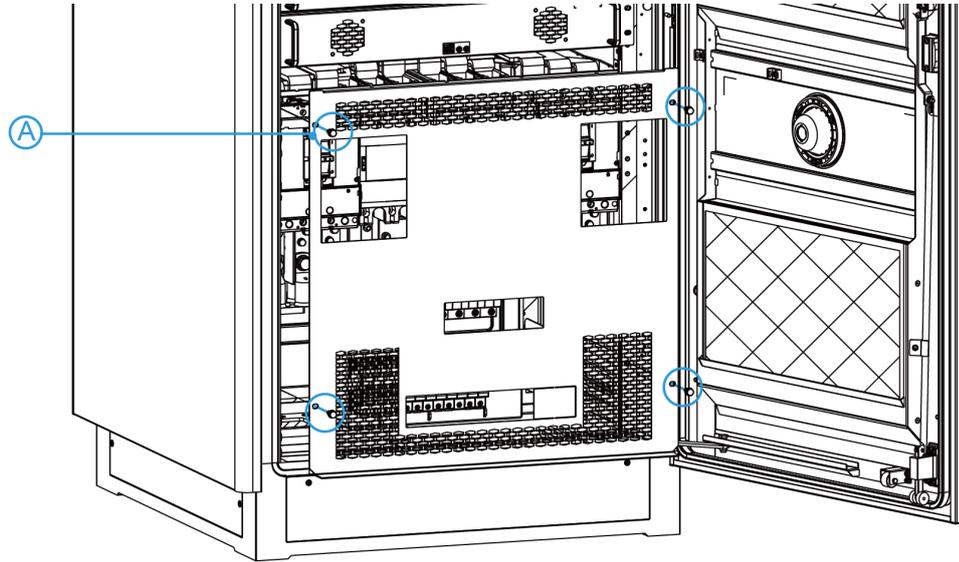


Figure 5-26 Removing the Left Cover Plate

2. For the right door:

1. Unplug the fan cable.
2. Remove the four nuts (A) using a 10 mm socket wrench to remove the cover plate. **Set them aside.**

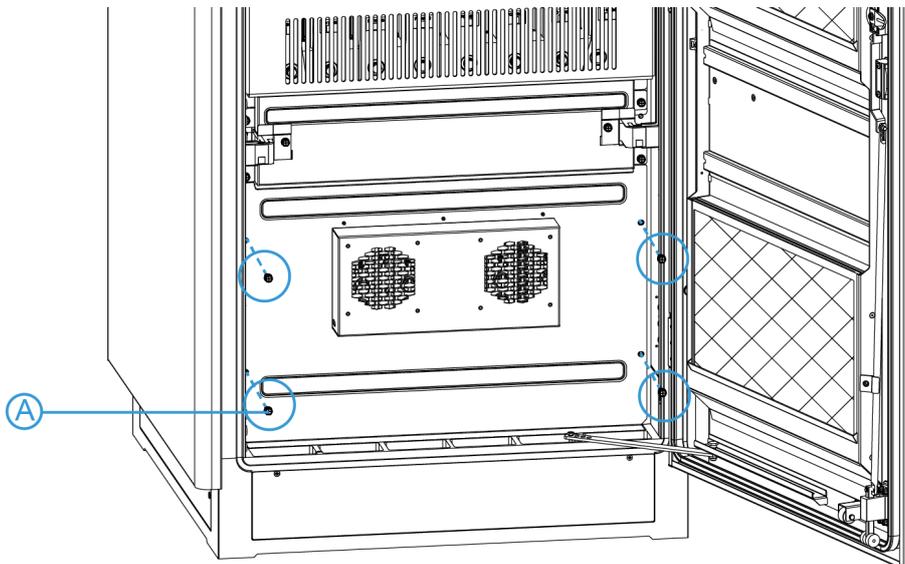


Figure 5-27 Removing the Right Cover Plate

STEP 2 Connecting the PE & AC Input Cables to the Cabinet

1. Prepare L1, L2, L3 and PE cables of suitable length to reach the cabinet.
2. Strip the cables to an appropriate length and crimp them to cable lugs.
3. Refer to the tables and figures below to finish the wiring.

Table 5-1 Connecting the PE & AC Cables to the Cabinet

No.	Wiring	Screw	Torque	Socket Wrench
1	Earth cable (yellow/green)	M12 × 40 (A)	55 ± 5 N·m	18 mm
2	PE cable (yellow/green) (For TT or IT systems)	M6 x 16 (B)	6.5 ± 0.5 N·m	10 mm
3	AC cable (brown/black/gray)	M12 x 40 screw (A) + M12 flange nut (C)	55 ± 5 N·m	18 mm

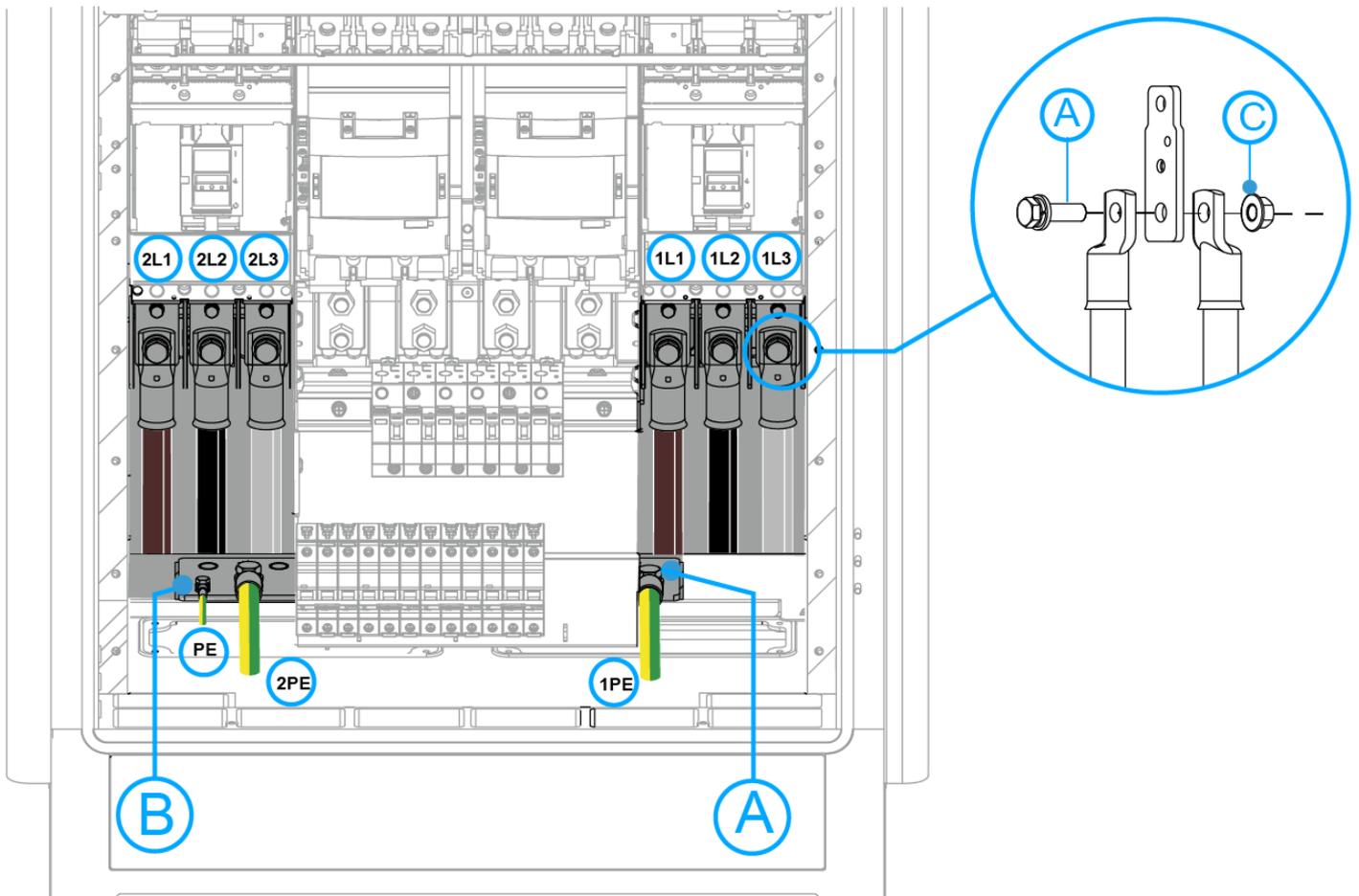


Figure 5-28 Connecting the PE & AC Cables to the Cabinet

5.4.2 Connecting DC Output Cable

1. Prepare DC and PE cables of suitable length to reach both the dispenser and the power cabinet.
2. Strip the cables to an appropriate length and crimp them to cable lugs.
3. Refer to the tables and figures below to finish the wiring.

Table 5-2 Connecting the PE & DC Cables between DS480 and DT800

No.	Wiring	Device	Screw	Torque	Socket Wrench
1	PE cable (yellow/green)	DS480	M12 × 40 (A)	55 ± 5 N·m	18 mm
2		DT800	M10 × 25 (B)	23 ± 10% N·m	16 mm
3	DC cable (red/black)	DS480	M12 × 40 (A)	55 ± 5 N·m	18 mm
4		DT800	M10 × 25 (B)	23 ± 10% N·m	16 mm

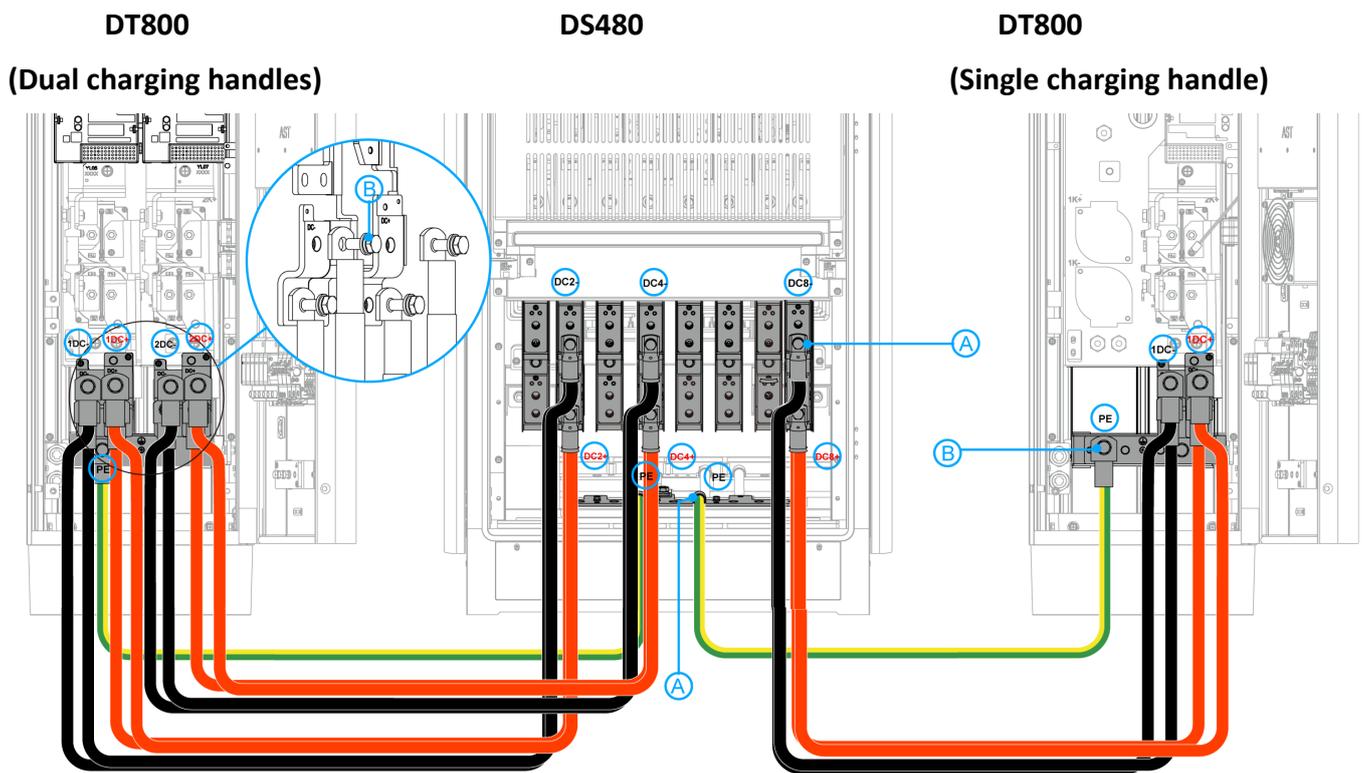


Figure 5-29 Connecting the PE & DC Cables between DS480 and DT800

NOTICE



- DT800 can only connect to DC2, DC4, DC6, and DC8 ports on DS480
- The quantity of liquid-cooled charging handles for a single DS480 should be ≤4 pcs.

Table 5-3 Connecting the PE & DC Cables between DS480 and DT500

No.	Wiring	Device	Screw	Torque	Socket Wrench
1	PE cable (yellow/green)	DS480	M12 x 40 (A)	55 ± 5 N·m	18 mm
2		DT500	M10 x 25 (B)	23 ± 10% N·m	16 mm
3	DC cable (red/black)	DS480	M12 x 40 (A)	55 ± 5 N·m	18 mm
4		DT500	M10 x 25 (B)	23 ± 10% N·m	16 mm

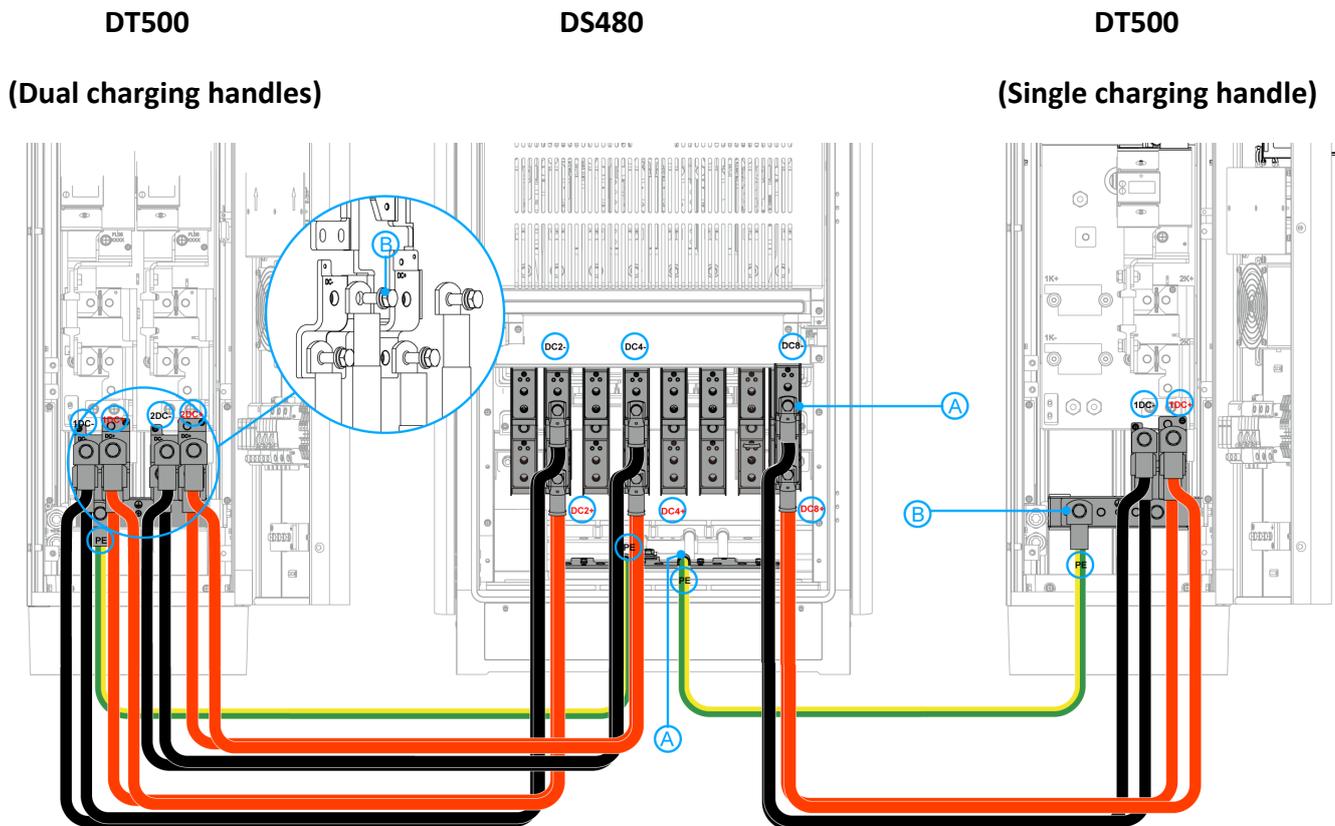


Figure 5-30 Connecting DS480 to DT500

NOTICE



- DT500 dispensers are recommended to connect to DC2, DC4, DC6, and DC8, ports on DS480, which provide higher output power.
- If these ports (DC2/4/6/8) are occupied by liquid-cooled dispensers, use DC1, DC3, DC5, or DC7 instead.

5.4.3 Connecting the AC Auxiliary Cable

1. Prepare L1, L2, and L3 cables of suitable length to reach the dispenser and the power cabinet.
2. Strip an appropriate length of insulation from the two ends of the cables.
3. Refer to the table and figure below to finish the wiring.

Table 5-4 Connecting the AC Auxiliary Cable between the Cabinet and the Dispenser

No.	Device	Notes
1	DS480	<ul style="list-style-type: none"> ● Loosen the terminal screws on the AC circuit breaker using a Phillips screwdriver. ● Insert the wires. Tighten the screws to 2.8 ± 0.5 N·m.
2	DT800/DT500	<ul style="list-style-type: none"> ● Use a Phillips screwdriver to press down the orange spring clamps. ● While holding them down, insert the wires fully into the terminals. Release the clamps to secure the wires.

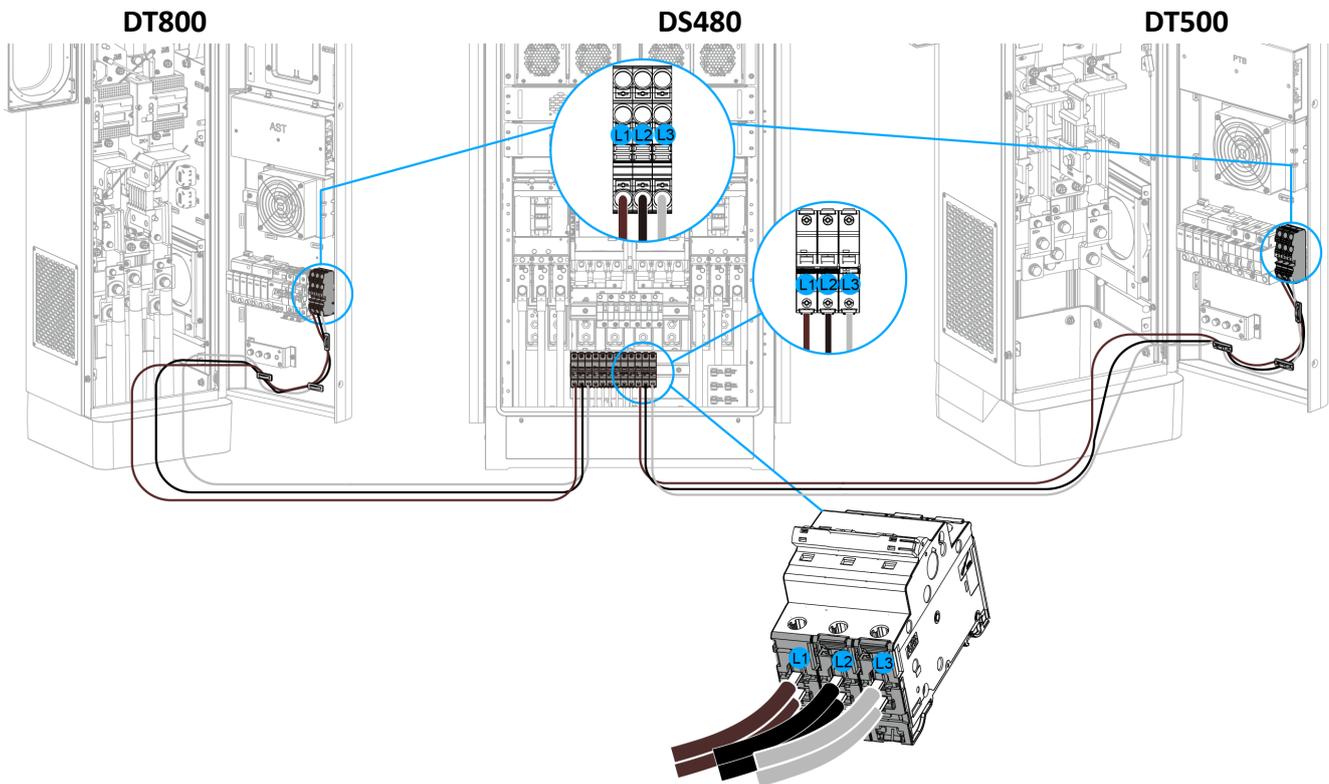


Figure 5-31 Connecting the AC Auxiliary Power Cable of Liquid-cooled Dispenser

NOTICE



- Each DS480 cabinet has 4 terminal blocks (L1/L2/L3), supporting front and rear wiring for up to 8 dispensers.
- 1st – 4th dispensers: connect them to the front side of the blocks.
- 5th – 8th dispensers: connect them to the rear side of the blocks (e.g., connecting the 5th dispenser to the rear side of first block).

5.5 Connecting to the Internet

The charging station can be connected to the Internet via the Ethernet cable, cellular network or Wi-Fi.

5.5.1 To the Cabinet

5.5.1.1 Via the Ethernet Cable

Plug the Ethernet cable to the RBU GE as shown.

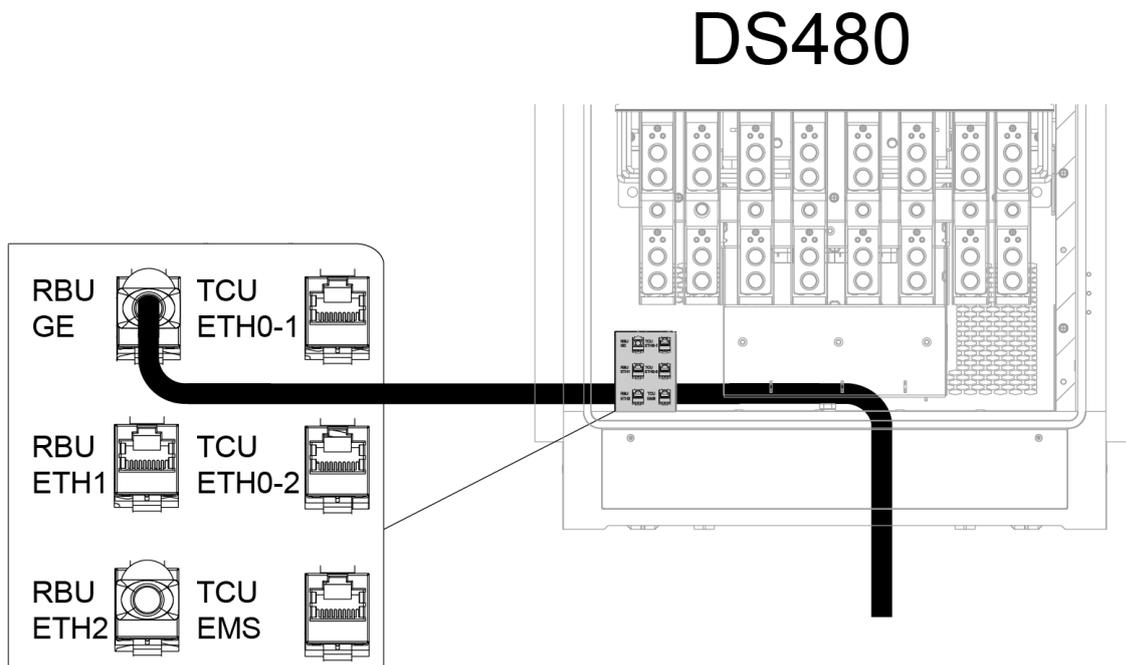


Figure 5-32 Connecting the Ethernet Cable to the Power Cabinet

5.5.1.2 Via the SIM Card



DANGER

Stop the charge session and power off the charging station before installing the SIM card.



NOTICE

SIM card 1 is used for the maintenance of the charging station, while SIM card 2 is used for the operation of the charging station. If the customer only installs one SIM card, insert it into the slot SIM 1.

To install SIM card 1:

1. Locate the **RBU** at the control module.
2. Loosen the two screws (**A**) using a Phillips screwdriver and then pull out the RBU.

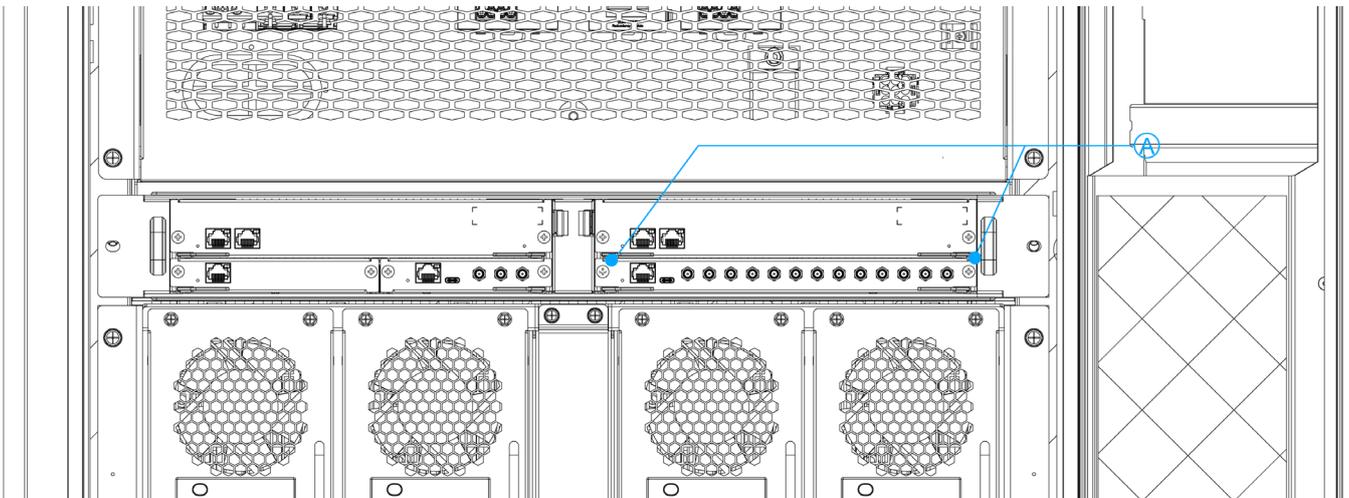


Figure 5-33 Loosening the Screws

- 3.** Slide to open the left SIM card slot cover.

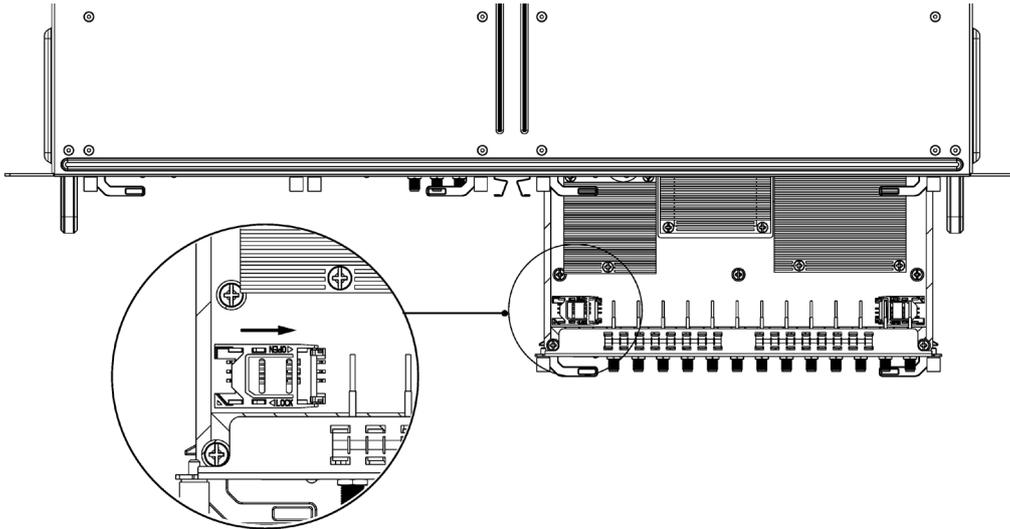


Figure 5-34 *Opening the SIM Card Slot Cover*

- 4.** Insert the SIM card into the tray. Ensure the card is placed correctly.
- 5.** Close the SIM card slot cover.
- 6.** Push the RBU back in place and tighten the two screws using a Phillips screwdriver.

To install SIM card 2, refer to the steps above to install the card into the right card slot of the RBU.

5.5.2 To the Dispenser

Table 5-5 Connecting the Ethernet Cables between the Cabinet and Dispensers

Wiring	Port Configuration	Color Code
Start (cabinet to dispenser-1)	RBU-ETH1 (Cabinet) → TCU-Ext1 (Dispenser-1)	① → ②
Middle (between dispensers)	TCU-Ext2 (Dispenser-1) → TCU-Ext1 (Dispenser-2) ...	③ → ④
End (last dispenser to cabinet)	TCU-Ext2 (last Dispenser) → RBU-ETH2 (Cabinet)	⑤ → ⑥

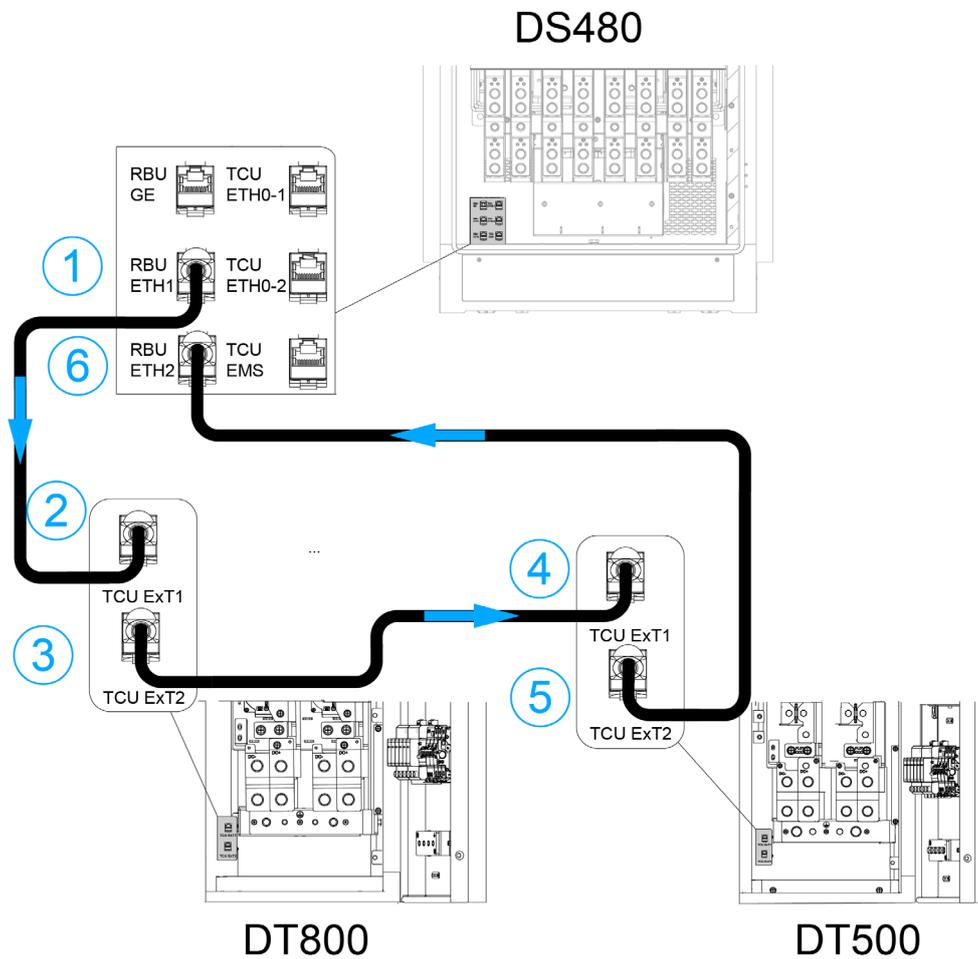


Figure 5-35 Connecting the Ethernet Cables between the Cabinet and Dispensers



NOTICE

The sequence and number of dispensers can be adjusted as needed.

5.6 Installing or Replacing Modules (Optional)

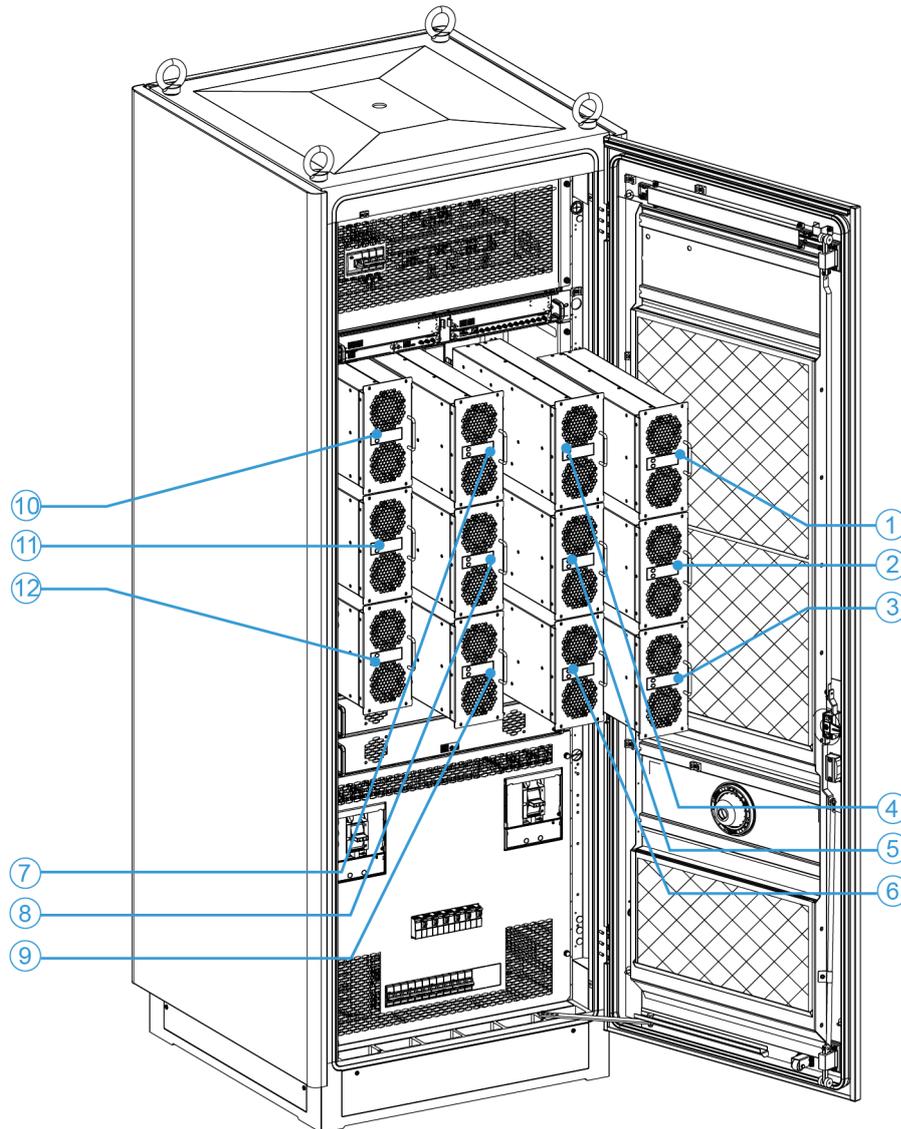


Figure 5-36 Charging Module Location



NOTICE

The above illustration is for reference only. Install the charging modules based on the location number.

Table 5-6 Charging Module Installation Specifications

Rated Power	Modules Installed	Module Slots	Available DC Ports
160 kW	4 PCS	2, 5, 8, 11	2, 4, 6, 8
200 kW	5 PCS	2, 5, 6, 8, 11	2, 3, 4, 6, 8
240 kW	6 PCS	2, 5, 6, 8, 9, 11	2, 3, 4, 5, 6, 8
280 kW	7 PCS	2, 3, 5, 6, 8, 9, 11	1, 2, 3, 4, 5, 6, 8
320 kW	8 PCS	2, 3, 5, 6, 8, 9, 11, 12	1, 2, 3, 4, 5, 6, 7, 8
360 kW	9 PCS	1, 2, 3, 5, 6, 8, 9, 11, 12	1, 2, 3, 4, 5, 6, 7, 8
400 kW	10 PCS	1, 2, 3, 4, 5, 6, 8, 9, 11, 12	1, 2, 3, 4, 5, 6, 7, 8
440 kW	11 PCS	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8
480 kW	12 PCS	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8



NOTICE

When the rated power is below 320 kW, only specific DC ports can be used. See the table above for details.

See the figure and table above to determine the location of charging modules. Then follow the steps below to install charging modules as needed.

1. Slowly push the module into each designated slot. the handle of the charging module should be on the right side and face outward.
2. Install and torque the M4 × 10 screws to 1 ± 0.1 N·m using a Phillips screwdriver to secure the module.

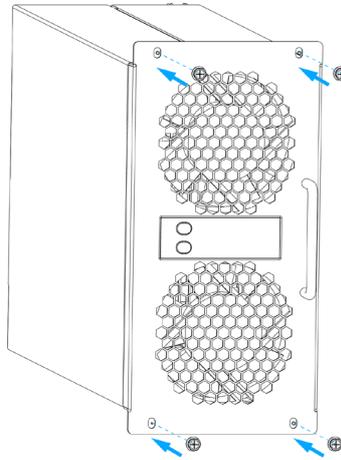


Figure 5-37 Tightening the Screws of the Charging Module

3. After the installation is completed, set the hardware address. For details, refer to *MaxiCharger DS480 Spare Parts Replacement Manual*.

For slots where charging modules are not installed, follow the steps below to seal them with filler modules.

STEP 2 Securing the Module

1. Slowly push the filler module into the slot.
2. Install and torque the M4 × 10 screws to 1 ± 0.1 N·m using a Phillips screwdriver to secure the module.

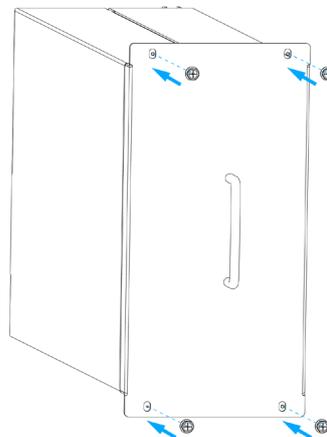


Figure 5-38 Tightening the Screws of the Filler Module

5.7 Finishing Installation

For the Power Cabinet:

1. Apply fireproof mortar to seal any gaps or clearances.
2. Reinstall the cover plates.
3. Ensure that the three circuit breakers are switched OFF before proceeding.
4. Lift the limit linkage with foot to close the left and right doors. Then lock them using the cabinet door key. Ensure no debris is left inside.

For the Dispenser:

1. Apply fireproof mortar to seal any gaps or clearances.
2. Reinstall the insulation barrier.
3. Close the door and lock it by reinstalling the four screws. Ensure there are no metal shavings or other debris left inside.

6. Operation

6.1 Before Use

- Ensure that the equipment is installed according to the instructions in this manual.
- Make an emergency plan that instructs people what to do in case of an emergency.
- Provide the instructions for emergency stop and charge session to the user.
- The manufacturer or a trained technician should perform the commissioning work.
- The space around the charging station shall not be blocked by snow or other objects.
- Ensure that the maintenance work has been carried out on the charging station.

6.2 Powering Up the Charging Station

1. Ensure that the upstream breaker stays in the **OFF** position and locked during the procedure.
2. Tighten the screws and bolts of key parts and ensure the cabinet is clean inside to prevent the electronic components from being damaged by dust or particles.
3. Use the multimeter to check the resistance between the PE bus bar at the upstream distribution cabinet and the PE bus bar inside the charging station, and ensure it complies with IEC60364-4-41. Make sure the correct connection between the PE bus bar at the upstream distribution cabinet and the PE bus bar inside the charging station.
4. Use the multimeter to check the following voltages, which need to meet the rated voltage demand of the charging station:
 - 1) Check the input voltage of the upstream breaker.
 - 2) Turn on the upstream breaker, and then check the output voltage of the breaker.
 - 3) Check the voltage of the MCCB in the charging station.
 - 4) Check the voltage of the MCB and RCD in the charging station.
5. Turn on the MCCB and MCB.
6. Close the doors of the cabinet. The charging station is now ready for use.

6.3 Emergency Situations

If there is an emergency, push the **emergency stop** button. Then the charging station will stop all charge sessions and the touchscreen will display the following message:

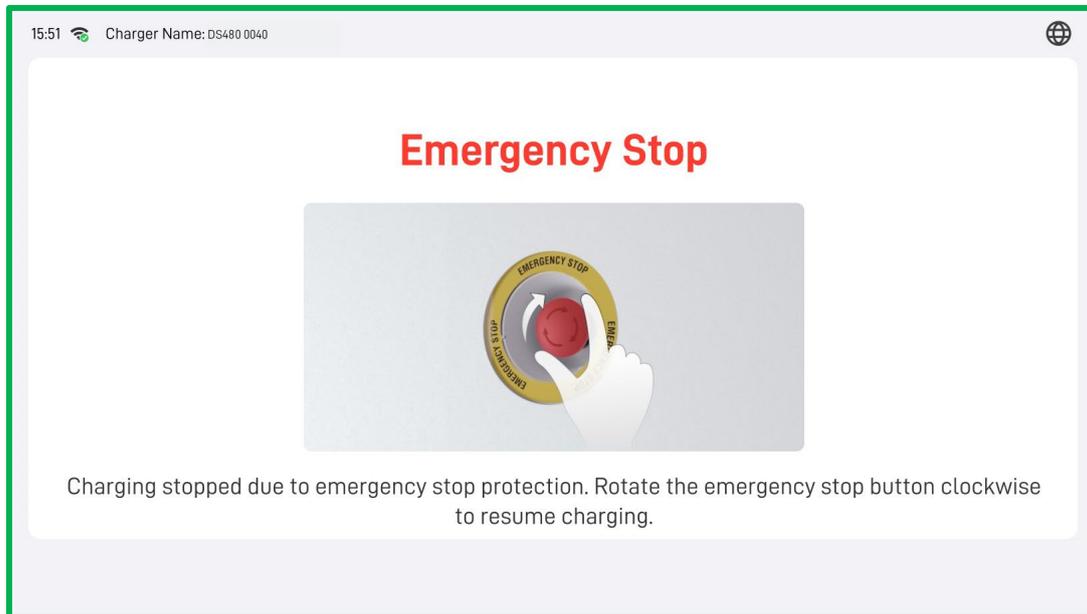


Figure 6-1 Fault Message Screen

Reset the charging station after an emergency (making sure that the situation is safe again first): Turn the emergency button clockwise to release it. The charging station will start, the message will disappear from the touchscreen, and the charging station will resume normal operation.

6.4 Charge Sessions



WARNING

- Do not cover the vent during charging.
 - Do not clean or operate in your EV during charging.
-



NOTICE

The display may vary depending on the charging station's configuration.

General charging procedure:

1. Park an EV with the charging port within reach of the charging handle.
2. Plug in the vehicle.
3. Start the charge session.
4. Stop the charge session.

6.4.1 Standby Screen

Dispenser with 1 touchscreen and 2 charging handles:

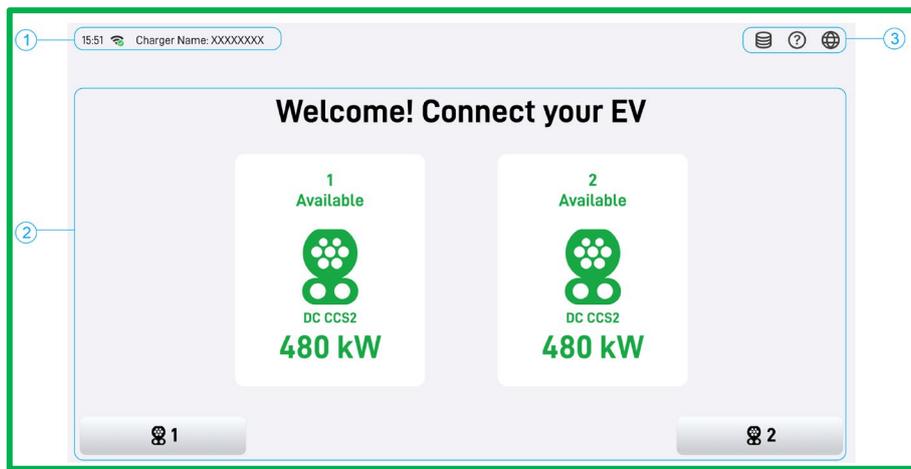


Figure 6-2 Standby Screen for DT500 (1)

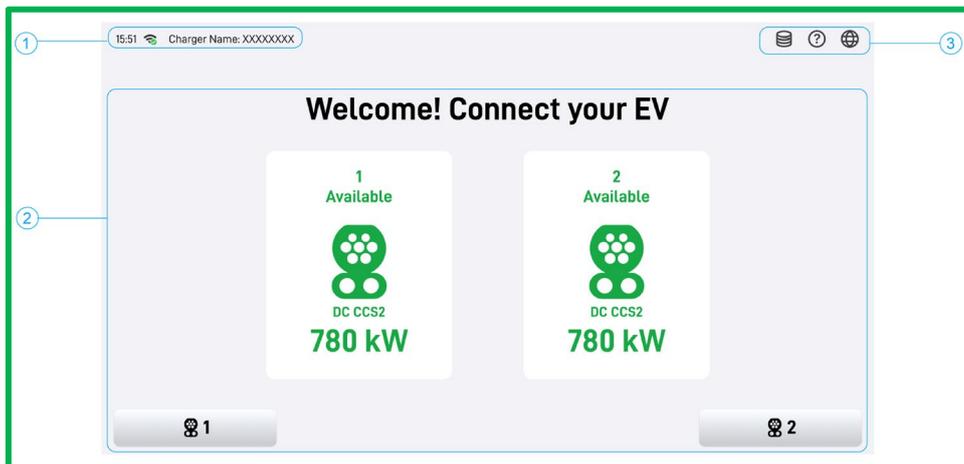


Figure 6-3 Standby Screen for DT800 (2)

1. Time, Internet icon and charger name — an x appearing at the lower corner of the Internet icon indicates the charging station is not connected to the Internet
2. Standby screen
3. Pricing details, user guide and language options

After a charging handle is successfully connected to the EV, the charging station can automatically recognize the charging handle and the corresponding charging handle's Authorization screen will appear.

If no operation is performed for a period of time on the Authorization screen, the Standby screen will appear. Manually select the charging handle on the touchscreen to exit the standby screen.



NOTICE

The displayed power may vary depending on the charging station's configuration.

6.4.2 Authorization



CAUTION

- Before starting a charge session, observe the screen for any abnormality, such as an error message. Check the surroundings and the charging station for any abnormality or damage as well.
 - **DO NOT** operate the charging station if the screen displays an error message. Contact Autel technical support.
-

When the Authorization screen appears, you can use any of the following methods to start a charge session:

- Autocharge/Plug & Charge (supports the ISO 15118 PnC function)
- RFID card
- Credit card (optional)
- Scan the QR code on the screen
- Telephone
- PIN

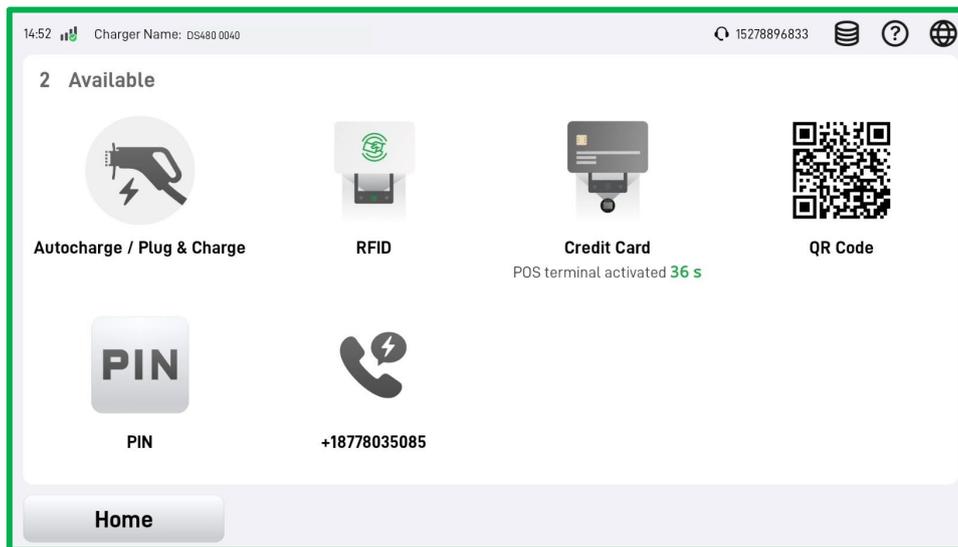


Figure 6-4 Authorization Screen



NOTICE

Swipe only one credit or RFID card at a time. Stacking cards may cause charging failures.

6.4.3 Start Charging

The charging station enters communication with the EV following a successful authorization. The charge session will start automatically after passing safety tests.

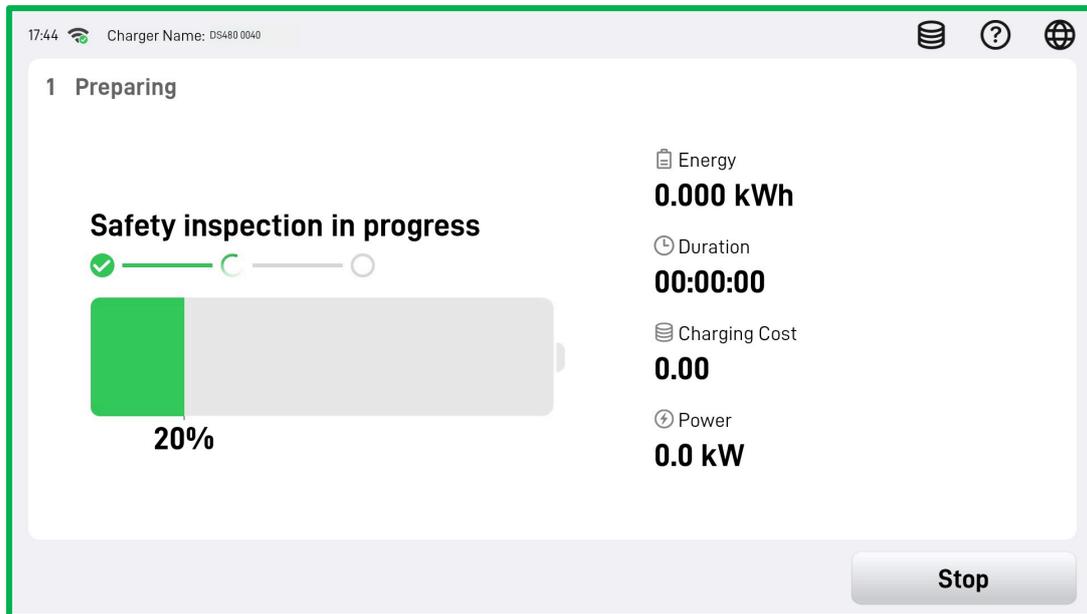


Figure 6-5 Connecting Screen

6.4.4 Charging

Information about the charging process, energy, charging duration, cost, and power will appear on the Charging screen.

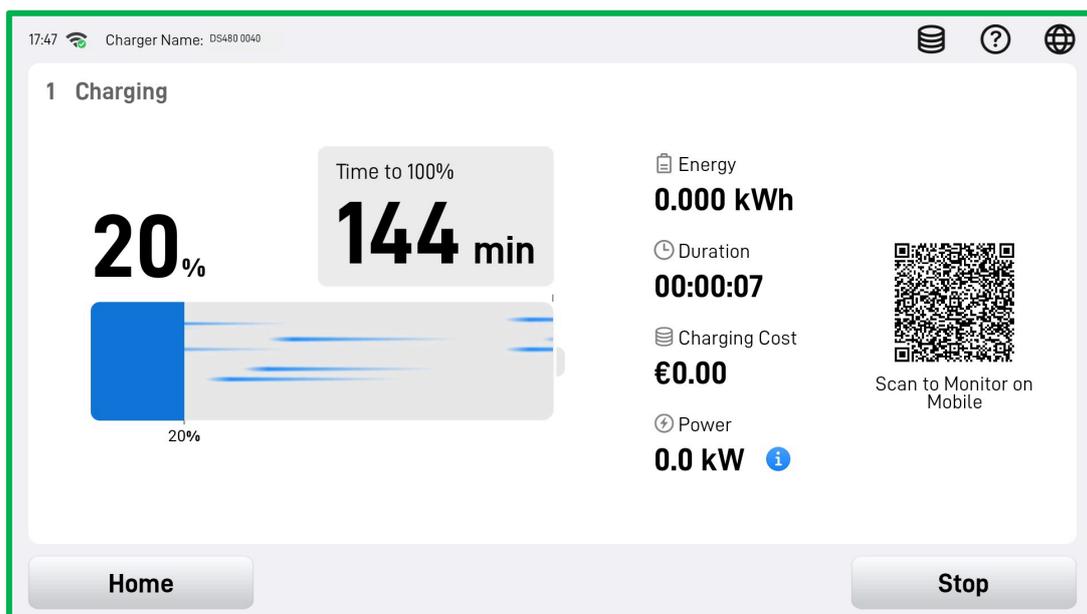


Figure 6-6 Charging Screen

6.4.5 Stop Charging

The way to stop charging will vary depending on the way to start charging:

- Credit Card/Plug & charge/Autocharge/PIN/Telephone: Tap the **Stop** button on the touchscreen.
- QR Code: Tap the **Stop** button on the Charging screen of the Autel Charge app.
- RFID Card: Tap the RFID card on the card reader again to finish charging.



NOTICE

The charge session stops automatically when the battery is full.

Once the charging stops, the transaction details will appear on the screen.

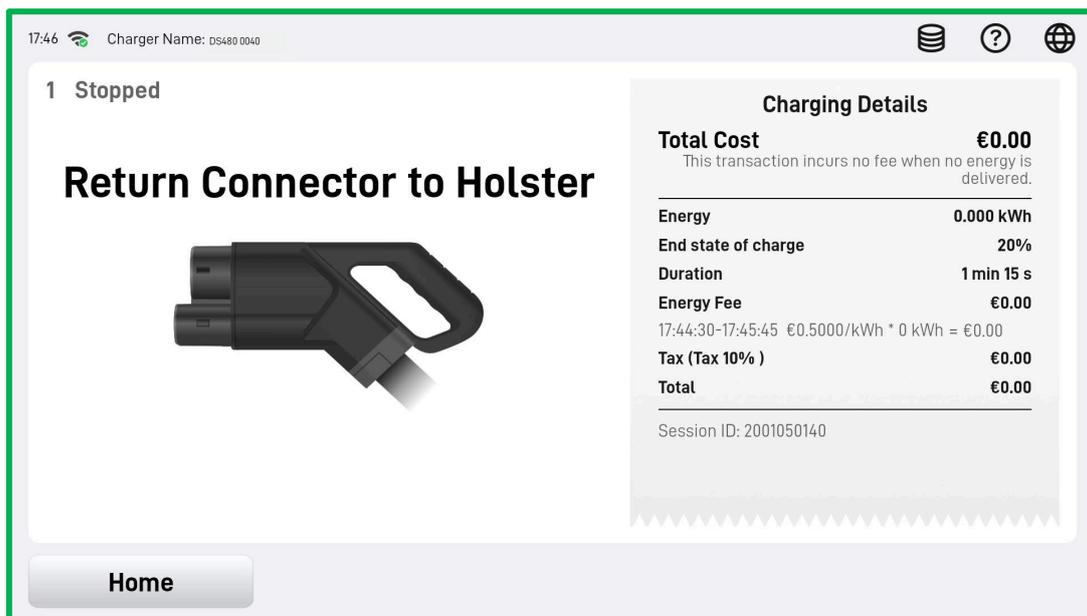


Figure 6-7 Charging Details Screen

6.4.6 Finish Charging

Return the charging handle to the socket on the charging station.

6.5 Charging Errors

This section depicts several common problems that may arise during a charge session along with possible causes/solutions to resolve them. If the problem persists, contact Autel technical support.

6.5.1 Charging Handle Connection Error

If the charging handle is not connected to the EV, then the Connector Not Connected screen will appear. Disconnect completely, then plug in the EV and recheck the screen to see if the error message is resolved.

6.5.2 Authorization Failure

The Authorization Failure screen appears when there is an error processing the chosen authentication method. The cause and possible solution(s) will display on the screen. Follow the on-screen instructions to resolve the problem, or contact Autel technical support.

6.5.3 Charge Start Failure

The Charge Start Failure screen appears when the charging station has failed to pass the initialization process. The cause and possible solution(s) will display on the screen. Follow the on-screen instructions to resolve the problem.

6.5.4 Charging Failure

The Charging Failure screen appears when various errors occur during a charge session. The cause and possible solution(s) will be displayed on the screen. Follow the on-screen instructions to resolve the problem, or contact Autel technical support.

7. Maintenance

7.1 Routine Maintenance

WARNING



- For safety, do not carry out maintenance work on rainy days.
 - Disconnect the power supply to the charging station during the entire maintenance procedure.
 - Ensure unauthorized personnel are kept at a safe distance during maintenance.
 - Wear proper personal protective equipment, such as protective clothing, safety gloves, safety shoes, and safety glasses.
 - If the safety devices are removed for maintenance, reinstall them after completing the work.
-

7.1.1 Cleaning the Charging Station

The equipment is powder-coated. The coating must be kept in good condition. When the equipment is in a corrosion sensitive environment, superficial rust may appear on welding points. Visible rust has no risk to the integrity of the cabinet.

To remove rust:

1. Stop the charge session and power off the equipment.
2. Remove rough dirt by spraying with low-pressure tap water.
3. Apply a neutral or weak alkaline cleaning solution and let it soak.
4. Remove dirt by hand with a damp and non-woven nylon cleaning pad.
5. Rinse thoroughly with tap water.
6. Apply wax or a rust-preventive primer for extra protection if needed.

7.1.2 Cleaning and Replacing the Air Filters

The equipment is equipped with air filters with a large mesh area to prevent the electronic components from being damaged by dust. Clean the air filters every 3 months (not exceeding 6 months). Replace the air filters once a year.

7.1.2.1 For the Power Cabinet:

To clean the air inlet filters:

1. Ensure there is no active charge session and perform lockout-tagout to secure the equipment.
2. Open the left door of the power cabinet. When the door is open, the internal components of the power cabinet should not be exposed to rain, snow or harsh environments.
3. For the filter with a temperature sensor, use wire cutters to cut the zip ties and remove the sensor.
4. Manually unscrew the screw (A).
5. Manually pull up while moving and turning left the air inlet filters to remove them from the fixing board as shown.
6. Clean the air inlet filters of debris or dust and reinstall the cleaned filters. Or install the new air inlet filters.
7. For the filter with a temperature sensor, reattach the sensor and secure it with new zip ties.
8. Close the left door of the power cabinet.

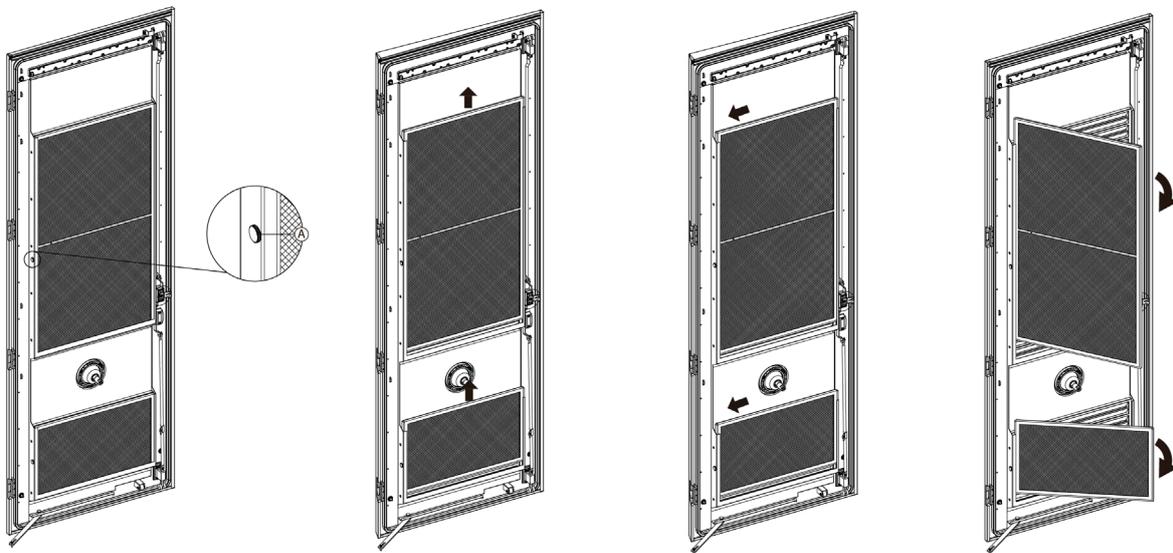


Figure 7-1 Cleaning the Air Inlet Filter of the Power Cabinet

To clean the air outlet filters:

The air outlet filters are at the right door of the power cabinet. Refer to the steps above to operate.

7.1.2.2 For the Dispenser

1. Ensure there is no active charge session.

2. Open the door of the dispenser. When the door is open, the internal components of the dispenser should not be exposed to rain, snow or harsh environments.
3. Loosen the two screws (A) and remove the fixing board (B). Then take out the air filter (C).
4. Clean the air filter of debris or dust and reinstall the cleaned filter. Or install a new air filter.
5. Reinstall the fixing board and tighten the two screws.
6. Close the door of the dispenser.

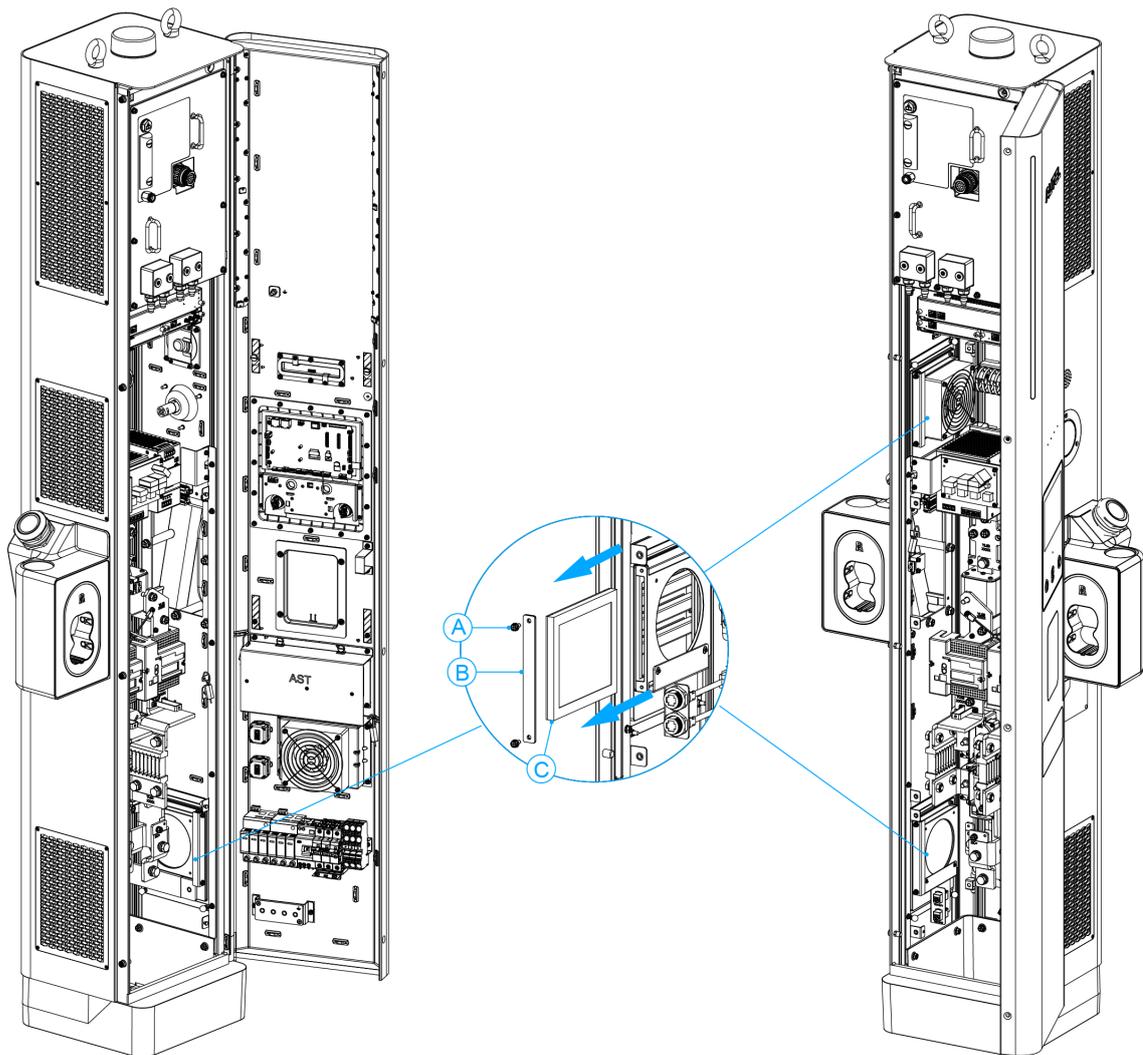


Figure 7-2 Cleaning the Air Filter of the Dispenser

7.1.3 Connectivity of the SIM Card

Over time, the SIM card may develop contact issues with the slot, causing connectivity problems. It is necessary to check if the SIM card is making proper contact with the slot.

To ensure the connectivity of the SIM card:

1. Stop the charge session and power off the charging station.

2. Open the left door of the charging station. When the cabinet door is open, the internal components of the charging station should not be exposed to rain, snow or harsh environments.
3. Locate the RBU at the control module. Loosen the two screws using a Phillips screwdriver and then pull out the RBU.
4. Remove the SIM card from the slot.
5. Press the SIM slot slightly together so that the contacts are better in contact.
6. Insert the SIM card into the correct slot. Ensure the card is placed correctly.
7. Close the SIM card slot cover.
8. Put the RBU back in place and tighten the two screws.
9. Close the left door of the power cabinet.

7.2 Inspection and Maintenance

Routine maintenance is needed even if the equipment is operating in normal condition.

When parts need to be replaced, cut off the power supply upstream and inside the equipment before proceeding.

Regularly conduct visual inspection of the following:

- Cable and charging handle: Check for cracks or ruptures.
- Display: Check for damage and cracks. Check whether the touchscreen works.
- Coating of the cabinet: Check for damage, cracks or ruptures.
- Cabinet: Check for rust or damage. Tighten the screws and bolts of key parts, and check whether the wire connection of the connector is burned out. If any abnormality is found, replace the parts in time.
- RCD: Test the RCD regularly.

The following special inspections are needed for safe use:

- Check if the equipment was struck by lightning.
- Check if the equipment is damaged due to an accident or fire.
- Check if the equipment installation site has been flooded.



WARNING

Stop the charge session and do not connect the power to the equipment until all the inspections are completed.

7.3 Remote Maintenance

The equipment can connect to the Autel cloud platform to monitor parameters in real time. Autel's cloud platform provides remote upgrades, diagnosis, and services, and identifies any issue during operation.

- Daily system self-check.
- Contact Autel technical support to resolve any issue found.
- Autel service engineers can check logs, update configurations and programs, and provide remote maintenance services such as remote management, diagnosis, configuration, and upgrade.

7.4 Maintenance Schedule

Item	Frequency	Operations
Charging Handle	Annually	Check for cracks or ruptures.
Input Cable	Annually	Check for cracks or ruptures.
Inlet Air Filter	Annually	Replace the inlet air filter.
Outlet Air Filter	Annually	Replace the outlet air filter.
Cabinet	Annually	Clean and check for damage, including the air filters.
Liquid Coolant Level (DT800)	Annually	Check the level of the coolant level.
SIM Card	Annually	Check if the SIM card is making proper contact with the slot.



NOTICE

The frequency is only for reference. Check the items mentioned above based on the real situation.

8. Technical Specifications

8.1 Power Cabinet Specifications

Table 8-1 DS480 Specifications

MaxiCharger DS480	
AC Input	
AC Input Capacity	532 kVA
Input Connection	3P + PE
Input Voltage	3-phase 400V AC \pm 10% (2 routes)
Input Frequency	50 Hz/60 \pm 5 Hz
Earthing System	<p>TN-S, TN-C, TN-C-S, TT (Requires external RCD)</p> <p>When connected to a TN-C system, the grounding continuity must be ensured.</p> <p>When connected to TT and IT systems, the equipment enclosure must be grounded.</p>
Power Factor @ full load	\geq 0.99
Overvoltage Category	AC Side (Input) OVC: III
Harmonic Distortion (THDi)	< 5%
Rated Current (each route)	384 A
Maximum Current (each route)	426 A
DC Output	
Output Power	480 kW
Output Voltage	150-1000 V (CCS2) 150-500 V (CHAdeMO)
Max. Number of Outputs	8
Charging Mode	Mode 4: CCS2/CHAdeMo
Minimum Adjustable Power	40 kW/ 80 kW
Output Current	Liquid-cooled: 500 A (Max. 780A)

MaxiCharger DS480

Air-cooled: 380 A (500 A)

Peak Efficiency 96%

General Characteristics

Dimensions (W x D x H) 782 x 782 x 2155 mm

Mounting Floor Standing

Connectivity 4G/5G (Dual SIM Card)
Wi-Fi
Ethernet

Software Update OTA updates via web portal, FTP, FTPS, HTTPS

Standby Power ≤ 85 W (Depending on configuration)

Short Circuit Current 35 kA

Emergency Button Yes

Enclosure Type Zinc Aluminum Magnesium Alloy

Internal RCD Optional

Enclosure Rating IP54/IK10

Communication to the EV ISO/IEC 15118 with PnC
DIN 70121

User Interface

Status Indication Standard

RFID Protocols ISO 14443 A/B
ISO/IEC 15693
MIFARE

Communication Protocols OCPP 1.6J
OCPP 2.0.1 (Optional)

Environmental Specifications

Humidity < 95% RH, non-condensing

Operating Altitude ≤ 2000 m

MaxiCharger DS480

Operating Temperature Range	–35 °C to +55 °C (derating from +40 °C)
Storage Temperature Range	–40 °C to +70 °C
Noise	≤55 dBA @25°C @1 m in front of the side door (silent mode)
Safety and Compliance	
Protection	Surge, overcurrent, undervoltage, overvoltage, tilt sensor, access protection, over-temperature protection, short circuit and overload protection
EMC Compliance	EMC Class A
Safety Standards	IEC 61851-1 IEC 61851-21-2 IEC 61000
Certification	CE UKCA TR25 ETSI EN 303645
Warranty	
Design Life	10 Years
Warranty	24 months, warranty extension possible

8.2 Dispenser Specifications

8.2.1 Liquid-cooled Dispenser (DT800)

Table 8-2 Dispenser Specifications

Liquid-cooled Dispenser (DT800)	
DC Output	
Output Power	780kW
Output Voltage	150-1000 Vdc
Max. Number of Outputs	2
Charging Mode	Mode4: 1*CCS2, 2*CCS2
Output Current	CCS2 500A (Max. 780A)
General Characteristics	
Dimensions (W x D x H)	Without CMS: 280 × 780 × 2160 mm With CMS: 280 × 780 × 2285 mm
Mounting	Floor Standing
Screen Type	8-inch LCD Touch Screen (1920*1080) Horizontal screen 2 buttons
Connectivity	Ethernet
Software Update	OTA updates via web portal, FTP, FTPS, HTTPS
Cable Length	5 m
Energy Metering	Accuracy : 1%
Standby Power	≤ 65 W (Typical value)
Emergency Button	Yes
Enclosure Type	Aluminum alloy 6063
Enclosure Rating	IP55/IK10
Communication to the EV	ISO/IEC 15118 with PnC DIN 70121

Liquid-cooled Dispenser (DT800)

User Interface

Status Indication	Standard
RFID Protocols	ISO 14443 A/B ISO/IEC 15693 MIFARE
Credit Card Readers	Nayax VPOS/Onyx Payter P66/Apollo/Apollo Polar PAX IM30 Worldline Valina Castles S1U2
Communication Protocols	OCPP 1.6J (OCPP 2.0.1 Optional)
User Authentication	AutoCharge Plug & Charge APP RFID Card QR Code Credit Card (Optional)
Cable Management System	Standard

Environmental Specifications

Humidity	≤ 95% RH, non-condensing
Operating Altitude	≤ 2000 m
Operating Temperature Range	−35 to +55 °C (derating 40°C)
Storage Temperature Range	−40 to +70 °C
Noise	< 65 dBA @25°C @1 m in front of screen (silent mode)

Safety and Compliance

Protection	Surge, overcurrent, undervoltage, overvoltage, tilt sensor, access protection, over-temperature protection, short circuit and overload protection
-------------------	---

Liquid-cooled Dispenser (DT800)	
EMC Compliance	EMC Class A
Safety Standards	IEC 61851-1 IEC 61851-23 IEC 61851-21-2 IEC 61000
Certification	CE UKCA TR25 ETSI EN 303645
Warranty	
Design Life	10 Years
Warranty	24 months, warranty extension possible

8.2.2 Air-cooled Dispenser (DT500)

Table 8-3 DT500 Specifications

Air-cooled Dispenser (DT500)	
DC Output	
Output Power	Nom. 380kW, Max. 480kW
Output Voltage	150-1000 V (CCS2) 150-500 V (CHAdeMO)
Max. Number of Outputs	2
Charging Mode	Mode4: 1*CCS2, 2*CCS2
Output Current	CCS2: 380 A (Max. 500 A) ChAdeMO: 200 A (Max. 350 A)
General Characteristics	
Dimensions (W x D x H)	322x322x1650mm

Air-cooled Dispenser (DT500)

Mounting	Floor Standing
Screen Type	8-inch LCD Touch Screen (1920*1080) Horizontal Screen 2 Buttons
Software Update	OTA updates via web portal, FTP, FTPS, HTTPS
Cable Length	5 m 7.2 m (Optional)
Standby Power	≤ 65 W (Typical value)
Emergency Button	Yes
Enclosure Type	Aluminum Alloy 6603
Enclosure Rating	IP55/IK10
Communication to the EV	ISO/IEC 15118 with PnC DIN 70121 CHAdeMO 2.0.1
User Interface	
Status Indication	Standard
RFID Protocols	ISO 14443 A/B ISO/IEC 15693 MIFARE
Credit Card Readers	Nayax VPOS/Onyx Payter P66/Apollo Polar PAX IM30 Worldline Valina Castles S1U2
Communication Protocols	OCPP 1.6J (OCPP 2.0.1 Optional)
User Authentication	AutoCharge Plug & Charge APP RFID Card

Air-cooled Dispenser (DT500)

	QR Code Credit Card (Optional)
Cable Management System	Standard
Environmental Specifications	
Humidity	≤ 95% RH, non-condensing
Operating Altitude	≤ 2000 m
Operating Temperature Range	-35 to +55 °C (derating 40°C)
Storage Temperature Range	-40 to +70 °C
Noise	≤55 dBA @25°C @1 m in front of screens (silent mode)
Safety and Compliance	
Protection	Surge, overcurrent, undervoltage, overvoltage, tilt sensor, access protection, over-temperature protection, short circuit and overload protection
EMC Compliance	EMC Class A
Safety Standards	IEC 61851-1 IEC 61851-23 IEC 61851-21-2 IEC 61000
Certification	CE UKCA TR25 ETSI EN 303645
Warranty	
Design Life	10 Years
Warranty	24 months, warranty extension possible

8.3 Detailed AC Input Specifications

Table 8-4 Detailed AC Input Specifications for DS480

Parameter	Power Rating (kW)									
	Cabinet	160	200	240	280	320	360	400	440	480
	One Route	80	120	120	160	160	200	200	240	240
Rated Input Current (A)		136	198	198	260	260	322	322	384	384
Recommended Upstream Breaker Current One Route(A)		160	250	250	320	320	400	400	500	500
Recommended Cross-section of Input Cable(mm ²)	Single	70	120	120	185	185	/	/	/	/
	Parallel	2*25	2*35	2*35	2*70	2*70	2*95	2*95	2*120	2*120
Charging handle outlet connection position		DC 2/4/6 /8	DC 2/3/4 /6/8	DC 2-6&8	DC 1-6&8	DC 1-8				

NOTICE



- Component selection must consider environmental derating factors; Upstream & Downstream device coordination for protection shall comply with IEC 61439
- Cable selection shall be assessed according to IEC 60364-5-52 (Installation Method D1). If the user's local specifications impose higher requirements, the corresponding regulations must be complied with.
- For power output above 280 kW:
 - If there are four or fewer charging handles, connect them to DC ports 2, 4, 6, and 8 of the cabinet.
 - If there are more than four charging handles, give priority to DC ports 2, 4, 6, and 8, and connect the remaining handles to any other available DC ports.

8.4 Wireless Communication Parameters

Table 8-5 Wireless Communication Parameters

Type	Operating Band/Frequency	Max. Transmit Power (dBm)	
2.4G Wi-Fi	802.11b/802.11g/802.11n	18	
4G	GSM900	35	
	DCS1800	33	
	WCDMA Band 1/WCDMA Band 8	25	
	LTE: Band 1/Band 3/Band 7/Band 8/Band 20/Band28/Band 38/Band 40	25	
	GNSS: GPS, GLONASS, Galileo, BDS, QZSS	N/A	
5G (optional)	GSM900/DCS1800	25	
	WCDMA Band 1/WCDMA Band 8	25	
	LTE TDD: Band 1/Band 3/Band 7 /Band 8/Band 20/Band 28/Band 38 /Band 40/Band 42/Band 43	25	
	FDD:	n1/n3/n8/n20/n28/n38/n42/n43/n75/n76	25
		n77/n78	28
	GNSS: GPS, GLONASS, Galileo, BDS, QZSS	N/A	
RFID	13.56 MHz	11.06	
Radar	24.00-24.25 GHz	0.59	

NOTICE



- This equipment has been tested and found to comply with the limits for a EN 300 440 v2.1.1 receiver Category 3.
- These limits are designed to provide reasonable protection against harmful interference in a residential installation.
- When placed in the vicinity of other device(s) radiating in the band 24~24.25 GHz this device will inadvertently trigger on.
- Please take appropriate measure to mitigate this eventuality.

AUTEL[®]

www.autelenergy.com