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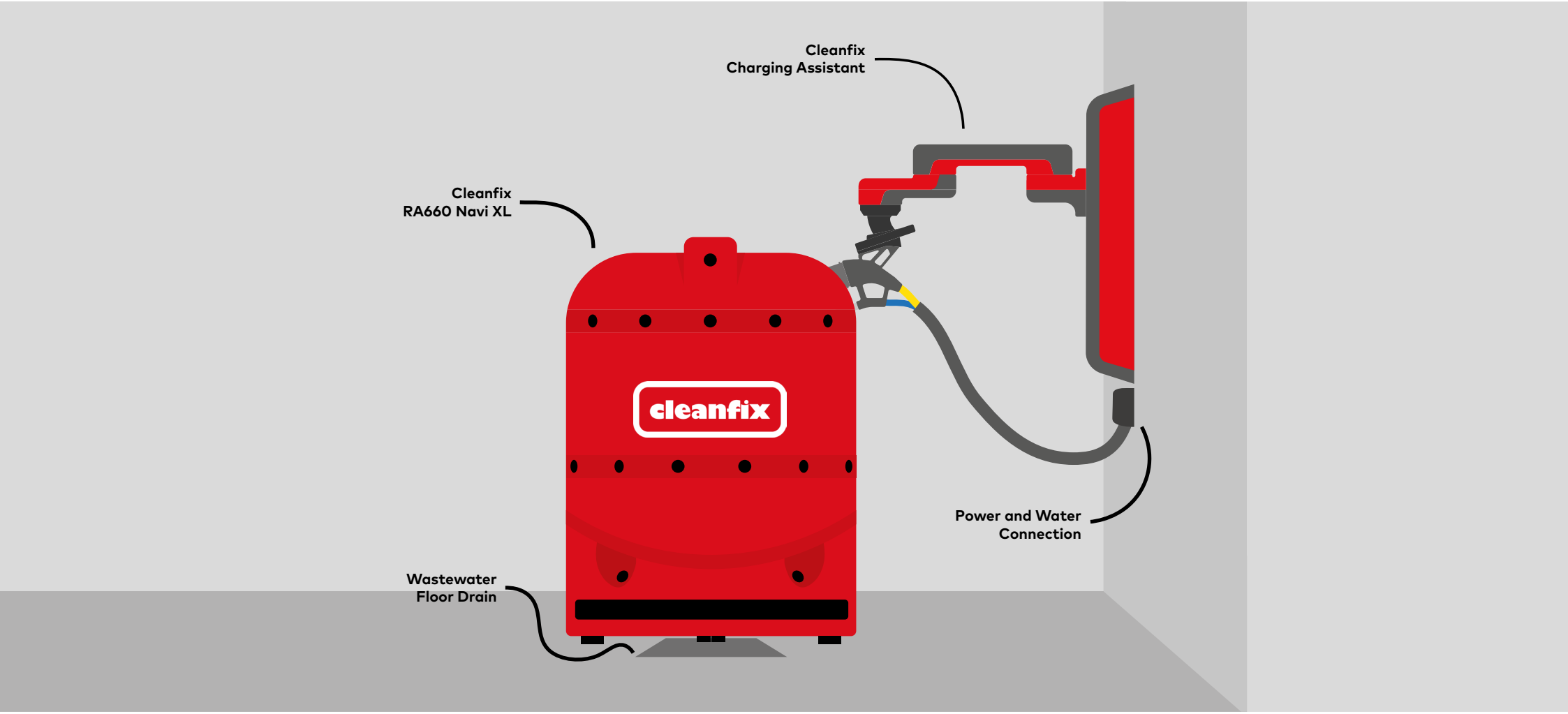
cleanfix

Integration Guide

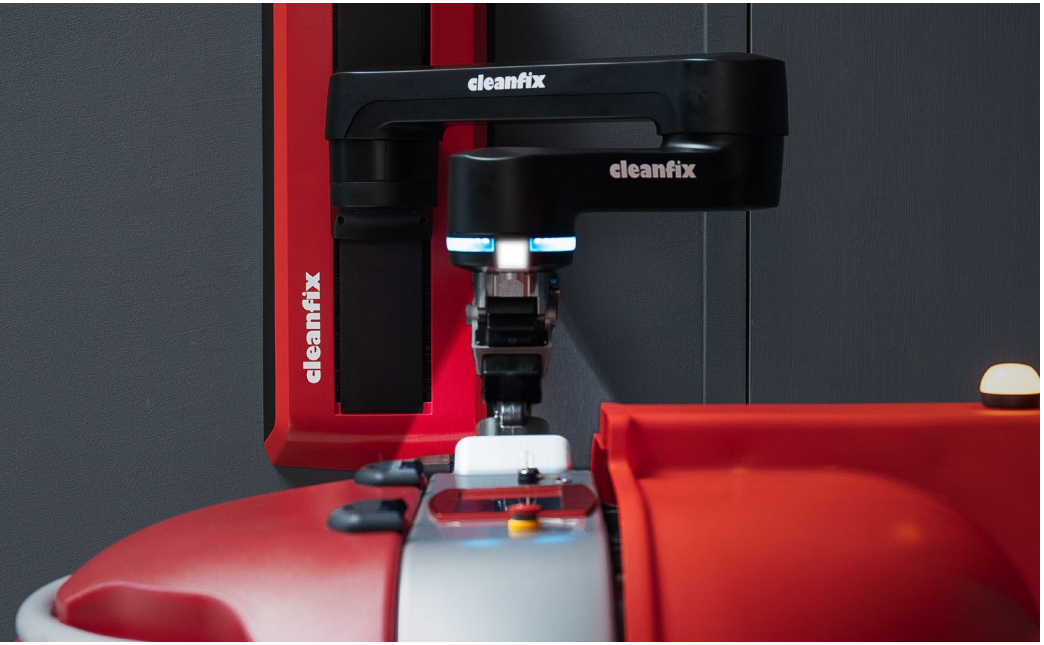
Autonomous Docking Station

System Overview

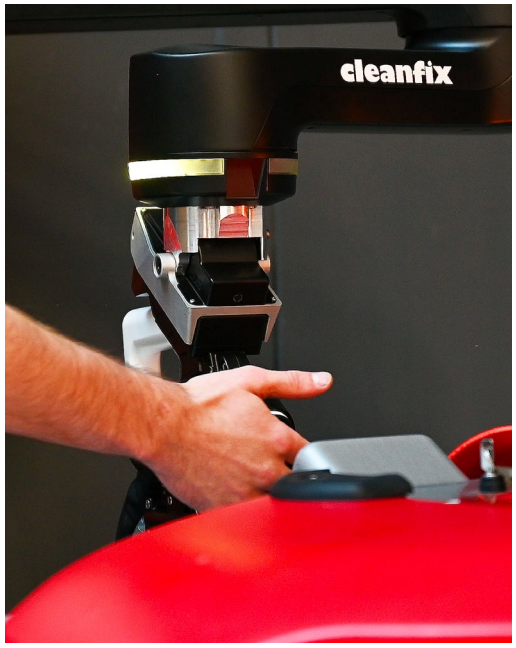


Safety Features

Plugging Process



Dynamic Position Adjustment



Obstacle Detection

Force-free operation until final plugging

The Charging Assistant enables autonomous refilling of water and energy. The process is designed for maximum safety: an integrated camera system with on-device data processing detects the position of the charging inlet and dynamically adjusts the path planning.

During free movement, the arm operates with minimal force, allowing for safe interaction with its environment. Higher force is only applied during the final plugging (image on the very right).

Product video

Watch the Charging Assistant in action

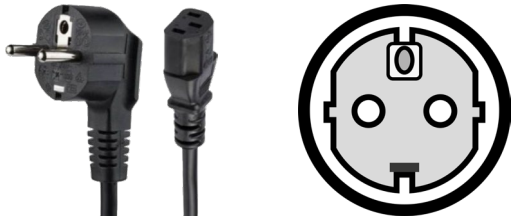
Cleanfix Charging Assistant

Technical Data

Manufacturer	Cleanfix Reinigungssysteme AG
Type	Charging Assistant
Dimensions	
Wallmount	320 x 100 x 760 mm
Arm	approx. 900 mm
Weight	approx. 23.5 kg
Horizontal force	
during free movement	approx. 25 N
Protection class	IP20
Mounting position	Wall mounted, vibration free
Temperature range	5–45°C
Power plug / cable	
Input	Schuko (CEE 7/7) to type J (IEC-60320 C13)
Output	... to CCS Combo 2

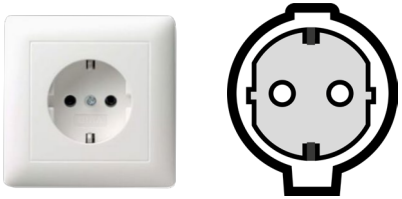
Supplied Cable

CEE 7/7 (Schuko)



Needed Installations

CEE 7/3 (Schuko) Socket

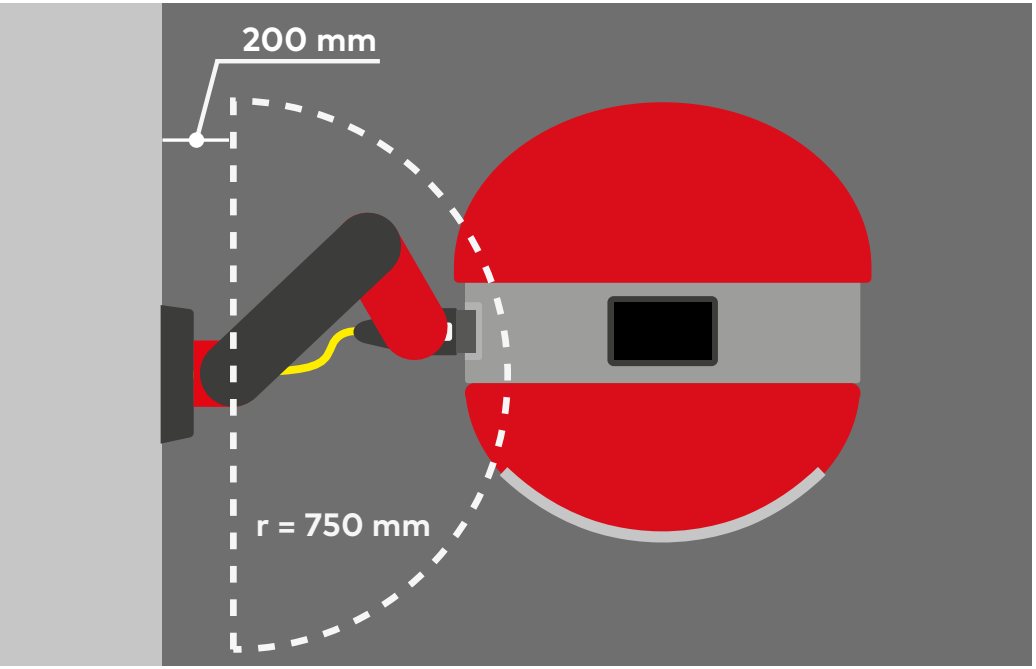


CEE 7/5 (Schuko) Socket

*Should your country use a different type of power outlet, this can be taken into consideration during the planning of the project.

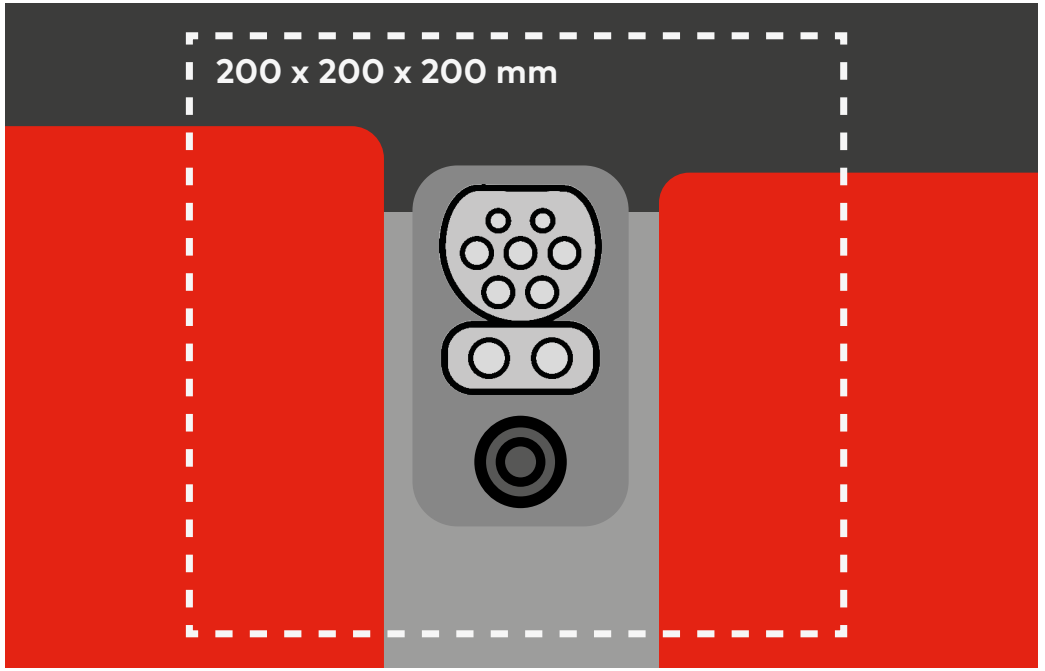
Flexibility

Workspace and Tolerances



Maximum Workspace

After fixed installation, the arm can move freely within a radius of **750 mm** horizontally and **400 mm** vertically.

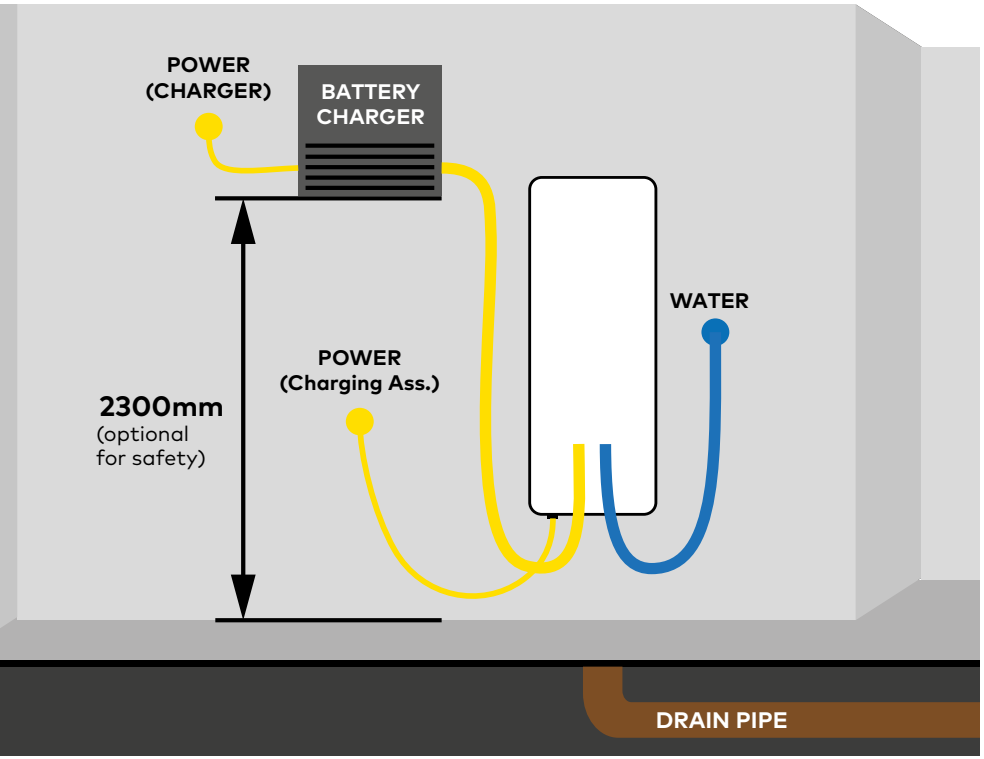


Plugging Tolerance

Within this workspace, any position can be configured as a docking position (using the control app).

In standard operation, this docking position allows an plugging tolerance of approx. **200 x 200 x 200 mm**.

Needed Power and Water Connections

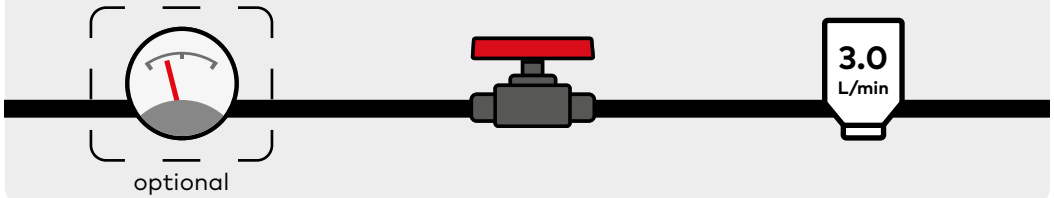


Power Supply Specifications

BATTERY CHARGER	INPUT (50 Hz) 230 VAC 15.2 A	OUTPUT 24 VDC 115 A	POWER SOCKET CEE 16/5 (16A-6h)
CHARGING ASSISTANT	INPUT (50 Hz) 230 VAC ~ 1 A	INPUT (60 Hz) 115 VAC ~ 2 A	POWER SOCKET CEE 7/3 or CEE 7/5

Water Supply Specifications

PIPE	PIPE END	PRESSURE	FLOW RATE
0.5 inch	Ext. Thread	1.5 bar (1 m above ground)	3.0 L/min



Power must be provided to both the Charging Assistant and the Battery Charger. A water connection must also be available nearby.

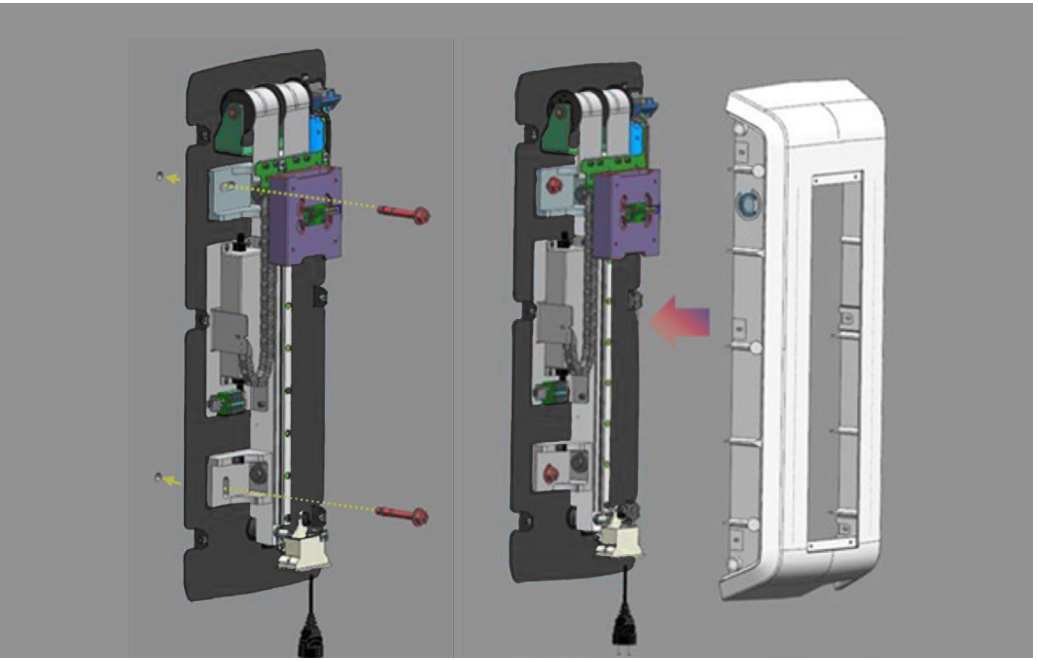
In addition, a floor drain must be available for proper disposal of wastewater.

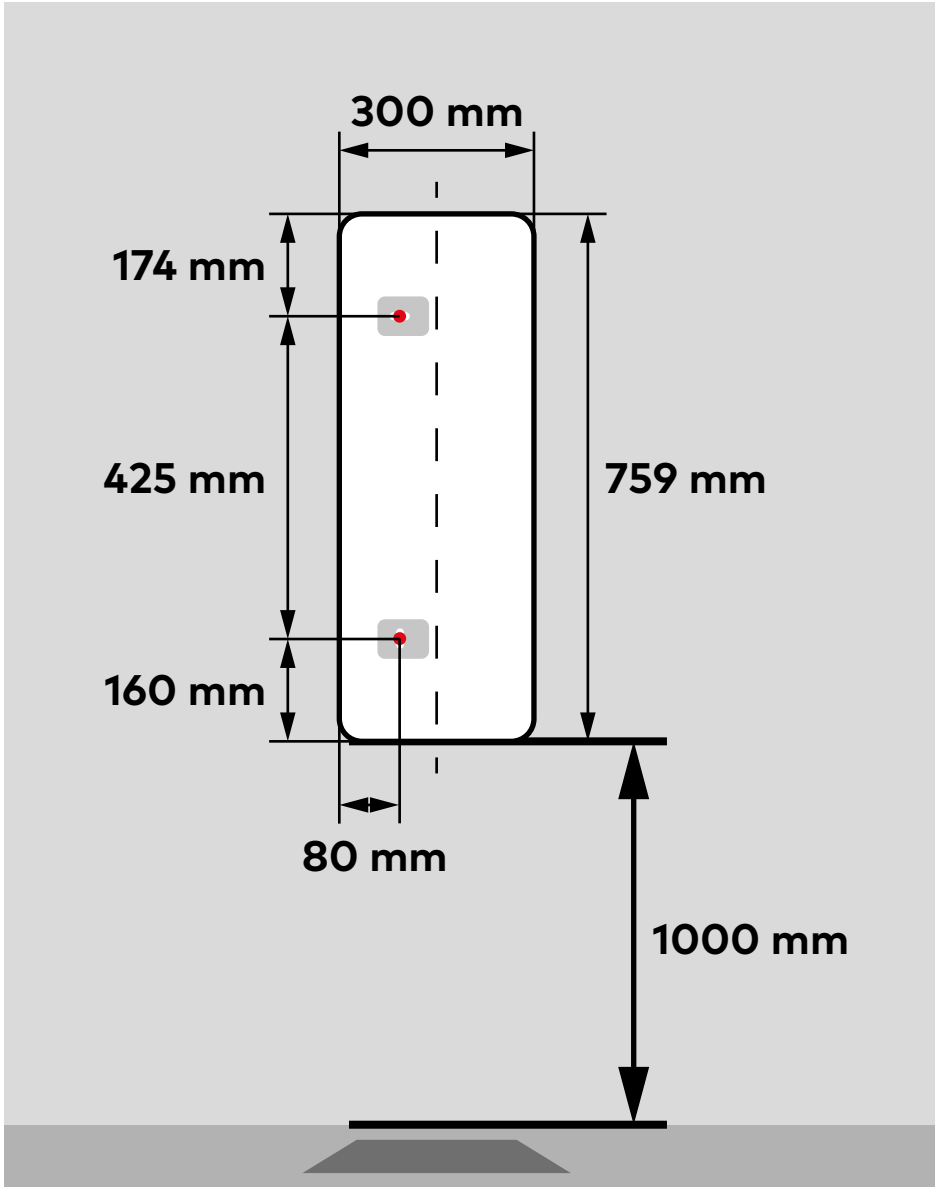
*For further technical details, please refer to the corresponding section of this integration guide.

Water supply should ideally be provided via a **0.5-inch** external thread pipe, with a constant pressure of **1–2 bar**. If stable pressure cannot be guaranteed, a pressure regulator is recommended.

For maintenance purposes, a shut-off valve must be installed, followed by a flow limiter to ensure a steady flow rate of approximately **3.0 L/min**.

Drilling Plan and Mounting Height





We recommend mounting the Charging Assistant at least 1'000 mm from the floor to ensure proper operation.

*Should any special installation requirements be requested, they can be considered during the planning phase.

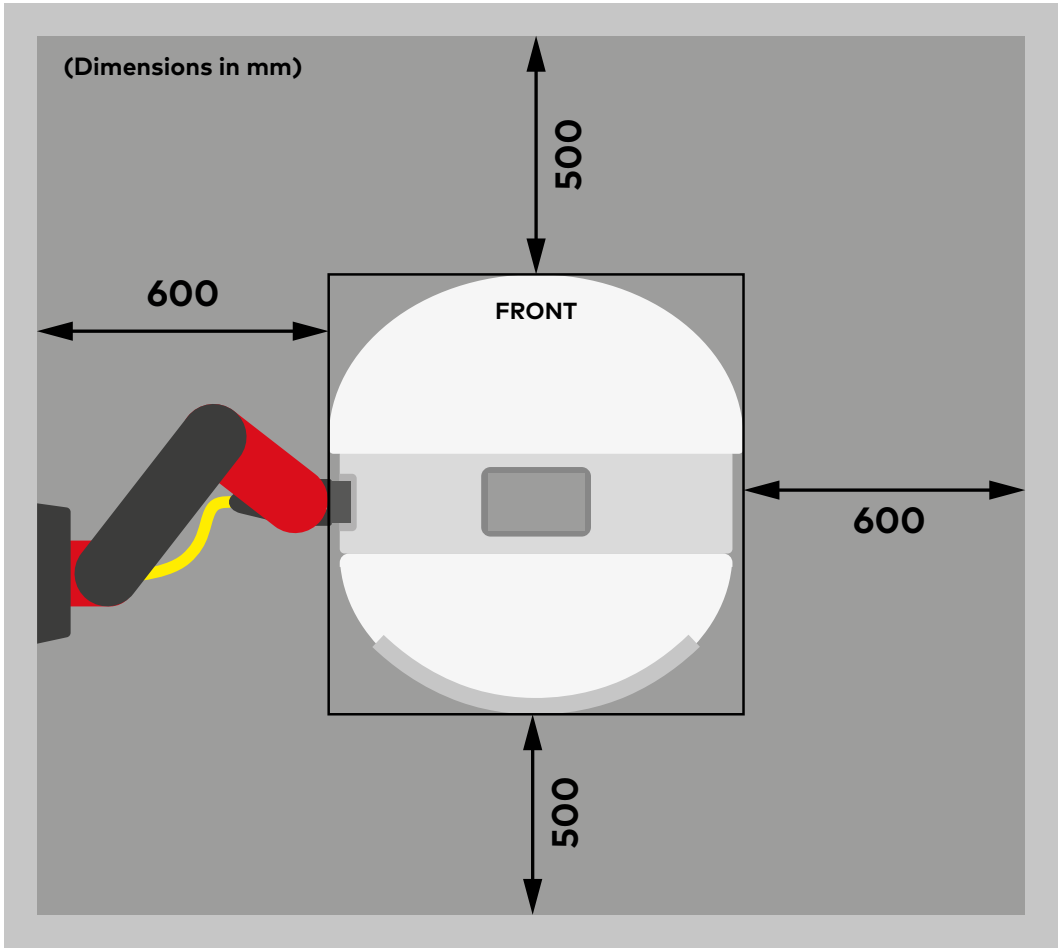
Room Size and Distances

The distances shown in the illustration represent the **required minimum clearances** between the robot and surrounding walls.

Larger clearances are generally possible as long as they comply with the specifications in this guide.

The clearance on the right side of the robot ensures that there is sufficient walkway around the robot. This is particularly important if the robot is placed in an enclosed room. The recommended **minimum room size is approx. 2 × 2 meters**.

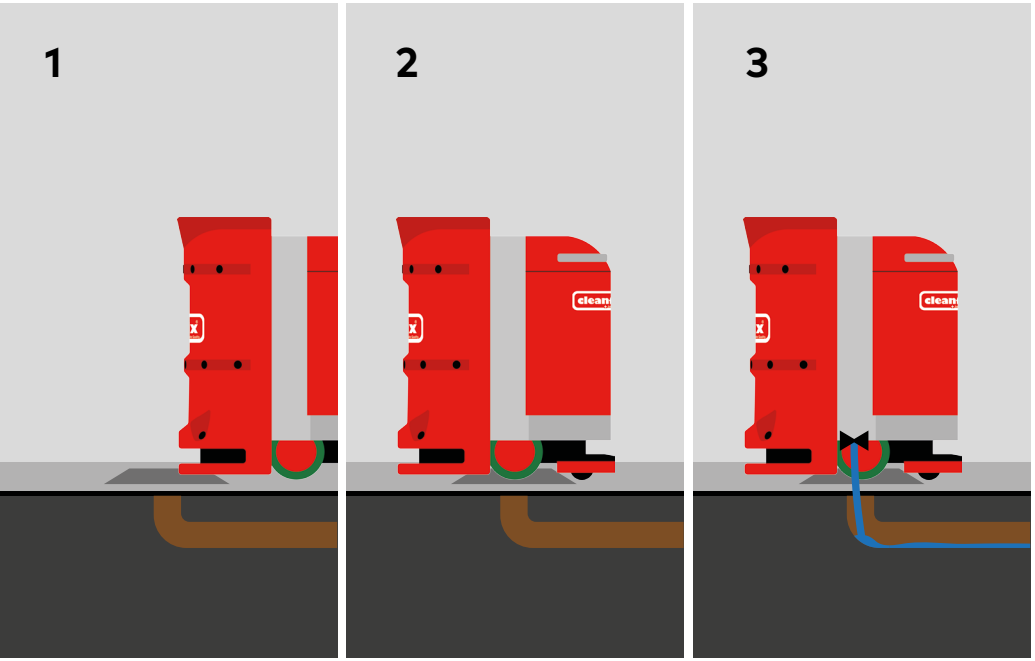
To enable **autonomous entry** into the maintenance chamber in the standard configuration, a **door width of at least 1'200 mm** is required.

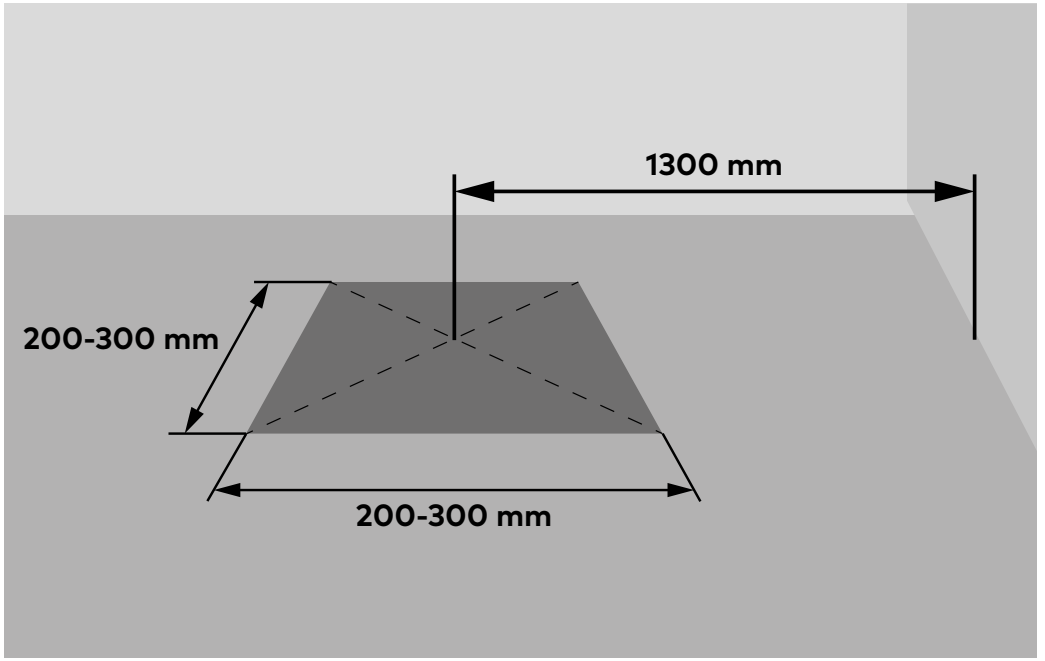


Minimal clearances required around the robot

Wastewater

Floor Drain





The Process

After cleaning or if the wastewater tank is full, the robot returns to its home position (docking station) and automatically releases the wastewater.

Position

The floor drain should be as flush with the ground as possible and must support a load of at least **130–150 kg** (half the robot's weight).

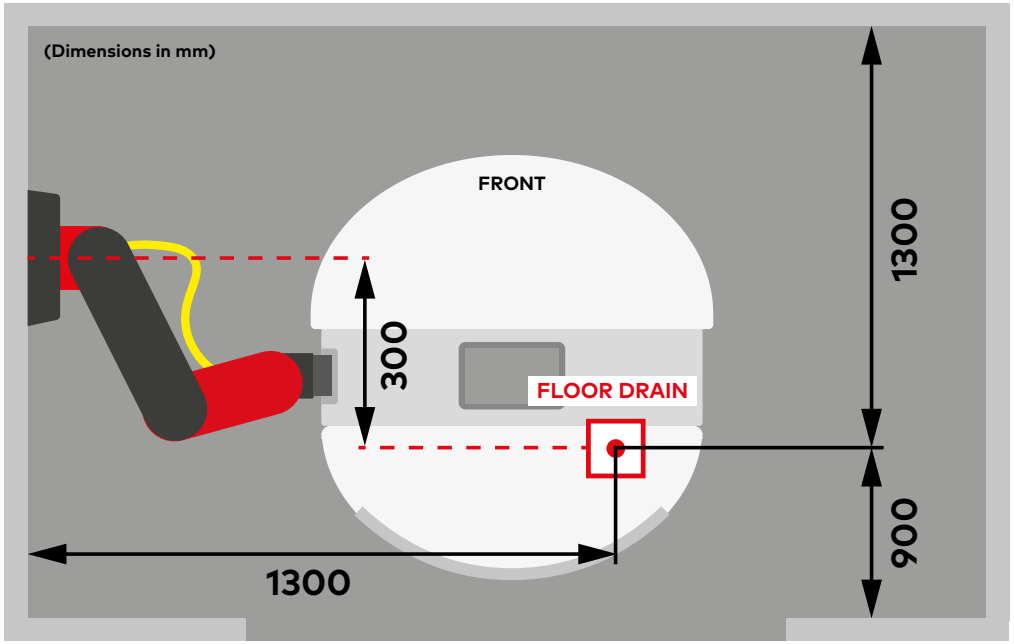
A minimum wall distance of **1'300 mm** is required to ensure the charging arm has enough space to plug.

To avoid triggering the floor sensors, the drain should have a diameter of around **200–300 mm**.

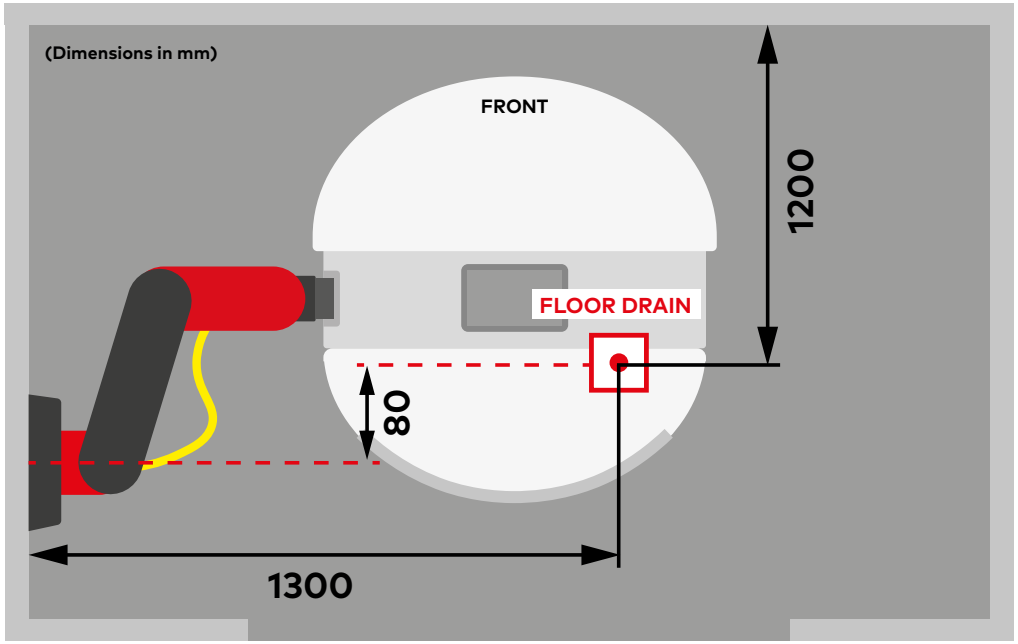
Wastewater Floor Drain

Depending on the space available, the robot arm can be configured on either the left or right side (using the control app). Depending on the configuration, the floor drain must be positioned slightly differently (see illustrations below).

Note: The positioning shown in the illustrations below represents optimal values. Deviations from these values are possible as long as the clearance distances and working areas specified in this document are met. For specific questions about positioning, contact your Cleanfix partner.

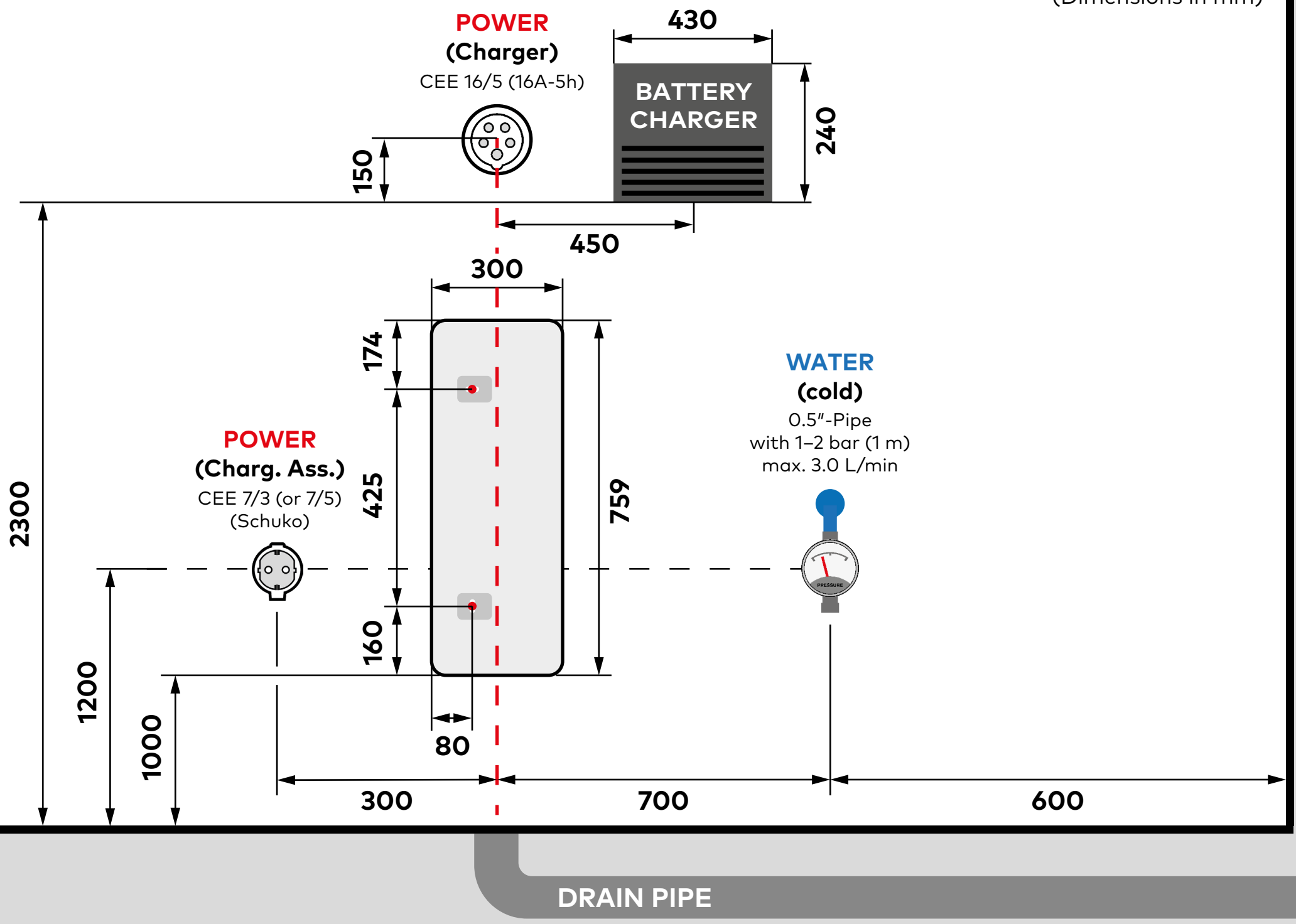


Left Configuration



Right Configuration

(Dimensions in mm)



Checklist

Installation Requirements

Please ensure the following conditions are met at the installation site:

- ☐ **Mounting Confirmation**: The Charging Assistant can be securely mounted to the wall.
- ☐ **Sufficient Space**: The installation area conforms to the recommended dimensions in this manual.
- ☐ **Network Access**: Permission and understanding for setting up a dedicated Wi-Fi access point (WPA-secured, WiFi 802.11g, standard frequency 2.4 GHz).
- ☐ **Power Connection**: A suitable socket is available for both the Charging Assistant and the Main Charger.
- ☐ **Water Connection**: A 0.5-inch water connection with 1–2 bar and flow limiter (3.0 L/min) is available.
- ☐ A **shut-off valve** is installed on the **water supply** line near the installation, for maintenance work.
- ☐ An **Android smartphone** is available for the initial setup (else provided by the installer).

Notes

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