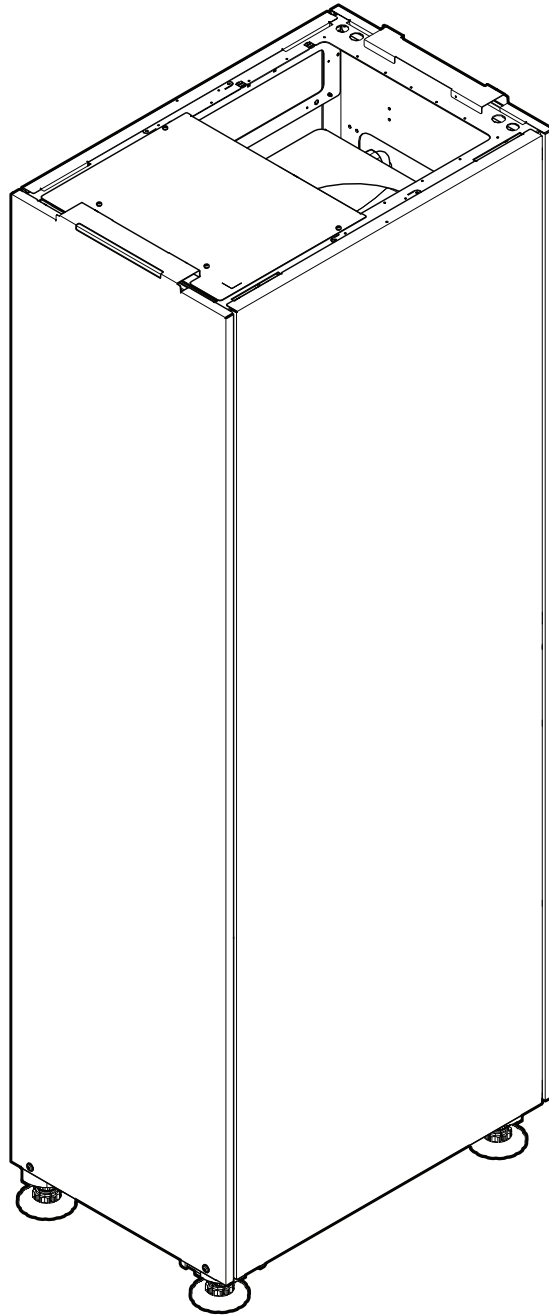


# HYDRALOOP

## Post-Treatment Unit (PTU)

Installation and Maintenance Manual



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# 1. INTRODUCTION

This document provides guidance for the safe installation and operation of the Hydraloop Post-Treatment Unit (PTU). It is intended to support users and professionals in achieving optimal performance, safety, and longevity of the unit.

## 1.1 DESCRIPTION OF THE USER

This Installation manual is intended for individuals who install the Hydraloop Post-Treatment Unit, including but not limited to:

- Installers and commissioning engineers
- Maintenance personnel and service technicians
- System operators

All work on the Hydraloop Post-Treatment Unit shall be carried out by qualified and authorised personnel who:

- Have read and understood this manual
- Are familiar with plumbing and electrical systems, in accordance with local laws and regulations.
- Are aware of safety risks and proper operating procedures

## 1.2 RETAINING INSTRUCTIONS

Read this manual carefully before installing or operating the Hydraloop Post-Treatment Unit. Keep this document accessible for future reference and make sure it is passed on to any subsequent users or operators.

Non-compliance with the instructions in this manual could void the warranty and release the manufacturer from liability.

## 1.3 DOCUMENTATION, SUPPORT AND SERVICE

For the latest documentation, technical updates, or service support, contact your authorised Hydraloop partner or visit official Hydraloop channels.

Only use approved components and procedures when servicing the system to maintain safety, compliance, and performance.

## 1.4 EXPLANATION OF SAFETY WARNINGS

### **⚠ DANGER**

**“DANGER”** — Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury

### **⚠ CAUTION**

**“CAUTION”** — Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

### **⚠ WARNING**

**“WARNING”** — Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

### **NOTICE**

**“NOTICE”** — Indicates information considered important, but not hazard-related.

## 2. DESCRIPTION OF THE PTU

### 2.1 INTENDED USE AND REASONABLY FORESEEABLE MISUSE

The Post-Treatment Unit (PTU) is intended for use with HydraLoop H600 systems in a cascade configuration of up to four units, where it stores, additionally disinfects, and adds distribution pressure to water already treated by those units. The treated water is suitable for non-potable applications, including toilet flushing, washing machines and non-spray garden irrigation.

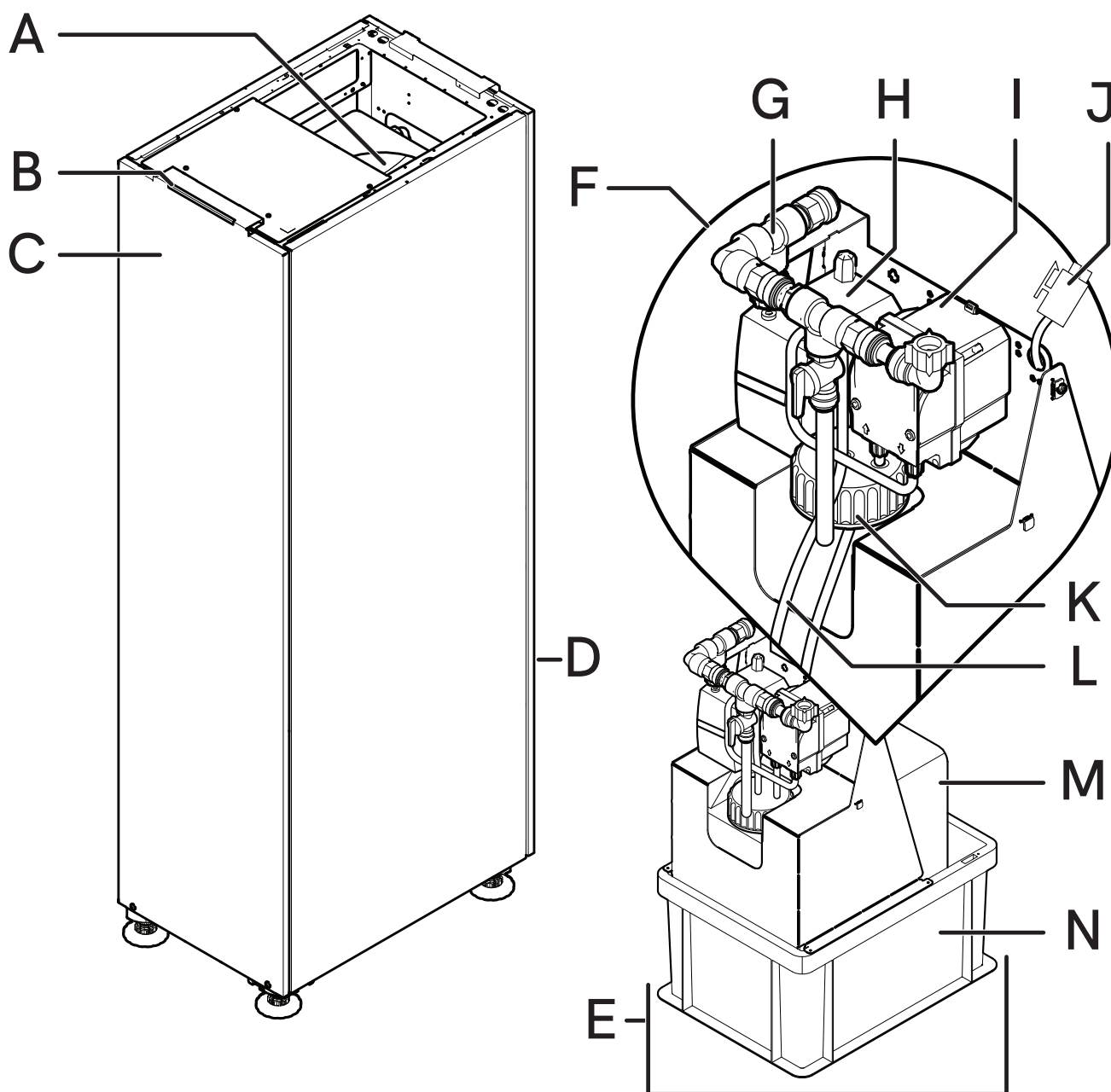
The PTU shall not be used for other purposes, such as:

- Treating or receiving untreated greywater, blackwater, or kitchen wastewater;
- Receiving water containing solid waste, grease, or food residues;
- Receiving water from any source other than connected HydraLoop H600 units;
- Introducing chemicals other than the approved disinfectant into the system;
- Dosing disinfectant at concentrations outside the specified adjustable range;
- Producing potable (drinking) water or water for food preparation;
- Operating the system outside the specified environmental and installation conditions.

The PTU shall be used only in accordance with the instructions in this manual. Any use other than described is considered unintended use.

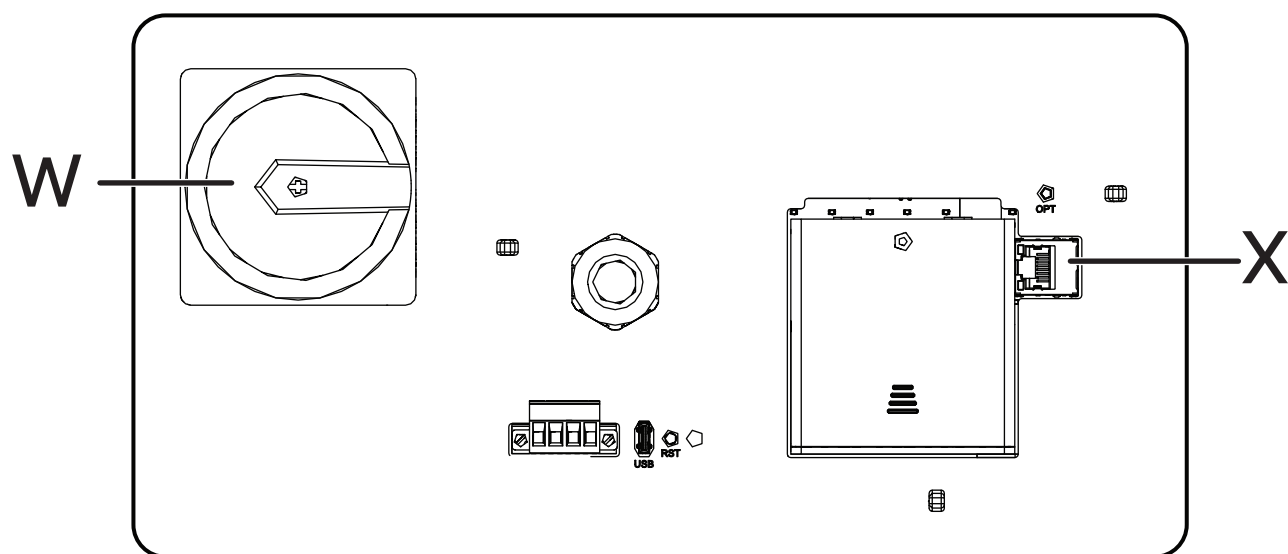
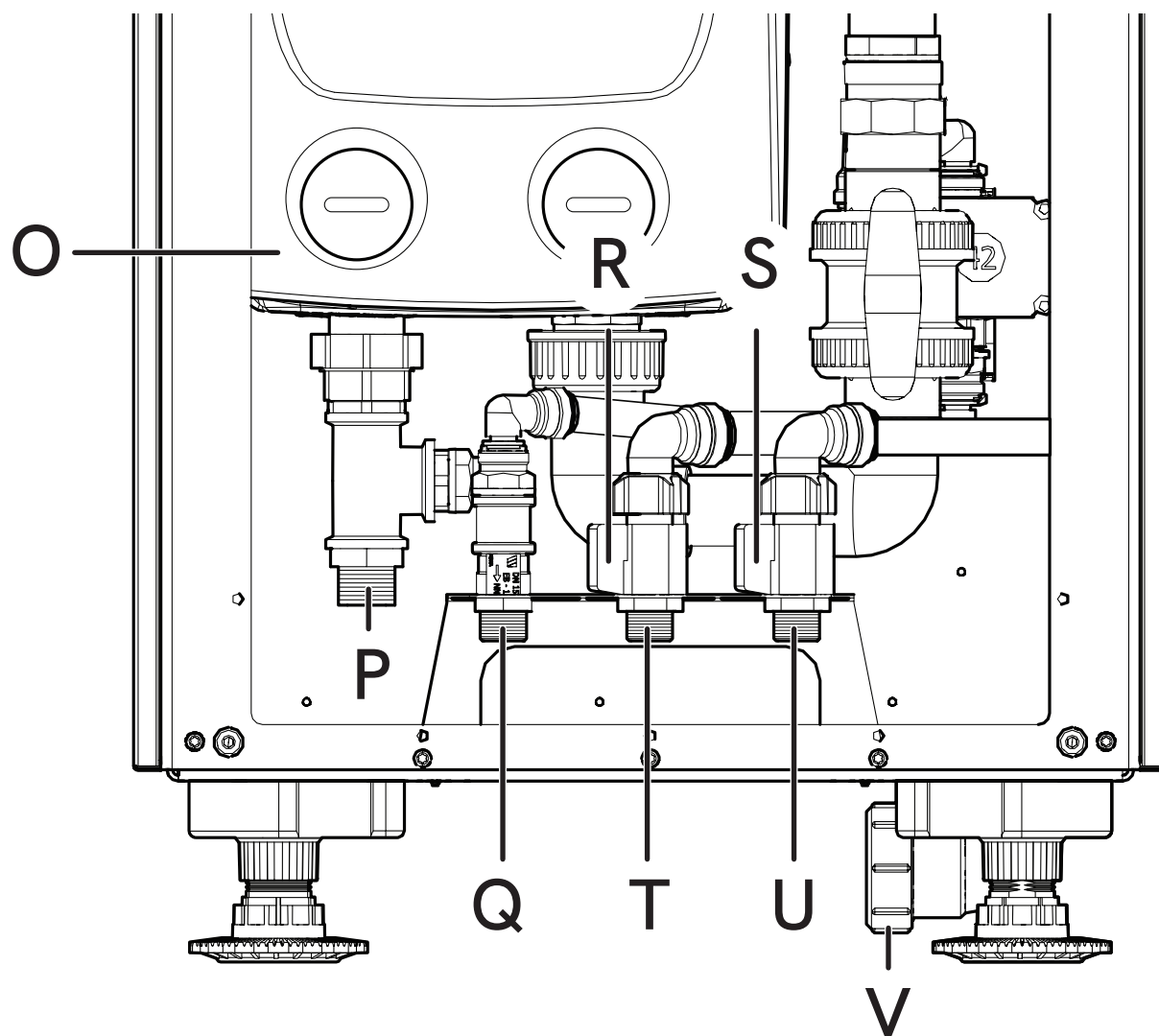
The PTU shall be installed, operated, and maintained using approved components, configurations, and procedures. Use of non-approved parts, incorrect installation, or inadequate maintenance could result in system malfunction, reduced performance, or damage, and could void the warranty.

## 2.2 PRODUCT OVERVIEW

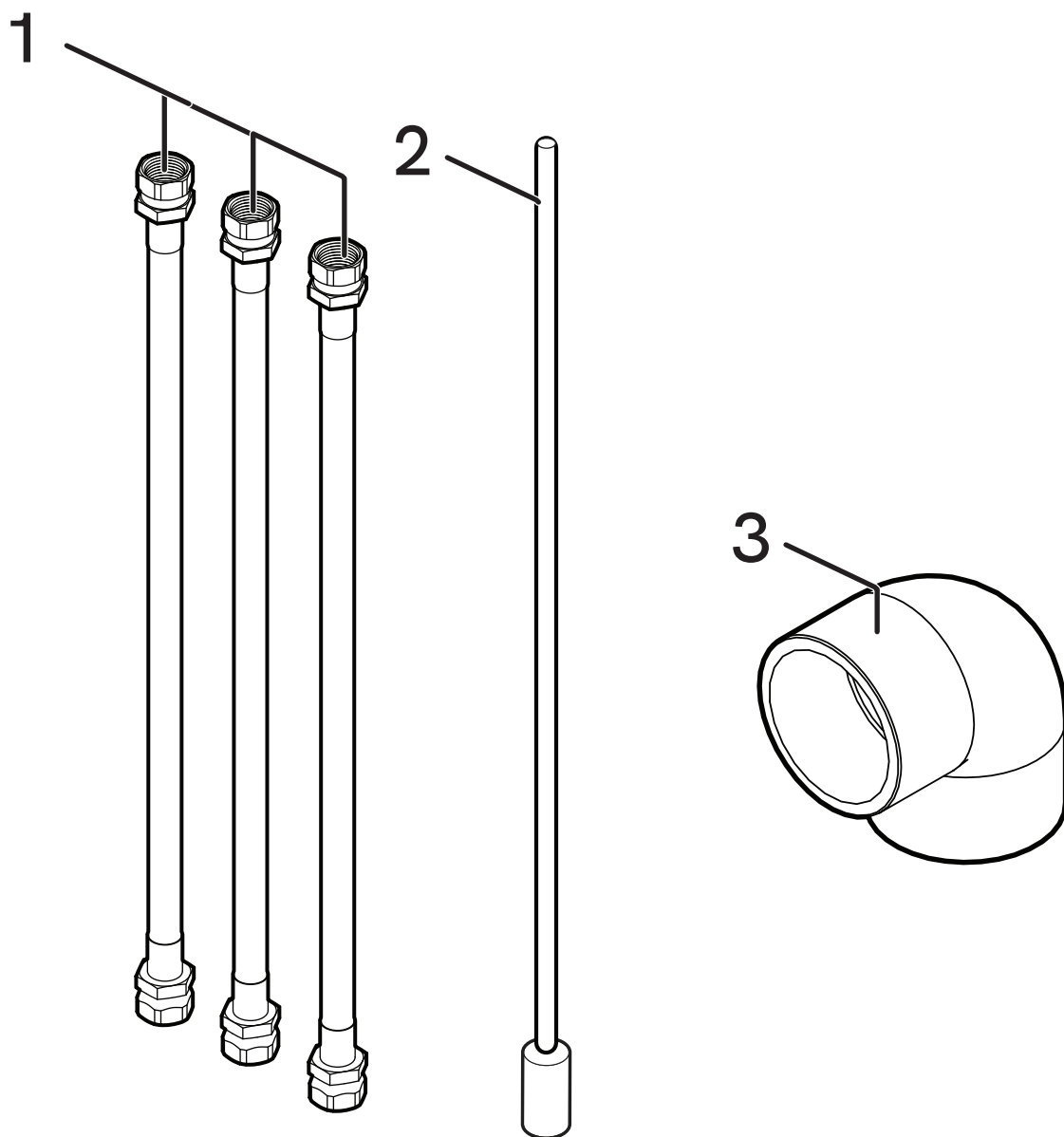


- |    |                       |    |                                     |
|----|-----------------------|----|-------------------------------------|
| A. | Storage tank          | M. | 12.5% sodium hypochlorite jerrycan* |
| B. | Led status light      | N. | Drip tray                           |
| C. | Front plate           | O. | DAB Easybox mini3 booster pump      |
| D. | Back plate            | P. | Main recycled water outlet          |
| E. | Service unit          | Q. | Auxiliary outlet                    |
| F. | Dosing system         | R. | Auxiliary inlet service valve       |
| G. | Distribution manifold | S. | Backup water inlet service valve    |
| H. | Dosing pump           | T. | Auxiliary inlet                     |
| I. | Circulation pump      | U. | Backup water inlet                  |
| J. | Pump connector        | V. | Sewer outlet                        |
| K. | Jerrycan cap          | W. | Power switch                        |
| L. | Return tube           | X. | Ethernet port                       |

\*(not provided)



## 2.3 INCLUDED SEPARATE COMPONENTS



1. 1/2" to 1/2" flexible hoses (3x)
2. Suction tube
3. 40 mm clamp 90° elbow

## 2.4 TECHNICAL DATA

| Parameter                                                                                              | Value                                                |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Device name                                                                                            | Hydraloop PTU                                        |
| Model number                                                                                           | v1.0                                                 |
| System type                                                                                            | Post-Treatment Unit                                  |
| Volume                                                                                                 | 210 L                                                |
| Nominal treatment capacity (depending on usage)                                                        | Based on H600 input                                  |
| Internal voltage                                                                                       | 24 V DC                                              |
| Supply voltage                                                                                         | 240 V AC                                             |
| Frequency                                                                                              | 50 Hz / 60 Hz                                        |
| Max power                                                                                              | 1200 W                                               |
| Max pump pressure and flow                                                                             | 5.0 bar (500 kPa); max 8 L/min                       |
| Internet connection                                                                                    | Ethernet or 2.4 GHz Wi-Fi                            |
| Frequency band                                                                                         | Wi-Fi: 2.4 GHz; Bluetooth/BLE: 2.4 GHz               |
| Maximum radio-frequency power transmitted in the frequency bands in which the radio equipment operates | Wi-Fi: 19.68 dBm; Bluetooth: 6.73 dBm; BLE: 8.23 dBm |

### 2.4.1 Environmental conditions

| Parameter             | Value       |
|-----------------------|-------------|
| Operating temperature | 14 to 35 °C |
| Relative humidity     | < 70 %      |
| Installation location | Indoor only |
| UV / IP rating        | Not rated   |

### 2.4.2 Dimensions and weight

| Parameter  | Value   |
|------------|---------|
| Width      | 457 mm  |
| Depth      | 695 mm  |
| Height     | 1900 mm |
| Dry weight | 240 kg  |
| Wet weight | 510 kg  |

### 2.4.3 Input specifications

| Parameter            | Value                                                    |
|----------------------|----------------------------------------------------------|
| Greywater sources    | Maximum of 4 Hydraloop H600 units                        |
| Backup water supply  | Supplied through Hydraloop H600 WC outlet (maximum of 2) |
| Recycled water inlet | 1/2" BSP                                                 |
| Backup water inlet   | 1/2" BSP                                                 |
| Water hardness range | max. 7 °dH / 7 GPG / 120 ppm - 180 ppm                   |

### 2.4.4 Output specifications

| Application                | Delivery                          |
|----------------------------|-----------------------------------|
| Main recycled water outlet | Permanently pressurised, 3/4" BSP |
| Auxiliary outlet           | 1/2" BSP                          |
| Sewer outlet               | OD Ø 40 mm (clamp connection)     |

### 2.4.5 Acoustic performance

| Operation        | Sound pressure level | Interval   |
|------------------|----------------------|------------|
| Circulation pump | 48 dB(A)             | During use |

## 2.5 EXPLANATION OF VISUAL AND AUDIBLE CUES

The Hydraloop communicates its operating state through the LED status light and audible buzzer alerts.

### 2.5.1 Visual cues

| Light colour | Meaning                                                                                          |
|--------------|--------------------------------------------------------------------------------------------------|
| White        | System is functioning properly.                                                                  |
| Orange       | The Hydraloop cascade is not treating greywater and automatically switched to backup water.      |
| Red          | A fault is detected in either the PTU or in the connected Hydraloops. Check the HDM for details. |

### 2.5.2 Audible cues

Detected faults produce a buzzer pattern, accompanied by a matching number of LED pulses.

| Fault            | Buzzer and visual pattern |
|------------------|---------------------------|
| High water level | 2 pulses per minute       |

## 2.6 SIMPLIFIED DECLARATION OF CONFORMITY

Hereby, Hydraloop Systems B.V., declares that the radio equipment type Hydraloop is in compliance with directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <https://www.hydraloop.com/ESP32-WROOM-32E-CE>

## 3. SAFETY INSTRUCTIONS

### DANGER

READ AND UNDERSTAND THIS MANUAL AND ITS SAFETY INSTRUCTIONS BEFORE USING THIS DEVICE.  
FAILURE TO DO SO CAN RESULT IN SERIOUS INJURY OR DEATH.

### 3.1 SAFETY INFORMATION

#### General safety information

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, even if supervised.
- Children should be supervised to make sure that they do not play with the appliance.
- **RISK OF ILLNESS FROM DRINKING PROCESSED WATER!** DO NOT drink the water produced by the Hydraloop. It is not potable. Drinking the processed water can cause serious illness. Use the Hydraloop output only for permitted applications such as toilet flushing, irrigation, or doing laundry.
- Always prevent solid materials, chemicals, paint residues, hair dye, bleach, disinfectants, or other abnormal substances from entering the system. These can damage the unit and affect water treatment.
- Do not place objects on or against the product. Do not use the product as a support or to lean on. Do not sit or stand on the Hydraloop. Do not use it for storage.

#### Transport, lifting, handling and storage safety information

- **RISK OF DAMAGE!** Do not remove the device from the transportation pallet until it reaches its final installation location.
- **RISK OF DAMAGE!** Do not use any apparatus underneath the device to move it. This can damage the exposed components on the bottom.
- Always make sure that the product and/or its components are fixed during transportation so there is no possibility of sudden movements and/or instability.
- **RISK OF TILTING!** Always use lifting tools when lifting the machinery. Only lift machinery when it is placed on a pallet and securely fastened.
- **RISK OF INJURY!** During transportation and lifting the product, be mindful of personal injuries. Wear appropriate personal protective equipment such as gloves and safety shoes (minimum class S3).
- When moving heavy loads, use only approved lifting tools with sufficient lifting capacity. Always carry out lifting tasks with more than one person, even when using lifting tools. The maximum permitted load to be carried is 25 kg per person.
- Do not drop, throw or expose the unit to impacts. Avoid shocks and vibrations.
- Always follow the storage conditions as indicated in the Technical data.
- Store the product in a clean, dry place. Do not expose the product or packaging to rain, moisture or sprays of water. Do not expose the product to extreme temperatures or corrosive atmospheres.
- Use the original packaging for transport and storage.
- Store the product out of reach of unauthorised persons and do not allow persons unfamiliar with the product or these instructions to install or operate it.

## Installation safety information

- Installation, maintenance, service, and repair work shall only be done by Hydraloop staff, certified partners, or authorised installers.
- Do not install a damaged product. Contact the supplier or manufacturer in case of damage.
- Install the Hydraloop device according to the requirements in 4.4 Location requirements and the requirements in 2.4 Technical data.
- Only use the new hose-sets supplied with the appliance. Do not re-use old hose-sets.
- **RISK OF CONTAMINATION!** Connect the backup water supply, the inlet and outlet to the correct pipes. The backup water inlet and non-potable outlets are located close to each other. Make sure each pipe is connected to the correct fitting.
- During commissioning and working on the Hydraloop device, always inspect all water lines for leaks and potential cross-connections.
- Only connect the device to an earthed power supply that agrees with the specification in the Technical data (240 V, 50/60 Hz, 15 to 16A).
- Make sure the mains socket is protected by a residual current device (RCD) with a maximum trip current of 30 mA.
- If pressure surges are present in the main water supply, install a water hammer arrestor close to the backup water inlet.

## Electrical safety information

- **RISK OF ELECTRIC SHOCK!** Only Hydraloop staff, certified partners, or authorised installers shall open or service the device to reduce risk of electric shock.
- Check the product and the cables for damage before electrical installation. If there is any visible damage, a strong odour or excessive heating of components, disconnect the power supply immediately and do not use the product.
- **RISK OF ELECTRIC SHOCK!** Do not expose the product to wet conditions when covers are removed. Water entering the product will increase the risk of electric shock.
- If the power cable is damaged, it shall be replaced by Hydraloop staff, a certified partner, or an authorised installer.
- **RISK OF THERMAL HAZARD!** In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

## Maintenance and repair safety information

- Installation, maintenance, service, and repair work shall only be done by Hydraloop staff or authorised persons.

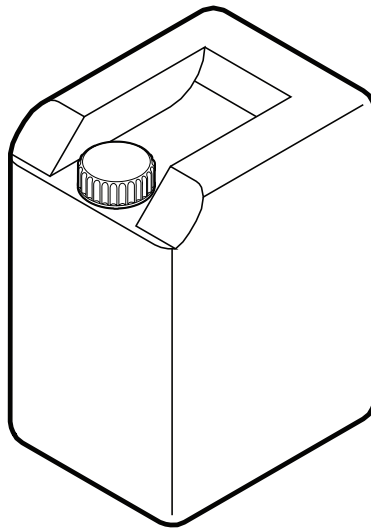
## 4. PREPARATION

### 4.1 COLLECTING THE REQUIRED COMPONENTS AND CONSUMABLES

#### **⚠ WARNING**

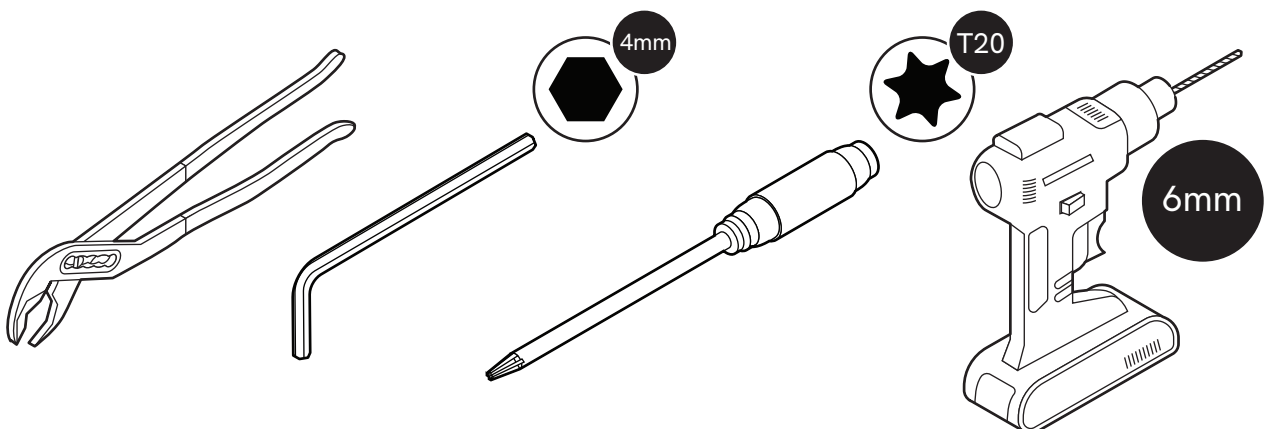
**RISK OF CHEMICAL BURNS!** Wear protective gloves, an FFP3 mask, and full-face or eye protection when handling sodium hypochlorite.

The PTU requires a 20 L jerrycan of 12.5% sodium hypochlorite for the dosing system. Make sure this consumable is available before starting installation.



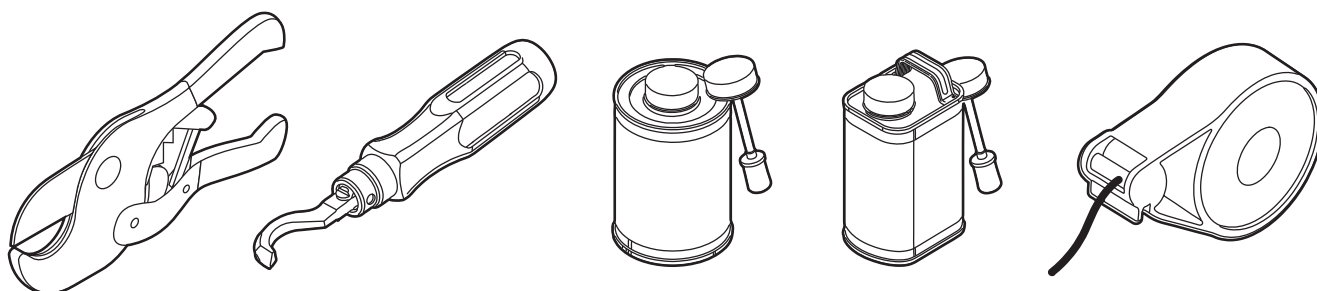
### 4.2 COLLECTING THE REQUIRED TOOLS

#### General tools



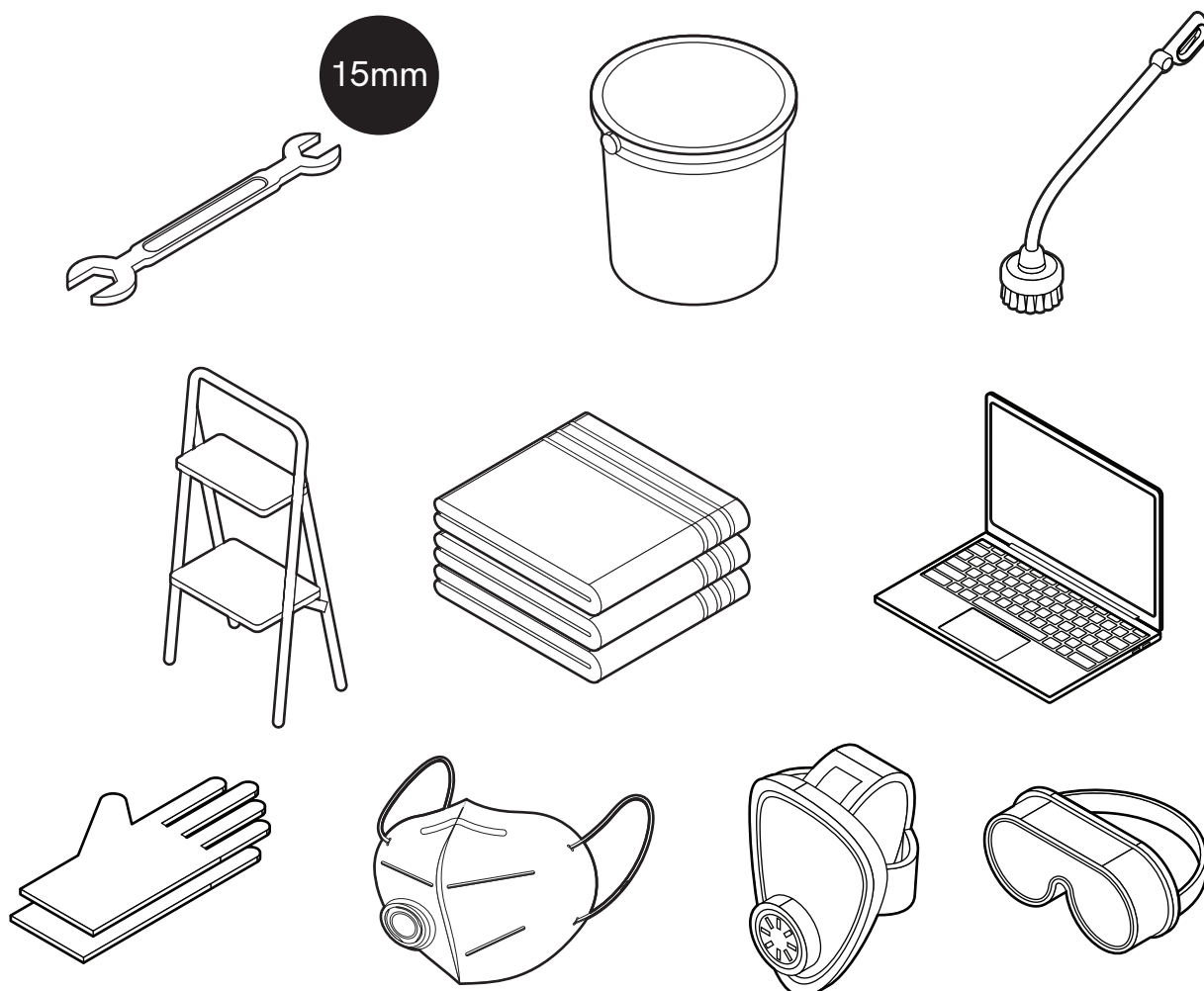
- Pipe wrench/channel locks
- 4mm Allen key
- Torx 20 screwdriver
- 6mm drill

## Plumbing tools



- Pipe cutter (for plastic pipes)
- Deburring tool
- PVC glue
- PVC cleaner
- Thread sealing tape (Loctite 55 or similar)

## Maintenance tools



- 15 mm open-ended wrench
- Bucket of water
- Long-handled scrubber
- Step ladder
- Cloth
- Laptop or mobile device (for HDM access)
- PPE set (protective gloves, FFP3 mask, and full-face or eye protection)

## 4.3 PERMITTED GREYWATER OUTPUTS AND INPUTS

### ⚠ WARNING

Reusable water shall not be routed to showers, bidets or toilet hand showers under any configuration.

The PTU shall only receive water that has already been treated by connected Hydraloop H600 units. No other water source shall be connected to the PTU inlet. Connecting any other source voids the warranty and compromises water quality.

#### Permitted input:

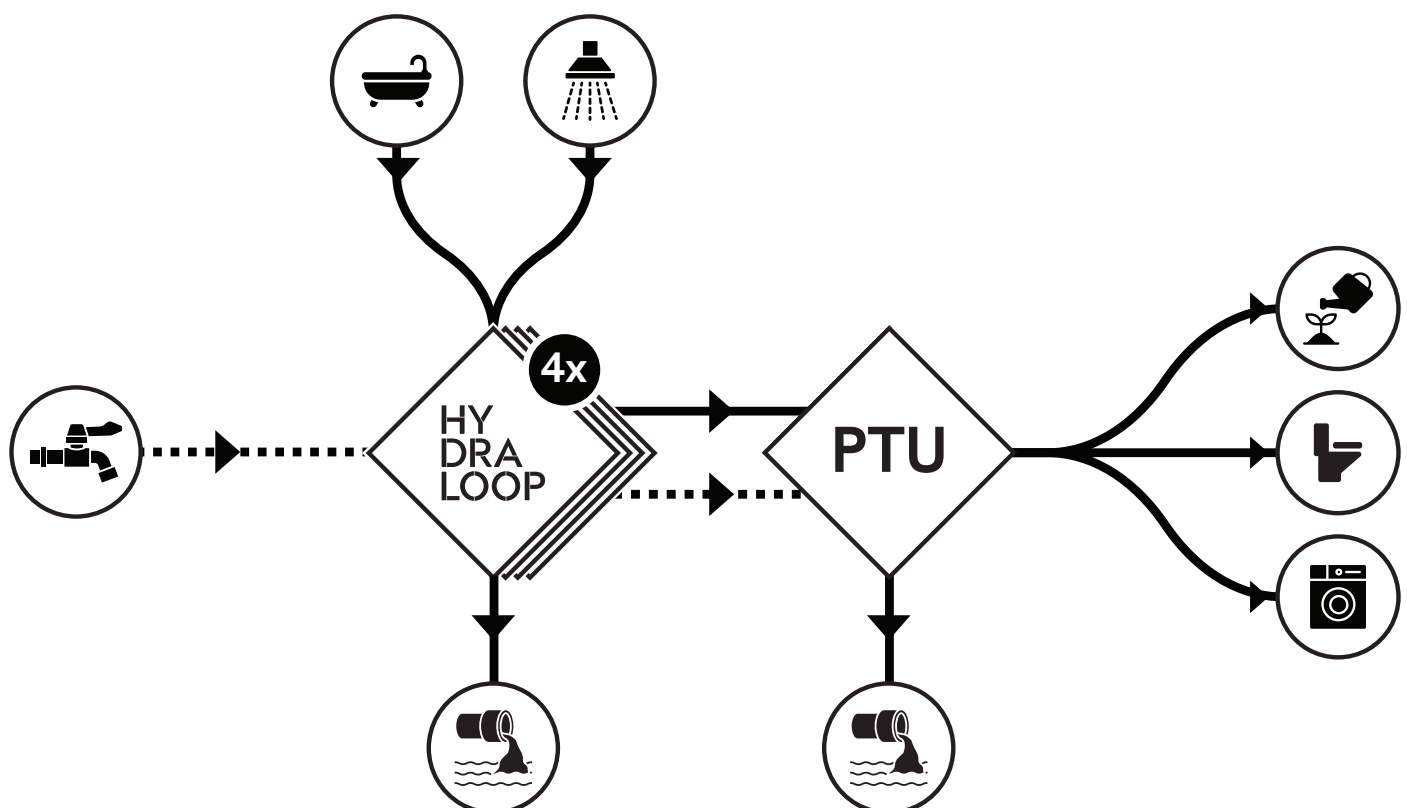
- Treated water: from the AUX outlet of each connected Hydraloop H600 unit (maximum four units), into the PTU auxiliary inlet (AUX in).
- Backup water: from the WC outlet of a maximum of 2 connected Hydraloop H600 units, into the PTU backup water inlet (BW in).

#### Prohibited inputs:

Untreated greywater, kitchen sinks, dishwashers, toilets, and floor drains. Connecting any of these voids the warranty and compromises the treatment process.

#### Reusable water outputs:

- Toilet cistern feed
- Washing machine feed
- Auxiliary outlet for external storage tank (e.g., outdoor irrigation applications)



## 4.4 LOCATION REQUIREMENTS

### 4.4.1 Space and access requirements

Select an installation location that meets the following requirements:

- A protected indoor location. Do not install it outdoors. The Hydraloop device is not UV or IP-rated. Avoid exposure to direct sunlight and water ingress.
- A relative humidity of not more than 70% to prevent corrosion.
- An ambient temperature between 14 and 35 °C during operation.
- Not in or near living spaces or quiet rooms. The system produces sound during operation. It is recommended to install the device in one of the following locations:
  - Mechanical room
  - Technical room
- The ceiling height needs to be 240 cm at a minimum.
- Make sure there is at a minimum 80 cm of free space in front of the PTU and the Hydraloop H600 cascade. The PTU and Hydraloop H600 cascade also require a minimum of 60 cm of free space behind them. Keep the top of each unit clear for access.

### 4.4.2 Pipework requirements

- Make sure the inlet connections from the Hydraloop H600 units (Auxiliary and backup water) can reach the PTU inlet ports. Both use 1/2" BSP fittings.
- Make sure the main recycled water outlet can be connected to the building's non-potable distribution plumbing using a 3/4" flexible hose.
- Make sure the 40 mm sewer outlet can be connected to a 75 mm drainage connection able to handle emptying of the full system water volume (210 L).
- Make sure the auxiliary outlet can reach the external storage tank. This connection uses a 1/2" BSP fitting.

### 4.4.3 Electrical requirements

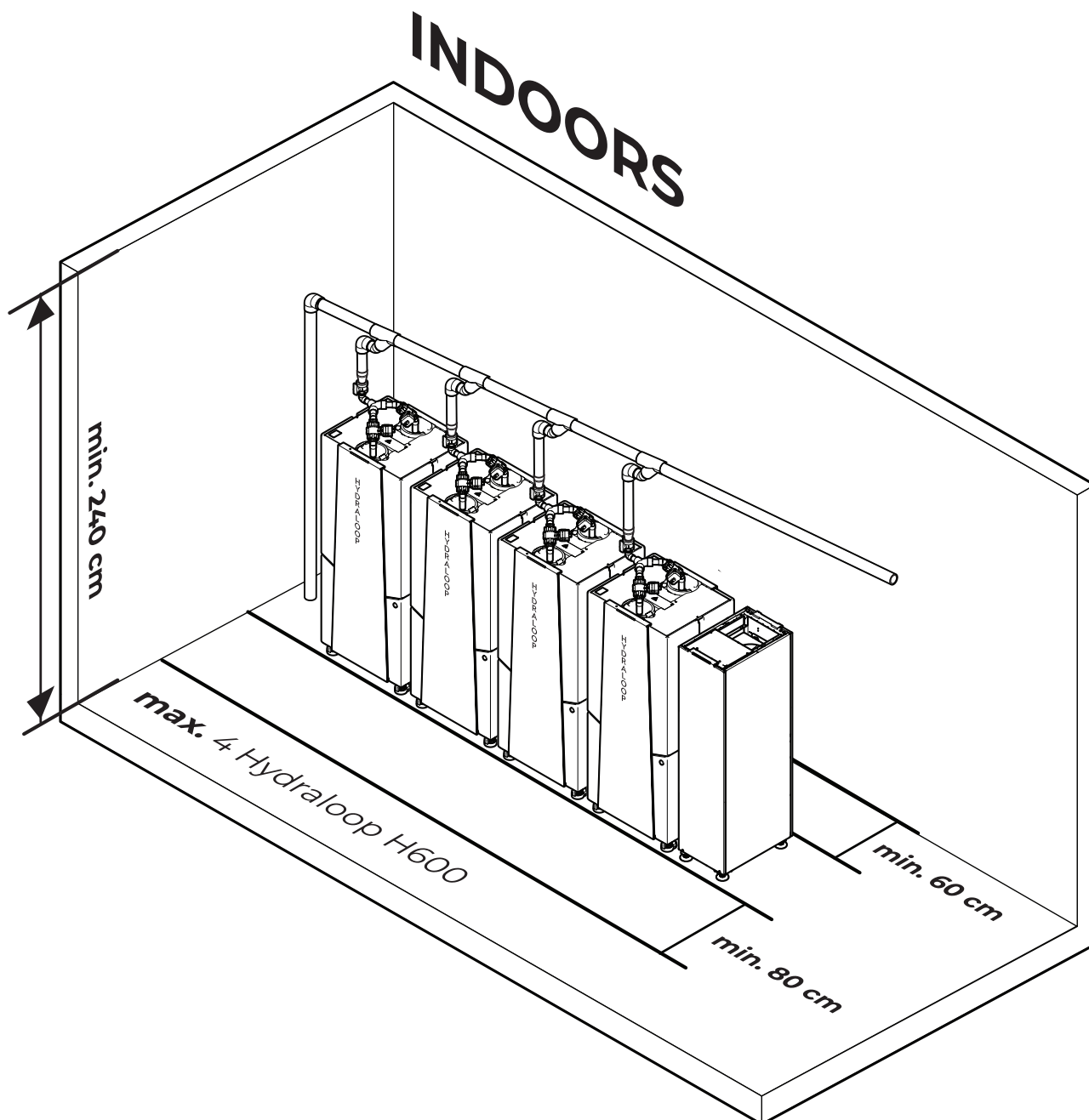
- For EU installations: Make sure that a 230 V, 50 Hz, 15 to 16 A earthed mains socket is available.
- Make sure that the mains socket is within 1 m of the top centre of the PTU.

### 4.4.4 Internet connection requirements

- Make sure that an internet connection is available. Use one of the following options:
  - Ethernet connection
  - 2.4 GHz Wi-Fi (WPA or WPA2). Connections behind a captive portal (such as hotel or public Wi-Fi networks that require browser-based login) or Enterprise networks (such as school or corporate networks that require a username in addition to a password) are not supported.
- If a firewall is used, make sure that TCP port 443 is open.
- Make sure the router is at a distance of more than 1 m from the Hydraloop.

### 4.4.5 Water requirements

- Make sure that the water hardness does not exceed 7 °dH (120 ppm - 180 ppm).



## 5. TRANSPORT AND UNPACKING

### ⚠ WARNING

- **RISK OF DAMAGE!** Do not remove the device from the transportation pallet until it reaches its final installation location.
- **RISK OF DAMAGE!** Do not use any apparatus underneath the device to move it. This can damage the exposed components on the bottom.
- Always make sure that the product and/or its components are fixed during transportation so there is no possibility of sudden movements and/or instability.
- **RISK OF TILTING!** Always use lifting tools when lifting the machinery. Only lift machinery when it is placed on a pallet and securely fastened.
- **RISK OF INJURY!** During transportation and lifting the product, be mindful of personal injuries. Wear appropriate personal protective equipment such as gloves and safety shoes (minimum class S3).

- When moving heavy loads, use only approved lifting tools with sufficient lifting capacity. Always carry out lifting tasks with more than one person, even when using lifting tools. The maximum permitted load to be carried is 25 kg per person.
- Do not drop, throw or expose the unit to impacts. Avoid shocks and vibrations.
- Do not move the PTU with a forklift or pallet truck without a pallet. The forks can puncture the integrated tanks and cause damage.
- Use a pallet truck to move the device as much as possible. Only switch to a two-wheel trolley for the final approach to the installation location, where pallet truck access may be limited.
- Keep the PTU upright during transport. Do not set the device in a horizontal position. This can damage internal components and seals.

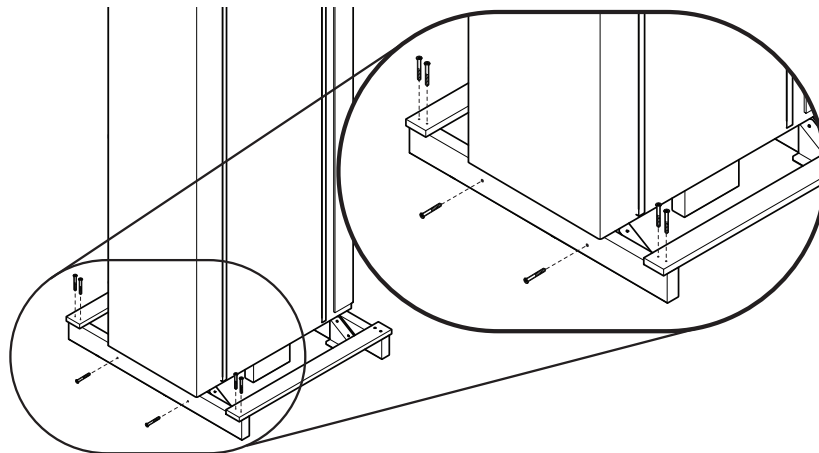
## 5.1 USING THE PTU PALLET

### NOTICE

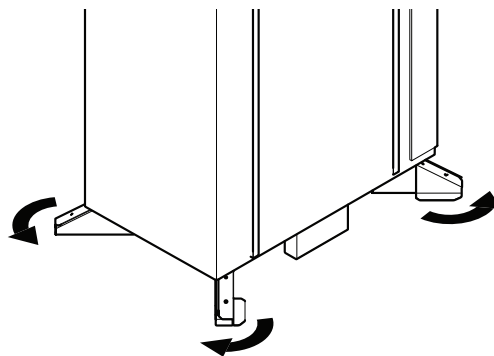
The PTU is delivered on a custom pallet for transportation and to prevent tipping. Convert the pallet to a small footprint only if necessary. Follow the instructions in this section to transport and unpack the device.

#### To dismantle the pallet:

1. Remove the (12) screws from the beams under the pallet.



2. Twist the feet of the small pallet outward.



3. Keep the Hydraloop strapped to the small pallet. Move the device with a two-wheel trolley to its final installation location.

## 5.2 UNPACKING AND INSPECTING THE PTU

### **NOTICE**

Do not install a damaged product. In case of damage, contact the supplier or manufacturer.

#### **To unpack and inspect the PTU:**

1. Remove the PTU from the transport pallet by cutting the straps. Keep the PTU upright at all times.
2. Remove the protective packaging from the device.
3. Inspect the device for visible damage, including:
  - Dents, cracks, or punctures in the housing
  - Damage to the exposed underside of the device
  - Damaged connectors, valves, or fittings
  - A damaged power cable
4. Make sure that all components listed in section 2.3 are present and undamaged.

If any damage is found or if components are missing, do not proceed with installation. Document the issue with photographs and contact the manufacturer.

Dispose of the packaging materials in accordance with local recycling regulations.

## 6. INSTALLATION

### **⚠ WARNING**

- Installation, maintenance, service, and repair work shall only be done by Hydraloop staff, authorised partners or certified installers.
- Do not connect the power cable until all plumbing connections are complete.

When the PTU is at its final installation location, complete the installation in the order described in this section.

#### **Overview of the installation steps:**

1. Install the Hydraloop H600 units (6.1)
2. Access the internals (6.2)
3. Connect the PTU to the sewer (6.3)
4. Connect the PTU to the non-potable water line (6.4)
5. Connect the Hydraloop H600 units to the PTU (6.5)
6. Connect the PTU AUX outlet to an external storage tank, if used (6.6)
7. Installing the 12.5% sodium hypochlorite jerrycan (6.7)
8. Power on the PTU (6.8)
9. Connect the PTU to the internet (6.9)

## 6.1 INSTALLING THE HYDRALOOP H600 UNITS

### ⚠ WARNING

- Install each Hydraloop H600 unit in accordance with its Installation Manual. The Hydraloop H600 Installation Manual is leading, and all safety instructions, requirements, and procedures it contains shall be observed in full. Nothing in this manual overrides or replaces the instructions provided with the Hydraloop H600.
- Contact [technicalsupport@hydraloop.com](mailto:technicalsupport@hydraloop.com) for questions and support regarding laying out the pipework between the Hydraloop H600 cascade and the PTU.

When installing the Hydraloop H600 units for use with the PTU, take the following into account:

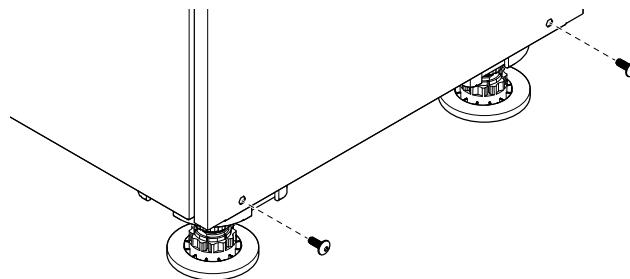
- A maximum of four Hydraloop H600 units can be connected to a single PTU.
- Install all units in accordance with the Hydraloop H600 Installation Manual, including all location, plumbing, electrical, and internet requirements.
- Complete verification of each Hydraloop H600 unit before connecting it to the PTU.

## 6.2 ACCESSING THE INTERNALS AND THE MAINTENANCE PANEL

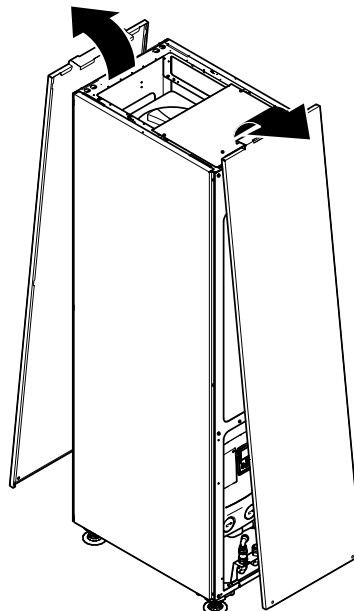
The internal connections are behind the front plate of the PTU, and the maintenance panel is behind the back plate. Remove both plates to access these components.

To remove the front plate and back plate:

1. Remove the **front plate** © and **back plate** ① screws using a 4mm Allen key.



2. Lift the **front** © and **back plate** ①. Set them aside in a safe position where they cannot fall over.

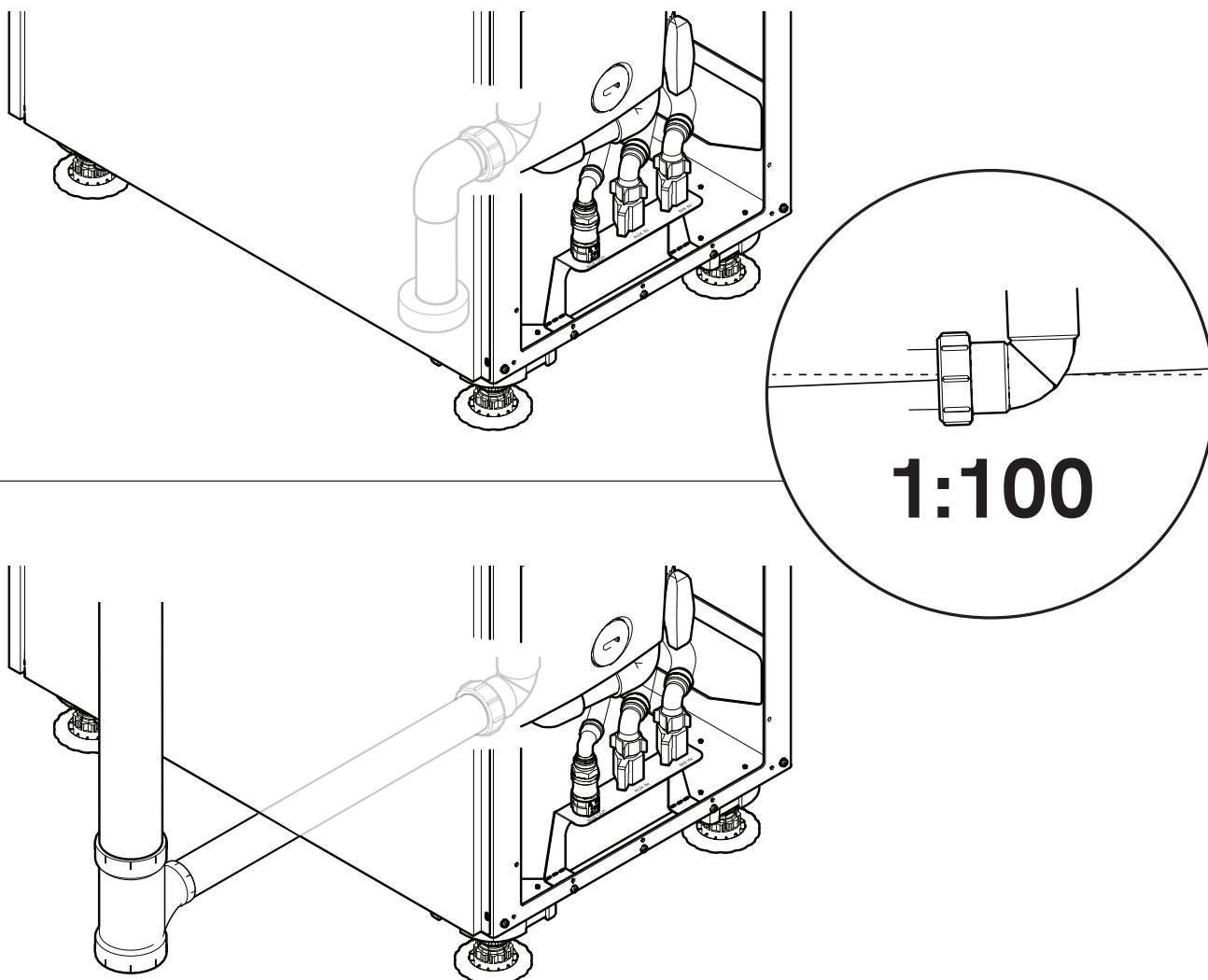


## 6.3 CONNECTING THE PTU TO THE SEWER

The PTU connects to the sewer through the 40 mm sewer outlet at the bottom of the device. The outlet can be routed through the floor or through the side to the overhead bypass.

### To connect the PTU to the sewer:

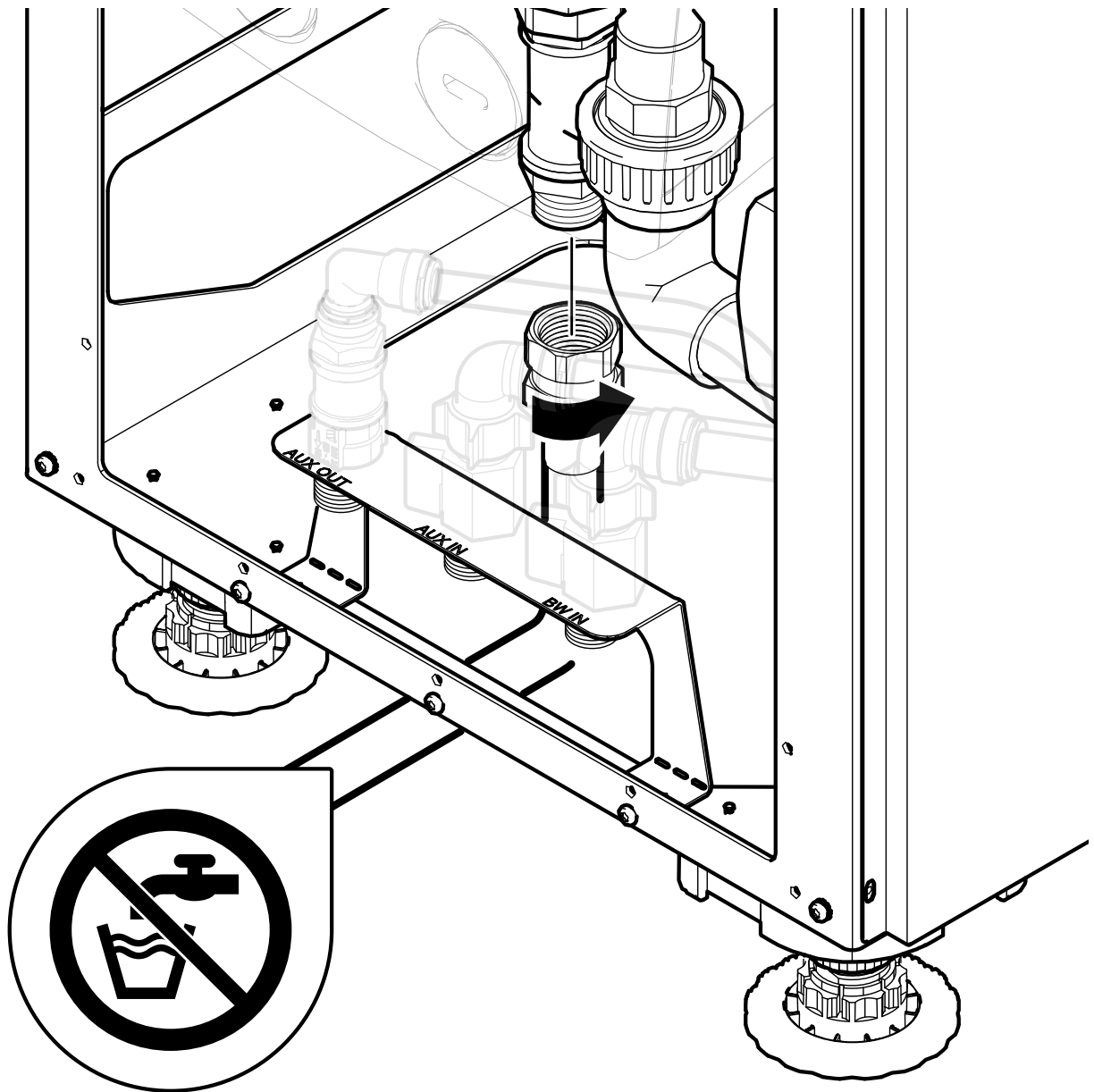
1. Unscrew the union nut from the **sewer outlet** ⑦ and remove the protective cap.
2. Attach adapters and fittings between the **sewer outlet** ⑦ and the drainage system. The outlet can be connected through the floor or above the floor through the overhead bypass.  
**NOTICE** The 40 mm sewer outlet shall be connected to a 75 mm drainage connection able to handle emptying of the full system water volume (210 L).
3. Slope the drain pipe at a minimum gradient of 1:100 away from the PTU to prevent backflow.



## 6.4 CONNECTING THE PTU TO THE NON-POTABLE WATER LINE

EN

1. Attach a 3/4" flexible hose to the PTU main recycled water outlet ①.  
**NOTICE** Make sure there is a gasket installed.



2. Attach the other end of the 3/4" flexible hose to the building's non-potable water line.
3. Tighten the connections using a pipe wrench.  
**NOTICE** Hand-tighten the fitting first to avoid cross-threading the thread. If the fitting does not turn smoothly, do not force it with a pipe wrench.
4. Make sure the connections are attached and leak-free.

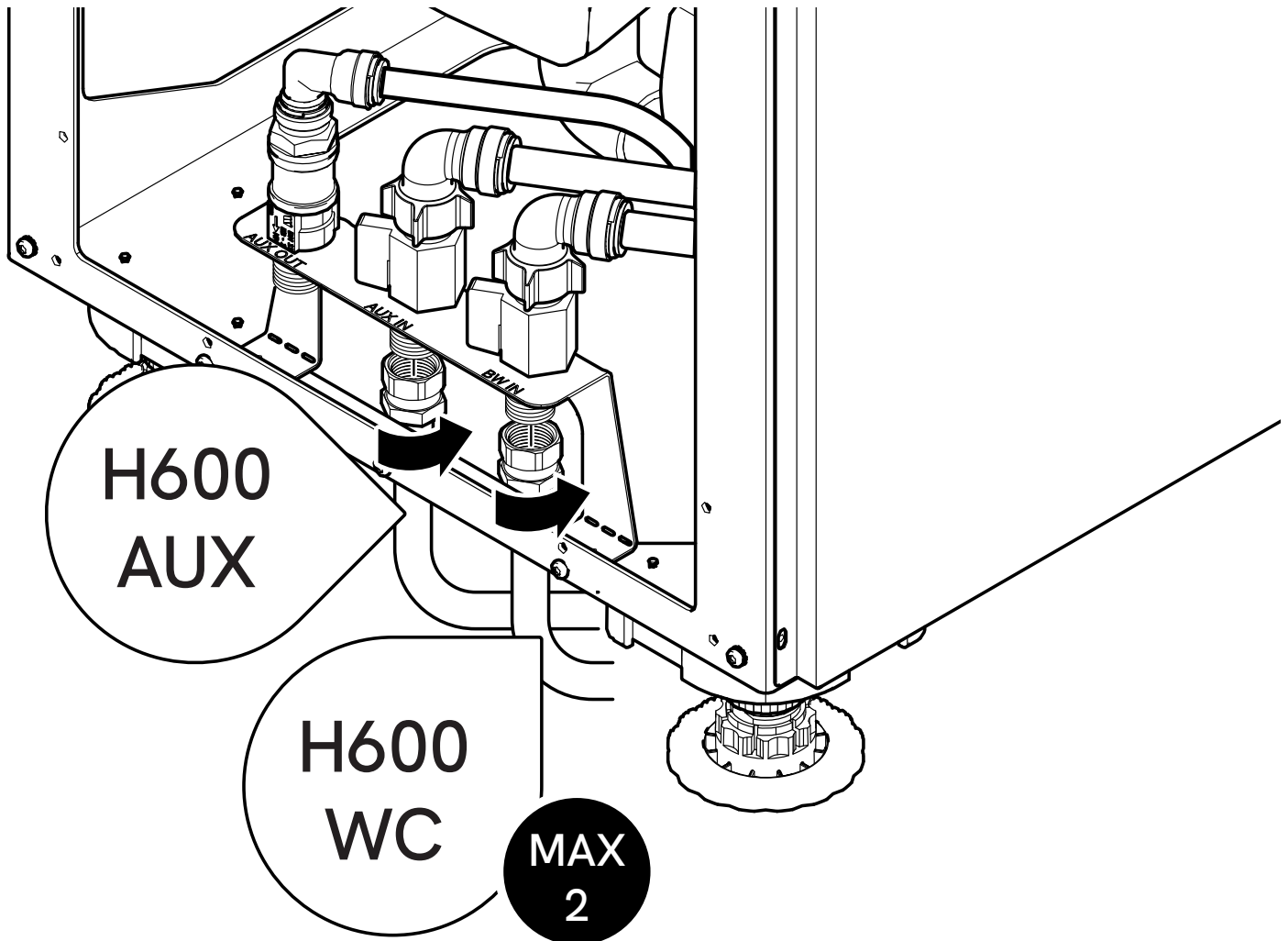
## 6.5 CONNECTING THE HYDRALOOP H600 UNITS TO THE PTU

The PTU has two inlet ports:

- **Auxiliary inlet (AUX in):** receives treated water from the common AUX line, which is fed by the AUX outlet of each connected Hydraloop H600 unit.
- **Backup water inlet (BW in):** receives backup water from the common backup water line, which is fed by the WC outlet of a maximum of two connected Hydraloop H600 unit.

**To connect the Hydraloop H600 units to the PTU:**

1. Attach the common AUX line to the **auxiliary inlet** ① using a **1/2" flexible hose** ①.
2. Attach the common backup water line to the **backup water inlet** ① using a **1/2" flexible hose** ①.  
**NOTICE** Make sure there are gaskets installed. Only the WC outlets of a maximum of two Hydraloop H600 units shall be connected to the backup water inlet.



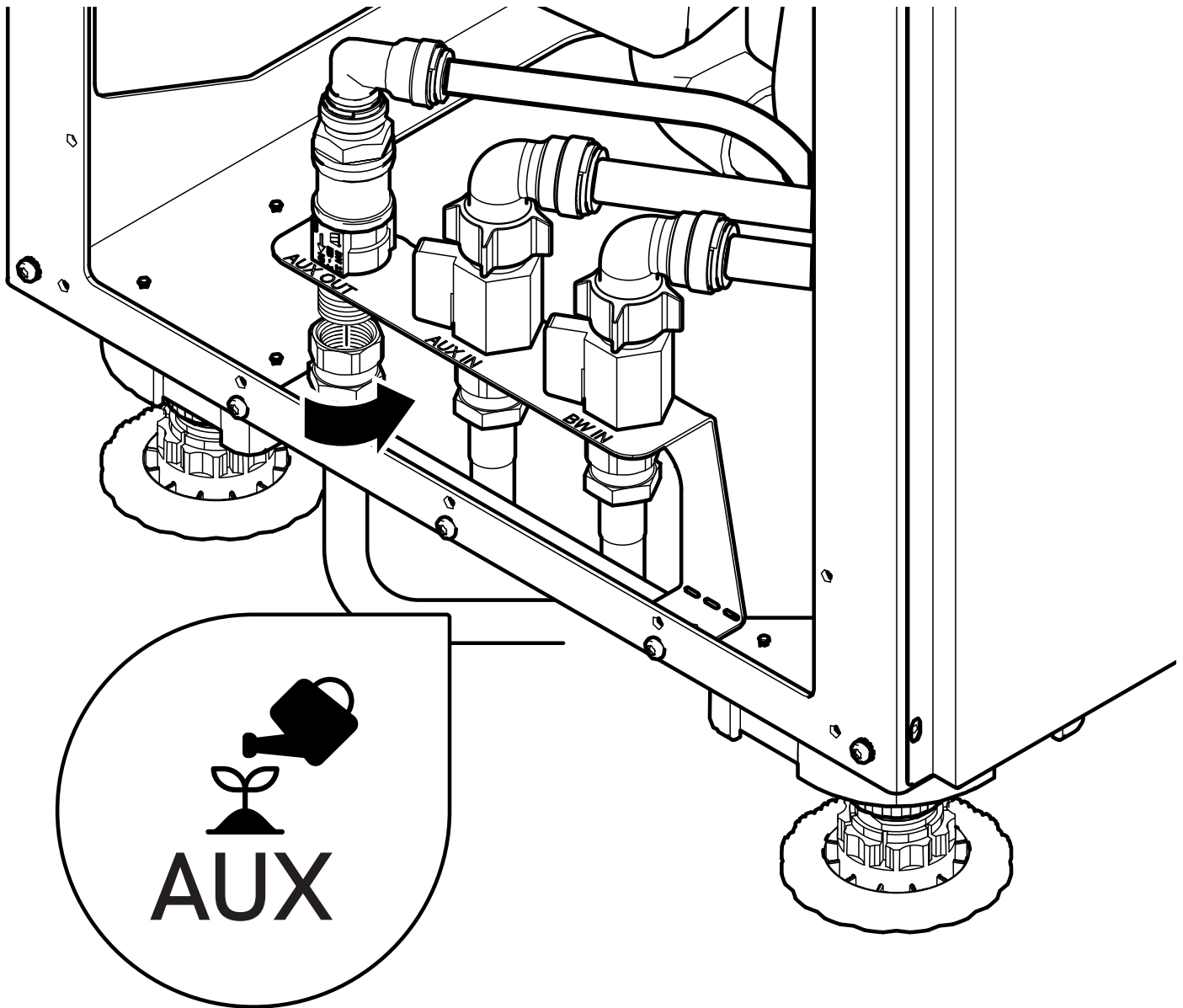
3. Tighten the connections using a pipe wrench.  
**NOTICE** Hand-tighten the fitting first to avoid cross-threading the thread. If the fitting does not turn smoothly, do not force it with a pipe wrench.
4. Make sure the connections are attached and leak-free.

## 6.6 CONNECTING THE PTU AUX OUTLET TO AN EXTERNAL STORAGE TANK

The PTU has an auxiliary outlet (AUX out) port to supply an external storage tank used for non-spray garden irrigation. The connection uses a 1/2" BSP fitting.

**To connect the external storage tank:**

1. Attach a 1/2" flexible hose ① to the PTU's **auxiliary outlet port** ②.  
**NOTICE** Make sure there is a gasket installed.
2. Attach the other end of the 1/2" flexible hose ① to the external storage tank.
3. Tighten the connections using a pipe wrench.  
**NOTICE** Hand-tighten the fitting first to avoid cross-threading the thread. If the fitting does not turn smoothly, do not force it with a pipe wrench.



4. Make sure the connections are attached and leak-free.

Make sure the external storage tank and irrigation system are used only for non-spray applications. Spray irrigation is not permitted because the distributed water is non-potable.

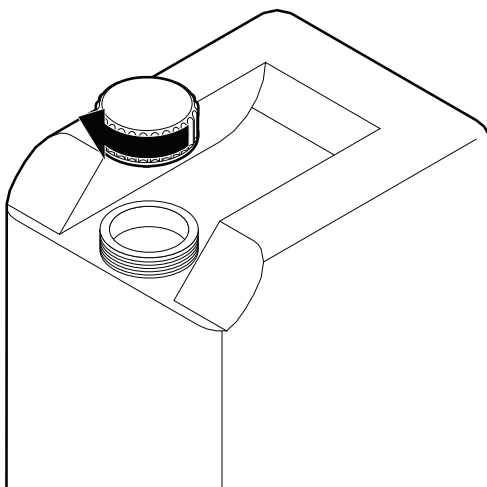
## 6.7 INSTALLING THE 12.5% SODIUM HYPOCHLORITE JERRYCAN

### ⚠ WARNING

- Installation, maintenance, service, and repair work shall only be done by Hydraloop staff, certified partners, or authorised installers.
- Always follow the safety instructions in this manual and in the Hydraloop H600 Maintenance Guide, which is leading.
- **RISK OF CHEMICAL BURNS!** Wear protective gloves, an FFP3 mask, and full-face or eye protection when handling sodium hypochlorite.

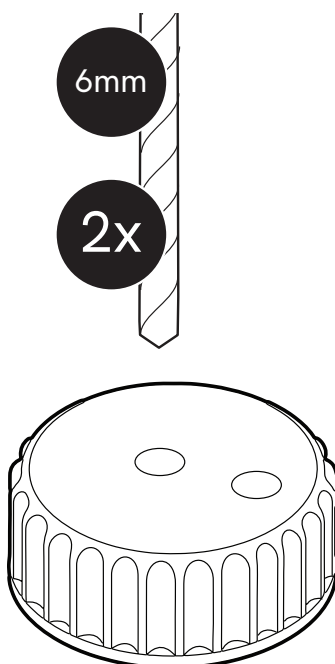
To prepare the jerrycan:

1. Remove the **jerrycan cap** ① from the **jerrycan** ②.

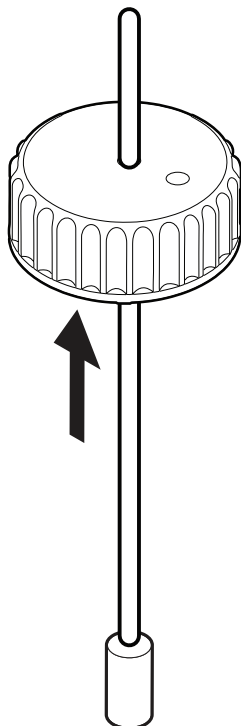


2. Drill two 6 mm holes in the **jerrycan cap** ①.

⚠ **WARNING** Make sure the holes are 6 mm and that the suction tube and return tube form an airtight seal with the jerrycan cap. Wear eye protection when drilling the jerrycan cap. Secure the cap before drilling to prevent it from spinning or slipping.

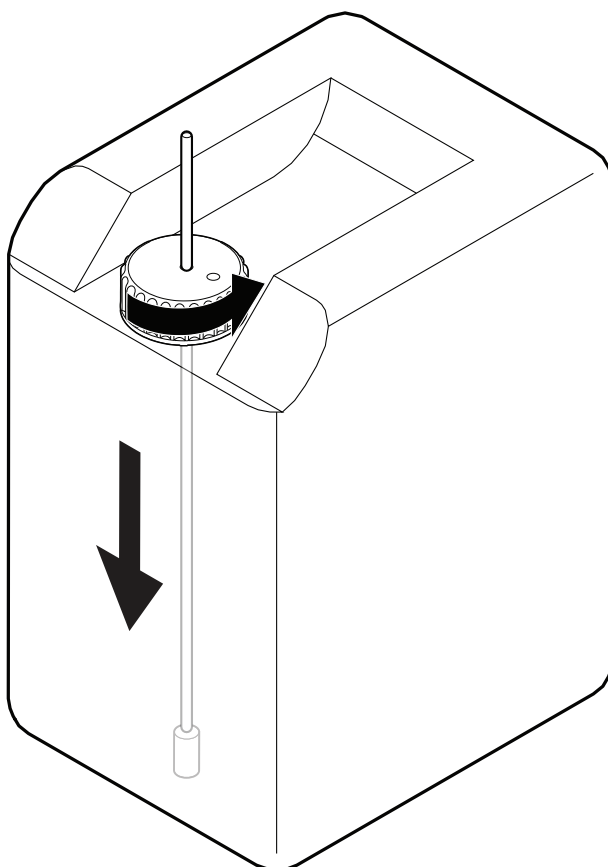


3. Put the **suction tube** ② with a weight attached through the **jerrycan cap** ④.



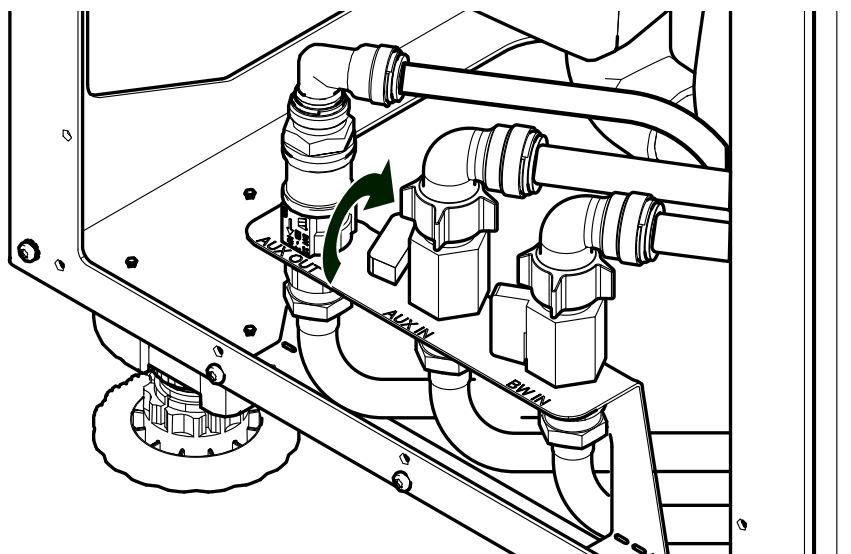
4. Put the **suction tube** ② in the **jerrycan** ⑤ and screw on the **jerrycan cap** ④.

**NOTICE** Make sure the weight at the end of the chlorine suction tube reaches the bottom of the jerrycan.

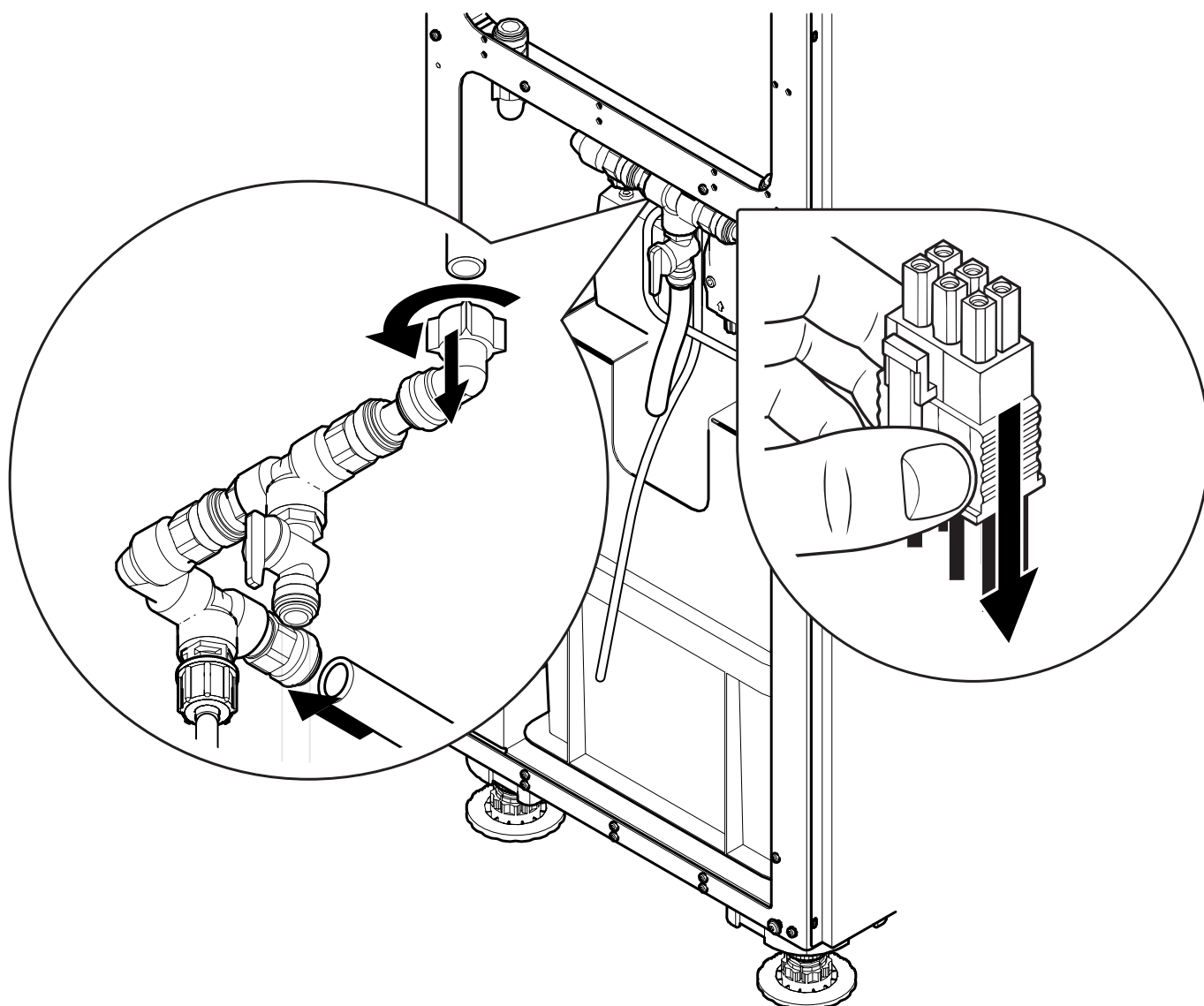


**To install the 12.5% sodium hypochlorite jerrycan:**

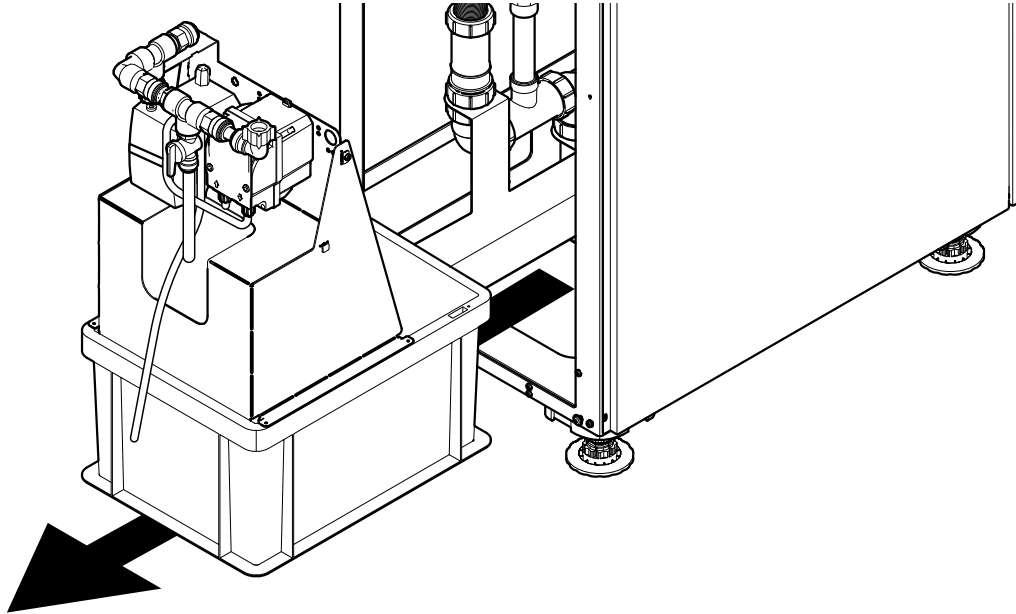
1. Make sure the **AUX in service valve** ® is closed.



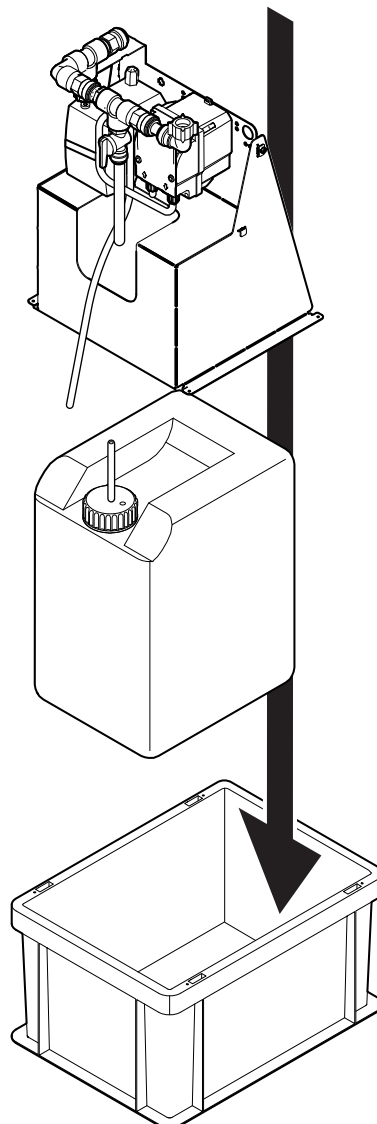
2. Disconnect the **distribution manifold** © by pushing back on the push-fit connector and unscrewing the coupling.
3. Disconnect the **pump connector** ①.



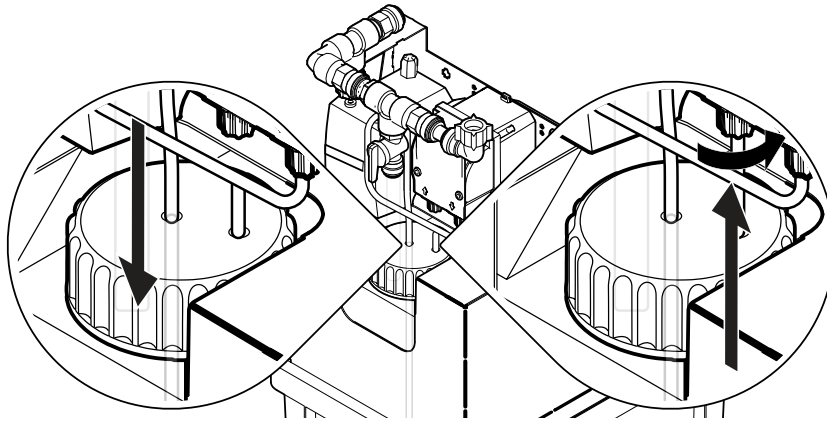
4. Pull the **service unit** ⑥ from the PTU.



5. Lift the **dosing system** ⑦ from the **drip tray** ⑧.
6. Put the **12.5% sodium hypochlorite jerrycan** in the drip tray.
- ⚠ **WARNING** Use a standard 20 L jerrycan that fits exactly in the drip tray. A jerrycan of a different size can tip over and spill.

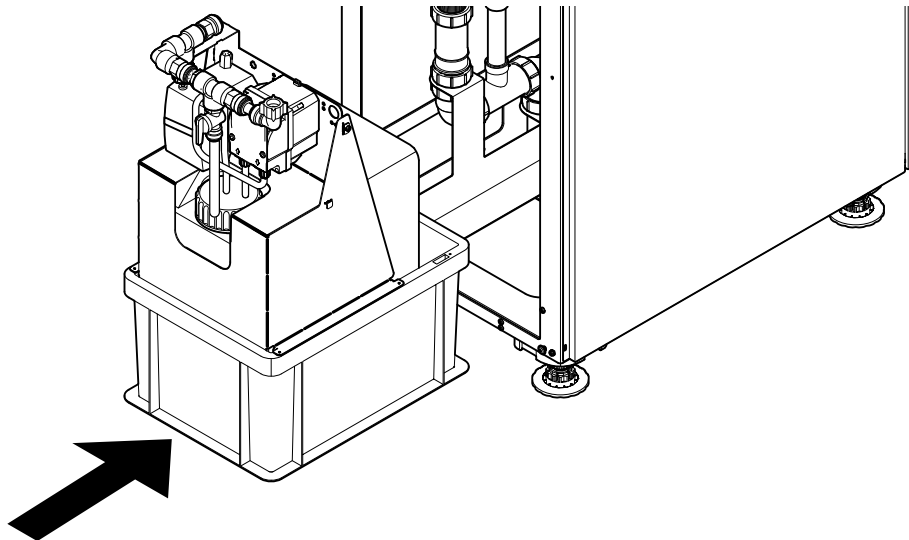


7. Put the **return tube** ① through the **jerrycan cap** ②.
8. Attach the **suction tube** ② to the circulation pump using a *15 mm open-ended spanner*.

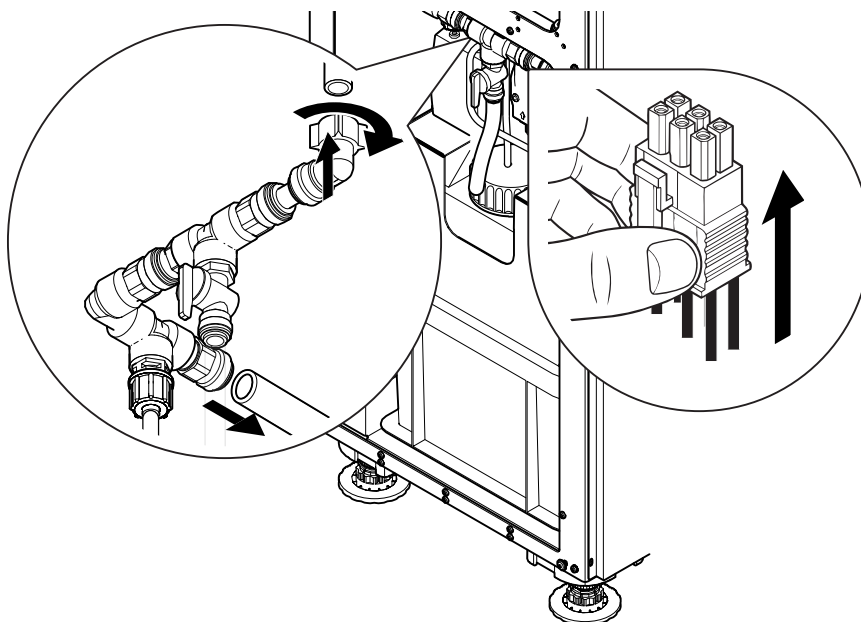


**To put the service unit into the PTU:**

1. Push the **service unit** ③ into the PTU.



2. Reconnect the **distribution manifold** ④ and the **pump connector** ①.



3. Put the **front plate** ⑤ and **back plate** ⑥ onto the PTU. Attach the screws using a *4mm Allen key*.

## 6.8 POWERING ON THE PTU

### **⚠ WARNING**

- Do not power on the device if there are visible leaks or incomplete connections.
- If the power cable is damaged, do not use the device and contact an approved installer.

#### To power on the PTU:

1. Make sure that all electrical and plumbing connections are completely installed.
2. Make sure the power outlet is earthed and within reach of the device.
3. Plug the power cable into the mains socket.
4. Set the **power switch**  to the ON position. The device starts its initialisation process, and internal components, such as pumps and sensors, could activate briefly.

## 6.9 CONNECTING THE PTU TO THE INTERNET

The PTU needs to be connected to the internet to enable monitoring, verification, activation, and proper system operation.

The device can be connected in one of the following ways:

- Ethernet connection (recommended)
- Wi-Fi connection (2.4 GHz only)

### 6.9.1 Connection Requirements

- A stable internet connection is required at all times.
- 2.4 GHz Wi-Fi network (5 GHz networks are not supported).
- The network needs to use WPA or WPA2 security.
- Networks with captive portals (e.g., hotel or guest login pages) are not supported.
- If a firewall is used, make sure that TCP port 443 is open.
- The Wi-Fi router should be located at least 1 meter away from the PTU.
- Always verify connectivity before starting the activation process.

### 6.9.2 Connecting the PTU using Ethernet

1. Connect an Ethernet cable to the **Ethernet port** .
2. Connect the other end to a router or network outlet with internet access.

The device automatically establishes a connection.

### 6.9.3 Connecting the PTU using Wi-Fi

## NOTICE

Autocorrect may change the network name or password. If the connection fails, check that the network name and password are correct.

#### To connect the PTU to Wi-Fi (standard):

1. Open the Wi-Fi settings on a phone or tablet and connect to the network named **"PTU-XX-XX-XX-XX-XX-XX"**.
2. A captive portal will appear. Select a Wi-Fi network from the list, or enter the network name manually and enter the password. Tap Connect.
3. The PTU will now connect to the Wi-Fi network. When connected, the PTU network will disappear from the list of available networks.

#### If a captive portal does not appear:

1. Open a browser and connect to: **http://192.168.4.1/**.
2. A configuration page appears.
3. Enter the network name manually and enter the password.
4. Tap Connect.
5. The PTU connects to the Wi-Fi network. When connected, the PTU network disappears from the list of available networks.

#### If there is no "PTU-XX-XX-XX-XX-XX-XX" network:

1. Open the Wi-Fi settings on a phone or tablet.
2. Connect to the network named **"XX-XX-XX-XX-XX-XX "** using the password **"PASSWORD"**.
3. When connected, open a browser and connect to: **http://192.168.4.1/**.
4. A configuration page appears.
5. Enter the network name manually and enter the password.
6. Tap Connect.
7. The PTU connects to the Wi-Fi network. When connected, the PTU network disappears from the list of available networks.

## 7. VERIFICATION

### NOTICE

- Verification of the PTU shall be done by authorised installers only.
- Installers need to request HDM login access in advance by contacting [service@hydraloop.com](mailto:service@hydraloop.com).  
When approved, login details are provided.

Verification and activation are carried out through the Hydraloop Device Manager (HDM), an online platform for installing, testing, verifying, and managing the PTU and Hydraloop units. Approved installers need to request HDM login credentials in advance by contacting [service@hydraloop.com](mailto:service@hydraloop.com).

#### To access the HDM:

1. Open **[hdm.hydraloop.com](https://hdm.hydraloop.com)** in a web browser.
2. Sign in using the username and password provided by Hydraloop.
3. Enable two-factor authentication. This is required for full access.

#### To register the PTU via the HDM:

1. Locate the serial number on the top of the PTU.
2. Enter the serial number in the HDM to register the device.
3. In the HDM, select the Maintenance tab (carpenter icon, top left).
4. Select Verification to begin the verification process.
5. Follow the on-screen instructions to complete verification.

For assistance during this process, contact an authorised Hydraloop partner or email [service@hydraloop.com](mailto:service@hydraloop.com). First-time installers can also request guidance from a Hydraloop Sales Engineer.

## 8. START-UP AND OPERATION

### 8.1 START-UP PERIOD

From the date of installation, the PTU fills to a default level of 25% using backup water supplied by the WC outlet of the Hydraloop H600 units. This default level can be increased in the HDM if necessary.

The Hydraloop H600 system also requires a start-up period to establish the biological treatment process in the T2 tank. This takes a minimum of 21 days (3 weeks) and 20 showers. During this period, the PTU continues to operate in backup water mode, since no treated water is yet available from the H600 units.

After the start-up period, the Hydraloop H600 units start supplying treated water through the AUX outlet, keeping the PTU's internal tank as full as possible. This treated water is the reusable water the PTU distributes to the connected outlets and auxiliary connections.

The start-up period does not affect the PTU itself. The PTU is directly functional after verification and continues working through and after the Hydraloop H600's start-up period, drawing on backup water until treated water becomes available.

### 8.2 BACKUP WATER AND BACKFLOW PROTECTION

#### **NOTICE**

When water demand exceeds what the system can supply, the backup water level can be increased in the HDM to improve water availability.

If there is insufficient reusable water or during the start-up period, the system automatically switches to backup water. If the tank level drops below 10%, the pump is temporarily switched off until the level returns to 25%.

The backup water supply is protected against backflow and contamination by:

- A certified air gap separation
- A non-return valve on the incoming water line

### 8.3 SYSTEM MALFUNCTION

The full Hydraloop system continuously monitors its components via an internet connection.

In the event of a malfunction the system automatically switches to backup water.

Distribution of reusable water is stopped as a safety precaution.

## **⚠ WARNING**

- Installation, maintenance, service, and repair work shall only be done by HydraLoop staff, certified partners, or authorised installers.
- Always follow the safety instructions in this manual and in the HydraLoop H600 Maintenance Guide, which is leading.
- **RISK OF CHEMICAL BURNS! Wear protective gloves, an FFP3 mask, and full-face or eye protection when handling sodium hypochlorite.**

This section gives a general overview of the service requirements and procedures.

### **9.1 SERVICE REQUIREMENTS**

During a service visit, carry out the following inspections to confirm the PTU is in good working order. The checks are grouped by the general state of the machine, the dosing and circulation pump, and the storage tank. Where a check fails, follow the referenced procedure before returning the PTU to normal operation.

#### **General state of the machine**

- Visually inspect for leakage or leak traces.
- Visually inspect the hydraulic hoses for damage, leakage, folds, and correct alignment.
- Visually inspect the electrical cables for damage, folds, and correct alignment.
- Check the functionality of all inputs and outputs, such as sensors and motorised valves.

#### **Dosing and circulation pump**

- Make sure the suction and pressure hoses are free of air bubbles and leakage. If a fault is found:
  1. Check and, if necessary, replace the hose.
  2. Bleed the pressure line to remove any air bubbles.
- Make sure the 20 L jerrycan of 12.5% sodium hypochlorite is more than 30% full. If not, follow the procedure "Replacing the 12.5% sodium hypochlorite jerrycan" in section 9.4.
- Make sure the injection nozzle on the distribution tank is free of leakage and blockage.

#### **Booster Pump**

- Yearly inspection of the DAB Easybox mini3 booster pump is required
- For maintenance steps, refer to the maintenance manual of the booster set as included in the manual package of the device.

#### **Storage tank**

- Make sure the storage tank smells neutral or similar to a swimming pool.
- Make sure the storage tank looks clean and white inside. If not, follow the procedure in 9.7, "Cleaning the storage tank".

## 9.2 FLUSHING THE SYSTEM

### **⚠ WARNING**

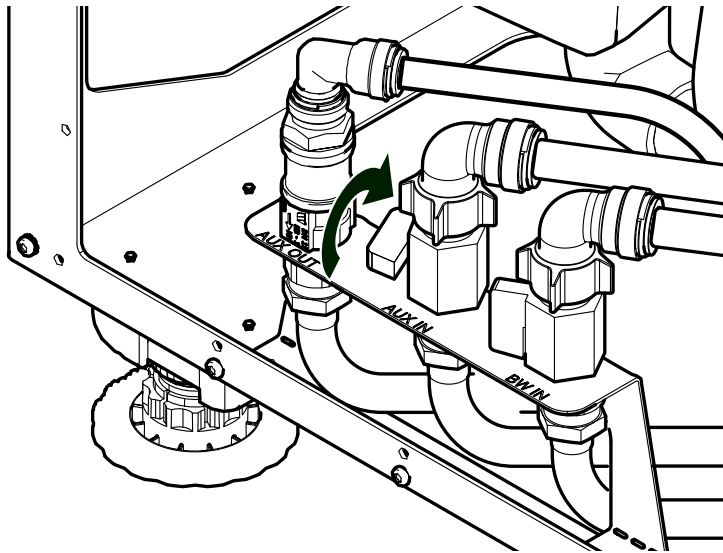
**RISK OF CHEMICAL BURNS!** Wear protective gloves, an FFP3 mask, and full-face or eye protection when handling sodium hypochlorite.

#### 9.2.1 Removing the return tube and the suction tube

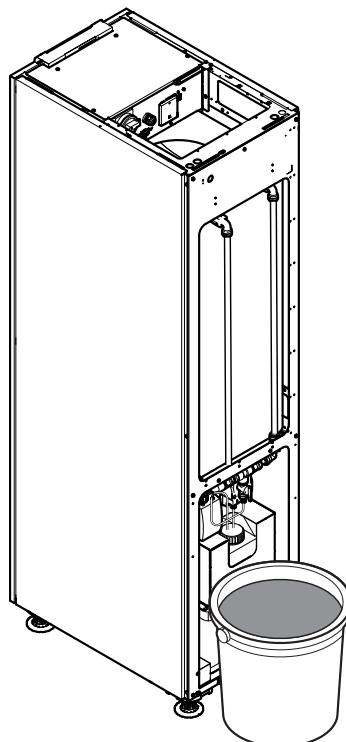
Before flushing the system, move the return tube and the suction tube from the jerrycan into a bucket of clean water. This lets the dosing and circulation pumps draw clean water through the lines to clear residual sodium hypochlorite from the pump and tubes.

**To remove the return tube and suction tube:**

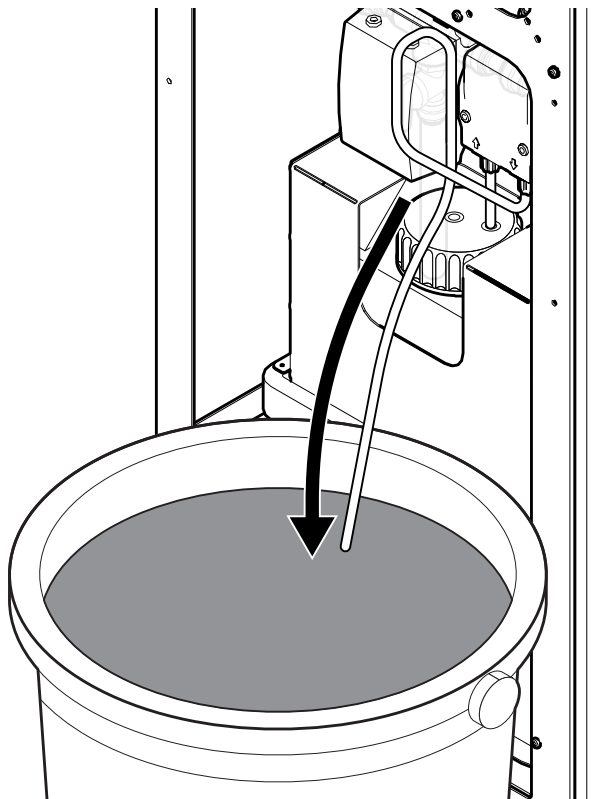
1. Close the **AUX in service valve** ®.



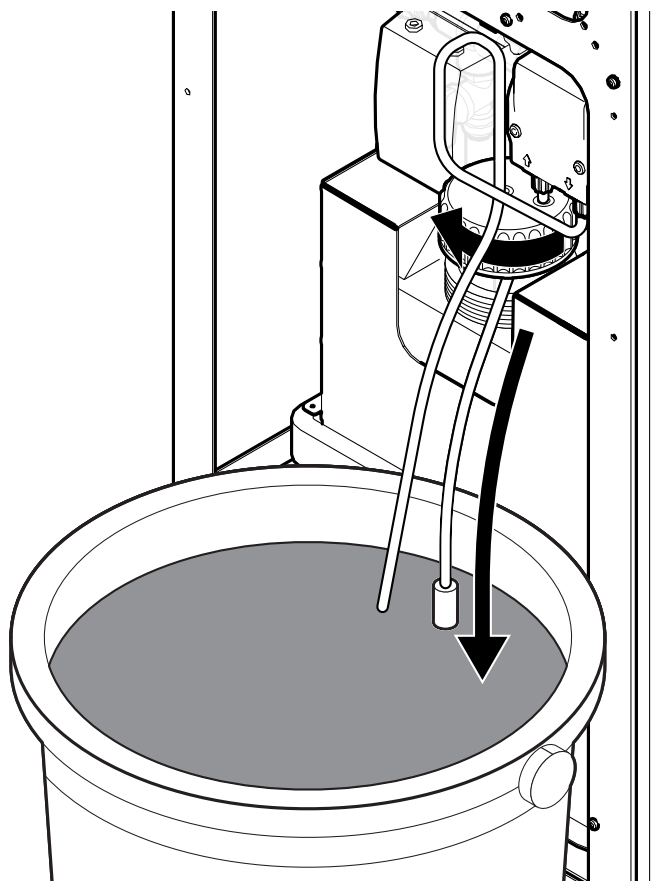
2. Put a *bucket of water* in front of the **service unit** ®.



3. Remove the **return tube** ① from the **jerrycan cap** ④.  
**NOTICE** The return tube is the longer hose attached to the dosing pump.
4. Put the **return tube** ① in the *bucket of water*.



5. Remove the **jerrycan cap** ④, and pull the **suction tube** ② out of the **jerrycan** ⑤.
6. Put the **suction tube** ② in the *bucket of water*.



### 9.2.2 Cycling water through the distribution and dosing pumps

With the return and suction tubes sitting in the bucket of clean water, run the distribution and dosing pumps to draw clean water through the dosing system. This clears residual sodium hypochlorite from the pumps and lines before the remaining chlorinated water is drained.

**To cycle the water through the distribution and dosing pumps:**

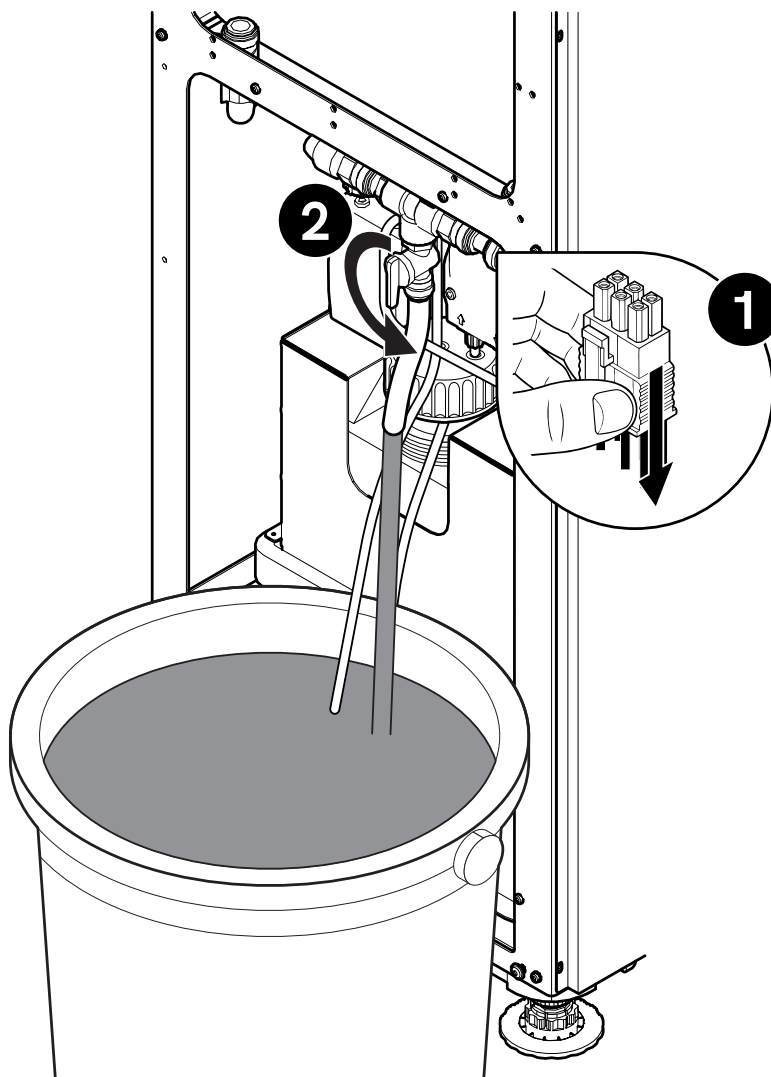
1. Confirm that the pump connector is connected.
2. Start both the **circulation pump** ① and **dosing pump** ② in the HDM.
3. Let the water cycle through the pumps and the sodium hypochlorite system for 5 minutes.
4. Stop both pumps in the HDM.

### 9.2.3 Emptying the remaining pipework

After the lines have been flushed, drain the chlorinated water left in the pipework into the bucket before returning the dosing system to service. Make sure the bucket has enough capacity for the remaining water.

**To empty the remaining chlorinated water:**

1. Disconnect the **pump connector** ①.
2. Open the drainage valve of the **distribution manifold** ② and let the remaining chlorinated water empty into the bucket of water.

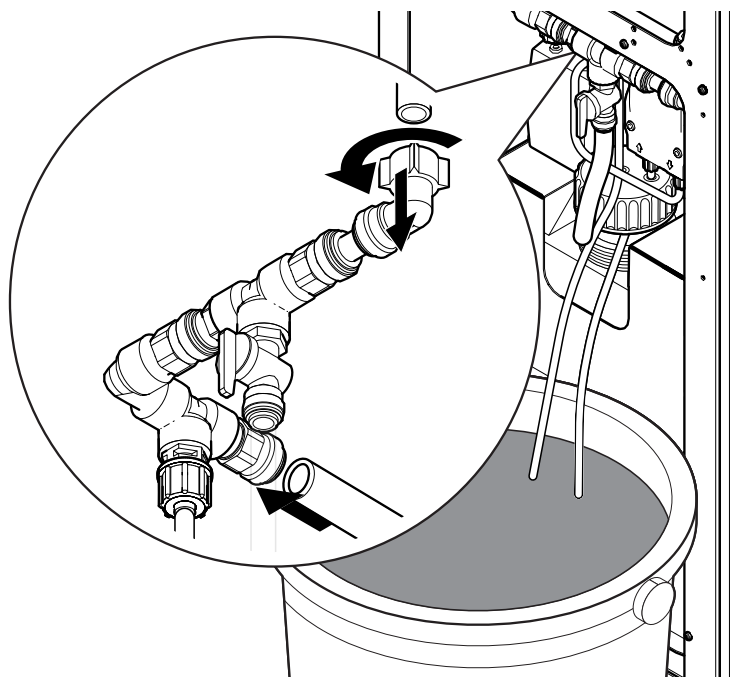


### 9.3 REMOVING SERVICE UNIT

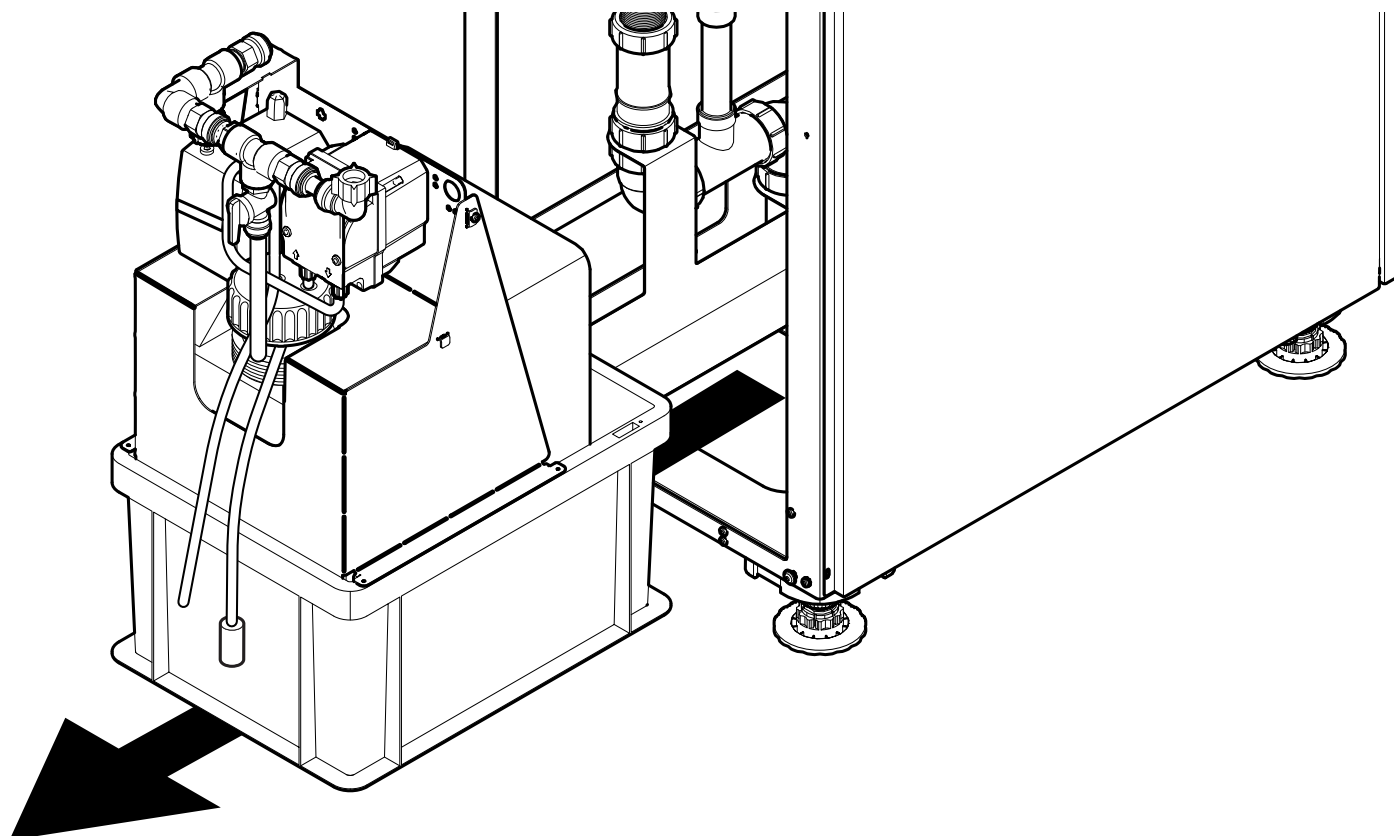
The service unit holds the jerrycan, the dosing pump, and the circulation pump as a single assembly. Remove it from the PTU to access these components for maintenance. Disconnect the distribution manifold before pulling the service unit clear.

#### To remove the service unit:

1. Disconnect the **distribution manifold** © by pushing back on the push-fit connector and unscrewing the coupling.



2. Pull the **service unit** © from the PTU.



## 9.4 REPLACING THE 12.5% SODIUM HYPOCHLORITE JERRYCAN

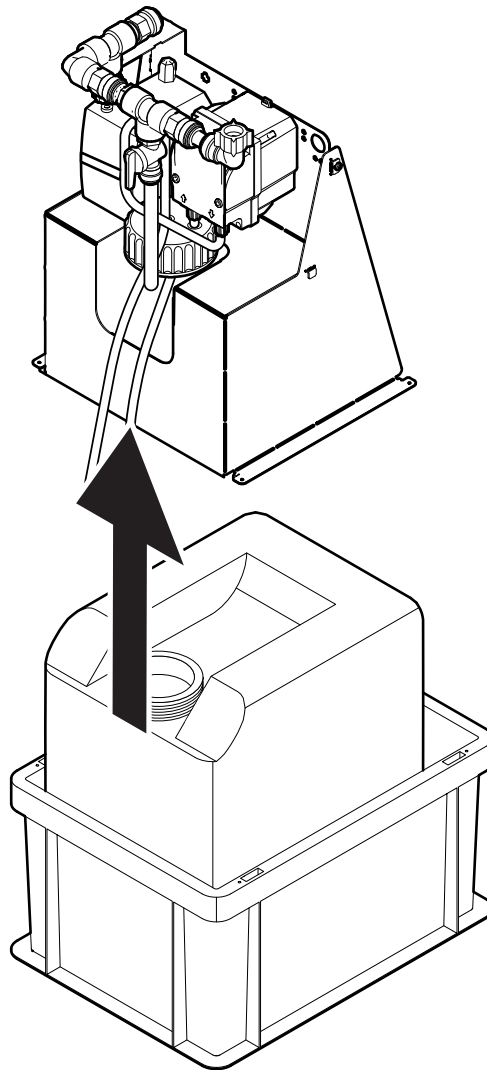
### **⚠ WARNING**

**RISK OF CHEMICAL BURNS!** Wear protective gloves, an FFP3 mask, and full-face or eye protection when handling sodium hypochlorite.

After the system has been flushed and drained, replace the empty sodium hypochlorite jerrycan with a new one. Lifting the dosing system clear of the drip tray gives free access to the jerrycan below.

**To replace the sodium hypochlorite jerrycan:**

1. Lift the **dosing system** ⑤ from the **drip tray** ④. The **jerrycan** ③ is now freely accessible.



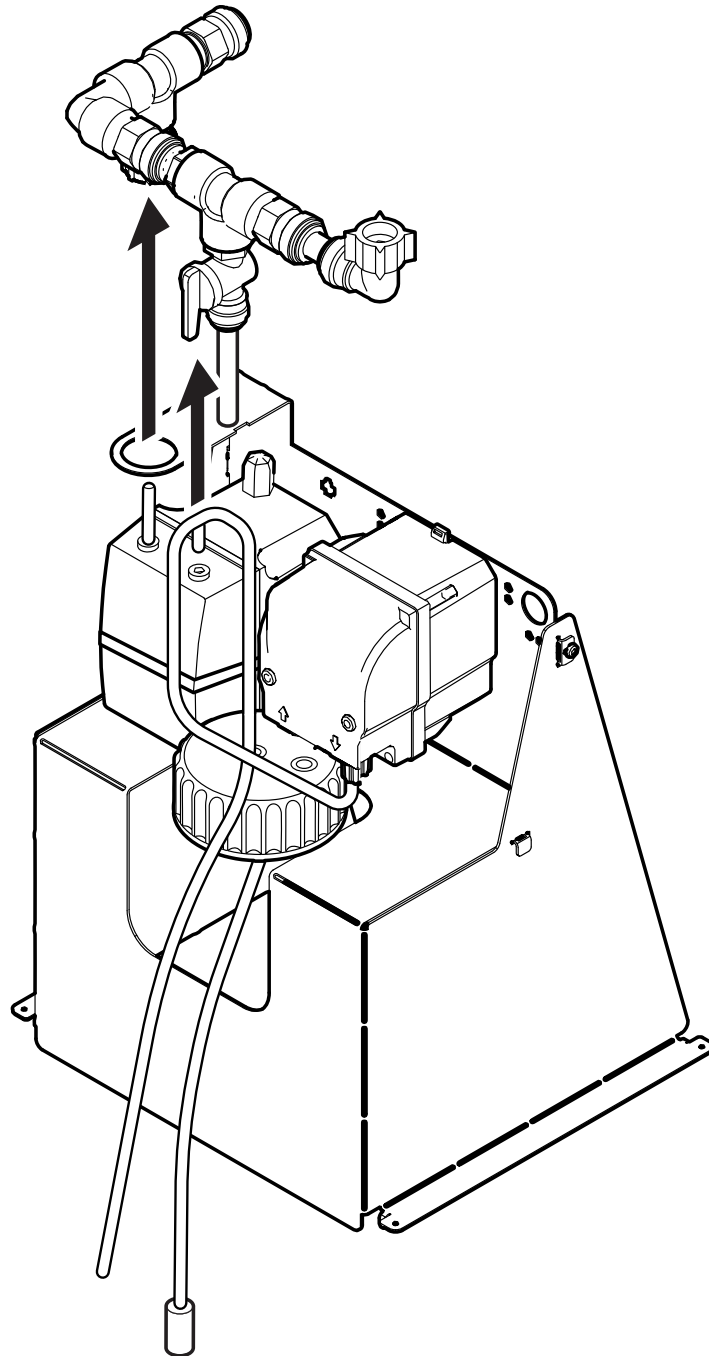
2. Remove the empty **jerrycan** ③ and put a new **20L 12.5% sodium hypochlorite jerrycan** in the drip tray.  
**⚠ WARNING** Use a standard 20 L jerrycan that fits exactly in the drip tray. A jerrycan of a different size can tip over and spill.
3. Insert the **suction tube** ② into the **jerrycan** ③.
4. Insert the **return tube** ① into the **jerrycan cap** ⑥.
5. Close the **jerrycan cap** ⑥.

## 9.5 SERVICING THE DOSING PUMP

The dosing pump is held in the service unit by a strap and connects to the distribution manifold and the return tube. Disconnect both connections before removing the dosing pump.

### To service the dosing pump:

1. Remove the distribution manifold.  
**NOTICE** The distribution manifold uses a push-fit connector. Press the ring on the connector inward to release it, then pull the manifold free.
2. Remove the **return tube** ①.



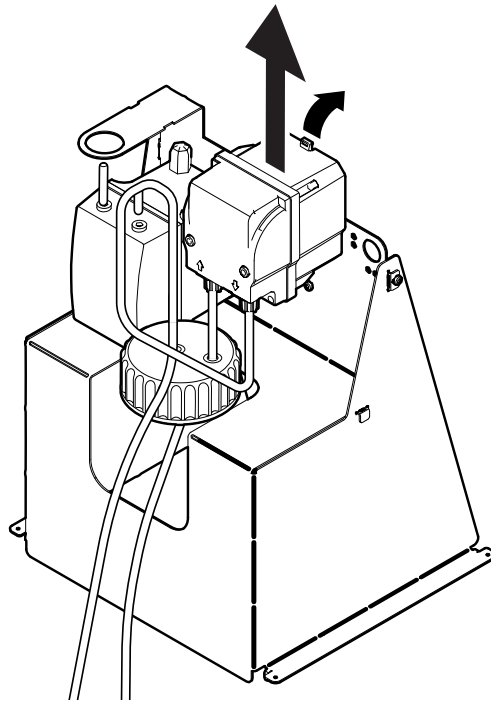
3. Undo the strap and remove the **dosing pump** ②.
4. Replace the **dosing pump** ②, and refit the components in reverse order.

## 9.6 SERVICING THE CIRCULATION PUMP

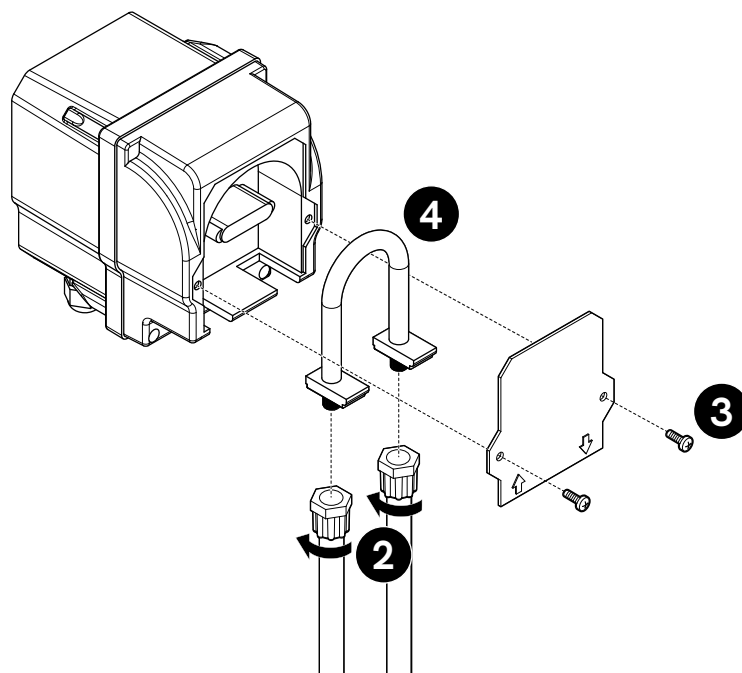
Service the circulation pump by replacing its peristaltic tube, which wears over time and must be renewed to maintain correct dosing. This procedure covers removing the pump from the service unit, disconnecting the suction and return tubes, opening the pump cover, fitting a new peristaltic tube, and refitting the pump.

### To service the circulation pump:

1. Push the clip and lift out the **circulation pump** ①.



2. Disconnect the **suction tube** ② and **return tube** ① using a 15 mm open-ended spanner.
3. Remove the **circulation pump** ① cover using a **Phillips-head screwdriver**.
4. Replace the peristaltic tube.



5. Refit the components in reverse order.

## 9.7 CLEANING THE STORAGE TANK

### **WARNING**

**RISK OF CHEMICAL BURNS!** Wear protective gloves, an FFP3 mask, and full-face or eye protection when handling sodium hypochlorite.

To clean the storage tank:

1. Open the drainage valve.
2. Fill the tank to approximately 10 to 25% with fresh water via the HDM.
3. Brush the **storage tank** Ⓐ walls and floor with a long-handled scrubber.
4. Drain the **storage tank** Ⓐ via the HDM into a bucket.
5. Repeat steps 2 to 4 until the **storage tank** Ⓐ is clean.
6. Close the drainage valve.

After cleaning, the tank fills automatically with fresh water to approximately 25%.

## 10. WARRANTY

Hydraloop guarantees to the original purchaser that the PTU device will be free from material defects for a period of 36 months from the date of the original purchase invoice issued by Hydraloop or one of its authorised Partners, or 24 months from the date of commissioning, whichever period expires first, unless local jurisdiction mandates a longer term.

A "defect" is a manufacturing or design flaw that significantly affects the product's use, is solely attributable to Hydraloop, and is not detectable at the time of delivery.

For full warranty terms and conditions, refer to the warranty certificate accessible through the HDM.

# 11. DISPOSAL

## 11.1 DISPOSAL OF ELECTRONIC COMPONENTS



The symbol on the product, the accessories or packaging indicates that this device must not be treated as unsorted municipal waste, but must be collected separately! Dispose of the device via a collection point for the recycling of waste electrical and electronic equipment if you live within the EU and in other European countries that operate separate collection systems for waste electrical and electronic equipment. By disposing of the device in the proper manner, you help to avoid possible hazards for the environment and public health that could otherwise be caused by improper treatment of waste equipment. The recycling of materials contributes to the conservation of natural resources. Therefore do not dispose of your old electrical and electronic equipment with the unsorted municipal waste.

### To dispose of electronic components:

1. Empty the storage tank of all water.
2. Remove the jerrycan and dispose of the sodium hypochlorite as described in section 11.3.
3. Disconnect the power cable from the mains socket.
4. Dispose of the device via a collection point for the recycling of waste electrical and electronic equipment.

## 11.2 DISPOSAL OF PACKAGING WASTE

The packaging is made of environmentally friendly materials, which may be disposed through your local recycling facilities. By disposing of the packaging and packaging waste in the proper manner, you help to avoid possible hazards for the environment and public health.

## 11.3 DISPOSAL OF SODIUM HYPOCHLORITE

Dispose of unused sodium hypochlorite in an environmentally responsible manner. Do not discharge undiluted product into surface water, groundwater, or the sewage system. Neutralise residual product if required by local regulations before disposal.

Dispose of in accordance with applicable national and regional waste regulations of the country in which the product is used. Refer to its Safety Data Sheet (SDS) for detailed disposal requirements, as well as the manufacturer's instructions on its packaging. Do not dispose of as unsorted municipal waste. Contact your local licensed waste disposal contractor or municipal environmental authority for approved disposal and collection methods.

## 12. DEFINITION LIST

| Term                 | Definition                                                                                                                                                                                                                                                                                                            |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Air gap              | A physical separation between a potable water supply and a non-potable outlet that prevents backflow and contamination. The Hydraloop uses an AB-class certified air gap in tank T4 to protect the backup water supply.                                                                                               |
| Approved components  | Parts, materials, and accessories supplied or explicitly approved by Hydraloop Systems B.V. for use with the PTU. Using non-approved components may result in system malfunction, reduced performance, or damage and will void the warranty.                                                                          |
| Approved inputs      | Greywater sources permitted to drain into the Hydraloop. For the H600: showers, baths, bathroom hand basins (dependent on configuration), and condensate water. Connecting any other source voids the warranty and compromises the biological treatment process.                                                      |
| Authorised installer | A qualified professional approved by Hydraloop Systems B.V. to install, commission, and verify Hydraloop devices. Authorised installers hold active credentials in the Hydraloop Device Manager (HDM). Installation, commissioning, and verification may only be carried out by an authorised installer.              |
| Backup water         | Mains potable water supplied to the Hydraloop's connected outlets when reusable water is unavailable — for example, during the start-up period, when greywater input is insufficient, or when a fault is detected. The backup water supply is kept physically separated from the reusable water circuit at all times. |
| Blackwater           | Wastewater containing human waste, originating from toilets or urinals. Blackwater must never enter the Hydraloop system. Connecting a blackwater source to the greywater inlet voids the warranty and creates a serious health hazard.                                                                               |
| Certified partner    | A company or organisation that has entered into a formal agreement with Hydraloop Systems B.V. to sell, install, and service Hydraloop products. Certified partners employ authorised installers and are accountable to Hydraloop for the quality of their installations.                                             |

| Term                                          | Definition                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Commissioning                                 | The process by which the authorised installer confirms that the Hydraloop has been correctly installed, verified, and registered, and formally hands the system over to the end user. Commissioning is considered complete upon acceptance of the warranty by the end user.                                                        |
| Cross-connection                              | An accidental link between a potable water line and a non-potable water line, or between a blackwater source and the greywater inlet. Cross-connections compromise water safety and must be identified and corrected before the system is commissioned. A dye test is carried out to detect cross-connections during verification. |
| Greywater                                     | Lightly contaminated wastewater from approved household sources such as showers, baths, and hand basins. Greywater does not contain human waste. It is collected, treated, and stored by the Hydraloop for reuse in non-potable applications.                                                                                      |
| HDM (Hydraloop Device Manager)                | An online platform used by authorised installers and Hydraloop staff to register, verify, activate, and manage Hydraloop devices. The HDM is also used to log service history, run diagnostic tests, and monitor device health. Access requires approved credentials obtained in advance from Hydraloop.                           |
| Installers and commissioning engineers        | Qualified professionals responsible for the physical installation of Hydraloop devices, including all plumbing and electrical connections, and for completing the commissioning process in the HDM. They must hold active HDM credentials and be authorised by Hydraloop.                                                          |
| Maintenance personnel and service technicians | Qualified professionals responsible for carrying out scheduled and unscheduled service visits on installed Hydraloop devices. They must hold active HDM credentials and be authorised by Hydraloop. End users must not carry out service tasks directly.                                                                           |
| Manufacturer                                  | Hydraloop Systems B.V. Throughout this manual, "the manufacturer" and "Hydraloop" refer to Hydraloop Systems B.V., the company that designs, produces, and is responsible for the PTU and H600 greywater recycling systems.                                                                                                        |

| Term                           | Definition                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Non-potable water              | Water that is not safe for drinking or food preparation. The reusable water produced by the Hydraloop is non-potable and may only be used for permitted applications: toilet flushing, washing machine supply, and non-spray garden irrigation via the auxiliary outlet. All non-potable tap points must be labelled with the supplied stickers. |
| Overhead bypass                | A section of pipework that allows greywater to continue flowing to the sewer when the Hydraloop is at capacity, offline, or in bypass mode. The overhead bypass must be installed to ensure uninterrupted drainage from the greywater sources.                                                                                                   |
| Potable water                  | Water that is safe for drinking and food preparation, supplied via the mains. The Hydraloop uses potable water as its backup water supply but never mixes it with the reusable water circuit.                                                                                                                                                    |
| Reusable water                 | Greywater that has been treated by the Hydraloop through sedimentation, dissolved air flotation, aerobic biological digestion, and UV-C disinfection, and is stored in tank T3 ready for distribution. Reusable water is non-potable and may only be used for permitted applications.                                                            |
| Start-up period                | A minimum period of 21 days and 20 shower events following installation, during which the aerobic microbial culture establishes itself in tank T2. During this period all connected outlets are supplied from backup water. The device switches automatically to reusable water once both thresholds are met.                                    |
| System operators and end users | The individuals who use the Hydraloop system on a day-to-day basis, typically the building occupants or owner. They interact with the system through the Hydraloop App and are responsible for arranging scheduled maintenance. They are not authorised to open, service, or repair the device.                                                  |
| Verification                   | The process carried out by the authorised installer through the HDM to confirm that the device is correctly installed, connected, and functioning before commissioning begins. Verification includes watertightness testing, dye tests for cross-connections, and functional checks via the HDM.                                                 |

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