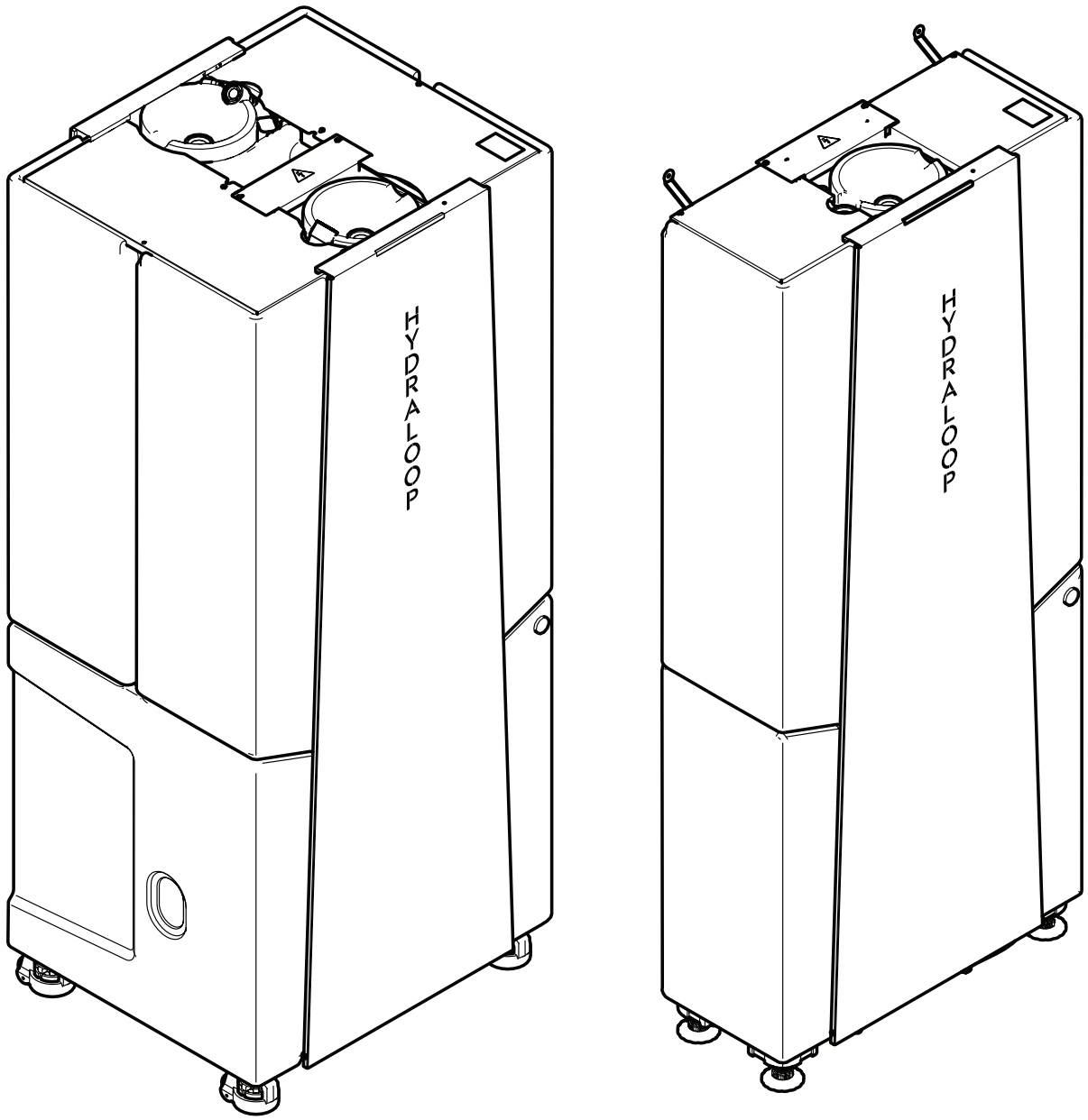
HYDRALOOP

H300/H600

Installation manual



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EN

1. INTRODUCTION

This document provides guidance for the safe installation and operation of the Hydraloop H300/H600 greywater recycling system. It is intended to support users and professionals in achieving optimal performance, safety, and longevity of the device.

1.1 DESCRIPTION OF THE USER

This Installation Manual is intended for individuals who install the Hydraloop system, including but not limited to:

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

All work on the Hydraloop system 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 system. 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 SIGNING OF CHECKLISTS

Installation requires two signed documents: the Recycle Ready Pre-Checklist (confirming the building's plumbing is prepared) and the Recycle Ready Confirmation Checklist (confirming all prerequisites are met before verification).

Both need to be submitted to the manufacturer. Failure to submit either checklist can void the warranty.

1.5 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

⚠WARNING

"WARNING" — Indicates a hazard with a medium level of risk which, if not avoided, could 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.

NOTICE

"NOTICE" — Indicates information considered important, but not hazard-related.

2. DESCRIPTION OF THE H300/H600

2.1 INTENDED USE AND REASONABLY FORESEEABLE MISUSE

The Hydraloop system is intended for the collection, treatment, and reuse of greywater from approved sources such as showers and baths. The treated water is suitable for non-potable applications, including toilet flushing, washing machines, and non-spray garden irrigation, subject to applicable local regulations, which may vary by jurisdiction.

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

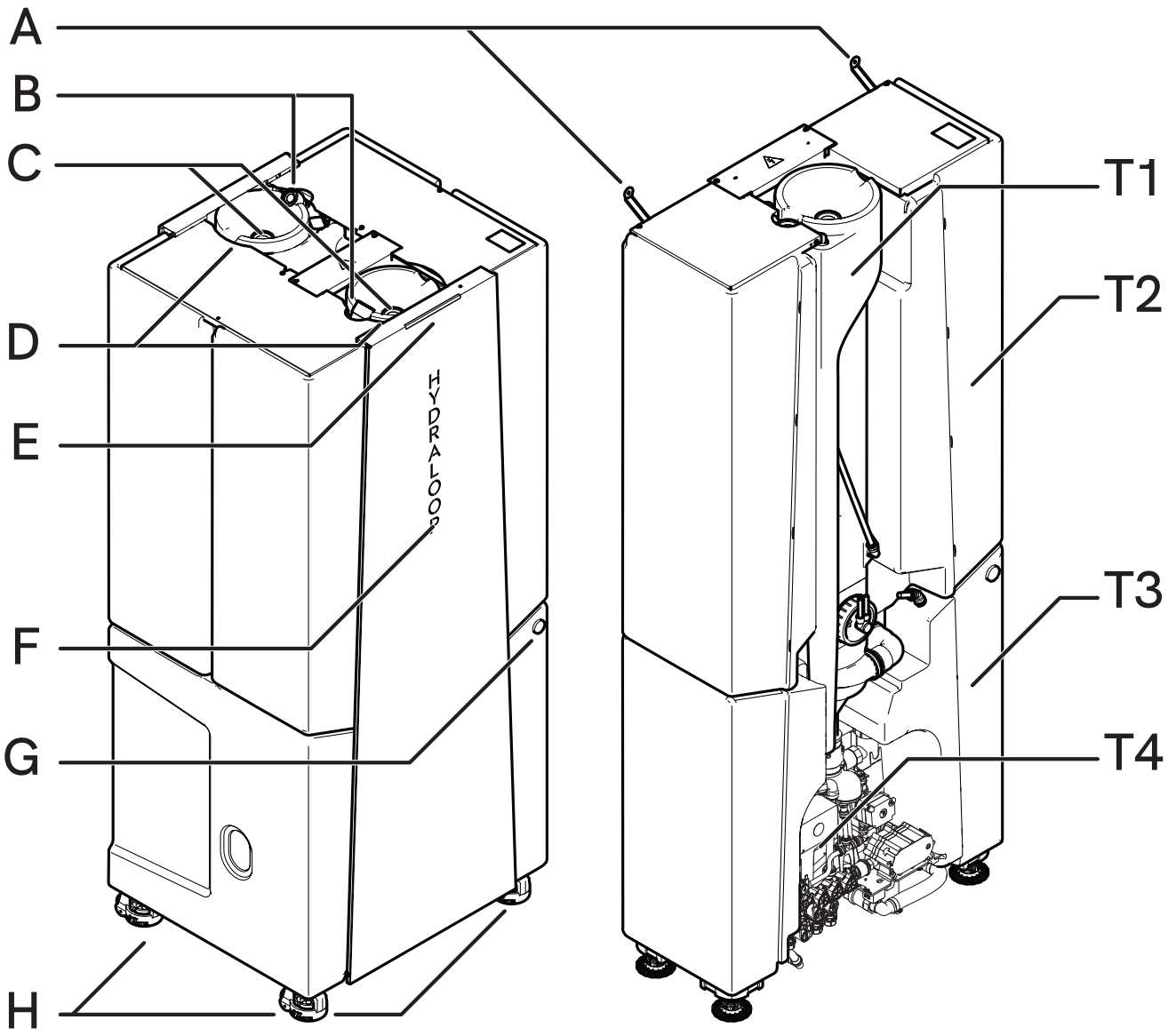
- Treating blackwater (toilet wastewater) or kitchen wastewater;
- Treating water containing solid waste, grease, or food residues;
- Introducing chemicals such as paint, solvents, bleach, disinfectants, or hair dye into the system;
- Treating industrial or process water;
- Producing potable (drinking) water or water for food preparation;
- Operating the system outside the specified environmental and installation conditions.

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

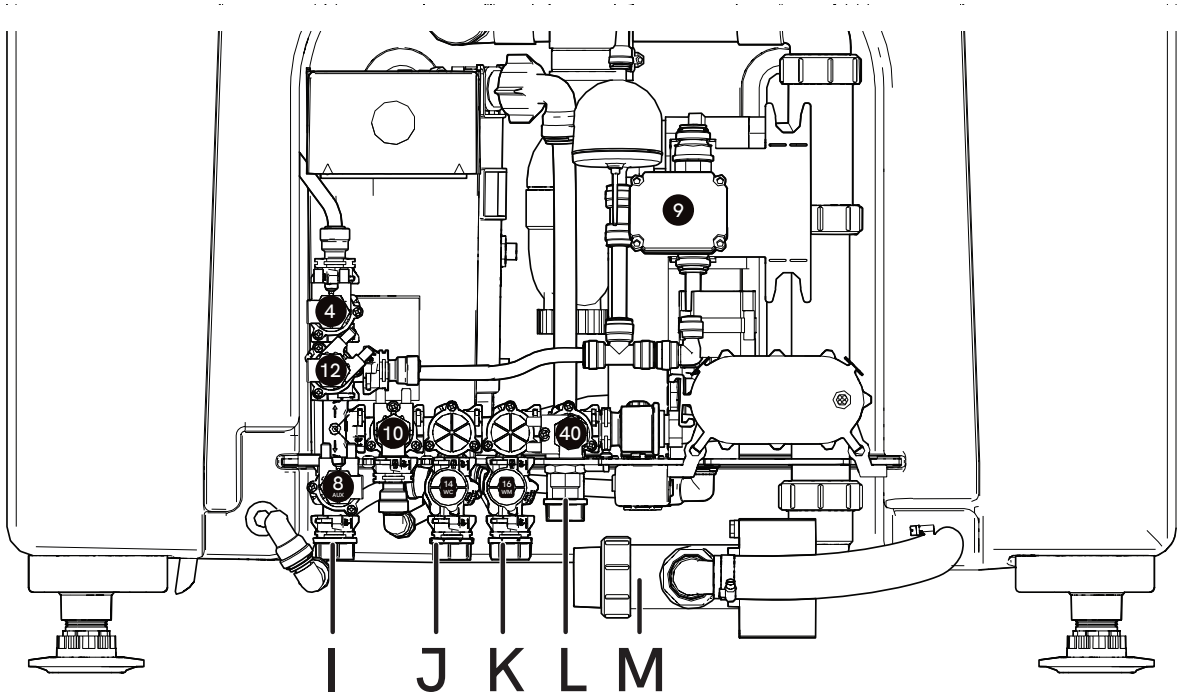
The Hydraloop system shall be installed, operated, and maintained using approved components, configurations, and procedures. Use of non-approved parts, incorrect installation, or inadequate maintenance could result in system malfunction, reduced performance, or damage, and could void the warranty.

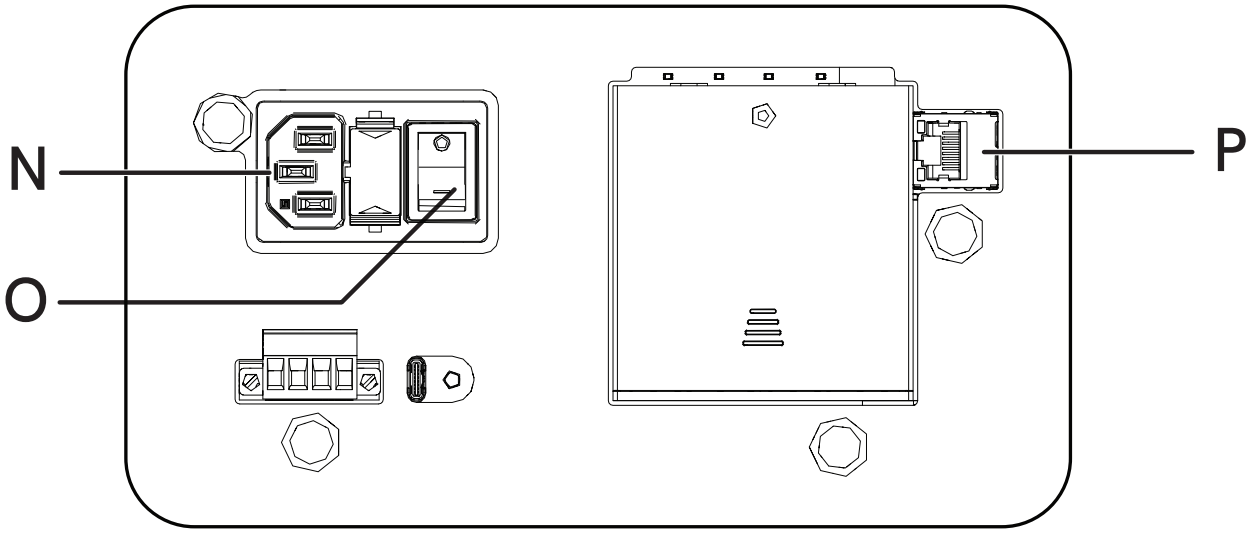
Do not sit or stand on the Hydraloop. Do not use it for storage.

2.2 PRODUCT OVERVIEW



A. Mounting points (H300 only)
B. Aerator port(s)
C. Inlet gasket(s)
D. Inlet port(s)
E. LED status light
F. Front plate
G. Maintenance plug
H. Castors (H600 only)
I. Valve 8 - Auxiliary outlet (AUX)
J. Valve 14 - Toilet outlet (WC)
K. Valve 16 - Washing machine outlet (WM)
L. Backup water inlet
M. Sewer outlet
N. Power port
O. Power switch
P. Ethernet port



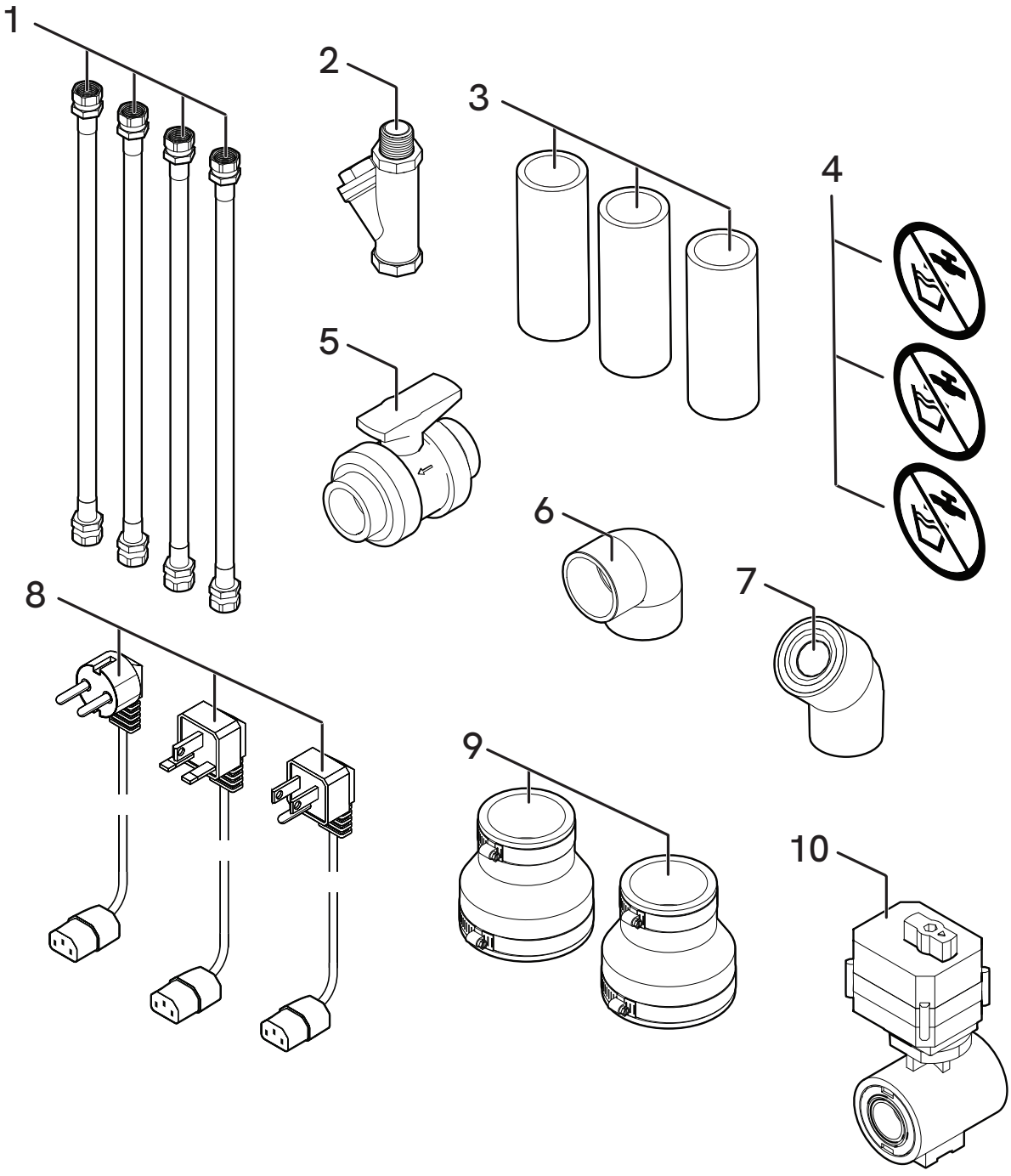


The Hydraloop consists of 4 tanks:

- T1; Greywater inlet tank
- T2; Bioreactor tank with moving bed bioreactor (MBBR)
- T3; Storage tank holding recycled water
- T4; Tank for backup water connection, with a safe air gap

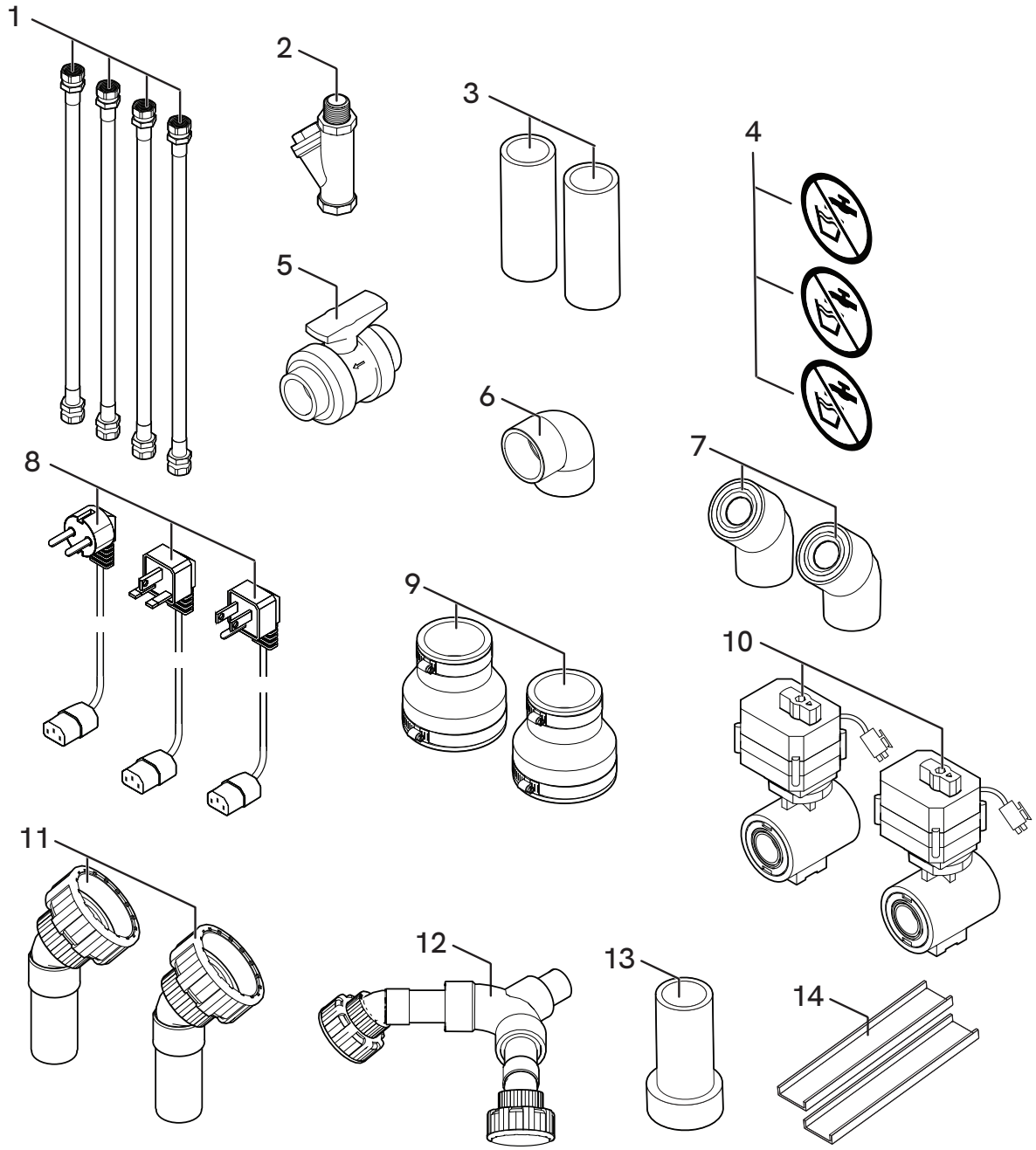
2.3 INCLUDED SEPARATE COMPONENTS

2.3.1 Included with the H300



1. 1/2" to 1/2" flexible hoses (4×)
2. Coarse water filter
3. PVC tubing - 40 mm ⌀ X 70 mm long (3×)
4. Non-potable water labels (3×)
5. PVC handball valve
6. PVC elbow
7. Aerator
8. Power cable (plug corresponding to the installation region)
9. Flexible converter 40 mm ⌀ to 52 mm ⌀ (2×)
10. 2-way valve

2.3.2 Included with the H600



1. 1/2" to 1/2" flexible hoses (4×)
2. Coarse water filter
3. PVC tubing - 40 mm ⌀ X 70 mm long (2×)
4. Non-potable water labels (3×)
5. PVC handball valve
6. PVC elbow
7. Aerators (2×)
8. Power cable (plug corresponding to the installation region)
9. Flexible converter 40 mm ⌀ to 52 mm ⌀ (2×)
10. 2-way valve (2×)
11. Valve elbows (3×)
12. PVC Y-junction
13. PVC reducer
14. Pallet ramps (2×)

2.4 TECHNICAL DATA

Parameter	**Value H300**	**Value H600**
Device name	**Hydraloop H300**	**Hydraloop H600**
System type	Greywater recycling system	
Volume	100 L	200 L
Nominal treatment capacity (depending on user behaviour)	360 L/day	720 L/day
Internal voltage	24 V DC	
Supply voltage	120 V / 230 V AC	
Frequency	50 Hz / 60 Hz	
Average power consumption (actual energy consumption dependent on appliance use)	280 kWh/year	450 kWh/year
Max power during treatment	25 W	50 W
Pump pressure and flow	2.4 bar (240 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 H300**	**Value H600**
Width	800 mm	800 mm
Depth	360 mm	695 mm
Height	1870 mm (excluding inlet)	1892 mm (excluding inlet)
Dry weight	83.5 kg	128 kg
Wet weight	384 kg	740 kg

2.4.3 Input specifications

Parameter	Value
Greywater sources	Shower, bath
Backup water supply	Mains water supply
Maximum backup water pressure	500 kPa
Minimum backup water flow	12 L/min
Inlet pipe size	1/2" BSP
Greywater inlet pipe	Outer diameter Ø 40 mm
Water hardness range	max. 7° dH / 7 GPG / 120-180 ppm

2.4.4 Output specifications

Application	Delivery
Toilet	Permanently pressurised, 1/2" BSP
Washing machine	Permanently pressurised, 1/2" BSP
Auxiliary	Not permanently pressurised, 1/2" BSP
Drain connection	OD Ø 40 mm (clamp connection)

2.4.5 Acoustic performance

Operation	Sound pressure level	Interval
Air pump	29 dB(A)	Daily / long duration
Distribution pump	29 dB(A)	During use
Greywater inflow	49 dB(A)	During use
Backup water filling	48 dB(A)	Weekly (typical)
Inlet diverter	50 dB(A)	During operation
Self-cleaning cycle	50 dB(A)	Weekly / short

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	Sufficient reusable water is available for all connected outlets.
Blue	No reusable water is available. Backup water is used to supply all outlets.
Blue/White flashing	Reusable water is available in the storage tank, but the volume is insufficient for a full washing machine cycle.
Green	The Hydraloop does its automatic cleaning cycle.
Purple	The Hydraloop detected that the washing machine is in operation.
Orange	The device is not treating greywater and automatically switched to backup water.
Red	A fault is detected in either the connected outlets (toilets or washing machine) or in the Hydraloop itself. Distribution of water is stopped.

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
Air pump	3 pulses per minute
UV-C lamp	4 pulses per minute
Storage tank re-disinfection circulation	5 pulses per minute
Water distribution pump	6 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 (120 V, 60 Hz, 15 to 16A / 230 V, 50 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.
- **RISK OF DAMAGE!** Make sure the water pressure of the mains supply does not exceed 500 kPa. Excessive pressure can damage internal components and seals. Install a pressure reducer if the mains water pressure exceeds 500 kPa.
- 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.
- Always follow the maintenance and service schedule as indicated in the Maintenance Guide.

4. PREPARATION

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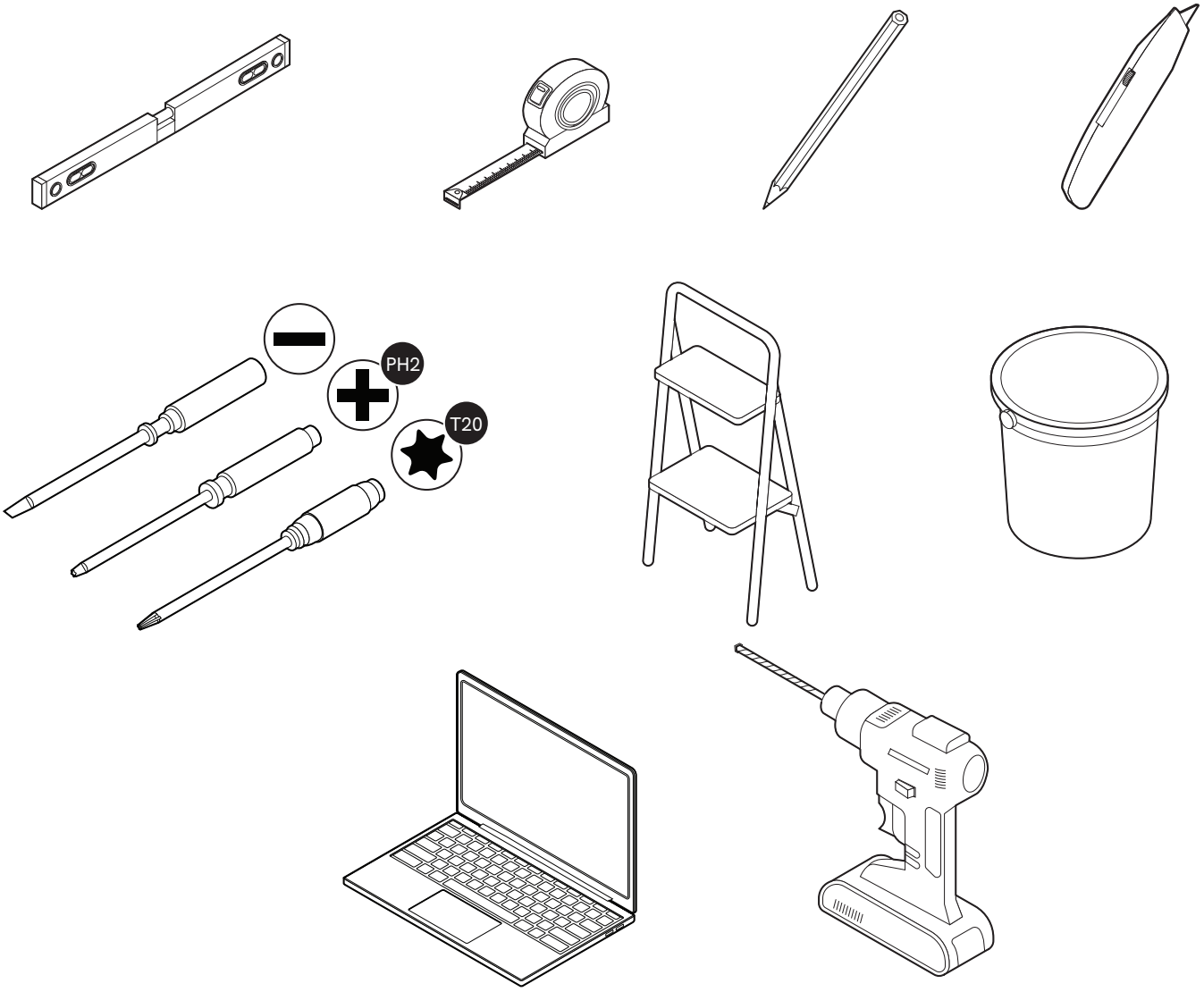
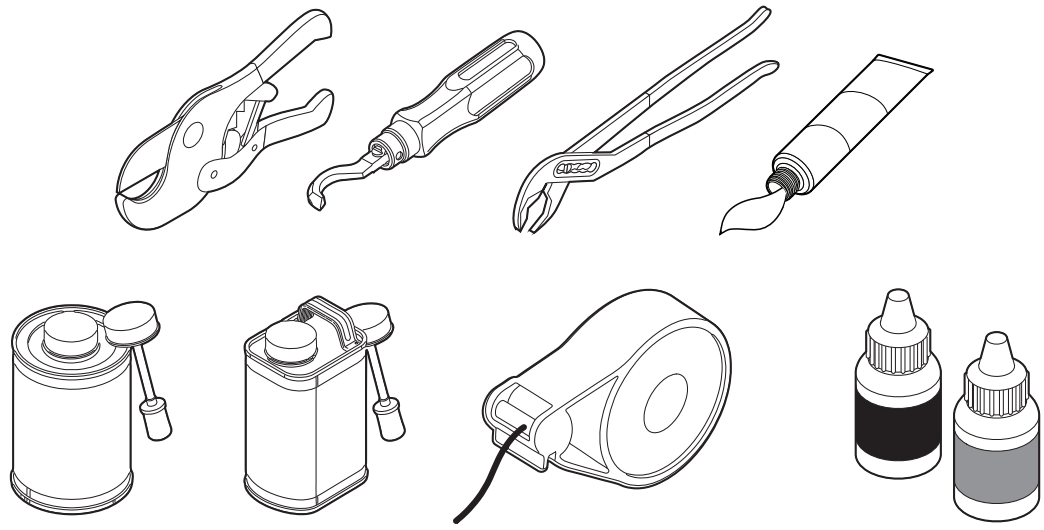
4.1 COLLECTING THE REQUIRED TOOLS



General tools

- Spirit level
- Measuring tape
- Pencil
- Utility knife
- Screwdrivers (flathead, Phillips PH2, Torx T20)
- Step ladder
- Bucket or towels (for residual water)
- Laptop or mobile device (for HDM verification)
- Drill (wood/concrete, depending on wall type)

Plumbing tools



- Pipe cutter (for plastic pipes)
- Deburring tool
- Pipe wrench/channel locks
- Acid-free petroleum jelly
- PVC glue
- PVC cleaner
- Thread sealing tape (Loctite 55 or similar)
- Biodegradable colour dyes

4.2 INSPECTING AND VERIFYING THE GREYWATER PIPEWORK

NOTICE

The Recycle Ready Pre-Checklist must be completed, signed, and submitted to Hydraloop before installation can be scheduled. Failure to submit the Pre-Checklist could void the warranty. Access the Pre-Checklist by scanning the QR code or by visiting ***hydraloop.formstack.com/forms/recycle_ready_pre_checklist***.

Before installation, the building's plumbing needs to be prepared for greywater recycling in accordance with the Recycle Ready Guide.

Verify that the greywater collection pipework meets the following requirements:

- Make sure that the pipework is dedicated to greywater. Do not connect kitchen drains, dishwashers, floor drains, or other sources of human waste to the inlet of the Hydraloop.
- Make sure that the pipework is gravity-drained. Do not use pressurised pipework.
- Make sure that the pipework is fully vented.
- Make sure that an overhead bypass can be installed. Do not restrict greywater drainage flow.
- Make sure that the distribution and collection pipework is flushed in accordance with applicable local practices and regulations.
- Make sure that the distribution and collection pipework is watertight.
- Make sure that the waste pipe from the Hydraloop outlet slopes downward at a minimum gradient of 1:100. Do not allow the waste pipe to slope upward, as this will cause drainage and venting problems.

4.3 PERMITTED GREYWATER OUTPUTS AND INPUTS

⚠WARNING

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

Only approved inputs shall be connected to maintain correct operation and water quality. The table below shows which greywater sources are permitted for each Hydraloop model.

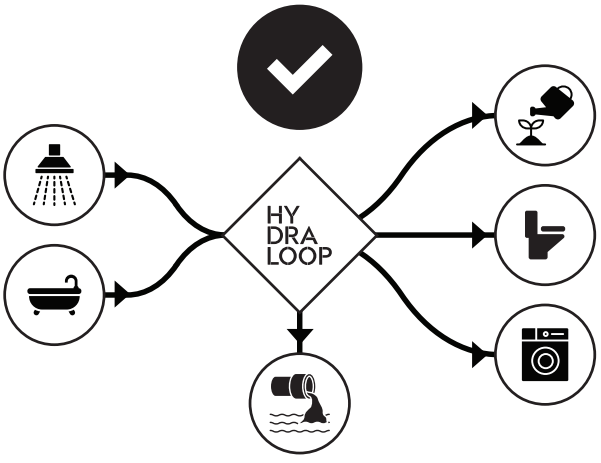
Always follow these guidelines when designing and installing the system for a safe, reliable, and compliant operation.

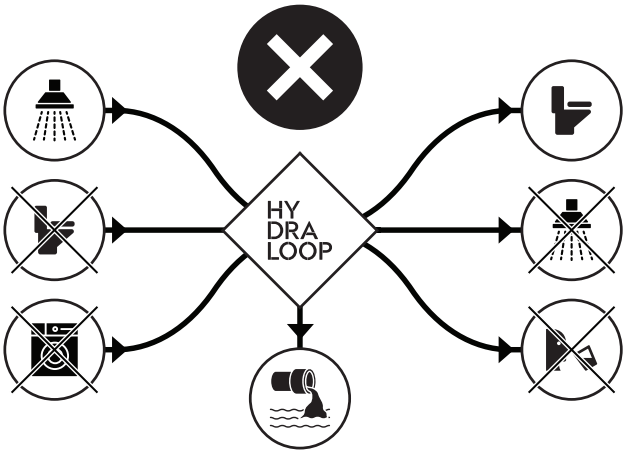
Source	H300	H600
Shower and bath	✓	✓
Bathroom hand basin (dependent on configuration)	✓	✓
Condensate water		✓

Prohibited inputs:
Kitchen sinks, dishwashers, toilets, and floor drains. Connecting any of these voids the warranty and compromises the biological 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
    - Garage
    - Laundry room
- The ceiling height needs to be 240 cm at a minimum.
- Make sure there is a minimum of 80 cm of free space in front of the Hydraloop H300 and Hydraloop H600. The Hydraloop H600 also requires a minimum of 60 cm of free space behind the unit. Keep the top of the Hydraloop clear for access.

4.4.2 Pipework requirements

- Make sure the y-junction from the greywater drainage is reduced to 40 mm to match the Hydraloop inlet. For pipe diameters up to 52 mm, a flexible converter is supplied with the Hydraloop.
- Make sure the greywater inlet is at a minimum height of 220 cm.

4.4.3 Electrical requirements

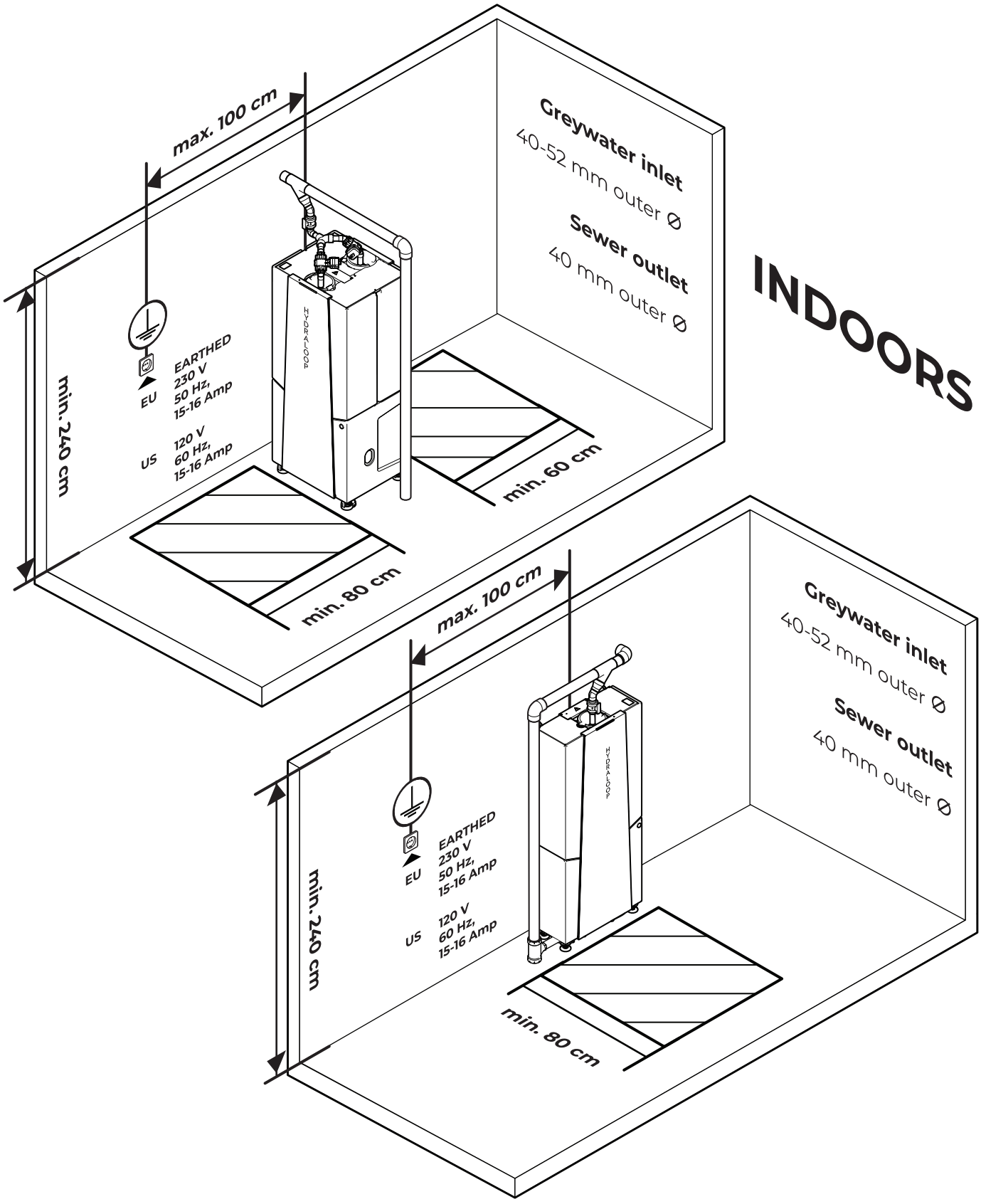
- For EU installations: Make sure that a 230 V, 50 Hz, 15 to 16 A earthed mains socket is available.
- Make sure that the mains socket is within 1 m of the top centre of the Hydraloop.

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 – 180 ppm).


INDOORS
max. 100 cm
min. 240 cm
min. 60 cm
min. 80 cm
Greywater inlet
40-52 mm outer Ø
Sewer outlet
40 mm outer Ø
EU
EARTHED
230 V
50 Hz,
15-16 Amp
US
120 V
60 Hz,
15-16 Amp
max. 100 cm
min. 240 cm
min. 80 cm
Greywater inlet
40-52 mm outer Ø
Sewer outlet
40 mm outer Ø
EU
EARTHED
230 V
50 Hz,
15-16 Amp
US
120 V
60 Hz,
15-16 Amp

5. TRANSPORT AND UNPACKING

⚠WARNING

- **Do not move the Hydraloop 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 use a two-wheel trolley for the final approach to the installation location, where pallet truck access may be limited.**
- **Do not lift the Hydraloop unaided. Always use appropriate lifting equipment and additional personnel.**
- **Avoid damage to the bottom of the device.**
- **Keep the Hydraloop upright during transport. Do not set the device in a horizontal position. This can damage internal components and seals.**
- **Keep the protective packaging on the device until it is at the final installation location.**

5.1 USING THE HYDRALOOP H300 PALLET

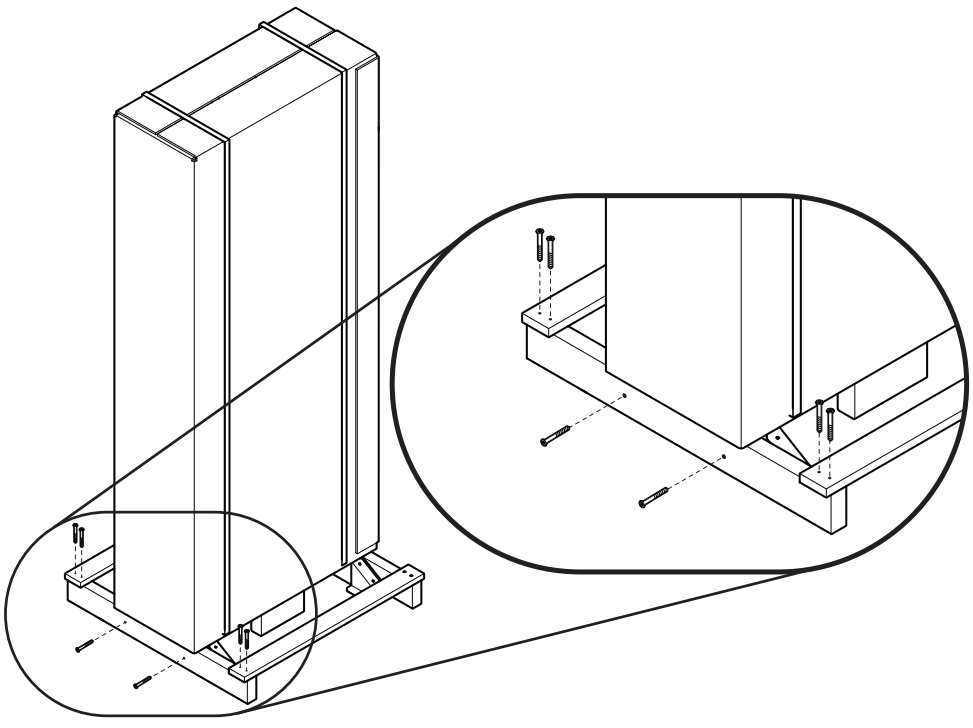
NOTICE

The Hydraloop H600 is delivered on a standard block pallet. These instructions do not apply to the H600.

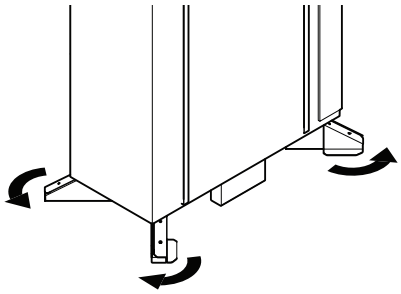
The Hydraloop H300 is delivered on a custom pallet to aid transportation and to prevent tipping. Convert the pallet to a small footprint only if necessary. Follow the instructions in this section to transport and unpack the device.

To dismantle the Hydraloop H300 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 UNLOADING THE HYDRALOOP H600

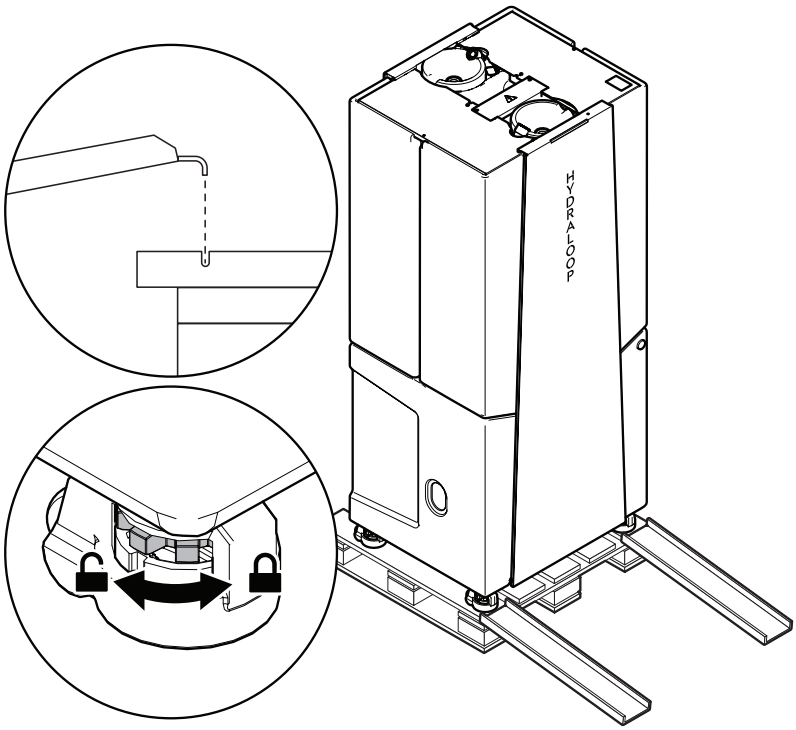
NOTICE

Make sure the Hydraloop device is not supported on the castor wheels when in operation.

The Hydraloop H600 has castors to aid transportation. Use the provided pallet ramps and the castors to move Hydraloop H600 to its final installation location.

To unload the Hydraloop H600:

1. Put the lips of the **pallet ramps** ⑭ in the grooves on the pallet. Make sure the **pallet ramps** ⑭ are flush with the top of the pallet.
2. Turn the **castors'** Ⓗ adjustment wheels counterclockwise to raise the foot pad, allowing the unit to rest on the **castors'** Ⓗ wheels.
3. With additional personnel on either side of the Hydraloop, carefully roll the unit down the **pallet ramps** ⑭ and off the pallet to its final installation location.
4. Turn the **castors'** Ⓗ adjustment wheels clockwise to lower the foot pad to the floor. The Hydraloop will lift off the **castor** Ⓗ wheels and rest on its feet.



5.3 UNPACKING AND INSPECTING THE HYDRALOOP

NOTICE

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

To unpack and inspect the Hydraloop:

1. Remove the Hydraloop from the transport pallet by cutting the straps. Keep the device 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

Do not connect the power cable until all plumbing connections are complete.

When the Hydraloop is at the final installation location, complete the installation. First, attach the device to the wall, then connect the greywater inlet, sewer connection, and outlets as described in this section.

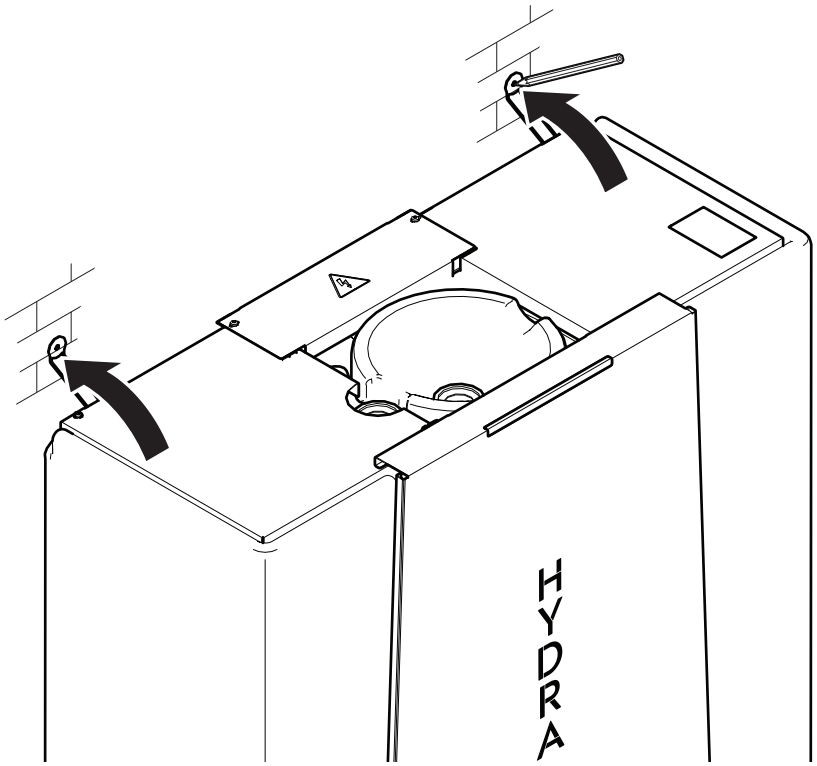
6.1 ATTACHING THE HYDRALOOP H300 TO THE WALL

⚠WARNING

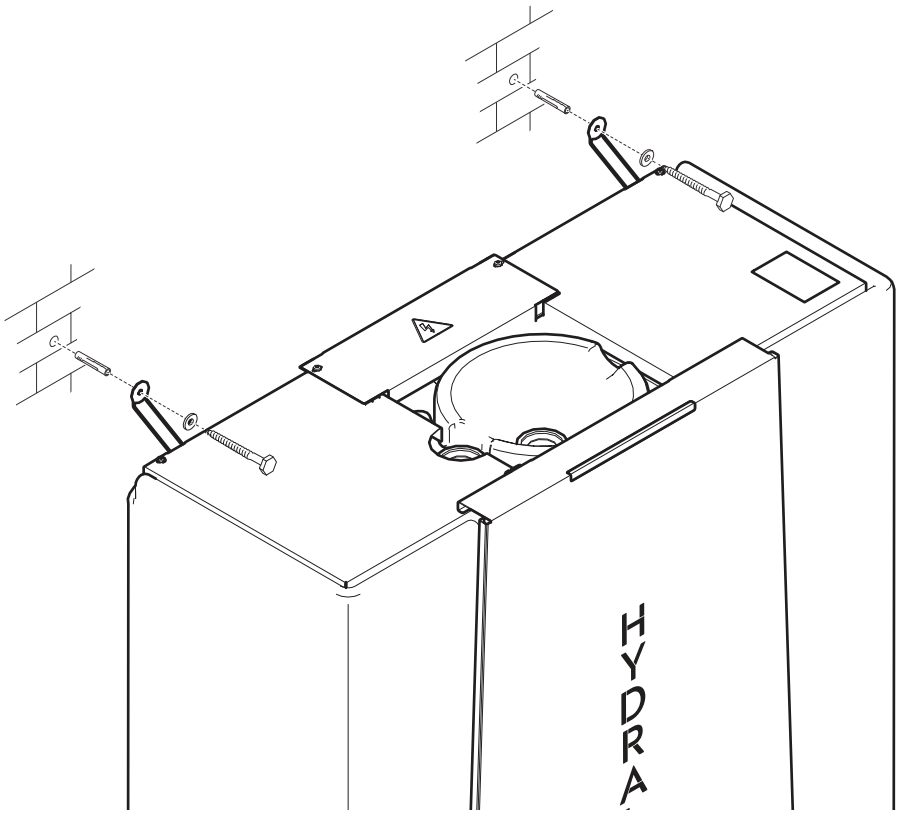
- **Always attach the Hydraloop H300 to a wall to prevent it from tipping. If you do not attach the device, it can tip over and cause injury.**
- **Attach the Hydraloop to a solid concrete wall or to wall studs. Do not attach the Hydraloop to drywall only. Follow applicable installation practices and local regulations. If you are unsure of the correct installation method, consult a qualified professional.**
- **Check for concealed cables and pipes before drilling.**
- **These instructions apply to the Hydraloop H300 only. The Hydraloop H600 does not have mounting points.**

To attach the Hydraloop H300 to the wall:

1. Bend the **mounting points** Ⓐ until they are flush against the wall. Mark the positions of the mounting holes on the wall using a pencil.



2. Drill the holes. Do not use the **mounting points** Ⓐ as a drill guide.
   WARNING! Always wear personal protective equipment (PPE) when using power equipment.
3. Attach the **mounting points** Ⓐ to the wall with bolts, washers and plugs.
   NOTICE Bolts, washers and plugs are not included.

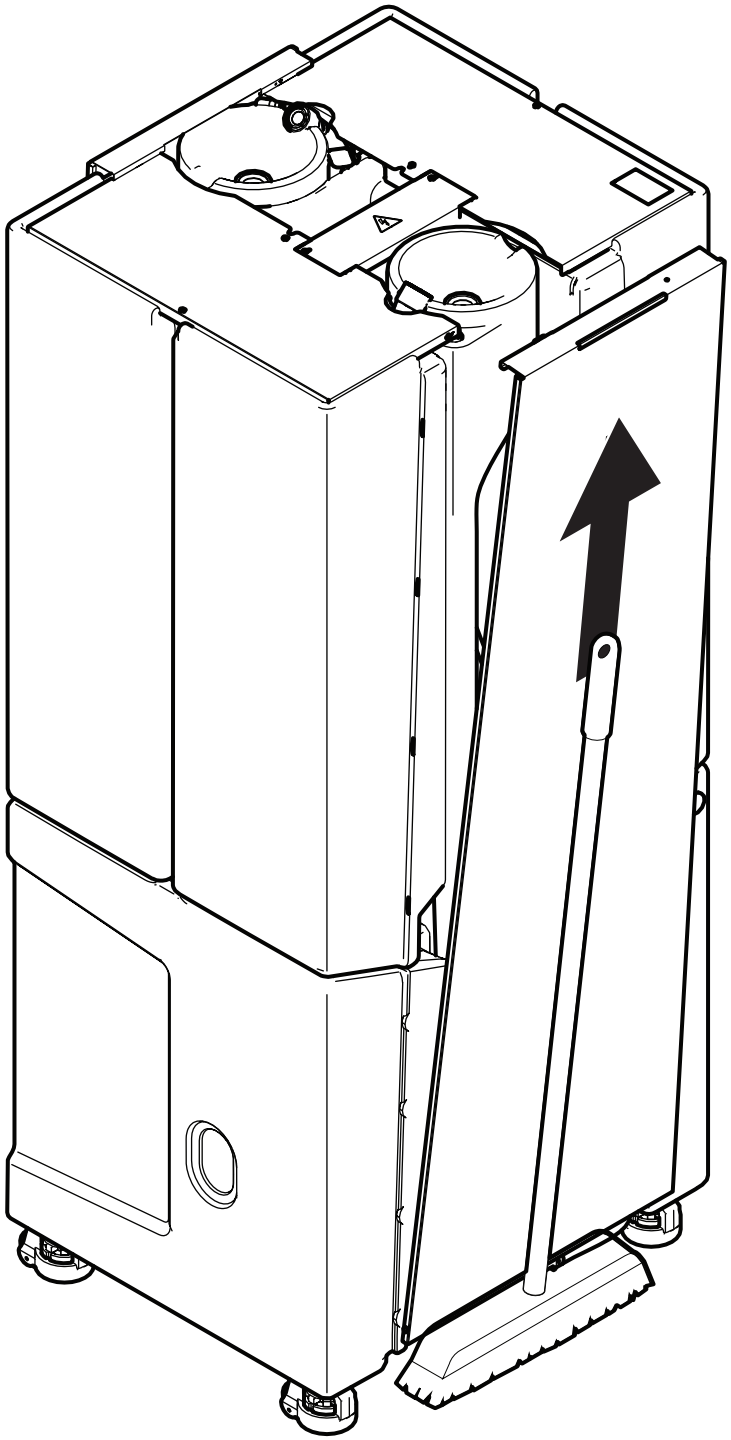


6.2 ACCESSING THE INTERNALS

The internal connections are behind the front plate of the Hydraloop. Remove the front plate to access these connections.

To access the internals:

1. Put a wedge (e.g.. a broomstick) between the **front plate** Ⓓ and the floor. Lift the **front plate** Ⓓ using the wedge.



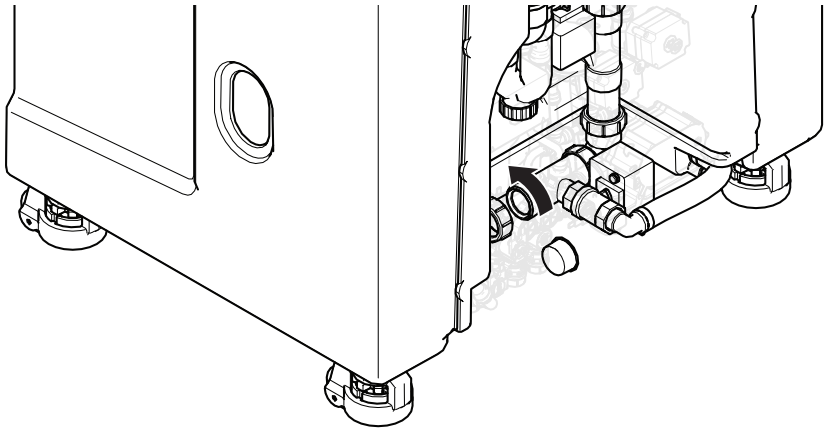
2. Set the **front plate** Ⓓ aside in a safe position where it can’t fall over.

6.3 CONNECTING THE HYDRALOOP TO THE SEWER

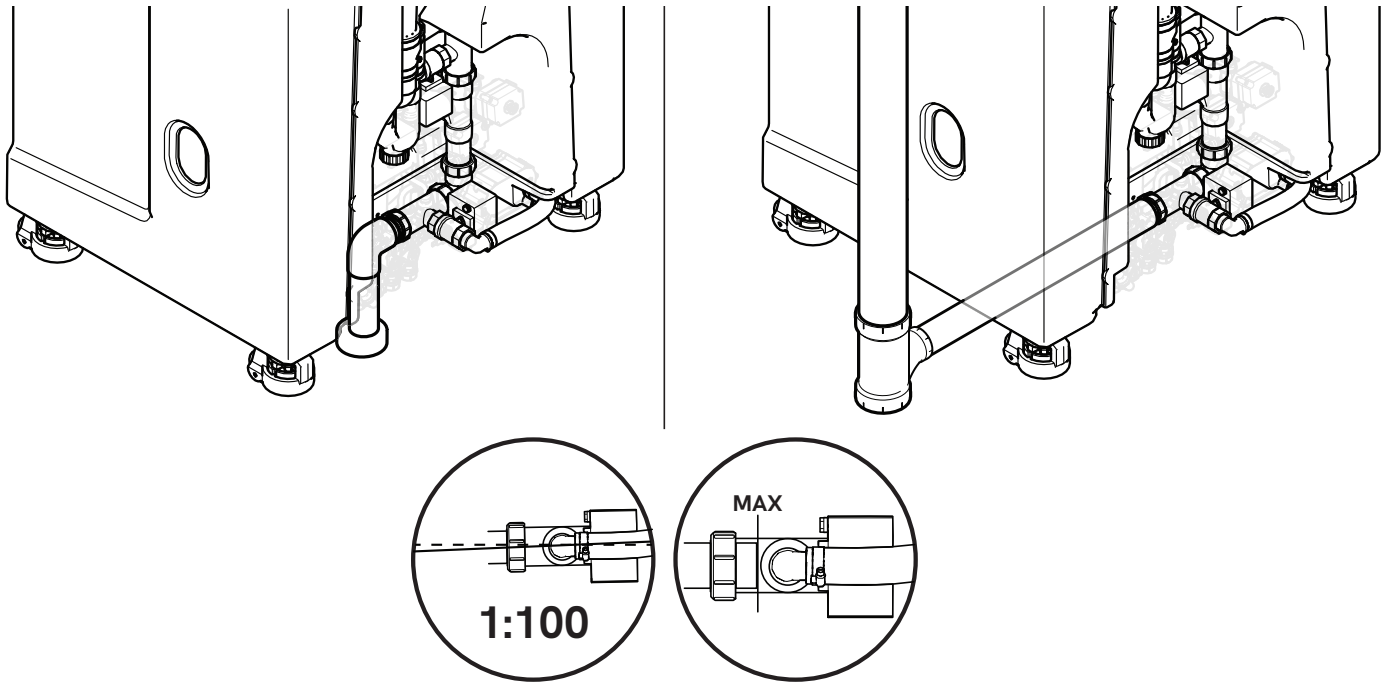
The Hydraloop connects to the sewer through the 40 mm sewer outlet at the bottom of the device. The outlet can be routed through the floor or through the side to the overhead bypass.

To connect the Hydraloop to the sewer:

1. Unscrew the union nut from the **sewer outlet** Ⓜ and remove the protective cap.



2. Attach adapters and fittings between the **sewer outlet** Ⓜ 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 110 mm drainage connection to handle the weekly cleaning flush (approx. 45 L/min for 1–2 minutes). Use components that match the installation layout and local requirements.
   - Slope the drain pipe at a minimum gradient of 1:100 away from the Hydraloop to prevent backflow.
   - Make sure the pipe does not extend past the brass fitting on the **sewer outlet** Ⓜ. Inserting the pipe too far can obstruct flow or damage the connection.



3. Make sure that the piping is airtight.

6.4 ASSEMBLING AND CONNECTING THE INLET MANIFOLD

NOTICE

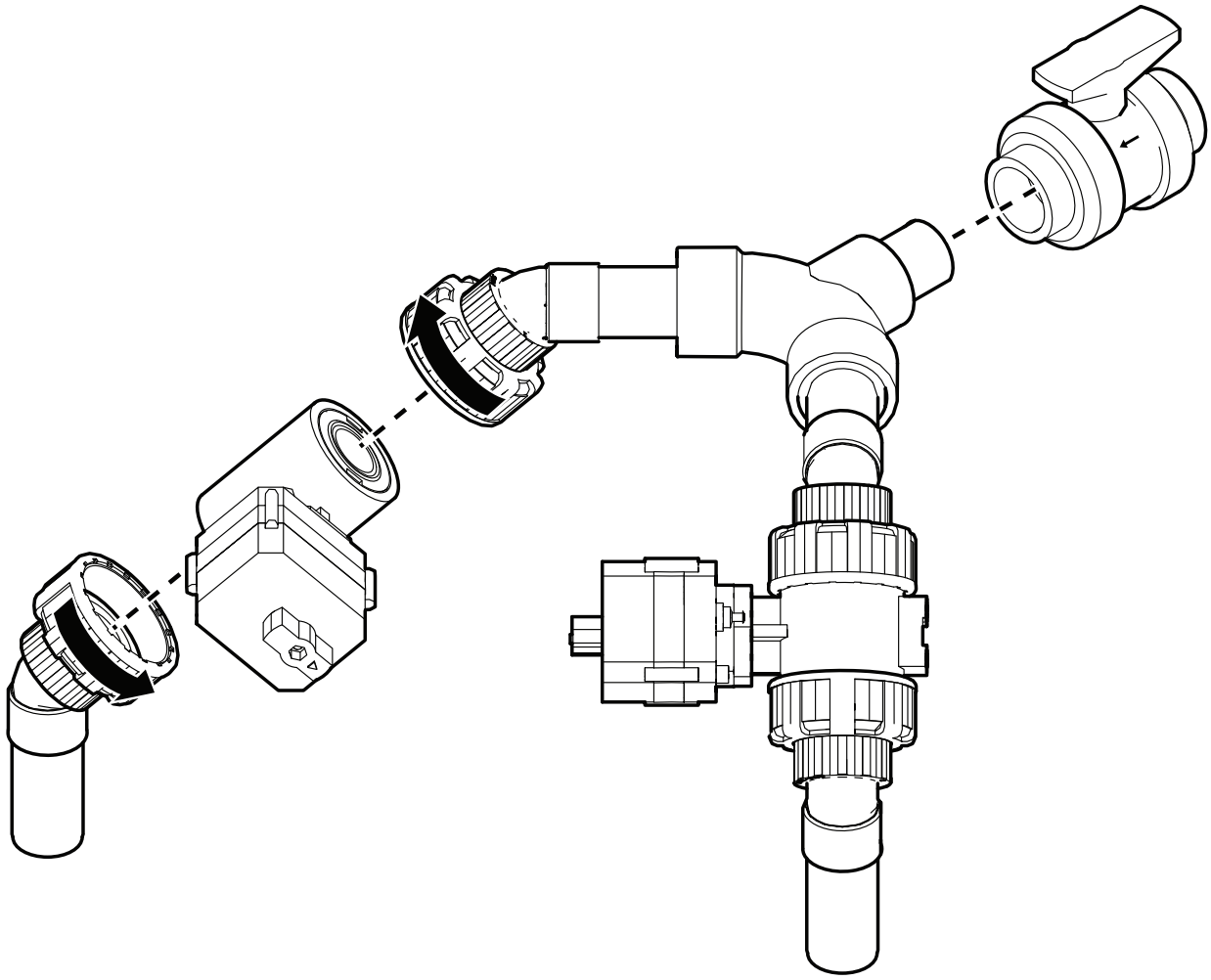
Do not fully tighten the connections while assembling the inlet manifold. This allows you to align the inlet manifold when attaching it to the Hydraloop.

The Hydraloop is delivered with the inlet manifold packed in a separate accessory box. Assemble the inlet manifold on site to match the installation layout. Follow the steps below to assemble and connect the inlet manifold.

6.4.1 Assembling the inlet manifold for the H600

To assemble the inlet manifold:

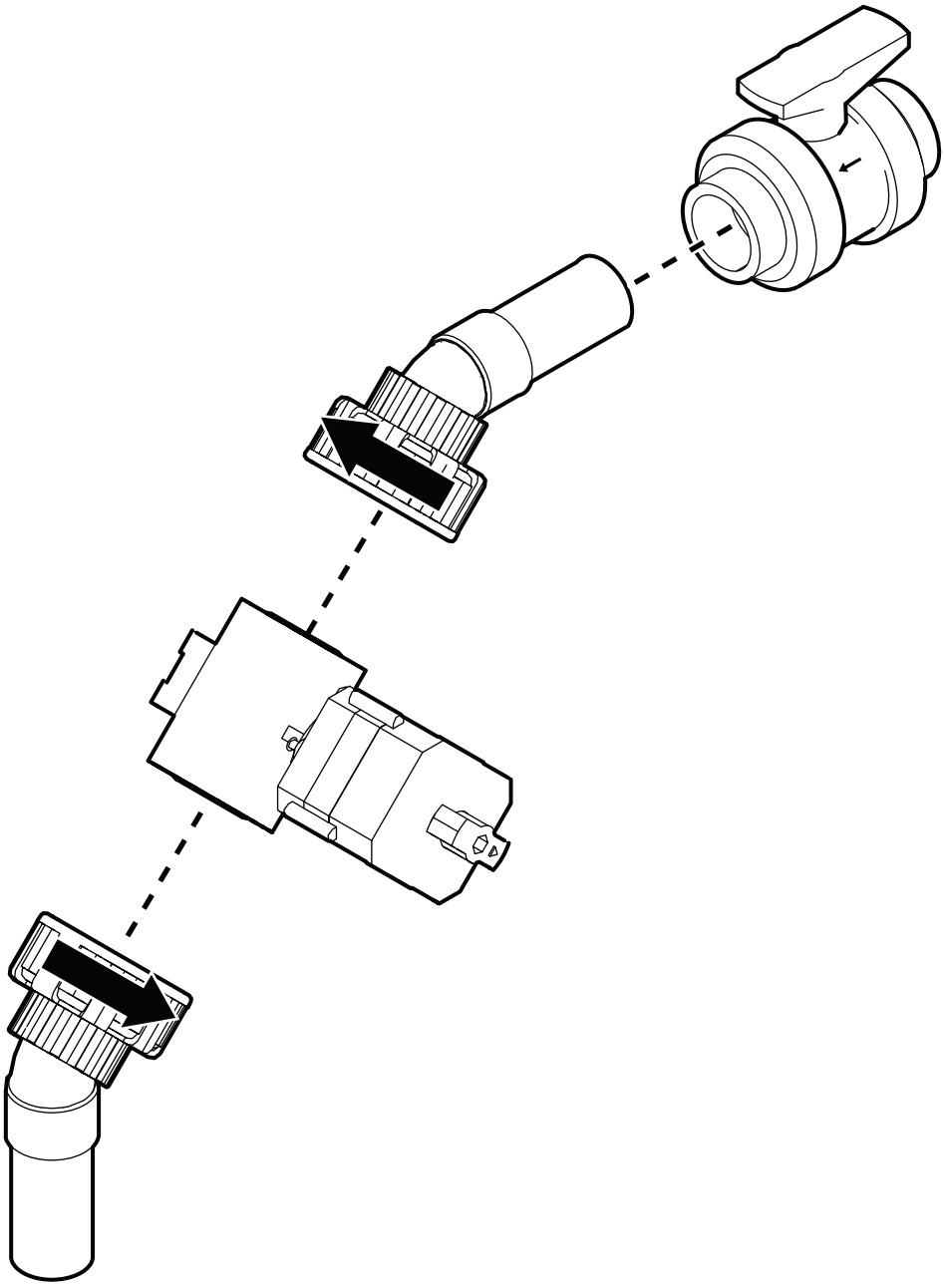
1. Attach the **2-way valves** ⑩ to the **PVC Y-junction** ⑫. Make sure the **2-way valves** ⑩ are turned toward each other. Do not fully tighten.
2. Attach the **valve elbows** ⑪ to the **2-way valves** ⑩. Do not fully tighten.
3. Attach the **PVC handball valve** ⑤ to the **PVC Y-junction** ⑫. Use PVC glue, 40 mm PVC pipe, and fittings applicable to the installation layout.
   NOTICE The **PVC handball valve** ⑤ can be installed in either a vertical or horizontal position, as required by the installation layout.



6.4.2 Assembling the inlet manifold for the H300

To assemble the inlet manifold:

1. Attach **valve elbows** ⑪ to the **2-way valve** ⑩. Do not fully tighten.
2. Attach the **PVC handball valve** ⑤ to a **valve elbow** ⑪. Use PVC glue, 40 mm PVC pipe, and fittings applicable to the installation layout.
   NOTICE The **PVC handball valve** ⑤ can be installed in either a vertical or horizontal position, as required by the installation layout.

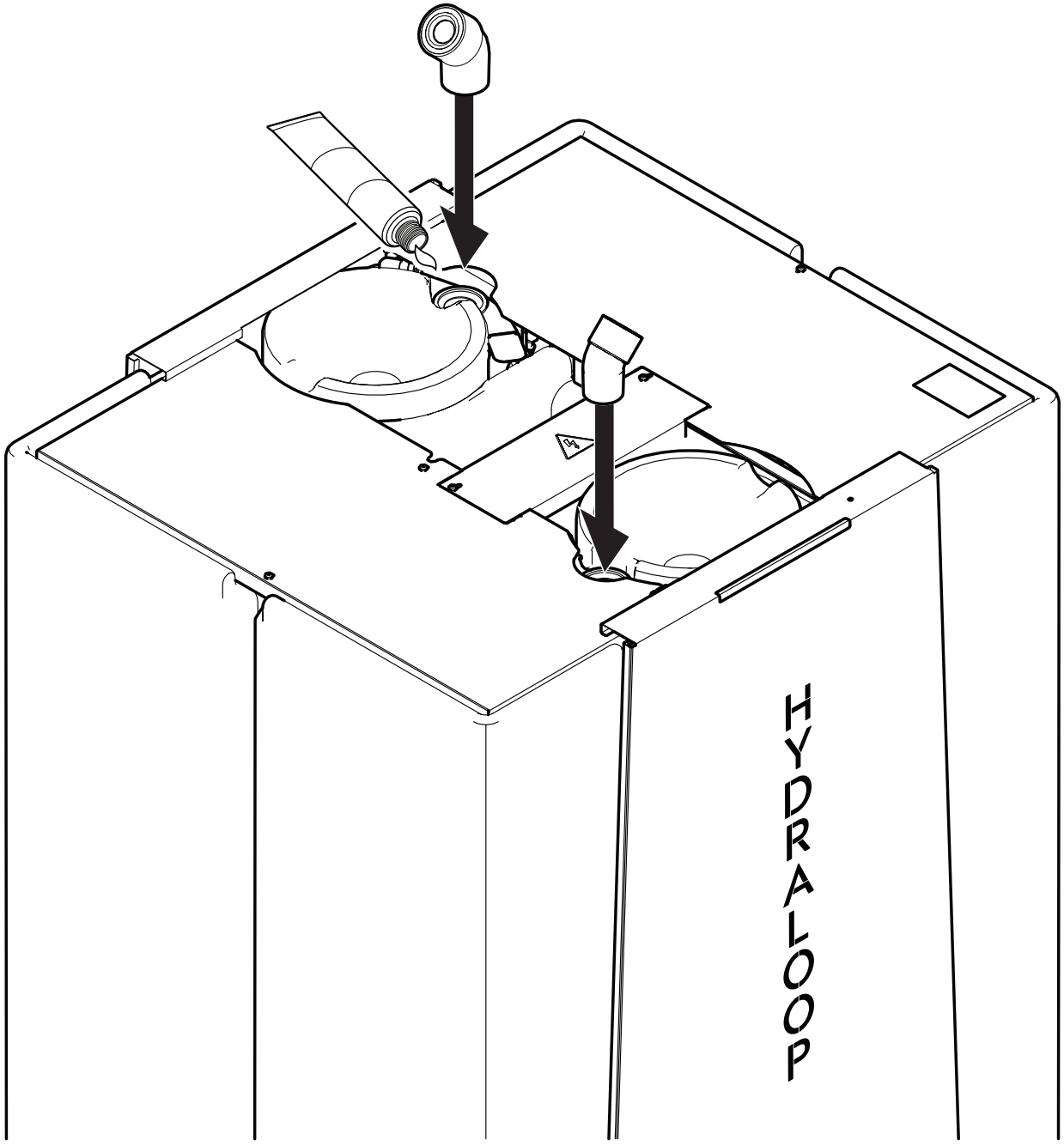


6.4.3 Attaching the inlet manifold and aerators

Make sure the inlet manifold is assembled (6.4.1 or 6.4.2) and the installation layout and required connections are prepared before proceeding.

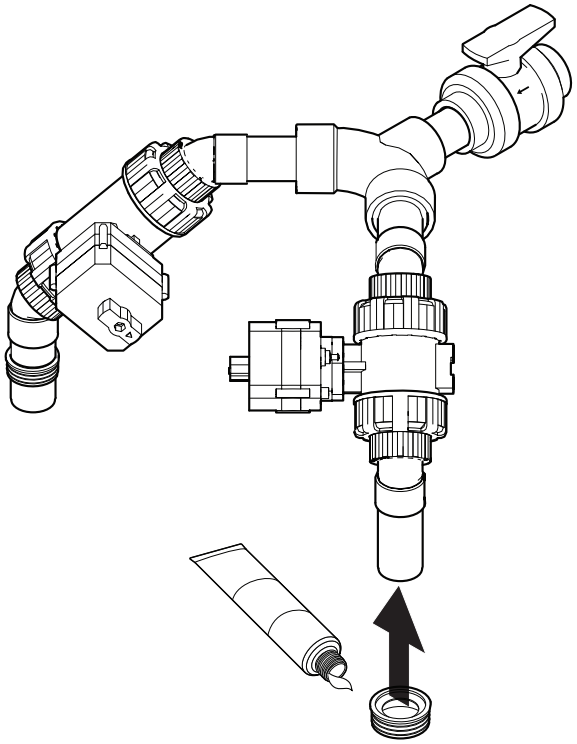
To attach the aerators:

1. The Hydraloop H600 needs two **aerators** ⑦. Follow the steps below for each **aerator** ⑦.
2. Lubricate the **aerator port** Ⓑ using *acid-free petroleum jelly*.
3. Push the **aerators** ⑦ into the **aerator ports** Ⓑ. Make sure the **aerators** ⑦ are seated in the dimples of the tanks.

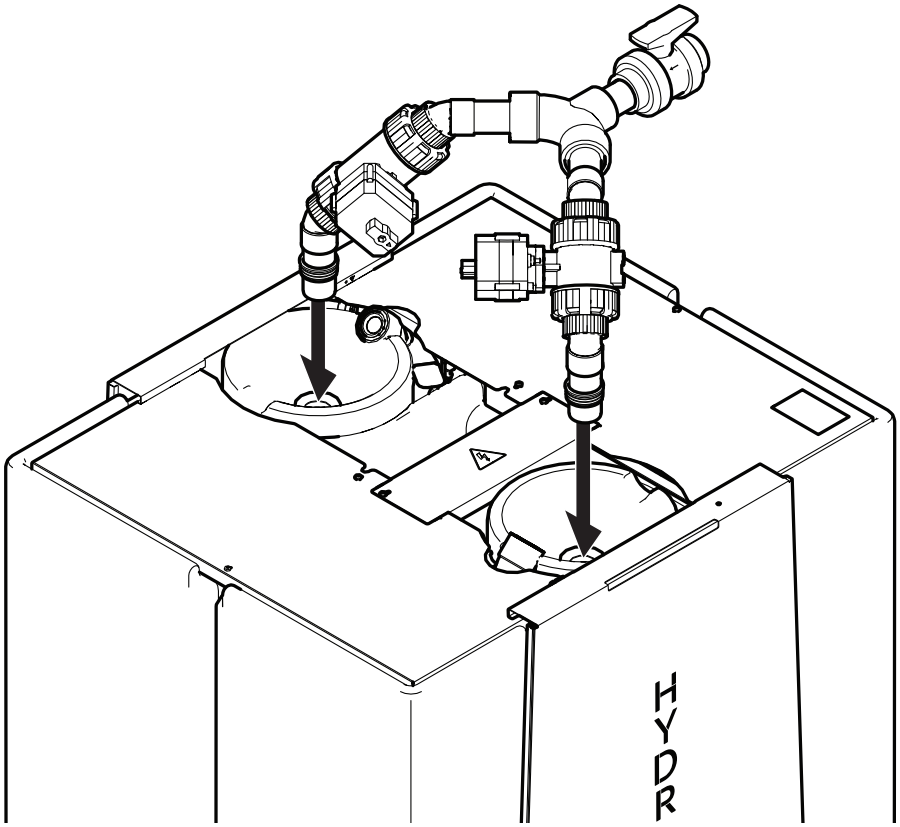


To attach the inlet manifold:

1. Remove the **inlet gaskets** © from the T1 tanks.
2. Lubricate the **inlet gaskets** © with *acid-free petroleum jelly*.
3. Push the **inlet gaskets** © onto the inlet manifold. Make sure they are against the **valve elbows** ⑪.



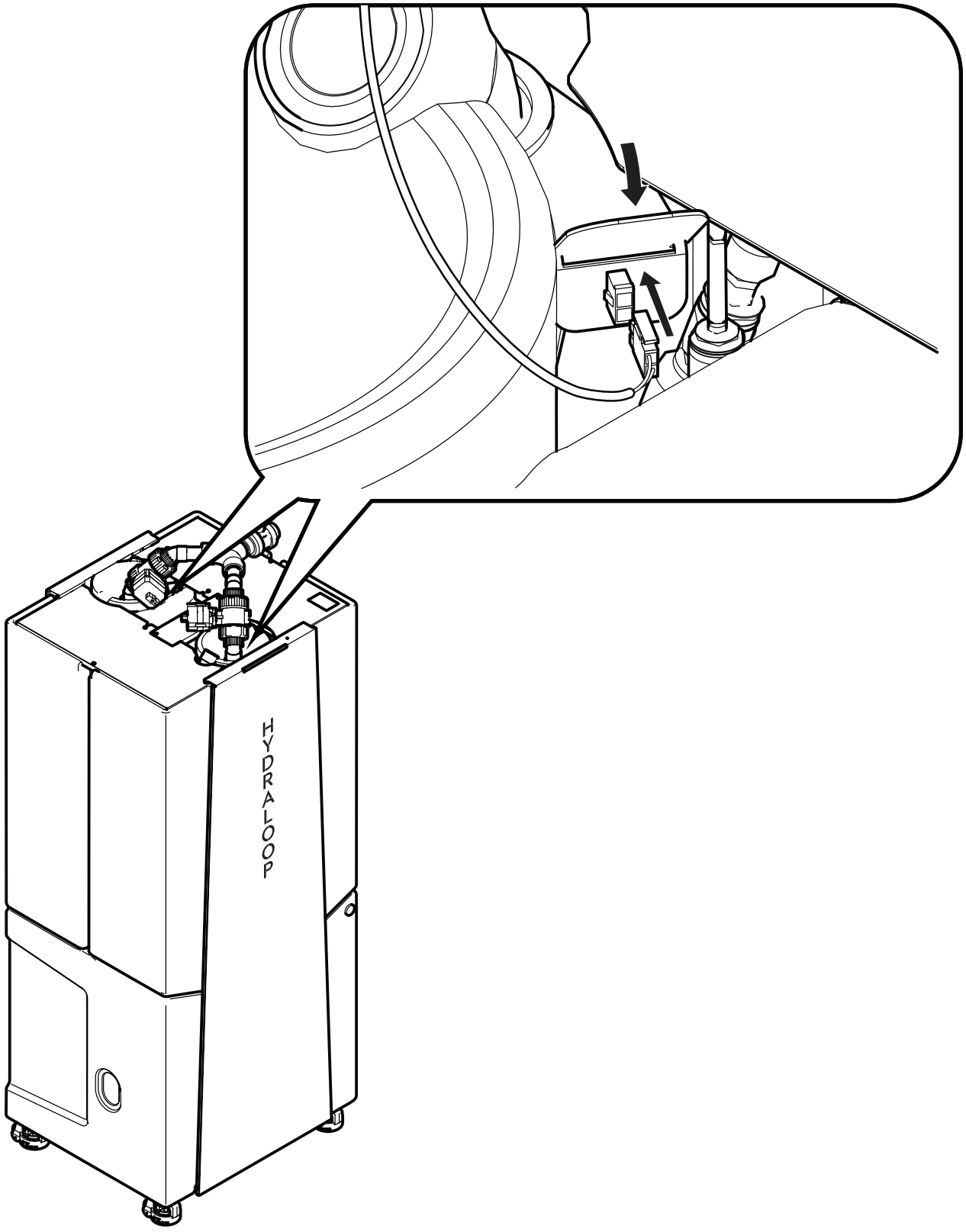
4. Push the inlet manifold with the **inlet gaskets** © into the **inlet ports** Ⓓ.



To connect the 2-way valves to the Hydraloop:

The Hydraloop H600 needs two 2-way valves. Follow the steps below for each 2-way valve.

1. Move the protective flap out of the way to expose the connector.
2. Push the **2-way valve connector** ⑩ into the connector until you hear a click.
3. Cover the connector using the protective flap.



6.4.4 Connecting to the greywater supply

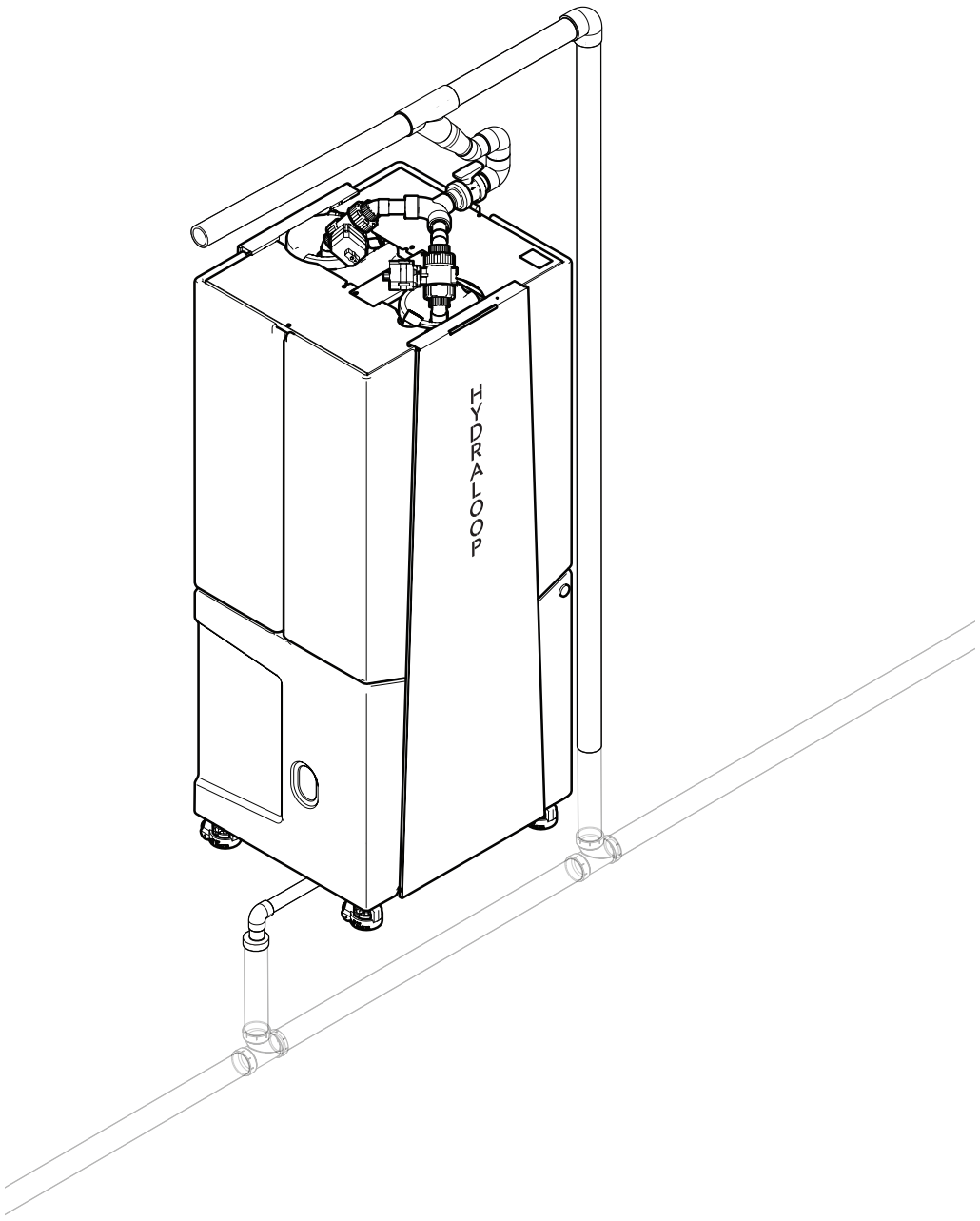
NOTICE

The greywater drainage system shall not be reduced in diameter downstream. In order to harvest water from the greywater drainage, put a Y-junction with full diameter pointing downwards in the horizontal greywater drainage, and reduce the diameter only after this Y-junction, before connecting it to the Hydraloop inlet

To connect the greywater supply:

1. Connect the Hydraloops inlet manifold to the greywater drain using an overhead bypass. This enables proper flow to the unit while allowing excess water to continue to the sewer.
   NOTICE If the greywater drain diameter does not match the 40 mm ∅ inlet manifold, use a **flexible converter** ⑨ to make the connection.

2. Make sure water cannot flow back from the sewer. Install a non-return valve if necessary.



6.4.5 Supplying greywater with a lift pump

If the Hydraloop is installed on the same level or above the shower or bath, an external lift pump is required to move greywater to the unit.

Make sure the lift pump and drainage system are properly ventilated to open air, and always follow the lift pump manufacturer's installation instructions.

Make sure the greywater enters the Hydraloop under gravity and that the greywater is not pressurised. Pressurised greywater entry in the Hydraloop can disrupt the working of the Hydraloop.

Additional requirements:

- **Tank volume:** Maximum 50 litres. Larger tanks can reduce greywater quality.
- **Ventilation:** Install proper venting (vent stack) according to local plumbing codes. The Hydraloop inlet shall also be vented if only a lift pump is used.
- **Flow rate:** Maximum 45 L/min. Use a pump with this limit or restrict the flow if needed.

6.5 CONNECTING THE HYDRALOOP TO THE GREYWATER OUTLETS

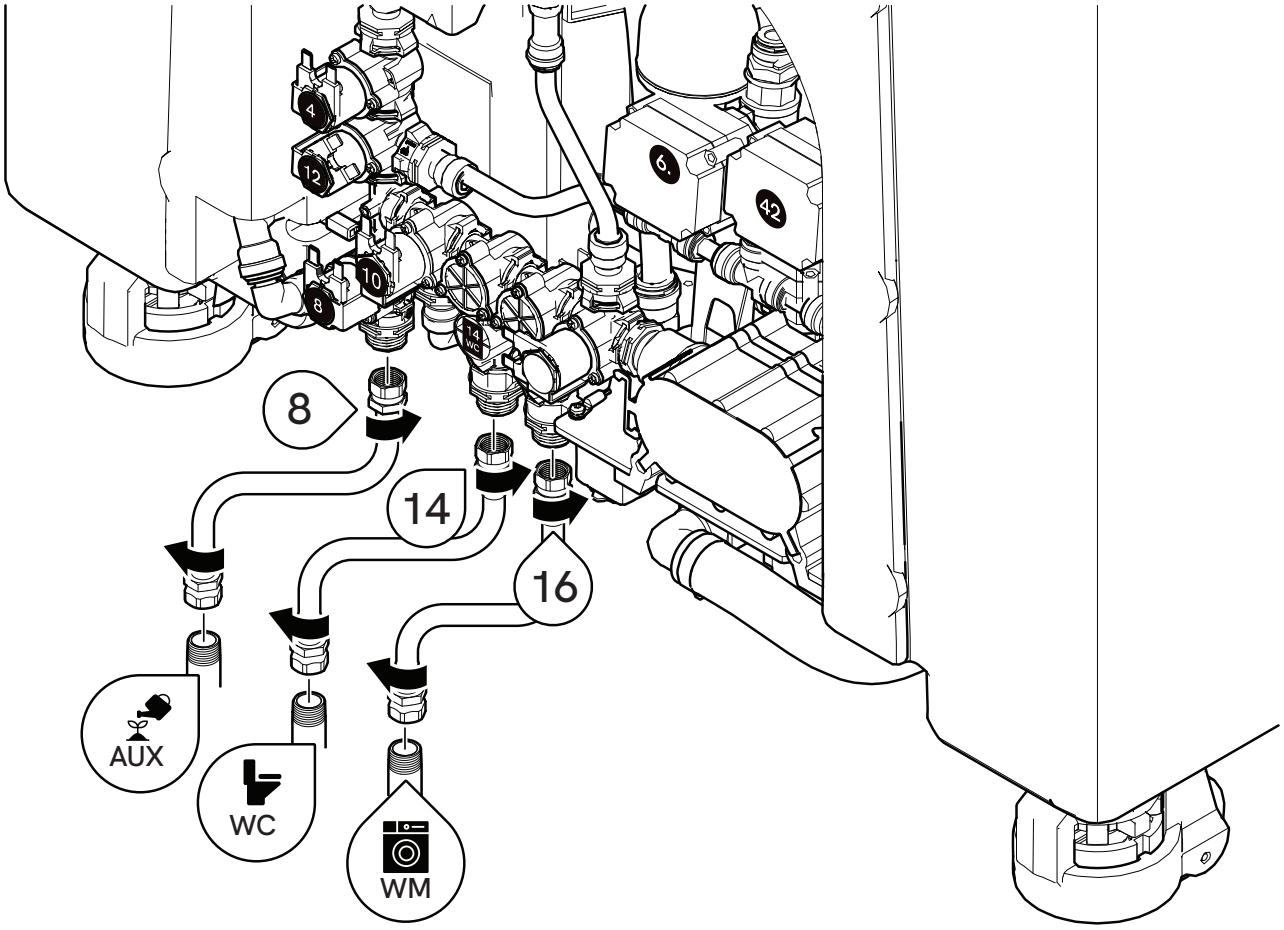
The Hydraloop is equipped with three standard greywater outlet valves.

- **Valve 8 - Auxiliary outlet (AUX)** ⓘ**:** for supplying an external storage tank (e.g., for irrigation applications)
- **Valve 14 - Toilet outlet (WC)** Ⓙ**:** for supplying multiple toilets (not suitable for high-flush toilets)
- **Valve 16 - Washing machine outlet (WM)** Ⓚ**:** for supplying one washing machine

All outlet valves can be connected using the supplied 1/2" to 1/2" flexible hoses.

To connect the outlet valves:

1. Attach **1/2" to 1/2" flexible hoses** ⓘ to the selected outlet valves. Make sure there are gaskets installed.
2. Attach the other end of the **1/2" to 1/2" flexible hoses** ⓘ to the corresponding system (toilet, washing machine, or auxiliary application).
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

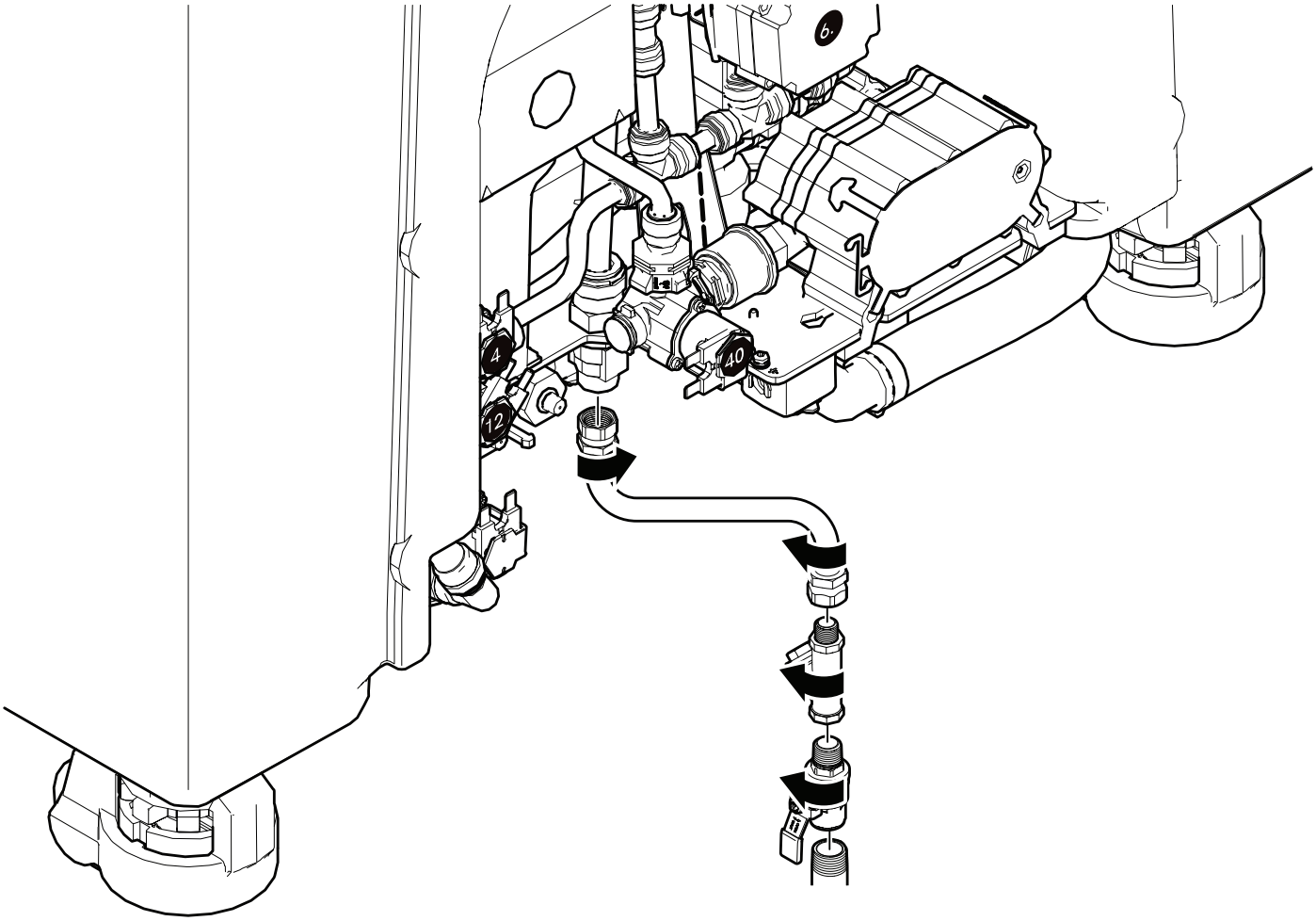


6.6 CONNECTING THE HYDRALOOP TO THE BACKUP WATER SUPPLY

Connect the Hydraloop to a backup water supply. This allows the unit to continue operating when greywater input is insufficient. The backup water supply can be connected using a 1/2" to 1/2" flexible hose.

To connect the backup water supply:

1. Attach a service valve and the **coarse water filter** ② to the backup water supply line.
   NOTICE A service valve is needed to shut off the water supply to the Hydraloop during maintenance.
2. Connect a **1/2" to 1/2" flexible hose** ① to the **backup water inlet** Ⓛ on the Hydraloop.
3. Connect the other end of the **1/2" to 1/2" flexible hose** ① to the service valve.
4. 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.
5. Make sure the connections are attached and leak-free.



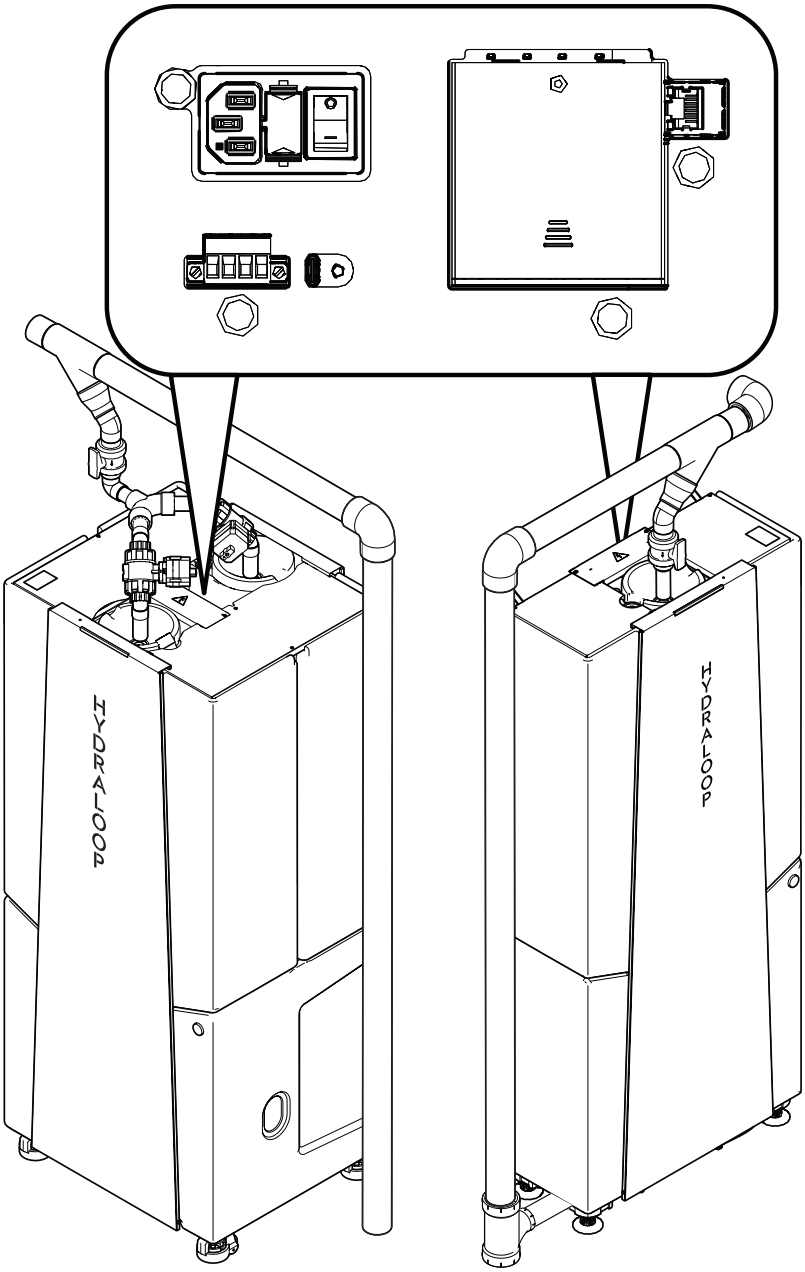
6.7 POWERING ON THE HYDRALOOP

⚠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 Hydraloop:

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. Locate the **power port** Ⓝ. On the Hydraloop H300, the **power port** Ⓝ is on the back of the unit. On the Hydraloop H600, the **power port** Ⓝ is located in the centre of the unit.
4. Plug the **power cable** ⑧ into the **power port** Ⓝ and into the mains socket.
5. Switch the **power switch** ◎ on the Hydraloop to the ON position.
   The device starts its initialisation process, and internal components, such as pumps and sensors, could activate briefly.



6.8 CONNECTING THE HYDRALOOP TO THE INTERNET

The Hydraloop 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)

6.8.1 Connection Requirements

- A stable internet connection is required at all times.
- Wi-Fi needs to support 2.4 GHz (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 metre away from the Hydraloop.
- Always verify connectivity before starting the activation process.

6.8.2 Connecting the Hydraloop using Ethernet

To connect the Hydraloop via Ethernet:

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

The device automatically establishes a connection.

6.8.3 Connecting the Hydraloop using Wi-Fi

Autocorrect may change the network name or password. If the connection fails, check that neither field has been altered.

To connect the Hydraloop to Wi-Fi (standard):

1. Open the Wi-Fi settings on a phone or tablet and connect to the network named **"Hydraloop-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 Hydraloop will now connect to the Wi-Fi network. Once connected, the Hydraloop 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 will appear. Enter the network name manually and enter the password. Tap Connect.
3. The Hydraloop will now connect to the Wi-Fi network. Once connected, the Hydraloop network will disappear from the list of available networks.

If there is no "Hydraloop-XX-XX-XX-XX-XX-XX" network:

1. Open the Wi-Fi settings on a phone or tablet and connect to the network named **"XX-XX-XX-XX-XX-XX "** using the password **"PASSWORD"**.
2. Once connected, open a browser and connect to: **http://192.168.4.1/**.
3. A configuration page will appear. Enter the network name manually and enter the password. Tap Connect.
4. The Hydraloop will now connect to the Wi-Fi network. Once connected, the Hydraloop network will disappear from the list of available networks.

7. VERIFICATION

NOTICE

- Verification of the Hydraloop shall be done by authorised installers only.
- Installers need to request HDM login access in advance by contacting 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 Hydraloop units. Approved installers need to request HDM login credentials in advance by contacting service@hydraloop.com.

The Hydraloop app needs to be installed on both the installer's and the device owner's smartphones.

To access the HDM:

1. Open 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 Hydraloop via the HDM:

1. Locate the serial number on the top of the Hydraloop.
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. First-time installers can also request guidance from a Hydraloop Sales Engineer.

7.1 FLUSHING AND WATERTIGHTNESS TESTING

Before connecting the Hydraloop, flush the distribution and collection pipework and inspect it for watertightness. Carry out flushing and testing in accordance with local practices and regulations.

Do not connect the Hydraloop to pipework that has not been flushed and verified as watertight.

7.2 TESTING FOR CROSS-CONNECTIONS WITH DYE TESTS

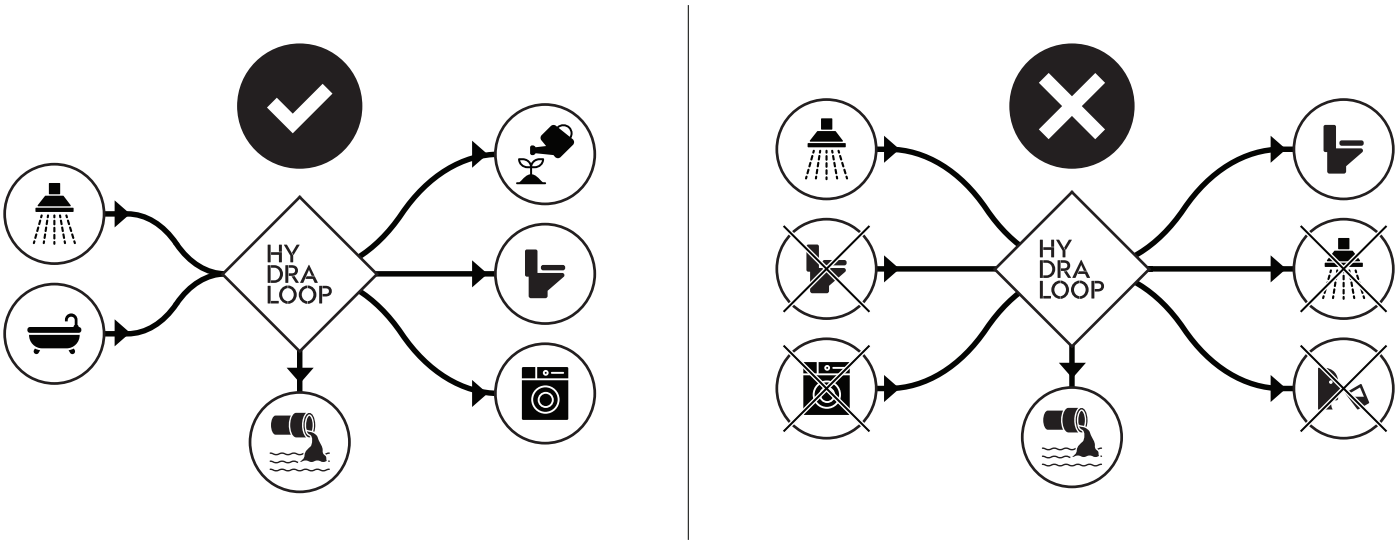
NOTICE

Use biodegradable food colourant for the dye test. Red and blue colourants are recommended for visibility. Do not use industrial dyes, inks, or other substances that may stain fixtures or contaminate the system.

After verification and before the Hydraloop is put into operation, test the system for cross-connections using a dye test. Cross-connections occur when potable and non-potable water lines are accidentally linked, or when blackwater sources are connected to the greywater inlet. Both conditions compromise water safety and need to be corrected before commissioning.

The dye test consists of two separate procedures:

- Testing the treated greywater distribution system: to verify that recycled water reaches only the intended non-potable outlets (toilets, washing machine, auxiliary) and does not contaminate potable water lines.
- Testing the greywater collection system: to verify that only approved greywater sources (showers, baths, washing machines) drain into the Hydraloop, and that no blackwater sources are connected.

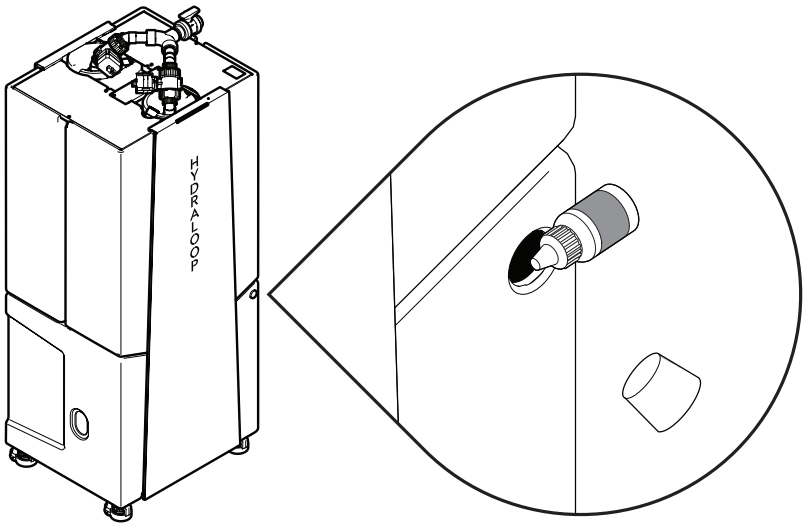


Both procedures need to pass the test before the system can be commissioned.

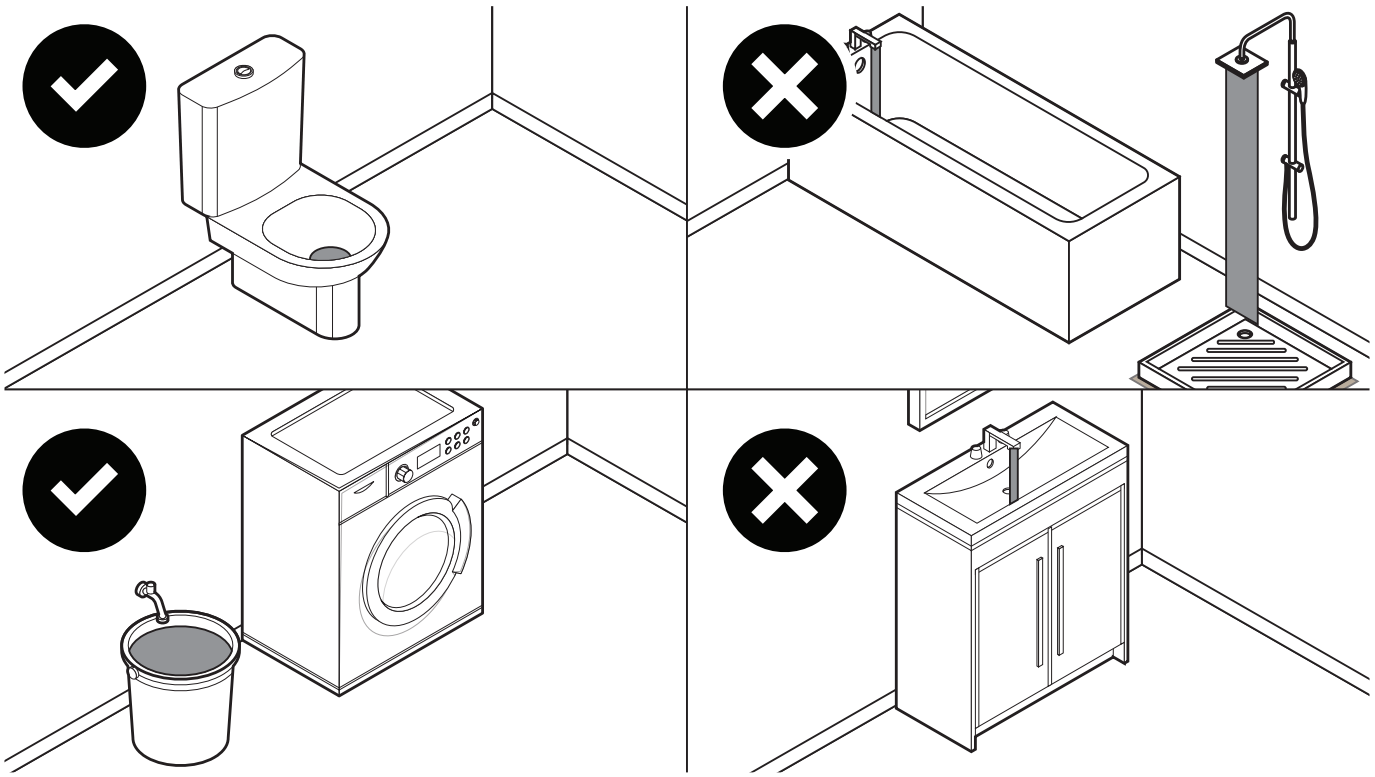
7.2.1 Testing the treated greywater distribution system:

To test the treated greywater distribution system:

1. Open the HDM and navigate to the dye test procedure.
2. Close the backup water supply using the service valve.
3. Remove the **maintenance plug** Ⓖ. Add dye to the **T3-treated greywater storage tank**.



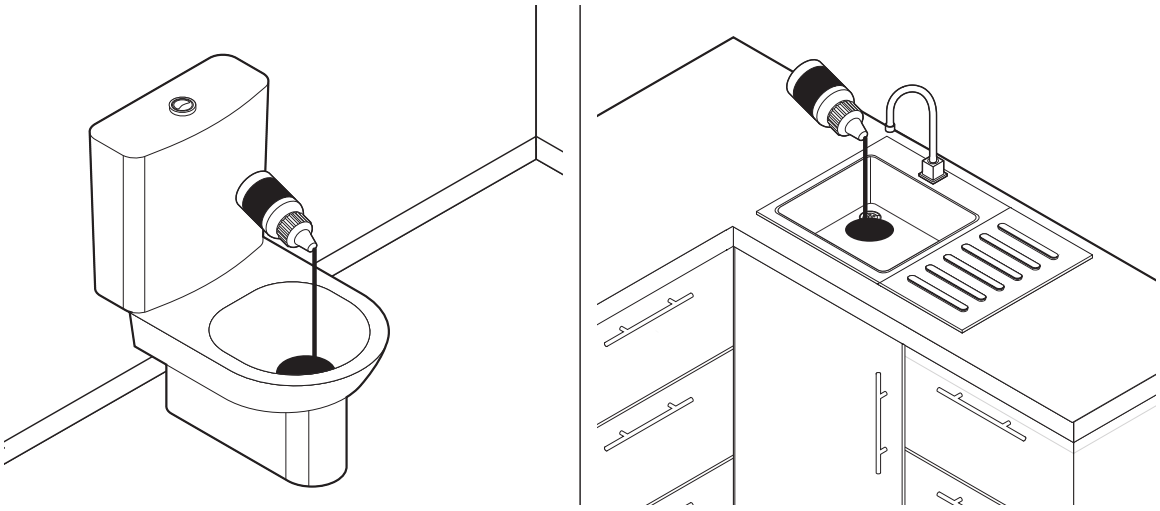
4. Examine all distribution points for the presence of dye:
    - If non-potable outlets show coloured water: **PASS**
    - If potable outlets show coloured or clear water: **FAIL**
        - This indicates a cross-connection between the potable and non-potable systems.
        - Put the system out of service until the pipework has been corrected.
        - Repeat the test until a **PASS** is achieved.



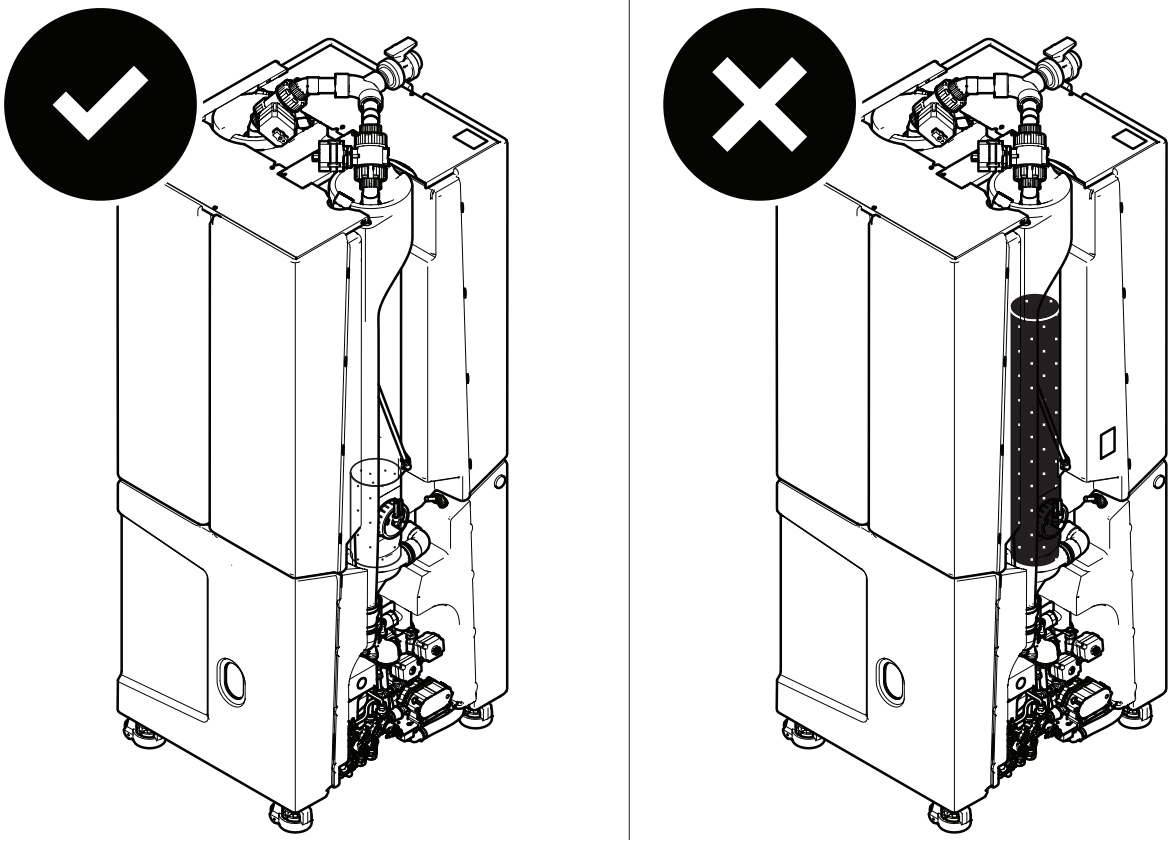
7.2.2 Testing the greywater collection system:

To test the greywater collection system:

1. Put dye into all non-greywater sources (for example, toilets and kitchen sinks).



2. Run water through the drains and wait for the dye to circulate through the piping, taking into account the size of the building.
3. Remove the **front plate** Ⓕ and inspect the **T1 tank**.
    - If there is no coloured water in the **T1 tank**: **PASS**
    - If there is coloured water in the **T1 tank**: **FAIL**
        - This indicates that blackwater is entering the Hydraloop, which is not permitted.
        - Put the system out of service until the pipework has been corrected.
        - Repeat the test until a PASS is achieved.



7.2.3 Flushing the system after testing

After both dye tests have passed, flush the entire system to remove all residual colourant before the Hydraloop is commissioned and put into operation. Residual dye in the pipework can stain fixtures and make it difficult to identify future leaks or cross-connections.

To flush the system:

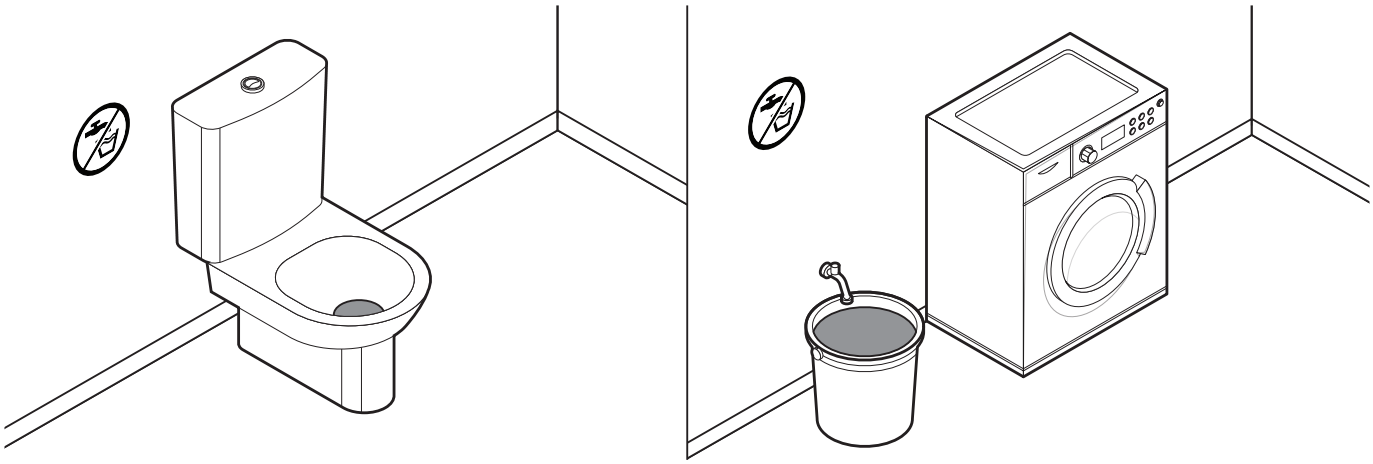
1. Open the backup water supply using the service valve.
2. Run water through all non-potable outlets (toilets, washing machine, auxiliary) until the water runs clear.
3. Flush the **T3 storage tank** by running the distribution pump until the dye is no longer visible at the outlets.
4. Examine all outlets to confirm that no dye remains.
5. NOTICE Do not have the Hydraloop commissioned until all residual dye has been removed from the system.

7.3 LABELLING NON-POTABLE WATER SOURCES

All non-potable tap points need to be clearly identified to prevent unintended use. Use the supplied stickers with **non-potable water labels** ④ to identify all non-potable tap points. Three stickers are included with each Hydraloop.

To identify non-potable tap points:

1. Locate all tap points supplied with non-potable water from the Hydraloop.
2. Apply a non-potable water sticker to each tap point.
3. Make sure the sticker is clearly visible.



8. COMMISSIONING

Commissioning of the Hydraloop is considered complete upon acceptance of the warranty by the end user. By accepting the warranty, the end user confirms that the installation has been completed correctly and that the device is ready for operation.

9. START-UP AND OPERATION

9.1 START-UP PERIOD

The Hydraloop 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 system operates in backup water mode. After the start-up conditions are met, the device automatically switches to supplying reusable water to connected outlets such as toilets, a washing machine, and/or auxiliary connections.

9.2 BACKUP WATER AND BACKFLOW PROTECTION

If there is insufficient reusable water or during the start-up period, the system automatically switches to backup water.

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

9.3 SYSTEM MALFUNCTION

The 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.

10. WARRANTY

Hydraloop guarantees to the original purchaser that the Hydraloop 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.

Warranty coverage is contingent on the requirements set out in this manual being met, including the submission of the signed Recycle Ready Pre-Checklist and Recycle Ready Confirmation Checklist.

For full warranty terms and conditions, refer to the warranty certificate accessible through the Hydraloop Device Manager (HDM).

11. 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 H300 and H600. 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 H300: showers, baths, bathroom hand basins (dependent on configuration). 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.

Term	Definition
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.
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.

Term	Definition
Installers and commissioning engineers	Qualified professionals responsible for the physical installation of the Hydraloop device, 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 H300 and H600 greywater recycling systems.
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.
Recycle Ready Confirmation Checklist	A signed document completed by the authorised installer after installation, confirming that all installation requirements have been met and that the device is ready for commissioning. Must be submitted to Hydraloop before the warranty takes effect. Failure to submit voids the warranty.

Term	Definition
Recycle Ready Guide	A document provided by Hydraloop specifying the plumbing preparation requirements a building must meet before a Hydraloop device can be installed. The installer uses this guide to assess and prepare the site.
Recycle Ready Pre-Checklist	A signed document completed by the authorised installer before installation begins, confirming that the building's plumbing is prepared for greywater recycling in accordance with the Recycle Ready Guide. Must be submitted to Hydraloop before installation can be scheduled. Failure to submit may void the warranty.
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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