Installation Manual – Hydraloop H600

Hydraloop H600 has been tested and certified under IAPMO R&T and NSF/ANSI 350 Class R.

SAFETY

General Safety Instructions

WARNING

- Before installing or operating any Hydraloop device, carefully review this manual.
- The water produced by a Hydraloop device is non-potable. DO NOT use the output water for drinking purposes. Be aware that the backup water outlet and non-potable outlet are situated closely.
- Only Hydraloop staff, certified Hydraloop partners, or authorized installers should open or service the device to minimize the risk of electric shock.
- Follow the installation manual to ensure the safe and proper installation of the Hydraloop device.

WARNING

- If the power cable is damaged, it should be replaced by Hydraloop staff, a certified Hydraloop partner, or authorized installers.
- Before servicing or conducting maintenance, ensure the Hydraloop device is disconnected from the backup water supply.

ATTENTION

After commissioning or performing any work on the Hydraloop device, it is essential to inspect all water lines thoroughly for leaks and potential cross-connections.

Recommendations

ATTENTION

- Install the Hydraloop device indoors, maintaining an ambient temperature range of 14-40°C | 57-104°F.
- Avoid exposing the Hydraloop device to direct sunlight.
- Do not connect reusable water to a bidet and/or a toilet hand-shower.
- Ensure the Hydraloop device is always easily accessible for service and maintenance.

ATTENTION

- The Hydraloop device must be moved or transported in an upright, vertical position.
- Be careful to avoid any damage to the exposed underside of the device.

RESPONSIBILITY AND LIABILITY

Manufacturer

Hydraloop guarantees the proper working of the device according to its general sales conditions.

As a manufacturer, Hydraloop is not liable in the following cases:

- Failure to follow instructions for Recycle Ready preparation, installation, maintenance, and/or operation of the device
- Inadequate or insufficient maintenance of the device

Installer

The installer is responsible for the installation and activation of the Hydraloop device:

- Installation shall be according to local legislation, electrical and plumbing codes
- Installer must have obtained login details from Hydraloop Sales Engineer
- Testing and activation via the HDM and all necessary checks
- Maintain commissioning report and record of maintenance within their log
- Explanation of operation as well as the Hydraloop APP to the user/owner

User

To ensure optimal functioning of the Hydraloop device, please observe the following:

- The Owner Manual
- The assistance of an approved, trained, and qualified installer for Preparation, Installation, Testing, Verification, Activation, and regularly scheduled maintenance of the device
- Regular maintenance is required in which the interval is subject to the quality of the input water
- The operation of the Hydraloop APP

PIPEWORK REQUIREMENTS

The greywater distribution and collection network shall be carried out in accordance with good plumbing practice as used for water supply and wastewater systems according to EN 806, EN 12056-5 and EN 1610, following the instructions of the manufacturer (see recycle ready guide).

The greywater collection pipework must be:

- Dedicated to greywater
- Sized and laid out in accordance with EN 12056-2, such that the generation of foam is minimized.
- Identified (see recycle ready guide)
- Free draining to avoid stagnation

The greywater collection pipework shall prevent water from other sources entering the greywater system (see recycle ready guide).

Hydraloop systems quantify the water recycled by the systems. I case meters are installed to quantify greywater these must comply with the specifications defined in EN ISO 40064-1 and -5.

The dimensions of Hydraloop devices and the distances and diameters of the connections are specified in the document “Recycle Ready Guide” provided with the system. These dimensions have no tolerances, as the components to which the pipework is connected are rigid parts. To guarantee the correct configuration and dimensions for the connections, the installers are provided with a frame to guide the construction or modification of the greywater collection and recycled water distribution networks.

A sign with a notice of the existence of a non-potable water system shall be installed close to the drinking water mains valve.

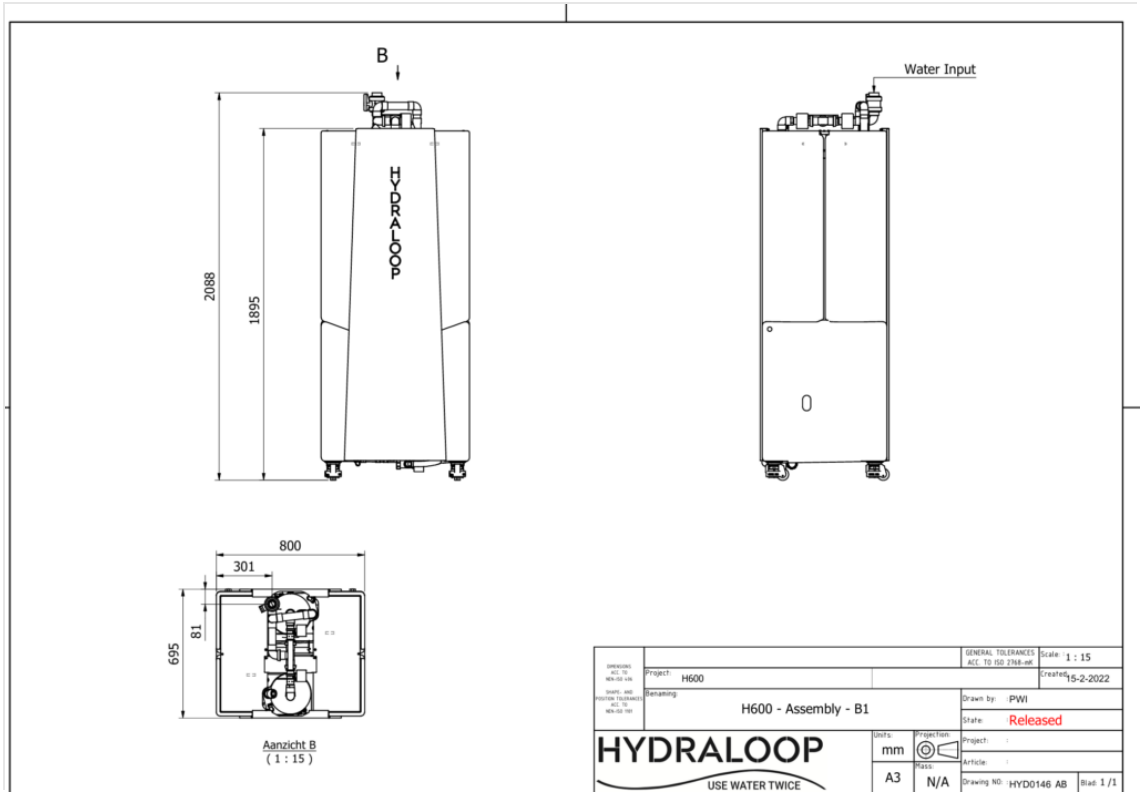
The distribution and collection pipework shall be flushed and inspected for watertightness according to EN 806-4 and EN 12056-5 and EN 1610. After installation the system will do a pressure test for cross connections.

RECYCLE READY CHECKLIST

By now the building has been prepared to be Recycle Ready with the plumbing configuration laid out according to the Hydraloop Recycle Ready document. Please ensure that you have completed and submitted your Recycle Ready Checklist and that you (as the Installer) have prearranged a login for the HDM with a Hydraloop Sales Engineer prior to the installation date (support@hydraloop.com). Without this access activation cannot be performed.

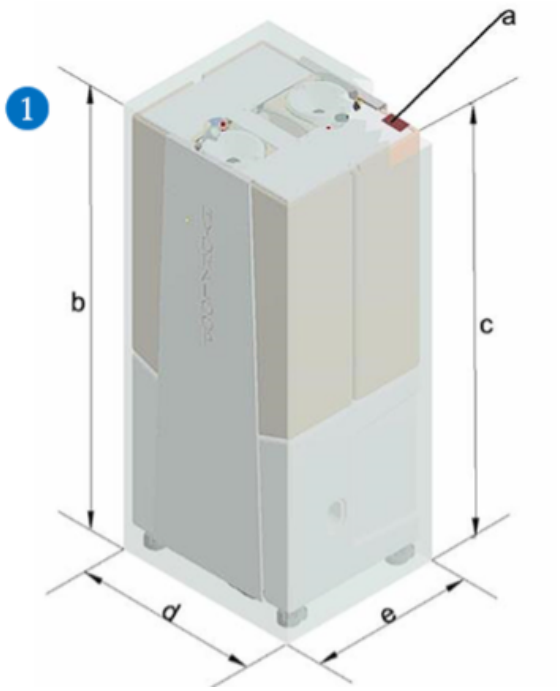
HYDRALOOP MODEL	HEIGHT (MM)	WIDTH (MM)	LENGTH (MM)	DRY WEIGHT (KG)	WET WEIGHT (KG)
H600	2080	680	810	128	739,5
H600 PACKAGED	2190	705	820	138	-
H600 DISPLAY MODEL	2080	810	720	62	-
H600 DISPLAY MODEL PACKAGED	2190	705	820	72	-

HYDRALOOP MODEL	WIDTH (INCHES)	DEPTH (INCHES)	HEIGHT (INCHES)	DRY WEIGHT (POUNDS)	WET WEIGHT (POUNDS)
H600	31.49	26.77	82.20	282.24	1630.60
H600 PACKAGED	32.28	27.76	86.22	304.29	-
H600 DISPLAY MODEL	31.49	26.77	82.20	136.71	-
H600 DISPLAY MODEL PACKAGED	32.28	27.76	86.22	158.76	-



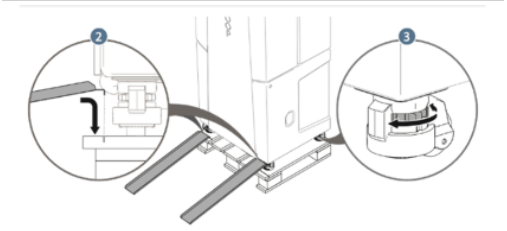
OFF-LOADING AND UNPACKING INSTRUCTIONS

The Hydraloop device will be transported to your location mounted and strapped onto a HL-Transport plate, wrapped in protective packaging, and mounted onto a wooden pallet. When moving the Hydraloop device, it is important to always keep it in an upright, vertical position. A horizontal position may cause damage to the devices' internal components and seals.



a – Edge protection
b – H: with skid: 219cm | 86″
c – H: without skid: 189cm | 74″
d – L: 82 cm | 32″
e – W: 70 cm | 27.5″
Dry Weight: 175 kg | 386 lbs
Wet Weight: 760 kg | 1675 lbs.

1. Leave the protective packaging on until device is placed at its final installation position
2. Place the lip of transport rails in the grooves on the pallet. Make sure transport rails are flush with top of pallet
3. Turn adjustment ring on each castor wheel clockwise until brake is released. Device can now manoeuvre freely



- With a person on either side of the device, carefully roll it down the transport rails and off the pallet
- Roll the H600 to final position
- Turn the adjustment ring on the castor wheels counter clockwise to activate brake
- Use the adjustment ring on castor wheels to level the device
- Make sure the Hydraloop device is not leaning on the castor wheels when in operation, but on the supports
- The wheels of the H600 cannot support the operational weight of the device

The H600 comes with the following items:

- H600 device
- ½″ gasket (5x)
- PVC ball valve
- Power cable
- Mesh inline filter
- Flexible connectors (3 ×)
- Quick Reference Guide

INSTALLATION CONSIDERATIONS

Basic installation steps:

1. Prior to installation ensure that you are following applicable plumbing and electrical guidelines in your city or state/province and that your plumbing configuration is protected against backflow and cross connection maintaining the safety of the public water supply.
2. Position the Hydraloop device in its planned location.
3. Connect H600 wastewater outlet to sewer.
4. Connect incoming greywater to the inlet on the top of the device via inlet manifold, in combination with external lift pump if necessary.
5. Connect H600 reusable water outlet connections.
6. Connect the backup water supply and open.
7. Plug 100/240V power cord into wall socket.
8. Run the Testing, Verification and Activation using the HDM with your Hydraloop Sales Engineer.

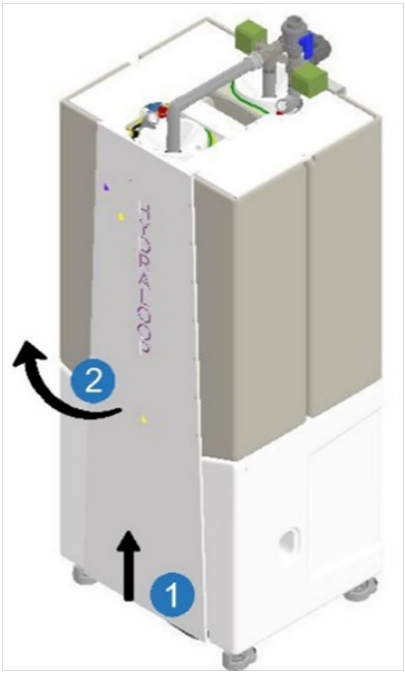
H600 INSTALLATION ORIENTATION

The H600 does not need to be affixed to the wall to protect against falling over as it is balanced with its two upper tanks having a wider base for stability. Access is needed to both the front and back of the device for maintenance, so it is recommended that it be installed with its side flush against the wall.

FRONT PLATE REMOVAL AND BACKPLATE REMOVAL

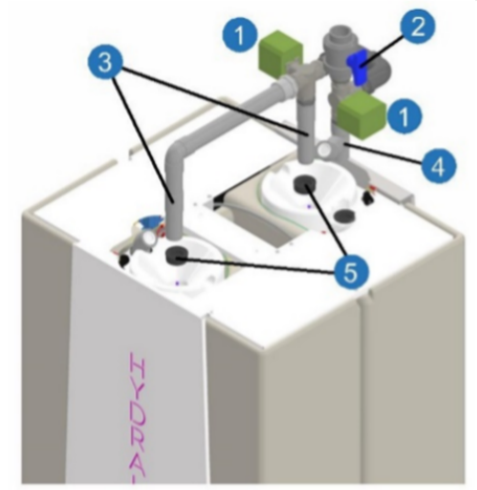
To remove the stainless-steel front plate, use a lever on the lower side of the front plate to carefully lift the stainless plate upwards. The plate is holding its position due to its shape so once it moves upwards it will be free to remove. Disconnect the LED light connection from the front plate and put the plate aside.

The H600 has both a front and back plate with LED light connections on the front only. Both will need to be removed to expose both modules on either side.

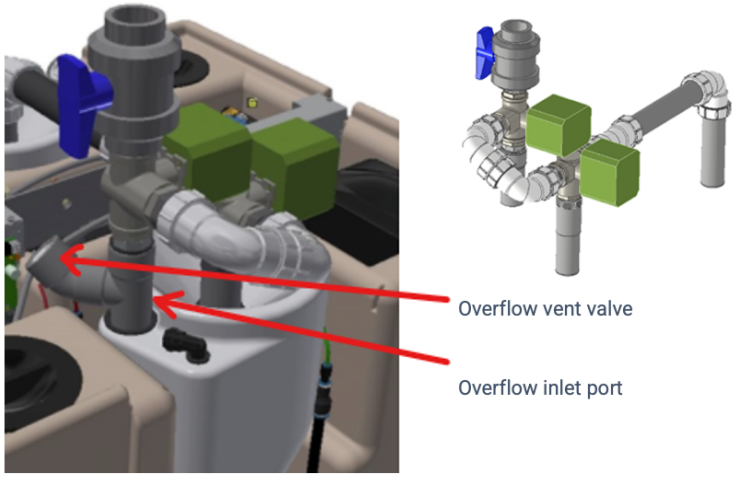


1	Carefully wedge a wooden (broom stick handle) or plastic tool between the bottom of the front plate and the floor and move the front plate upwards.
2	Remove the front plate off the device. Disconnect the earth wire and LED light connection (Premium model) from the top of the front plate being careful not to break the wire connection. *Place the front plate in a way that the front plate cannot fall and be damaged.

H600 GREYWATER INLET MANIFOLD INSTALLATION



1. Inlet diverter valve
2. Manual shut-off valve
3. T1A & T1B greywater inlet pipes
4. Overflow pipe
5. Black rubber seal rings

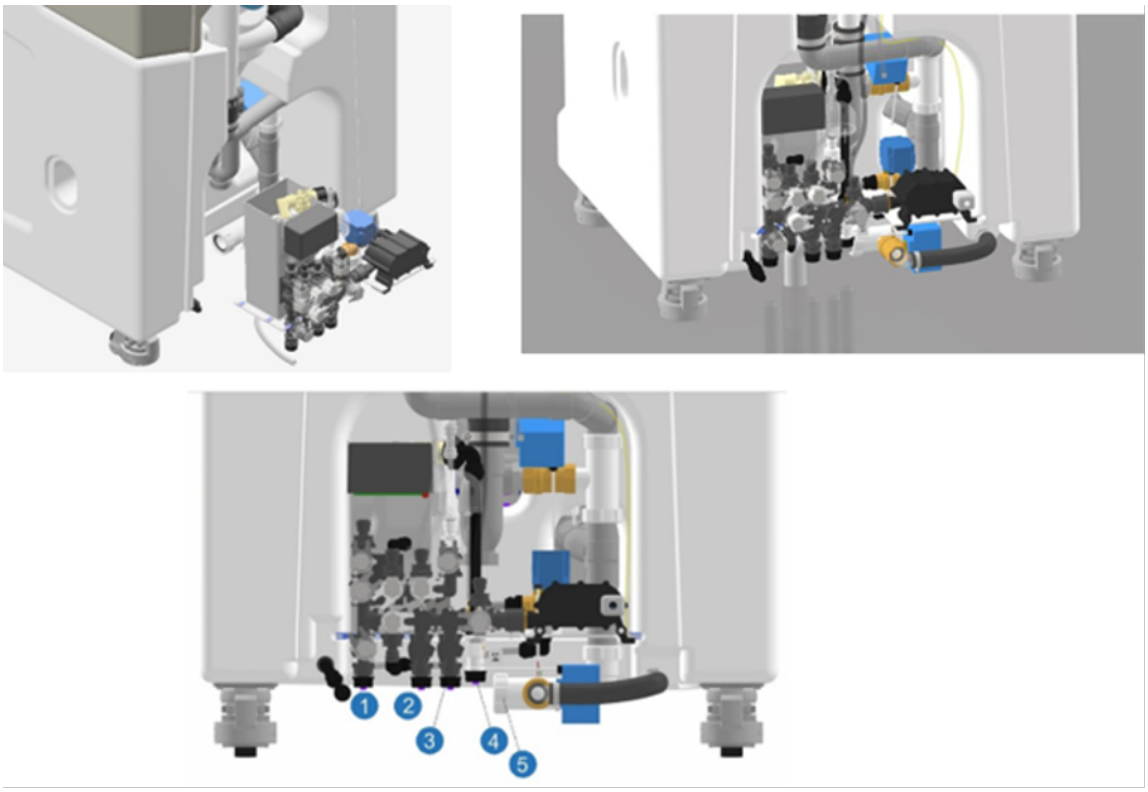


Install the H600 inlet manifold as follows:

1. There are 3 pipes to be inserted into the top of the device and 1 open ended connection for the greywater inlet.
2. Stand in front of the device (the front is the side with the LED connections) and note that the inlet manifold needs to be oriented with the valve cluster (indicated by #1 & #2 on the drawing above) on the far/back side of the T1 tank inlet.
3. Place 1 of the black seal rings on the overflow pipe (#4 on drawing) and slide it all the way to the T-piece.
4. Lubricate (Vaseline) the outside of the seal and the overflow inlet port.
5. Lubricate the other 2 seal rings both inside and outside, and both T1 inlet pipes.
6. Place a lubricated seal ring over each of the inlet pipes.
7. Position and slide the inlet manifold into the T1 tank inlets and overflow port as indicated in the above drawing. Apply equal pressure, ensuring the top pipe stays horizontal, and push all 3 pipes in until the seal on the overflow pipe is securely nested in between the T-piece and the T1 tank overflow opening.
8. Ensure all 3 seals are securely in place and watertight.
9. Connect the 40mm | 1 ½″ OD shut off valve to the manifold inlet and connect the 3-way Recycle Ready valve with the pipework to the shut off valve.

REUSABLE WATER OUTLETS

The Hydraloop device comes equipped with three standard outlet valves, (1) dedicated for feeding multiple toilets (no high flush toilets) and (1) dedicated for feeding one washing machine (1) auxiliary outlet (irrigation). Note that the irrigation valve will not be permanently pressurized, unlike the other two reusable water outlets. This outlet's standard function is to supply reusable water when a surplus is available. Note the outlet connections on the H600 in the drawing below:



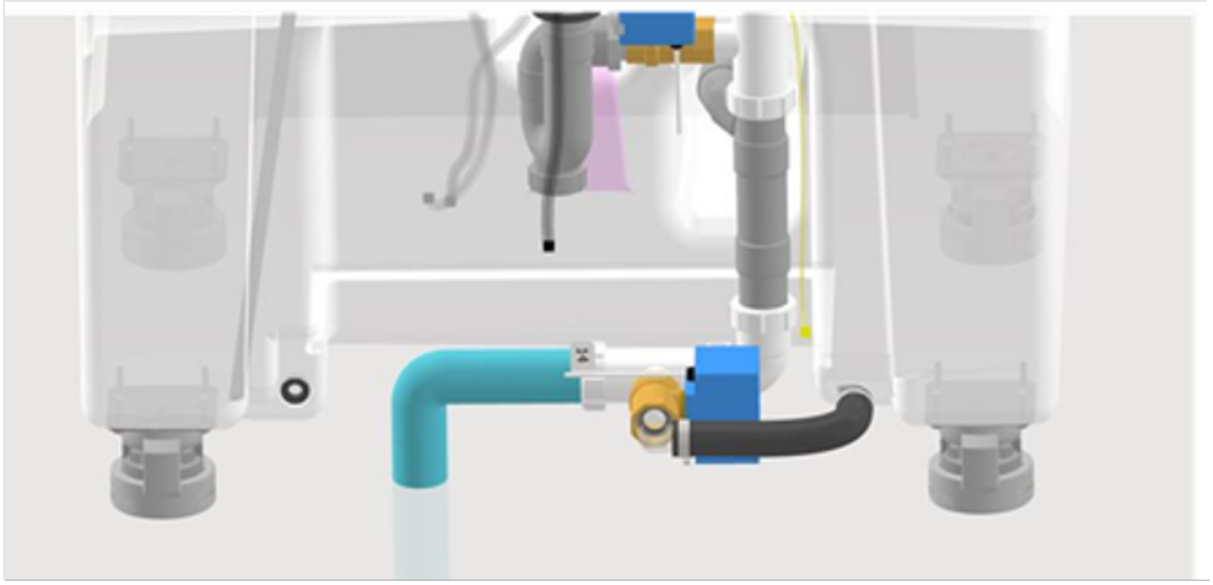
Connection specifications Hydraloop H300 & H600					
Input connection		**Size (imperial)**	**Size (metric)**	**Thread type**	**Additional information**
	Greywater supply	1 ½"	40 mm (OD)	PVC	Into feed channel
4	Backup water supply	½"	15 mm	male	
	Inlet diverter (optional)	1 ½"	40 mm (OD)	PVC	
Output connection		**Size (imperial)**	**Size (metric)**	**Thread type**	**Additional information**
2	Toilet supply	½"	15 mm	male	Connect to flexible hose
3	Washing machine supply	½"	15 mm	male	Connect to flexible hose
1	Auxiliary outlet (optional)	½"	15 mm	male	Connect to flexible hose
5	Wastewater line	1 ½"	40 mm (OD)	PVC	*Into rubber sleeve – 40 mm ID or 40/50 adapter

H600 WASTEWATER OUTLET INSTALLATION

The 40 mm | 1 1/2″ OD wastewater line at the bottom of the H600 needs to be connected to the sewer with the PVC eccentric adapter ring or *rubber reducing sleeve (40 mm ID or 40/50) through the floor (first image).

*Please note that the rubber reducing sleeve do not come with the Hydraloop device and must be provided by the installer.

H600 drain line connected to sewer system by using reducing sleeve through the floor



Rubber reducing sleeve – 40 mm ID or 40/50 rubber adapter OR equivalent available in your country – Not included with the Hydraloop device

INTRODUCING AN EXTERNAL LIFT PUMP

If the Hydraloop device is on the same or higher floor as the shower/bath or washing machine an external lift pump needs to be incorporated to have the source greywater enter the device.

To discuss alternate options for introducing an external lift pump please refer to your Recycle Ready document or speak to your Hydraloop Sales Engineer for assistance at support@hydraloop.com.

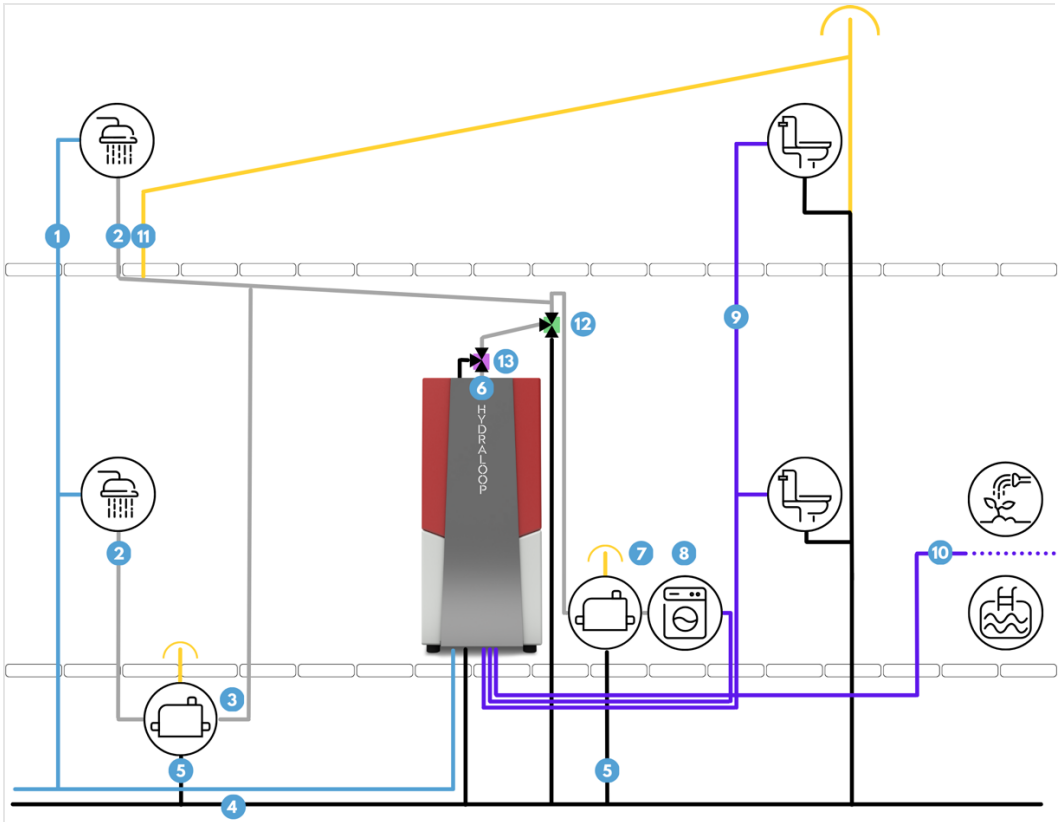
NOTE: When servicing the lift pump please have Hydraloop device on bypass so as not to potentially clog the device with particulate that may have accumulated in the lift pump over time.

INSTALLATION

The Installation, Verification and Activation of the Hydraloop device should only be carried out by approved installers who have prearranged for their HDM login. This can only be done through messaging support@hydraloop.com. Once you have made your appointment you will receive authorization and your login.

The drawing below is a reference to the piping configuration that has been completed via the Recycle Ready Guide.

RECYCLE READY PLUMBING DIAGRAM



1	**Backup water**
2	Greywater and condensation water
3	Lift pump
4	Sewage line
5	Lift pump overflow + maintenance waste
5	greywater and condensation water inlet
6	washing machine greywater lift pump

7	washing machine reuasable water feed
8	toilet reusable water feed
9	auxiliary reusable water feed (garden or pool)
10	ventilation
11	manual three-way bypass valve (not included with device)
12	electrical inlet diverter (for washing machine greywater input)

PREPARATION, INSTALLATION, TESTING, VERIFICATION AND ACTIVATION OF THE H600 DEVICE

1. **Preparation** – Recycle Ready configuration and the co-signed Recycle Ready Checklist must be complete and submitted to support@hydraloop.com
2. **Installation**
    1. Delivering of H600 to site
    2. Unboxing of the device
    3. Placing the device in position
    4. Securing the device to the back wall leaving room for electrical connections
    5. Connection of greywater inlet, backup water and reusable water lines
    6. Applying electrical connection
3. **Testing, Verification and Activation:** This step is conducted through the HDM by an approved and trained Installer with a pre-requested login to the HDM. Hydraloop Sales Engineers will be available for first time installers to assist and guide them through the process.
    1. Switch device from greywater bypass to the Hydraloop device
    2. Go through testing of all device systems via the HDM “verification”
    3. Select priority options connected to toilets, washing machine, auxiliary outlet, and lift pumps
    4. Activation of the H600 when all device systems have passed the validation steps. This will occur automatically once all HDM steps have been completed.
4. **Commissioning:** This step will be conducted through the APP, by the client, or someone assisting the client when the client is occupying the home, and permanent Wi-Fi has been established.
    1. Set up permanent Wi-Fi connection through the APP. Ethernet connection is also available on the device.
    2. Connect the client’s smartphone to the Hydraloop device through the APP
    3. Fill in the Warranty information via the APP. At this point in time the Warranty period will start as well as the start-up time

Activation of the device cannot be performed until installer has registered for an HDM login.

Accessing the HDM:

1. Open hdm.hydraloop.com in your browser
2. Sign in with your Username and Password as supplied via email from your Hydraloop Sales Engineer
3. Two-factor authentication is required, enable it to gain complete access
4. Install the APP of your operating system choice
5. Scan QR code
6. Enter verification code
7. Change your password
8. Save Changes (Save icon in top right-hand corner)

Once logged into HDM you will be instructed to scan the barcode on the top of the Hydraloop device. Scanning the barcode will open your device up onto the HDM and the verification process will begin. You will be given instructions on how to proceed to the next steps.

The Hydraloop app needs to be downloaded on both the Installers and device owners smartphone.

If you need assistance, please call your Hydraloop dealer or contact Hydraloop Sales Engineer via email support@hydraloop.com

STARTUP TIME

The Hydraloop device requires a minimum of 21 days (3 weeks) and 20 showers to develop the biological treatment process in the T2 tanks and become fully operational. The greywater treatment will start from the initial start-up; however, this reusable water will be purged into the sewer and the backup water will be supplied instead. After this start-up period of 21 days (3 weeks) and 20 showers, the Hydraloop device will automatically switch over to deliver reusable water to the toilets, washing machine and/or auxiliary outlet.

BACKUP WATER & BACKFLOW PREVENTION

If there is not enough reusable water available, the device will automatically switch to backup water. The device is connected to its backup water supply via an air gap to protect the tap water against backflow or cross contamination. Additionally, a non-return valve is mounted on the point of incoming backup water. NOTE: If using rainwater as a backup water supply pretreatment must be applied prior to entering the Hydraloop device. Pretreatment should include a 5-micron filter and carbon filtration, UV disinfection, expansion vessel and a pressure regulator (depending on the booster pump). The incoming flowrate should not exceed 12 lpm | 3.2 gpm, 1.5-3 bar | 21.75 – 43.5 psi.

PLUMBING BACKUP FACILITY

During periods of unscheduled maintenance, service, or power failure it might be possible that supply of reusable water backup water is temporarily not available. To overcome this a bypass option can be installed. The bypass setup must comply with the applicable regulations of the country, state, or municipality.

DEVICE MALFUNCTION

The Hydraloop device is extremely reliable, and all critical components are monitored continuously by our server through a permanent Wi-Fi internet connection. In the unlikely event a component fails (i.e., the UV lamp) the device will automatically switch to backup water, and everything in-house will function as usual, with no reusable water being distributed as a precaution. An automated system warning will appear on the HDM and Hydraloop APP.

Warning

Hydraloop device is designed for 'normal usage' and is not designed to receive solid materials like stones, chemicals, paint residues, hair dye, bleach, disinfectants, or any other matter that is unusual for shower/bath and washing machine greywater. In the event these substances enter the H600, it can be damaged, and the water treatment can be affected. There is a function in the APP where the greywater from the T1 tank can be wasted to the sewer if you suspect foreign matter has entered the Hydraloop device (i.e., hair dye or bleach).

Note: Hydraloop Systems BV is not liable for any damage if the above or any other abnormal substances enter the H600.

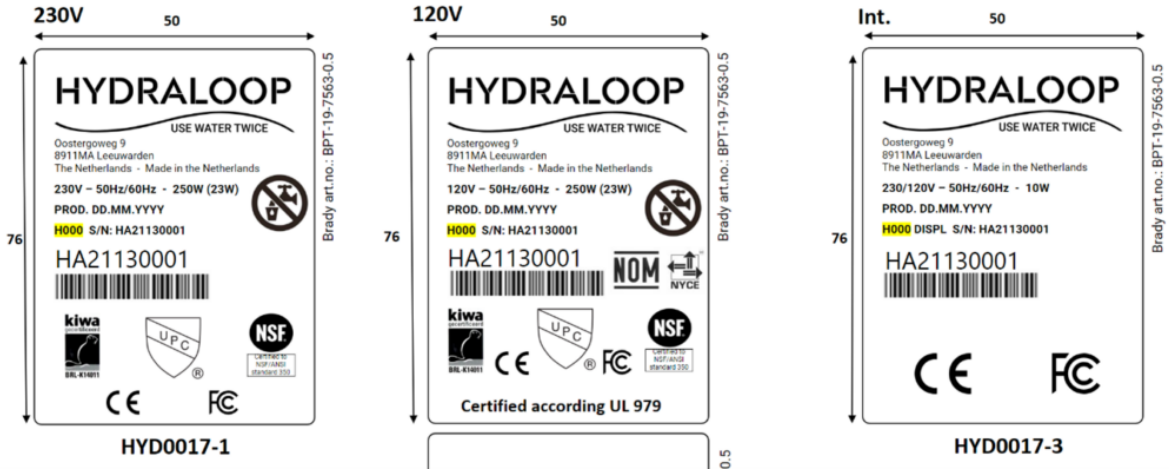
WARRANTY

Under this Factory Warranty ("Warranty") Hydraloop warrants to the first and original purchaser of the Hydraloop device set forth in Part 1 of the Warranty Policy under "Customer", such product hereinafter referred to as the "Product", that such Product shall be free from material Defects for a period of two (2) years as of the date of the original purchase invoice from Hydraloop or one of its authorized Partners, unless local jurisdiction requires a longer term. "Defect" as used in these warranty terms means a manufacturing or a design defect that materially impinges on the use of the Product and which is solely attributable to Hydraloop and that was not detectible at the time of delivery of the Product or part of the Product.

Installer to assist Hydraloop device owner with entering their information, contact details and physical address into the warranty section on the Hydraloop APP.

DATA PLATE / SERVICE LABEL

The Hydraloop device has a permanent data plate attached to the top of the device that should look like the example below.



GLOSSARY OF TERMS

Auxiliary Outlet: This valve allows for the distribution of reusable water to be used for the garden, irrigation, or pool top-up (depending on your region). This outlet is non-pressurized.

Backup water: Water that is used as a main source of water in the building. This could be tap water, municipal water, well water, rain water etc. Another term for backup water is 'mains water'.

Blackwater: Contaminated wastewater containing pathogens from human waste and other organic materials. This waste stream can come from toilets, bidets, hand showers, floor drains, dishwashers, and kitchen sinks.

Greywater: Lightly contaminated domestic water coming from the drains of baths, showers and washing machines.

Hydraloop APP: This is an APP that device owners can download on their smartphone. The APP monitors how a Hydraloop device is functioning, offers tips on how to save more water and gives encouragement when water savings in the building are at a high level. The APP will notify the owner when the 21-day Activation date (and a minimum of 20 showers/baths) has been reached and when the device is ready to distribute reusable water.

Hydraloop Device Manager (HDM): Online monitoring system for the Hydraloop device. During installation, this platform is used for testing, verification, and activation of the Hydraloop device. After installation, the HDM is used for monitoring, maintenance, troubleshooting and ticket generation. Before installation of a Hydraloop device, the HDM requires login credentials, provided by Hydraloop. Please ask your Hydraloop installer if your device has a viable login-code before installation.

Inlet diverter: This optional valve allows for the intake of greywater from sources other than the shower/bath i.e. the washing machine. By adding this valve to the inlet of the Hydraloop device, greywater from the washing machine can be treated for reuse.

Recycle Ready Guide: This is a guide provided by Hydraloop, aimed at device owners, plumbers, and contractors. The Recycle Ready Guide explains how to prepare and configure the plumbing network in a building, so it is ready to receive and recycle greywater.

Recycle Ready Checklist: Once preparations are complete, the Hydraloop owner and construction professional verify and co-sign the 'Recycle Ready Checklist'. Then, the Hydraloop owner sends the co-signed Checklist to their Hydraloop Partner. Without a signed and verified Recycle Ready Checklist, an installation date cannot be planned.

Reusable water: Greywater that has undergone various steps of treatment to be reused for toilet flushing, water for the washing machine and/or outdoor uses (irrigation, pool top-up).

Start-up Time: The Hydraloop device requires a minimum of 21 days (3 weeks) or 20 showers to develop the biological treatment process in the T2 tanks and become fully operational. If the device has not sensed 20 showers by 21 days of operation, the start-up time will last longer. **Ventilation:** This is placed along the greywater line to prevent anti-siphoning of water out of airlock. Ensure that the greywater input and sewage output both have proper two-way ventilation. Ventilation for greywater input should be above all greywater lines and end outside the building.