OWNER MANUAL HYDRALOOP H300 & H600
ORIGINAL INSTRUCTIONS

Hydraloop H300 and H600 have been tested and certified under IAPMO R&T and NSF/ANSI 350.

Dear customer,

Thank you for purchasing this Hydraloop device.
Read this owner's manual before using the device and keep it in a safe place for future reference.
To ensure safe and proper operation, we recommend regular maintenance.
Our service and customer service organization are available for assistance.

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GLOSSARY OF TERMS

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

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

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

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

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.

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.

HDM: Hydraloop Device Manager – online monitoring system for the Hydraloop device. Through this platform the Testing, Verification and Activation of the Hydraloop device are conducted as well as the monitoring, maintenance, troubleshooting and ticket generation. The HDM requires a login from your Hydraloop Sales Engineer in order to be activated. This login is generated by the Hydraloop Sales Engineer.

Hydraloop APP: This is an APP that device owners can download on their smartphone to monitor how their Hydraloop device is functioning, offer tips on how to save more water and give encouragement when water savings in the home is at a high level. The APP will notify user when the 21 day Activation date has been reached (and a minimum of 20 showers/baths) and when reusable water can begin to be distributed.

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 by 21 days of operation 20 showers has not been sensed by the device, the start-up time will last longer than the indicated 21 days.

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.

Recycle Ready: This is a Hydraloop guide for configuring the plumbing in the home to be ready to receive and recycle greywater. This guide provides all the necessary information to get any building Recycle Ready.

SAFETY

GENERAL SAFETY INSTRUCTIONS

WARNING

- Read this manual before installing and/or operating your Hydraloop device.
- The Hydraloop device produces NON-POTABLE water. DO NOT use the Hydraloop device output water for potable use. Please note that the backup water outlet and non-potable outlet are close in proximity.
- The device should only be opened or serviced by Hydraloop staff or certified Hydraloop partner and/or installers. Risk of electric shock may occur.
- The Hydraloop device should be installed according to installation manual for safe operation.

WARNING

- A damaged power cable should always be replaced by Hydraloop staff or certified Hydraloop partner and/or installers.
- Always disconnect the Hydraloop device from backup water supply before servicing or performing maintenance.

ATTENTION

- Following commissioning and/or work on the Hydraloop device, lines should always be checked for leaks and potential cross connection.

RECOMMENDATIONS

ATTENTION

- The Hydraloop device should only be installed indoors with an ambient temperature between 14-35°C | 57-95°F.
- The Hydraloop device should never be exposed to sunlight.
- Reusable water should never be connected to a bidet and/or a toilet hand-shower.
- The Hydraloop device should always be accessible for service and maintenance.

ATTENTION

- The Hydraloop device should only be moved or transported in an upright, vertical position.
- Care should be taken not to damage the exposed underside of the device.

ATTENTION

- Never direct greywater from kitchen sinks, floor drains or dishwasher to the Hydraloop device.
- Only use greywater from shower/bath, and optionally from washing machines.
- In cases of excessive soap use, foam may form within the Hydraloop 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:

- Owner's 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

INTRODUCTION

Hydraloop Systems B.V. offers a range of patented residential greywater recycling products. The device collects lightly contaminated greywater from shower, bath, and optionally from washing machines, bathroom hand basins, heat pumps and/or air-conditioning systems (depending on the model). The greywater is treated and disinfected so that it can be reused for flushing toilets, operating the washing machine, irrigating the garden, or topping up swimming pools. Optionally, approximately 50% of the washing machine greywater can be treated through the inlet diverter. Prior to installation, the lines need to be prepared in the house by isolating the waste stream of the showers/baths from the waste stream of other water sources (such as sinks, kitchen, and toilets). The toilet fixtures and the washing machine have dedicated lines and inlets for receiving reusable water processed by your Hydraloop device (separated from potable water). Hydraloop H300/H600 are certified by IAPMO R&T against NSF/ANSI 350.

PRODUCT DETAILS

Models: H300, and H600

- A decentralized greywater recycling device for shower/bath and washing machine greywater:
- One reusable water outlet to feed toilet flushing,
- A second reusable water outlet to feed washing machine,
- The auxiliary outlet for outdoor garden use (optional)
- In addition to treating shower/bath greywater, 50% of the laundry greywater can be treated with the inlet diverter option.

Your Hydraloop device is not intended to treat wastewater (blackwater) from toilets, kitchen sinks, dishwashers, or floor drains.

NOTE: Reusable water cannot be fed to bidets and/or toilet hand showers in the home.

DESIGN, CONSTRUCTION & COMPONENTS

The Hydraloop device is a turnkey greywater recycling device. It is a pre-assembled product that includes:

- Tanks for treatment and storage of both greywater and treated reusable water.
- Booster pump to distribute the reusable water to toilets, washing machine and/or outdoor irrigation.

The Hydraloop device requires:

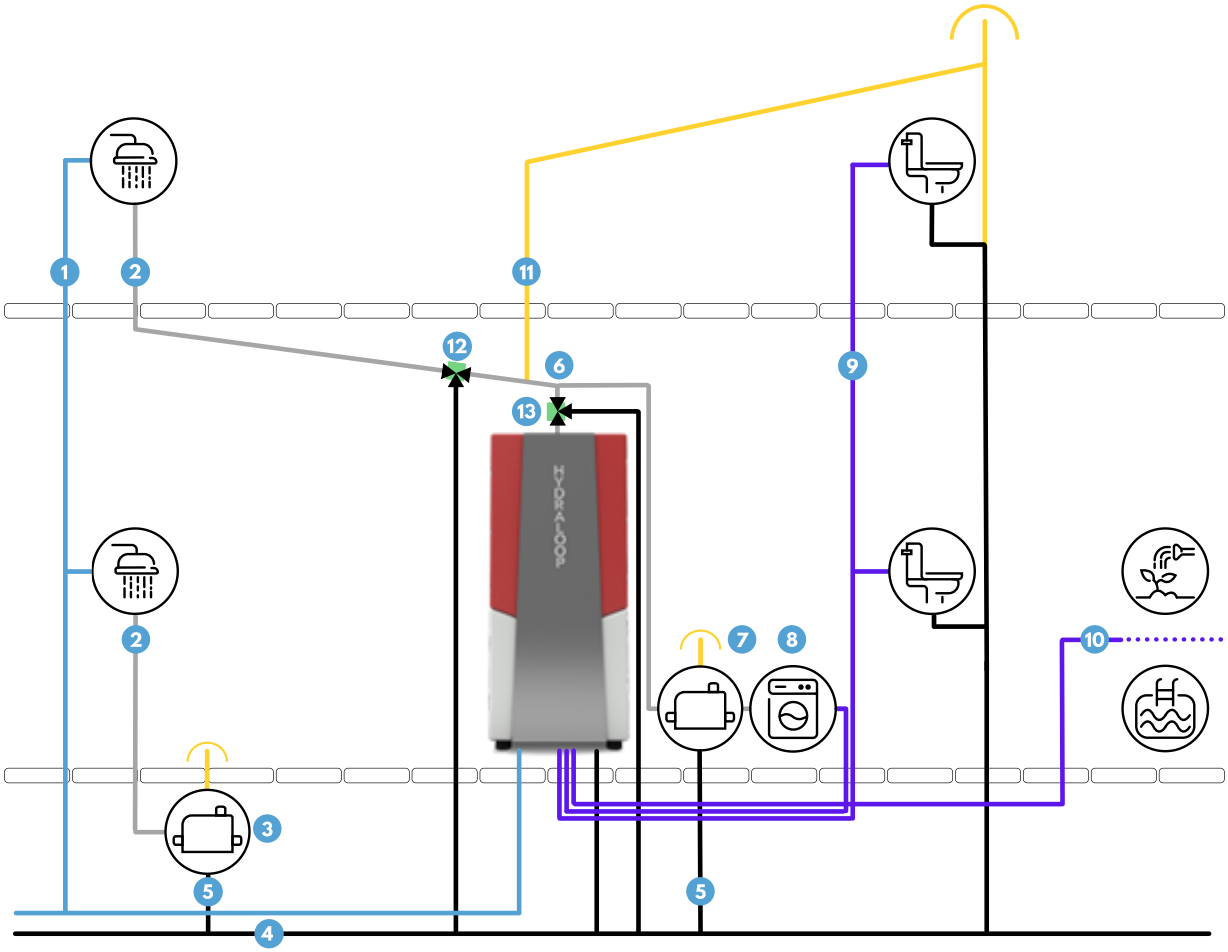
- Isolated greywater inlet from shower/bath greywater and optionally washing machine greywater via the inlet diverter option,
- One or more independent reusable water outlets depending on model and version (auxiliary outlet),
- Connection to backup water supply,
- Connection to sewer,
- Connection to electrical power,
- Connection to permanent Wi-Fi.

INSTALLATION PRINCIPLE

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 has been completed by your authorized installer and a Hydraloop Sales Engineer.

The drawing below is a reference to the piping configuration that has been completed by your plumber/installer via the Recycle Ready Guide.

1. Backup water
2. Greywater and condensation water
3. Lift pump
4. Sewage line
5. Lift pump overflow
6. Greywater and condensation water inlet
7. Washing machine greywater lift pump
8. Washing machine reusable water feed
9. Toilet reusable water feed
10. Auxiliary reusable water feed (for garden or pool)
11. Ventilation
12. Three-way bypass valve
13. Inlet diverter (for washing machine greywater)



IMPORTANT:
As a source, you can use shower and bath greywater, and optionally greywater from washing machines, heat pumps and air conditioning units (depending on the model). Greywater from kitchen sinks, floor drains and dishwashers may not be connected. Washbasin greywater can be connected to the H600 device.

STARTUP TIME

Following Verification, 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 (outdoor irrigation).

PERIOD OF 'NON-ACTIVITY'

Your Hydraloop device works completely automatically, adopting to the water use in the house/facility. It is advised to always keep your device switched on, even if there is no water use for an extended period (up to one month). If the Hydraloop device does not detect any incoming or outgoing greywater for a period of 72 hours, it will assume that there is no occupancy, and the purge valve will activate to empty the lower storage tank until 15 L |3.5 gallons is remaining. The two treatment tanks will keep the minimum volume of greywater in standby mode and will continue to aerate this water in intervals, leaving the treatment system on standby for the next incoming volume. If the inactive period is longer than 1 month the device will purge the upper tank and will go into ‘deep’ standby mode. Once incoming greywater enters the device it will ‘wake-up’ and begin functioning automatically. However, after a ‘deep’ standby mode the treatment process needs to be reactivated again, just like at the initial startup at the installation. This reactivation begins automatically.

POWER OUTAGE

If there is a power outage, the Hydraloop device will not supply reusable water to the toilets and washing machine until power is restored. However, the Electronic Control Unit (ECU) will continue to function via backup batteries. If power is restored within one (1) hour, the device will automatically begin operating normally. Stored reusable water or backup water will be available immediately. If power is not restored within the hour, reusable water in the storage tank and all greywater in the upper processor treatment tank will be purged to the sewer using the backup battery power. Once power is restored, the Hydraloop device will automatically be operational again, supplying backup water until reusable water is available. If power outages occur often in your area you could opt to install a low-cost Uninterrupted Power Supply (UPS) to maintain power to the device.

SYSTEM MALFUNCTION

Your Hydraloop device is very reliable, with all critical components being monitored continuously by the Hydraloop server through your Wi-Fi internet connection. In the unlikely event a component fails - for example the UV lamp - the Hydraloop system will automatically switch to backup water with no reusable water being distributed as a precaution.

Note: Hydraloop Systems BV is not liable for any damage if the above or any other abnormal substances enters the Hydraloop device causing the system and/or the washing machine damage.

EXPLANATION VISUAL ALARM LIGHT AND AUDIBLE ALARM

Visual Alarm Notifications:

Blue light: A blue light on the LED panel indicates that there is currently no reusable water available and backup water is being used for all functions.

Blue white alternate light: A blue and white alternating light on the LED panel indicates that there is reusable water in storage tank (T3), but not enough for a full washing machine cycle.

White light: A white light on the LED panel indicates that there is a sufficient volume of reusable water for all uses.

Green light: A green light on the LED panel indicates that the first collection tank (T1) or storage tank (T3) is directing greywater directly to drain (waste). You now know that the device is in automatic cleaning mode.

Purple light: A purple light on the LED panel indicates that the Hydraloop device is detecting that the washing machine is in operation.

Orange light: An orange light on the LED panel indicates that there is an issue with the Hydraloop device, and the greywater is not being treated. Action needs to be taken.

Red light: A red light on the LED panel indicates that there is an issue with the Hydraloop device, and no water can be distributed to the toilets and washing machine. Immediately contact your installer or Sales Engineer to begin the troubleshooting process.

Audible Alarm Notifications:

High water level warning: Buzzer alarm 2 beeps every minute, visual alarm 2 pulses every minute

Air pump failure: Buzzer alarm 3 beeps every minute, visual alarm 3 pulses every minute

UV lamp failure: Buzzer alarm 4 beeps every minute, visual alarm 4 pulses every minute

Water storage tank re-disinfection circulation failure: Buzzer alarm 5 beeps every minute, visual alarm 5 pulses every minute

Water distribution pump failure: Buzzer alarm 6 beeps every minute, visual alarm 6 pulses every minute

If you need assistance, call your Hydraloop Partner, your installer or contact Hydraloop Sales Engineer via support@hydraloop.com.

MAINTENANCE

We recommend maintenance be performed on the device once per year. The device should only be opened or serviced by Hydraloop staff or certified Hydraloop partner and/or installers.

This check contains the following elements:

- Descaling of Hydraloop device with a citric acid solution.
- Remove, clean, and descale the air diffuser.
- Replace the rubber membranes of the air pump every three years (according to the manual of the air pump supplier).
- Replace the UV light bulb every two years by unscrewing the lid on the UV-C lamp housing.
- Collect effluent samples using the water valve that is connected to the washing machine.

In regions with very high levels of water hardness more frequent descaling of the water tanks may be necessary. Please check water hardness during installation.

FAQs

Please see the following page: Frequently Asked Questions

LIMITATIONS

The maximum water temperature Hydraloop can process is 140°F |60°C. Water with temperatures higher than 140°F |60°C can damage the device.

Hair dye entering the Hydraloop device is not allowed. Doing so may damage the functioning of Hydraloop device' s biological treatment system as well as its seals. If this happens by accident, you will need to change the settings on your APP to have backup water feeding the outlets of your device. Please contact your installer. Hydraloop Systems B.V. is not responsible for damage caused by products such as hair dye, paints, or bleach to your laundry.

It is imperative that human waste going NOT go down the drain of your shower or bath. An infrequent or rare accident will not cause problems with the device; however, this may only happen incidentally, not frequently.

Cleaning the shower and bath with aggressive cleaning products containing bleach is not permitted. Doing so may damage the functioning of the device' s biological treatment system and affect its seals. If these products are introduced, you will need to set the device to backup water using the smartphone APP. You then should contact your installer. We recommend using environmentally friendly cleaning products. If using more regular cleaning products, please check they do not contain bleach.

The operating temperature of the Hydraloop device is between a minimum temperature of 57°F | 14°C and a maximum temperature of 95°F | 35°C. The Hydraloop device must be protected from direct sunlight.

We are here to help! Please don't hesitate to contact us with your questions and send your e-mail to support@hydraloop.com.

HYDRALOOP APP

The Hydraloop APP is a free APP that device owners can download on their smartphone to monitor how their Hydraloop device is functioning, gather tips on how to save potable water use and receive encouragement when water savings in the home/facility is at a high level.

Once the APP has been downloaded on your smartphone open it up to find the Dashboard page. Here you will be able to enter your Hydraloop device serial number, model number and version number as well as personal information about your device and its location. Your WiFi details can then be inputted into the APP.

What can I do with the Hydraloop APP?

1. The APP is a tool where you can see your device status at all times.
   The following status indicators will give indication of what your device is doing:
   1. **White light:** Your device is distributing reusable water.
   2. **Blue light:** Your device is distributing backup water.
   3. **Purple light:** Your washing machine is active.
   4. **Green light**: A self-cleaning process is now engaged.
   5. **Blue & White alternating light:** There is reusable water in T3 tank but not enough for a complete washing machine cycle.
2. The APP allows you, the user, to determine the priority of your reusable water use. On the Settings page you have the option of chosing the priority for the reusable water for either the toilet, washing machine or to the auxiliary outlet (outdoor irrigation).
3. The APP will indicate warning signals based on how the device is performing:
   1. White light: None
   2. **Orange light:** High water level warning
   3. **Orange light:** Air pump failure
   4. **Orange light:** UV lamp failure
   5. **Orange light:** Re-disinfection circulation failure in the reusable water storage tank
   6. **Red light:** Water distribution pump failure
4. There is a Statistics page that you can look at giving you a ‘Water Recycled’ graph. This will show you how your water savings per month, week or day depending on how closely you want to monitor your water savings.
5. Within the Settings page you can find an option called ‘Self Service’ which can be a useful tool for you the user. There may be times where bleach or hair dye is accidentally introduced to the greywater from the bath or shower. In these cases you can simply have your device direct your greywater to sewer to ensure that your device continues to operate effectively.
6. By activating the Information page you, the user, have access to all documentation available on the Hydraloop website. This page will offer weblinks to frequently asked questions, troubleshooting manuals, installation manuals and direct contact to our service team.

WARRANTY

For warranty details, please check your Warranty Certificate. Ensure that all your personal details have been entered into your Hydraloop APP.

SPECIFICATIONS AND DATA PLATE

H300

Capacity
300 liters | 80 gallons

Dimensions
Height – 189 cm| 74”
Width – 35 cm| 14”
Length - 82 cm | 32”
Weight – 92 kg | 203 lbs. (dry)

Voltage
Versions for 100-120V (60Hz)
or 200-240V (50 Hz), 24 Volt internal

Power consumption
On average: 180 kWh| yr. per system

Noise level
± 44 dB

Greywater input sources
- shower
- bath
- washing machine (inlet diverter)

H600

Capacity
600 liters | 160 gallons

Dimensions
Height – 189 cm | 74”
Width – 70 cm | 27.5”
Length – 82 cm| 32”
Weight – 175 kg |386 lbs. (dry)

Voltage
Versions for 100-120V (60Hz)
or 200-240V (50 Hz), 24 Volt internal

Power consumption
On average: 650 kWh|yr. per system

Noise level
± 44 dB

Greywater input sources
- shower
- bath
- tumble dryer
- air conditioning
- heat pump
- washing machine (inlet diverter)

AVERAGE REUSABLE WATER QUALITY

NSF 350 Effluent Parameters	
CBOD5	10 ppm (mg/L) - AVG
TSS	10 ppm (mg/L) -AVG
Turbidity	5 NTU - AVG
E. coli	14 MPN/100 mL
pH	6-9
Noise level	= + 44 dB

DATA PLATE / SERVICE LABEL

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

EUR

US

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