Recycle Ready Guide – Hydraloop H300

Table of Contents

Is your building Recycle Ready?

Water conservation is becoming increasingly important, and graywater recycling is an effective way to reduce drinking water and wastewater production. Hydraloop enables you to reuse water from showers, baths, and washing machine for non-drinking purposes such as flushing toilets, laundry, watering gardens and topping up pools.

However, before installing a Hydraloop, your plumbing must be Recycle Ready. This guide will help you determine whether your building meets the necessary requirements or what modifications may be needed.

What does “Recycle Ready” mean?

In most conventional plumbing systems, all wastewater is sent directly to the sewer. This includes graywater (from showers, baths, and washing machines) as well as blackwater (from toilets and kitchen sinks). While blackwater must always be drained, graywater can be treated and reused safely thus helping to conserve both drinking water and wastewater. It will also reduce utility costs.

Being Recycle Ready means your plumbing system is correctly set up to work with a Hydraloop, ensuring efficient graywater collection, recycling and reuse.

How does Hydraloop work?

Hydraloop treats graywater using a natural process using an aerated bioreactor, like those used in large-scale wastewater treatment facilities. The system collects graywater, removes contaminants and receives regular UV disinfection to make it suitable for reuse in non-potable applications.
For the system to function properly, it requires:

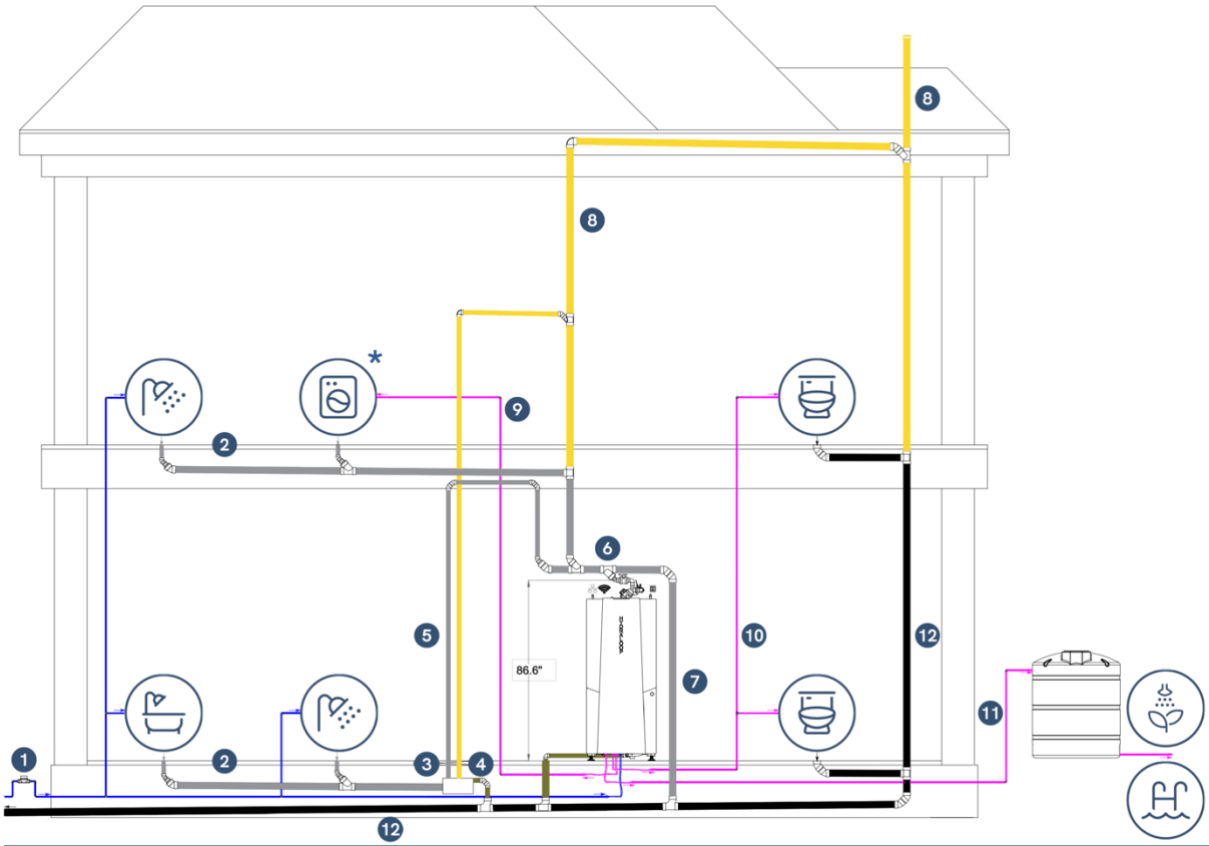
- A dedicated graywater drain;
- An overflow connection and an open-to-air vent to maintain proper drainage;
- An internet connection to connect to the Hydraloop Device Manager (HDM)

The HDM allows you to monitor the graywater recycling process and provides remote access for maintenance and troubleshooting when needed.

Verifying Recycle Readiness

Before installing a Hydraloop, it’s essential to confirm that your building meets the necessary plumbing requirements. Work with a qualified installer to complete the Recycle Ready Checklist and submit it to your Hydraloop partner for verification.

Recycle Ready plumbing schematic



Legend			
Tap water		Recycled water	
Graywater		Waste water	
Drain vents			

1	Tap water supply	7	Overhead bypass to sewer
2	Gray water drain	8	Open to air vent pipe
3	Lift pump installation	9	Recycled water, washing machine
4	Lift pump overflow (incl. sewer check valve to prevent backflow according to EN 12056 or local regulations)	10	Recycled water, toilets
5	Pressure drain	11	Recycled water, garden or pool (open pipe connection or float valve in tank)
6	Hydraloop graywater inlet, 86.6" center line inlet height (incl. optional inlet diverter because washing machine discharge connection)	12	Black water / sewer drain

* When washing machine graywater is recycled, an inlet diverter must be installed.

Hydraloop connections

Graywater inlet

Hydraloop collects the graywater at the top of the device. The graywater enters the Hydraloop in the middle of the first tank (T1). All connections are neatly stored behind the removable front plate, as visible in the image below.

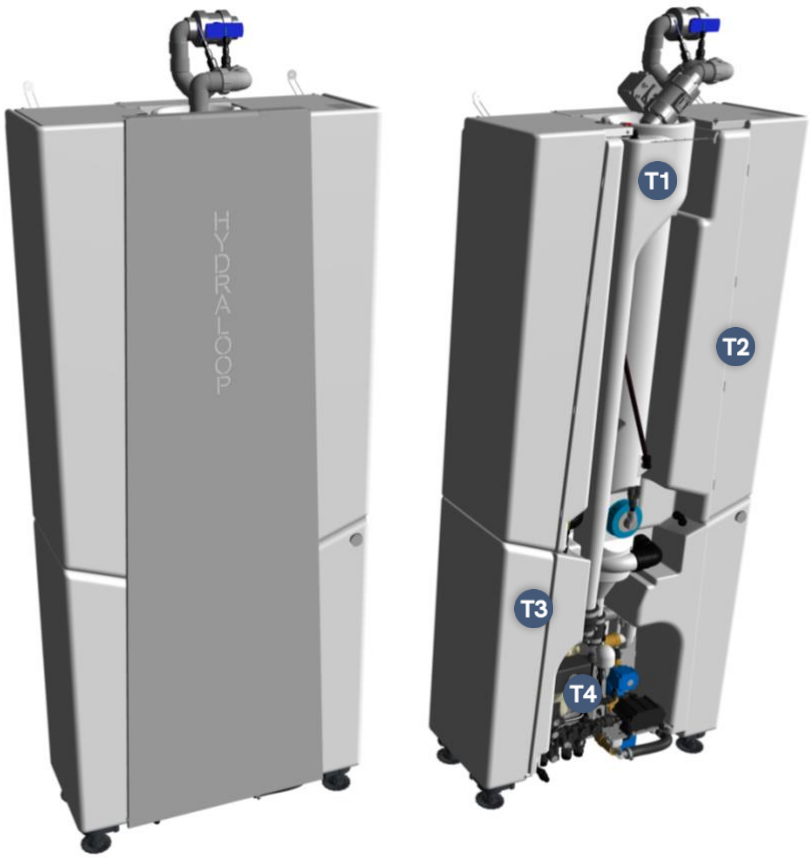


Image: Hydraloop H300. Left; with front plate, standard inlet. Right; without front plate and optional inlet diverter.

The image above also indicates the 4 tanks of which the Hydraloop consists of:

- **T1;** Graywater inlet tank
- **T2;** Bioreactor tank with moving bed bioreactor (MBBR)
- **T3;** Storage tank which holds recycled water
- **T4;** Tank for backup water connection, complete with safe air gap

Overhead bypass to sewer *(#7 Plumbing diagram)*

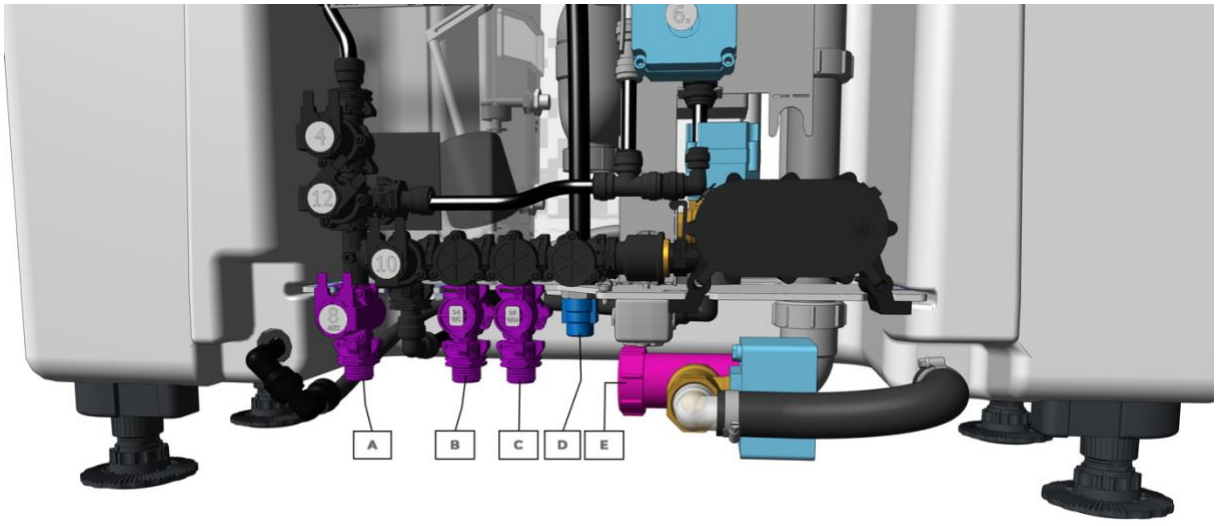
When installing the gray water drain it is important not to restrict the internal diameter. Restricting the diameter downstream will negatively affect the functioning of the plumbing installation and the Hydraloop.

Because the inlet into the Hydraloop is 1.5″, it is important that an overhead bypass is created, see plumbing diagram. Make sure the Y-junction that drops towards the Hydraloop is full bore, pointed down and in line with the flow to maximise the amount of water running into the Hydraloop.

After passing the Hydraloop inlet, connect the overhead bypass to the sewer connection. Make sure backflow of sewer water, or black water is made impossible. Backflow of sewer water will harm the functioning of the Hydraloop.

Distribution module

Recycled water is collected in the holding tank (T3) at the bottom of the Hydraloop. This is where the distribution unit is located. When the front plate is removed, all connections are visible. The image below indicates the locations of the recycled water outlets, backup water inlet and drain outlet.



A	‘AUX’ Auxiliary outlet *	D	Backup water inlet
B	‘WC’ Toilet(s) outlet	E	Drain to sewer outlet
C	‘WM’ Washing machine outlet		

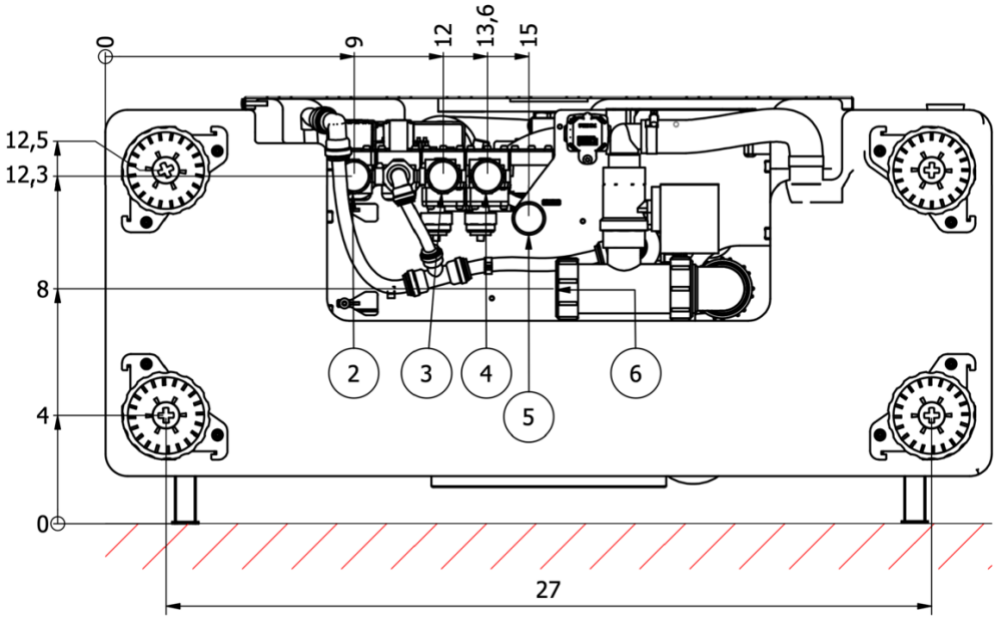
* Auxiliary outlet is always present, but to activate must be ordered as add-on

Pipework placement

To ensure proper pipe placement for recycled water, backup water and drain to sewer connection, see image A (bottom view) and image B (side view). The feet are height adjustable for levelling purposes. Clarification of the numbers as shown in image A:

2	½" Auxiliary outlet: connect with flexible hose provided
3	½" Toilet feed: connect with flexible hose provided
4	½" Washing machine feed: connect with flexible hose provided
5	½" Backup water: mains tap water, rainwater or well water: connect with flexible hose provided
6	Wastewater to sewer. 1.5" sewer connection with rubber gasket

Image A: bottom view H300, measurements in inches:



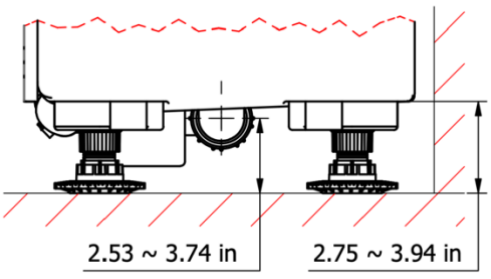


Image B: side view H300 showing drain in middle, measurement variation due to height adjustable feet.

The water and waste connections can be made in the free space underneath the Hydraloop, or next to the Hydraloop, depending on the configuration. Please contact your qualified installer or Hydraloop for expert advice.

When the building and installation is in use before the Hydraloop is placed, connect the water lines to the tap water so all fixtures can be used. Install a backflow prevention device when local plumbing regulations require this.

Water demand calculation

To keep the installation simple, first determine if recycling your washing machine's graywater is necessary. Follow these two steps:

- Calculate your recycled water demand (gallons per day):
  - Toilet: Flushes per day × Flush volume × Number of people
  - Washing machine: Gallons per cycle × Cycles per day
- Calculate your graywater production (gallons per day):
  - Shower: People × Showerhead flow rate (Gal/min) × Shower duration × Showers per day

Note: Only 92% of the graywater is reusable, as Hydraloop uses 8% for cleaning.

Decision rule: If your recycled water demand is lower than your graywater production, recycling washing machine water is unnecessary.

For a quick assessment, try our Hydraloop Calculator

Plumbing options

Hydraloop on lower level – input by gravity

Graywater from the shower/bath or other sources is drained via a conventional gravity-fed sloped drain to the top of the Hydraloop. Ensure the graywater drain to the Hydraloop is connected to an open-to-air ventilation line and according to local plumbing regulations.

Hydraloop on the same level – input via lift pump installation

Graywater from the shower/bath or other sources enters the device through a lift pump installation. Ensure sufficient open-to-air ventilation from and to the lift pump and drainage fixtures. Always follow the lift pump manufacturers' installation requirements.

Other lift pump considerations:

- Volume: Ensure the maximum volume of the lift pump holding tank is 13 Gallons. Larger volume tanks are known to negatively affect the gray water quality.
- Drain ventilation: Ensure open-to-air ventilation for the lift pump by installing a vent stack. Make sure the ventilation complies with local plumbing codes. If only a lift pump supplies the Hydraloop, the incoming gravity fed gray water drain into the Hydraloop also needs to be properly vented.
- Maximum flow: Choose a lift pump that has a maximum flow of 12 Gal/min or throttle the inlet flow.

Optional: Inlet diverter for washing machine

When recycling graywater from washing machines, you need to order the optional inlet diverter. The inlet diverter is a 2-way valve which closes during the first two rinse cycle of the washing machine. You must supply recycled water to the washing machine from the 'WM' outlet when you collect graywater from the washing machine.

Below is an overview of the current models which are fitted with an inlet diverter.

HYDRALOOP MODEL	INLET DIVERTER
Hydraloop H300 collection '25	No
Hydraloop H300 collection '25 with inlet diverter	Yes

Requirements

Below are the system requirements. More information can be found in our FAQ:

1. **Location/placement:**	Inside the building thermal envelope. Hydraloop is not IP rated or UV resistant. Avoid direct sunlight and rain. Maximum RH-value: 70% Recommended positions are: • mechanical or technical room • garage • laundry room Due to possible 24-hour sound production (+/- 44 dB(A)), it is not recommended in or adjacent to living space or quiet rooms.
2. **Temperature:**	Average operational ambient temperature 57-95 °F
3. **Service space:**	32″ in front of Hydraloop.
4. **Graywater inlet:**	1.5″ O.D. PVC. height min. 86.6″ CL. Only shower/bath water, washing machine (max. 1, with inlet diverter). **No kitchen sinks, dishwashers, floor drains or human waste.**
5. **Drainage connect:**	4″. Hydraloop has 1.5″ I.D. union clamp connection
6. **Electrical power:**	120 V, 60 Hz, 15-16 Amp earthed wall outlet within 47″ from top center of Hydraloop
7. **Internet connection:**	Ethernet cable or 2.4 GHz Wifi
8. **Water hardness:**	max. 7 GPG / 120-180 ppm
9. **Req. ceiling height:**	94.5″

Output specifications

The recycled water from Hydraloop is suitable for toilet flushing, washing machine, garden irrigation, topping up swimming pool and cleaning purposes.

Output Outlet	Water Delivery	Pipe size
Toilet	permanently pressurized	1/2″ BSP
Washing machine	permanently pressurized	1/2″ BSP
Auxiliary *	only pressurized before transfer to T3 when T3 is full	1/2″ BSP

* Auxiliary outlet will be activated after order as add-on.

All tap points that receive recycled water from the Hydraloop must be identified with a non-potable water sign (3 stickers come with device).

Distribution pump performance:

- Nominal pump pressure: 30 psi
- Nominal flow: 3.17 gal/min

Input specifications

Hydraloop requires a backup water connection.

The backup water connection is in the distribution unit (“D” in schedule).

Backup water can be mains (tap) water, treated rainwater or treated well water.

Input Outlet	Water Delivery	Pipe size
Backup water	permanently pressurized min. 3.17 gal/min required	1/2″ BSP

The backup water enters the Hydraloop via a safe air gap (T4), ensuring no possible connection between (recycled) graywater and backup water.

Specifications

Hydraloop H300	
Volume	80 gallons
Nominal cleaning capacity	95 gallons (depending on user behavior)
Voltage	120V, 24V internal
Average power consumption	220 kWh/year, 25W during treatment
Internet	The Hydraloop device needs to be connected with internet through an ethernet cable or an internal WiFi-network
Sound Level	± 44 dB(A)
Graywater input sources (possible)	– Shower – Bath – Washing machine (with inlet diverter)

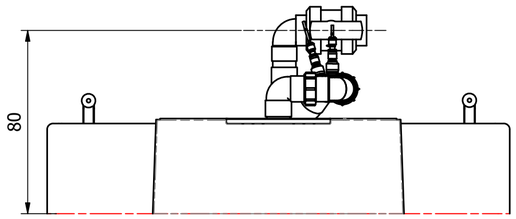
Dimensions and weights

HYDRALOOP MODEL	WIDTH (INCH)	DEPTH (INCH)	HEIGHT (INCH)	DRY WEIGHT (lb.)	WET WEIGHT (lb.)
H300 (Inlet standard)	31.5	14.17	78.15	182	844
H300 (Inlet Diverter)	31.5	14.17	78.35	184	846
H300 PACKAGED	32	31.5	80.7	199.5 - 204	-

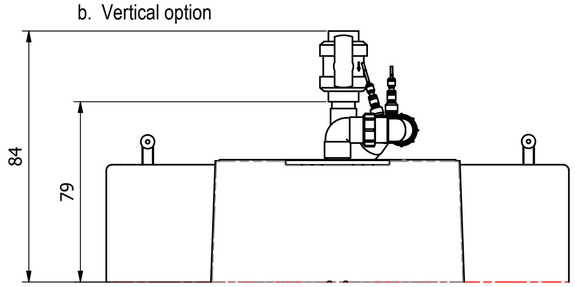
For technical detailed drawings, see the following pages.

PVC ball valve - Position options

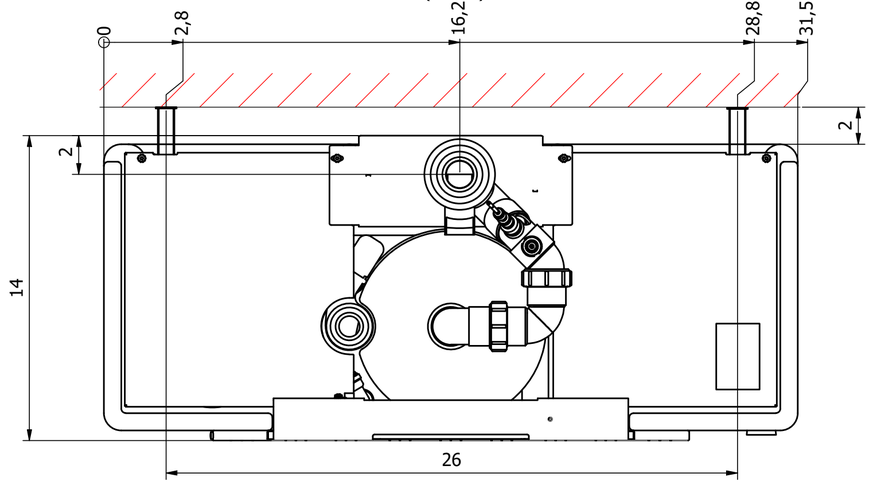
a.Horizontal option



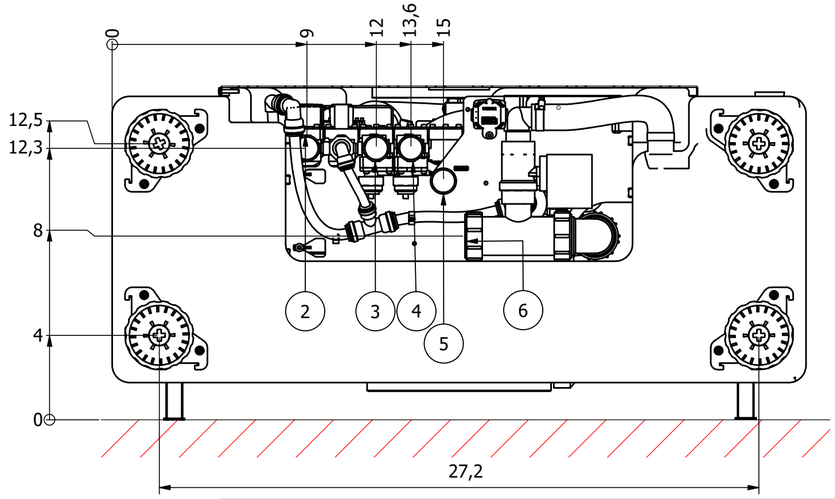
b. Vertical option



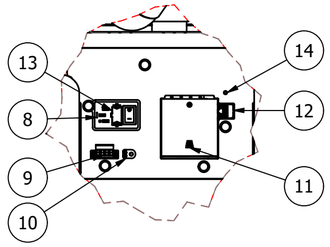
View A
(1 : 5)



View B
(1 : 5)

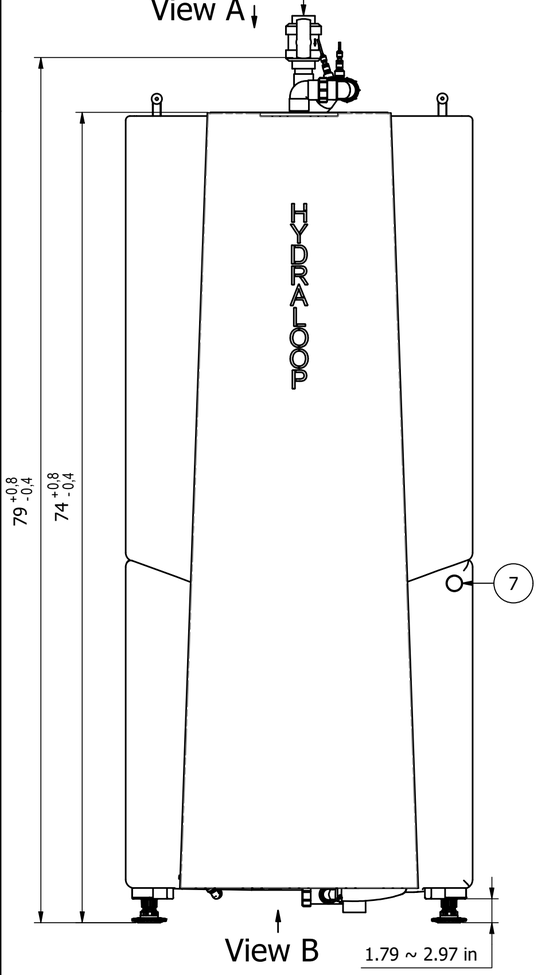


Detail C
(Scale 1 : 5)



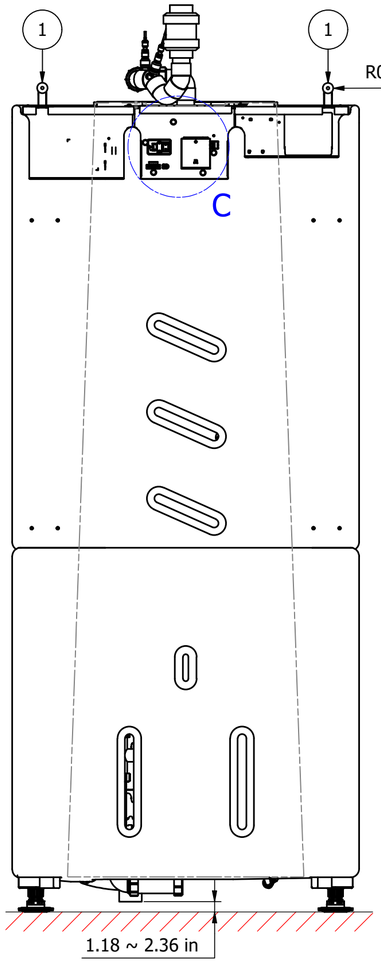
Ø1.5" - water inlet

View A

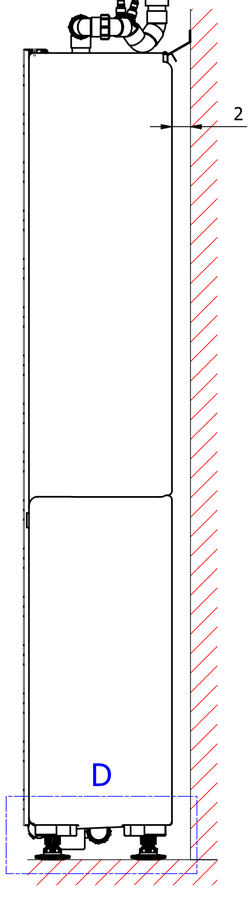


View B

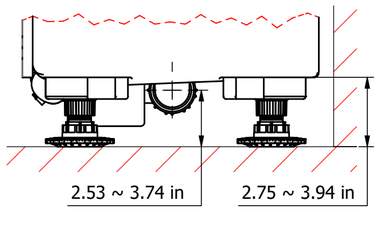
1.79 ~ 2.97 in



1.18 ~ 2.36 in



Detail D
(Scale 1 : 5)



2.53 ~ 3.74 in

2.75 ~ 3.94 in

TABLE	
POS	DESCRIPTION
1	Wall mount
2	Feed to Garden
3	Feed to toilet cistern (WC)
4	Feed to washing machine
5	Mains water supply
6	Waste water sleeve
7	Maintenance inlet for citric acid cleaning
8	Power supply
9	RS485
10	USB-C
11	Battery
12	LAN
13	Fuse
14	OPT button

DIMENSIONS ACC. TO NEN-ISO 406

SHAPE- AND POSITION TOLERANCES ACC. TO NEN-ISO 1101

GENERAL TOLERANCES ACC. TO ISO 2768-mK

Description:

H300 V2.1 230V STD

Modified by : KD

Modified date : 04/02/2025

HYDRALOOP

USE WATER TWICE

Scale: 1 : 10

Sheet: 2 /2

Material :

Units: inch

Projection:

Drawing NO : HYD0845AC

A2

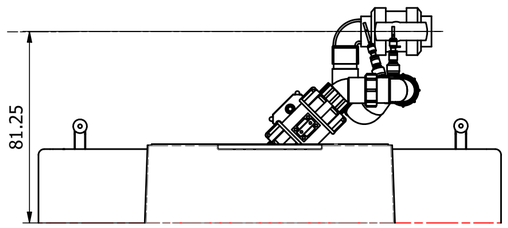
Mass: N/A

Project : PDP-0218

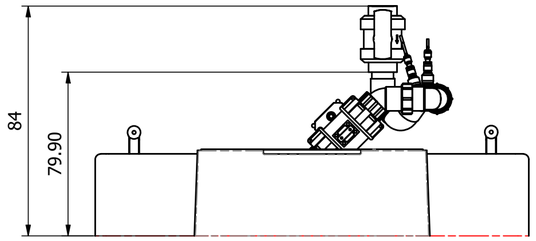
Created by: KshitijaDeshmukh Creation date: 06/12/2024

PVC ball valve - Position options

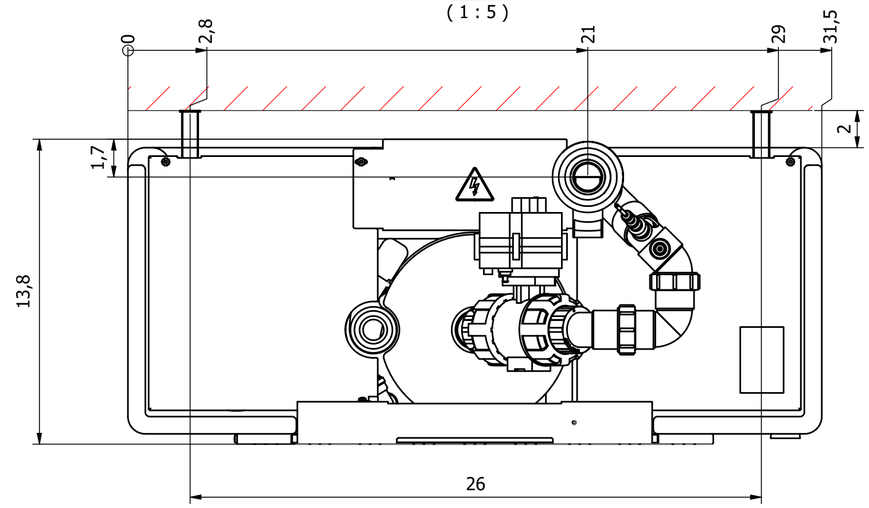
a.Horizontal option



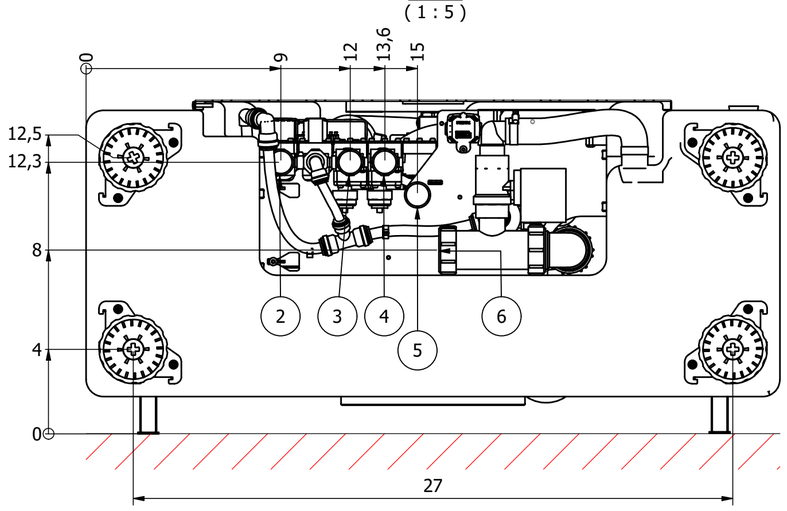
b. Vertical option



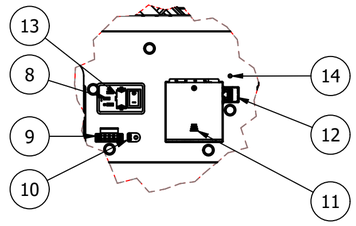
View A
(1 : 5)

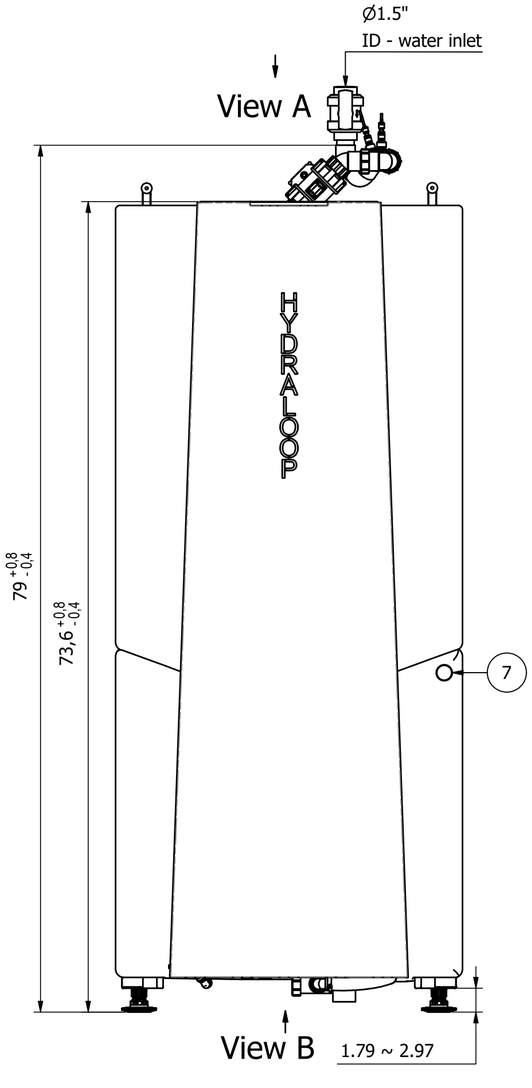


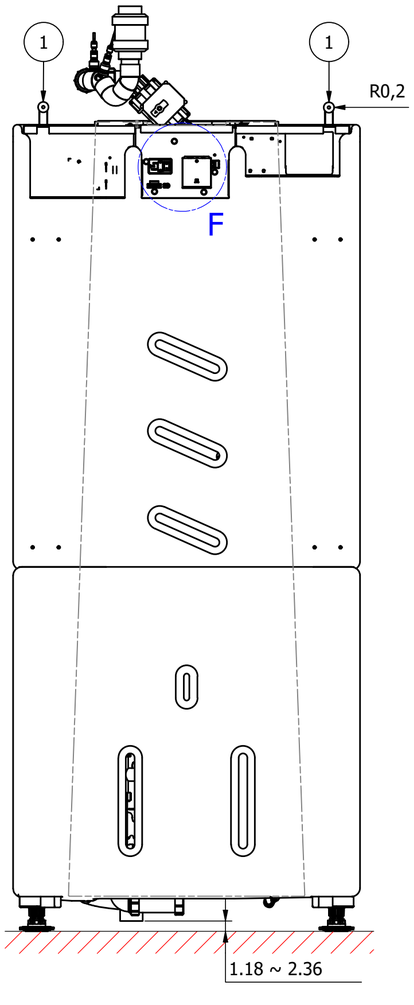
View B
(1 : 5)

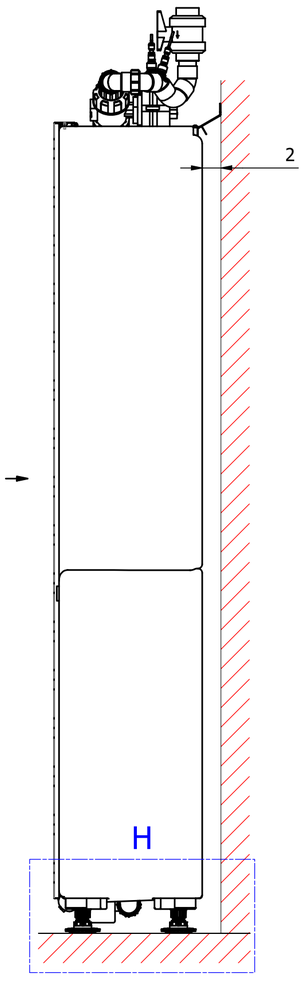


Detail F
(Scale1 : 5)









Detail H
(Scale 1 : 5)

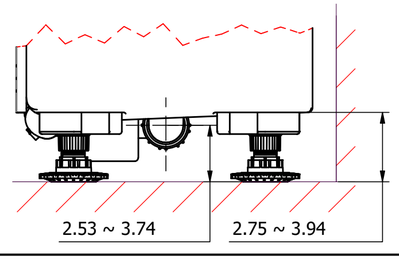


TABLE	
POS	DESCRIPTION
1	Wall mount
2	Feed to Garden
3	Feed to toilet cistern (WC)
4	Feed to washing machine
5	Mains water supply
6	Waste water sleeve
7	Maintenance inlet for citric acid cleaning
8	Power supply
9	RS485
10	USB-C
11	Battery
12	LAN
13	Fuse
14	OPT button

DIMENSIONS ACC. TO NEN-ISO 406

SHAPE- AND POSITION TOLERANCES ACC. TO NEN-ISO 1101

GENERAL TOLERANCES ACC. TO ISO 2768-mK

Description: H300 V2.1 230V IDV

Modified by : KD

Modified date : 04/02/2025

HYDRALOOP

USE WATER TWICE

Scale: 1 : 10

Sheet: 2 /2

Material :

Units: inch

Projection:

Drawing NO : HYD0844AC

A2

Mass: N/A

Project : PDP-0218

Created by: KD

Creation date: 06/12/2024

Glossary of terms

Auxiliary Outlet
A non-pressurized valve that distributes reusable water for garden irrigation or pool top-up, depending on the region. Water is only available when present in the holding tank (T3) or as controlled by the HDM.

Backup Water
The primary water source for a building, such as mains tap water, municipal water, treated well water, or treated rainwater.

Wastewater
Highly contaminated sewer water containing pathogens, originating from toilets, bidets, hand showers, floor drains, dishwashers, and kitchen sinks.

Graywater
Lightly contaminated domestic water from baths, showers, and washing machines.

Hydraloop App
A smart app for monitoring Hydraloop device performance, offering water-saving tips, and sending notifications. It alerts users when the device is ready to distribute reusable water (after 21 days and 20 showers/baths).

Hydraloop Device Manager (HDM)
An online platform for installing, testing, verifying, and managing Hydraloop devices. It enables monitoring, maintenance, troubleshooting, and ticket generation. Login credentials, provided by Hydraloop, are required before installation.

Inlet Diverter
An optional valve that allows graywater intake from sources other than showers/baths, required when adding washing machine water.

Recycle Ready Guide
A guide for owners, plumbers, and contractors on preparing a building's plumbing system for graywater recycling.

Recycle Ready Checklist
A required checklist, signed by the responsible party to prepare the buildings' plumbing, ensuring the system is ready before installation can be scheduled.

Reusable Water
Recycled graywater used for toilet flushing, washing machine, or outdoor applications.

Start-up Time
The Hydraloop device needs at least 21 days and 20 showers to establish its biological treatment process. If fewer than 20 showers occur within 21 days, the start-up period extends.

Open to Air Ventilation
A ventilation system preventing siphoning in the graywater line. Ensure proper two-way ventilation for both graywater input and sewage output, with the graywater vent terminating outside the building.