



## wash-ONE & wash-TWO Operators Manual

Version 1.0

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Product	Model Name	Voltage	Capacity
wash-ONE	ONE/12	12vdc	4.0Ltrs
	ONE/24	24vdc	4.0Ltrs
wash-TWO	TWO/12	12vdc	7.5Ltrs
	TWO/24	24vdc	7.5Ltrs

Serial No:



BS 619079  
ISO 9001:2015



## Fitting the handwash

Ensure that the handwash is fitted level and mounted in accordance with the instructions so that the tap/s cannot be accidentally operated or knocked.

Mount the handwash in such a way to:-

- Prevent accidental operation.
- Prevent any interference with the driver.
- Prevent exposure to hosed water/jet wash devices.
- Eliminate any possibility of accidental operation/opening of any emergency door.
- Allow easy access to any grab/safety handles.

## Cable requirements

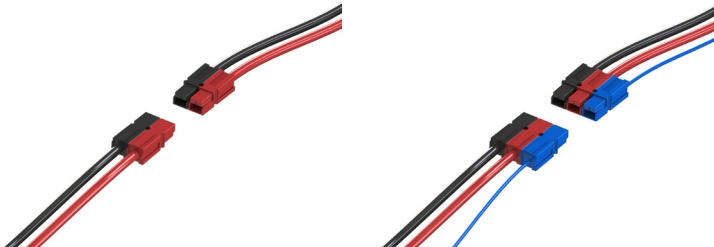
The distance from your power source to your handwash is important. The longer the distance the greater the voltage drop down the length of the cable.

To reduce this voltage drop we recommend that 4.0mm<sup>2</sup> tri-rated cable can be used.

A long cable run with incorrect cable thickness could affect handwash safety or performance. Loss of performance may result in the supply cables becoming hot, these may become hazardous.

## Termination of power contacts

Your handwash is supplied with a set of powerpole housings and power contacts.

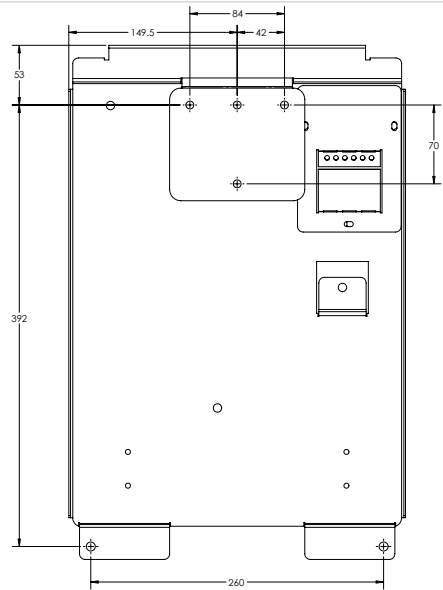
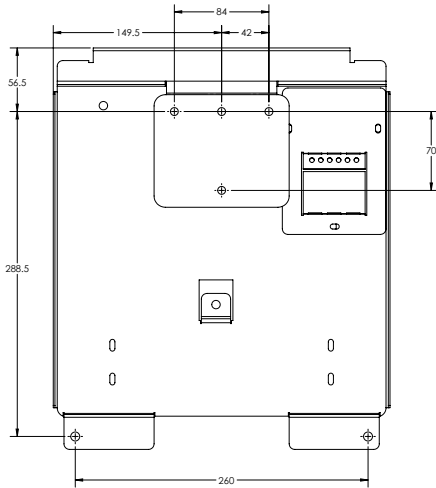


(Shown here – Powerpole housings with and without a trigger wire attached)

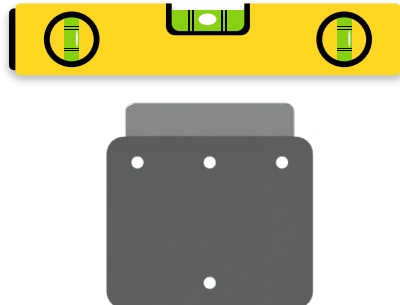
- Strip back your cable to the correct length.
- Contact pins to fit to the supply cable are included, these should be terminated either by crimping or soldering.
- Check the termination - make sure the crimp is good and the solder has flowed correctly.
- Carefully fit the housing on to the power contact, making sure the housing is aligned correctly. Position the front of the contact pin so that it slips under the barrier and snaps over the end of the retaining spring, listen for the 'SNAP'.

## Fixing Bracket

Please visit [www.transvend.com](http://www.transvend.com) to download fitting templates.



- Using the central hole (See image below) loosely fit the bracket on to your surface. The bracket needs to be able to rotate.
- Using a spirit level make sure the bracket is horizontal and 'mark' the other fixing holes.
- Fit the bracket to your surface.



- Place your handwash on the fixing bracket. Sliding the angled lip through the back panel.



- Mark through the lower fixing holes – (shown here without a sink fitted).



(Fixing holes shown here with a sink fitted).





(Fixing holes shown here with a sink fitted).

### Connecting the waste tube

The waste tube is 25mm ID, 31mm OD , once connected over the adaptor piece make sure that the tube does not kink, this could cause damage and reduce the flow of waste water.



## Connecting to the power & fuse

**IMPORTANT!** Check your +ve and -ve supply cables are correctly labelled. The device has reverse polarity protection, but if you connect the power and reverse the polarity, then the device will not work.

- Check the serial label on the side of the handwash for the voltage. The current and wattage rating can vary -
  - Default setting 12vdc is 10A - 120W.
  - Default setting 24vdc is 10A - 240W.
  - The user can change the current draw of the handwash using a combination of DIP switch 7 (DIP7) & DIP switch 8 (DIP8) - Please see page 10.
- Cable thickness – The supply cable should be a minimum 2.5mm<sup>2</sup>.
- The supply cable should be fused with a 20A fuse for 12vdc operation and a 15A fuse for 24vdc operation.
- Check the vehicle manual or refer to the dealer before fitting to ensure that the handwash will not overload the electrical system.
- If in doubt seek professional advice.



**THIS MACHINE IS AN ELECTRICAL PRODUCT AND HAS INTERNAL HARDWARE THAT IS NOT DESIGNED TO GET WET. MAKE SURE IT'S NOT FITTED WHERE IT'S EXPOSED TO HOSED OR FLOWING WATER THROUGH THE CASE.**

## Electrical Specifications

Depending on the available power in the vehicle the user can select and control the current draw for the handwash. Making sure that the vehicles electrical system isn't overloaded.

DIP switches 7 (DIP7) & 8 (DIP8) on the hardware allow the user to select the operating current preference. Unless otherwise specified your product will come set on the default settings for 12vdc (10A - 120W) or 24vdc (10A - 240W).

\*Please see pages 9 - 11 to explain how to activate and change the features of the handwash.\*

Custom settings for the current draw for the handwash:

- 12vdc – 8A – 96W
- 12vdc – 10A – 120W
- 12vdc – 12A – 144W
- 12vdc – 16A - 192W
  
- 24vdc – 8A – 192W
- 24vdc – 10A – 240W
- 24vdc – 12A – 288W

## Trigger wire

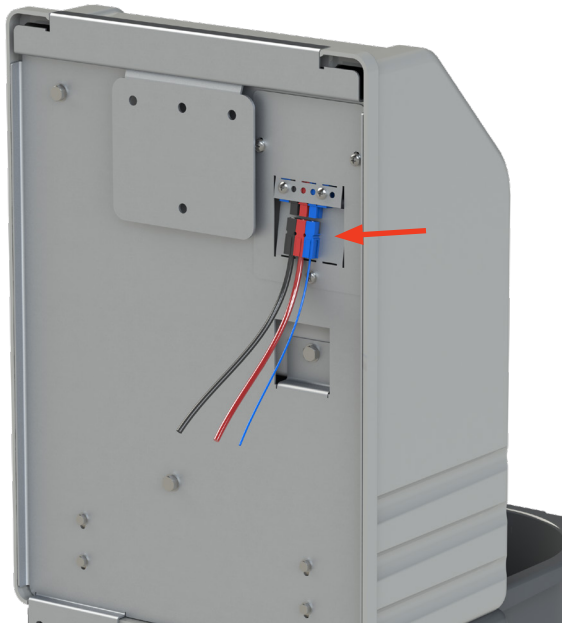
If a trigger wire is fitted (see image below), it disables the ON/OFF button and controls the power to the handwash.

DIP switch 5 (DIP5) on the hardware selects whether you'd like to operate the handwash with a trigger wire or the ON/OFF button.

DIP5 (OFF) - ON/OFF button switches the handwash ON/OFF (Trigger wire is disabled).

DIP5 (ON) - Trigger wire switches the handwash ON/OFF (ON/OFF button is disabled).

(Shown here - Blue trigger wire housing alongside the +ve & -ve powerpole housings).



Using a trigger wire you have two choices how you'd like to switch the handwash ON/OFF.

DIP switch 6 (DIP6) selects the input trigger wire voltage.

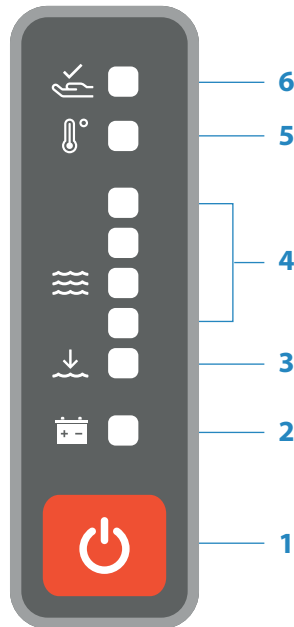
You can either: -

DIP6 (OFF) - The trigger wire needs be held low (below +5.0vdc) to switch the handwash ON.

DIP6 (ON) - The trigger wire needs be held high (above +10.0vdc) to switch the handwash ON.

- See page 10 for details on how to change the trigger wire operation.

## Membrane switch label



### 1 ON/OFF Button

- Switches the handwash on and off, unless a trigger wire is fitted and has been activated to switch the product ON/OFF.

### 2 Battery Warning LED

- The 'Battery Warning LED' flashes to indicate if there's a problem with the input voltage to the handwash.
- The handwash is designed to operate between 10.0vdc and 16.0vdc.
- If either 'VS – Voltage Sensing' (DIP2) or 'AS – Alternator Sensing' (DIP3) are activated then the 'Battery Warning LED' could flash depending on the defined voltage parameters.
- See page 11 for error codes.

### 3 Low Water LED

- Indicates that the water level in the handwash is too low to heat the water.

### 4 Water volume LED's

- Indicate the water level in the tank.

### 5 Heating LED

- Illuminated when the handwash is heating water.

### 6 Ready LED

- Illuminated once the handwash has reached the correct temperature.



## Operation

### Filling the Handwash

- wash-ONE tank capacity = 4.0Ltrs; wash-TWO tank capacity = 7.5Ltrs.
- The handwash is fitted with a locking bayonet bung.
- Remove the bung to fill the handwash with water.
- Once the water level has reached the top of the 'Max' tab in the tank, wait until the water level has levelled out in both the cold and hot tanks.
- Top up the water again and repeat this step until the tank is full.
- The water level in the handwash tank is monitored and the level displayed via the water volume LED's.
- If the red 'Low Water' LED illuminates then the handwash will need topping up with water to continue heating.

### Switching on

- There are two ways to switch the handwash on: -
  - o Using the ON/OFF button on the membrane switch label.
  - o Using the trigger wire, either held high (above 10.0vdc) or low (below 5.0vdc).
  - o See page 10 for details on how to change the trigger wire operation.

### Features

- FP, Frost Protection – Controlled via DIP switch 1 (DIP1)
  - o NO trigger wire handwash
    - If activated, FP mode will work when the handwash is both OFF and ON. The handwash is always looking at its supply voltage even though it could be switched off.
    - The handwash will always monitor the water temperature. When the temperature of the water is below 3°C then FP mode initiates. This keeps the water in the hot tank above 3°C and stops the water from freezing.
    - FP mode will only work if there's a supply voltage above 12.5vdc (12vdc model) or 24.4vdc (24vdc model).
  - o Trigger wire activated handwash \*PLEASE NOTE\*
    - When the handwash is switched ON or OFF via a trigger wire it won't monitor the temperature if the trigger wire controlled handwash is switched OFF.
    - FP mode won't override the trigger wire control signal and keep the water temperature above 3°C.
- VS, Voltage Sensing – Controlled via DIP switch 2 (DIP2).
  - o VS mode will only work when the handwash is switched on.
  - o VS mode thresholds are defined in software – Please contact Transvend if you require the handwash to have specific voltage thresholds set.
  - o VS mode – Default threshold - The handwash will work when the supply voltage is above 12.5vdc (12vdc model) or 24.4vdc (24vdc model).
- AS, Alternator Sensing – Controlled via DIP switch 3 (DIP3).
  - o AS mode will only work when the handwash is switched on.
  - o AS mode thresholds are defined in software – Please contact Transvend if you require the handwash to have specific voltage thresholds set.
  - o AS mode – Default threshold - The handwash will work when the supply voltage is above 13.2vdc (12vdc model) or 24.8vdc (24vdc model).

- PH, Press to Heat (Single cycle heating) – Controlled via DIP switch 4 (DIP4)
  - o NO trigger wire handwash.
    - PH mode activates ‘once only’ heating cycles. Once the handwash has reached the correct handwash temperature, the green ‘Ready LED’ will illuminate. The green ‘Ready LED’ will continue to stay on until the handwash water cools by 5°C. When the water temperature has reached this new cooler handwash temperature the handwash will switch itself off.
    - To activate another heat cycle the user will have to turn the handwash on again.
  - o Trigger wire activated handwash \*PLEASE NOTE\*
    - PH mode will not work if a trigger wire is used to control the handwash.

Trigger wire mode - Controlled via DIP switch 5 (DIP5)

- o OFF - The handwash will be operated via the ON/OFF button on the membrane switch label.
- o ON - The handwash will be operated via a trigger wire. DIP6 selects the trigger wire input voltage signal.

Trigger wire signal selection - Controlled via DIP switch 6 (DIP6)

- o OFF - The trigger wire will need to be held low to switch the handwash ON, the signal input voltage needs to be held below 5.0vdc.
- o ON - The trigger wire will need to be held high to switch the handwash ON, the signal input voltage needs to be held above 10.0vdc.

- Operating Current Selection – Controlled via DIP switches 7 & 8 (DIP7 & DIP8)
  - o This flexible feature allows you to change the current draw of the handwash. Tailoring the installation to the power available.
  - o The higher the current the quicker the handwash will heat the water.
  - o DIP7 & DIP8 in different combinations select how much current the handwash will draw.

#### 12vdc

- ON(DIP7)/OFF(DIP8) 12vdc – 8A (approx. 96W)
- OFF(DIP7)/OFF(DIP8) 12vdc – 10A (approx. 120W)
- OFF(DIP7)/ON(DIP8) 12vdc – 12A (approx. 144W)
- ON(DIP7)/ON(DIP8) 12vdc – 16A (approx. 192W)

#### 24vdc

- ON(DIP7)/OFF(DIP8) 24vdc – 8A (approx. 192W)
- OFF(DIP7)/OFF(DIP8) 24vdc – 10A (approx. 240W)
- OFF(DIP7)/ON(DIP8) 24vdc – 12A (approx. 288W)
- \*\*ON (DIP7)/ON(DIP8) does nothing on 24vdc mode

## Error Codes

- Battery Warning LED – Orange – Solid (No Flashing)
  - Min / Max voltage error
  - Input voltage less than 10.0vdc, increase the supply voltage above 10.0vdc
  - Input voltage is greater than 16.0vdc, decrease input voltage below 16.0vdc
- Battery Warning LED – Orange – Flashing
  - 'Voltage Sensing – VS' DIP2 activated
    - \*increase input voltage above VS threshold\*
  - 'Alternator Sensing - AS' DIP3 activated
    - \*increase input voltage above AS threshold\*
  - Please call Transvend if you're unsure of your VS (Voltage Sensing - DIP2) or AS (Alternator Sensing - DIP3) thresholds
- Heating LED – Red - 3 Flashes (then pause and repeat)
  - Thermistor error
- Heating LED – Red Flashing constantly
  - Element error / Over resistance error
- Low Water LED – Red - Flashing constantly
  - Float switch error
- Flashing water volume LED's (4pcs)
  - 'FP - Frost Protection' DIP1 activated
  - \*Water temp must be below 3°C & the handwash must be supplied with a 12vdc or 24vdc input voltage\*
- Every LED Flashes
  - Short or overload
  - Please call Transvend and note the number of flashes between pauses

## Health & Safety

- IMPORTANT do not allow the handwash to freeze.
- Do ensure that clean water is used in the handwash.
- Ensure the system is drained down daily – This stops any pooling of water.
- Do clean up any spillages and splashes as soon as they occur.
- Always lift the sink carefully if it's full of water and slowly tip the water into the drip tray.
- Only allow suitably trained persons to use and maintain the handwash.
- Remember the health and safety of you, your staff, customers and passengers is paramount.
- If the handwash is mounted any other way than recommended, then the water level float switch will not operate correctly and could result in serious damage or prevent the handwash from heating.
- It is important that there is sufficient room around the handwash for routine servicing.
- Do not use the handwash when the vehicle is in motion.

## Water Storage

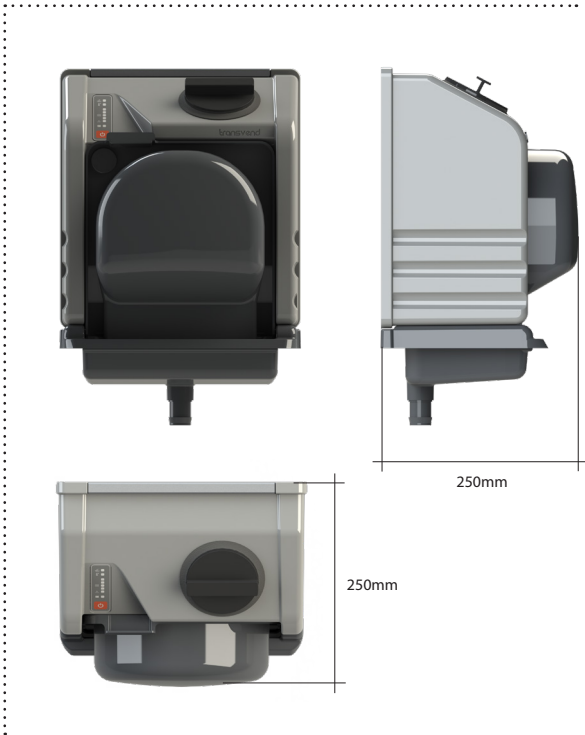
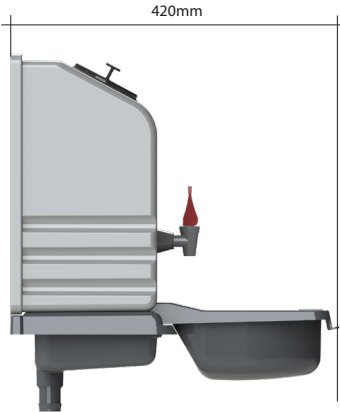
- Always ensure that only clean water is used to fill the tank and make sure that the water is emptied and refilled with clean water on a daily basis.
- If a water storage container is used then regular internal cleaning will be required.
- Transvend recommends the use of 'Milton Sterilising Fluid' which is a chlorine based agent for the inside of the water container. Always follow the manufacturers instructions carefully.

## Wastewater disposal

- Always discard your waste water in accordance to your workplace regulations .

Dimensions

wash-ONE – Including sink assembly



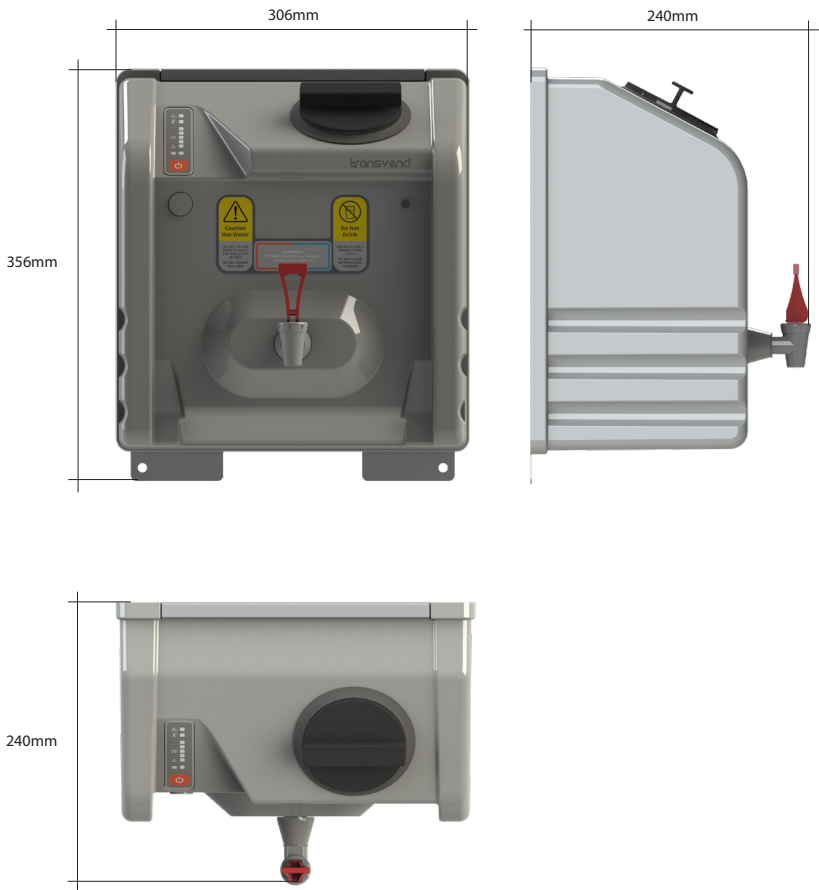
Weights

3.8kg empty

7.8kg full (4.0 Ltrs water)

Dimensions

wash-ONE – NO sink assembly



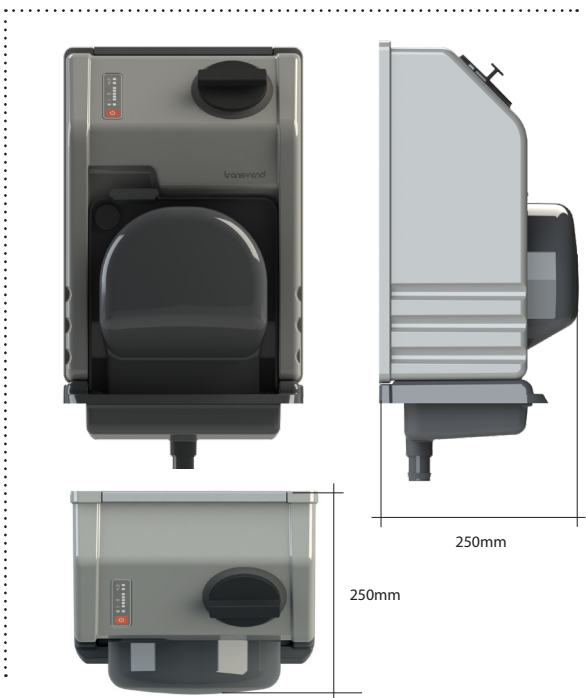
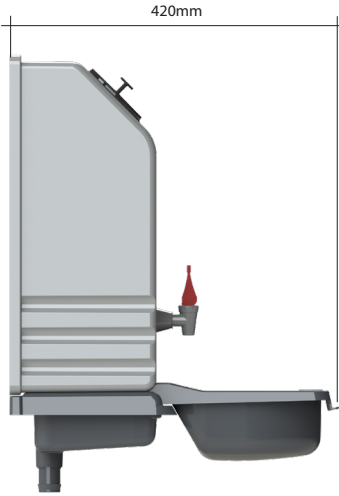
Weights

2.85kg empty

6.85kg full (4.0 Ltrs water)

Dimensions

wash-TWO – Including sink assembly



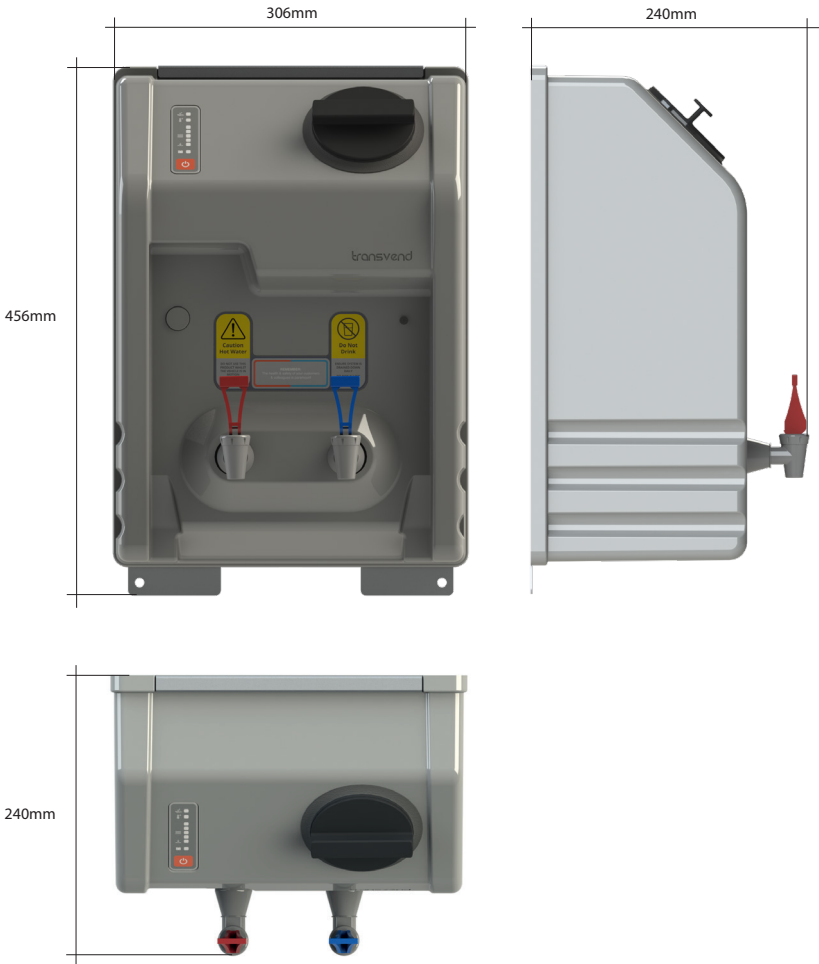
Weights

4.7kg empty

12.2kg full (7.5 Ltrs water)

Dimensions

wash-TWO – NO sink assembly



Weights

3.75kg empty

11.25kg full (7.5 Ltrs water)



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