

## Online Water Calculator – Frequently Asked Questions

Please use the links below to jump to questions most relevant to your query. If you cannot find the answer you are looking for here please contact [UUdevelopercalculator@wrcgroup.com](mailto:UUdevelopercalculator@wrcgroup.com) and we will endeavour to help.

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# The Water Efficiency Calculator and Part G of the Building Regulations

Q. I wish to demonstrate the water efficiency of a new dwelling to local building control. Is this calculator right for me?

The calculator on this website follows the same calculation methodology as required for Part G of the Building Regulations. You should be able to use a copy of the same calculation for both purposes, although will need to provide it to the relevant organisation yourself.

The water calculation site is for buildings built in line Approved Document G of the Building Regulations.

It is worth noting that whilst the Part G Regulations offer two approaches to demonstrate water efficiency, this calculator must always be completed for submission to United Utilities, in order to obtain a reduction in infrastructure charges in accordance with United Utilities Water (UUW) @New Connections and Developer Services Charges Scheme.

Check section 2.5 and 2.6 of the Approved Document G of the Building Regulations to see if your property complies with the 'fittings approach' to demonstrating water efficiency. If you can't find the required information on the appliance's packaging, then we recommend that you contact the manufacturer. You are looking for information such as nominal flow rate, bath capacity, WC flush volume.

Q. Which usage figure presented on 'Water Calculator' tab should be used for assessing compliance to Building Regulations, or with the UU Developer Scheme Requirements?

Unit of Measure (11) – 'Total water consumption' on the front page of the calculator should be used.

Installation Type	Unit of Measure	Capacity/Flow rate (1)	Use Factor (2)	Fixed use (litres/person/day) (3)	Litres/person/day = [(1) x (2)] + (3) (4)
WC (single flush)	Flush Volume (litres)		4.42	0.00	0
WC (dual flush)	Full flush Volume (litres)	5	1.46	0.00	7.30
	Part flush Volume (litres)	3	2.96	0.00	8.88
WC (multiple fittings)	Average effective flushing volume (litres)		4.42	0.00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	6.00	1.58	1.58	11.06
Bath (where shower also present)	Capacity to overflow(litres)		0.11	0.00	0
Shower (where bath also present)	Flow Rate(litres / minute)		4.37	0.00	0
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)	8.00	5.60	0.00	44.80
Kitchen/Utility room sink taps	Flow rate (litres/minute)	10.00	0.44	10.36	14.76
Washing Machine	(litres/kg dry load)	8.17	2.1	0.00	17.157
Dishwasher	(litres/place setting)	1.25	3.6	0.00	4.5
Waste disposal unit	(litres/use)	□ Present	3.08	0.00	0
Water Softener	(litres/person/day)		1.00	0.00	0
(5)	Total Calculated use (litres/person/day) =SUM(column 4)				108.46
(6)	Contribution from greywaster (litres/person/day)				0
(7)	Contribution from rainwater (litres/person/day)				0
(8)	Normalisation factor				0.91
(9)	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)				98.70
(10)	External water use				0.0
(11)	Total water consumption (Building Regulation 17.K) = (9)+(10)(litres/person/day)				103.7

## **Multiple occupancy dwellings (flats and apartments)**

Q. How do I calculate the water efficiency of multiple dwellings of different types?

A separate calculation will be required for each dwelling type. If say, in an apartment block, all dwellings are of the same type, build and specification, only one submission would be required. (See [UUW instruction guide – Step 13.](#))

## **Occupancy Rates**

### **Q. Why does the water calculator not ask for the occupancy of the dwelling?**

The water calculator uses usage factors to calculate consumption per person using the average/weighted average consumption of each appliance. The number of occupants is therefore not needed, as the water use does not depend on the occupancy or number of appliances in the dwelling, only on their efficiency. For example, a usage factor of 4.42 is applied to a single flush toilet, meaning that, no matter how many toilets are in a property, it is expected that each person in a property will flush a toilet 4.42 times a day on average. This is then multiplied by the average water usage of toilets in that property to give the contribution of toilets to the total water consumption per person.

## **Where can I find the information needed for the calculation?**

Q. Where can I find information on fittings in order to complete the water efficiency calculation?

Information can be found from manufacturers. Most information will be available on the appliance packaging. If it is not available, we recommend you contact the manufacturer. Details of the information required for the calculation can be found in Approved Document G of the Building Regulations. Note that the calculation should be based upon the data for the fittings actually installed. You will be required to submit appropriate manufacturer's evidence (e.g. datasheets), with your submission to United Utilities.

## Appliance specific

Q. If I have a shower over bath, fed by a single tap, do I count it as a bath or a shower?

You need to include both the bath and the shower in the calculation by including the bath in the 'Baths' tab, and the shower in the 'Showers' tab.

Q. My shower has multiple water outlets that could be run simultaneously. How can I enter this into the calculator?

The multiple outlets should be entered as individual showers in the 'Showers' tab, with the appropriate flow rate and quantity. Each will be assigned the appropriate usage factor by the calculator.

Q. I have multiple showers in my property with different flow rates. However, the total shower water use is higher than I expected. Why is this?

The calculator includes a rule to ensure that a high flowrate shower is not being offset by a low flowrate shower which is much less likely to be used by taking the larger value of the average shower flowrate or 0.7 times the highest shower flowrate.

Q. How do I carry out a water softener calculation?

The Water Calculator looks at the water consumed per regeneration cycle that is beyond a level of good practice. The good practice level has been determined at a level of water consumption as a percentage of the water softener's total capacity which is set at 4%.

The 'H2O softeners' tab should not be completed if the consumption as a percentage of the softener's total capacity is less than 4%. This is in accordance with Section 2.6 of the calculation methodology document which states:

*"The figure entered into the calculator is the volume of water consumed beyond this level of good practice to promote the use of more efficient water softeners.*

*Where the water softener achieves a percentage that is equal to, or lower than this good practice benchmark figure, zero can be entered into Table 1 of the calculator for water softeners"*

If the water consumed per regeneration is greater than 4%, enter the water consumed per regeneration into row (b), the average number of regeneration cycles per day into row (c), and the number of occupants served by the system into row (d). The number of occupants should be based on two occupants in the master bedroom and one occupant per additional bedroom. Once rows (a) to (d) are populated, press 'Calculate' to calculate the volume of water consumed beyond the 4% regeneration threshold.

Q. How do I include bidets in the calculations?

Bidets are excluded from the water efficiency calculator for new dwellings due to their minimal water consumption.

Q. Dishwashers/washing machines are not being installed at the properties. Why is usage allocated for 'Dishwashers' and/or 'Washing Machines'?

The calculation methodology includes a usage allowance for one dishwasher and one washing machine, regardless of whether or not the developer intends to install one, in accordance with Part G of the Building Control Regulations. If the developer intends to install the appliance, the water use can be modified in accordance with the appliance chosen. Otherwise, a default typical value is used to represent the water required for washing dishes and clothes by hand.

Q. Do I include bath taps when filling in the 'Taps (Other)' tab?

No, bath taps are assumed only to be used for the purposes of filling the bath. This water consumption is calculated in the 'Baths' tab.

Q. Some showers in the property are over baths, while others are not. How do I report this?

Enter the number of baths in the 'Baths' tab, and click the 'Are there showers present?' box. On the 'Showers' tab, the 'Are there Baths Present?' box will now be ticked. Enter all the showers into the 'Showers' tab, including those over baths. The calculator will split the showers as stand-alone and over bath according to the number of baths entered in the 'Baths' tab.

Q. When entering tap information, do I enter the number of taps, or the number of basins (e.g. do separate hot and cold taps count as two taps)?

Enter the total number of taps, not the number of basins.

## Rainwater harvesting

### Q. How do I carry out the rainwater harvesting calculation?

First complete the calculations for the water using products (e.g. taps, WCs). Using the published methodology, enter data for your selected rainwater harvesting system into Table 5.1. Use the calculation from Table 5.1 to complete Table 5.2. This gives you a value for “Rainwater Collected (a)” in the electronic calculation. Then:

- If all toilets are to be supplied by rainwater, use the WC water usage (total litres/person/day for all types of toilets) from the 'water calculator' tab in the electronic calculation to provide a value for “Rainwater demand (b)”;
- If all washing machines are to be supplied by rainwater, add the washing water usage (total litres/person/day for washing machine) from the 'water calculator' tab to the WC water usage to provide a value for “Rainwater demand (b)”.
- If not all toilets and/or washing machines are to be supplied by rainwater, use Tables 5.3 to 5.5 of the published methodology to give you a value for (b).

The value (c) will be calculated automatically. There is no need to press the 'Calculate' button.

## Reviewing or saving the results of the calculation

Q. I have entered all the appliances for my property. How do I view the results of the calculations?

As you fill in all the individual appliance tabs and press 'Calculate' the relevant information is transferred back to the 'Water Calculator' tab. Clicking back to the 'Water Calculator' allows the results to be viewed.

Q. How do I save the results of my calculation?

There is no facility to save the inputs into the calculator. However, after entering the details of all your appliances on the relevant tabs, and returning to the 'Water Calculator' tab, the results of the calculation can be seen. A drop down box will appear saying 'click here to fill in details before printing' where you can enter appliance make/model information. There is then a 'print' icon that will create document you can print a hard copy of the results, or print them to PDF. This can then be sent with your building notice to the building control body.

Installation Type	Unit of Measure	Capacity/Flow rate (1)	Use Factor (2)	Fixed use (litres/person/day) (3)	Litres/person/day = [(1)×(2)] + (3) (4)
WC (single flush)	Flush Volume (litres)	4.50	4.42	0.00	19.89
WC (dual flush)	Full flush Volume (litres)		1.46	0.00	0
	Part flush Volume (litres)		2.96	0.00	0
WC (multiple fittings)	Average effective flushing Volume (litres)		4.42	0.00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	10.00	1.58	1.58	17.38
Bath (where shower also present)	Capacity to overflow(litres)	60.00	0.11	0.00	6.60
Showe r (where bath also present)	Flow Rate(litres / minute)		4.37	0.00	0
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Showe r Only	Flow Rate (litres/minute)		5.60	0.00	0
Kitchen/utility room sink taps	Flow rate (litres/minute)	10.00	0.44	10.36	14.76
Washing Machine	(litres/kg dry load)	8.17	2.1	0.00	17.157
Dishwasher	(litres/place setting)	1.25	3.6	0.00	4.5
Waste disposal unit	(litres/use)	<input type="checkbox"/> Present	3.08	0.00	0
Water Softener	(litres/person/day)		1.00	0.00	0
(5)	Total Calculated use (litres/person/day) =SUM(column 4)				80.29
(6)	Contribution from greywater (litres/person/day)				0
(7)	Contribution from rainwater (litres/person/day)				0
(8)	Normalisation factor				0.91
(9)	Total water consumption (Code for Sustainable Homes) ([(5)-(6)-(7)]×(8)) (litres/person/day)				73.06
(10)	External water use				5.0
(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)				78.1

Q. After filling in the water use calculator, I am asked to supply information on the type of installation. What needs to be entered here?

These boxes allow you to enter the make and model of each of the products that you intend to install. This gives the building control the option to check the published specifications to ensure they match the information that has been included in the calculations. In addition, your submission will need to provide supporting evidence (e.g. manufacturing data sheets) for monitoring and audit purposes.

Q. I have entered appliance information into a tab, but this information has not passed through to the ‘Water Calculator’ tab. What have I done wrong?

You must press the ‘Calculate’ button after filling in each tab to transfer the results through to the ‘Water Calculator’ tab.

## **Submitting my calculation**

Q. How do I enter the property details into the calculator?

At the bottom of the drop down appliance type box, which appears when you select 'print' there is space to provide reference to the property address.

On submission to your Building Control / Inspector, the results of the calculation could be supplemented with a covering note that includes the property details.

## **Outdoor water use**

Q. This development does not have a garden/outdoor area. Why is 5litres/person/day allocated for ‘External water use’?

The calculation methodology includes a fixed outdoor use allowance, regardless of the presence of garden / outdoor area, in accordance with Part G of the Building Regulations. Outdoor use allowance covers all water used outside the property, and not just ‘garden watering’. For example, it could be for window boxes, or cleaning a car or bike. It is not possible to waive this, regardless of the type of premise. The methodology applied must be in accordance with Part G of the Building Regulations to qualify.

The purpose of the calculation methodology is not to predict water consumption, but rather to drive down overall consumption by encouraging efficient appliances and devices to be installed in homes.