



## Guidelines for Applicants

This is one of a series of guidelines to help applicants to the Smart Approved WaterMark, Australia's label for products and services that save water. Applications to the Smart WaterMark are assessed by an Independent Technical Expert Panel against the following four criteria:

1. **Water Saving** - The primary purpose of the product is directly related to reducing actual water use where there is a direct correlation between the use of the product and water savings.
2. **Fitness for Purpose** - Supporting documentation (such as instructions and marketing material) helps ensure that users get the best water savings/efficiency from the product.
3. **Meeting Regulations and Standards** - The product is of high quality and meets industry standards, and customer and community expectations.
4. **Environmentally Sustainable** - The product, while satisfying the above three criteria, is environmentally sustainable, and that in making water savings the product will not adversely impact on the environment in other areas.

The Expert Panel needs verifiable independent evidence that the product achieves the water savings claimed in the application (i.e. through independent testing, case studies or comparative reports). Please note, unsubstantiated marketing claims are not regarded as evidence of water saving.

The Smart WaterMark stakeholder web site has further information on the application process including timetables, fees and online application forms at: [www.smartwatermark.info](http://www.smartwatermark.info)

If you have any questions about these guidelines or your application please contact the Smart WaterMark national office. Email: [info@smartwatermark.info](mailto:info@smartwatermark.info) Landline: +61 (0) 2 9223 3322

## Guideline 7. Commercial Glasswashers

Commercial glasswashers range in their water use from over 10L to less than 3L per cycle. On-site testing commissioned by Sydney Water has identified that water savings of over 50kL per annum can be made by replacing an older 'wash and dump' type glasswasher with a more efficient 'recirculating' type. This amounts to over \$1,000 per annum savings per unit in water, energy and chemical costs.

The Smart WaterMark label will be used to identify and promote more efficient machines. The following attributes have been set to identify water efficient commercial glasswashers: i) a rack size of 14" by 17"; and ii) a maximum use of 3L of water used per cycle while still maintaining satisfactory cleanliness and sanitation. Manufacturers applying to use the Smart WaterMark label to identify efficient glasswasher models will need to provide evidence that their nominated model(s) meets this minimum efficiency.

Smart Approved WaterMark is Australia's labelling program for products and services which are helping to reduce water use. The Smart WaterMark is run by the Water Services Association of Australia, Irrigation Australia, the Nursery and Garden Industry Australia and the Australian Water Association with funding from the Australian Government's Water Smart Australia programme through the Department of Sustainability, Environment, Water, Population and Communities.

In-situ testing has shown water use per cycle can vary significantly depending upon site water pressure. The testing procedure below shows how to establish glasswasher water consumption against a range of pressures (150 kPa to 600kPa).

### **Smart WaterMark Testing Procedure**

The purpose of the testing procedure is to establish glasswasher water consumption over a pressure range to develop a 'Baseline' Curve

#### **Testing Apparatus Components**

- A volumetric rotary piston positive displacement type water meter with high resolution pulse output (120 pulses per litre) and suitable for measurement of water up to 90°C.
- High accuracy digital manometer with digital display and time-stamped data logging function capable of recording the measured pressure at 1-second intervals.
- Digital pulse data logger capable of time-stamped recording of pulse output from the water meter at 1-second intervals.
- Adjustable Pressure Reducing Valve (PRV) with pressure range of ~100 – 600 kPa.

#### **Testing Procedure**

1. Assemble testing apparatus in accordance with Australian Technical Specification (ATS) 4747.
2. Using suitable fittings connect testing apparatus inline with the water supply to the glasswasher.
3. Set the digital pulse data logger and digital manometer to record pulse output / measured pressure value at 1-second intervals.
4. Switch on the glasswasher.
5. Record register value displayed on the water meter.
6. Set PRV to the lowest pressure setting possible (~100 kPa).
7. Activate the initial 'start-up' cycle of the glasswasher. The 'start-up' cycle includes priming the supply line to the glasswasher and filling of the wash tank filling. Disregard data from this cycle.
8. Use manometer display to set PRV to 150 kPa.
9. Wait for pressure in the supply line to stabilise, adjust PRV if necessary
10. Activate a standard cycle of the glasswasher. This represents 'test cycle one at 150 kPa'.
11. Wait for pressure in the supply line to stabilise, read manometer display to ensure pressure is being held at 150 kPa (adjust PRV if necessary).
12. Repeat steps 10 and 11 twice. These two cycles represent 'test cycles two and three at 150 kPa'.
13. Perform 3 cycles for each pressure setting. Allow pressure to stabilise between cycles and use the digital display of the manometer to ensure desired pressure is being maintained adjusting PRV if necessary. Testing to be carried out over 50 kPa increments up to either the site pressure or the highest available setting on the PRV (typically 600 kPa).
14. The recorded data (water consumption and supply pressure) can then be used to plot the required Water Consumption (L/Cycle) versus Pressure (kPa) 'Baseline' curve.
15. Record register value displayed on the water meter.
16. Verify the accuracy of the water meter by calculating the difference between the volume recorded by the data logger against the volume recorded on the meter register. The difference should be <2.5%.