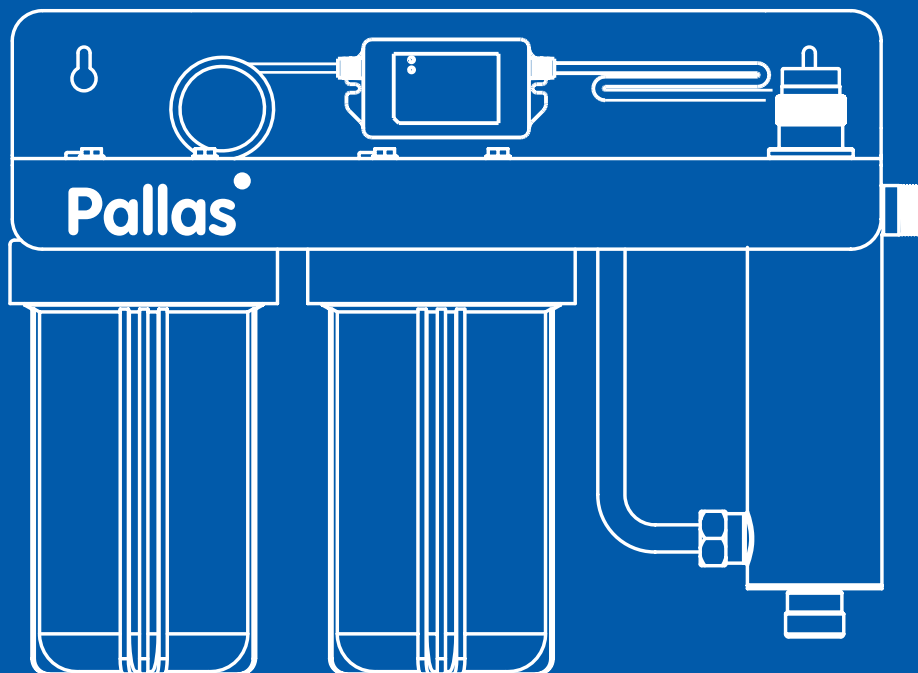


PERFORMANCE VALIDATION REPORT

Pallas Home UV



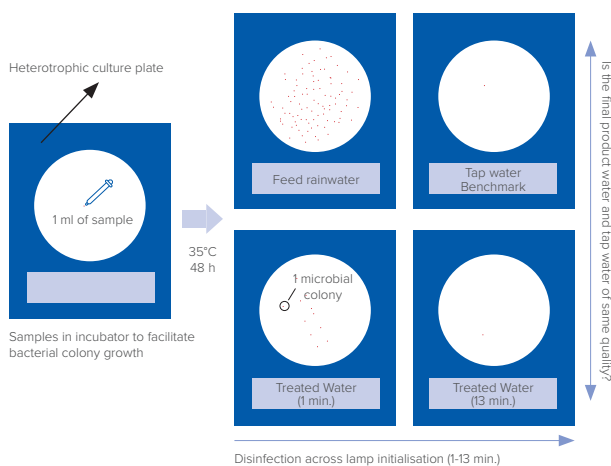
The Pallas Home UV residential water treatment unit, featuring a higher-power UV lamp, offers promising potential for effective disinfection at higher flow rates, making it an attractive option for treating and disinfecting rainwater and borehole water. With a maximum flow rate of 57 LPM the Pallas Home UV could represent a marked improvement over standard systems.

The Pallas Home UV system was evaluated to validate its performance (see Table 1 for unit specifications). The evaluation focused on two main questions:

1. Can the Pallas Home UV maintain effective disinfection even at its maximum flow rate?
2. How quickly does the UV lamp reach its full potential in each unit?

Disinfection efficiency was assessed through heterotrophic plate count (HPC) tests on inlet rainwater, disinfected samples, and tap water to determine if **the Pallas Home UV** provides comparable disinfection (water quality comparable to disinfected tap water) performance at higher flow rates to the market standard.

Test Methodology and system specification

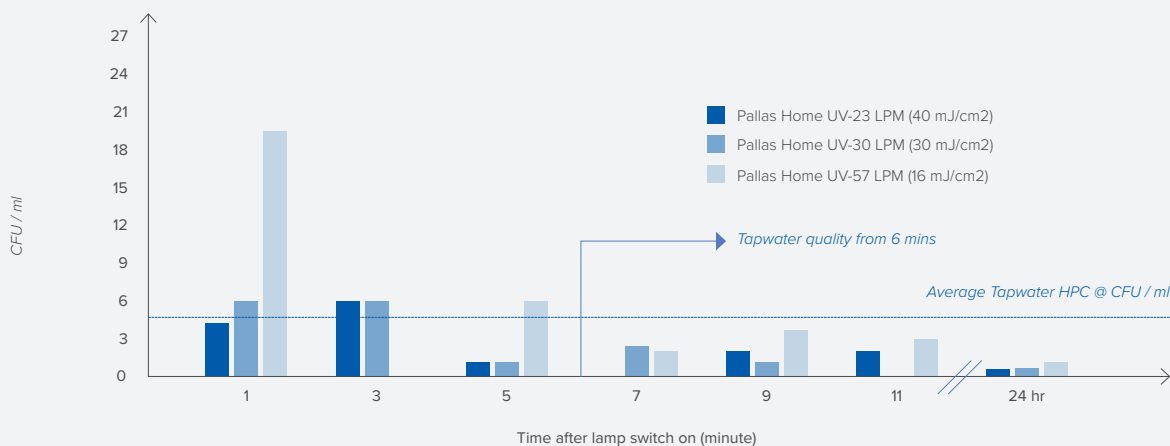


Specification of the systems investigated

Pallas Home UV	
Lamp Power	33W
Prefiltration Stage 1	5µ Sediment Filter
Prefiltration Stage 2	Activated Carbon
Flowrate @ 40 mJ/cm ²	23 LPM
Flowrate @ 30 mJ/cm ²	30 LPM
Flowrate @ 16 mJ/cm ²	57 LPM (max. flow)

Results

The primary objective of this evaluation was to assess the disinfection performance of the Pallas Home UV system at flow rates exceeding the current market standards. The findings confirm that the system delivers consistent and efficient disinfection across a range of dosages and flow rates. At dosages of 40 and 30 mJ/cm², the 33W UV lamp ensured safe water within five minutes of operation. Even at the lowest dosage and higher flow rates, tap water quality (3.5 CFU/mL) was consistently achieved within seven minutes of lamp activation. At the maximum flow rate of 57 LPM and the lowest dosage of 16 mJ/cm², the system was tested continuously over extended durations (24, 36, and 192 hours). It consistently delivered water of quality comparable to tap water. These results indicate that the **Pallas Home UV system** is a reliable and effective solution for disinfecting rainwater and borehole water, offering performance that meets or exceeds flow rate requirements typical in the market.



Feed water contained 75-110 CFU/mL.