

TOWARD A HEALTHIER, GREENER FUTURE:
A SPECIFIER'S GUIDE
TO SUSTAINABLE WATER
FILTRATION SYSTEMS



INTRODUCTION

As consumers and the construction industry become increasingly environmentally aware, architects and designers are seeking solutions that contribute to healthy home and office environments without costing the earth. Balancing health and environmental concerns extends to water filtration systems, which play a vital role in ensuring user health and happiness, and are growing in popularity: according to reports by the Australian Bureau of Statistics, over 32% of Australian households use some form of drinking water filtration.ⁱ

In part, the shift toward alternative sources of reliably clean, fresh-tasting water is precipitated by concerns surrounding the cost and environmental impact of bottled water. The Australian Museum estimates that the cost of tap water is 1 cent per litre, compared with the average \$2.53 per litre cost of bottled water.ⁱⁱ In light of this, water filtration devices have become an economical and sustainable solution for workplaces wishing to provide their staff with clean, fresh water.

The main performance criteria for water filtration products are that they provide clean, fresh drinking water and have robust environmental credentials. However, the sheer quantity and variety of water filtration products on the market makes choosing a solution a complex question. In this whitepaper, we streamline the specification process by setting forth the key considerations that must be taken into account to ensure selection of the most sustainable, appropriate water filtration system.



ENERGY EFFICIENCY

According to The Telegraph Newspaper, water units that supply boiling, filtered hot water are far more efficient than kettles, requiring 0.40 kilowatt hours (kWh) of energy to heat the same amount of water for which a kettle requires 0.42kWh to heat.ⁱⁱⁱ This saving may seem marginal, but becomes significant when it is scaled up in offices and commercial spaces, where taps are subject to heavy use throughout the day.

However, not all filtered water appliances are created equal. To keep water at the optimum temperature (either chilled or boiling), filtration devices store water in a thermally insulated tank beneath the sink unit. Proper insulation is crucial, with well-insulated tanks requiring less energy to keep water at the correct temperature.

As such, it is critical to select a water filtration device whose tank is properly insulated. Water filtration devices generate waste heat energy in the process of chilling water. In most cases, this heat is simply emitted by the device and goes to waste. However, advanced filtration devices now use heat exchange technology to recapture waste heat energy and redirect it to the device's water boiling system.

Technology is also evolving in other ways. Generally speaking, new models from reputable brands incorporate innovative, highly efficient motors and standby modes that allow for heating and cooling functions to be paused when the filtration device is not in use.



COMPLIANCE WITH GREEN BUILDING STANDARDS

As environmental consciousness continues to grow throughout the construction industry, the popularity of Green Building Design (GBD) is on the rise. GBD is a broad term that describes a sustainable approach to design with three key features^{iv}:

- Seeking to significantly reduce or eliminate negative impacts on the environment and its occupants through design, construction, and operational practices
- Promotion of efficiency by streamlining construction and ongoing operational costs
- Encouragement of effective resource use and the creation of healthier environments for living and working

GBD has now become a major part of mainstream contemporary design, with many briefs across all sectors – including commercial and residential – striving toward meeting green building standards.

Instant boiling and chilled filtered water systems can help meet GBD objectives not only by offering the energy savings outlined above, but also by helping reduce waste and encouraging effective resource use. Filtered water systems encourage occupants to prepare their own hot beverages where they may otherwise purchase coffee or tea in a disposal cup, and prompt them to drink tap water instead of purchasing bottled water.

In evaluating whether instant boiling and chilled filtered water systems meet the other GBD criteria, specifiers must consider the environmental impact of the filtration device itself. Where possible, devices that contain recycled content and can be (wholly or partially) recycled following completion of their useful life should be specified. Water filtration devices should also be fabricated from durable, long-lasting materials that ensure an extended performance life. It is also recommended that specifiers choose models with standby and timer modes, as these can significantly reduce the operational costs and energy burdens of a water filtration device.



INDEPENDENT CERTIFICATION

Though the movement toward sustainable design and GBD has had overwhelmingly positive results, it has also prompted some unintended side effects. As Professor Charles Hostovsky of Brock University writes, the sustainability movement in design has led to a boom in greenwashing, or the tendency for manufacturers to inflate the environmental performance of their product.^v Many products are now marketed using the terms “sustainable” or “ecofriendly”, without any information to verify or back up these claims.

In light of this, designers and specifiers must be critical of environmental credentials claimed by the manufacturers themselves, and instead look for certification by independent, established third parties. The most reputable independent

certifications relevant to water filtration devices are:

- **Global GreenTag**, a stringent ecolabelling scheme that is recognised in Australia, New Zealand, South Africa, and 70 other countries.
- **WaterMark**, a mandatory certification scheme administered by the Australian Building Codes Board (ABCB) that ensures fitness for purpose in Australian plumbing and drainage installations.
- **WRAS**, or certification in accordance with the UK Water Regulations Advisory Scheme. Certification is only granted to products that are deemed suitable for use with drinking water sources.



BILLI

For more than 25 years, Billi has provided the markets with high performance water filtration solutions for healthy, sustainable work and living spaces. Billi's reputation for quality and reliability is gaining ground around the world, and the company has expanded into markets in Hong Kong, Singapore, and the UK.

Pairing state of the art Australian manufacturing with strong research and development capabilities, Billi is constantly innovating and expanding their diverse catalogue of stylish, high performance filtration devices.

All Billi operations are grounded in a strong, future-oriented sustainability focus. Billi has been GreenTag certified since 2014, and has since continued to hone its progressive, innovative approach to green design. Billi is also the only manufacturer in its category to achieve GreenTag certification.

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THE BILLI X SERIES

Designed to meet the water filtration needs of the dynamic contemporary office, the Billi X Series dispenser range proves that performance and efficiency need not come at the expense of style. Chic, sleek, and sophisticated, the streamlined range of dispensers is the ideal solution for any commercial space where amenity, health, and safety are key priorities.

The **XL Levered Dispenser** is the conventional lever operated instant boiling and chilled filtered water dispenser. Water flow is controlled by two position-sensitive levers, which can be specified in a range of finishes that includes chrome, matte black, matte white, and many more.

The XL Levered Dispenser can also be specified in a large range of finishes, with coloured levers offering an alternative solution for visibility where LED indicators cannot be seen. Braille pads are also available for enhanced accessibility.

The **X Touch Dispenser** features a touch-sensitive top operating panel inset into a sleek, compact dispenser body.

Users can simply touch the panel to activate the tap, whose streamlined body is ideal for maintaining a sophisticated and clean kitchen aesthetic. In keeping with Billi's commitment to functionality and safety for all users, the **XR Remote Dispenser** and **Safety Dispenser** offer safe, convenient alternative modes of activation.

The remote dispenser allows the operational panel to be located at a distance from the tap, where it can be positioned to meet exact design or accessibility requirements. Similarly, the Safety Dispenser is designed for high-risk environments such as correctional centres and mental health facilities, and allows remote activation of the dispenser's chilled and boiling and chilled water functions.

All Billi products and systems are manufactured under a stringent, certified quality control system and are backed by a 24-month warranty. Billi systems are certified to comply with the requirements of AS/NZS 4020, AS1428 Accessibility Design, and ISO 9001.

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