

A SPECIFIER'S GUIDE TO DESIGNING FOR SMALL SPACES



INTRODUCTION

As rapid urban development continues across Australia, one clear trend is emerging: the spaces in which we live and work are shrinking. This is attributable to myriad reasons including increasingly competitive property markets, a growing population and the shortage of space in CBDs and many suburbs. As a consequence, specifying architects and designers are faced with the unique challenge of delivering high performance, fit-for-purpose design in smaller than ever building envelopes, often regardless of the sector that they are operating within.

The effects of this challenge are not all negative. Space limitations and their associated difficulties can be overcome through a combination of efficient design and smart product specification. Often, new modes of living and working are conceived as

an outcome of challenging accepted or traditional forms of architectural realisation. When engaging with these design challenges holistically and throughout all parts of a project, the potential exists to produce spaces that are more effective and resourceful than those without the foregoing constraints.

In this whitepaper, we take a closer look at how best practice for efficient design and specification may be implemented in residential and commercial kitchens, where equipment and functionality requirements add further complications. We explore the options for designers working within small spaces and present a number of innovative solutions that deliver functionality within a compact unit, without compromising on sustainability or aesthetics.





SHRINKING SPACE: A TREND TOWARDS COMPACT FOOTPRINTS

In November 2018, CommSec reported that the average size of Australian homes and apartments had fallen to a 22-year low; according to data commissioned by the organisation from the Australian Bureau of Statistics, the footprint of today's average new home is just 186.3m².¹ Only three quarters of the Australian population live in detached houses, with 12.7 per cent occupying detached, row or terrace houses, or townhouses, and 13.1 per cent opting for apartment living – a figure representing more Australians than ever before.^{2,3} It is fair to say that the average living space has contracted significantly, and will likely continue to shrink in line with the increasing densification of our urban environments.

This tendency is mirrored in the commercial sector, where soaring rental rates and the rising numbers of smaller, more agile companies have contributed to a trend of subdividing commercial

floorplates into smaller tenancies. The average rent for prime grade office space in Sydney is close to \$1500/m² per year, while in Melbourne rent for a similar space is close to \$700/m² per year.⁴ Many workplaces are recognising the financial advantages of a smaller space, along with the creative boost that can often be achieved in shared workspaces.

The spatial contraction in both of these sectors has come about as a result of many factors – the aforementioned increasing densification of our urban environments amongst them,⁵ in addition to a particular shortage of commercial property stock,⁶ and prolonged delivery periods for new developments.⁷ With these factors likely to continue into the foreseeable future, it is critical that designers learn how to tackle the particular issues entailed in designing for small spaces.

DESIGN SOLUTIONS FOR SMALL SPACES

Embrace Multifunctionality

Since 1926, when Margarete Schütte-Lihotzky unveiled the prototypical Frankfurt Kitchen, kitchens have been designed with ergonomics in mind. Spatial efficiency is key to the practicality of a kitchen. While the focus for Schütte-Lihotzky's design lay in minimising the amount of time needed to complete tasks, the understanding of efficiency has expanded with contemporary application to include the overall demand for space.

Embracing multifunctionality is particularly critical, especially in commercial or galley kitchens where spatial inefficiency in the kitchen means less space for diners, and where the time spent moving between poorly designed stations can rapidly add up over the course of an evening.

Furthermore, in residential environments, where the kitchen is often referred to as the 'hearth of the home', there is potential for doubling up on spatial programming. The kitchen has a tendency to become the de facto dining room when space is compact, and this can be embraced and tweaked to a client's needs without sacrificing efficiency at any scale.

In both environments, flexibility in functionality can and should be embedded into both the layout of the space itself and the specification of the fixtures and fittings within. A streamlined plan may allow for multiple furnishing options, e.g. stools, chairs and/or a kitchen island that doubles as a dining surface, and rearrangement further down the track. Designers and specifiers should consider how the layout might allow an easier transition between different cooking tasks as well as between cooking and dining functions. When it comes to specifying fixtures and fittings, products that combine functionality and make efficient use of space are ideal. For instance,

when considering water provision, specifying a compact under-bench unit can provide instantly chilled and boiling filtered water – eliminating the need for separate water coolers, water filters and kettles, as well as space in the fridge, whilst minimising bulky appliances and fittings on the bench top. Uniquely, a water-cooled solution goes one step further and entirely eliminates the need for clear ventilation voids, a common issue when allocating space for similar items such as refrigerators. Space can be saved both above and below the bench top, packing more functionality into less total area.

Consolidate Services

Designers and specifiers should bear in mind that appliances and fixtures require additional services to integrate successfully into a kitchen design. Filtered water appliances are plumbed in, but allow for greater efficiency by merging several separate services into one hygienic fixture instead of having a kettle and separate filtered water unit. By consolidating these necessary yet typically disparate functions into an under-bench appliance occupying only a small footprint, space may be freed up elsewhere.

Keep it Minimal

A small footprint means that only the essentials should be included, both functionally and aesthetically. Best practice in this regard means avoiding large, clunky appliances wherever possible and eliminating unnecessary ornamentation that may limit the overall amount of usable space. A minimalist aesthetic also lends a compact footprint the illusion of more space by eliminating the cluttered feel that can plague some overdesigned small spaces. This also supports practicality by maximising functional bench space, a critical factor in kitchens. Designers and specifiers should aim to conceal necessary services such as electrics and tanks/chillers beneath the counter or within cupboards.

SMART SPECIFICATION

In tandem with the above, designers and specifiers working with small spaces should be mindful that the products they specify must meet other considerations beyond spatial efficiency. Priority should ideally be placed on products that deliver a certain standard of longevity and performance across their lifespan. They should also be capable of quick and easy installation within a small space, eliminating the need to retrofit the cabinetry in which they are contained and subsequently allowing easy access for any necessary maintenance and repairs. The energy efficiency and sustainability credentials of any chosen solution should also be considered as an important ethical factor outside of spatial demands.

When considering under-bench water systems, the difference between air- and water-cooled units is critical. The former requires about 10 per cent of its total size (potentially in addition to venting infrastructure such as ducting trays or the like) as additional tolerance around the module. This can easily translate to a 35 per cent comparative reduction in usable space under the bench for storage, bins or other appliances when compared to a water-cooled system in the same capacity range. The wrong choice can be unsightly and potentially very costly, requiring ventilation out of the cabinet and increasing the risk of improper installation, as advised by Section 8.3 in AS/NZS 3500.1. Non-compliant installation may lead to additional issues later down the line, in addition to voiding any product warranty.





BILLI

Since 1989, Billi has been a pioneering force in the global market for instant boiling and chilled water systems. Recognising the potential to improve spatial efficiency in such systems, the Australian brand launched the world's first under-bench boiling and chilled filtered water system in 1993; they were presented with the Australian Design of the Year Award in 1995 for their innovative work.

Today, Billi has earned a reputation for leadership not only in product innovation but also for their sustainability credentials: the flagship product range is Global GreenTag certified to a Gold level, meaning that it meets some of the highest possible international standards for environmental performance and Life Cycle Assessment criteria.

The company is driven by a strong understanding of the unique demands of contemporary design, including designing for small spaces, and is well equipped to meet these with their wide range of instant boiling and chilled water systems. Located under-bench and featuring the smallest available unit footprint, Billi Eco is the most space efficient instant boiling and chilled

water system currently available on the market. Recommended to cater for up to 10 people in a small office environment or the needs of the modern family, the Billi Eco system can deliver up to 90 cups of boiling water per hour and 60 cups of chilled water, all whilst taking up no above-bench space beyond that of a standard piece of tapware.

Billi Eco is available in several dispenser options including the classic XL Levered Dispenser, the innovative XT Touch Dispenser that features a top operating panel, and the Access flexible XR Remote Dispenser. The latter offers an operation panel that can be installed to enhance or limit access, ensuring safe and convenient operation of the underbench system. All three feature streamlined, unobtrusive designs and, with the XT Touch and XL Levered Dispensers also being available in a range of contemporary finishes, are guaranteed to suit a variety of design aesthetics.

For more information, get in touch with Billi via the link below.
<https://www.billi.com.au/>

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