

# MADE TO ORDER: THE BENEFITS OF CUSTOM KITCHEN DESIGN





## INTRODUCTION

In Australia, the average size of residential homes is diminishing. In a 2018 CommSec report, it was found that the average size of an Australian home is at a 22-year low.<sup>1</sup> The average new home is 186.3 square meters, which is 1.6% smaller than the previous year and the smallest since 1996.<sup>2</sup> This is reflected in average apartment sizes – the average studio apartment is down to 38 square meters; one bedroom apartments are 50 square meters; and three bedroom apartments are starting at approximately 100 square meters.<sup>3</sup>

Shrinking living spaces reflect changes in modern lifestyles, which in turn has impacted residential design trends and preferences. As living spaces get smaller, designers and specifiers must identify innovative solutions that balance aesthetics, functionality and performance while keeping footprints minimal. This is especially

challenging for kitchens, which require functional layouts that address a range of practical design concerns such as bench space, the installation and operation of kitchen appliances, access to water and electricity, and cabinet storage. Against this backdrop, the emerging popularity of custom kitchen design provides an opportunity to create optimised spaces specially tailored to the needs of today's users.

In this whitepaper, we provide designers and specifiers with an overview of the key considerations when designing a contemporary residential kitchen, highlighting the benefits of custom kitchen design in relation to space efficiency, functionality and design flexibility. We also present a range of custom tapware and filtered water systems that enable a broad range of design possibilities.

# RESIDENTIAL KITCHEN DESIGN: KEY CONSIDERATIONS

Kitchen spaces present a complex design challenge as they must balance functionality and aesthetics, while delivering comfort, efficiency and ergonomics. Below are some of the key considerations when designing and specifying for modern kitchens.

## Australian Building Standards and Regulations

The *National Construction Code* (NCC) provides the performance requirements for all new building work in Australia. The NCC works in conjunction with the Australian Standards, which set the minimum standards for the quality, safety and performance of building products and systems to ensure they perform as required for the intended application. Several Australian Standards are relevant to kitchen design, for example *AS/NZS 4386.1:1996 Domestic kitchen assemblies – Part 1: Kitchen units*; *AS 1351.1:1974 Spaces in dwellings (metric units) – Kitchens*; and various other standards relating to plumbing, tapware and accessibility.

Reference should also be made to design guidelines and handbooks issued by various government and industry bodies. This includes the *Livable Housing Design Guidelines* (LHDG), which includes a set of design principles for enhancing livability in the home and includes requirements for residential kitchens.<sup>4</sup> Standards Australia also publishes the *HB111 – 1998 The Domestic Kitchen Handbook*, a guide for property owners to developing a brief for a new kitchen.

## Functionality and Performance

Kitchens should be designed with functionality suited to the occupant's lifestyle. This means selecting kitchen products that are fit for purpose and meet Australian standards for quality and performance. The position of appliances in relation to other kitchen elements and lighting is important to ensure they can be operated comfortably and safely.

A functioning kitchen requires appliances, fittings and other elements which can be easily maintained to deliver long-lasting performance. Heavily-used elements such as countertops, tapware and appliances should be carefully specified with this in mind. For example, countertops are available in a variety of materials and finishes, each with specific cleaning and maintenance requirements, such as annual re-sealing. Some tapware solutions may include crevices that gather dirt and bacteria or finishes that are easily marked. High quality appliances from suppliers who offer reliable repair services and warranties should be preferred.

## Space Requirements

Providing adequate work space is a key requirement in kitchen design. Designers should note the concept of the “kitchen work triangle”, referring to the stove, sink and refrigerator, which are the mostly commonly used features of a kitchen.<sup>5</sup> Complete, unrestricted movement between these three areas is a widely-accepted feature of good kitchen design.<sup>6</sup>

The LHDG provides some guidance in relation to bench space specification noting that, “[c]lear space between benches makes it easier and safer to use the kitchen space and appliances.”<sup>7</sup> Under the LHDG, a minimum 1550mm clear width in front of fixed benches and appliances (excluding handles) and, where appliances are not installed, a recessed area provision for an appliance that is a minimum of 600mm in depth are required to achieve a Platinum design rating.<sup>8</sup>

## Cabinets and Storage

Cabinet sizes generally fall within a range of standard dimensions across Australia, but modifications may be required to suit individual kitchen requirements.<sup>9</sup> Space considerations and ergonomics must be considered, particularly whether the height and depth of cabinetry and other kitchen elements enable a comfortable work space.

Cabinet design may also need to accommodate underbench elements like filtered water systems, dishwashers and large undermount sinks. Cabinets may also need to provide space for ventilation grilles and significant ventilation accessories such as venting trays and kickboard grilles, which require careful design and installation so as to mitigating the risk of voiding warranties.

## Aesthetics

Good kitchen design will balance practicality and aesthetics. Accordingly, the desired aesthetic will have an impact on the specification process. For example, contemporary styles require cleaner finishes and minimalist colour schemes. When specifying appliances and tapware, designers and specifiers should consider products that offer a range of finishes and profiles.

## Kitchen Design Trends

Lack of overall work space and poorly-positioned benchtops continue to be an enduring problem in contemporary kitchens. A common theme in modern kitchen design is a focus on solutions for increasing bench space, particularly features that optimise space usage and minimise clutter. This is consistent with modern lifestyle demands and the need to find new approaches in the face of shrinking residential floor space.

In response, custom kitchen designs and integration are growing in popularity. Homeowners are more aware of the various solutions available on the market – from cabinetry to water systems – that can be tailored to specific space, functionality and aesthetic requirements. There is also a growing selection of solutions that can be integrated seamlessly into the kitchen. A range of products such as fridges, dishwashers and coffee machines can be designed to blend seamlessly with the rest of the kitchen space and cabinetry.



## BENEFITS OF CUSTOM KITCHEN DESIGN

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Customisability and integration are ideal for addressing the key challenges of modern kitchen design, while accommodating a wide range of layouts and specific user requirements. Below are the key benefits of custom kitchens and how they relate to the design and specification process.

### Enhanced Functionality

Due to their out-of-the box nature, ready-made kitchens are not usually designed to optimise functionality with respect to each individual kitchen space. While stand-alone appliances can fulfill certain needs, they require dedicated bench space and storage which can impact overall efficiency and comfort while doing everyday kitchen tasks.

Custom kitchens are tailored to suit an individual space by factoring in the actual dimensions of the room and any special functional requirements. Such designs also enable integrated kitchen solutions to be installed in line with user preferences. Furthermore, there is greater opportunity to streamline kitchen features. For example, a properly specified filtered water system can replace the kettle, filtered water outlet on fridges and sparkling water bottles.

Integrated solutions are an effective approach to freeing up bench space, making kitchen spaces easier to use. However, the above bench footprint space savings should not be lost under the bench by bulky appliances or significant clearance tolerances. Accordingly, designers and specifiers should assess the underbench requirements of kitchen products as explained below.

Space and Storage Efficiency

Kitchen cabinets of standard dimensions may not be suitable for smaller kitchens or kitchens with non-standard layouts. An advantage of custom kitchens is that they provide designers with the ability to specify custom cabinet dimensions that maximise space usage and enable integration of appliances in unique spaces within the kitchen design.

As noted earlier, the underbench footprint of certain kitchen solutions should not be overlooked. Water systems with ventilation requirements or underbench systems can impact cabinet design and require additional space. Similarly, additional internal clearances or space tolerances necessary for proper function of water systems and warranty compliance can further reduce available underbench space. Leading suppliers offer water systems with comparatively small units and products which do not require ventilation cut outs. The use of tubing extension kits can also alleviate some of the problem by overcoming the issue of proximity of dispenser location or by better utilising the “dead space” within the joinery carcass.

### Design Flexibility

Custom kitchen designs and integration allow for a broad scope of finishes, colours and materials and is particularly suited to achieving a modern, minimalist look. If carefully specified, appliances, water systems, tapware and other elements in a kitchen can work together to deliver a visually coherent and impactful style. Designers and specifiers should look to solutions with a range of profiles, finishes and colour options to complement current design trends.



“ Kitchen spaces present a complex design challenge as they must balance functionality and aesthetics, while delivering comfort, efficiency and ergonomics. ”



## BILLI

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For nearly 30 years, Billi has been at the forefront of the tapware and instant boiling and chilled filtered water system industries. Originating from Australia but used around the world, Billi's premium quality solutions are celebrated for their trusted combination of functionality, performance and contemporary aesthetics.

Driven by a strong research and development team and a commitment to improving user health and quality of life, Billi provides designers, specifiers and end-users alike with an assurance of quality, innovation and sustainability. The company's comprehensive selection of custom tapware and water filtration systems keep pace with modern lifestyle needs while enabling a virtually limitless range of design possibilities.

All Billi products are fully compliant with the relevant Australian Standards. Manufactured under strict quality control systems and available with a 24-month warranty, these products deliver extended ease of use and energy efficiency regardless of their installation context. Incorporating cutting edge eco-technology features, some models are GreenTag and Watermark certified while all deliver significant energy savings.

### **Billi Home Tapware and Premium Instant Filtered Water Systems**

Billi offers an extensive range of high quality tapware and instant filtered water systems that feature eco-friendly technologies, enhanced functionality and compact designs that meet the changing needs of today's residential market. The company's comprehensive offering features extensive customisation options on most popular models enabling designers to choose solutions that complement current tapware trends. All Billi water systems offer premium filtration, easy installation, energy saving features and low power consumption.

Billi gives designers and specifiers a high level of design flexibility, with options to suit almost any application or installation context while complying with all safety, access and mobility standards. The company offers options for boiling, chilled, still and sparkling filtered water systems, alongside an extensive selection of designs and accessories. Levered, touch, safety and remote dispenser options are available, including slimline profiles. Finish options include classic chrome, modern matte black, matte white, two tone finishes and more. Accessories to match dispenser options are also available, including risers and fonts.

The Billi Home product range is ideal for customised kitchen designs, enabling maximum space and efficiency. Boiling, chilled and still filtered water systems feature a compact design with a small underbench footprint on most models and minimal or no ventilation requirements to free up cabinet space. For example, the popular B-5000 model features a unit measuring at only 340x180x500mm without any compromise on performance or functionality. With no ventilation grilles required, the impact on cabinet design is minimal, allowing designers a wide degree of creative freedom. Some models also support the use of tubing extension kits which can further reduce the solution's underbench footprint.

Billi instant filtered water systems offer an all-in-one solution that streamlines kitchen functionality – one Billi dispenser can replace the kettle; the filtered water outlet on fridge; the sparkling water bottles taking up fridge space; and bench top appliances such as SodaStreams. The Billi Home range is the perfect solution to meet the home drinking water needs of modern families.

## REFERENCES

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- <sup>6</sup> Ibid.
- <sup>7</sup> Above n 4.
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