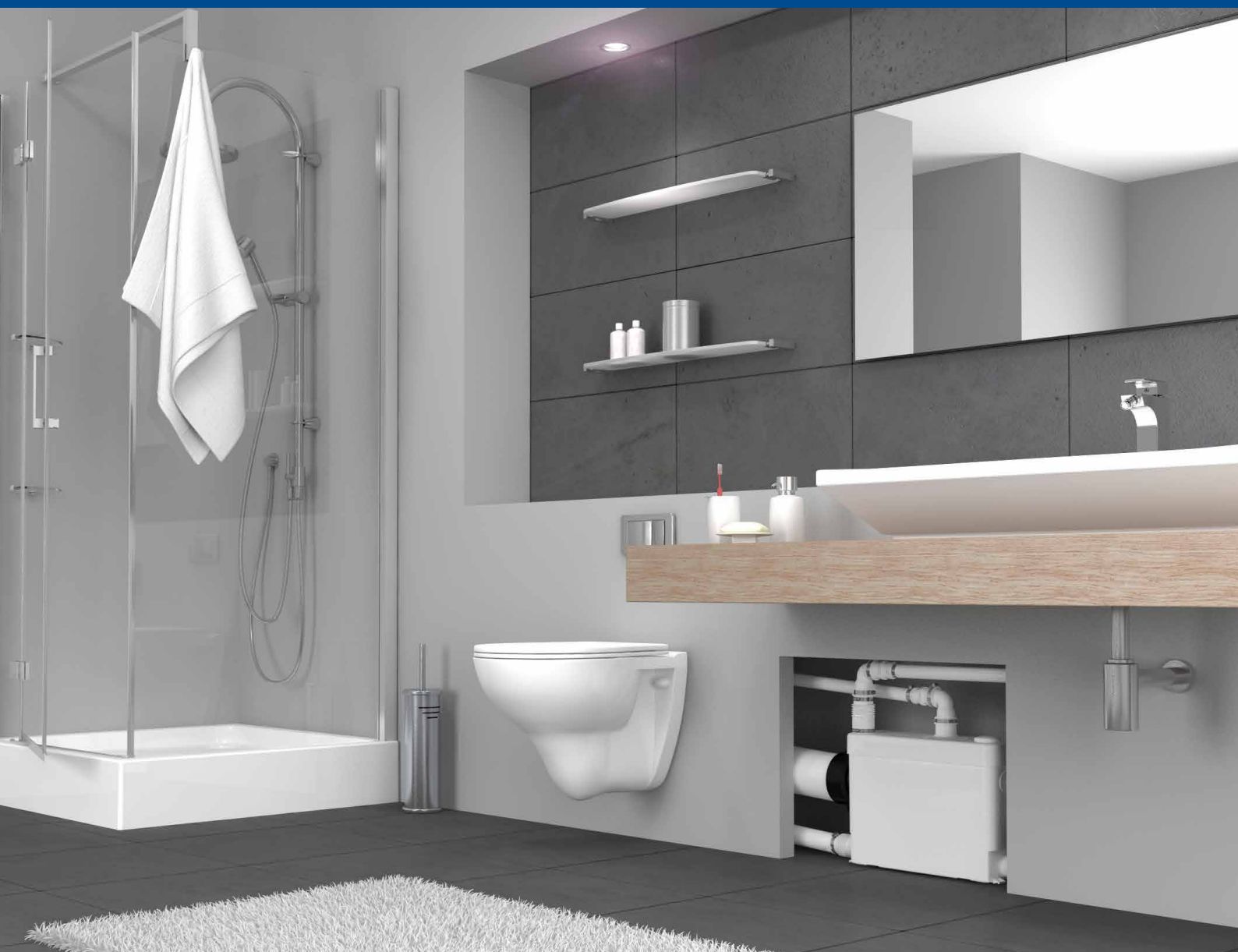


DISCOVER A NEW WAY OF PLUMBING



INTRODUCTION

Plumbing is an integral part of all new building or renovation projects, regardless of whether a project falls into the commercial, residential, civic, healthcare, or hospitality sector. Yet in certain applications, the installation of conventional plumbing is difficult or impractical, and often poses a significant undertaking in terms of time and money. In this whitepaper, we examine the common restrictions that designers and builders may encounter when undertaking plumbing work.

Key issues associated with conventional plumbing are the physical barriers to access and labour-intensive process of drilling into sub-floor or wall cavities during the installation stage. These difficulties extend to encompass the disruption and inconvenience caused by the installation or renovation of wet areas – a task that, due to its complexity, often entails a long project timeline. Beyond this, conventional plumbing places significant constraints on design flexibility, restricting the locations in which bathrooms, kitchens, laundries, and other facilities requiring plumbing may be installed.

In light of recent advances in technology, the market now contains a number of innovative products that pose alternatives to conventional plumbing solutions. This white paper provides an overview of three examples of such products – macerator pumps, grey water pumps, and lifting stations – and explains how they can benefit your next new construction or renovation project.



CONSTRAINTS TO CONVENTIONAL PLUMBING

Barriers to Access

One of the primary issues with conventional plumbing is the physical inaccessibility of many plumbing services. Since plumbing has traditionally been concealed in cavities located behind walls or under floors, installation typically requires the removal of wall linings or core hole drilling through a post-tension concrete slab. Not only is this inefficient in terms of the time and labour required, but it is also costly and inconvenient to replace, or repair finishes such as tiles, floorboards, or wall cladding that were removed or disturbed to enable drilling. In situations where alterations or additions take place a significant time period after initial construction, it may also be difficult to locate floor or wall coverings that exactly match the originals. This is particularly complex in historical or heritage-listed buildings, where alteration and disruption of the building fabric must be kept to a minimum.

Physical barriers to access remain a problem throughout the life of a plumbing fixture, with the location of pipes behind walls or under floors making access for repairs and periodic maintenance difficult, if not impossible.

Disruption and Inconvenience

As it often requires substantial drilling works, the installation of conventional plumbing is the cause of major disruptions in terms of noise and dust production. This is particularly problematic in high-density multi-residential developments in which renovations may have a flow-on effect to other tenants. In the case of multi-storey single occupancies, drilling required for plumbing may also disrupt the ceiling space and lining in lower floors.

Additionally, conventional plumbing installation is simply inconvenient. Installing plumbing is a major undertaking that in the case of renovations may render certain services such as sinks or toilets temporarily unusable. In the context of new construction projects, installing plumbing may slow down an entire project timeline and have a flow-on effect onto other trades involved in the construction process. Ideally, plumbing systems should be quick and easy to install, minimising the downtime of wet areas.

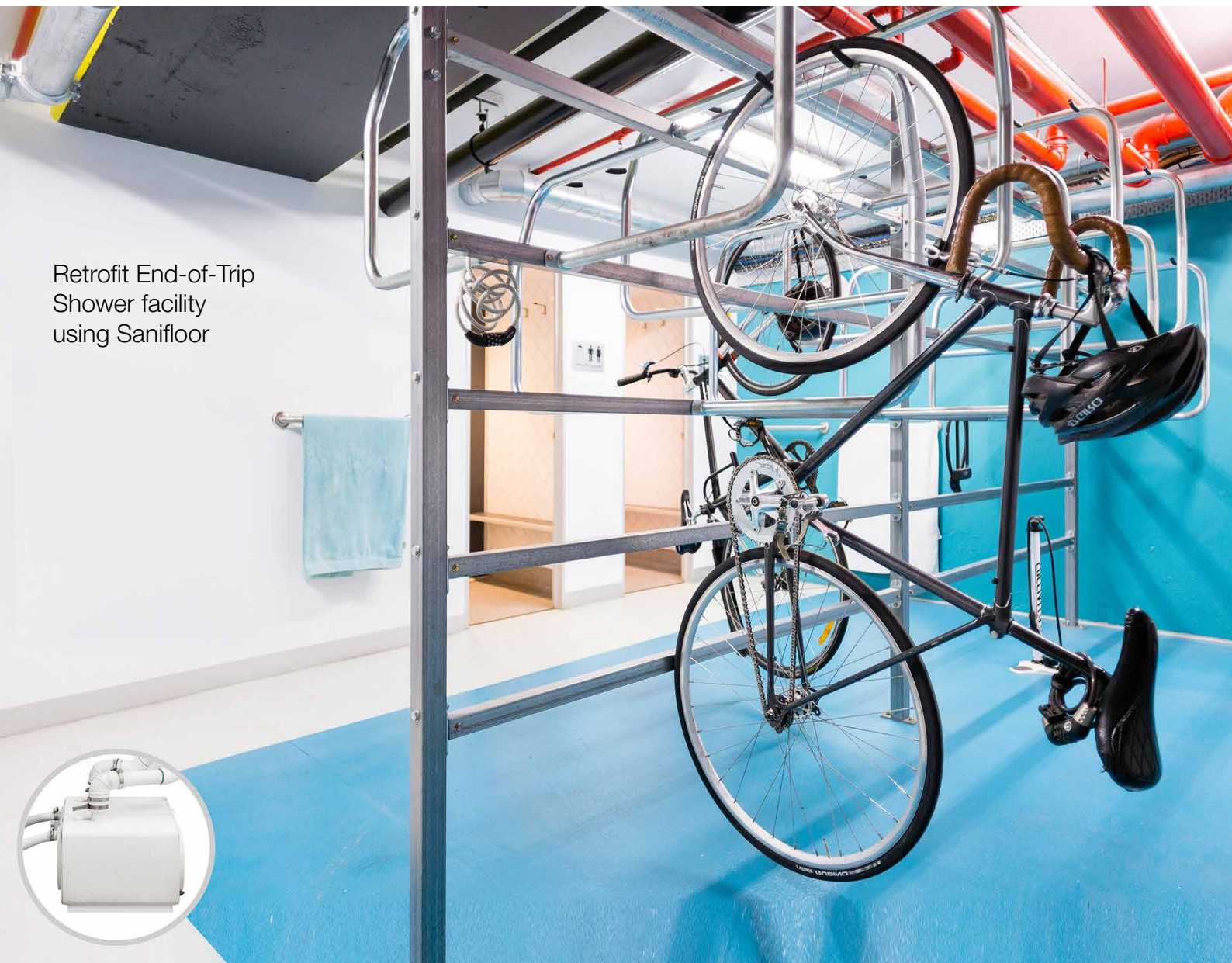
Restrictions on Design Flexibility

Conventional plumbing options also significantly restrain where items such as sinks, showers, and toilets can be placed. As adequate drainage is typically dependent on gravity, sites with proposed drainage points lower than the sewer line may be deemed unsuitable. The same can be said for sites considered too far from the sewer line to allow proper drainage. This is often a source of frustration for many designers, as it places significant limitations on where wet areas can be placed on a floor plan and may also inhibit renovation and alteration plans.

In addition to restrictions on their location, many conventional plumbing systems also have significant space requirements. The size of traditional pipes and other components often poses a dilemma in today's high-density dwellings where space is at a premium and compact bathrooms and living spaces are becoming common.

“ As it often requires substantial drilling works, the installation of conventional plumbing is the cause of major disruptions in terms of noise and dust production. ”

Retrofit End-of-Trip Shower facility using Sanifloor





ALTERNATIVE SOLUTIONS

In response to the drawbacks accompanying conventional plumbing in many contexts, manufacturing innovators have developed a range of efficient, high performance products that are revolutionising the design and installation of bathrooms and other wet areas.

Using innovative technology to develop efficient new solutions to existing problems, many of the latest plumbing products on the market target space and time constraints specifically, allowing plumbing to be connected in locations where it was previously thought unfeasible.

Macerator pumps enable the installation of plumbed facilities in locations below or too far removed from the main drain line to facilitate adequate drainage. While normal toilets flush into a waste line, the contents of which fall into the main drain line, toilets fitted with a macerator pump do not rely on gravity. Instead, waste is liquefied by rapidly rotating blades, then pumped through a small diameter pressure pipe connected to the main drain line.

Macerator pumps are ideal for domestic and commercial toilets, and are particularly valuable additions to toilets in childcare services, end-of-trip facilities, office toilets, and accessible bathrooms.

Grey water pumps are suitable for residential or commercial renovation and extension projects where additional water fixtures are desired. Compact but high-powered pumps push wastewater through small diameter pressure pipes, enabling the installation of plumbing below, or far from, the main drain line. Grey water pumps are beneficial in commercial and hospitality environments with heavy water use, including laundries, cafes, and restaurants.

Lifting stations provide a reliable, high performance means of discharging black and grey wastewater. When attached to fixtures that drain to a point below the sewer line, lifting stations elevate and evacuate wastewater to the nearest drainage point on the main drain line. They are suitable for a broad range of residential and commercial environments including apartments, offices, remote accommodation, and even offshore oilrigs.

SANIFLO

For over 60 years, Saniflo has provided architects and hydraulic engineers with the ability to quickly and easily install bathroom fixtures, laundry rooms, and kitchens anywhere and without major construction work. With its reputation for high quality French design and manufacture, Saniflo has earned its position as a global leader in plumbing solutions manufacturing.

The Saniflo team is constantly innovating and expanding their broad range of high tech products, which continues to lead and inspire the plumbing industry and conform closely to environmental and technological standards.

Saniflo products offer not only efficient, high performance design but also design flexibility, easy installation without disrupting existing construction elements, and peace of mind in terms of quality and reliability. Their space-saving products are quick and relatively simple to install, making them perfect for today's compact spaces and tight project turnarounds.

Allowing designers to install an additional toilet, shower, or basin virtually anywhere in the house, the *Saniaccess 3 Macerator Pump* is a highly efficient alternative to conventional plumbing. Perfect for adding toilets to tiny homes, granny flats, or outdoor living spaces, Saniaccess 3 has a vertical discharge height of 5m and horizontal discharge of 100m, meaning that distance from the main drain line is no longer a constraint. Macerated black wastewater is conveyed through a 20mm pressure pipe to the nearest sewer line, eliminating the need for costly, time consuming drilling or underground work.

Two removable panels on top of the pump provide easy access for service and periodic maintenance without the need to disconnect the unit from the toilet or the rest of the plumbing system. Ideal for installing additional fixtures in multiple tenancies without causing disturbance to neighbours, the *Sanispeed Grey Water Pump* is a small-bore grey water pump designed for commercial facilities.

Also suitable for installing complete kitchens at below ground level or in the basement, Sanispeed is a practical solution for cafes, bars, office kitchenettes, and medical facilities. Thanks to a high-powered, commercially rated motor, Sanispeed can pump water up to 7m vertically or 70m horizontally. It can handle wastewater at temperatures of up to 75 degrees Celsius for a short period, and uses a slender 25mm PVC waste pipe.

The *Sanicubic 1 WP Lifting Station* is the perfect solution to issues caused by drainage points below the main drain line. Designed to accept multiple bathroom, kitchen, and laundry fixtures, Sanicubic 1 WP can pump grey and black wastewater away from fixtures for distances of up to 11m vertically or 100m horizontally. Slimline 40mm pressure pipework takes up minimal space, while a powerful 1500w motor operating at 2800 RPM ensures reliability and power.

Sanicubic 1 WP can handle wastewater at temperatures of up to 70 degrees Celsius, making it suitable for use in residential kitchens, bathrooms, and laundries as well as in busy commercial and hospitality environments.



