

# Nobody looks deeper into infection control

CONTOUR 21+  
MARKWIK 21+



Advanced healthcare solutions  
from Armitage Shanks

*Armitage  
Shanks*

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# Contents

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A proud history of healthcare innovation	04	<b>(HBN) 00-10 (HTM 64)</b>	<b>56</b>
Science first	07	<b>Additional Product Solutions</b>	
Infection control: the 21st century battleground in healthcare	07	Janitorial Unit JU	58
The research behind our developments	08	Clinical Procedure Disposal Units DU H	58
Evolving threats	10	Plaster Sinks PS H	59
Two major risks to water systems	12	Scrub-up Troughs SU H	60
Supporting the battle against infection	14	Clinical Sinks ST A (hospital pattern)	61
CONTOUR 21+ basin. The clinical solution that leaves nothing to chance	16	Domestic Service Sinks SK 1 (general pattern)	61
Our new clinical basin cuts splashing by over 90%	18	Clinical basins (Hospital Pattern) – LB HM	62
MARKWIK 21+ mixer	22	Personal washing basins – LB GL/M	63
MARKWIK 21+ deck mixer and CONTOUR 21+ basin combination – The ultimate solution	30	Hand-rinse basins – LB GS (General Pattern)	63
CONTOUR 21+ WCs	34	Urinals (hospital pattern 1)	64
Compliance – For the safest healthcare environment	38	Urinals (hospital pattern 2 – waterless)	64
		Urinals HygenIQ	65
<b>Hospital Products</b>	<b>40</b>	<b>Technical Information</b>	<b>66</b>
<b>Exceptional Solutions for Hospital Bathrooms</b>		<b>Product Drawings, Specifications and Guarantees</b>	
Semi ambulant WC	42	Hospital Ceramics	68
Independent wheelchair WC	44	Hospital Brassware	74
Assisted WC (assisted ambulant disabled)	46	Guarantee	82
Ambulant shower room	48	Further information	83
Independent wheelchair shower room	50		
Assisted shower room	52		
Clinical wash station	54		
En suite	55		

# Designed to defend

Pathogenic bacteria evolve fast. Infection control specialists know that winning the fight against them demands microscopic attention to detail.

This is why we design our products from the inside out. We explore in depth how the materials they are made of can inhibit the growth of harmful bacteria. We examine how to manage the flow of water so bugs cannot grow or be transmitted easily. And we look closely at the structure of our fittings so they are easy to dismantle and disinfect.

The MARKWIK 21+ and CONTOUR 21+ solutions from Armitage Shanks have been developed using this rigorous, scientific approach. Our most advanced healthcare solutions yet, they are the products of years of experience and research.

For healthcare professionals, they represent a powerful new ally in the fight against infection.

# A proud history of healthcare innovation

From its beginnings in 1817, Armitage Shanks has always gone to great lengths to produce sanitaryware of exceptional quality. This attention to detail has led to numerous industry 'firsts' in healthcare.



1817

Armitage Shanks established



1911

Healthcare pioneers

Armitage Shanks was the first company to produce products specifically for hospitals.

1967

Rimless technology

A new flushing technology that flushed without a rim, making toilets easier to clean with no hidden spaces for bugs to collect and multiply.

2005

MARKWIK

On introduction, this brassware range set the standard for healthcare fittings.

2014

Antimicrobial bioguard outlet

This innovation uses an antimicrobial lining to reduce the risk of pseudomonas in healthcare environments.

1848

Mass production of sanitaryware

Following the 1848 Public Health Act, we stepped up mass production of ceramic basins. At that time, UK life expectancy at birth was just 40 years. Together with a better understanding of sanitation, improved sanitaryware played a role in raising it toward today's level of 80+ years.



1912

Vitreous china

This new glaze was adopted from tableware to create a non-porous and more easily cleaned surface compared to the fireclay it replaced.



1993

Doc M packs

Armitage Shanks manufactured the first pack designed to comply with access regulations for the less-abled.



2007

CONTOUR 21

The full CONTOUR 21 healthcare range is introduced for the first time.

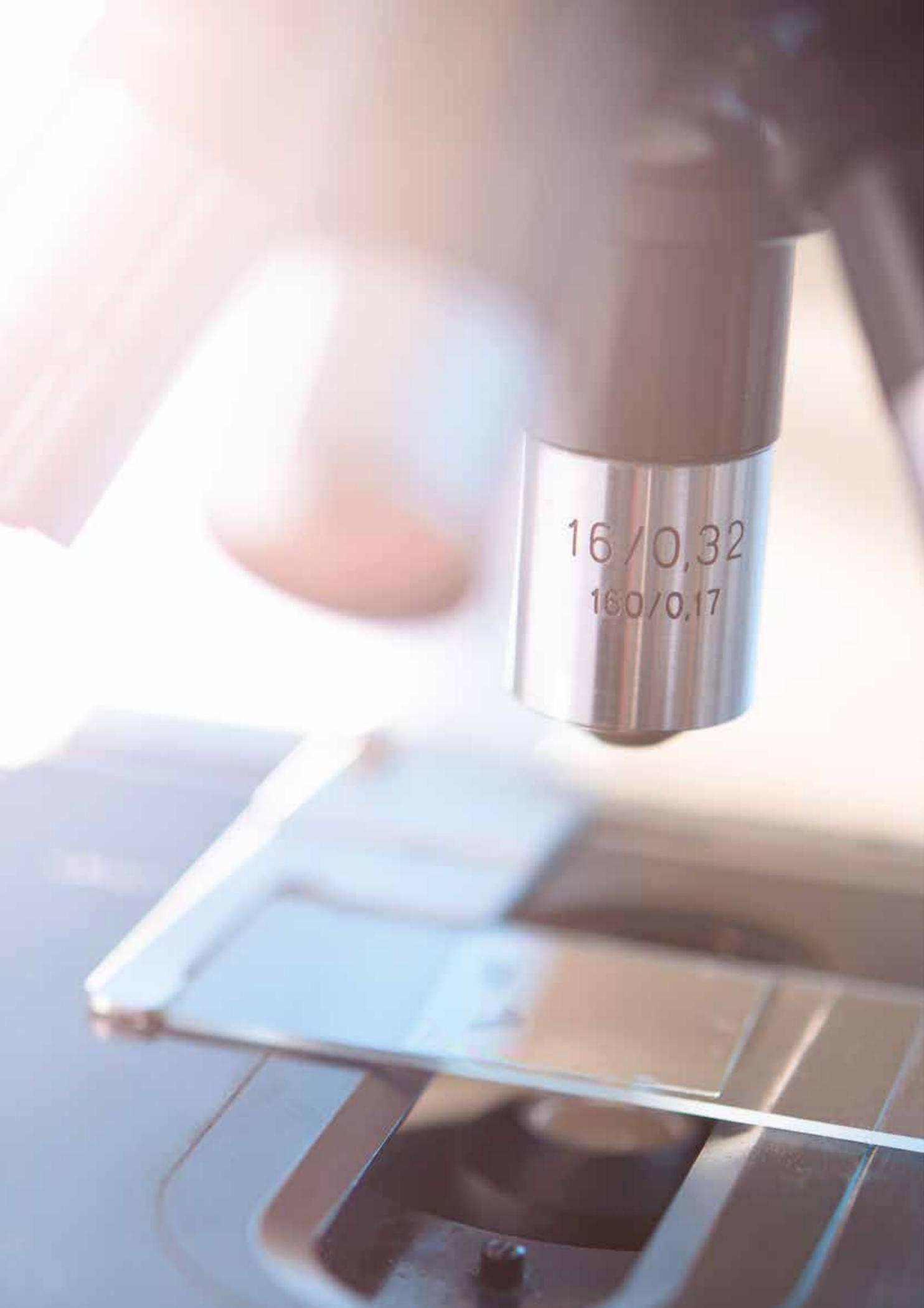


2017

200 YEARS

Launch of the next generation of MARKWIK 21+ and CONTOUR 21+ – taking Armitage Shanks into the next 200 years of being at the forefront of healthcare sanitary innovation.





# Science first

Throughout our history, science has been the spur for our innovations in healthcare. When we design new products, we work with experts to understand every aspect of the challenge.

## From big picture to fine detail

The infection control environment is constantly changing. Only by understanding this 'big picture' is it possible to design effective methods for preventing the spread of pathogens. One of the most important messages from the science of infection control is that there is no single solution – the risks can only be minimised when products work well together.

The attention to this important detail is evident in the MARKWIK 21+ and CONTOUR 21+ solutions range. To take just one example, the patented CONTOUR basin featuring Hydrofin technology is designed to work with the latest MARKWIK tap to significantly reduce splashing.

Armitage Shanks products are all designed to work in combination, both to meet regulations and to provide the highest levels of infection control.

## Infection control: The 21st century battleground in healthcare

Bacteria are everywhere. Many are beneficial and pose little threat to a healthy individual. In a healthcare environment, however, this changes. Patients who are ill or recovering have compromised immune systems. That's why we've worked with healthcare professionals to identify where pathogenic bacteria are most likely to be transferred.

We designed clinical basins that minimise splashing and with back outlets that help reduce the risk of the aerosolisation of bacteria. We've also moved the trap and

pipework to behind the panel, making for a more hygienic solution. And we've even done the same for deck mounted mixers, which are traditionally seen as too challenging.

Poor drainage within a basin itself or its pipework can lead to the growth of biofilm. So we've redesigned the shape of the basin so it drains more efficiently and the waste pipe behind the panel is vertical ensuring water is cleared instantly. We've also explored ways to reduce the amount of water left within the tap where bacteria might grow, by increasing the velocity of water running through it. We've also developed fittings that make it more difficult for bacteria to gain a foothold and we've cut down on the amount of plastics that bacteria might feed on.

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# The research behind our developments

## Our partners

We have been working in partnership with leading scientists and specialists to develop CONTOUR 21+ and MARKWIK 21+.

## Goodwin Hartshorn

Industrial designers at Goodwin Hartshorn helped us develop our revolutionary anti-splash Hydrofin for the CONTOUR 21+ basin.

## Armitage Shanks Research and Development

Our Wittlich factory in Germany has been at the forefront of product innovation in taps and fittings, developing the first ever ceramic disc cartridge in 1969. Today we have a dedicated team of 32 product engineers across Germany and the UK, focused on product development, including the new MARKWIK 21+ fittings.

## University research

Armitage Shanks has worked extensively with universities to increase its understanding of biofilm and bacteria growth.

Armitage Shanks has also used a number of tests that have taken place including measuring the aerosol effect of WC flushing, the cleanability of WCs and testing the new anti-splash technology.



# Evolving threats

At Armitage Shanks, we constantly research the risks that water and sanitation systems can present in healthcare facilities. Recent findings confirm that more sophisticated solutions are needed to deal with the fast-changing threat environment.



The potential for water to be both a habitat and a delivery medium for harmful bacteria is well known. What we are discovering now is how tenacious and persistent certain pathogens can be, particularly in the way they develop biofilm. It's important for healthcare professionals to understand this and equip their facilities accordingly.



## Biofilm

Bacteria excrete a layer called biofilm to protect their growth. This is a particular problem with *Pseudomonas aeruginosa*, which is both resistant to antibiotics and associated with serious illnesses. Biofilm can build up on surfaces and within appliances.



## Bacteria build-up

Unless taps and mixers can be dismantled and autoclaved, they are at risk of long-term colonisation by pathogens and biofilm build-up.



## Hidden surfaces

If fixtures are difficult to clean, bacteria can proliferate in areas that are hard to reach and hard to see, for example under a WC rim.



## Back outlet basin

If drainage water remains in pipework immediately behind the basin there is an opportunity for harmful bacteria to grow.



## Splashing

When water splashes out of basins when water is running, it can spread bacteria up to two metres away, potentially contaminating drug trays, clinical tools and patients themselves.



## Stagnant or pooling water

If appliances are not used regularly there is a high risk of bacteria multiplying in pooling water. Even a day without use creates a risk of biofilm build-up. It can cost hospitals huge amounts of money in personnel and heating costs flushing taps and showers to prevent this.

# Two major risks to water systems

Without appropriate design and technology features, water systems can be an ideal breeding ground and transmission medium for potentially harmful bacteria.



## Legionella

These bacteria, which can cause Legionnaire's disease, colonise water systems. Legionella proliferate at temperatures between 20°C and 45°C and careful system design and risk assessment is needed to manage this pathogen. Control measures include:

- ▶ Good overall maintenance and hygiene for water systems
- ▶ Appropriate temperatures: cold water should be delivered to the point of mixing below 20°C, and hot water above 55°C
- ▶ Cleaning of outlets, including autoclaving detachable spouts and dismantling taps for full disinfection
- ▶ Hot water should be stored at or over 60°C and hot and cold supplies should be kept separately
- ▶ In high-risk areas, fittings should have thermal disinfection capability and the use of medical filters should be considered



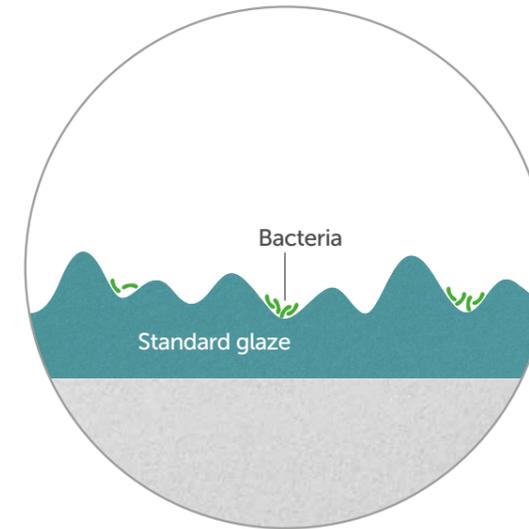
## Pseudomonas aeruginosa

Pseudomonas aeruginosa is a common bacterium that is able to thrive on most surfaces. While healthy individuals can usually fight it off, immune-deficient or immunosuppressed people, can be vulnerable to pseudomonas. This bacterium can thrive in water systems, especially the last two metres before the outlet, which means pipes, isolation valves, strainers and the tap itself can become contaminated. Protecting a facility against pseudomonas needs a range of actions, which include:

- ▶ Regular checks of the water supply
- ▶ Frequent flushing of water systems
- ▶ Cleaning of outlets
- ▶ Infection control procedures where appropriate
- ▶ The use of medical filters in high-risk areas

# Supporting the battle against infection

Introducing SmartGuard and SmartGuard+ – our innovative antimicrobial glaze that offers built-in product protection against bacteria.



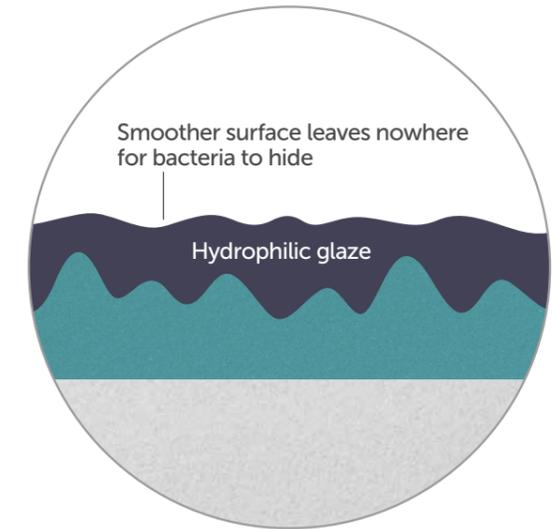
## Standard Glazes

Standard glazes are often surprisingly uneven when examined under a microscope giving an almost textured appearance. This can leave pockets for bacteria to grow in as well as being more difficult to clean.

## SmartGuard and SmartGuard+

SmartGuard is an antimicrobial agent that is incorporated into the ceramic glaze. It contains ionic silver, which is proven to inhibit the growth of bacteria. As the antimicrobial is built into the glaze, the effects will last the lifetime of the product providing protection day in, day out.

To provide an even more hygienic surface we have introduced SmartGuard+. This combines the benefits of SmartGuard antimicrobial glaze with a far smoother glass like surface.



The "textured" appearance of standard glazes has the dual effect of reducing the efficiency of water drainage from the surface and gives more opportunities for bacteria to adhere to the surface and grow. During the firing process, the additional thin surface layer on the SmartGuard+ flows freely and fills any microscopic indentations in the substrate.

This additional glaze has hydrophilic properties incorporating a very low contact angle with water compared to standard glazes. Effectively water is "pulled" into closer contact with the surface, increasing the surface area being activated by the silver ions and increasing the antimicrobial effect of the glaze surface, as well as promoting a route by which the water can get underneath the dirt – rather than passing over the top.

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The clinical solution that leaves nothing to chance



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# CONTOUR 21+ basin

Infection control professionals know that hygiene depends on rigour.

That's why we developed our MARKWIK 21+ and CONTOUR 21+ ranges to work together – to meet regulations and provide the highest levels of infection control.

Our CONTOUR 21+ basin with SmartGuard+ has a smooth hydrophilic glaze containing antimicrobial additives, and this, together with an innovative shape, makes it our most advanced basin for healthcare yet.

## 1. Anti-splash design

The CONTOUR 21+ basin features our patented Hydrofin to significantly reduce splashing.

It is fully effective when paired with the MARKWIK 21+ mixer. The basin itself has been developed in partnership with Goodwin Hartshorn, using fluid dynamics to optimise the removal of water and debris.

## 3. Better drainage

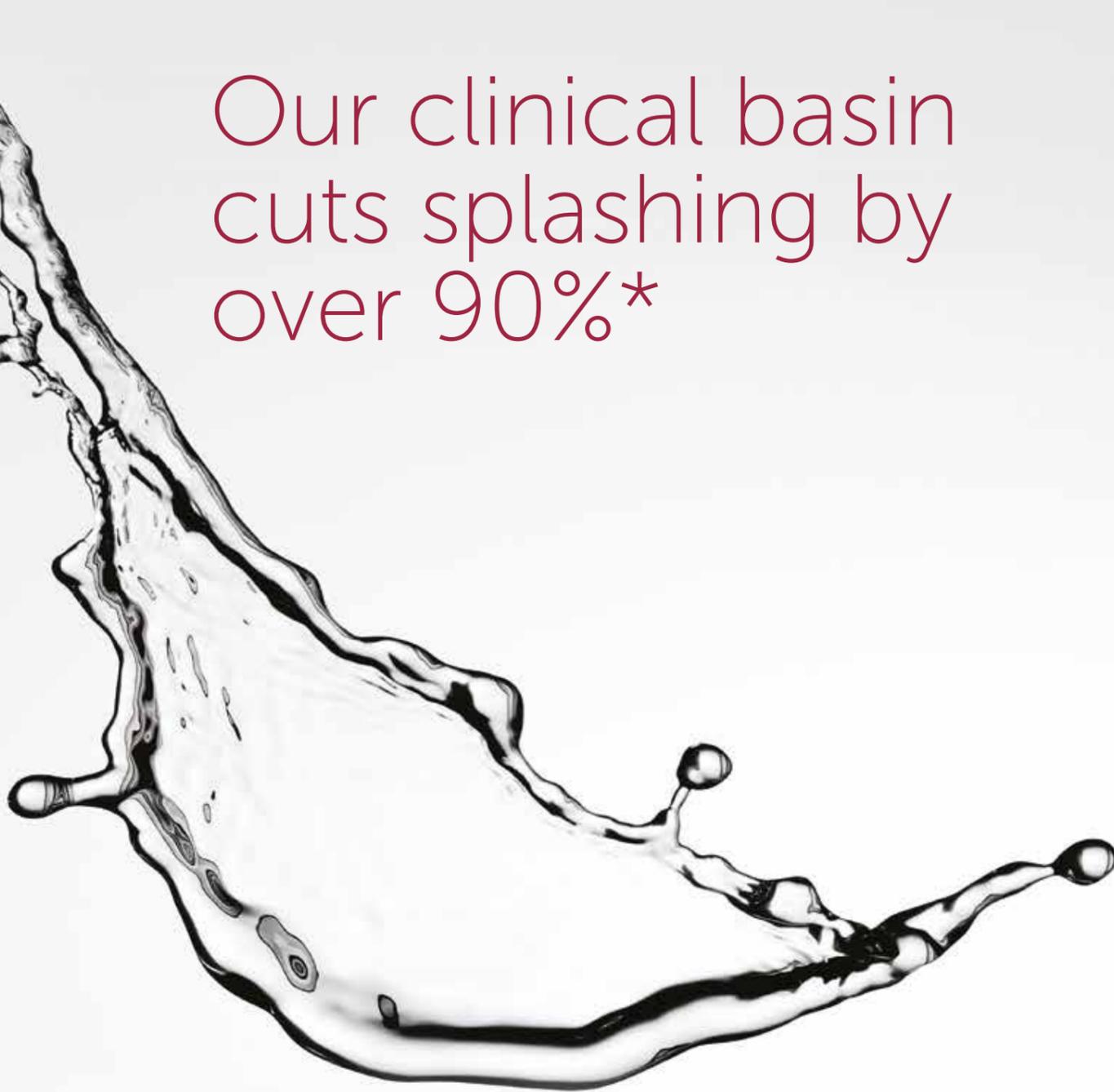
Developed from CFD experts at Sheffield Hallam University, CONTOUR 21+ features a design that improves flow and reduces water retention. A simplified waste assembly removes the "steps" and hanging points that can lead to pooling. It enables water to drain away quickly and smoothly.

## 2. High-tech hygienic surface

Our healthcare ceramics use an extra-smooth hydrophilic glaze – SmartGuard+ – making it easier for water to drain off and harder for bacteria to adhere. SmartGuard+ is an ionic silver antimicrobial additive, which helps prevent the build-up of biofilm. This protection lasts for the lifetime of the product, making cleaning easier and reducing the threat of cross-contamination.

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# Our clinical basin cuts splashing by over 90%\*



\*splash reduction recorded during development testing

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If there is bacterial flora in the basin, it can be imperceptibly splashed onto surrounding surfaces – particularly during hand washing.

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## Standard hospital basin risks

Our research shows that with standard hospital basins, running water can splash onto surrounding floors and surfaces. These splashes have been measured up to two metres away from the basin, potentially falling on beds, clothing and hospital equipment.



### Unique fin design

It's important that washing facilities reduce opportunities for the transfer of bacteria within basins. That's why the CONTOUR 21+ range incorporates our unique Hydrofin which is moulded into the ceramic and cuts splashing by over 90%.

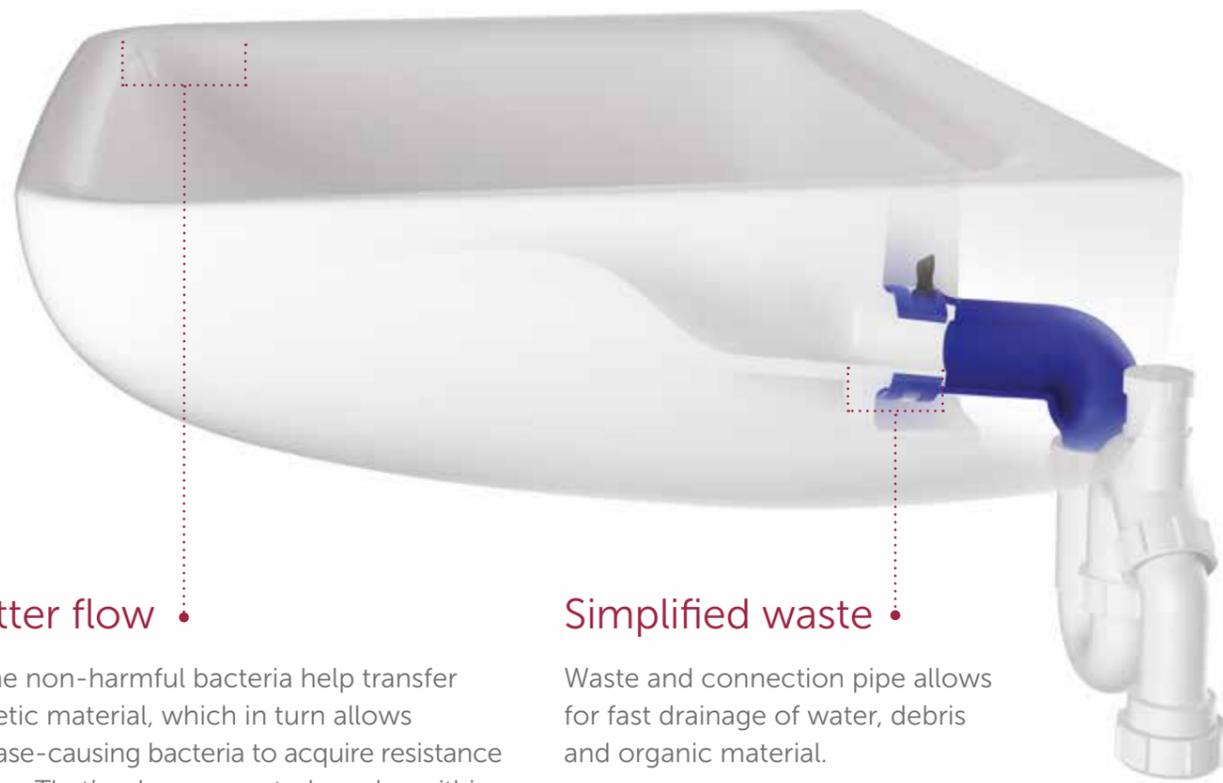


### Reduced splash

The Hydrofin design, in combination with the larger surface area of the basin, means that water hits at a shallower angle and its splash is deflected to either side of the basin. It is fully effective when paired with the MARKWIK 21+ mixer.

# Better drainage

Water systems are complex. Successful infection control depends on a close examination of every potential opportunity for harmful bacteria to grow and spread. We've combined the latest medical knowledge, materials, science and design techniques to produce a range of innovations that help create safer healthcare environments.



## Better flow

Some non-harmful bacteria help transfer genetic material, which in turn allows disease-causing bacteria to acquire resistance genes. That's why we created angles within the basin design to improve water flow and drainage. Thinner, more angular rims also aid drainage and prevent standing water.

## Simplified waste

Waste and connection pipe allows for fast drainage of water, debris and organic material.



## Less to clean

Basin design features a smaller back area to reduce the surface area that needs cleaning. The larger bowl area helps contain splashes.

## Efficient trap design

An anti-siphon valve in the Contour 21+ trap prevents negative pressure from breaking the water seal and stops foul air coming up through the waste.



## Easier to install

Fixings are made of stainless steel for chemical resistance and anti-corrosion. Simplified, "click to fit" attachments and a flexible waste mean installation can be carried out by one person. Our back outlet basin, reduces fitting from eighteen minutes for two people down to seven minutes for one person.

Our back outlet basins,  
can be fitted by one  
person in seven minutes

When designing basins for healthcare use, effective water drainage is one of the most important issues to address.

# MARKWIK 21+ mixer

Research-driven innovation has created a new healthcare standard for taps and mixers, with a range of innovative patent-pending features, from autoclave-ready spouts to built-in thermal cleansing features.



## Submerge and disinfect

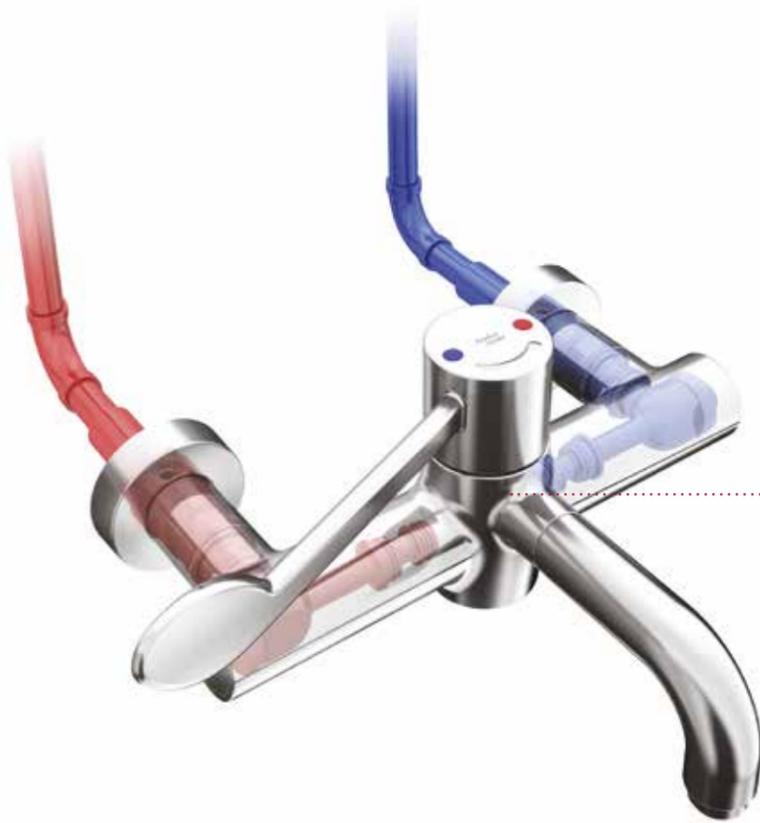
All MARKWIK 21+ mixers can be fully dismantled for disinfection, with internal components designed to withstand 80°C\*, and detachable outlets are designed to withstand 135°C for autoclaving.



## Autoclave-ready spouts

The MARKWIK 21+ detachable spout allows autoclave cleaning to prevent biofilm attachment and help reduce the risk of bacterial infection.

\*Maximum inlet supply temperature during use is 65 degrees.



- **Minimal dead-legs**

By mixing water closer to the point of discharge, MARKWIK 21+'s integral thermostat minimises 'dead leg' areas of warm water where bacteria can grow. This is compliant with HTM 04-01 Part A, which states that thermostatic mixing devices should be fitted directly to the outlet or integral with it.



- **Thermal cleanse**

MARKWIK 21+ mixers are designed for thermal cleansing and are equipped with a built-in thermal cleansing feature. This allows the maximum blend temperature stop to be overridden, using the hot water supply temperature in the system, for the most effective cleanse process possible.

- **Intelligent cleaning**

Auto-flush technology ensures that MARKWIK 21+ mixers that are paired with electronic time-flow sensor controls are flushed through with water at least every 24 hours, helping to prevent the formation of bacteria.



- **Hydropurge**

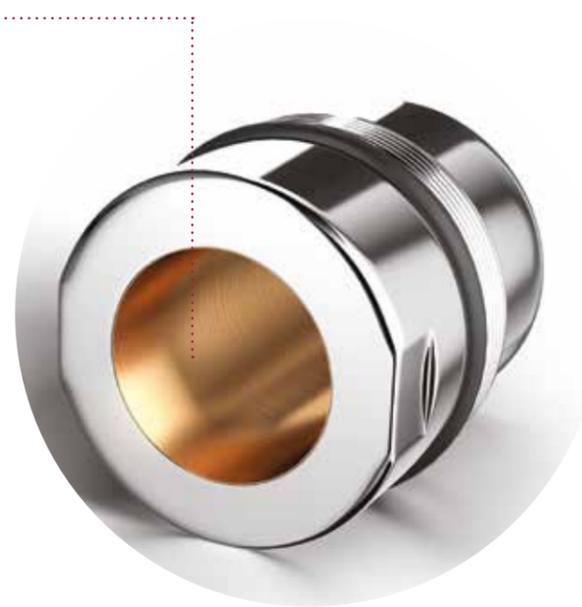
The Hydropurge system in MARKWIK 21+ mixers flushes any debris and waste that gets into the system during installation, reducing the high risk of contamination when new facilities are opened. The same port can be used for inlet water sampling.



### Antimicrobial outlets

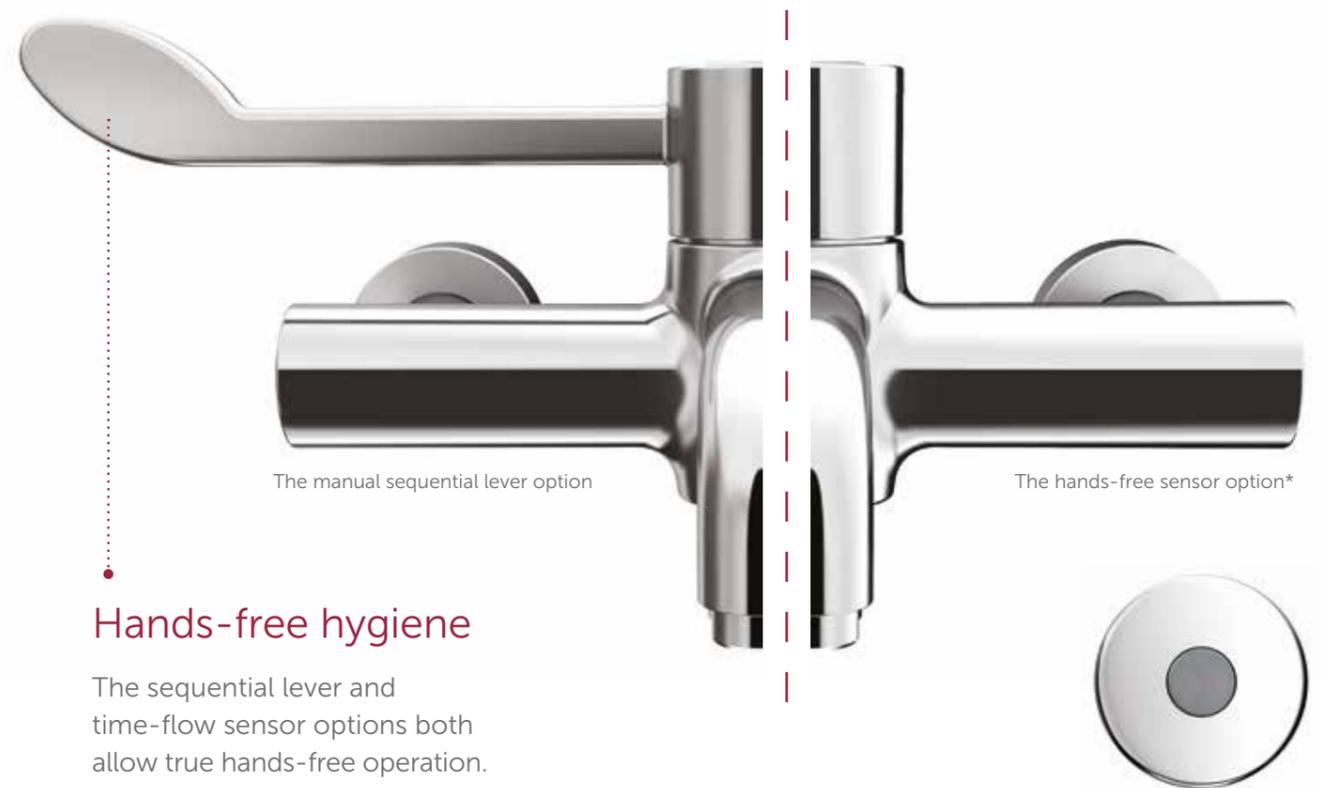
Traditional outlets have flow straighteners that can become contaminated over time and provide a haven for harmful bacteria.

MARKWIK 21+ mixers feature BioGuard a patent-pending copper lined outlet that helps prevent Biofilm attachment and reduces the risk of pseudomonas infection.



### Clean water on demand

All MARKWIK 21+ mixers are compatible with Pall Medical filters, so sterilising-grade water can be made available on demand.



The manual sequential lever option

The hands-free sensor option\*

### Hands-free hygiene

The sequential lever and time-flow sensor options both allow true hands-free operation.

\*Sensor position shown here for illustrative purposes.

# Attention to detail

HTM 04-01 Part C notes that complex tap assemblies can be more prone to *P. Aeruginosa* colonisation. With a simplified design and the majority of polymers removed, MARKWIK 21+ holds a lower static water volume and has a minimised bio-footprint with fast cooling.

## Wash biofilm away

When water flows with more force and turbulence it helps to remove biofilm build-up. MARKWIK 21+ mixers feature small-bore antimicrobial pipes and a simplified design to promote this effect.



## Maintaining safe touch attributes

Plastic components resist heat transfer to the mixer body.

Water retained within a tap outlet can become heavily contaminated and in turn contaminate a high number of users.



## Thermostatic cartridge

Thermostatic cartridge features a one-piece design for ease of changing and cleaning, and uses minimal plastics, reducing bacteria build-up compared with other designs.

## Fewer polymers, more metal

To discourage bacteria, the MARKWIK 21+ cartridge is manufactured with more brass and less plastic. Where plastic is used, we have chosen grades that are less attractive to bacteria.

MARKWIK 21+ has 52% less waterways\*

MARKWIK 21+ has 34% lower static water volume\*

MARKWIK 21+ is over 85% brass reducing the polymer content by 66%

\*Compared to existing product.

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# The ultimate solution

The MARWIK 21+ deck mixer and CONTOUR 21+ basin combination is the first truly clinical deck mixer solution. The mixer is demountable for disinfection and maintenance, while the basin features a hidden trap behind a back outlet.



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Bacterial flora can reach high levels in a basin's drain outlet. In many cases that flora can be multiresistant. Poor cleaning can lead to that bacteria being transferred to taps and spreading from there.

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The MARKWIK 21+ deck mixer shown in an en-suite bathroom

## First fully clinical deck tap

We are also bringing the advantages of clinical hand basin hygiene to general hospital areas – such as wheelchair-accessible toilets and patient en-suites – with the detachable MARKWIK 21+ thermostatic mixer and basin.

In these areas, wall-mounted mixer may not be accessible, so a deck-mounted solution is needed. However, traditional deck mixers can be hard to clean and wash basins with exposed traps can be less hygienic.

## The first truly clinical deck mixer solution

# Fully demountable

Every detail of our deck tap is designed to remove risks.



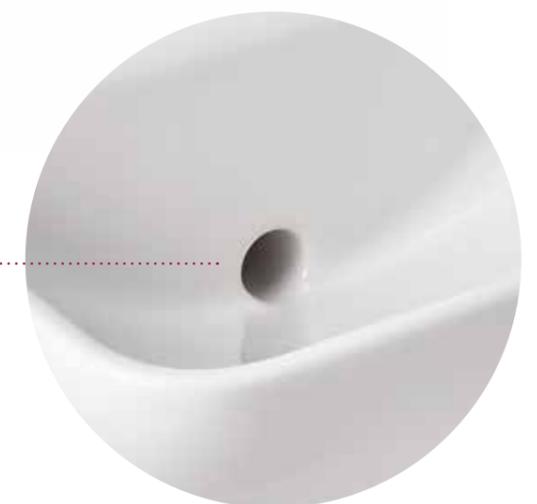
# Submerge and disinfect

All MARKWIK 21+ mixers can be fully dismantled for disinfection, with internal components designed to withstand 80°C\*, and detachable outlets are designed to withstand 135°C for autoclaving.



# Hygienic trap and waste

The basin features a completely concealed trap and waste, which is more hygienic than solutions with exposed traps that are difficult to clean.



\*Maximum inlet supply temperature during use is 65 degrees.

# CONTOUR 21+ WCs

Featuring rimless design and antimicrobial surfaces, our latest WC helps create the most hygienic healthcare environments possible.

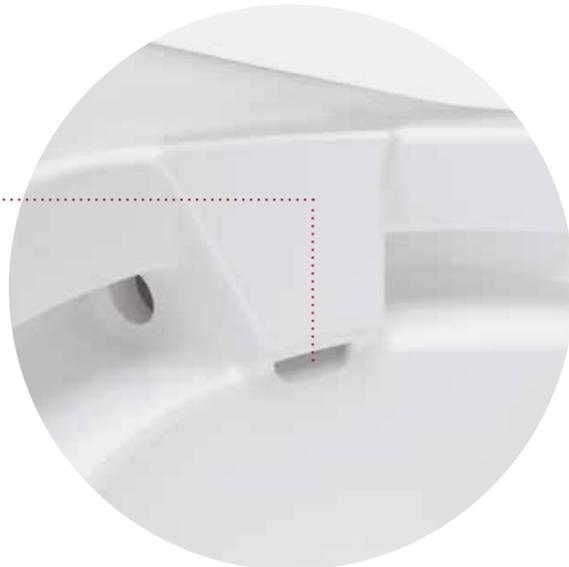


## • Rimless design

Traditional WC rims provide an ideal habitat for bacteria. The design of CONTOUR 21+ WCs removes this haven for pathogens whilst making the units easier and quicker to clean.

## • A cleaner view

The injector slot and increased visible space within the bowl make it easier to see where cleaning is needed because there are no nooks and crannies for harmful bacteria to hide.



## • Improved flush

CONTOUR 21+ is designed so that water is channelled over more of the bowl, helping to keep it cleaner.



### • Antibacterial coating

SmartGuard protection is manufactured into all our WCs to prevent the build up of bacteria. And the smooth SmartGuard+ glaze on the pan inhibits soiling, which reduces the opportunity for bacteria to take hold.

### • More hygienic fixing

The wall hung pans have been redesigned with concealed fixation. The smooth sides and lack of fixation recess are more hygienic, easier to clean and more installer friendly.



### • Longer outlet pipe

A longer outlet pipe on extended bowl versions makes installation easier and allows for a simple, quick inspection of water connection joints.

Back-to-wall fixation uses dual floor fixings to ensure greater stability of the pan.



### Toilet seats and grab rails

- ▶ Durable thermo-set toilet seats with seat retainers and stainless steel hinges give the feeling of quality, strength and stability and ensure that the seat doesn't move during use or lateral transfer from a wheelchair. Seats are made from urea, a naturally hygienic material.



- ▶ Grab rails are made from 33mm polyester-coated aluminium (except stainless steel and chrome rails), and are available in a variety of colours to provide contrast for the visually-impaired: white, blue, grey, charcoal, or stainless steel. The robust hinged arm support that folds up out of the way is capable of supporting 200kg. Grab rails also feature concealed fixings for added hygiene.
- ▶ Both of the above products will not be damaged during hydrogen peroxide vapour cleansing.

# For the safest healthcare environment

With the MARKWIK 21+ and CONTOUR 21+ ranges, specifiers and infection control professionals can create clinical sanitary facilities with the highest levels of protection against healthcare-acquired infections.



## Fully compliant

Our sanitaryware ensures your facilities comply with the latest performance requirements for infection control, environmental performance and disabled access.

Healthcare Document	Title/area covered	Covers
HBN 00-02	Sanitary Spaces	Guidance on designing bathrooms, shower rooms, changing areas and WCs in healthcare settings
HTM 04-01 PART A	Safe water in healthcare premises Part A: Design, installation and commissioning	This current review and update of HTM 04-01 is intended to move users of the document towards a holistic management of water systems via Water Safety Groups (WSGs), Water Safety Plans (WSPs) and other initiatives
HBN 00-09	Infection control in the built environment	This guidance, aimed at all providers of NHS care, discusses the various stages of a capital build project from initial concept to post-project evaluation. It highlights the major infection prevention and control (IPC) issues and risks to address at each particular stage to achieve designed-in IPC
HBN 00-10 PART C	Sanitary Assemblies	Guidance in sanitary assemblies for England, Wales and Northern Ireland
HTM64	Sanitary Assemblies	Guidance in sanitary assemblies for Scotland



## Designed for sustainability

From the way they are manufactured to their performance in use, MARKWIK 21+ and CONTOUR 21+ products are designed to reduce environmental impacts, help you meet sustainability goals and achieve high BREEAM and LEED scores.

- Efficient manufacturing. More than 80% of wastes (clay effluent and fired pieces not making the relevant grade i.e. pitchers) are recycled into bricks, roof tiles, and wall & counter surfaces.
- Reduced waste. Introduced in 2006, a glaze filtration system reduces waste by 900 tonnes per year and cuts discharge by 12,000m<sup>3</sup> each year.
- Less water. We design our products to use the optimum amount of water and eliminate unnecessary waste. Many of our WCs flush on low dual flush water volumes and mixers and taps are regulated. Our sensor mixers stop water flow after a preset time to reduce water use.

## Built to last

MARKWIK 21+ and CONTOUR 21+ are manufactured to stand up to the rigorous cleaning regimes in healthcare facilities. All sanitaryware is finished in a high performance glaze for long life and colour retention.

Our products offer long guarantees:

 <p><b>Lifetime</b></p> <p>CERAMIC PRODUCTS</p>	 <p><b>5 years</b></p> <p>MIXERS AND FITTINGS</p>
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All mixers use seals that prevent damage by commercial cleaning products.

## Low maintenance

Minimising downtime is essential, so ease of cleaning and servicing is at the heart of our design philosophy. CONTOUR 21+'s organic designs allow for faster and effective cleaning while MARKWIK 21+ mixers can be easily serviced, or dismantled for autoclaving. Panel-mounted mixers can be serviced from the front, with no need to remove wall panels.



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## Hospital Products Exceptional Solutions for Hospital Bathrooms

### Contents

Semi ambulant WC	42
Independent wheelchair WC	44
Assisted WC (assisted ambulant disabled)	46
Ambulant shower room	48
Independent wheelchair shower room	50
Assisted shower room	52
Clinical wash station	54
En suite	55

The following pages detail sanitary assembly solutions that meet government guidance and legislation.

## Semi ambulant WC



### S0435HY

CONTOUR 21+  
40cm back outlet basin  
with tap deck, RH.

### A6696AA

MARKWIK 21+  
Thermostatic basin  
mixer with demountable  
body, detachable spout  
and copper inlets.

### S0440HY

CONTOUR 21+  
Raised height rimless  
back-to-wall WC pan  
– standard projection.

### S4066RN

CONTOUR 21  
Top fix toilet seat  
in charcoal with  
retaining buffers.

### S6361RN

650mm hinged drop  
down arm support  
in charcoal.

### S6363RN

Toilet roll holder  
in charcoal.

### S6454RN

5 x 600mm grab rails  
in charcoal.

### S4504MY

Contemporary  
flushplate.

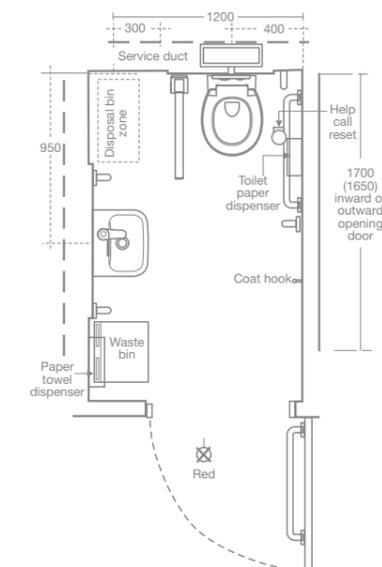
### S364367

Conceala 2 cistern.

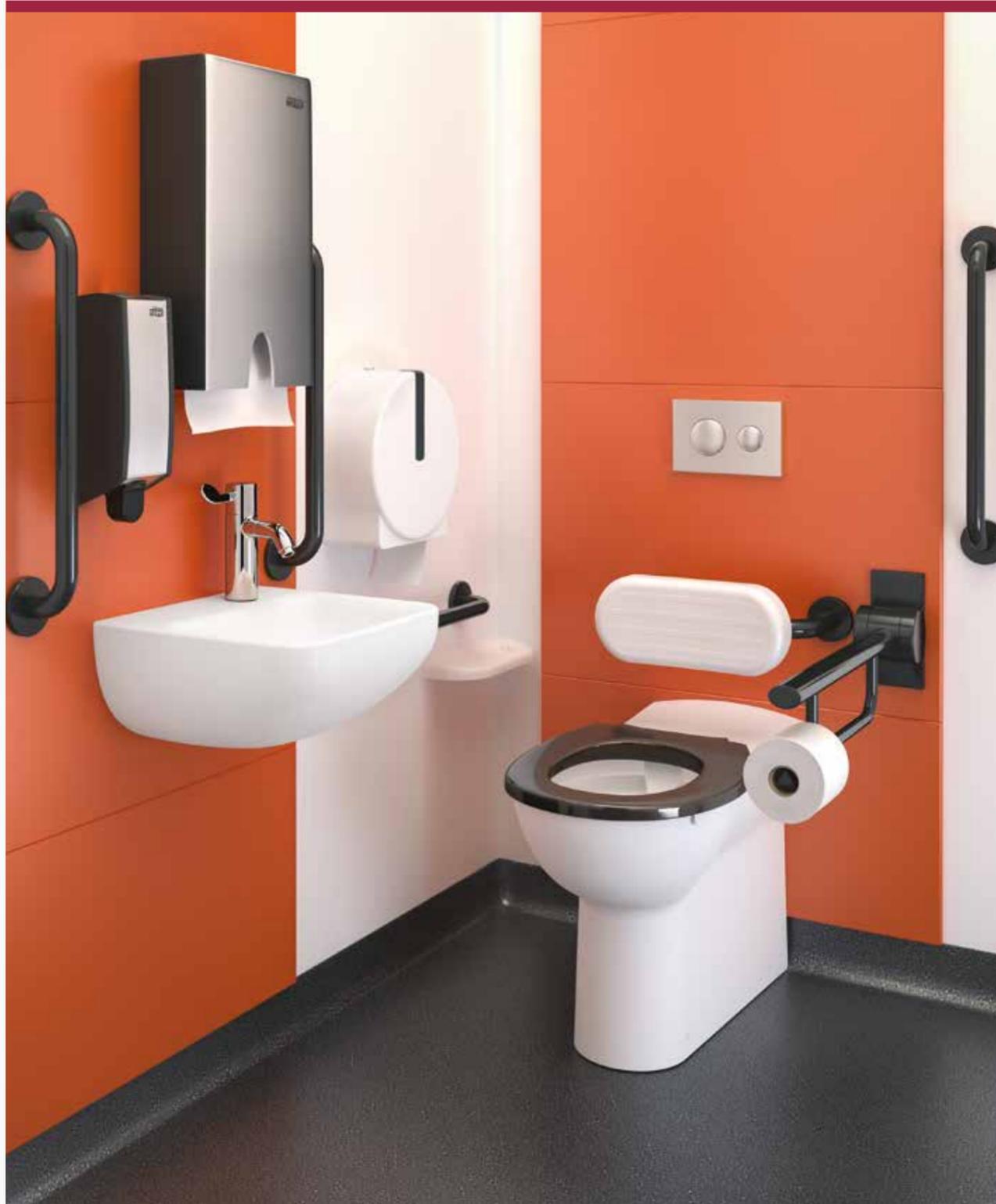
### A6791NU

Fixing kit for Markwik  
21+ mixer A6696 when  
used with Contour 21+  
back outlet basins.

RH – right hand LH – left hand



# Independent wheelchair WC

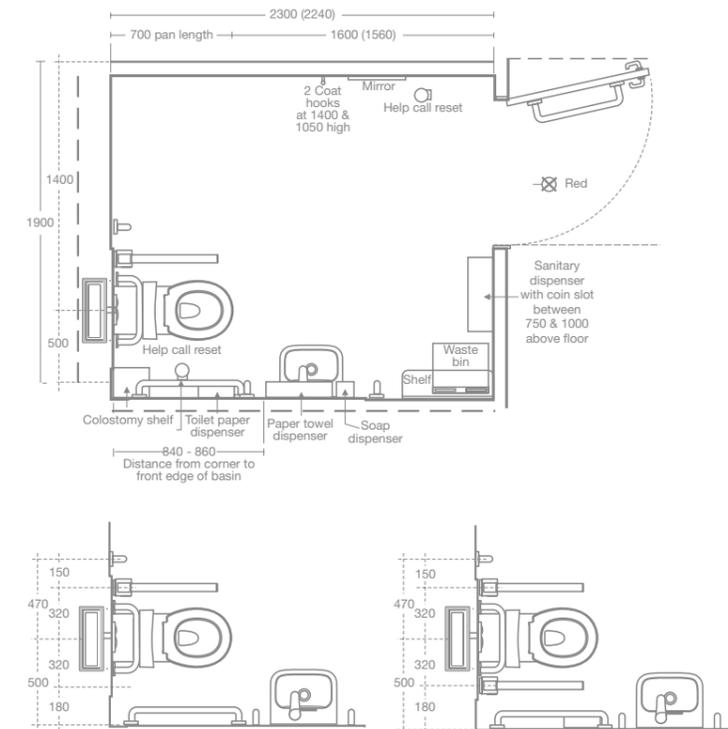


- S0435HY**  
CONTOUR 21+  
40cm back outlet basin with tap deck, RH.
- A6696AA**  
MARKWIK 21+  
Thermostatic basin mixer with demountable body, detachable spout and copper inlets.
- S0437HY**  
CONTOUR 21+  
Raised height rimless back-to-wall WC pan – 70cm projection.

- S4066RN**  
CONTOUR 21  
Top fix toilet seat in charcoal with retaining buffers.
- S688467**  
Back rest cushion.
- S6481RN**  
CONTOUR 21  
Back rest rail in charcoal.
- S6361RN**  
1 or 2 x 650mm hinged drop down arm support in charcoal.

- L6363RN**  
Toilet roll holder in charcoal.
- S6454RN**  
4 x 600mm grab rails in charcoal.
- S4504MY**  
Contemporary flushplate.
- S364367**  
Conceala 2 cistern.
- A6791NU**  
Fixing kit for Markwik 21+ mixer A6696 when used with Contour 21+ back outlet basins.

RH – right hand LH – left hand



# Assisted WC (assisted ambulant disabled)



## S0432HY

CONTOUR 21+  
50cm back outlet basin  
with tap deck, RH.

## A6696AA

MARKWIK 21+  
Thermostatic basin  
mixer with demountable  
body, detachable spout  
and copper inlets.

## S0441HY

CONTOUR 21+  
Rimless wall hung WC  
pan – 70cm projection.

## S406636

CONTOUR 21  
Top fixed toilet  
seat in blue with  
retaining buffers.

## S688467

Back rest cushion.

## S648136

CONTOUR 21  
Back rest rail in blue.

## S636136

2 x 650mm hinged  
drop down arm support  
in blue.

## S636336

Toilet roll holder in blue.

## S645436

4 x 600mm grab rails  
in blue.

## S362067

Conceala 2 cistern.

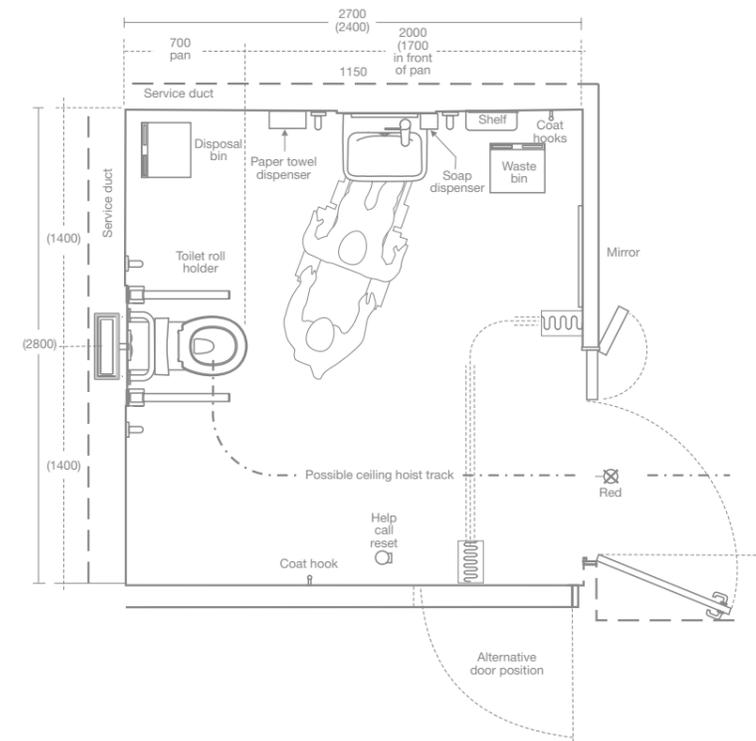
## S4516AA

Spatula lever.

## A6791NU

Fixing kit for Markwik  
21+ mixer A6696 when  
used with Contour 21+  
back outlet basins.

RH – right hand LH – left hand



# Ambulant shower room



**A4129AA**  
CONTOUR 21  
Built in thermostatic  
sequential shower.

**B9304AA**  
Shower handset.

**A860110AA**  
Smooth shower hose.

**S6477LJ**  
Adjustable handset  
holder in grey.

**L6919AA**  
Shower diverter.

**E4705AA**  
Shower wall elbow.

**S6632XK**  
Shower seat in grey.

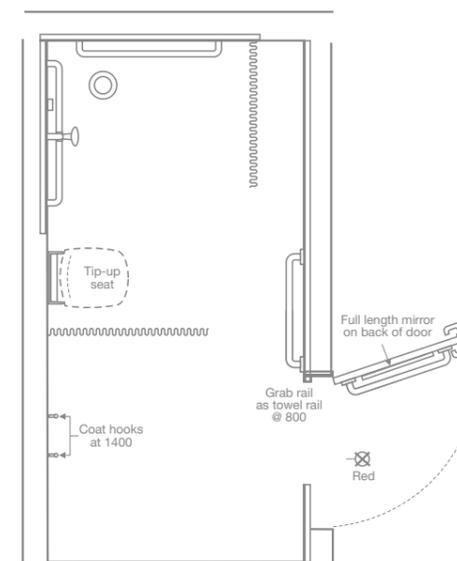
**S9313AA**  
Anti vandal shower fixed  
shower head.

**S6454LJ**  
5 x 600mm grab rails  
in grey.

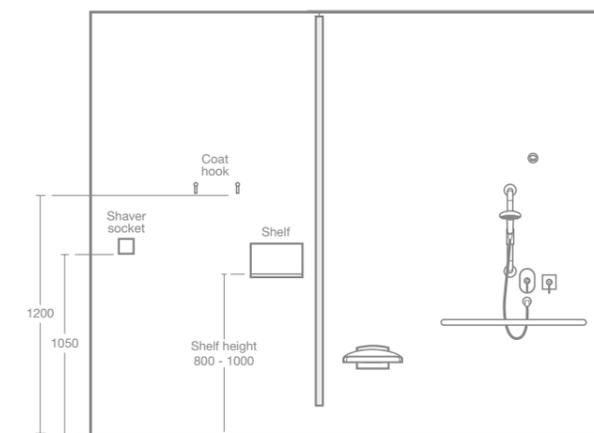
**S6751AC**  
Shower curtain rail.

**S675001**  
Shower curtain.

**B1364AA**  
Category 5 hose  
retainer.



Overhead elevation



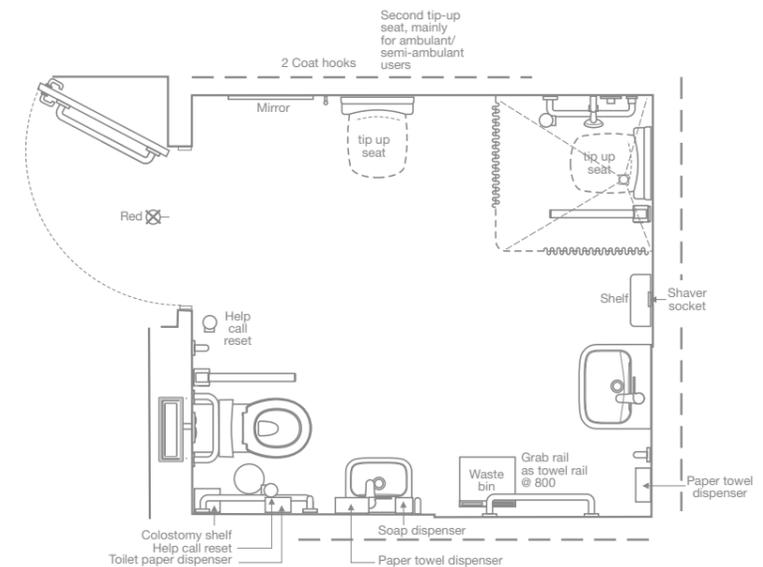
Side elevation

# Independent wheelchair shower room



- |   |  |  |  |
|---|--|--|--|
| <p><b>S0435HY</b><br/>CONTOUR 21+<br/>40cm back outlet basin with tap deck, RH.</p> <p><b>A6696AA</b><br/>MARKWIK 21+<br/>Thermostatic basin mixer with demountable body, detachable spout and copper inlets.</p> <p><b>S0441HY</b><br/>CONTOUR 21+<br/>Rimless wall hung WC pan – 70cm projection.</p> <p><b>S4066AC</b><br/>CONTOUR 21<br/>Top fix toilet seat in white with retaining buffers.</p> | <p><b>S6361AC</b><br/>2 x hinged drop down arm support in white.</p> <p><b>S6363AC</b><br/>Toilet roll holder.</p> <p><b>S688467</b><br/>Back rest cushion.</p> <p><b>S6481AC</b><br/>Back rest rail in white.</p> <p><b>A4129AA</b><br/>CONTOUR 21<br/>Built in thermostatic sequential shower.</p> <p><b>B9304AA</b><br/>Shower handset.</p> | <p><b>A860110AA</b><br/>Smooth shower hose.</p> <p><b>S6477AC</b><br/>Adjustable handset holder.</p> <p><b>L6919AA</b><br/>Shower diverter.</p> <p><b>E4705AA</b><br/>Shower wall elbow.</p> <p><b>S6632XK</b><br/>Shower seat in grey.</p> <p><b>S9313AA</b><br/>Anti vandal shower fixed shower head.</p> <p><b>S6454AC</b><br/>7 x 600mm grab rails in white.</p> | <p><b>S6751AC</b><br/>Shower curtain rail.</p> <p><b>S675001</b><br/>Shower curtain.</p> <p><b>S6635XK</b><br/>Shower seat back support in grey.</p> <p><b>S6457AC</b><br/>1 x 800mm grab rail in white.</p> <p><b>B1364AA</b><br/>Category 5 hose retainer.</p> |
|---|--|--|--|

RH – right hand LH – left hand



# Assisted shower room



**S0441HY**  
CONTOUR 21+  
Rimless wall hung WC  
pan – 70cm projection.

**S4066RN**  
CONTOUR 21  
Top fix toilet seat in blue  
with retaining buffers.

**S6361RN**  
2 x 650mm hinged  
drop down arm support  
in charcoal.

**S6363RN**  
Toilet roll holder  
in charcoal.

**S6454RN**  
6 x 600mm grab rails  
in charcoal.

**S0431HY**  
CONTOUR 21+  
50cm back outlet basin  
with tap deck, LH.

**S6696AA**  
CONTOUR 21  
Single lever one taphole  
sequential thermostatic  
basin mixer.

**A4129AA**  
CONTOUR 21  
Built in thermostatic  
sequential shower.

**S6477RN**  
Adjustable handset  
holder in charcoal.

**L6919AA**  
Shower diverter.

**S6751AC**  
Shower curtain rail.

**S675001**  
Shower curtain.

**E4705AA**  
Shower wall elbow.

**A860110AA**  
Smooth shower hose.

**B9304AA**  
Shower handset.

**S9313AA**  
Anti vandal fixed  
shower head.

**S6481RN**  
CONTOUR 21  
Backrest rail in charcoal.

**S688467**  
Backrest cushion.

**S6632XK**  
Shower seat in grey.

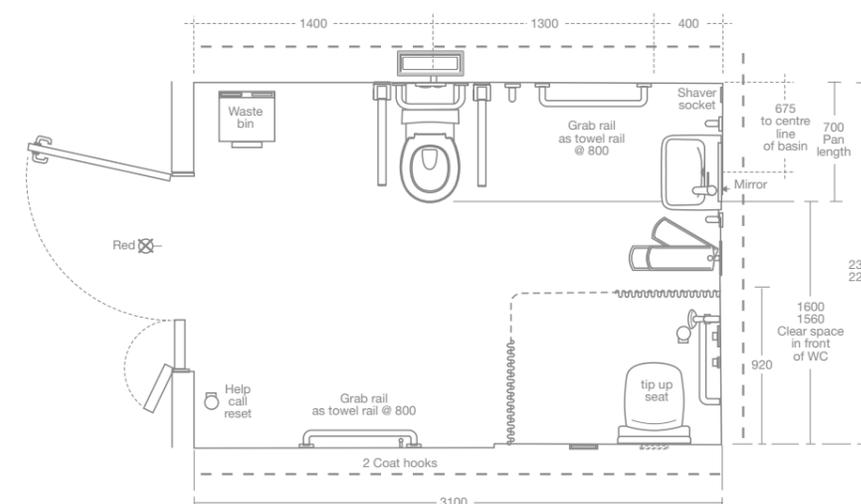
**S6635XK**  
Shower seat back  
support in grey.

**B1634AA**  
Category 5  
hose retainer.

**S362067**  
Conceala 2 cistern.

**S4516AA**  
Spatula lever.

**A6791NU**  
Fixing kit for Markwik  
21+ mixer A6696 when  
used with Contour 21+  
back outlet basins.



## Clinical wash station



**S0444HY**  
CONTOUR 21+  
60cm back outlet basin.

**A6682AA**  
MARKWIK 21+  
Demountable panel  
mounted mixer with  
detachable spout.

## En suite



**S0432HY**  
CONTOUR 21+  
50cm back outlet basin  
with tap deck, RH.

**A6696AA**  
MARKWIK 21+  
Thermostatic basin  
mixer with demountable  
body, detachable spout  
and copper inlets.

**S0437HY**  
CONTOUR 21+  
Raised height rimless  
back-to-wall WC pan  
– 70cm projection.

**S406636**  
CONTOUR 21  
Top fix toilet seat in blue  
with retaining buffers.

**S6361AC**  
5 x hinged drop down  
arm support.

**S6363AC**  
Toilet roll holder.

**S688467**  
Back rest cushion.

**S6481AC**  
CONTOUR 21  
Back rest rail in white.

**A4129AA**  
CONTOUR 21  
Built in thermostatic  
sequential shower.

**B9304AA**  
Shower handset.

**A860110AA**  
Smooth shower hose.

**S6477AC**  
Adjustable handset  
holder in white.

**L6919AA**  
Shower diverter.

**E4705AA**  
Shower wall elbow.

**S6454AC**  
2 x 600mm grab rails.

**S4504MY**  
Contemporary  
flushplate.

**S364367**  
Conceala 2 cistern.

**S9313AA**  
Shower diverter.

**A6791NU**  
Fixing kit for Markwik  
21+ mixer A6696 when  
used with Contour 21+  
back outlet basins.

**B1634AA**  
Category 5 hose retainer

RH – right hand LH – left hand



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## (HBN) 00-10 (HTM 64) Additional Product Solutions

### Contents

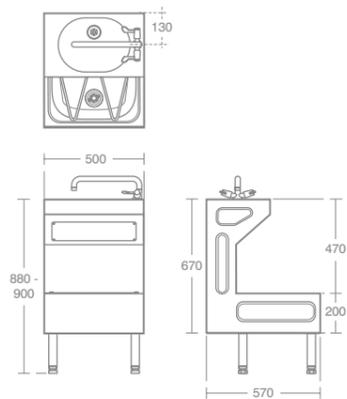
Janitorial Unit JU	58
Clinical Procedure Disposal Units DU H	58
Plaster Sinks PS H	59
Scrub-up Troughs SU H	60
Clinical Sinks ST A (hospital pattern)	61
Domestic Service Sinks SK 1 (general pattern)	61
Clinical basins (Hospital Pattern) – LB HM	62
Personal washing basins – LB GL/M	63
Hand-rinse basins – LB GS (General Pattern)	63
Urinals (hospital pattern 1)	64
Urinals (hospital pattern 2 – waterless)	64
Urinals HygenIQ	65

The following pages detail products that meet the necessary requirements of (HBN) 00-10 and HTM 64.

## Janitorial Unit JU



**S6556MY**  
Janitorial unit with mixer tap in stainless steel.



## Clinical Procedure Disposal Units DU H

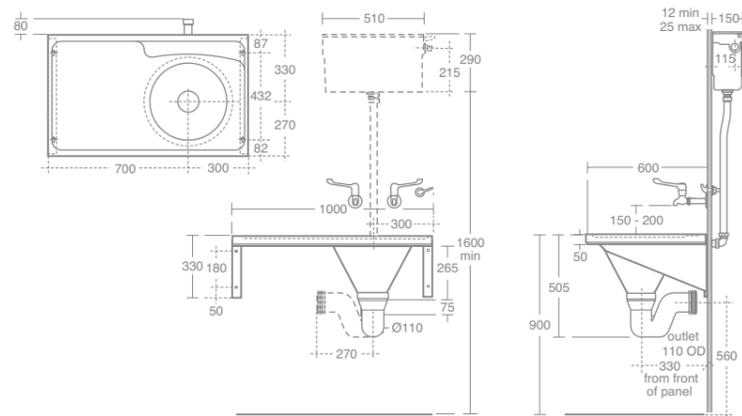


**S6563MY**  
Stirling right hand slop hopper in stainless steel.

**S8270AA**  
MARKWIK 21  
Lever action bib taps.

**B1684AA**  
100mm extension.

**B1686AA**  
1/2" wall mount for concealed plumbing.



## Plaster Sinks PS H

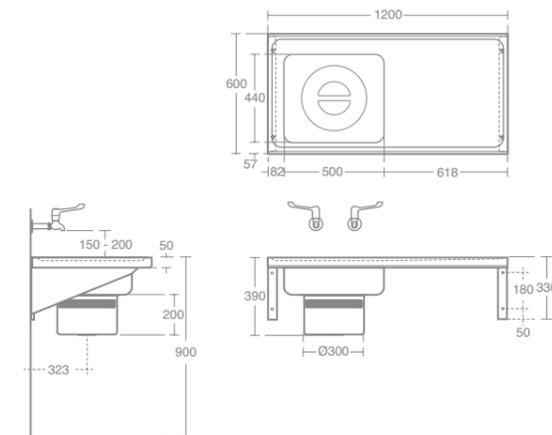


**S6558MY**  
Clyde right hand plaster sink and work surface in stainless steel.

**S8270AA**  
MARKWIK 21  
Lever action bib taps.

**B1684AA**  
100mm extension.

**B1686AA**  
1/2" wall mount for concealed plumbing.



## Scrub-up Troughs SU H



**S2877MY**  
Firth scrub-up trough  
240cm RH waste.

**Variants**  
**S2876MY**  
Firth scrub-up trough  
240cm LH waste.

**S2873MY**  
Firth scrub-up trough  
180cm LH waste.

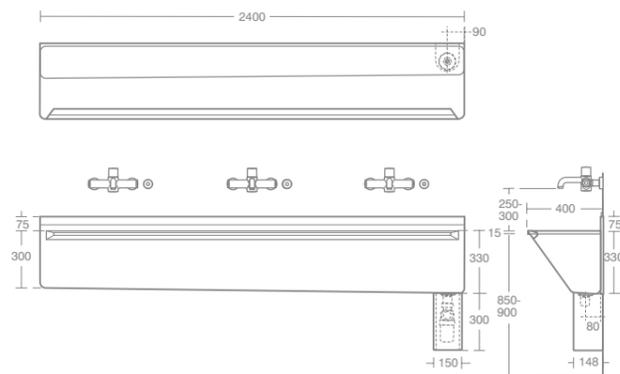
**S2874MY**  
Firth scrub-up trough  
180cm RH waste.

**S2870MY**  
Firth scrub-up trough  
80cm LH waste.

**S2872MY**  
Firth scrub-up trough  
80cm RH waste.

**Accessories**  
**A6684AA**  
MARKWIK 21+  
Demountable panel  
mounted mixer  
with sensor and  
detachable spout.

RH – right hand LH – left hand



## Clinical Sinks ST A (hospital pattern)



**S5987MY**  
Doon sink 120cm, single  
bowl with left hand drainer,  
no tapholes and no overflow.

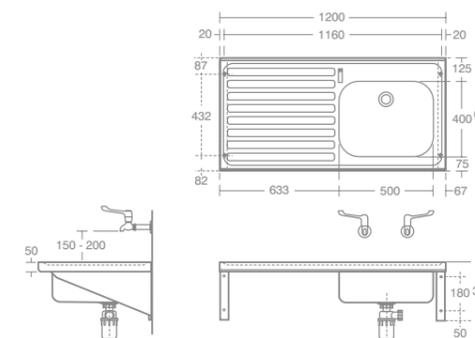
**Variants**  
**S5986MY**  
Doon sink 120cm, single  
bowl with left hand drainer,  
2 tapholes and no overflow.

**S5926MY**  
Doon sink 120cm, single  
bowl with right hand drainer,  
2 tapholes and no overflow.

**S5985MY**  
Doon sink 120cm, single  
bowl with right hand drainer,  
no tapholes and no overflow.

**Accessories**  
**S8270AA**  
MARKWIK 21  
Lever action bib taps.

**B1684AA**  
100mm extension.  
**B1686AA**  
1/2" wall mount for  
concealed plumbing.



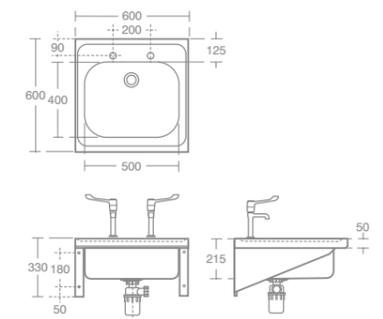
## Domestic Service Sinks SK 1 (general pattern)



**S5999MY**  
Doon 60 x 60cm sink.

**Variants**  
**S6000MY**  
No taphole option.

**Accessories**  
**S8265AA**  
MARKWIK 21  
High neck sink pillar taps.

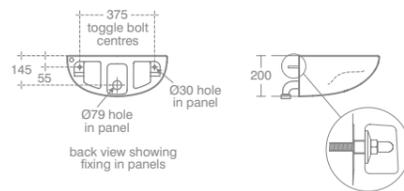
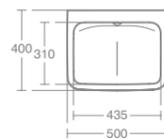


## Clinical basins (Hospital Pattern) – LB HM



**S0430HY**  
CONTOUR 21+  
50cm back outlet basin with Hydrofin.

**S0444HY**  
CONTOUR 21+  
60cm back outlet basin with Hydrofin.



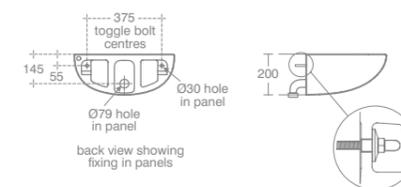
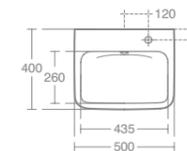
## Personal washing basins – LB GL/M



**S0432HY**  
CONTOUR 21+  
50cm back outlet basin with tap deck, RH.

**S0431HY**  
CONTOUR 21+  
50cm back outlet basin with tap deck, LH.  
General pattern back outlet with left and right hand tap options.

RH – right hand LH – left hand



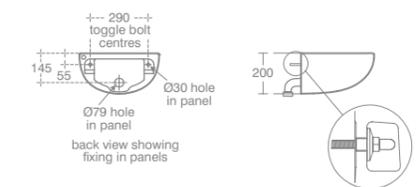
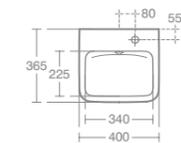
## Hand-rinse basins – LB GS (General Pattern)



**S0435HY**  
CONTOUR 21+  
40cm back outlet basin with tap deck, RH.

**S0433HY**  
CONTOUR 21+  
40cm back outlet basin with tap deck, LH.  
General pattern back outlet washbasin with left and right hand tap options.

RH – right hand LH – left hand



Urinals  
(hospital pattern 1)

Urinals (hospital  
pattern 2 – waterless)

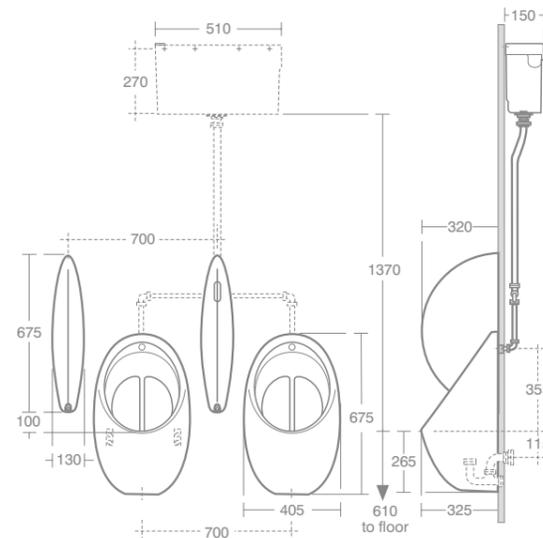
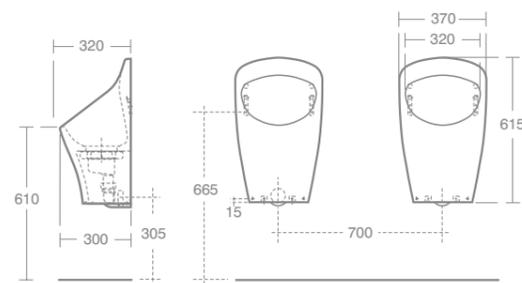
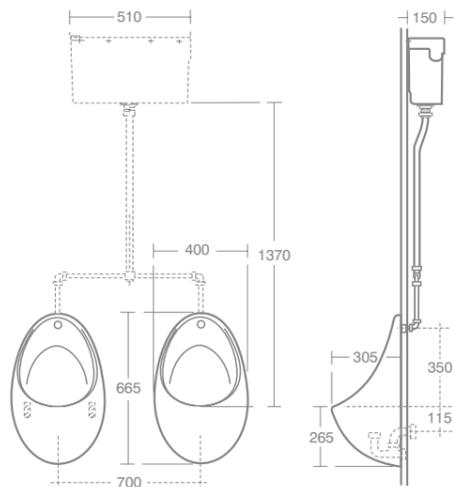
Urinals HygenIQ

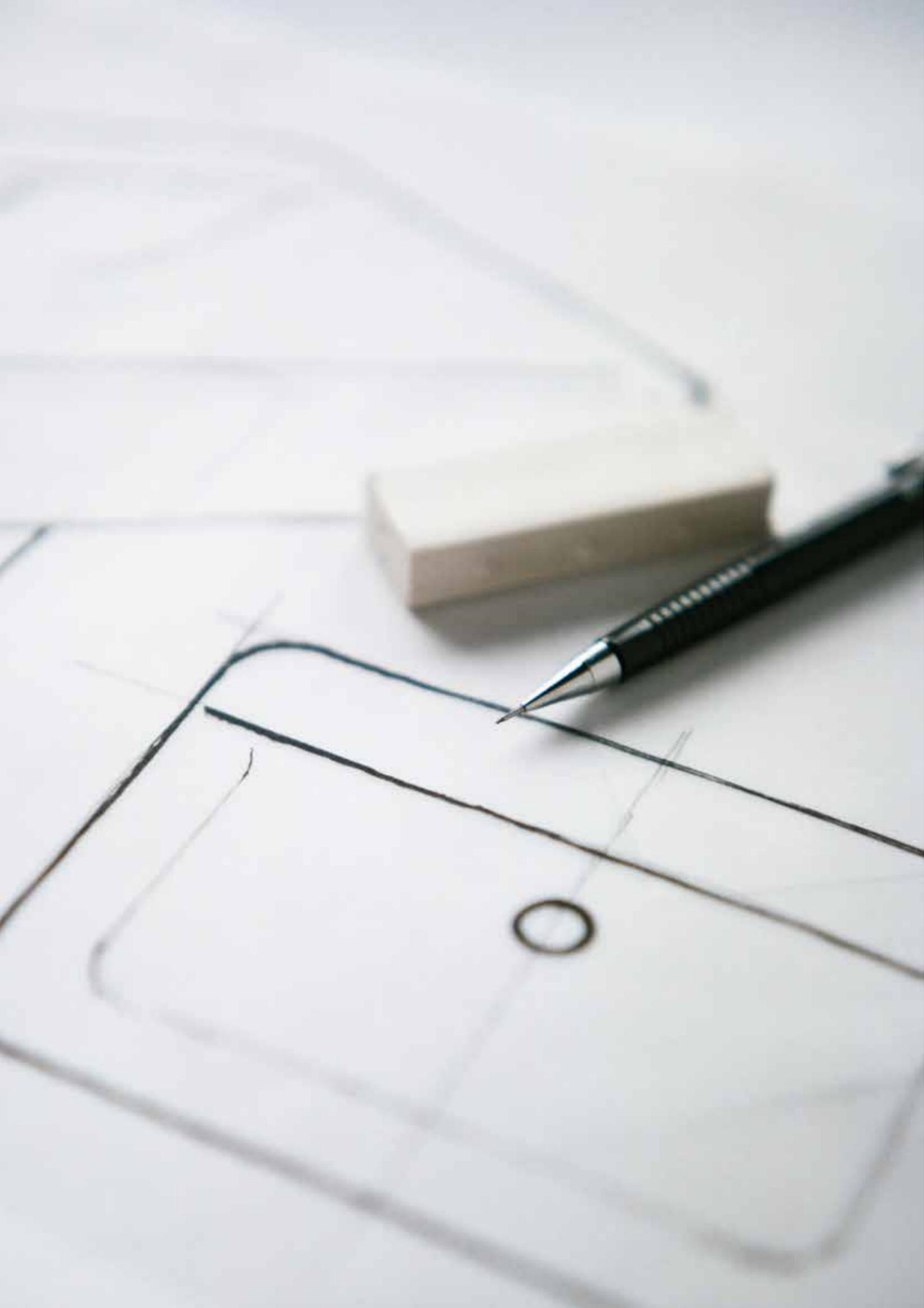


**S611001**  
CONTOUR 21  
Urinal.  
**S6286AA**  
Back inlet spreader.

**S632101**  
Aridian waterless urinal.  
**S612001**  
Vitreous china division.

**S611901**  
CONTOUR 21  
HygenIQ urinal.  
**S6286AA**  
Back inlet spreader.  
**A4854AA**  
Sensorflow21  
Urinal flush valve  
– panel mounted.





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## Technical Information Product Drawings, Specifications and Guarantees

### Contents

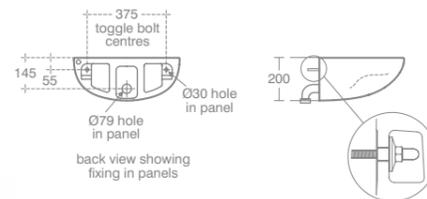
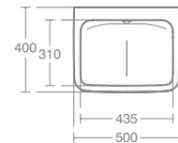
Hospital Ceramics	68
Hospital Brassware	74

# Hospital Ceramics

## S0430HY

CONTOUR 21+  
50cm back outlet basin.

- Hospital pattern washbasin for clinical use
- Patented anti splash "Hydrofin"
- SmartGuard+ antimicrobial glaze
- Concealed supply and waste with improved drainage minimises bacteria traps
- Non reservoir basin improves hygiene.



## S038867

CONTOUR 21+  
Basin fixation set.

## S038667

CONTOUR 21+  
Waste pack with Smart Guard for wall mounted basin.

SmartGuard\*



## S0435HY

CONTOUR 21+  
40cm back outlet basin  
with tap deck, RH.

- General pattern back outlet washbasin with left and right hand tap options
- SmartGuard+ antimicrobial glaze
- Small compact size
- Concealed supply and waste with improved drainage minimises bacteria traps.
- Unique thermostatic basin mixer with demountable body and detachable spout
- Smooth easy to clean shape improves hygiene.

## S038867

CONTOUR 21+  
Basin fixation set.

## S038767

CONTOUR 21+  
Waste pack with Smart Guard for tap Deck Basin.

## S0433HY

CONTOUR 21+  
40cm back outlet basin  
with tap deck, LH.

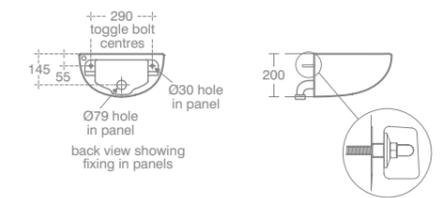
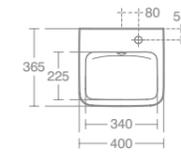
S038867  
CONTOUR 21+  
Basin fixation set.

## S038767

CONTOUR 21+  
Waste pack with Smart Guard for tap Deck Basin.

RH - right hand LH - left hand

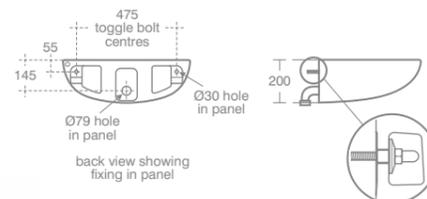
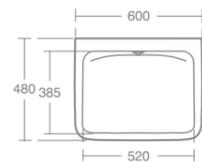
SmartGuard\*



## S0444HY

CONTOUR 21+  
60cm back outlet basin.

- Hospital pattern washbasin for clinical use
- Large basin, for use with wall mounted mixer
- Patented anti splash "Hydrofin"
- SmartGuard+ antimicrobial glaze
- Concealed supply and waste with improved drainage minimises bacteria traps
- Non reservoir basin improves hygiene.



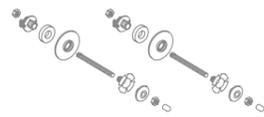
## S038867

CONTOUR 21+  
Basin fixation set.

## S038667

CONTOUR 21+  
Waste pack with Smart Guard for wall mounted basin.

SmartGuard\*



## S0432HY

CONTOUR 21+  
50cm back outlet basin  
with tap deck, RH.

- General pattern back outlet with left and right hand tap options
- SmartGuard+ antimicrobial glaze
- Small compact size
- Concealed supply and waste with improved drainage minimises bacteria traps
- Unique thermostatic basin mixer with demountable body and detachable spout
- Smooth easy to clean shape improves hygiene.

## S038867

CONTOUR 21+  
Basin fixation set.

## S038767

CONTOUR 21+  
Waste pack with Smart Guard for tap Deck Basin.

## S0431HY

CONTOUR 21+  
50cm back outlet basin  
with tap deck, LH.

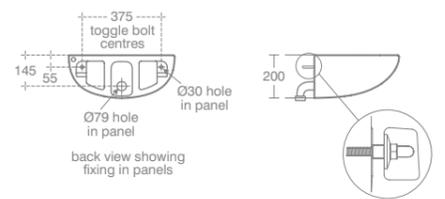
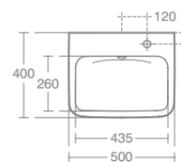
S038867  
CONTOUR 21+  
Basin fixation set.

## S038767

CONTOUR 21+  
Waste pack with Smart Guard for tap Deck Basin.

RH - right hand LH - left hand

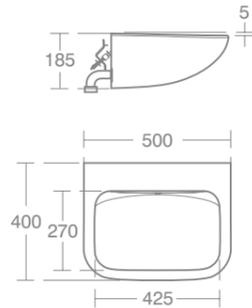
SmartGuard\*



# Hospital Ceramics

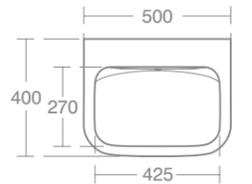
## S215401

CONTOUR 21  
50cm basin with back outlet,  
no overflow or tapholes.



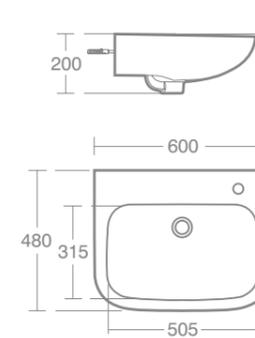
## S215501

CONTOUR 21  
60cm basin with back outlet,  
no overflow or tapholes.  
– Hospital pattern washbasin for clinical use  
– Large basin, for use with wall  
mounted mixer  
– Concealed supply and waste minimise  
bacteria traps  
– Non reservoir basin improves hygiene.



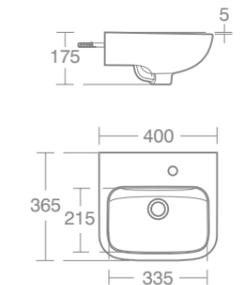
## S229801

Portman21  
60cm basin, no overflow or chain  
hole – one right hand taphole.  
– General pattern washbasin  
for non-clinical use  
– Medium size for extra washing capacity  
– Exposed supply and waste  
for easy maintenance  
– Smooth easy to clean shape.



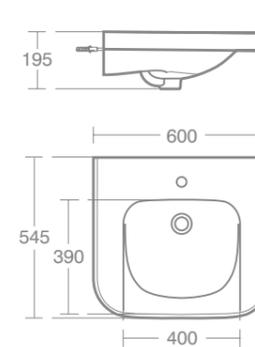
## S231401

Portman21  
40cm basin, no overflow or chain  
hole – one right hand taphole.  
– General pattern washbasin  
for non-clinical use  
– Small compact size  
– Exposed supply and waste  
for easy maintenance  
– Smooth easy to clean shape,  
improves hygiene.



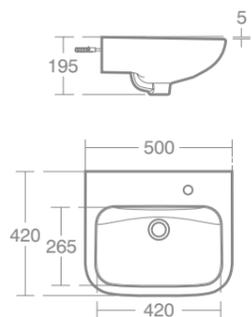
## S216801

CONTOUR 21  
60cm accessible basin –  
one centre taphole.  
– General pattern washbasin  
for non-clinical use  
– Unique design allows use  
from wheelchair  
– Exposed supply and waste  
for easy maintenance  
– Reservoir design for easy use.



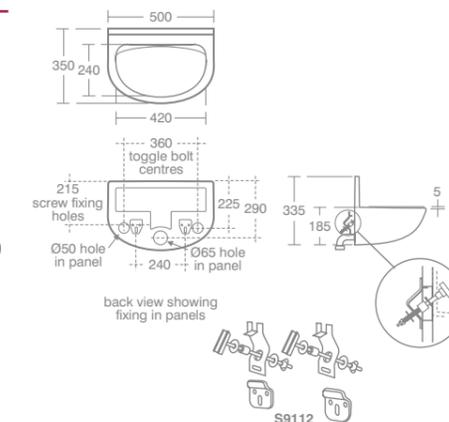
## S225401

Portman21  
50cm basin, no overflow or chain  
hole – one right hand taphole.  
– General pattern washbasin  
for non-clinical use  
– Medium size for extra washing capacity  
– Exposed supply and waste  
for easy maintenance  
– Smooth easy to clean shape.



## S214401

CONTOUR 21  
back outlet 50cm  
with upstand basin.  
– Hospital pattern back outlet washbasin  
for clinical use  
– Short projection basin with upstand,  
ideal where space is limited (e.g. corridors)  
for use with wall.



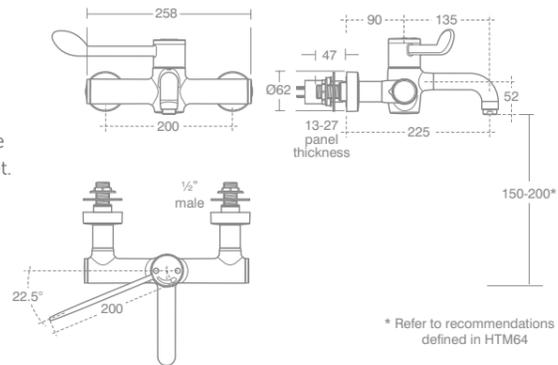


# Hospital Brassware

## A6682AA

MARKWIK 21+  
Demountable panel mounted  
mixer with detachable spout.

- Suitable for 15mm copper
- Single lever operation with large easy to use lever
- 200mm tap centres
- Easy access for maintenance
- No need to remove panels
- Horizontal spout
- Cleansing feature
- Insulate technology keeps fittings at body temperature and therefore safe
- With Bioguard Anti-Pseudomonas outlet.



\* Refer to recommendations defined in HTM64

## A6735AA

Fixed spout option.

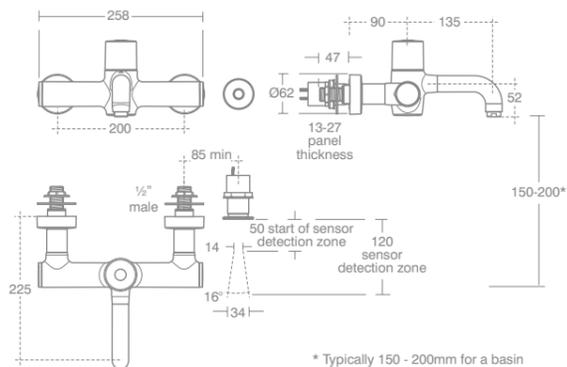
WRAS NO. 1704021



## A6684AA

MARKWIK 21 +  
Demountable panel mounted  
mixer with time flow sensor  
and detachable spout.

- Suitable for 15mm copper
- Sensor operated means no hand touch
- 200mm tap centres
- Easy access for maintenance
- No need to remove panels
- Horizontal spout
- Cleansing feature
- Insulate technology keeps fittings at body temperature and therefore safe
- With Bioguard Anti-Pseudomonas outlet.



\* Typically 150 - 200mm for a basin or 300mm for a surgeons scrub up trough. Recommendations as defined in HBN 00-10 Part C.

## A6737AA

Fixed spout option.

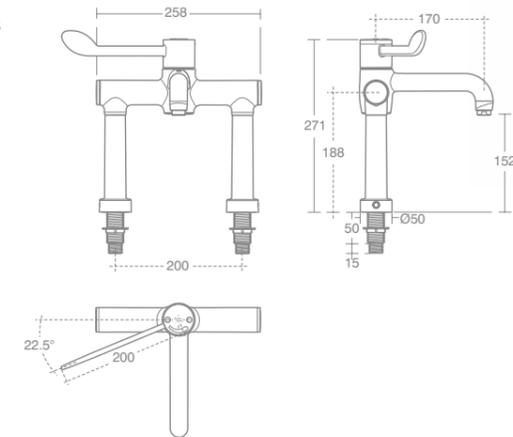
WRAS NO. 1705015



## A6734AA

MARKWIK 21+  
Deck mounted sequential  
thermostatic mixer.

- Suitable for 15mm copper
- Can be easily retro fitted on existing basins and sinks with 200mm tap centres
- Easy access for maintenance
- No need to remove panels
- Horizontal spout
- Cleansing feature
- Insulate technology keeps fittings at body temperature and therefore safe
- With Bioguard Anti-Pseudomonas outlet.



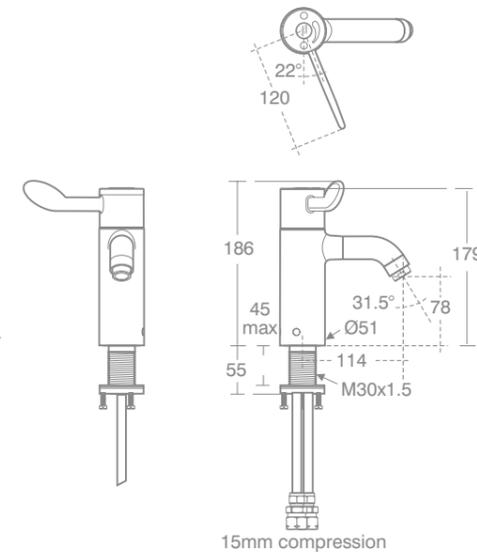
WRAS NO. 1704022



## A6696AA

MARKWIK 21+  
Thermostatic basin mixer with  
demountable body, detachable  
spout and copper inlets.

- Basin mixer with extended easy use lever particularly suitable for closed fist operation
- Suitable for healthcare and less abled bathrooms
- HTM 64 TP6
- Integral thermostat set at 41°C
- Sequential operation. To ensure system hygiene and user safety the water is always drawn from first cold and then the hot supply.



15mm compression

## A6791NU

MARKWIK 21+  
Fixing kit for use in conjunction  
with back outlet basin.

WRAS NO. 1705011



# Hospital Brassware

**A6252AA**  
100 Reach Spout  
For use in conjunction with Contour 21 clinical wall mounted upstand basin (S214401)



**A6250AA**  
135 Reach Spout  
For use in conjunction with Contour 21, 50 and 60cm clinical wall mounted washbasins (S215401 and S215501)



**A6255AA**  
Inlet Protection Caps



**F960847AA**  
Armitage BioGuard Outlet (retro-fit)



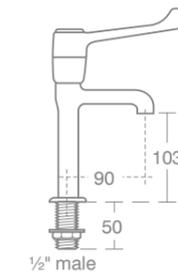
**A6898NU**  
Purging kit for 2 hole thermostatic mixers

**A6899NU**  
Purging kit for panel mounted thermostatic mixers



**S8265AA**  
MARKWIK  
High neck sink pillar taps.  
– Deck mounted chrome plated taps with 15cm levers  
– Suitable for closed fist operation.

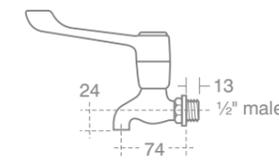
 WRAS NO. 1305006



**S8270AA**  
MARKWIK  
Lever action bib taps, including wall mounts and extensions.  
– Wall mounted chrome plated taps with 15cm levers  
– Suitable for closed fist operation  
– HTM 64 TB H1.

**B1686AA**  
Wall mounts not included.

 WRAS NO. 1611024



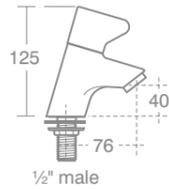
# Hospital Brassware

## B8262AA

Piccolo 21  
Pillar taps.

Suitable for 15mm copper.

- Deck mounted chrome plated brass taps with anti vandal indices
- Particularly suitable for contract use
- Suitable for closed fist operation
- HTM 64 TP5.

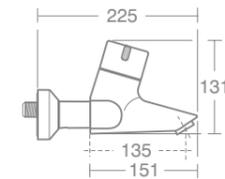
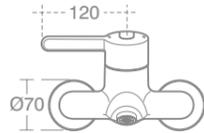


WRAS NO. 1611023

## A4135AA

CONTOUR 21  
Wall mounted thermostatic bath mixer.

- Single easy turn lever
- Sequential operation
- To ensure system hygiene and user safety the water is always drawn from first cold and then the hot supply
- 150mm tap centres
- Built in thermostat.



WRAS NO. 1703007

## A4846AA

Sensorflow Spout 150 Compact.

- Features an automatic purge facility (duty flush) where the tap can be set to run for an extended period during cleaning or maintenance. A run time of between 1 and 120 minutes will clear extensive pipe runs and outlets
- Available with a remote control for easy adjustment and activation of temporary flow stop for cleaning
- Downwards facing sensor to help eliminate false activation
- 3.7 lpm outlet.

WRAS NO. 1212015

## A4846AA

150 mains option.

## A4847AA

150 link option.

## A4849AA

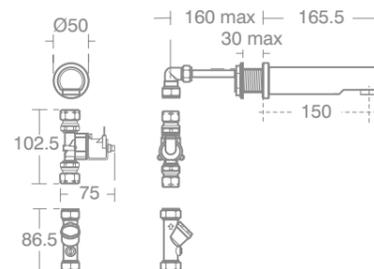
230 mains option.

## A4850AA

230 link option.

Colour options

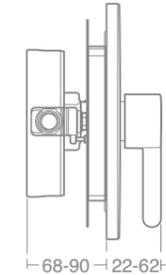
- Chromium Plated AA
- Brushed Steel GN.



## A4129AA

CONTOUR 21  
Built in thermostatic sequential shower.

- Suitable for 15mm copper
- Built in sequential shower
- Built in thermostat
- 120mm long lever suitable for closed fist operation
- Safety temperature stop
- Sequential operation
- To ensure system hygiene and user safety the water is always drawn from first cold and then the hot supply
- TMV3 approved.



WRAS NO. 1604039



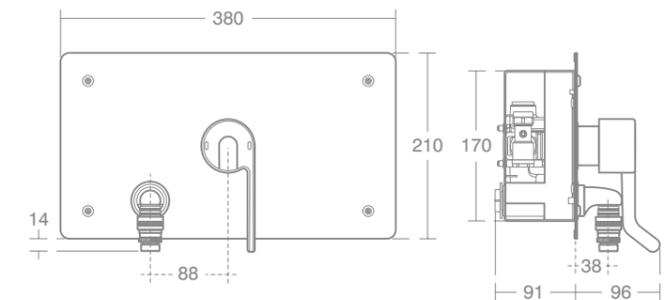
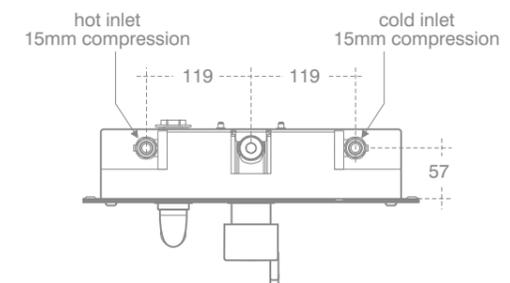
## A4314MY

Thermostatic shower and mounting box.

- Stainless Steel
- TMV3 approved.



Includes TMV3 approved valve A4129AA

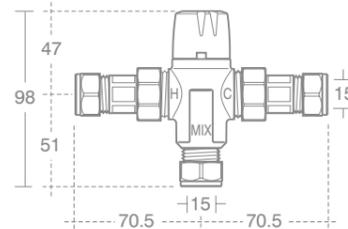


# Hospital Brassware

## A5900AA

Thermostatic mixing valve.

- Suitable for 15mm copper
- Automatic shut off if cold supply fails
- Multi-point usage
- Precise temperature control
- Anti tamper shield
- TMV3 scheme approved
- Suitable for 2 taphole basins.



## S636136

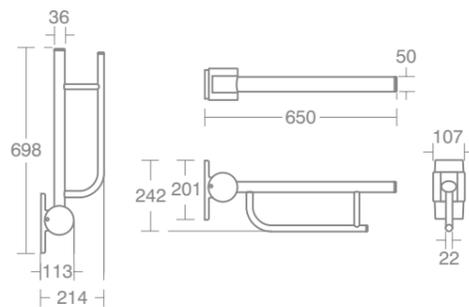
CONTOUR 21

65cm drop down grab rail in blue.

- Robust support that folds up and out of the way
- Concealed fixings for improved hygiene and security
- Slip resistant contact surfaces
- Capable of supporting 200kg
- Optional toilet roll holder.

Colour options

- Blue 36
- Grey LJ
- Charcoal RN
- White AC.



## S645436

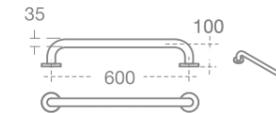
CONTOUR 21

60cm straight grab rail in blue.

Also available 45 cm straight grab rail.

Colour options

- Blue 36
- Grey LJ
- Charcoal RN
- White AC.



## S6481AC

CONTOUR 21

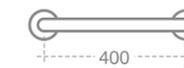
Back support rail for 70 cm projection.

## S688467

CONTOUR 21

Cushion for back support.

- Back rest for use with back-to-wall and wall hung WCs
- Fixed on polyester coated aluminium grab rail
- Padded one-piece backrest.



## S406636

CONTOUR 21

Seat no cover with retaining buffers.

- WC seat without lid in range of contrasting colours
- Seat retainers keep seat secure when transferring to WC.

Colour options

- Blue 36
- Grey LJ
- Charcoal RN
- White 01.



# Guarantee

## Lifetime

All ceramic products

## 5 years

On taps, mixers, toilet seats,  
stainless steel and cistern fittings

Our confidence in the quality and reliability of Armitage Shanks products enables us to guarantee many of them for a lifetime.

Our guarantee is offered on all products that have been used in the manner for which they were intended, and does not apply to any products that have been misused or abused in any way. Products must be installed and cared for in line with our fixing instructions and local water byelaws. In the unlikely event the product fails within the guarantee period, we offer a free replacement or replacement part (or nearest equivalent). We also reserve the right to repair the product. Liability is limited to individual products and does not cover consequential loss or damage on installation.

1. All ceramic products are guaranteed for a lifetime.
2. Showers, bath panels, furniture, mixers and taps, WC suite seats, stainless steel units and cistern fittings are guaranteed for five years from date of purchase. (Cistern seals are not included).
3. Parts (including push button flush valves) are guaranteed for five years and will be replaced if found to be faulty.
4. Cistern diaphragms, seals and shower seals are not included. Replacements may be purchased through our parts supply service.

## Conditions

1. This guarantee applies only to products purchased and installed in the United Kingdom or the Republic of Ireland.
2. Proof of purchase is required in the event of a claim.
3. Provision of the barcode/serial number will be required to enable product identification.
4. We must be given the opportunity to inspect the product, if we request to do so. The product should not be removed or destroyed before inspection without our consent. We may request photographic evidence in any investigation.
5. The product must have been installed, used and cared for in accordance with our instructions for installation and care. In addition, the products must have been installed in accordance with good plumbing practice.
6. Where our on-site investigation reveals that the reported fault was not due to a manufacturing or materials defect a callout charge will be applied.
7. Where we are satisfied that a defect has arisen because of faulty manufacturing or materials we will, at our option, repair or replace the product free of charge to you. If we choose to replace the product and we no longer manufacture the identical model we will replace it with the nearest equivalent in our then current range.
8. This guarantee does not apply to general wear and tear or where, in our opinion, the product has been modified, misused, neglected or wilfully or accidentally damaged.
9. This guarantee does not cover consequential damages or loss.
10. This guarantee does not cover damage and or malfunction caused by inappropriate cleaning (please refer to our recommended care and maintenance guidelines).
11. Mildew build up, the effects of lime scale and corrosion are not covered under this guarantee.
12. Guarantee is not transferable in cases where product is reinstalled in subsequent locations
13. Spare parts (excluding cistern diaphragms and seals) are subject to normal wear and tear and covered on all products for 2 years from installation. Spare parts are available for purchase through our parts supply service.
14. This guarantee does not affect your statutory rights.

April 2017

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Technical helpline  
**0870 122 8822**

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