

Hospital solutions

What Works and Why

An informative guide to hospital sanitary assemblies



*Armitage
Shanks*

System21
Sustainable Panel Solution

Working with Armitage Shanks

For almost 200 years Armitage Shanks has invested in design and production facilities throughout the UK and Europe. Our dedication to innovation, commitment to product development and belief in sustainable design is manifested in products whose scope, style and technical performance is unrivalled.

Healthcare solutions are a particular speciality of ours. Working closely with government agencies, architects and contractors, we have been at the forefront of sanitary healthcare product development for almost 50 years.

System21 is the latest result of these collaborations. It is a unique sanitary panel system developed in response to the stipulations of the new Performance Requirements for Building Elements Used in Healthcare Facilities (HBN) 00-10 Part C standard. Innovative design, and exclusive new materials, enable System21 to satisfy the increased sustainability and hygiene demands of (HBN) 00-10 Part C with an elegant, effective, integrated solution.



Infection Control Officer

"Infection control and general hygiene are of paramount importance in healthcare. Sanitary fittings that are easy to clean and actively protect patients are vital."



Nurse

"I want products that are easy to use and deliver hot water safely, are hygienic and meet the latest performance standards."



A Solution for Every Hospital and Care Facility

Specifying the appropriate sanitaryware assemblies and fittings for healthcare is a complex, detailed and important decision.

Through its work with government agencies, and other professionals, Armitage Shanks has helped to establish the functional requirements of healthcare sanitaryware and sanitary panel systems. Both Health Technical Memorandum 64 and its successor (in England), Health Building Note (HBN) 00-10 Part C: Sanitary assemblies are results of this long association. Together they address product selection and room layout in a range of healthcare applications and create a powerful tool in the on-going battle against healthcare acquired infections (HAI).

Contour21 is Armitage Shanks' newest healthcare-specific range. The smooth, organically shaped sanitaryware is designed to improve hygiene by facilitating more effective cleaning and eliminating potential "dirt traps", which can promote bacterial growth. Its sister range of Markwik21 brassware continues the fight against infection through the use of unique technologies such as thermal disinfection and patent-pending Bioguard Anti-Pseudomonas outlets.

Such intelligent product design is only part of the solution to new 'super-bugs', the overall execution of the hospital sanitary facility is equally important. Document HFN 30 outlines how facility layout can also help stop the spread of infection. Hygiene focused solutions must also possess a low carbon footprint and minimise lifetime costs. In response, Armitage Shanks has collaborated with leading sustainability experts to create System21, a state of the art sanitary panel system for the healthcare sector. This ultra-hygienic fully sustainable system is made from 100% recycled materials and can itself be fully recycled.

The following pages will outline the extensive Armitage Shanks healthcare range, summarise each relevant government standard and highlight the steps necessary to design a functional, hygienic and sustainable healthcare sanitary facility.



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Knowledge Healthcare Sanitary Assembly Guidance

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Q : Why is it important to keep up to date on healthcare legislation and guidance?

A : On-going research prompts new thinking on healthcare facility design, the Department of Health reflects this in revisions to its codes of practice.



"We all want to do the best we can for our patients and their treatment really is a team effort. Having sanitary facilities that are on hand and that just keep on working lets me spend more time on patient care."

Catherine Young, Nurse



Healthcare Sanitary Assemblies Legislation & Guidance

A key element within the provision of healthcare specifications is an understanding of the latest legislation and guidance. Over the next few pages the relevant Government & Healthcare publications are outlined.

PERFORMANCE REQUIREMENTS FOR BUILDING ELEMENTS IN HEALTHCARE FACILITIES (HBN) 00-10

Health Building Note (HBN) 00-10 Part C: Sanitary assemblies which now captures panel assemblies, ceilings and flooring. It provides sanitaryware assembly specifications for use within patient and clinical areas as well as guidance on sustainability within healthcare facilities.

The Department of Health's new (HBN) 00-10 outlines performance requirements for building elements used in healthcare facilities and contains a set of quality and safety standards that must be complied with. It supersedes HTM 64, 68 and describes the relevant standards that commissioning organisations should include in their contracts with healthcare providers.

The building elements featured within (HBN) 00-10 are:

- floor finishes and skirting details (Part A)
- walls and partitions (Part B)
- ceilings (Part C)
- sanitaryware and pre-plumbed assemblies (Part C)

Under (HBN) 00-10 the Department of Health requires all new builds to achieve an "excellent" sustainability rating and all refurbishments to achieve a "very good" sustainability rating, measured against the BREEAM Healthcare criteria. While the specification of water and energy saving products will help to reach the tough new targets, all parties involved in healthcare projects must also think

about selecting products and materials with a low life-time environmental cost.

(HBN) 00-10 addresses infection control and hygiene and states that any panels that are a part of a sanitary assembly must be "easy to clean, durable and impervious". Generally, sanitary panel solutions have a chipboard or MDF core, protected by laminate and edged in PVCu or melamine. If the panel surface or edges are compromised in any way, water and bacteria will penetrate and infect the core. Damaged panels have to be replaced to minimize the infection risk they represent. In addition, panels must now be hinged instead of lift on, lift off.

HEALTH TECHNICAL MEMORANDA 64, SANITARY ASSEMBLIES (HTM 64)

HTM 64 remains in force throughout Scotland, Wales and Northern Ireland. It provides detailed sanitaryware assembly specifications for healthcare use.

HTM 64 is one of a series of healthcare publications that provides design guidance specifically for health buildings. It is applicable to all new build and refurbishment (or repair) healthcare projects. Within HTM 64, a sanitary assembly is described as "comprising a soil or waste appliance

and appropriate supply and waste fittings". It then splits assemblies into two categories:

- General Pattern; used by patients, staff and visitors for non-clinical activities.
- Hospital Pattern; used by healthcare staff in connection with clinical procedures.

Basins provide a simple example of the difference. General Pattern basins facilitate hand washing in a water

reservoir, so a plug is specified to allow this. In contrast, Hospital Pattern basins only allow hand washing under running water and so have a back outlet without a plug.

HTM 64 provides a comprehensive guide to General and Hospital Pattern sanitary assemblies and is the foundation upon which all other design decisions are made.

"This major change to the current guidance must be clearly understood by construction professionals."

"Panel assemblies must be demonstrably sustainable against both government and independent criteria."



HEALTH BUILDING NOTE 00-02

HBN 00-02 provides specific sanitary facility layouts using the assemblies in HTM 64, for patient and medical areas.

Volume 1, Part B, Sanitary Spaces, of HBN 00-02 provides best practice guidance on the design of clinical sanitary facilities in healthcare buildings. It places the individual sanitary assemblies from HTM 64 in a room that is safe, accessible and fit for purpose. HBN 00-02 is applicable to

all new build healthcare projects and, where practical, refurbishments. HBN 00-02 identifies four categories of clinical healthcare sanitary spaces:

- Standard, for fully ambulant users.
- Semi-Ambulant Accessible, for people who walk with difficulty.
- Independent Wheelchair Accessible, for those who operate their own wheelchair.
- Assisted, for those who need the help of two or more staff to use the facilities.

Within the document there are detailed layouts that cater for the unique needs of each category of user. HBN 00-02 focuses solely on patient facilities, it does not address non-clinical areas. It should also be noted that HBN 00-02 supersedes Part M of the Building Regulations within patient areas of healthcare buildings.

BRITISH STANDARD 6465-1:2006, SANITARY INSTALLATIONS, PART 1

BS 6465 provides general advice on the design of washrooms and the scale of sanitary provision in new buildings and those being refurbished.

While the Standard does not specifically cover healthcare facilities, the BSi refers the specifier to the

"information on the scale of provision, ergonomic data and the special requirements for sanitary appliances... found in the various guidance documents produced by the NHS, HTM 64 and HBN 00-02 amongst them".

However, BS 6465 can provide scale of provision guidance for both staff

and visitor non-clinical washrooms, facilities not covered by other publications. Section 6.4 of BS 6465 covers the design and size of sanitary facilities in the workplace and can be used to assess the non-clinical washroom needs of hospital staff and visitors.

BUILDING REGULATIONS 2000, SCHEDULE 1, PART M

Part M provides information on the design and number of disabled facilities that are appropriate for staff and visitor washrooms within healthcare facilities.

Section 5 of Part M regulates the "Sanitary Accommodation in Buildings other than Dwellings" for those who are either permanently or temporarily disabled. In healthcare buildings Part M will principally apply to non-clinical staff and visitor washrooms, its scale

of provision requirements can be summarised as follows:

- In a healthcare building having only one toilet, it must be unisex and accessible by wheelchair users.
- In a healthcare building with several washrooms, a unisex wheelchair accessible toilet must be provided close to the location of each one.
- In every non-clinical washroom within a healthcare building, each range

of WC cubicles must contain one Ambulant Disabled Cubicle.

- In every non-clinical washroom within a healthcare building that has four or more WC cubicles, one must be an Enlarged Cubicle. This is in addition to an Ambulant Disabled Cubicle.

Further information and sample layouts can be found in the Armitage Shanks Essential Specifiers Series Guide "Part M Solutions... What Works and Why".



"Suitable sanitary facilities must be provided for patients, staff and visitors. The individual needs of each group should be assessed and provided for."



Infection Control

Fighting Legionella & Pseudomonas Aeruginosa

The chain of infection which propagates and transmits bacteria in healthcare facilities can be broken by modern technology and common sense procedures.

LEGIONELLA

Legionella bacteria are naturally occurring organisms present in many water systems that can cause the development of Legionnaires' disease in people exposed to them. The water conditions liable to affect the growth of Legionella in water systems are varied, however HSE ACOP Document (Ref 4), states that:

- Legionella bacteria will not multiply at water temperatures below 20°C.
- Legionella bacteria proliferate between water temperatures of 20°C and 45°C.
- Legionella bacteria will die at water temperatures above 60°C.

Minimising the growth of Legionella is possible through water system design when supported by regular

risk assessments carried out by qualified staff. The practices below are critical to the success of any anti-legionella program.

- Water distribution systems should be well maintained and kept in a hygienic condition.
- Water supplies should be distributed to the point of mixing at appropriate temperatures, below 20°C for cold and above 55°C for hot.
- Point of use thermostatic mixers are recommended. Mixing remotely and distributing warm water to multiple points should be avoided.
- Hot water should be stored at or above 60°C. Water temperatures should be monitored throughout the building on a regular basis.

- Hot and cold supplies should be kept separate and properly insulated to maintain safe temperatures prior to mixing.

- In high risk areas specify fittings with a thermal disinfection facility, supported by a regular sanitisation regime.
- In very high risk areas special medical filters could be considered on all sanitary fittings. Filters must be changed regularly to maintain their protection.
- Markwik21 and Sensorflow21 include a duty flush system that automatically flush the fittings with clean water on a regular basis, helping to reduce biofilm build-up.

PSEUDOMONAS AERUGINOSA

Pseudomonas Aeruginosa is a common bacterium that can cause disease in humans. It is found in soil, water, skin flora, and most man-made environments throughout the World. Because it thrives on most surfaces, Pseudomonas can be found on, and inside, medical equipment such as catheters making it a leading cause of HAI:

- Pseudomonas usually infects people who are immune deficient or whose immune system is suppressed, such as hospital patients.
- Healthy people can usually fight off Pseudomonas very successfully before any symptoms become apparent.

Pseudomonas can also survive in healthcare water systems. The bacterium has been found to colonise the last 2 metres of the water supply system before the outlet. In this scenario it is likely that pipes, isolation valves, strainers and the tap or mixer itself will all become infected. Such contamination may be caused by water that contains Pseudomonas or by the bacteria entering the system via contaminated hands, cloths or medical equipment contacting the outlet. To prevent the spread of Pseudomonas several actions are recommended:

- Regularly check the water supply in all parts of the building for Pseudomonas.
- Use all water fittings such as taps, mixers and showers frequently to

eliminate "standing" water, either manually or by electronic duty flush.

- Clean the outlets of all fittings correctly and often.
- The use of medical filters in high-risk areas like intensive care units and oncology could be considered.
- The use of an unrestricted outlet may be appropriate (see image below left).
- Follow the guidelines in HTM 04-01: (The control of Legionella, hygiene, "safe" hot water, cold water and drinking water systems (Part A and Part B)), and HFN 30 (Infection Control in the Built Environment).
- Implement infection control procedures in appropriate sanitary facilities.

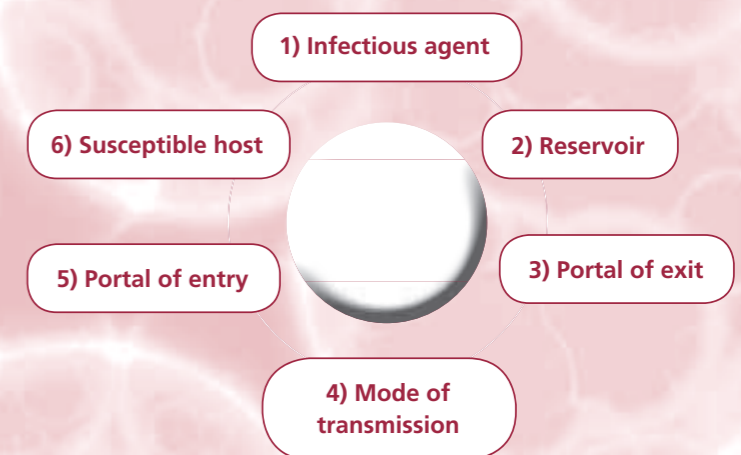
"High levels of Pseudomonas bacteria are often found in the outlets of taps or mixers, especially those fitted with flow modifying devices."



F960847AA Markwik21
Bioguard Outlet

Breaking the chain of infection

- 1/ Infectious agent**
The bug that causes the disease
- 2/ Reservoir**
The place where the bug reproduces
- 3/ Portal of exit**
The means the bug uses to leave the reservoir
- 4/ Mode of transmission**
The way in which the bug moves from place to place
- 5/ Portal of entry**
The means the bug uses to get inside the host
- 6/ Susceptible host**
A sick patient unable to fight the bug



Advancements in Ceramics & Fittings Technology

Contour21 ceramics basins and WCs are specially designed and developed to help combat healthcare acquired infections (HAI's)

DESIGN-LED SOLUTIONS FOR PATIENT CARE

An American study found an 11% reduction in infection rates in a new private room facility compared to the more traditional layout of older buildings.

The American Institute of Architects changed its hospital design guidelines in July 2006 to recommend individual rooms. The biggest impact an architect can have on the spread of infection is to provide single occupancy rooms. In the UK, the NHS Confederation has gone even further; it suggests single rooms with en-suite facilities as a way of optimising infection control. The cost of such a design should be viewed in the long term. The financial savings from efficient control are, according to a Philadelphia study, three times the cost of control measures.

In October 2006 the Department of Health published the 'Code of Practice for the Prevention and Control of HAI'. Section 4e states that 'An NHS body must... ensure adequate provision of suitable hand wash facilities'. Basins should be sited, in addition to washroom applications, in all patient areas, treatment rooms, sluices and kitchens. In clinical areas they should be fitted with wrist or elbow operated mixer taps or ideally a mixer with automatic 'no touch' operation.

Beyond building design and hand washing facilities, specifying products designed to break the chain of infection will produce a safer environment. The best way to stop HAI is to eliminate the infectious agent or deny it a reservoir in which

to grow. Armitage Shanks products are designed to do just that.

The Contour21 Basin

The Contour21 basin doesn't have any tapholes, it doesn't have an overflow, or a chain hole or a plug. What it has is concealed fixing brackets and an integral back outlet. There are virtually no 'reservoirs' in which water can promote the growth of bacteria.

The Rimless Contour21 WC

In most WCs the rim serves one function; to guide the flush water around the bowl. Unfortunately, it also provides a residence for bacteria. The rimless Contour21 WC has no rim. A single, easy to disinfect, outlet works with an internal bowl design to flush the WC. Performance and hygiene, by design.



"Markwik21's new anti-Pseudomonas Bioguard outlet provides additional protection by reducing the chances of bio-film build-up."

Infection Control, Contour21, Markwik21 & Sensorflow21 Fittings

Armitage Shanks healthcare fittings are designed and regularly updated to take into account the latest research and knowledge

FIGHTING HEALTHCARE ACQUIRED INFECTIONS (HAI)

Armitage Shanks' range of Markwik21 and Sensorflow21 taps and mixers build on their successful past and utilise the latest technologies and materials to fight HAI:

- Markwik21 has a unique thermal disinfection feature that enables hot water, at distribution temperature, to be flushed through both hot and cold sides of the fitting. This thermally cleanses the entire mixer including the outlet.
- Markwik21 electronic fittings feature an automated hygiene flushing system that can be set to flush water through the fitting every 6, 12, 24, 48 or 72 hours after the last use. Each flush lasts for 60 seconds and refreshes the water supply in hot and cold pipes and the fitting. This

reduces the risk of bacterial growth in low use areas.

- Sensorflow21 electronic fittings feature an automatic purge facility (duty flush) where the tap or mixer 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.
- Markwik21 fittings can be supplied with a patent pending anti-Pseudomonas Bioguard outlet that has no grid and a smooth copper lining (copper acts as a natural bacteria growth inhibitor). These outlets are also available for retro fittings.
- Armitage Shanks electronic mixers use nitrile diaphragms instead of the EDPM rubber used by many others.

- Sensorflow21 and Contour21 are supplied with copper tails instead of flexible hoses that are known to sometimes harbour bacteria.

- Markwik21's optional purging kit facilitates quick removal of debris prior to commissioning, which can promote bacterial growth, from water supply pipes without damaging the fitting.

- Markwik21's optional disinfection kit allows the tap to be thermally disinfected when a hot water supply temperature above 61°C is available.

- Markwik21 manual lever outlets can be converted to a battery operated electronic fitting with remote control operated automatic purge (duty flushing) – code reference: A963379AA.

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Q : How does Armitage Shanks keep pace with the changing healthcare needs?

A : By working with healthcare professionals and experts such as bio-scientists, Armitage Shanks continually assesses and responds to the challenges of the sector.

Introducing System21 The Sustainable Panel Solution



System21 Sustainable Panel Solution

New challenges require innovative solutions. Armitage Shanks' unique understanding of the new (HBN) 00-10 healthcare legislation prompted the development of an exciting new healthcare range called System21.

Designed in response to the key differences between HTM64 and (HBN) 00-10, namely improved sustainability and infection control, System21 uses our vast experience of pre-plumbed panel systems, and innovative new materials, to fully satisfy the demands of (HBN) 00-10.

BREEAM's Healthcare standard provides the mandated sustainability targets for (HBN) 00-10. Healthcare projects must meet BREEAM's "excellent" or "very good" sustainability rating for new builds and refurbishments respectively. Water efficient sanitary fittings alone may not be enough to reach these levels. However, specifying them pre-plumbed to System21's sustainable panels will help create a sanitary facility that contributes to a healthcare project achieving its required standard.

Hygiene and infection control are fundamental to (HBN) 00-10. The standard requires any healthcare sanitary panel assembly to be "easy to clean, durable and impervious." Traditional laminate-faced wooden-core panels are prone to water penetration, often the first step towards bacterial growth. In contrast System21's "plastic" loadbearing panels resist all water ingress, even that from intensive cleaning and washing. Their material and construction effectively eliminate a common haven for bacteria.

System21; A Complete Solution

System21 uses Armitage Shanks vast experience of panel systems and embraces new materials to fully satisfy the requirements of (HBN) 00-10.

GENERAL FEATURES AND BENEFITS

✓ A Sustainable Solution

- Panels are made from 100% recycled materials.
- Up to a 75% lower manufacturing carbon footprint.
- Easy installation means it can be fitted by local labour.
- Much longer life expectancy than traditional panel systems.
- Panels are load bearing, ultra durable and easily repairable.
- Contributes to an "excellent" BREEAM rating.
- Old panels can be recycled back into new panels.
- Direct to site delivery of complete pre-plumbed panel assemblies including sanitaryware.

✓ A Hygienic Solution

- No hard to clean panel splits, fully sealed access system, eliminates potential infection control issues.
- All panels are 100% waterproof, including the inner core.
- Panels are resistant to commercial cleaning chemicals.
- Panels can be recessed to meet vinyl flooring joints.
- Grabrails can be provided that recess into panels without the need for flanges.

✓ High Performing

- 36 dB acoustic performance for "Good" rated sound insulation.
- Thermal conductivity of 0.068 W/mK.
- Fire rated to BS 476 Class 1
- Excellent chemical resistance to both acids and alkalis.
- Solid material that is impervious to moisture.
- Load bearing WC tested in excess of 400Kg requirement (WC is bolted directly to the panel - no need for additional brackets or support).

System21 is the latest in a long line of innovative solutions combining our experience with expert advice and sustained research. Developed together with off-site specialists, this complete panel solution provides many key advantages over current IPS systems. Below you will find a summary of these:

PRODUCT COMPARISON

| Feature | IPS System | System21 |
|---|------------|----------|
| No metal or wooden fixing frame needed | X | ✓ |
| No panel splits - perfect for clinical application | X | ✓ |
| Material made from 100% recycled product | X | ✓ |
| Can be recycled into new panels | X | ✓ |
| 100% waterproof | X | ✓ |
| Single panel construction | X | ✓ |
| Easy fit (local installers can be used to reduce carbon footprint) | X | ✓ |
| Dispensers can be fixed and waterproof properties remain | X | ✓ |
| Panel can be recessed to accept vinyl flooring joints | X | ✓ |
| Supports Latest BREEAM & LEED (Highest Ratings) | X | ✓ |
| Grabrails - no flange option available | X | ✓ |
| Panels can be easily repaired including holes left from dispensers etc. | X | ✓ |
| Panel is fully load bearing without additional support or wall bracket | X | ✓ |
| Sealed, hinged and lockable access panels | X | ✓ |



Fully load bearing



100% waterproof



Grabrail, no flange option



100% recyclable



Mirror access panels (lockable)



Side panel access (hinged and lockable)



Lockable access panels



Single panel construction

Sustainability & Durability

Using a unique mix of recycled materials and a patented process, System21 is the most sustainable panel solution available today.

LONG LIFE SUSTAINABLE PANEL SYSTEMS

System21 is made using a patented process from 100% recycled material including items such as yoghurt pots and fridge liners.

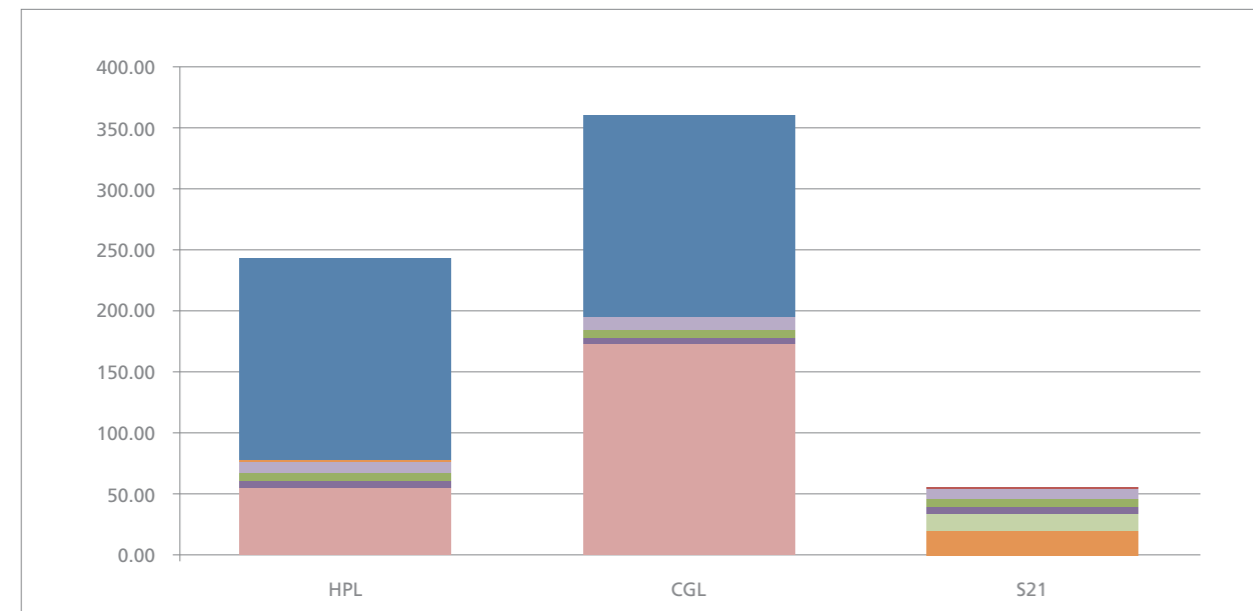
The panels can also be collected from site at the end of their life and recycled back into new panels, helping building owners to achieve the top scores in

BREEAM, LEED and similar schemes whilst protecting the environment.

Part of the system's environmental responsibility is its durability. Each panel is load bearing and does not require additional timber or metal supports. They are 100% waterproof, eliminating the risk of core and facing materials delaminating during use

or after cleaning. Even fixing holes for fixtures like soap dispensers can be repaired to maintain hygiene performance and extend working life.

System21 manufacturing process produces up to 75% less carbon emissions than existing IPS systems - providing the greenest panel solution available today.



Based on a recessed clinical basin unit

Quantitative assessment for High Pressure Laminate (HPL), Compact Grade Laminate (CGL), System21 (S21). Conducted by Brendan Patchell FRICS, Senior Quantity Surveyor, Rider Levett Bucknall

- Aluminium Recycled
- Brass
- Ceramic Generally
- Copper
- Insulation Cellularglass
- Melamine
- Recycled Polypropylene
- Recycled Polypropylene Exfoliated
- uPVC

ECO MEASURES CALCULATOR

An increasingly important aspect of every construction project is its sustainability and environmental performance.

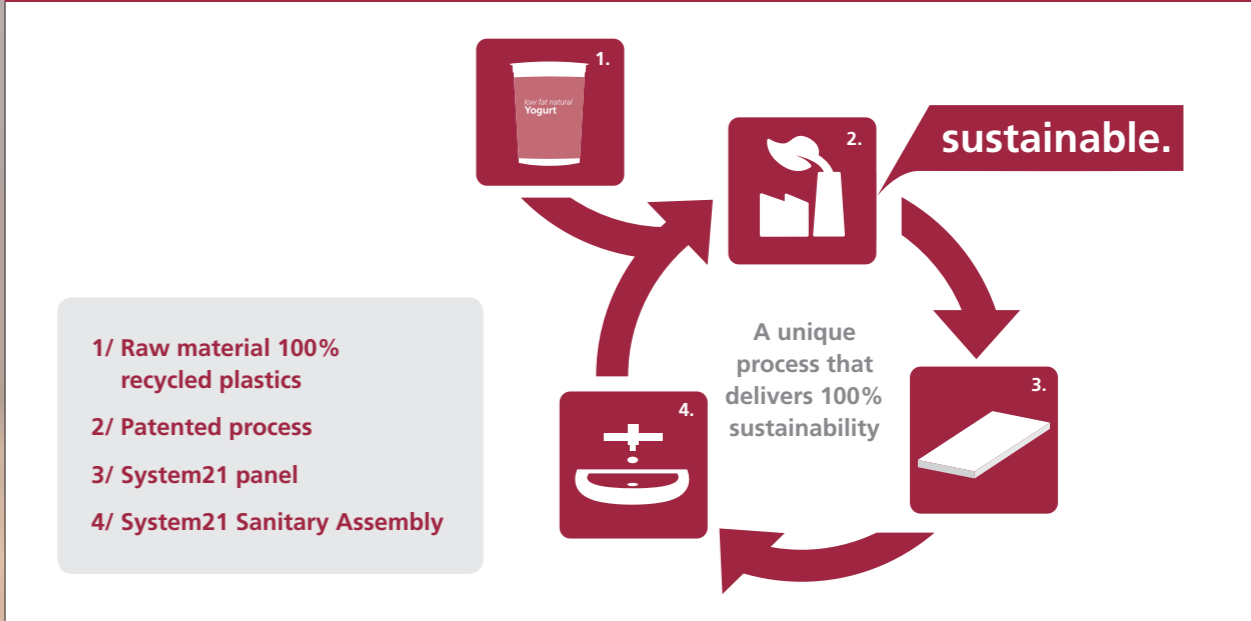
Healthcare projects are no exception, however the complex task of

balancing sanitaryware performance against sustainability is made easier by the Armitage Shanks Eco Measures Calculator.

Part of the Idealspec™ specification system, the Eco Measures Calculator

provides the information needed to determine if a product meets target sustainability goals. Data on issues such as embodied energy, life cycle cost, water efficiency, Part G, BREEAM and LEED points are provided for all Armitage Shanks ware and fittings.

PRODUCT RENEWAL



From Design To Installation

Design Service

Design is the key to every project we undertake; ensuring that all aspects of our work are correctly coordinated, dimensioned and detailed is essential to the successful execution of all aspects of System21.

Our design team has extensive technical knowledge relating to the manufacture and construction of all of our products and systems. The architectural details of each project are analysed and converted to detailed System21 assembly drawings.

All of our designers operate the latest version of AutoCAD and Inventor 3D design software. We are also able to offer 3D including BIM modelling to our clients.



Off-Site Manufacture

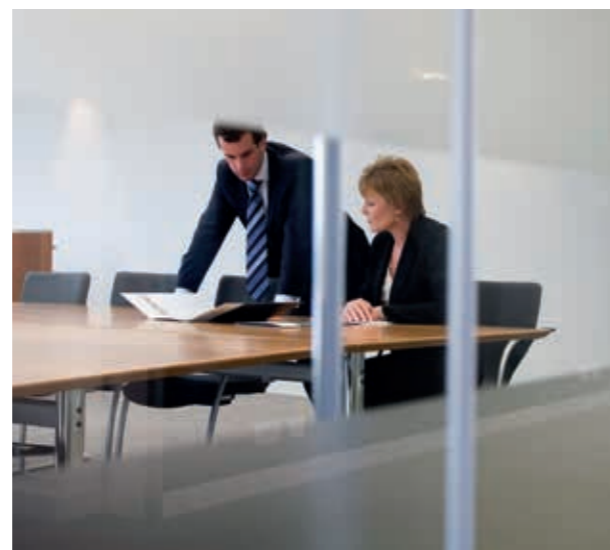
All System21 panels are produced in the UK at a dedicated facility using UK sourced recycled materials. This large facility has the space needed for the off-site manufacture and assembly of panels. An adjacent storage facility enables the production team to manufacture whole projects in advance, and store panels ready for call off by the on-site project team.

The pre-plumbing of all panels in a clean off-site facility means that Armitage Shanks can guarantee consistent quality and provide significant risk reduction for building projects. System21 is designed and produced to suit individual project needs with both standard assemblies available and bespoke solutions.

Training Service

Although each System21 unit will be shipped fully assembled with only service connections and simple brackets to be installed on site, Armitage Shanks can provide a supply and training service.

The training package can be tailored to suit your needs, both from a time and cost point of view. For further information and to discuss your needs please contact Armitage Shanks Business Support on 0870 129 8587. The training will include topics such as the evolution of off-site manufacturing from IPS to System21, how System21 is made including material and process technologies, performance measures, lifetime cost calculations, recycling of System21, installation cost savings, practical assembly training, cleaning graffiti and resistance to chemicals, repairing panels and much more.



BREEAM Best practice in sustainable development

The Building Research Establishment set up BREEAM (Building Research Establishment Environmental Assessment Method) as a way to determine the environmental performance of buildings.

As the World's longest established and most widely used assessment scheme, it "sets the standard for best practice in sustainable development" and measures each building's level of achievement. BREEAM for healthcare projects has replaced the old NHS Environmental Tool (NEAT), as the government's preferred environmental assessment and certification system for UK's healthcare developments including:

- Teaching & Specialist Hospitals
- General Acute Hospitals
- Community & Mental Health Hospitals
- Health Centres & Clinics
- GP Surgeries

Under the BREEAM standard and (HBN) 00-10, new healthcare builds are required to achieve an "excellent" rating and refurbishment projects must achieve a "very good" rating. Failing to do so will jeopardise Department

of Health approval of the project. To ensure compliance BREEAM can be used at the initial design stage and post construction.

The benefits of a BREEAM healthcare building extend to both designer and client; the client receives a building that is economic to run, while the designer can clearly demonstrate compliance with environmental objectives.

| Credit Ref | BREEAM Description | How System21 helps BREEAM | Points available |
|------------|---|--|------------------|
| M20 | Where evidence provided demonstrates that specifications for the building and the building services/systems and landscaping have considered ease and efficiency of maintenance in line with best practice | System21 has fewer joints than the systems it replaces and its surface can be easily maintained and repaired. Its design is in line with BSF best guidance and has been conceived in terms of whole life cost with emphasis on ease of maintenance | 0.75 |
| M21 | Whole life costing | System21 does not require painting or grouting, is robust and easy to clean and designed to deter vandals. At end of life System21 is easily removed and replaced, there will be no landfill costs and the material can be readily recycled into new product. System21's design is centred on whole life cost as indivisible from its environmental profile and conception | 1.5 |
| HW13 | Where the design team will review and minimise the use of all finishes and fittings containing VOCs | Unlike Compact Grade Laminate or MDF, System21 does not use phenol resins or formaldehydes | 0.83 |
| MW01 | Where at least 80% by area of the internal walls achieve an A rating in the Green Guide to Specification | System21 is a recycled product that actively removes unsorted plastic waste from the environment. As a panel solution it contributes actively to the internal wall area. Armitage Shanks are applying for a Green Guide listing and we are confident of the strength of our environmental credentials | 0.556 |
| MW08 | Where materials are used in structural and non-structural elements are responsibly sourced – requirement that non timber products have EMS certification at either the process stage or the process and extraction phases | The System21 process has ISO140001 certification and System21 is sourced from previously unstable unsorted plastic waste and plastic waste for which the market has collapsed and is being stockpiled | 1.668 |
| MW10 | Where protection is given to vulnerable parts of the building such as areas exposed to high pedestrian traffic, vehicular and trolley movements | System21 is robust to a much greater degree than a painted surface or tiled one. Scuffs can be easily repaired and it is denser than a plasterboard wall and considerably stronger and will therefore be resistant to damage | 0.556 |



Hospital Products

Exceptional Solutions for Hospital Bathrooms

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Q : How can I be sure that I am specifying the right solutions for each room type?

A : The following pages detail sanitary assembly solutions that meet Government guidance and legislation.

WC H Ambulant



S5508VD
Recessed panel NHS General Pattern, 40cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

Comprising of:

S231401 PORTMAN21
40cm basin no overflow or chain hole – one right hand taphole.

A4169AA CONTOUR21
Single lever one taphole sequential thermostatic basin mixer.

S5542VD
Recessed panel NHS, WC WH Standard Projection, 900 wide, 2400 high and access through access hatch.

Comprising of:

S307601 CONTOUR21
Rimless wall hung WC pan – standard projection.

S406636 CONTOUR21
Top fix toilet seat only with restraint lugs in blue.

For complete technical information please call 0870 129 8587

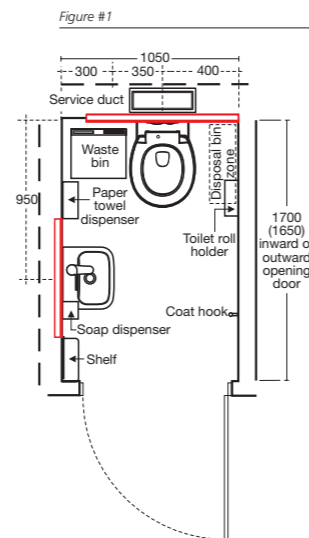


Figure #1
Standard WC with handrinse basin

WC H Semi-Ambulant



S5508VE
Recessed panel NHS General Pattern, 40cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

S6454LJ
600mm grabrails for System21 in grey x2.

Comprising of:

S231401 PORTMAN21
40cm basin no overflow or chain hole – one right hand taphole.

A4169AA CONTOUR21
Single lever one taphole sequential thermostatic basin mixer – no waste.

S5542VE
Recessed panel NHS WC WH Standard Projection 900 wide 2400 high - access through flushplate.

S6361LJ
Hinged support rail 650mm in grey x1.

S6363LJ
Toilet roll holder in grey x1.

S6454LJ
600mm grabrail for System21 in grey x1.

Comprising of:

S307601 CONTOUR21
Rimless wall hung WC pan – standard projection.

S4066LJ CONTOUR21
Top fix toilet seat only with restraint lugs in grey.

S6454LJ
600mm grabrails in grey x2.

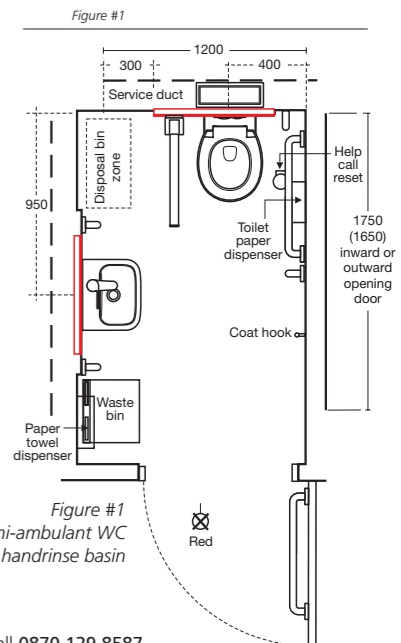


Figure #1
Semi-ambulant WC with handrinse basin

For complete technical information please call 0870 129 8587

WC HD Independent Wheelchair WC



S5508VE

Recessed panel NHS General Pattern, 40cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

S6454LJ

600mm grabrails in grey x 2.

S5532VE

Recessed panel NHS Disabled, WC 70cm projection WH, 900 wide, 2400 high and access through access hatch.

S6361LJ

Hinged support rail 650mm in grey x 1.

S6363LJ

Toilet roll holder in grey x 1.

S6481LJ

Back rest rail for System21 x 1.

S88467

Back rest cushion x 1.

S6454LJ

600mm grabrail in grey x 1.

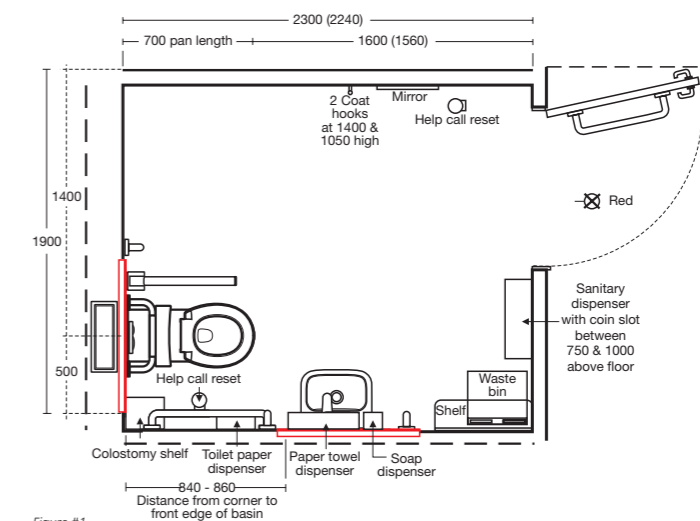


Figure #1

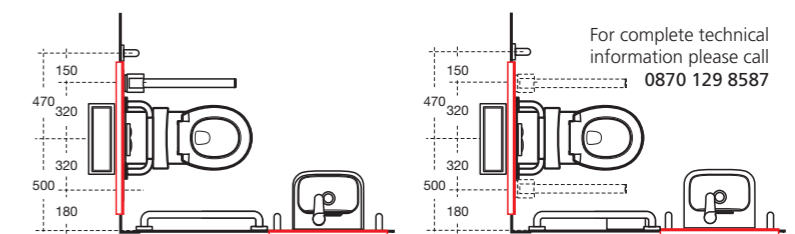
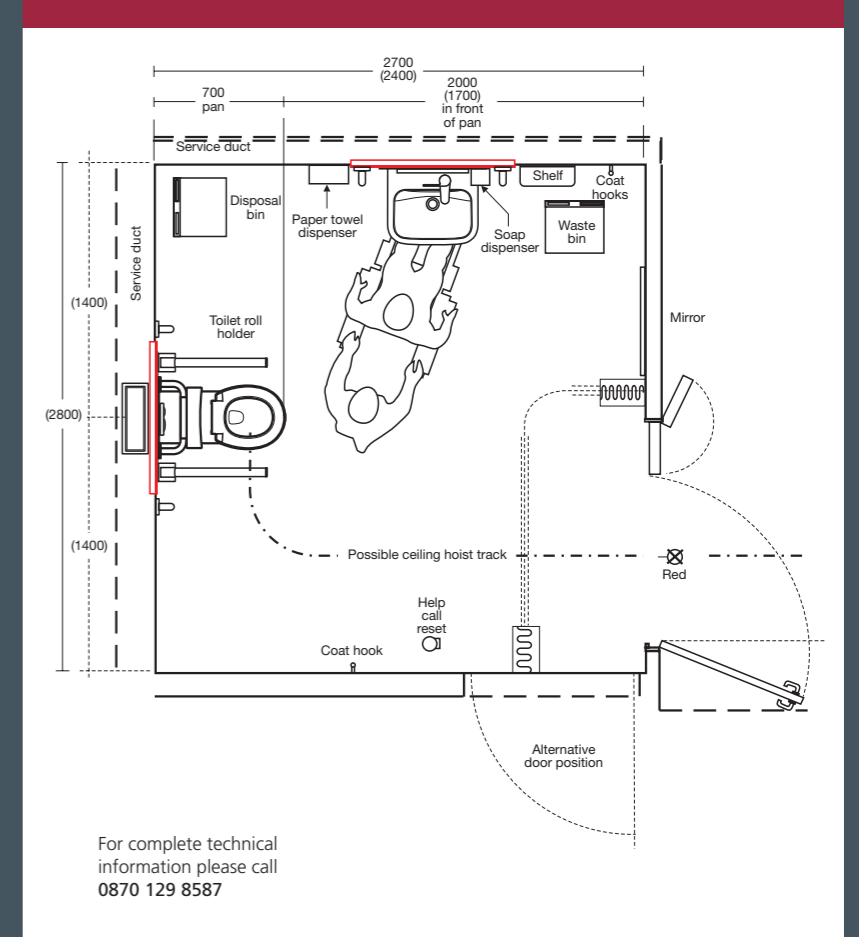


Figure #1
Independent wheelchair wc with
1x hinged arm support and 1x 600mm
grab rail with 180mm projection

WC HD Assisted Ambulant Disabled



S5514VF
Recessed panel NHS General Pattern, 50cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

S6454LJ
600mm grabrails in grey x 2.

Comprising of:
S225401 PORTMAN21
50cm basin no overflow right hand taphole.

A4169AA CONTOUR21
Single lever one taphole sequential thermostatic basin mixer.

S5532VF
Recessed panel NHS Disabled, WC 70cm projection WH, 900 wide, 2400 high and access through access hatch.

S6361LJ
Hinged support rail 650mm in grey x 2.

S6363LJ
Toilet roll holder in grey x 1.

S6481LJ
Back rest rail for System21 x 1.

S688467
Back rest cushion x 1.

S6454LJ
600mm grabrails in grey x 2.

Comprising of:
S307701 CONTOUR21
Rimless wall hung WC pan – 70cm projection.

S4066LJ CONTOUR21
Top fix toilet seat only in grey.

Ambulant Shower Room



Recessed panels NHS, Corner Shower with diverter, 3 x 600mm rails and overhead shower.*

Comprising of:

A4129AA CONTOUR21

Built in sequential shower mixer with 120mm long lever.

L7104AA
Shower handset.

S6477LJ
Adjustable handset holder.

E4745AA
Shower hose.

L6919AA
Shower diverter.

E4705AA
Shower wall elbow.

S9313AA
Anti vandal shower fixed shower head.

S6751AC
Shower curtain rail.

S675001
Shower curtain.

S6632XK
Shower seat in grey.

* Shower units available as non-standard product.

For complete technical information please call 0870 129 8587

Figure #1

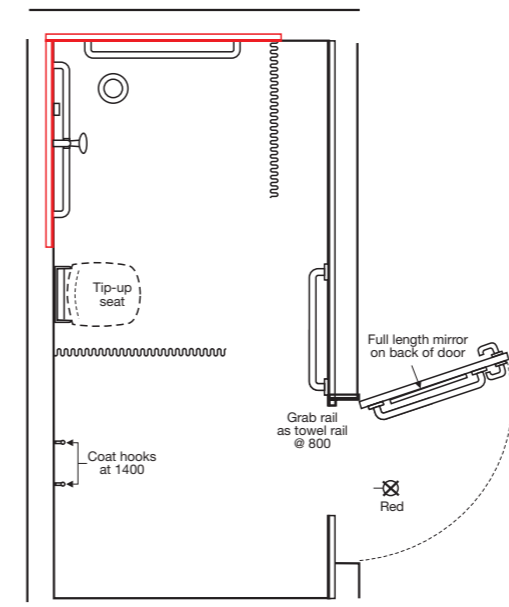


Figure #2

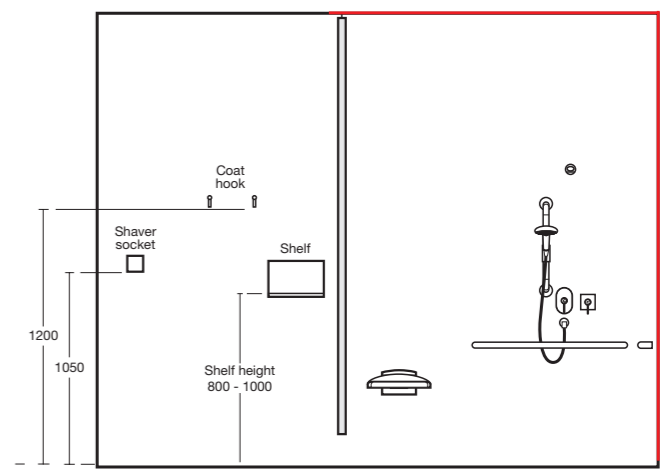
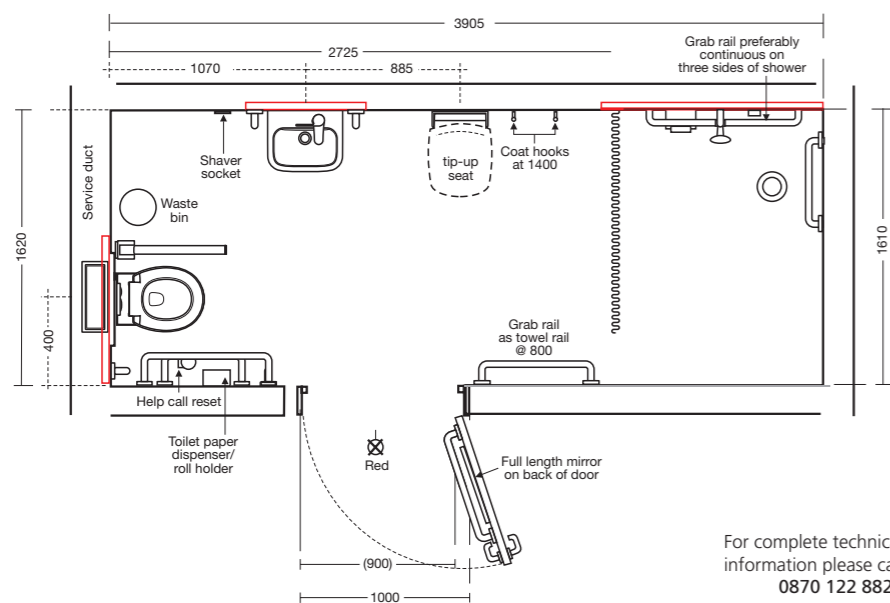


Figure #1
Overhead elevation of a standard shower room - without toilet

Figure #2
Side elevation of a standard shower room - without a toilet

Semi-ambulant Shower Room



For complete technical information please call 0870 122 8822

S5514VD

Recessed panel NHS General Pattern, 50cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

S6454LJ

600mm grabrails in grey x 2.

S5542VD

Recessed panel NHS WH Standard Projection 900 wide 2400 high - access through access hatch

S6361LJ

Hinged Support Rail

S6363LJ

Toilet roll holder

Comprising of:

S225401

PORTMAN21
50cm basin no overflow right hand taphole.

A4169AA

CONTOUR21
Single lever one taphole sequential thermostatic basin mixer.

Recessed panels NHS, Corner Shower with diverter, 3 x 600mm rails and overhead shower.*

Comprising of:

A4129AA
CONTOUR21

Built in sequential shower mixer with 120mm long lever.

L7104AA

Shower handset.

E4745AA

Shower hose.

S6477LJ

Adjustable handset holder.

S6751AC

Shower curtain rail.

S675001

Shower curtain.

S6632XK

Shower seat in grey.

* Shower units available as non-standard product.

Independent Wheelchair Shower Room



S5508VB

Recessed panel NHS General Pattern, 40cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

S6454AC

600mm grabrails in grey x 2.

S6361LJ

WC assembly hinged support rail 650mm in grey x 1.

S6363LJ

Toilet roll holder in grey x 1.

S6454LJ

600mm grabrail in grey x 1.

S5532VC

NHS Disabled WC 70cm projection WH 900 wide 2400 high - access through access hatch. Inc. back rest rail and cushion

Recessed panels NHS, Corner Shower with diverter and overhead shower.*

S6454AC

600mm grabrails x 2.

S6361LJ

WC assembly hinged support rail 650mm in grey x 1.

Comprising of:

A4129AA CONTOUR21

Built in sequential shower mixer with 120mm long lever.

L7104AA

Shower handset.

E4745AA

Shower hose.

S6477LJ

Adjustable handset holder.

L6919AA

Shower diverter.

E4705AA

Shower wall elbow.

S9313AA

Anti vandal shower fixed shower head.

S6751LJ

Shower curtain rail.

S675001

Shower curtain.

S6632XK

Shower seat in grey.

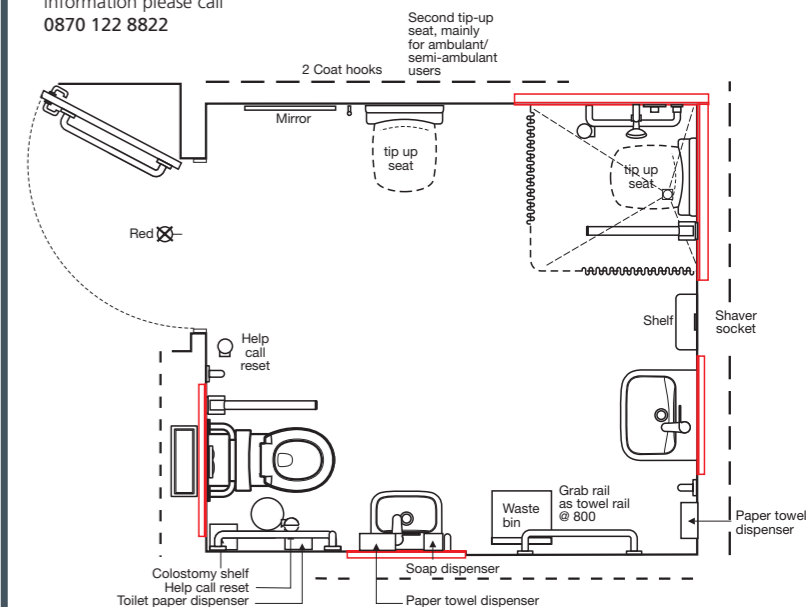
S6454LJ

600mm grabrail in grey x 1.

* Shower units available as non-standard product.



For complete technical information please call 0870 122 8822



Assisted Shower Room



S5532VG
Recessed panel NHS Disabled, WC 70cm projection WH, 900 wide, 2400 high and access through flushplate Inc. back rest rail and cushion.

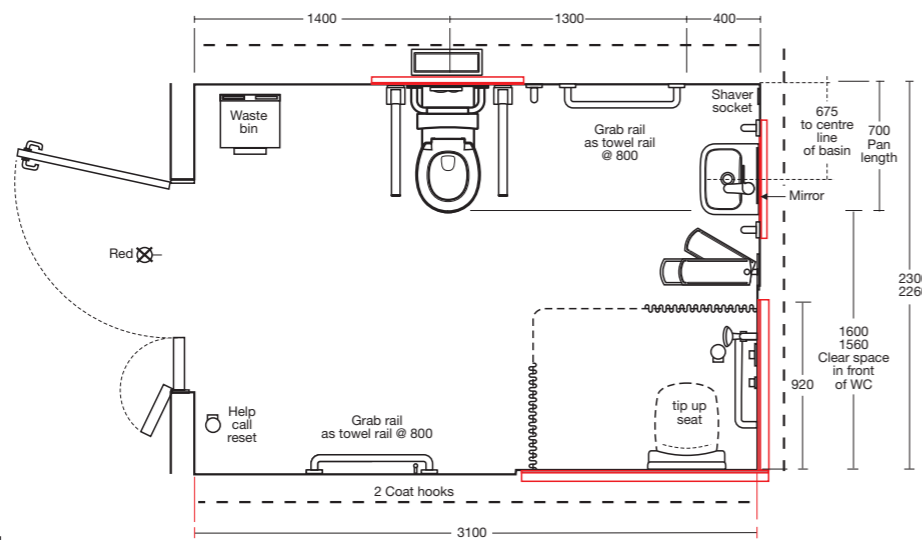
S6361LJ
Hinged support rail 650mm in grey x 2.

S6363LJ
Toilet roll holder in grey x 1.

S6454LJ
600mm grabrails in grey x 3.

S6481LJ
Back rest rail in grey x 1.

For complete technical information please call 0870 122 8822



Comprising of:

Recessed panels NHS, Corner Shower with diverter and overhead shower.*

S6477LJ
Shower handset holder

S6632XK
Folding shower seat 650mm

S6635XK
Back support

S6454LJ
600mm grabrails in grey x 2.

S688467
Back rest cushion x 1.

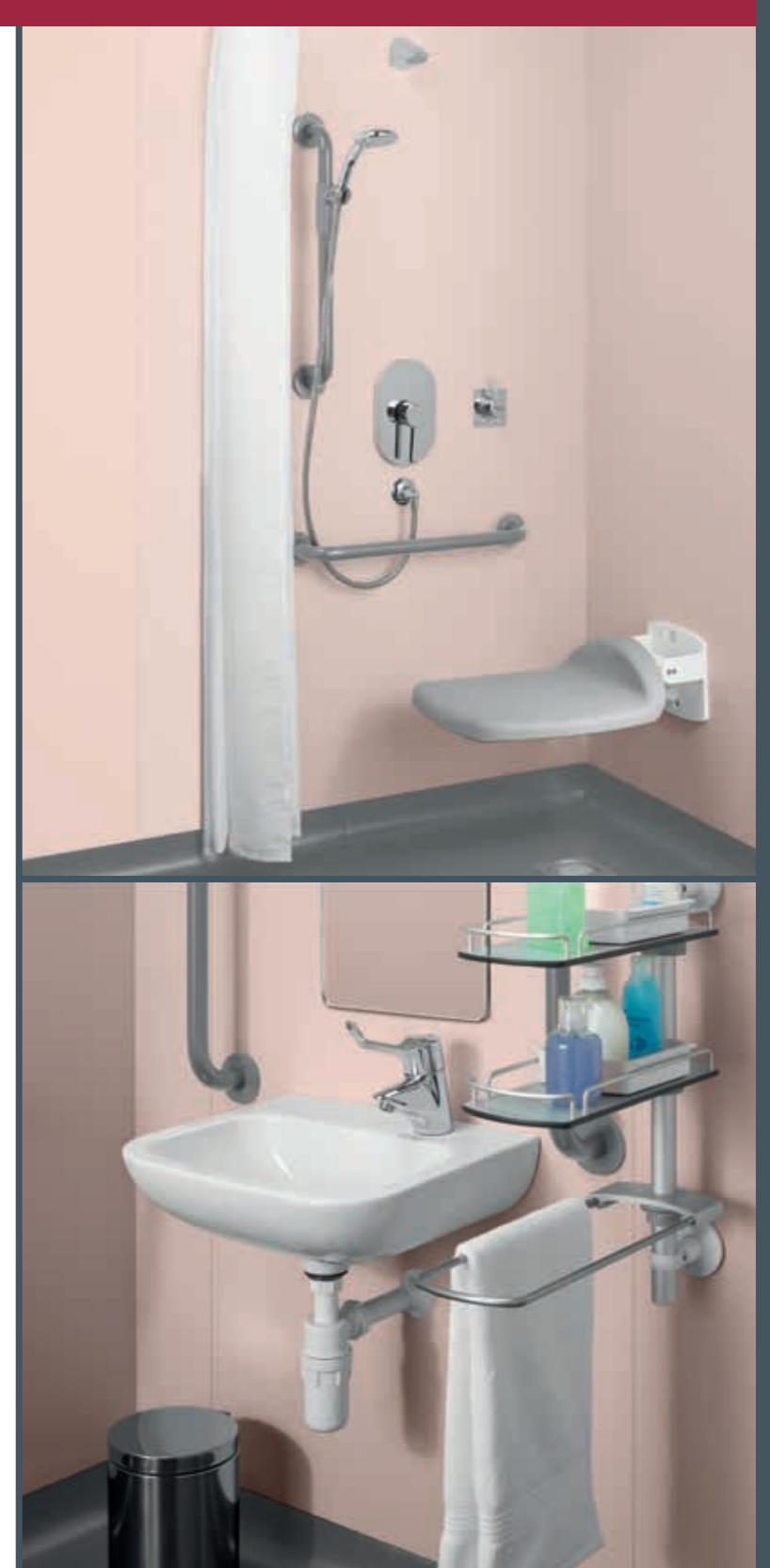
Comprising of:

S645436
600mm grabrail x 1.

S5514VG
Recessed panel NHS General Pattern, 50cm Portman21, WHB 700, wide 2400, high basin, with Contour21 Lever Operated and hinged lockable mirror.

S6454LJ
600mm grabrails in grey x 2.

* Shower units available as non-standard product.



Semi-ambulant Bathroom



S5514VD
Recessed panel NHS General Pattern, 50cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

S645436
600mm grabrail.
Comprising of:
S225401
PORTMAN21
50cm basin no overflow right hand taphole.

A4169AA
CONTOUR21
Single lever one taphole sequential thermostatic basin mixer.
S5542VD
Recessed panel NHS Disabled, WC WH Standard Projection, 900 wide, 2400 high and access through access hatch.

S636336
Toilet roll holder in blue x 1.

Comprising of:

S307601
CONTOUR21
Rimless wall hung WC pan – standard projection.

S636136
Hinged support rail 650mm in blue x 1.

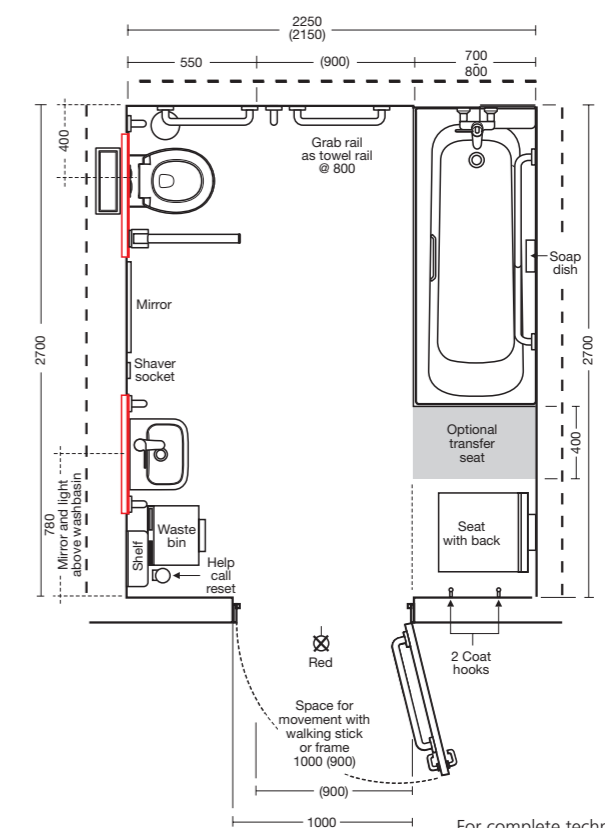
S406636
CONTOUR21
Top fix toilet seat only in blue.

S645436
600mm grabrails in blue x 3.

S169901
Nisa steel bath 1700mm x 700mm at 480mm height.

A4135AA
Contour 21 wall mounted thermostatic bath mixer.

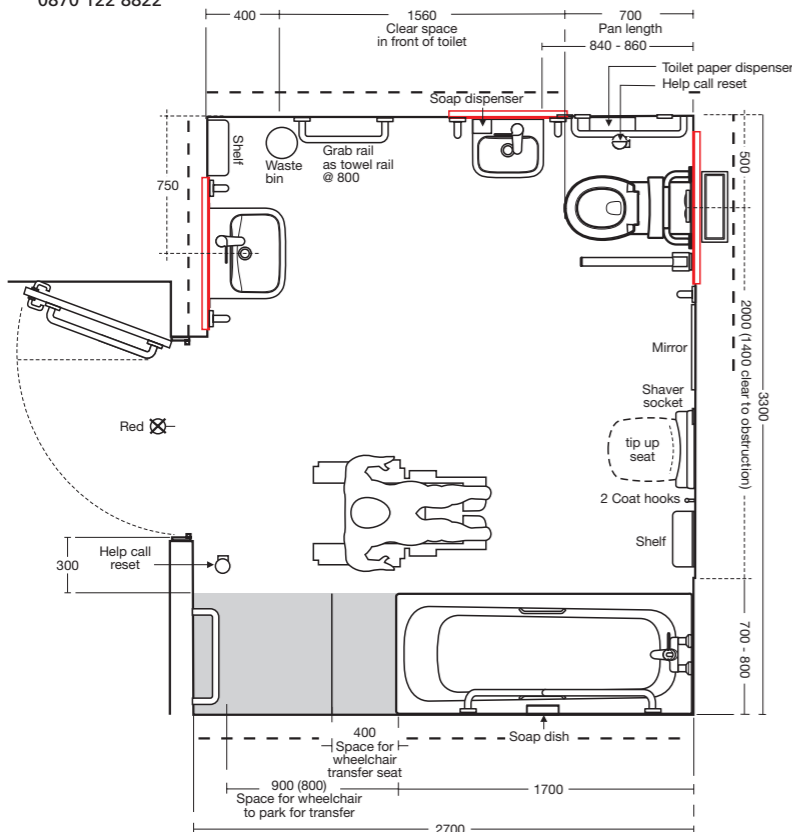
S647536
Angled grabrail in blue.



Independent Wheelchair Accessible Bathroom



For complete technical information please call 0870 122 8822



S5514VD
Recessed panel NHS General Pattern, 50cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

S645436
600mm grabrails for System21 in blue x 2.

Comprising of:

S225401 PORTMAN21
50cm basin no overflow or chain hole – one right hand taphole.

S645436
600mm grabrail in blue x 2.

A4169AA CONTOUR21
Single lever one taphole sequential thermostatic basin mixer – no waste.

S5514VD
NHS General Pattern 50cm Portman 21WHB 700 wide 2400 high basin with Contour 21 Lever Operated, hinged lockable mirror.

S645436
600mm grabrails for System21 in blue x 2.

Comprising of:

S225401 PORTMAN21
50cm basin no overflow right hand taphole.

A4169AA CONTOUR21
Single lever one taphole sequential thermostatic basin mixer.

S5532VD
Recessed panel NHS Disabled, WC 70cm projection WH, 900 wide, 2400 high and access through access hatch.

S636336
Toilet roll holder in blue x 1.

S636136
Hinged support rail 650mm in blue x 1.

S648136
Back rest rail for System21 in blue x 1.

S688467
Back rest cushion x 1.

S645436
600mm grabrail for System21 in blue x 1.

Comprising of:
S307701 CONTOUR21
Rimless wall hung WC pan – 70cm projection.

S4036 CONTOUR21
Top fix toilet seat only with restraint lugs in blue.

S6632XK
Shower seat in grey.

S169901
Nisa steel bath 1700mm x 700mm at 480mm height.

A4135AA
Contour 21 wall mounted thermostatic bath mixer.

S647536
Angled grabrail in blue.

Please note: To help with logistics on site WCs and seats will be supplied unfitted

Assisted Bathroom



S5508VD
Recessed panel NHS General Pattern, 40cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

S645436
600mm grabrails in blue x 2.

Comprising of:
S231401 PORTMAN21
40cm basin no overflow or chain hole – one right hand taphole.

A4169AA CONTOUR21
Single lever one taphole sequential thermostatic basin mixer.
S645436
600mm grabrail in blue x 1.

S5532VD
Recessed panel NHS Disabled, WC 70cm projection WH, 900 wide, 2400 high and access through access hatch.

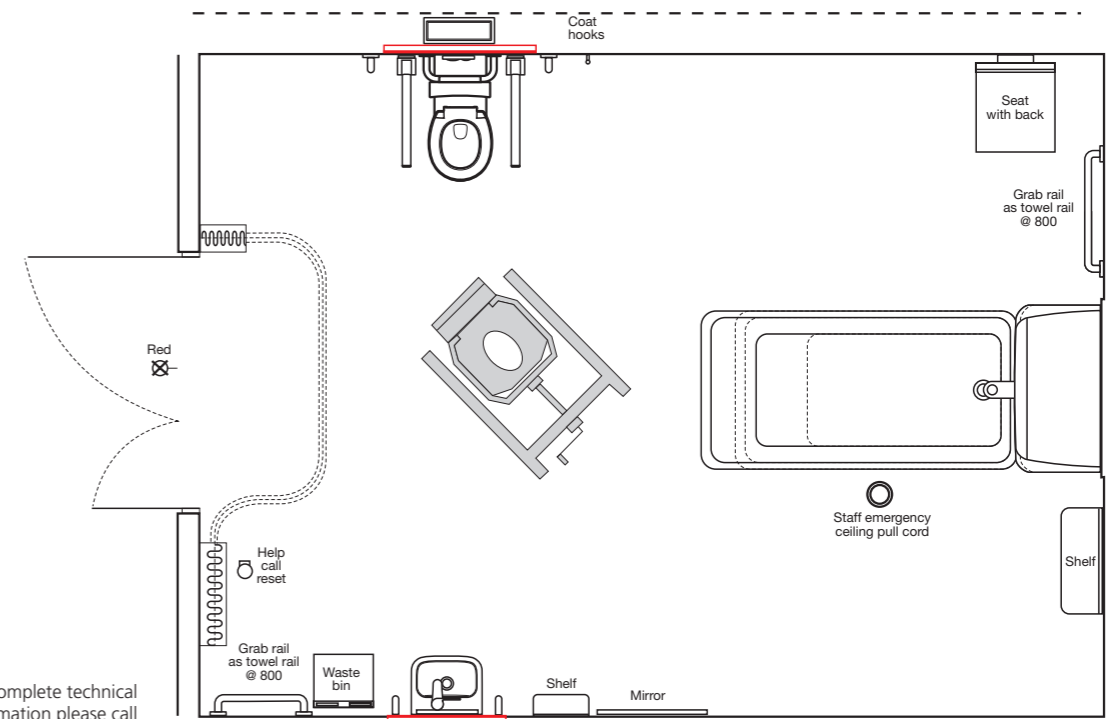
S636136
Hinged support rail 650mm in blue x 2.

S636336
Toilet roll holder in blue x 1.

S648136
Back rest rail for System21 in blue x 1.

S688467
Back rest cushion x 1.

S645436
600mm grabrails in blue x 2.



For complete technical information please call 0870 122 8822

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

Contents

50 Sinks, Disposal units, troughs etc

54 Hospital Basins

56 Suitable urinals

Q : How can I be sure that the products I specify will meet the latest standards?

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

Janitorial Unit JU Clinical Procedure Disposal Units DU H

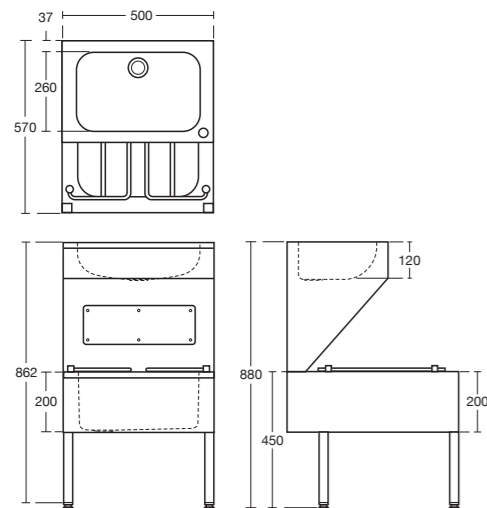


Plaster Sinks PS H



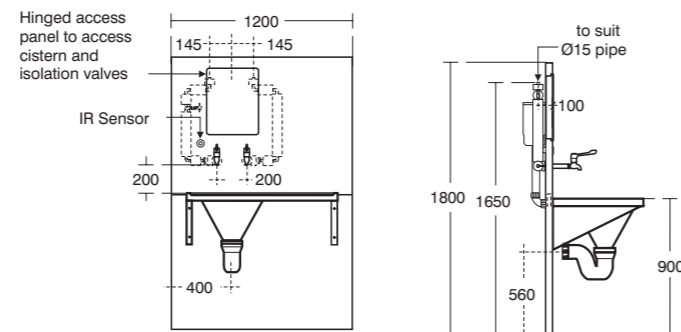
S6509MY
Janitorial unit in stainless steel.

B2809AA
Monoblock mixer with swivel nozzle and lever handles.



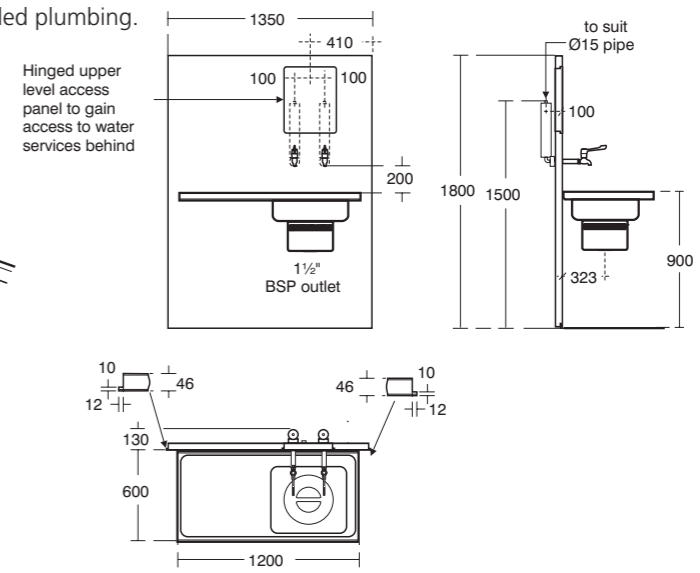
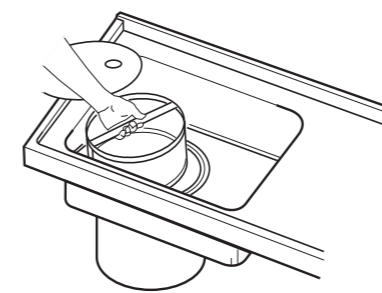
S5581VE
Recessed panel NHS, DU H Slop Hopper LH, 1000 wide, 1800 high with hinged access position B.
Comprising of:
S6564MY
Stirling left hand slop hopper in stainless steel.

S8270AA
Markwik21 lever action bib taps.
S8347AA
100mm extension.
S8336AA
1/2" wall mount for concealed plumbing.

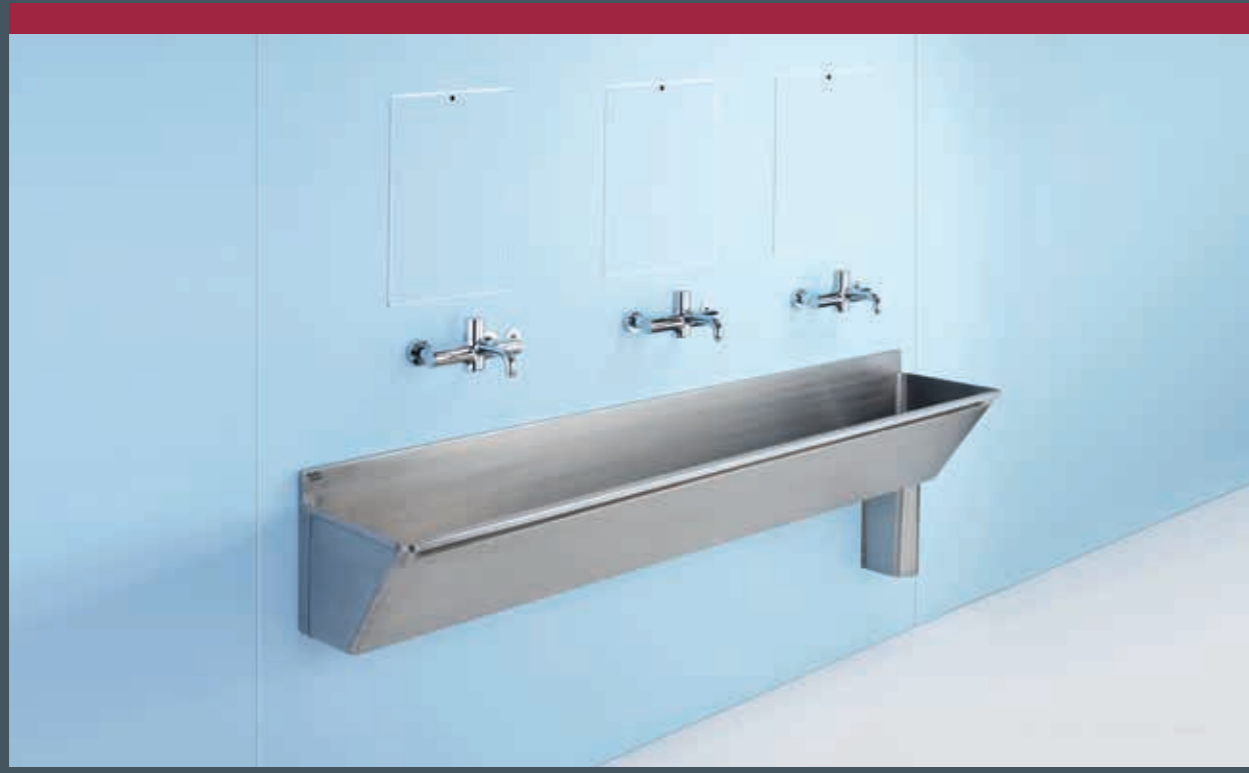


S5562VE
Recessed panel NHS, PS H Plaster RH Sink, 1350 wide, 1800 high.
Comprising of:
S6557MY
Clyde right hand plaster sink and work surface in stainless steel.

S8270AA MARKWIK21
Lever action bib taps.
S8347AA
100mm extension.
S8336AA
1/2" wall mount for concealed plumbing.



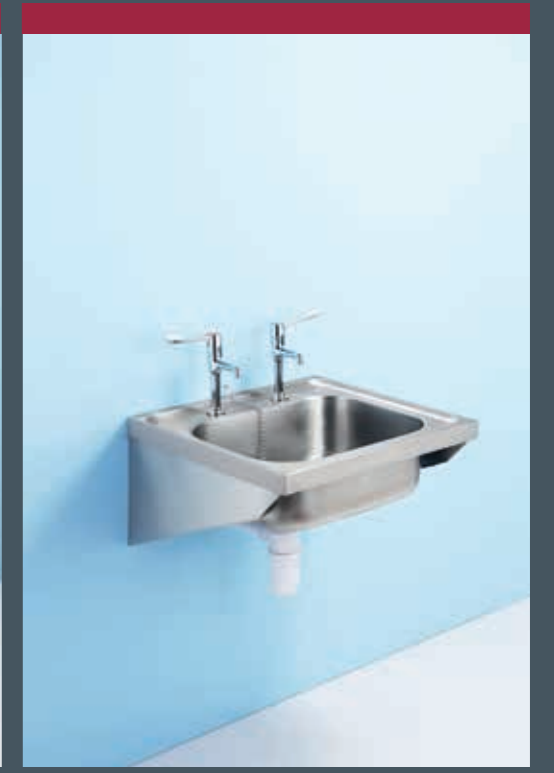
Scrub-up Troughs SU H



Clinical Sinks ST A (hospital pattern)



Domestic Service Sinks SK 1 (general pattern)



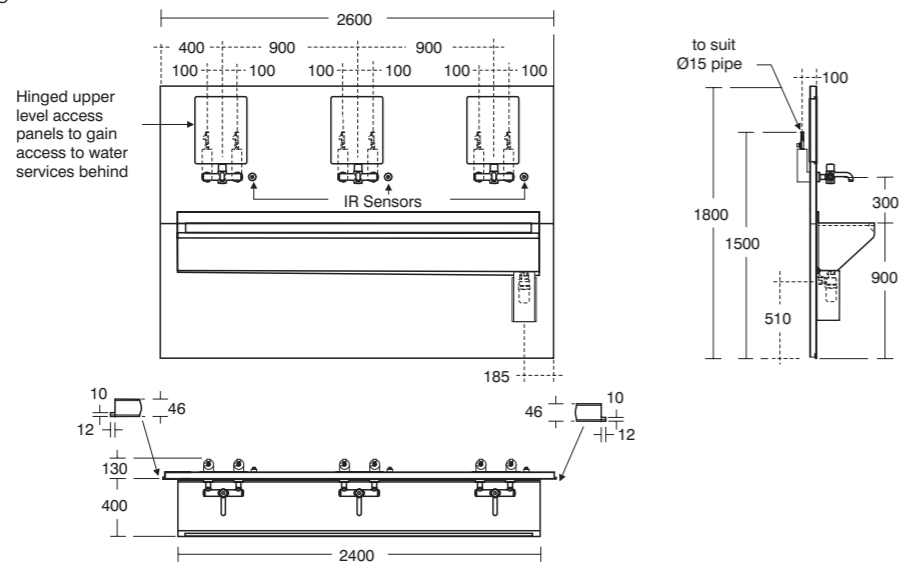
S5570VE
Recessed panel SU H Scrub
Trough 2600 wide, 1800 high.

Comprising of:

S2877MY
Firth scrub-up trough 2400mm
RH waste.

A6062AA
Markwik21 Sensor timed
flow mixer tap.

S892567
Resealing bottle trap.

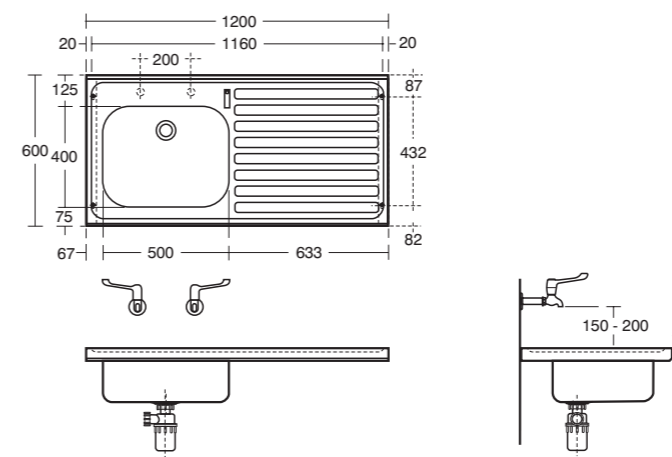


S5841MY
Doon sink, single bowl
with right hand drainer, no
tapholes and no overflow.

S8270AA
MARKWIK21
Lever action bib taps.

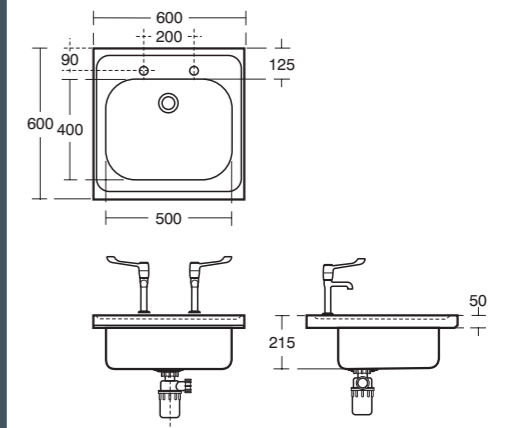
S8347AA
100mm extension.

S8336AA
1/2" wall mount for
concealed plumbing.



S5860MY
Doon 60 x 60cm sink.

S8265AA
MARKWIK21
High neck sink pillar taps.



Clinical Basins (hospital pattern) LB H M



S5502VD

Recessed panel NHS Clinical, WHB, 700 wide, 2400 high, 50cm Contour21 basin with Markwik21 Lever Operated, hinged front access position A and position B.

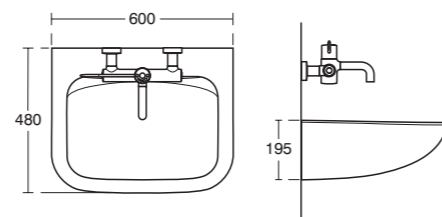
Comprising of:

**A6060AA
MARKWIK21**

Thermostatic sequential mixer.

**S215401
CONTOUR21**

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



Personal Washing Basins Hand Rinse Basins LB G L/M (general pattern) LB G S (general pattern)



S5514VD

Recessed panel NHS General Pattern, 50cm Portman21, WHB, 700 wide, 2400 high, basin with Contour21 Lever Operated and hinged lockable mirror.

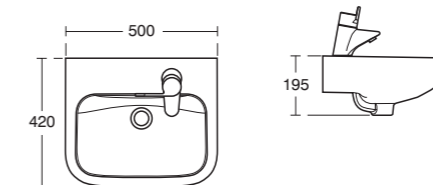
Comprising of:

**S225401
PORTMAN21**

50cm basin without overflow and chain hole – one right hand taphole.

**A4169AA
CONTOUR21**

Single lever one taphole sequential thermostatic basin mixer – no waste.



S5508VD

Recessed panel NHS General Pattern, 40cm Portman21, WHB, 700 wide, 2400 high basin, with Contour21 Lever Operated and hinged lockable mirror.

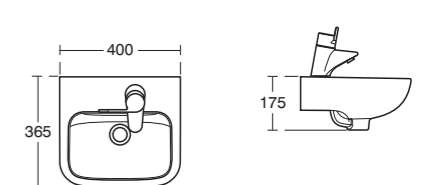
Comprising of:

**S231401
PORTMAN21**

40cm basin no overflow or chain hole – one right hand taphole.

**A4169AA
CONTOUR21**

Single lever one taphole sequential thermostatic basin mixer – no waste.

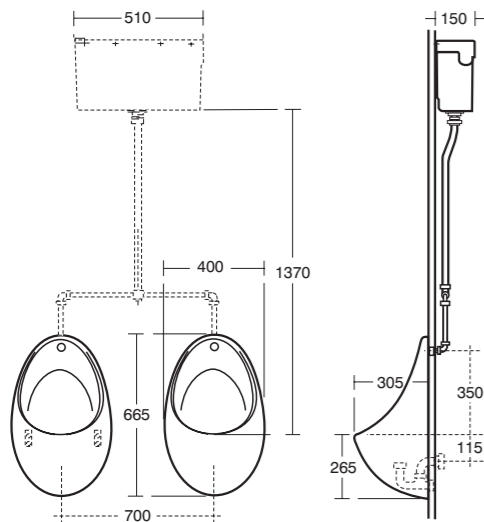


Urinals (hospital pattern 1)



S611001
CONTOUR21
Urinal.

S628601
Back inlet spreader.

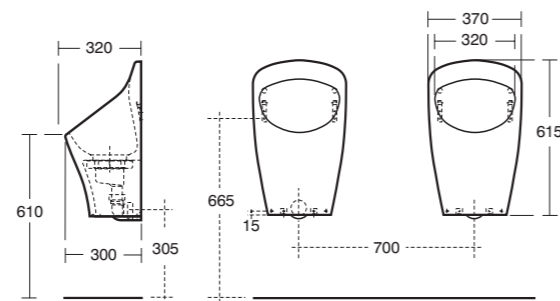


Urinals (hospital pattern 2 - waterless)



S632101
Aridian waterless urinal.

S612001
Vitreous china division.



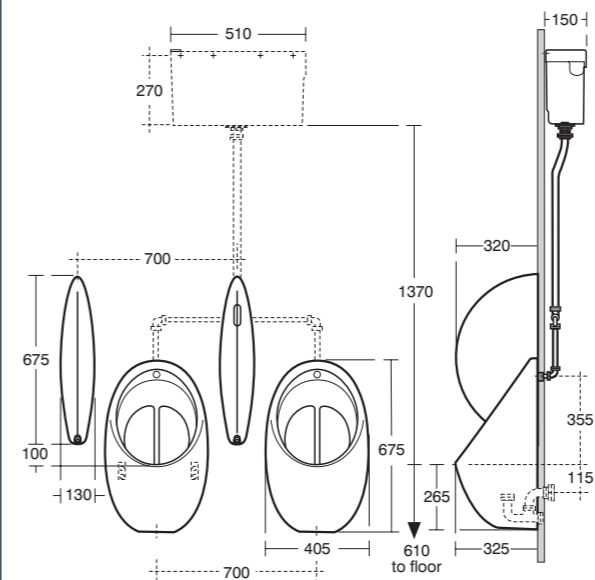
Urinals HygenIQ



S611901
CONTOUR21
HygenIQ urinal.

S6286AA
Back inlet spreader.

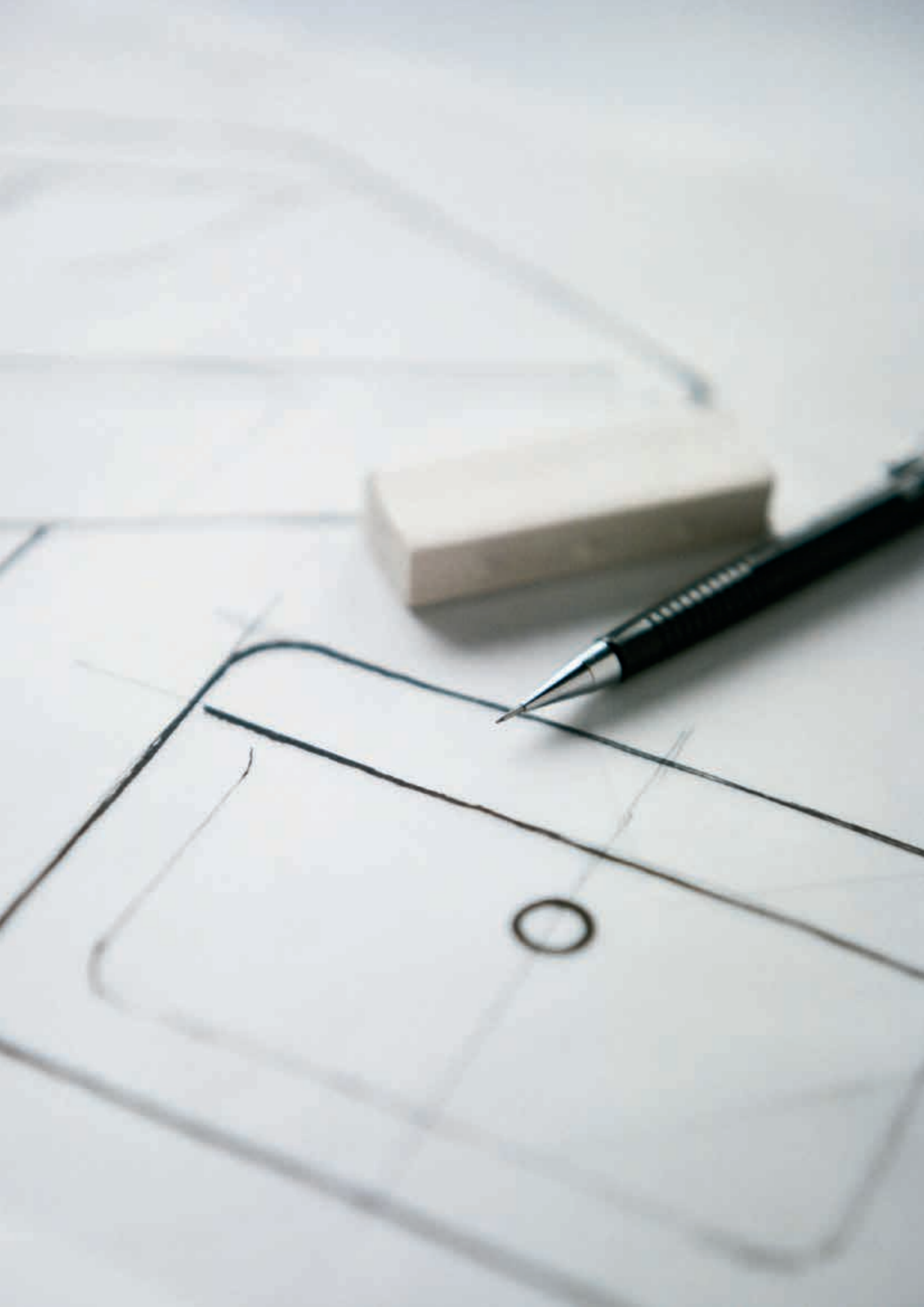
A4854AA
SENSORFLOW21
Urinal flush valve
- panel mounted.



Technical Information Product Drawings, Specifications and Guarantees

Contents

- 60 Hospital Ceramics
- 64 Hospital Brassware
- 69 Hospital System21
- 84 Guarantee

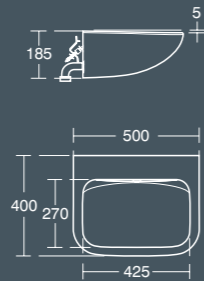


Hospital Ceramics

Contour21 50cm basin
with back outlet,
no overflow or tapholes.

S215401

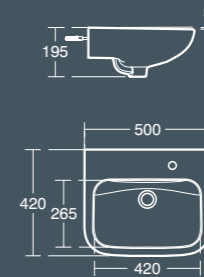
- Hospital pattern washbasin for clinical use.
- Large basin, for use with wall mounted mixer.
- Concealed supply and waste minimise bacteria traps.
- Non reservoir basin improves hygiene.



Portman21 50cm basin,
no overflow or chain hole
– one right hand taphole.

S225401

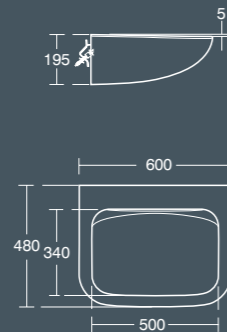
- General pattern washbasin for non-clinical use.
- Medium size for extra washing capacity.
- Exposed supply and waste for easy maintenance.
- Smooth easy to clean shape.



Contour21 60cm basin
with back outlet, no
overflow or tapholes.

S215501

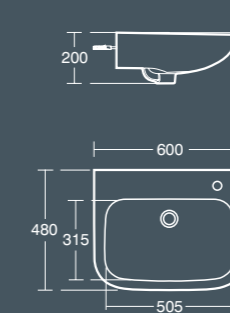
- Hospital pattern washbasin for clinical use.
- Large basin, for use with wall mounted mixer.
- Concealed supply and waste minimise bacteria traps.
- Non reservoir basin improves hygiene.



Portman21 60cm basin,
no overflow or chain hole
– one right hand taphole.

S229801

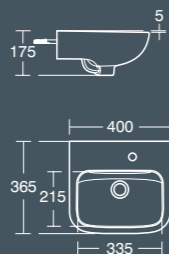
- General pattern washbasin for non-clinical use.
- Medium size for extra washing capacity.
- Exposed supply and waste for easy maintenance.
- Smooth easy to clean shape.



Portman21 40cm basin,
no overflow or chain hole
– one right hand taphole.

S231401

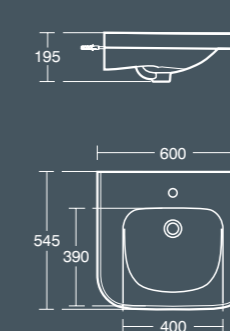
- General pattern washbasin for non-clinical use.
- Small compact size.
- Exposed supply and waste for easy maintenance.
- Smooth easy to clean shape. improves hygiene.



Contour21 60cm accessible basin
– one centre taphole.

S216801

- 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.

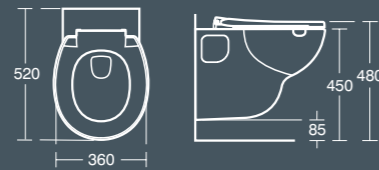


Hospital Ceramics

Contour21 Rimless wall hung WC pan – standard projection.

S307601

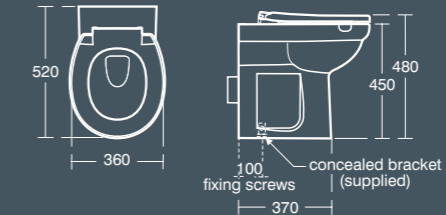
- Hospital pattern WC for clinical use.
- Rimless design eliminates potential bacteria hot spot.
- Wall hung for easier floor cleaning.
- Concealed cistern minimises projection into the room.
- 4.5 litre water saving flush.



Contour21 Raised height rimless back-to-wall WC pan – standard projection.

S305701

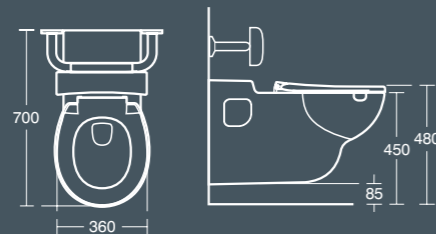
- Hospital pattern WC for clinical use.
- Rimless design eliminates potential bacteria hot spot.
- Floor mounted, 46cm high for disabled users.
- Concealed cistern minimises projection into the room.
- 4.5 litre water saving flush.



Contour21 Rimless wall hung WC pan – 70cm projection.

S307701

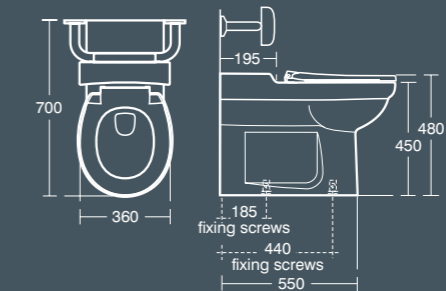
- Hospital pattern WC for clinical use.
- Rimless design eliminates potential bacteria hot spot.
- Padded back support for improved comfort.
- Easier transfer from wheelchair to WC.
- 4.5 litre water saving flush.



Contour21 Raised height rimless back-to-wall WC pan – 70cm projection.

S311501

- Hospital pattern WC for clinical use.
- Rimless design eliminates potential bacteria hot spot.
- Floor mounted, 46cm high for disabled users.
- Easier transfer from wheelchair to WC.
- 4.5 litre water saving flush.

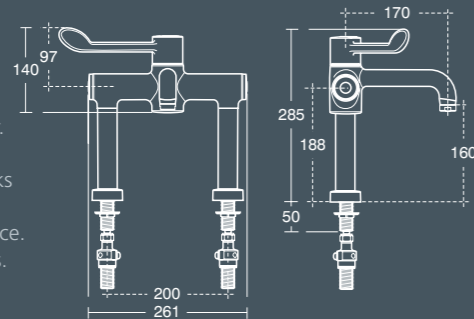


Hospital Brassware

Markwik21 deck mounted sequential thermostatic mixer.

A6063AA

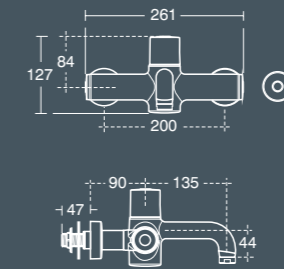
- Suitable for 15mm copper.
- Can be easily retro fitted on existing basins and sinks with 200mm tap centres.
- Easy access for maintenance.
- No need to remove panels.
- Horizontal spout.
- Cleansing feature.
- Insulate technology keeps fittings at body temperature and therefore safe.
- With Bioguard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



Markwik21 electronic thermostatic mixer with time flow sensor.

A6062AA

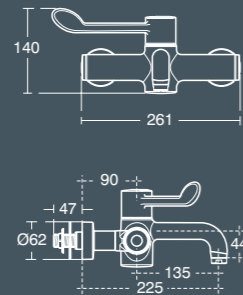
- Suitable for 15mm copper.
- Sensor operated means no hand touch.
- 200mm tap centres.
- Easy access for maintenance.
- No need to remove panels.
- Horizontal spout.
- Cleansing feature.
- Insulate technology keeps fittings at body temperature and therefore safe.
- With Bioguard Anti-Pseudomonas outlet.



Markwik21 thermostatic sequential mixer.

A6060AA

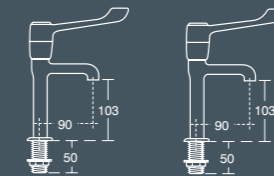
- Suitable for 15mm copper.
- Single lever operation with large easy to use lever.
- 200mm tap centres.
- Easy access for maintenance.
- No need to remove panels.
- Horizontal spout.
- Cleansing feature.
- Insulate technology keeps fittings at body temperature and therefore safe.
- With Bioguard Anti-Pseudomonas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



Markwik21 high neck sink pillar taps.

S8265AA

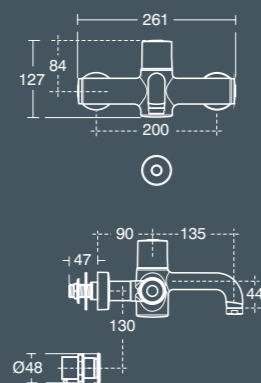
- Deck mounted chrome plated taps with 15cm levers.
- Suitable for closed fist operation.



Markwik21 electronic thermostatic mixer with proximity sensor.

A6061AA

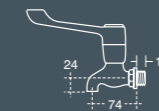
- Suitable for 15mm copper.
- Sensor operated means no hand touch.
- 200mm tap centres.
- Easy access for maintenance.
- No need to remove panels.
- Horizontal spout.
- Cleansing feature.
- Insulate technology keeps fittings at body temperature and therefore safe.
- With Bioguard Anti-Pseudomonas outlet.



Markwik21 lever action bib taps, including wall mounts and extensions.

S8270AA, S8336AA, S8346AA

- Wall mounted chrome plated taps with 15cm levers.
- Suitable for closed fist operation.
- HTM 64 TB H1.

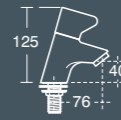


Hospital Brassware

Nuastyle pillar taps.

B8262AA

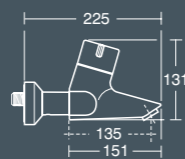
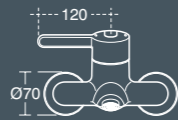
- Suitable for 15mm copper.
- Deck mounted chrome plated brass taps with anti vandal indices.
- Particularly suitable for contract use.
- Suitable for closed fist operation.
- HTM 64 TP5.



Contour21 wall mounted thermostatic bath mixer.

A4135AA

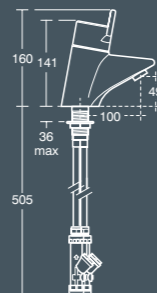
- Single easy turn lever
- Sequential operation. To ensure system hygiene and user safety the water is always drawn from first cold and then the hot supply.
- 150mm tap centres.
- Built in thermostat.



Contour21 single lever one taphole sequential thermostatic basin mixer – no waste with copper tails.

A4169AA

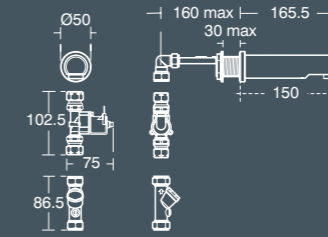
- Basin mixer with extended easy use lever particularly suitable for closed fist operation.
- Suitable for healthcare and less abled bathrooms.
- HTM 64 TP6.
- Integral thermostat set at 41°C.
- Sequential operation. To ensure system hygiene and user safety the water is always drawn from first cold and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



Sensorflow Spout 150 Compact.

A4846/47/49/50

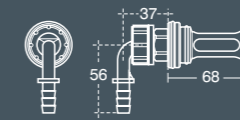
- Features an automatic purge facility (duty flush) where the tap can be set to run for an extended period during cleaning or maintenance. A run time of between 1 and 120 minutes will clear extensive pipe runs and outlets
- Available with a remote control for easy adjustment and activation of temporary flow stop for cleaning
- Downwards facing sensor to help eliminate false activation
- Fitted with water-saving 5 lpm outlet



Markwik21 purging kit for healthcare thermostatic mixers.

A4556AA

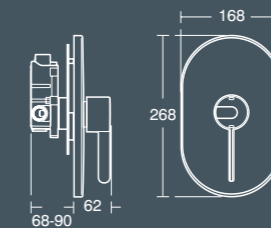
- Built in cleansing feature.
- Bridging hose connects hot and cold water inlets.
- Tap can be hot water flushed, killing bacteria.
- Flushes debris after installation.
- Purging cartridge replaces maintenance cartridge.
- Mixer can be flushed without affecting thermostat.



Contour21 built in thermostatic sequential shower.

A4129AA

- 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.



Hospital Brassware

Thermostatic mixing valve.

A5900AA

- 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.



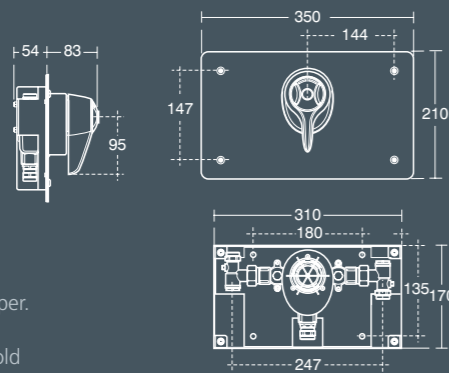
Thermostatic shower and mounting box.

S6933MY Stainless Steel

S6933AC White

Features and benefits

- Suitable for 15mm copper.
- Automatic shut off if cold water supply fails. Ensures safe usage, preventing accidental scalding.
- Mounting box for easier installation. Suitable for 'first fix' fitting before units are finished. The shower can be plumbed from the top or bottom of the mounting box.
- Easy access for maintenance. The design of the mounting box means it is easy to remove, providing easy access to the plumbing.
- High quality fixings and robust build. The shower uses a high quality Trevi CTV shower valve. High resistance against vandalism makes the shower suitable for use in public place.



Hospital System21



- Cool Grey **VB**
- Storm Grey **VC**
- Barley yellow **VD**
- Powder Blue **VE**
- Mint Green **VF**
- Dusty Pink **VG**

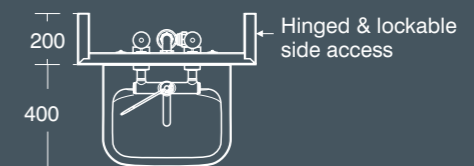
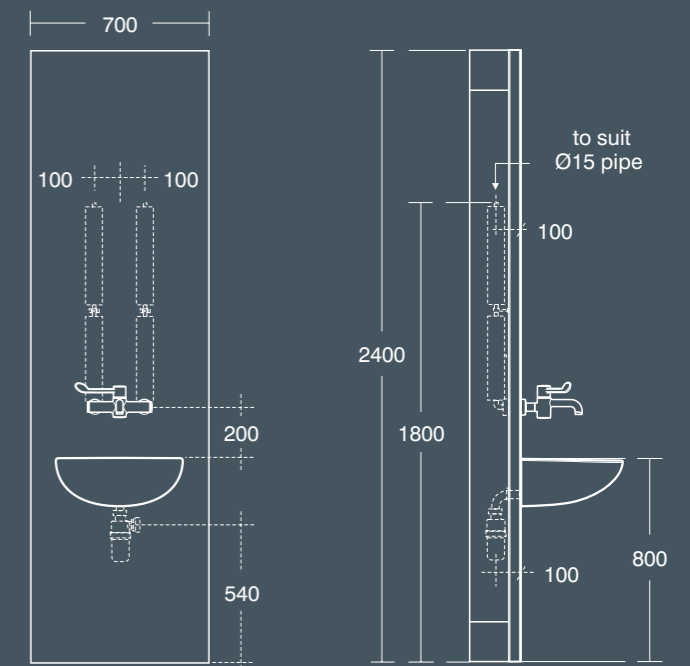
Boxed-out NHS Clinical WHB 700 wide, 2400 high, 500mm Contour21 basin with Markwik21 lever tap operated and standard hinged side access.

S5500

Basins available with grab rails pre-fitted

WCs available with hinged support rails, back support rail and cushion pre-fitted

System21 is available in the above colours, please see www.thebluebook.co.uk for further information

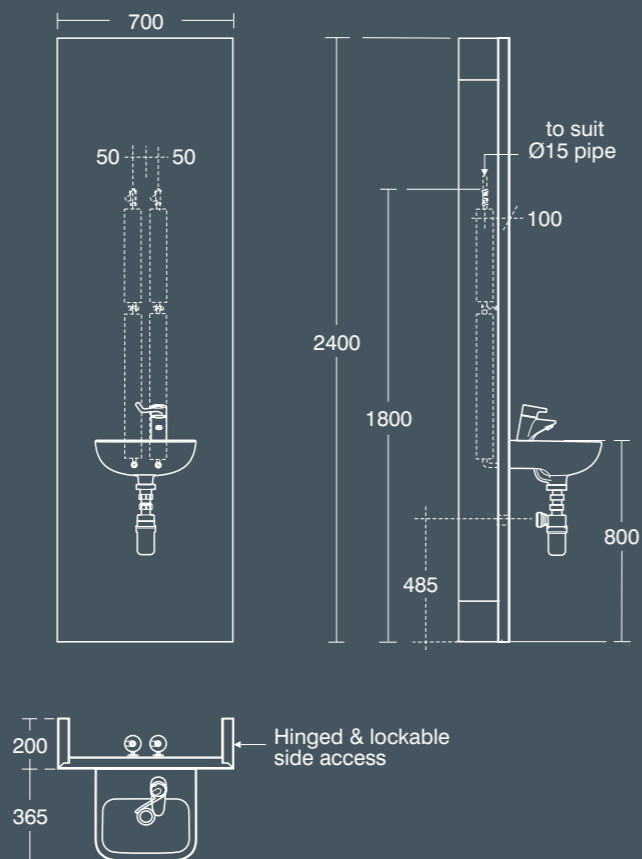


Hospital System21

- VB
 - VC
 - VD
 - VE
 - VF
 - VG
- Cool Grey **VB**
 Storm Grey **VC**
 Barley yellow **VD**
 Powder Blue **VE**
 Mint Green **VF**
 Dusty Pink **VG**

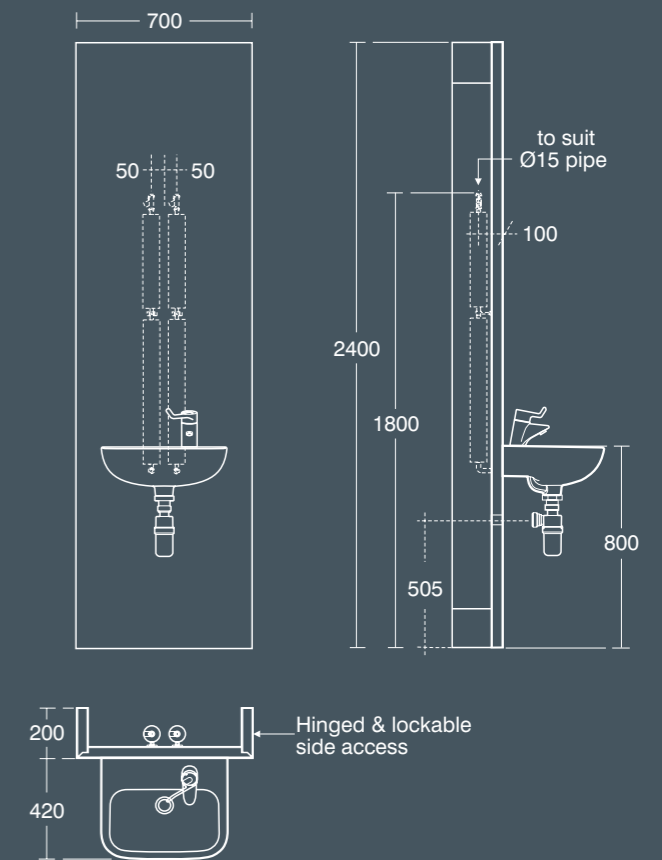
Boxed-out NHS General Pattern
 40cm Portman21, WHB,
 700mm wide, 2400mm high,
 basin with Contour21 lever tap
 operated and standard hinged
 side access.

S5506



Boxed-out NHS General Pattern
 50cm Portman21, WHB,
 700mm wide, 2400mm high,
 basin with Contour21 lever tap
 operated and standard hinged
 side access.

S5512



Basins available with grab rails pre-fitted

WCs available with hinged support rails,
 back support rail and cushion pre-fitted

System21 is available in the above
 colours, please see www.thebluebook.co.uk
 for further information

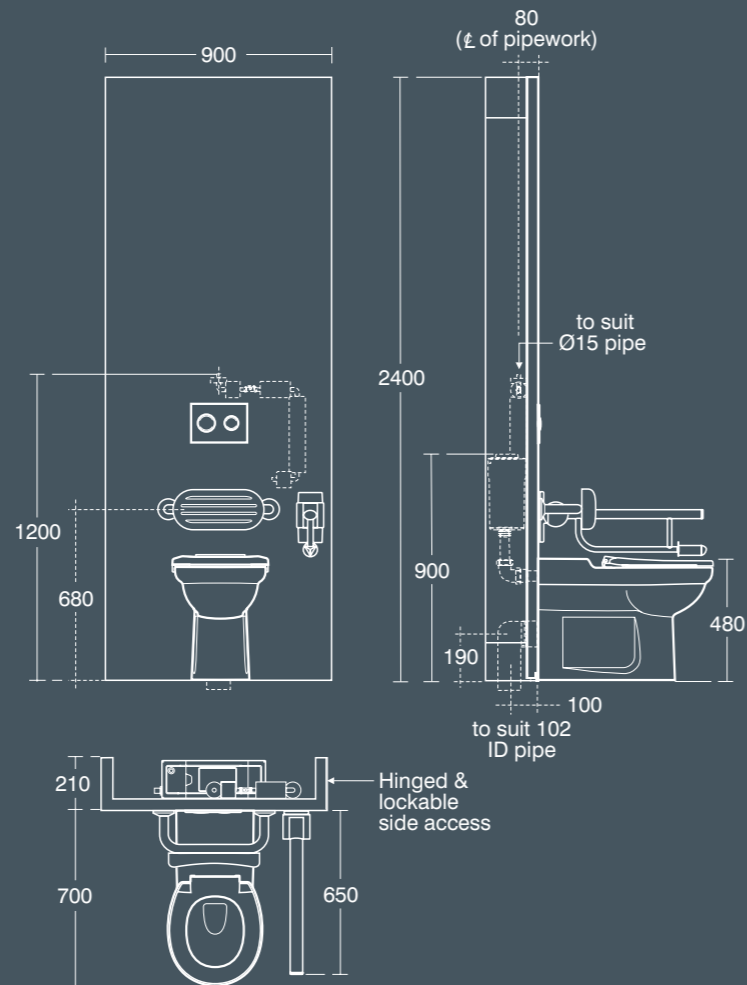
Hospital System21



- Cool Grey **VB**
- Storm Grey **VC**
- Barley yellow **VD**
- Powder Blue **VE**
- Mint Green **VF**
- Dusty Pink **VG**

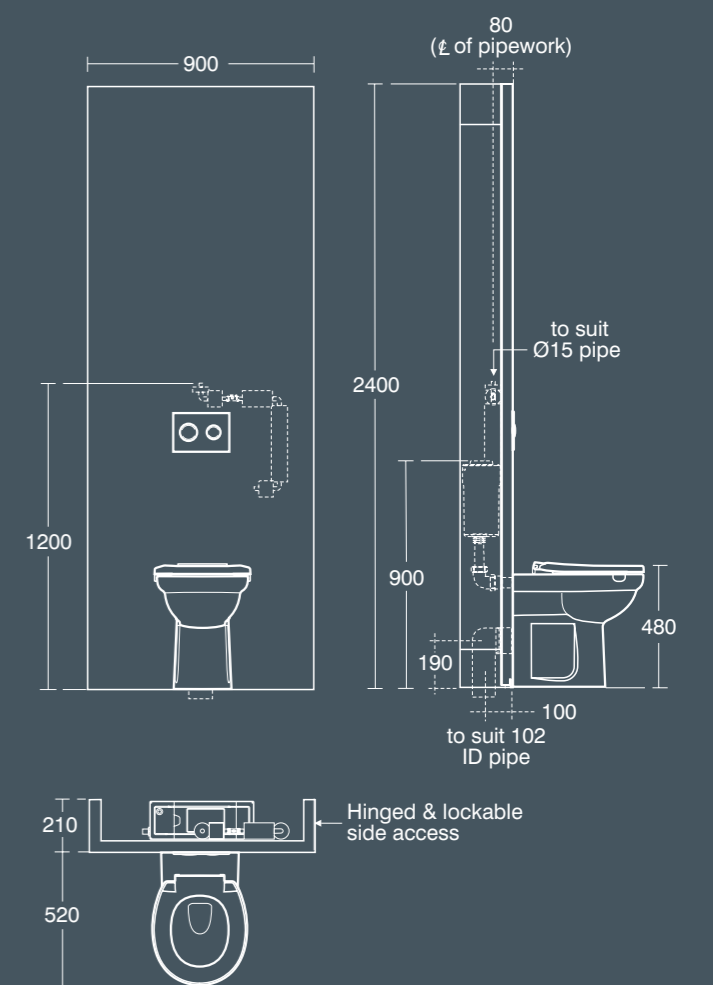
Boxed-out panel NHS
Disabled, WC BTW 70cm
projection, 900mm wide,
2400mm high with access
through access hatch.

S5525



Boxed-out panel NHS, WC
BTW raised height standard
projection, 900mm wide,
2400mm high with access
through access hatch.

S5555



Basins available with grab rails pre-fitted

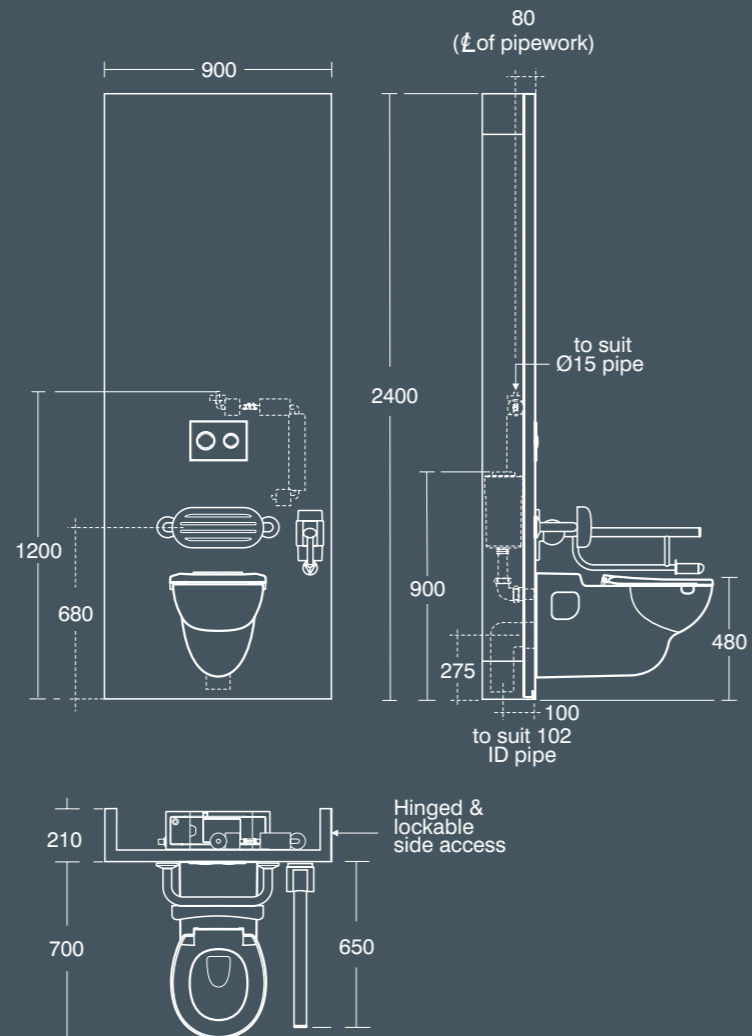
WCs available with hinged support rails,
back support rail and cushion pre-fitted

System21 is available in the above
colours, please see www.thebluebook.co.uk
for further information

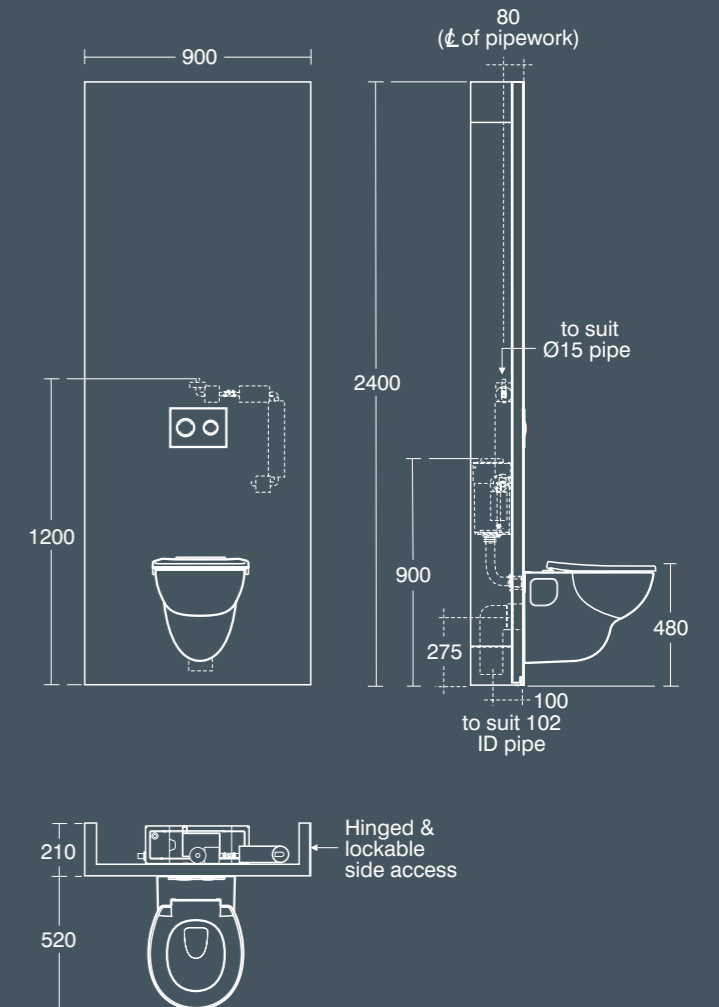
Hospital System21

- VB Cool Grey
- VC Storm Grey
- VD Barley yellow
- VE Powder Blue
- VF Mint Green
- VG Dusty Pink

Boxed-out panel NHS
Disabled, WC WH 70cm
projection, 900mm wide,
2400mm high with access
through access hatch.
S5535



Boxed-out panel NHS,
WC WH standard
projection, 900mm wide,
2400mm high with access
through access hatch.
S5545



Basins available with grab rails pre-fitted
WCs available with hinged support rails,
back support rail and cushion pre-fitted

System21 is available in the above
colours, please see www.thebluebook.co.uk
for further information

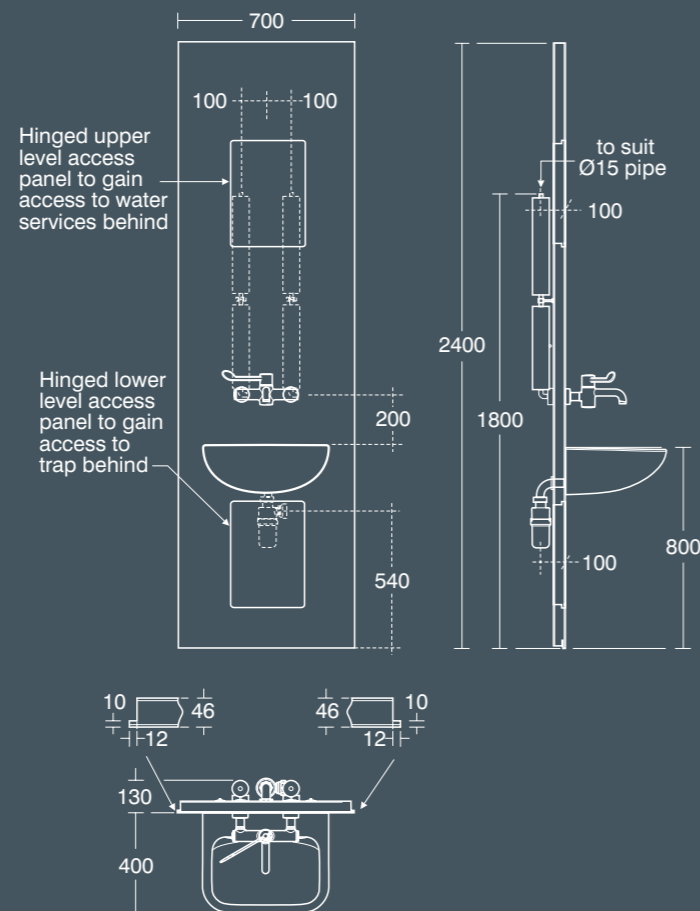
Hospital System21



- Cool Grey **VB**
- Storm Grey **VC**
- Barley yellow **VD**
- Powder Blue **VE**
- Mint Green **VF**
- Dusty Pink **VG**

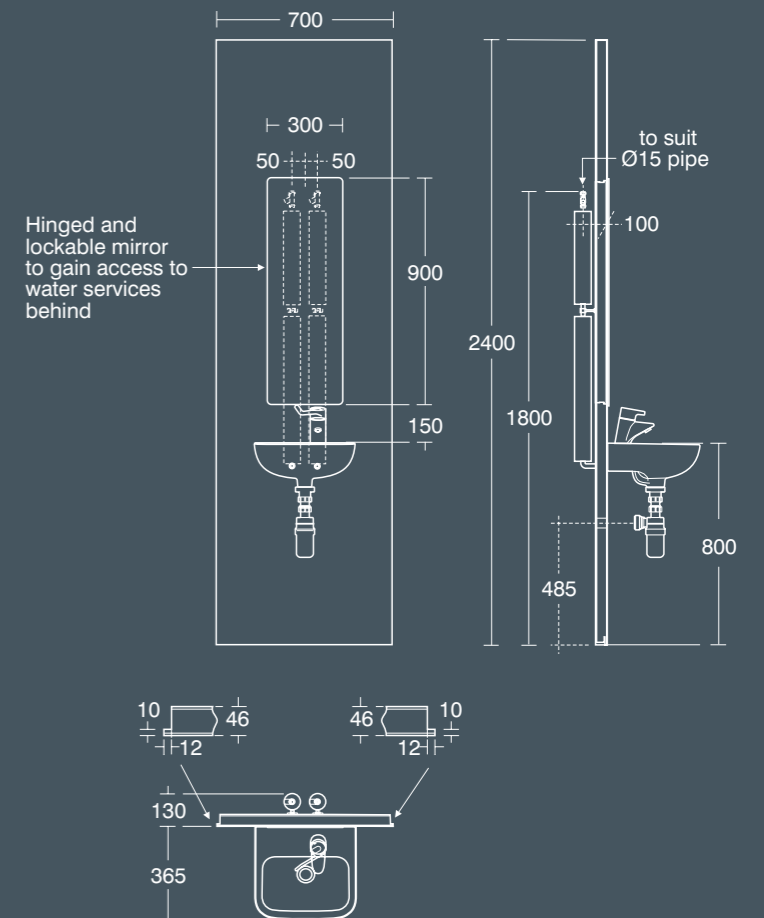
Recessed panel NHS Clinical WHB, 700mm wide, 2400mm high, 500mm Contour21 basin with Markwik21 lever operated tap.

S5502



Recessed panel NHS General Pattern 40cm Portman21, WHB, 700mm wide, 2400mm high, basin with Contour 21 lever operated tap.

S5508



Basins available with grab rails pre-fitted

WCs available with hinged support rails, back support rail and cushion pre-fitted

System21 is available in the above colours, please see www.thebluebook.co.uk for further information

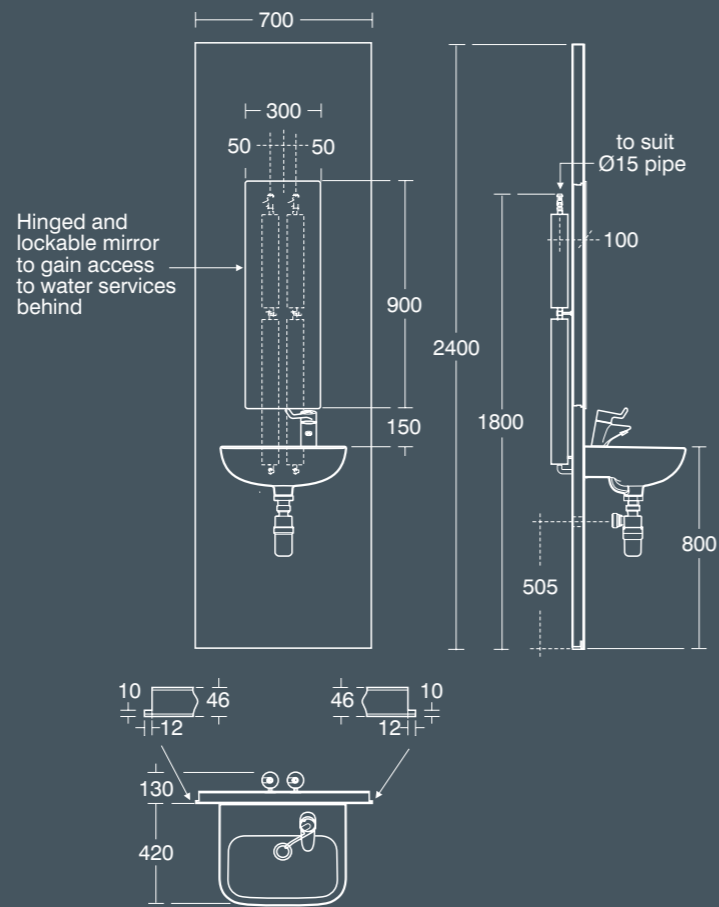
Hospital System21



- Cool Grey **VB**
- Storm Grey **VC**
- Barley yellow **VD**
- Powder Blue **VE**
- Mint Green **VF**
- Dusty Pink **VG**

Recessed panel NHS General Pattern 50cm Portman21, WHB, 700mm wide, 2400mm high, basin with Contour21 lever operated tap.

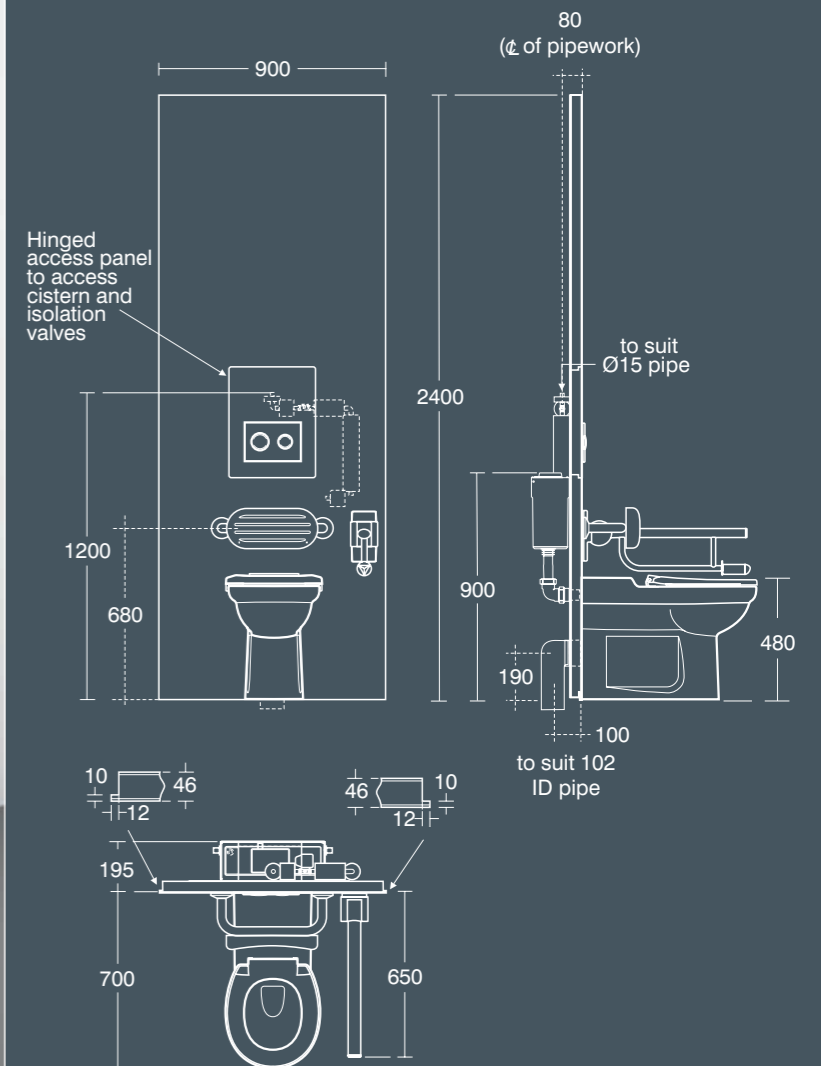
S5514



Recessed panel NHS Disabled, WC BTW 70cm projection, 900mm wide, 2400mm high with access through access hatch.

S5522

- Contour 21 Seat for System21 **S410436**
- System21 Back Rest Rail 40cm x 17cm **S637636**
- System21 Padded Back Rest Cushion **S637867**
- System21 Hinged Support Rail Right Hand 65cm **S637136**
- System21 Toilet Roll Holder for Hinged Support Rail **S637436**



Basins available with grab rails pre-fitted

WCs available with hinged support rails, back support rail and cushion pre-fitted

System21 is available in the above colours, please see www.thebluebook.co.uk for further information

Hospital System21

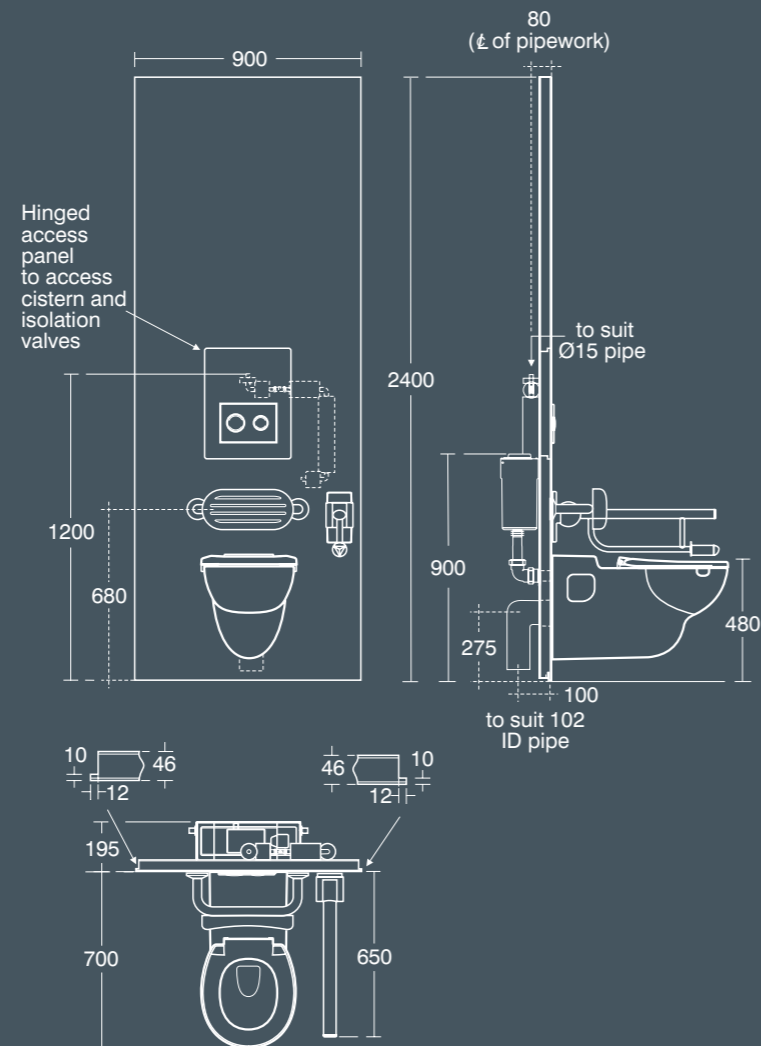


- Cool Grey **VB**
- Storm Grey **VC**
- Barley yellow **VD**
- Powder Blue **VE**
- Mint Green **VF**
- Dusty Pink **VG**

Recessed panel NHS Disabled, WC WH 70cm projection, 900mm wide, 2400mm high with access through access hatch.

S5532

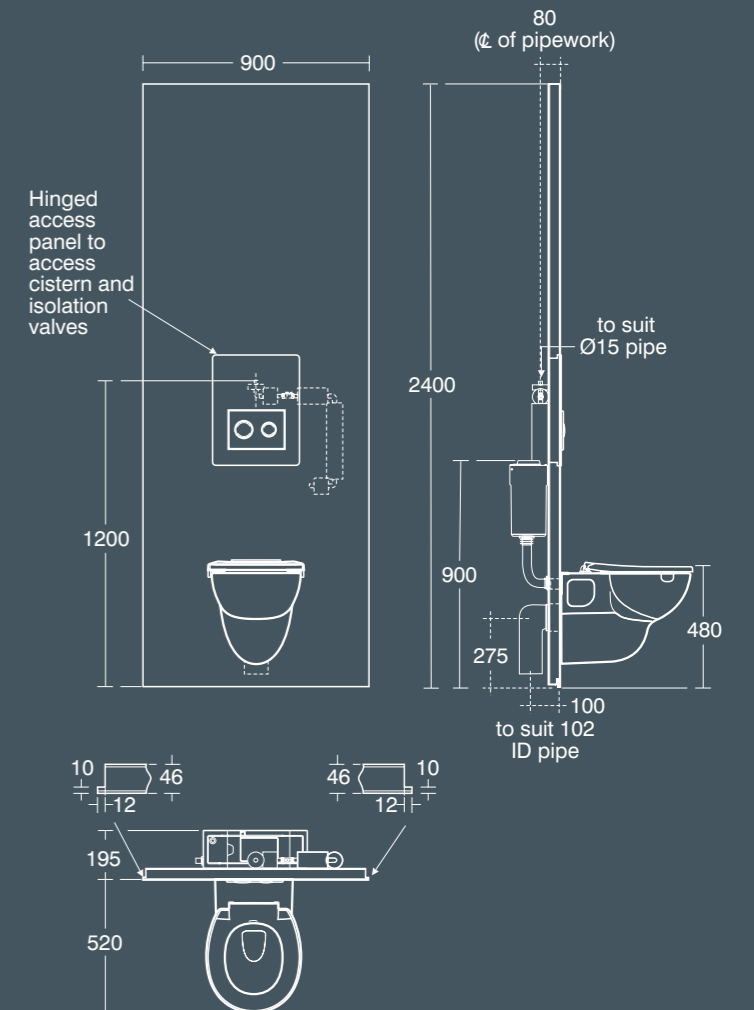
- Contour 21 Seat for System21 **S410436**
- System21 Back Rest Rail 40cm x 17cm **S637636**
- System21 Padded Back Rest Cushion **S637867**
- System21 Hinged Support Rail
- Right Hand 65cm **S637136**
- System21 Toilet Roll Holder for Hinged Support Rail **S637436**



Recessed panel NHS, WC WH standard projection, 900mm wide, 2400mm high with access through access hatch.

S5542

- Contour 21 Seat for System21 **S410436**



Basins available with grab rails pre-fitted

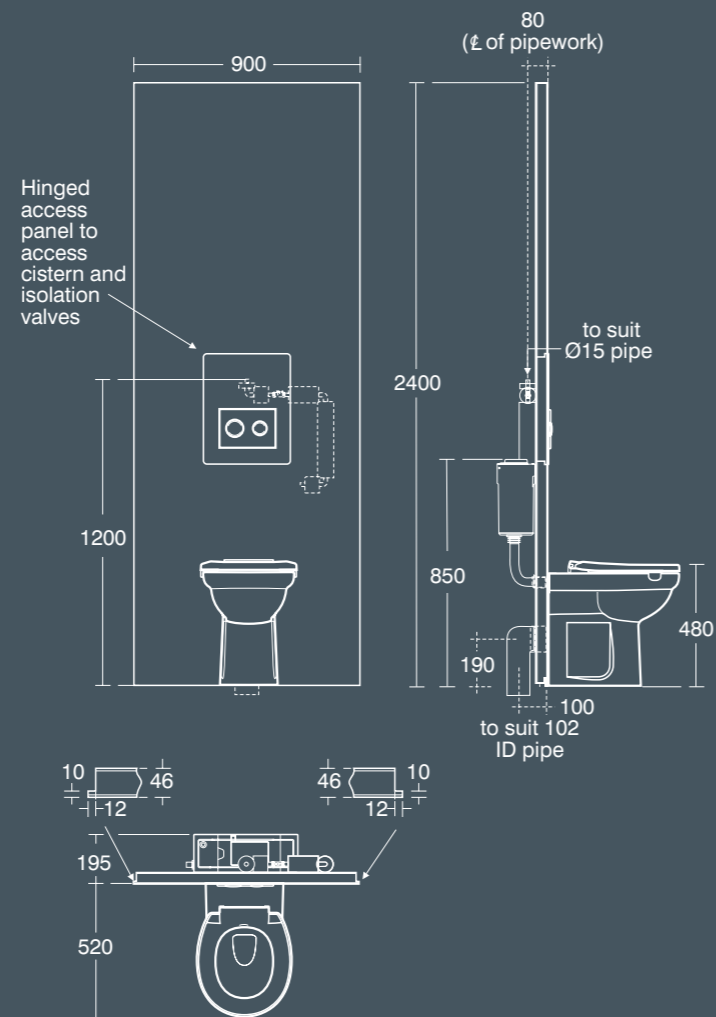
WCs available with hinged support rails, back support rail and cushion pre-fitted

System21 is available in the above colours, please see www.thebluebook.co.uk for further information

Hospital System21

Recessed panel NHS, WC BTW raised height standard projection, 900mm wide, 2400mm high, with access through access hatch. **S5552**

Contour 21 Seat for System21 **S410436**



- Cool Grey **VB**
- Storm Grey **VC**
- Barley yellow **VD**
- Powder Blue **VE**
- Mint Green **VF**
- Dusty Pink **VG**

Basins available with grab rails pre-fitted

WCs available with hinged support rails, back support rail and cushion pre-fitted

System21 is available in the above colours, please see www.thebluebook.co.uk for further information



Guarantee

10 years
on System21 panels

Lifetime
all ceramic products

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. Idealcast and Idealform acrylic baths are guaranteed for twenty-five years from date of purchase.
3. 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).
4. Parts (including push button flush valves) are guaranteed for five years and will be replaced if found to be faulty.
5. Cistern diaphragms, seals and shower seals are not included. Replacements may be purchased through our parts supply service.
6. System21 panels and component parts (excluding sanitaryware, toilet seats, cisterns, accessories, mixers and taps – see separate guarantees above) are guaranteed against manufacturing defects for 10 years.

Please note: To help with logistics on site WCs and seats will be supplied unfitted.

Armitage Shanks pursues a policy of continuing improvement in design and performance of its products. The right is therefore reserved to vary specifications without notice. Colour reproduction is as accurate as possible within the limitations of the printing process.

5 years
on taps, mixers, toilet seats,
stainless steel and cistern fittings

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 is not due to 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. Glass (including mirrors) breakage and any consequential damage. (All glass used conforms to EN12150-1 where applicable). Breakage of glass is not covered by the guarantee as glass by its very nature can shatter.
13. Warranty is not transferable in cases where product is reinstalled in subsequent locations
14. Non glass or metallic spare parts (excluding cistern diaphragms, seals and shower seals) are subject to normal wear and tear through usage and are therefore covered on all products for 2 years from installation. These parts will be charged thereafter. Thereafter, such parts are available for purchase through our parts supply service.
15. This guarantee does not affect your statutory rights.

April 2013

ARMITAGE SHANKS MENA

IDEAL STANDARD GULF FZCO
Jebel Ali, Dubai
P.O. Box 261559
United Arab Emirates

Head Offices Dubai tel. +971 48042400
Sales Offices Athens tel. +30 210 6790800
Email: infogulf@armitageshanks-mena.com

IDEAL STANDARD INTERNATIONAL EGYPT
Regional Sales Office
117, El Thawra St.,
Heliopolis, Cairo
Egypt

Tel. +2 (02) 24145807
+2 (02) 24186321
+2 (02) 24186323
Fax.: +2 (02) 24186320
Email: infoafrica@armitageshanks-MENA.com

www.armitageshanks-MENA.com

*Armitage
Shanks*

System21
Sustainable Panel Solution