

# hospital solutions.... what works and why

an informative guide to:  
hospital washroom requirements

*Armitage  
Shanks*



*Armitage  
Shanks*

In 1817 Thomas Bond founded the company that would become Armitage Shanks with a simple objective; to produce sanitary ware of exceptional quality. Over the last 190 years, investment in technology and traditional manufacturing skills has remained at the core of the business.

Armitage Shanks has a history of innovation, a tradition of product development and a commitment to sustainable design. These factors manifest in a comprehensive product range that is a 'one stop shop' for the specifier.

Part of the Essential Specifiers Series, a collection that will make the process of selecting the right product much simpler, this guide provides the information needed to ensure you meet the needs of your client and current legislation.

As the market leader Armitage Shanks believes it has a responsibility to help define the modern washroom. For almost two centuries it has literally set the standard.



# your questions answered...

# the definitive guide to hospital requirements

# where, who, when, what...

The specification of sanitaryware and fittings for healthcare use can be a life or death decision. Literally.

The resurgent problem of cross-infection in hospitals has the attention of the media, patients and of course the Hospital Trusts themselves.

Armitage Shanks has worked closely with government agencies to generate the functional requirements of sanitaryware, indeed, the current Health Technical Memorandum 64 issued by the Department of Health is only the latest output from a long association between the manufacturer and the Government department. It addresses in great detail the products to be used in a range of applications. Used in conjunction with HBN 00-002, a document that addresses room layout for sanitary healthcare installations, it provides a powerful weapon for the specifier in the battle to beat Healthcare Acquired Infection.

Over many years Armitage Shanks has designed and refined products specific to the healthcare market, most notably the Contour range, a stylish product that has excellent hygiene properties due to its smooth organic shape and functionality. However the new 'super-bugs' will not be defeated by good product design alone, the fight against them must be built into the overall execution of the hospital sanitary facility. HFN 30 outlines methods to reduce the spread of infection at the planning stage and when combined with the experience of Armitage Shanks can give the architect a critical edge in a critical battle.

This Essential Specifiers Series guide will present information from the main government standards in a concise format and highlight the steps necessary to design a functional, hygienic healthcare sanitary facility.

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## Q: how are the scale of provision requirements for a hospital determined?

**A: sanitary facilities must be provided for patients, staff and visitors. several publications are applicable to the requirements of each group;**

**1] HTM 64 provides detailed sanitaryware assembly specifications for use within patient and medical areas.**

**2] HBN 00-002 provides specific sanitary room layout designs, utilising the assemblies in HTM 64, for patient and medical areas.**

**3] BS 6465 provides scale of provision information that can be used to calculate the number of sanitary items required in staff and visitor washroom facilities.**

**4] PART M provides information on the design and number of disabled facilities that are**

### 1] Health Technical Memorandum 64: Sanitary Assemblies

HTM 64 is one of a series of Department of Health publications that provides design guidance, not included in current British Standards, specifically for health buildings. It is applicable to all new build projects and whenever existing facilities are refurbished or repaired.

Within HTM64, a sanitary assembly is described as 'comprising a soil or waste appliance and appropriate supply and waste fittings'. Such assemblies are then broken down into two categories;

- General Pattern for use by patients, staff and visitors that is non clinical.
- Hospital Pattern for use by staff in connection with clinical procedures.

Basins provide a simple example, a General Pattern medium or large basin is intended to allow hand washing in a water reservoir and

a plug is specified to allow this, whereas a Hospital Pattern basin only allows hand washing under running water and has a back outlet without a plug.

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

### 2] Health Building Note 00-002: Volume 1, Part B, Sanitary Spaces

This section of HBN 00-002 provides best practice guidance on the design of clinical sanitary facilities in healthcare buildings. It takes the individual sanitary assemblies from HTM 64 and puts them in a room that is safe, accessible and fit for purpose. Although a provisional document at the time of writing, once published HBN 00-002 will be applicable to all new build healthcare projects and, where practical, refurbishments.

Following extensive independent research HBN 00-002 has identified four categories of clinical sanitary spaces in hospitals;

- 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 extensive and detailed washroom layouts that cater for the unique needs of each category of patient, the majority of which are single room, single user designs.

HBN 00-002 does not provide layout guidance on non-clinical washrooms. It focuses solely on patient facilities and staff clinical areas. It should also be noted that HBN 00-002 supersedes Part M of the Building Regulations within patient areas of healthcare buildings.

3] British Standard 6465-1:2006, Sanitary Installations, Part 1  
BS 6465 provides general advice on the design of washrooms and the scale of provision (the amount of WCs, basins, etc. a building needs), in new buildings and those being refurbished. The Standard covers 15 different types of building. Unfortunately hospitals are not one of them.

Thankfully the BSI includes some advice within the document; 'Information on the scale of provision, ergonomic data and the special requirements for sanitary appliances in hospitals can be found

in the various guidance documents produced by the NHS, HTM 64 and HBN 00-002 amongst them. The issue of staff and visitor non-clinical washrooms is not however featured in these documents and several sections of BS 6465 can provide scale of provision guidance in these areas.

Section 6.4 of BS 6465 covers the design and size of sanitary facilities in the workplace and can therefore be used to assess the non-clinical washroom needs of the hospital staff. The tables below illustrate the minimum recommended provision of sanitary items;

table #1

facilities for female staff *(and male staff in hospitals where urinals are not installed in male toilets)		
number of female staff*	number of wcs	number of washbasins
1 to 5	1	1
6 to 15	2	2
16 to 30	3	3
31 to 45	4	4
46 to 60	5	5
61 to 75	6	6
76 to 90	7	7
91 to 100	8	8
above 100	8, plus one for every group, or fraction of a group, of 25 staff	

table #2

facilities for male staff			
number of male staff	number of wcs	number of urinals	number of washbasins
1 to 15	1	1	1
16 to 30	2	1	2
31 to 45	2	2	2
46 to 60	3	2	3
61 to 75	3	3	3
76 to 90	4	3	4
91 to 100	4	4	4
above 100	4, plus 1 for every group, or fraction of a group, of 50 male staff		

Washroom facilities for disabled staff must also be provided, as generally described in Section 7 of BS 6465 and the Armitage Shanks 'Part M' Essential Specifiers Series guide.

The size of visitor washroom facilities is most closely addressed by Section 6.9 as this focuses on the scale of provision in public assembly buildings having a constant stream of visitors. The following table describes the BSi's recommended provision of sanitary items;

table #3

facilities in assembly buildings where toilet use is throughout the event		
sanitary item	for male visitors	for female visitors
wc	<p><b>1 for up to 250 males plus 1 for every additional group, or fraction of a group of 500</b></p> <p>male WC provision should be half of female provision if urinals are not fitted</p>	<p><b>2 for up to 40 females</b>  <b>3 for up to 70 females</b>  <b>4 for up to 100 females</b>                      then plus 1 for every additional group, or fraction of a group over 50</p>
urinal	<p><b>1 for each group of 50 males, up to 100 plus 1 for every additional group, or fraction of a group, of 100 males</b></p>	–
washbasin	<p><b>1 per wc and in addition 1 per 5 urinals or part thereof</b></p>	<p><b>1, plus 1 per 2 wcs or part thereof</b></p>

Washroom facilities for disabled staff and visitors must also be provided as generally described in Section 7 of BS 6465. These facilities can be counted within the overall scale of provision for each area.

**key points at a glance**

- **HTM 64** Sanitaryware assembly specifications for medical areas
- **HBN 00-002** Sanitary room layout designs for and medical areas
- **BS 6465** Scale of provision for staff and visitor washroom facilities
- **PART M** The design of disabled facilities in staff and visitor washrooms

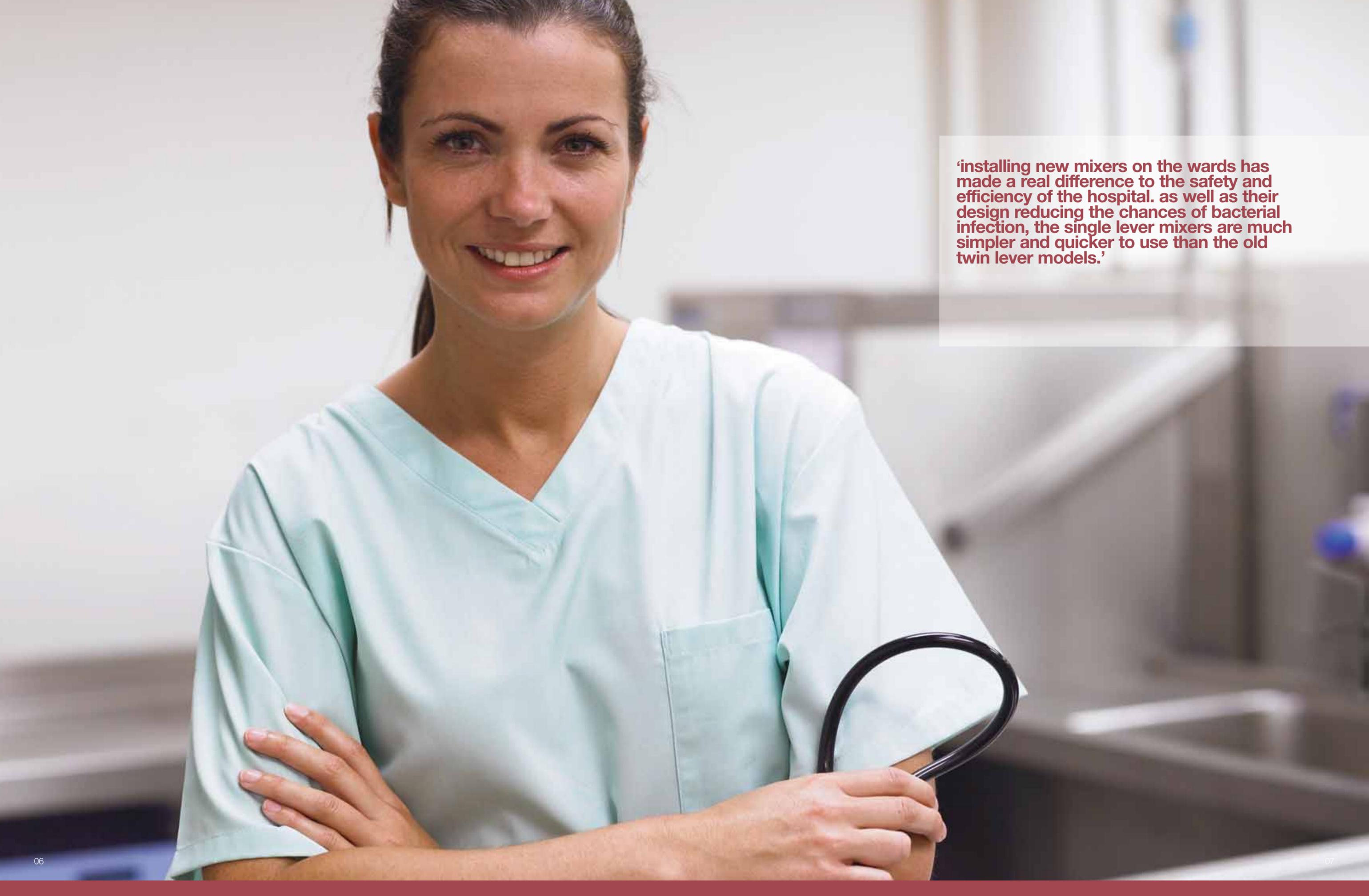


4] Building Regulations 2000, Schedule 1, Part M  
 Section 5 of Part M regulates the 'Sanitary Accommodation in Buildings other than Dwellings' for those who are either permanently or temporarily disabled. In healthcare buildings Part M will principally apply to non-clinical staff and visitor washrooms, it's scale of provision requirements can be summarised as follows;

- A healthcare building having only one toilet it must be unisex and accessible by wheelchair users. It should be of greater than standard width to accommodate use of a standing height washbasin in addition to a low-level hand-rinse basin.
- A healthcare building where washroom facilities are provided for visitors or staff, a unisex wheelchair accessible toilet must be provided close to the location of each facility.

- In every non-clinical male and female washroom within a healthcare building, a WC cubicle must be provided for use by the ambulant disabled within a range of standard WC cubicles.
- In a non-clinical male or female washroom within a healthcare building that has four or more WC cubicles, one must be an enlarged cubicle for use by those who require extra space. This is required 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'



**‘installing new mixers on the wards has made a real difference to the safety and efficiency of the hospital. as well as their design reducing the chances of bacterial infection, the single lever mixers are much simpler and quicker to use than the old twin lever models.’**

## Q: how big a problem is infection control in hospitals?

A: one in ten patients will acquire an infection. the cost to the NHS is £1 billion per year.

Healthcare Acquired Infection (HCAI) is nothing new. The Royal London Hospital was established in 1740 and the minutes of early management meetings included concerns about controlling infection. Eva Luckes, a matron at the Royal London in the late 19th century, wrote 'nurses can scarcely lay too much stress upon the necessity for absolute cleanliness'.

In 'Notes on Nursing' (1860) Florence Nightingale focused on the critical nature of hygiene. Her teachings drastically cut infection in hospitals during the Crimean war.

So if we understood the problem of, and the answer to, infection control over 100 years ago, what has gone wrong? What have we forgotten?

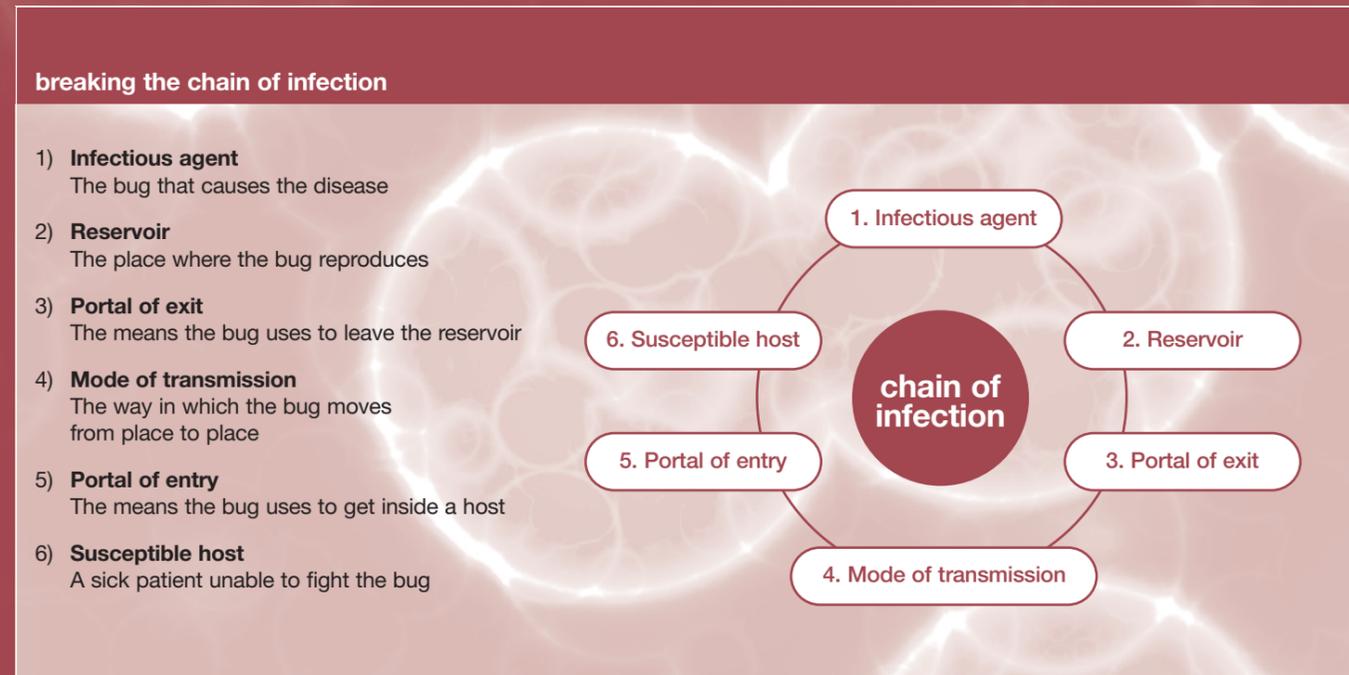
The Department of Health has identified what it considers the leading causes of HCAI;

- We have ignored the lessons of history; proven infection countermeasures have not been performed regularly or properly at the majority of UK hospitals.
- The bugs are getting tougher; the increasing resistance of bacteria to antibiotics makes many infections extremely difficult to treat effectively.
- The bugs are getting smarter; new and improved super-bugs, such as MRSA, exhibit multi-resistance to existing medical treatments.
- We don't know what's going on; gathering data and information is the foundation of effective infection control, and we just haven't done it.

To become infected is a simple process; firstly there must be a place for the bacteria to reproduce, then a method of transmission, lastly a vulnerable host. Breaking the chain of infection at any point will stop it.

Water borne bacteria are a recognised source of HCAI and can be transferred by contact, ingestion and inhalation. The main sources of water in patient care areas are sanitary appliances and they have long been recognised as a potential haven for bacteria.

**Under favourable conditions microorganisms will proliferate and remain in an infectious form.**



## Q: what can the designer do to fight healthcare acquired infections?

A: pro-active ward design and selecting infection beating products will help.

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 it's 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 HCAI'. 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 infection chain, will produce a safer environment.**

The best way to stop HCAI 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 Contour 21 basin

First, let's talk about what this basin doesn't have. It 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 original Contour basin was developed specifically for hospital use in the 1960's and this latest version features a new shape and internal structure designed to meet the needs of the modern hospital.

### The Rimless Contour 21 WC

This back-to-wall WC has a simple footprint and no awkward to clean gap between it and the wall. The very shape of the WC denies the bugs the dark damp places they need.

key points at a glance
- One in ten patients will suffer a Healthcare Acquired Infection (HCAI)
- HCAI is an old problem that has re-emerged due to several factors
- By breaking the chain of infection the problem can be beaten
- Buildings and products designed to break the chain are part of the solution

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 Contour 21 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.

### Markwik taps & mixers

For years Markwik brassware has set the standard for healthcare fittings. Recently redesigned, the range addresses current issues, particularly infection control.

The most obvious feature of the new fittings is one that is missing, the swan neck. New Markwik now has a horizontal outlet to ensure water drains completely, reducing the risk of bacteria build up.

Not many mixers can clean themselves. Markwik can. By attaching a bridging pipe between hot and cold inlets the mixer can be flushed through, with hot bug killing water. Similarly check valves, filters and strainers can be removed and disinfected without removing the mixer from the wall panel.

Markwik fittings feature integral thermostats that mix the water virtually at the tap's outlet. This avoids the warm water, bacteria friendly, dead leg common to mixers with a separate remote thermostat.

**'we all want to do the best we can for our patients and their treatment is really a team effort and that team includes the people who keep the wards clean and the facilities working.**

**having sanitary facilities that can be easily cleaned and that just keep on working lets me spend more time on patient care'**



**Q: what issues effect a non-clinical washrooms hygiene and durability, and how can maintenance costs be kept down?**

**A: selecting products based on their intended use and installation environment is critical, as is designing easy maintenance into the scheme.**

**Durability**

In modern hospital staff and visitor washrooms vitreous china is the logical sanitaryware choice. It can be cast into attractive shapes, is easy to clean and will withstand constant use in most environments. Alternatively, stainless steel is also highly suited to use within healthcare buildings. Beyond its basic toughness the material has an ability to be 'sculptured', is resistant to chemical attack, has intrinsic hygiene properties, is easy to clean and offers an excellent return on investment. Stainless steel sanitaryware combines material and purpose to achieve the specifier's most demanding objective.

While a plethora of finishes can be found on modern taps and mixers, the classic chrome plated finish cannot be surpassed. The chemical bond between the body of the tap and the finish make its durability superior to other surface treatments on the market.

**Hygiene**

Unsurprisingly, recent research identifies cleanliness and hygiene as the primary concern of washroom users. Within this broad topic are several key points that when addressed allow the specifier to design hygiene into the washroom.

**As a species we adopt rituals in order to deal with many aspects of life, and this is true in the washroom, especially one within a hospital.**

Almost all users have their own washroom rituals aimed at avoiding physical contact with surfaces. The challenge for the designer is to propose a layout and product selection that reduces contact with items in the washroom.

Many users believe hygiene is most important on the way out of a washroom. After washing their hands they want to avoid contamination and will try to push open washroom doors with feet or elbows, use tissue paper to grip the door handle or wait for another user to open the door and follow them out before it closes! The solution is a 'one-way, door-less' washroom that minimises the use of hands to exit.

Busy washrooms are perceived as dirty washrooms. People prefer to choose their own WC or urinal and, when unable to do so in a busy toilet, will be obliged to use the one that no one else wants. They view this last WC or urinal as below standard in some way.

**The belief is common that a crowded washroom is too busy to be cleaned properly.**

Using scale of provision data and an assessment of the project in question will enable the specifier to ensure overcrowding does not become an issue.

Simply providing a clean washroom isn't enough. People use all their senses to judge hygiene; aroma, lighting, materials and colour all play a part in their assessment. This clearly illustrates that the specifier must produce a design that does not just rely on a cleaning regime for its hygiene performance. It must look and feel clean too.

**Maintenance**

Often an overlooked factor in the purchase decision, cleaning and maintenance costs can have a significant impact on the life costs of a washroom.

Inevitably product selection will have an impact on cleaning regimes. A smoothly contoured assembly is much easier and faster to clean effectively. Fitting a wall hung WC instead of the more traditional floor mounted type will facilitate faster, and more economic, cleaning.

**Free floor space under the WC bowl makes washing the floor much simpler as there are no awkward spaces too small for a mop to reach.**

This is an area in which hygiene is paramount and thorough cleaning critical.

Products that have 'cleaning friendly' smooth outer skins tend to be more expensive to manufacture because of their internal structure. This is reflected in their purchase price and the specifier may have to explain the long-term value for money that such products represent.

Hospital washrooms will have a very high level of use throughout the day. And often that use will not be gentle! Regular maintenance will be required to ensure that they perform to the optimum level and continue to satisfy visitors.

Possibly the greatest aid to simple maintenance is the walk in duct. Hiding pipe work makes for an attractive, vandal resistant and hygienic washroom, it also enables regular maintenance to be carried out easily as all services are quickly accessible. If a service duct is not practical a panel system that supports the sanitary item and creates a 'duct' space behind it is an excellent cost effective alternative.

If something does break down, are replacement parts available? A comprehensive back-up service is key to a proficient maintenance programme, a reassurance the client may not need at handover but will value as they maintain their washroom.

**key points at a glance**

- Cleanliness and hygiene are the primary concern of washroom users
- Hygiene is most important on the way out of a washroom
- Product selection will have an impact on cleaning regimes
- Comprehensive back-up is key to an efficient maintenance programme



Back outlet basins, hide waste pipework



Remote sensor for no touch mixer operation



Free floor space under the WC makes cleaning the floor much simpler

## Q: how can hospital sanitary facilities be made water efficient? and how will it benefit the client?

A: by selecting water saving products that comply with HTM 64 and designing within relevant BREEAM guidelines where possible.



Flow Regulators can halve the amount of water wasted from basin mixers



Contour 21 Rimless WC's only require 4.5 litres of water to flush



An Aridian Waterless urinal can save 87,000 litres of water per year

A typical hospital will use 1,460 litres of water each year for every square meter of floor space<sup>1</sup>. Almost 55% of water used within a hospital will be used in sanitary facilities<sup>2</sup>. Saving water therefore makes good sense for both environmental and financial reasons.

HTM 64 is prescriptive in the product choices available within clinical patient and medical areas, limiting the specifier to 'hospital pattern' products. However within these limits the designer is able to influence water usage by attention to peripheral issues such as water pressure rates, supply management and temperature control. By contrast the 'general pattern' areas within HTM 64 provide more latitude for the designer as they relate to staff and visitor areas; traditional washrooms rather than medical rooms.

**All hospital sanitary facilities, whether clinical or public, have the potential to save money and natural resources by sound product specification and building management.**

### Water saving

The Environment Agency estimates that most buildings in the UK can easily reduce water consumption, and their water bills, by around 40%. For a hospital this is obviously a massive benefit, and one that can be realised without compromising hygiene, infection control or patient care.

### Taps

Almost 25% of all the water used in a typical hospital washroom comes out of taps and mixers<sup>3</sup>. A tap with a flow of 12 litres per minute which is used a 100 times a day for 20 seconds each time will use close to 400 litres of water each day. By specifying a tap with a flow rate regulator the Environment Agency has measured up to an 80% reduction in this figure.

Alternatively, electronic sensor taps or timed shut-off push taps may be used to reduce water use by 15% and prevent wastage due to taps left running by careless users. These products are particularly suitable in hospitals where an attitude of 'I'm not paying the water bill so why do I care?' may be prevalent.

### Urinals

The installation of urinals instead of WCs in male washrooms will immediately save water compared with the same number of WCs. Despite this, urinals still account for over 10% of water usage in most hospital sanitary facilities. Recent developments in waterless urinal technology can reduce this figure to virtually zero – a urinal that does not flush simply does not use water!

Current Water Supply (Fittings) regulations 1999 call for a flush control device to be used that stops traditional urinals flushing when the washroom has not been used for a prescribed time.

**Each urinal in an uncontrolled washroom will use 900 litres of water per day.**

A flush management device, when installed and maintained properly can reduce the volume of water used by 74%.



### BMA labelling scheme

Many of the products shown in this brochure fall within the Bathroom Manufacturers Association (BMA) labelling scheme.

The aim of the Scheme is to help you easily identify water efficient products that when installed and used correctly use less water than other products available on the market.

### key points at a glance

- Hospitals use 1,460 litres of water per square meter of floor per year
- 55% of water used within a hospital is used in sanitary facilities
- Careful product choice can reduce water consumption by around 40%
- BREEAM assesses the environmental friendliness of buildings

### WCs

Responsible for 45% of water usage in hospital sanitary facilities, an efficient WC can reduce the water volume flushed each day by almost half. Dual flush WC cisterns can be used in washrooms provided their operation is simple and clear instructions are posted close by. The small flush of a typical dual flush toilet is around 2/3rds of the full 6 litre flush and therefore provides an automatic saving of 2 litres per use. The Armitage Shanks range of Contour 21 WC's exceed even this saving; they all feature a 4.5 litre and 3 litre dual flush. Correct usage and maintenance are necessary to realise the water savings of this technology. Their use should therefore be considered on an area-by-area basis.

### Showers

Hospital staff showers can have a massive impact on a facilities water usage. While some domestic showers may use only 17 litres during a five-minute shower, power showers can use 75 litres. For comparison an average bath uses around 80 litres. Despite this wide variation there is no agreed definition of a 'water saving shower'. Current best practice focuses on managing user behaviour and flow rates.

The thermostatic mixing valve is by far the most water efficient shower valve. It allows the user to set a temperature based on previous experience and its separate flow control enables the flow to be reduced or interrupted safely and easily. In contrast the simple hot and cold tap mixer requires a water consuming period of trial and error to set a comfortable temperature and discourages water saving flow reduction once set.

Building Research Establishment tests have determined that a flow rate of 10 litres/minute is acceptable to most users. This can be achieved in mains pressure or pumped systems by using flow-modifying devices either in the mixed water supply or at the showerhead to introduce air or create finer water drops. Users will still perceive the shower as a power-shower but the flow rate will be halved and water usage reduced.

### BREEAM

You've designed a washroom that is water efficient, but how is that judged and by whom? The Building Research Establishment set up BREEAM (Building Research Establishment Environmental Assessment Method) as a way to assess the environmental friendliness of buildings. As the worlds longest established and most widely used assessment scheme, it 'sets the standard for best practice in sustainable development' and measures each buildings level of achievement. Over 65,000 buildings in the UK have already achieved BREEAM certification and a further 270,000 have registered for assessment.

**BREEAM's remit goes far beyond simple water saving, it addresses energy usage, material suitability, occupier comfort and many other environmental impacts.**

The benefits of creating and using a BREEAM building extend to both designer and client. The client receives a building that supports a corporate environmental strategy, that is a better place to visit and that has increased marketability. The designer can clearly demonstrate compliance with environmental requirements and has the satisfaction of working to a formalised best practice.

Within the BREEAM programme there is presently not a section dedicated to assessing healthcare facilities. However, the Bespoke section caters for any building that falls outside the standard BREEAM categories. The Buildings Research Establishment will prepare design assessment criteria specific to an individual project that, once agreed with the design team, will detail the issues to be assessed at the certification stage, thereby providing guidance during design and construction.

<sup>1</sup> Thames Water, Watermark 2003

<sup>2</sup> Audit Commission, NHS Occasional Papers 1993

<sup>3</sup> Audit Commission, NHS Occasional Papers 1993

**Q: what is the UK government doing to encourage water saving?**

**A: DEFRA, the body responsible for water conservation in the UK, tests, identifies and promotes water efficient products.**



In the March 2001 Budget Report the Chancellor announced increased support for organisations that invest in environmentally friendly technologies. Key to this new policy was the introduction of the Water Technology List.

The Water Technology List was published in 2003 following lengthy consultation between the Department for Environment, Food and Rural Affairs (DEFRA) and HM Revenue & Customs. The WTL, which is available on the web ([www.eca-water.gov.uk](http://www.eca-water.gov.uk)) and updated monthly, describes the products and practices that DEFRA believe will make a positive impact on water saving within any organisation. The list is a statutory document supported by a Treasury Order.

**The UK has less water available per person than any other EU country, with the exception of Belgium and Cyprus. London is 'drier' than Istanbul and the southeast has less water available per capita than the Sudan.**

By selecting sanitaryware products from the WTL your design could contribute to potential water savings of up to 50% per annum for your client, according to Environmental Agency research.

**Many organisations can claim a 100% first year tax allowance on products chosen from the Water Technology List.**

**Q: can a hospital gain tax benefits from the enhanced capital allowance scheme?**

**A: probably not, but some healthcare facilities may be able to.**

Local Authority hospitals are typically not profit making organisations and as a result they are not able to claim tax relief under the ECA.

However, hospitals that are run as a Trust and undertake fundraising trading activities may be able to gain tax relief on any profits made. Similarly, any hospital that is run as a Charity is liable for corporation tax and may therefore also receive tax relief on any profitable activity. The tax liability of any individual hospital and it's access to ECA's is beyond the scope of this Essential Specifiers Guide. It is recommended that any client hoping to benefit from the Enhanced Capital Allowance Scheme consult HM Revenue & Customs.

**Q: apart from reduced water bills, are there other financial incentives for my client?**

**A: yes, many organisations will be rewarded for using WTL products via the tax system.**

The Enhanced Capital Allowance (ECA) scheme works in conjunction with the Water Technology List. A commercial operation can claim 100% first year capital allowances on investments in water efficient products chosen from the List. Organisations can write off the entire cost against the taxable profits of the period in which they make the purchase.

For example, an organisation purchases £1000 worth of sanitaryware and fittings from the Water Technology List. It can then claim a 100% Enhanced Capital Allowance and thereby reduce its taxable profit by £1000. Assuming tax on profit is paid at a 30% rate the organisation will pay £300 less tax in the period.

**In the year of purchase the ECA provides a £30 tax reduction for every £100 spent on approved water saving products and their installation.\***

The ECA is effectively a short-term cash flow boost, bringing forward tax relief so that the entire cost of a purchase can be set against the profits in the year of purchase.

Any organisation that pays UK corporation tax or income tax can claim an ECA on the purchase, transport and installation costs of designated water saving products featured on the Water Technology List.

key points at a glance
- DEFRA and HM Revenue & Customs are working to promote water economy
- Products on the Water Technology List are proven to save water
- An organisation that pays tax can claim the allowance against profits
- Any hospital will benefit from improved water saving and lower utility bills



\*Not applicable in Republic of Ireland.



case study:

# the royal london hospital

reducing the spread of infection in hospitals is a critical task. armitage shanks taps and basins recently fitted in the alexander wing of the royal london hospital are playing their part in helping to defeat this aggressive enemy.

### The Royal London Hospital

Everything about our National Health Service is on a grand scale. It is the largest organisation in Europe: in a typical week, more than 800,000 people will be treated in NHS hospital outpatient clinics, over 10,000 babies will be delivered by the NHS, and NHS surgeons will perform around 1,200 hip operations, 3,000 heart operations and 1,050 kidney operations.

In redeveloping the Alexander Wing the aim was to provide personal hygiene facilities that would be long lasting, easy to maintain and user friendly. Architects HOK worked carefully with the project contractors to make the en-suite bathrooms attractive as well as practical, specifying high quality Armitage Shanks ceramics which have a lifespan that exceeds the hospital refurbishment cycle.

And, although over 1.4 million people get treated at home by NHS staff each week, it is inevitable that for some a hospital stay will be on the cards – one of the reasons that a major new hospital building and refurbishment programme is under way. Britain's largest Private Finance Initiative (PFI) hospital project, with a budget of £1.1 billion and a ten-year programme, is the transformation of healthcare facilities at the St Bartholomew's and Royal London hospitals.

**'the laminate panels can be removed when maintenance is needed. almost any colour combination is possible, obviously we stayed within the current disability discrimination act guidelines concerning colour contrast'.**

The Alexander Wing in the Royal London hospital has just been fitted with 32 new en-suite bathrooms and wash stations, part of a '100 bed enabling project', featuring products from the HTM 64 compliant Armitage Shanks range. Although just a small part of the 'Bart's Scheme', as the development is referred to, the Alexander Wing provides a good example of the high standard of equipment being used throughout the project.





hospital  
sanitary  
facility  
solutions

**'in these sort of high use areas it makes sense to use a quality product rather than a cheaper import'**

Infection control was never far from the minds of the design and installation team and products were selected with this factor in mind. One of the simplest ways to transfer bacteria is by the humble tap or mixer. The new Markwik range reduces contact transmission by eliminating the places where bacteria hide.

Contact of any kind can be prevented if a mixer with either a proximity sensor or a time flow sensor is fitted. The proximity sensor is activated by the users deliberate hand movement within the range of its sensor. It switches off the water when hand movement stops or moves out of sensor range, this is particularly effective in areas where water saving is important. With the time flow sensor which is similarly activated by moving a hand over the sensor, the water will flow for a predetermined length of time, set when installing the equipment. This is particularly suitable for clinical scrub up areas.

Armitage Shanks Contour basins are being used throughout the 'Bart's Scheme'. And, as with the Markwik mixers they are often paired with, they have been designed to reduce the opportunities of cross-infection. Contour basins have no tapholes so brassware has to be wall mounted, this uncluttered design makes the basin very easy to clean. Similarly, the lack of overflow and chain stay holes eliminates two areas that could harbour germs. Contour's back outlet design also has hygiene benefits; firstly that no standing water can be held in the basin, secondly, all waste services can be concealed behind panelling or blockwork ducts.

The simple, even old fashioned, message 'Now wash your hands' has become even more important over the last few years with the emergence of MRSA and other 'super-bugs' contracted in hospitals. The design of the brassware and sanitaryware used within a hospital has an important role to play in making our hospitals safer and protecting the lives of staff and patients alike.



*Armitage  
Shanks*

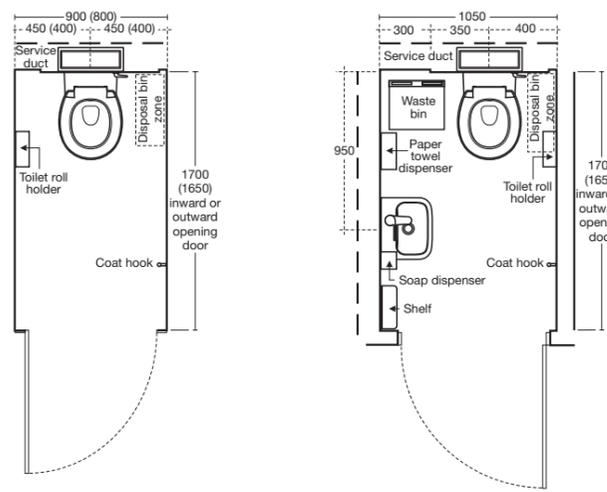
## standard wc

Suitable only for fully ambulant users, standard WCs typically comprise a toilet and hand-rinse basin within a stand-alone room. Where toilets are provided within a cubicle a basin must be located immediately outside.



Figure #1

Figure #2



For complete technical information please call 0870 122 8822

Figure #1  
Standard WC without handrinse basin

Figure #2  
Standard WC with handrinse basin

**S231401**  
Portman 21  
40cm basin no overflow or chain hole – one right hand taphole.

**A4169AA**  
Contour 21  
Single lever one taphole sequential thermostatic basin mixer.

**S305801**  
Contour 21  
Rimless wall hung WC pan – standard projection.

**S4066LJ**  
Contour 21  
Top fix toilet seat only in grey.

(all products listed above, see left)

**S231401**  
Portman 21  
40cm basin no overflow or chain hole – one right hand taphole.

**A4169AA**  
Contour 21  
Single lever one taphole sequential thermostatic basin mixer – no waste.

**S305701**  
Contour 21  
Raised height rimless back-to-wall WC pan – standard projection.

**S4066LJ**  
Contour 21  
Top fix toilet seat only in grey with restraint lugs.

**S6482LJ**  
650mm hinged drop down arm support in grey.

**S6468LJ**  
Toilet roll holder in grey.

**S6454LJ**  
4 x 600mm grab rails in grey.  
(all products listed above, see right)

## semi-ambulant accessible wc

For those with impaired physical mobility, but who are not wheelchair bound, this design offers a degree of support and reassurance and ample room for the use of a walking stick or frame.



Figure #1

Figure #2

For complete technical information please call 0870 122 8822

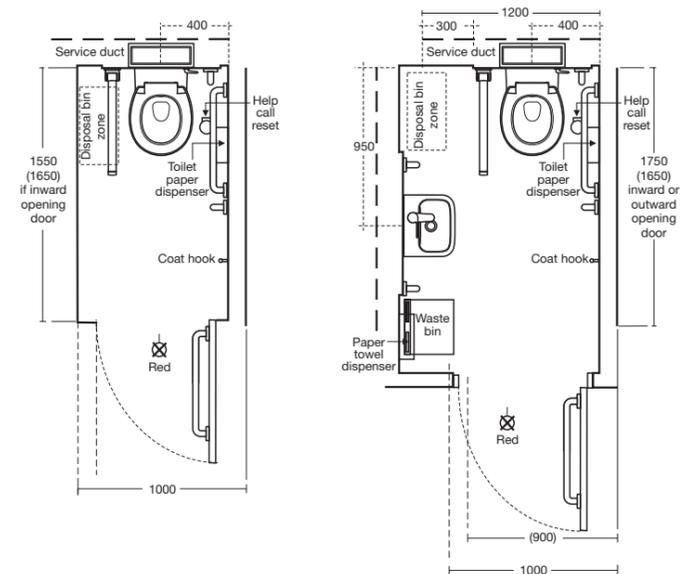
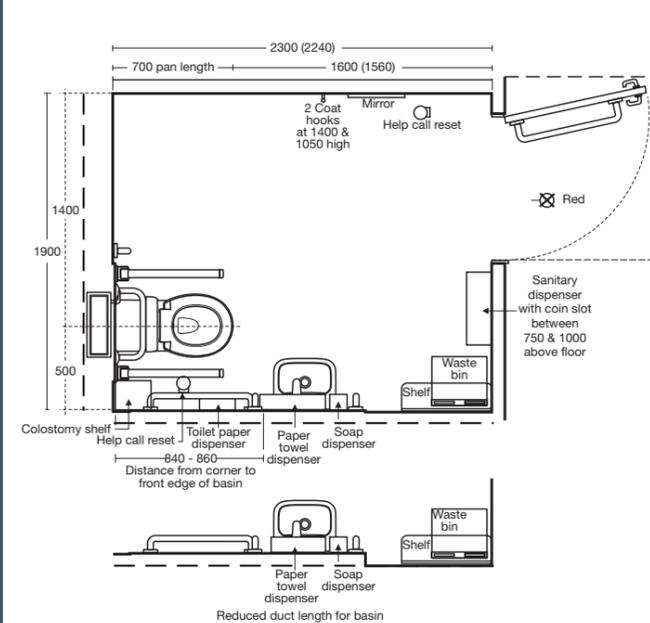


Figure #1  
Semi-ambulant accessible WC without handrinse basin

Figure #2  
Semi-ambulant accessible WC with handrinse basin

## independent wheelchair accessible wc

This HBN 40 compliant layout allows wheelchair users easy and safe transfer to the WC and use of the hand-rinse basin whilst seated on the WC.



For complete technical information please call 0870 122 8822

Figure #1  
Independent wheelchair accessible WC



**S231401**  
**Portman 21**  
40cm basin no overflow or chain hole – one right hand taphole.

**A4169AA**  
**Contour 21**  
Single lever one taphole sequential thermostatic basin mixer – no waste.

**S305101**  
**Contour 21**  
Rimless wall hung WC pan – 70cm projection.

**S4066LJ**  
**Contour 21**  
Top fix toilet seat only in grey.

**S688467**  
Back rest cushion.

**S6481LJ**  
**Contour 21**  
Back rest rail in grey.

**S6482LJ**  
2 x 650mm Hinged drop down arm support in grey.

**L6468LJ**  
Toilet roll holder in grey.

**S6454LJ**  
5 x 600mm grab rails in grey.  
*(all products listed above, see left)*

**S216501**  
**Contour 21**  
55cm accessible basin – one centre taphole.

**A4169AA**  
**Contour 21**  
Single lever one taphole sequential thermostatic basin mixer – no waste  
*(all products listed above, see opposite page, right)*

**S231401**  
**Portman 21**  
40cm basin no overflow or chain hole – one right hand taphole.

**A4169AA**  
**Contour 21**  
Single lever one taphole sequential thermostatic basin mixer – no waste.  
*(all products listed above, see right)*

**S305501**  
**Contour 21**  
Raised height rimless back-to-wall WC pan – 70cm projection.

**S4066LJ**  
**Contour 21**  
Top fix toilet seat only in grey.

**S688467**  
Back rest cushion.

**S6481LJ**  
**Contour 21**  
Back rest rail in grey.

**S6482LJ**  
2 x 650mm hinged drop down arm support in grey.

**S6454LJ**  
4 x 600mm grab rails in grey.  
*(all products listed above, see far right)*

## assisted wc

Wheelchair users who require the assistance of a trained member of staff will benefit from the layout of this washroom. A peninsula WC and wheelchair accessible basin are positioned so that the carer can safely help the user.



For complete technical information please call 0870 122 8822

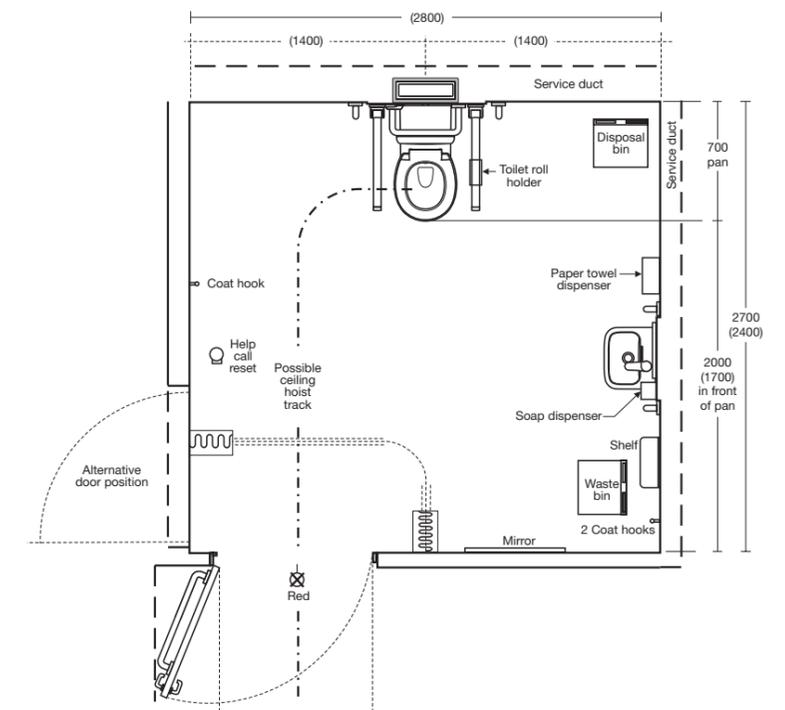


Figure #1  
Assisted WC

## standard shower room

Within this room a shower tray and/or cubicle is acceptable. It is only intended for use by fully capable and ambulant patients who will be at minimal risk from showering or changing. In a wireless world the Trevi Logical shower utilises innovative technology to control shower function from up to 10m away. A five-button easy grip remote handset manages water flow and temperature with digital precision.



### trevi logical

Safe, practical and kind to the user... the perfect solution for healthcare.

Trevi logical is particularly suitable for healthcare as a carer can set the ideal temperature for the patient before the patient enters the shower and without getting wet. Once set, the patient can be helped into the shower and prepare themselves in private behind the shower curtain. When ready the carer or patient can operate the shower with the remote control and achieve the perfect temperature at the touch of a button. The handset has been specially designed with simple large visible controls for easy to understand operation.



Trevi Logical.  
This product is an alternative to A4129AA.

**S6751AC**  
Shower curtain rail.

**S675001**  
Shower curtain.

**L6845AA**  
Trevi Logical  
Digital processor and  
standard connection kit  
for high pressure.

**S6454AC**  
1 x 600mm grab rail  
in white.

**S6725AC**  
450mm handset  
grab rail in white.  
*(all products listed above, see left)*

**S6745AC**  
Easy adjust handset  
holder in white.

**E4745AA**  
Shower hose.

**L6739AA**  
Shower handset.

**L6919AA**  
Shower diverter.

**E4705AA**  
Shower wall elbow.

**A4129AA**  
**Contour 21**  
Built in thermostatic  
sequential shower mixer,  
with 120mm long lever.

**S9340AA**  
Anti vandal shower head.  
*(all products listed above, see right)*



For complete technical  
information please call  
0870 122 8822

Figure #1

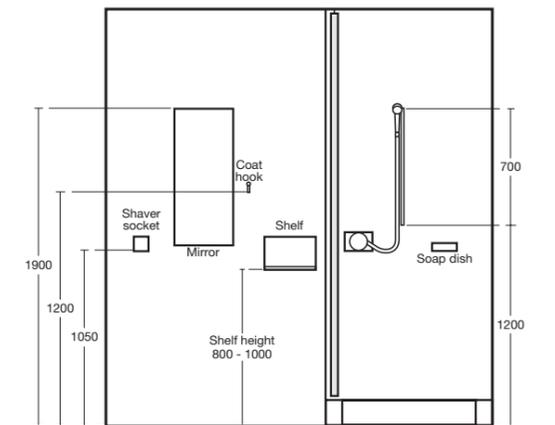


Figure #2

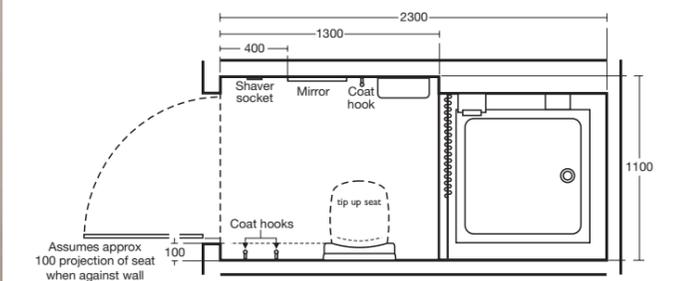
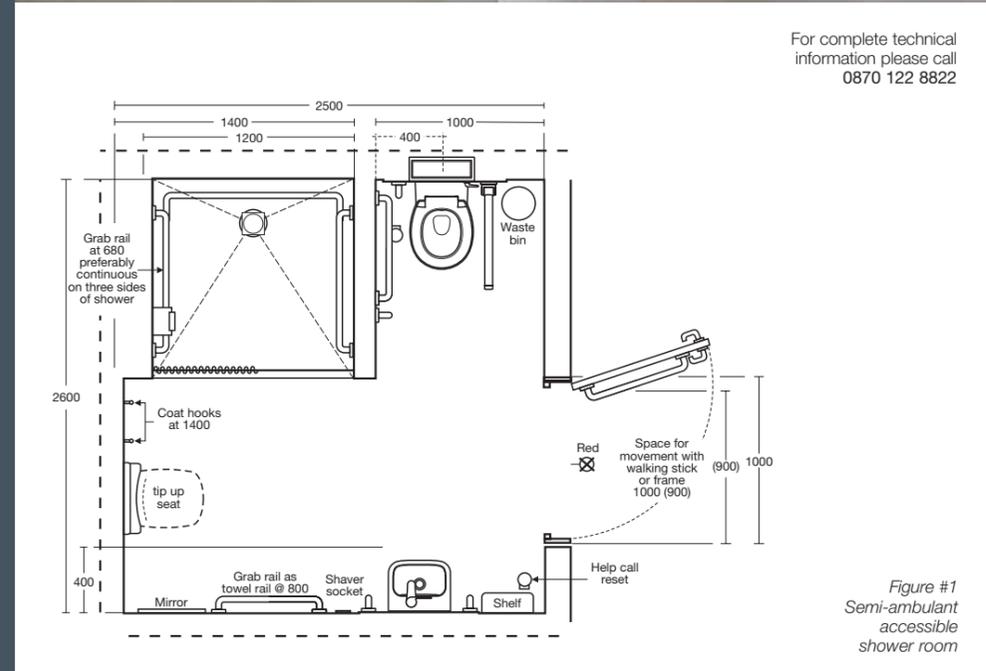


Figure #1  
Side elevation of  
a standard shower  
room – without toilet

Figure #2  
Overhead elevation  
of a standard shower  
room – without toilet

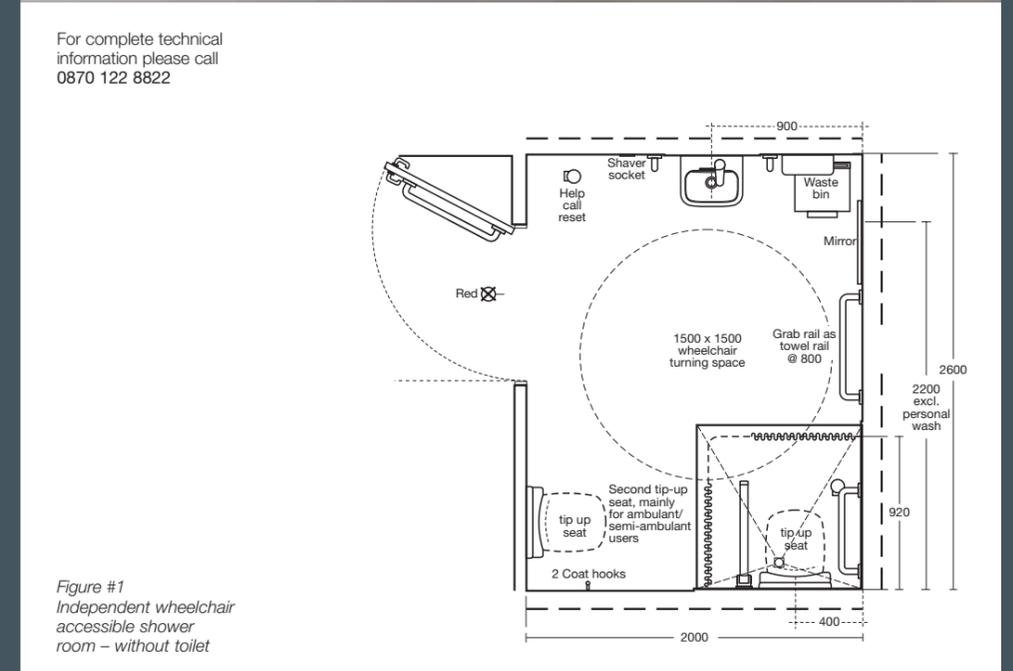
## semi-ambulant accessible shower room

When an additional element of support is needed this room features continuous handrails to aid the visually impaired and is designed so that users can reach two walls or grab rails to help maintain balance.



## independent wheelchair accessible shower room

Safety and the protection of dignity are at the heart of this shower room. The provision of grab rails, a shower curtain and a shower seat ensure the patient can shower effectively.



**L6845AA**  
Trevi Logical  
Digital processor and standard connection kit for high pressure (above).

**A4129AA**  
Contour 21  
Built in thermostatic sequential shower mixer, with 120mm long lever.

**S6725RW**  
450mm handset grab rail in grey.

**S6745RW**  
Easy adjust handset holder.

**L6919AA**  
Shower diverter.

**S6751RW**  
Shower curtain rail.

**S675001**  
Shower curtain.

**E4705AA**  
Shower wall elbow.

**E4745AA**  
Shower hose.

**L6739AA**  
Shower handset.

**S9340AA**  
Anti vandal shower head.

**S305701**  
Contour 21  
Raised height rimless back-to-wall WC pan – standard projection.

(all products listed above, see left)

(continued from p28)

**S4066LJ**  
Contour 21  
Top fix toilet seat only in grey.

**S6482RW**  
1 x 650mm hinged drop down arm support in grey.

**S6468LJ**  
Toilet roll holder in grey.

**S6454RW**  
9 x 600mm grab rails in grey.  
(all products listed above, see left)

**S225401**  
Portman 21  
50cm basin no overflow right hand taphole.

**S6454AC**  
7 x 600mm grab rails in white.

**A4169AA**  
Contour 21  
Single lever one taphole sequential thermostatic basin mixer – no waste.

**A4129AA**  
Contour 21  
Built in thermostatic sequential shower mixer, with 120mm long lever.

**S6725AC**  
450mm handset grab rail in white.

**S6745AC**  
Easy adjust handset holder in white.

**L6919AA**  
Shower diverter.

**E4705AA**  
Shower wall elbow.

**E4745AA**  
Shower hose.

**L6739AA**  
Shower handset.

**S9340AA**  
Anti vandal shower head.

**S6482AC**  
2 x 650mm hinged drop down arm support in white.

**S6632XK**  
Shower seat in grey.

**S6635XK**  
Shower seat back rest in grey.  
(all products listed above, see right)

## assisted shower room

In this scheme hospital staff are able to access the shower area, and the patient, from two sides to provide necessary assistance. HBN 40 also recommends that a wheelchair accessible WC and basin are included within the shower room.



**S305501**  
Contour 21  
Raised height rimless back-to-wall  
WC pan – 70cm projection.

**S406636**  
Contour 21  
Top fix toilet seat only in blue.

**S663736**  
Pressalit  
Back rest rail in blue.

**S648236**  
2 x 650mm hinged drop  
down arm support in blue.

**S646836**  
Toilet roll holder in blue.

**S645436**  
6 x 600mm grab rails in blue.

**S225401**  
Portman 21  
50cm basin no overflow  
right hand taphole.

**A4169AA**  
Contour 21  
Single lever one taphole  
sequential thermostatic  
basin mixer.

*(all products listed above, see left)*

**A4129AA**  
Contour 21  
Built in thermostatic  
sequential shower mixer,  
with 120mm long lever.

**S672536**  
450mm handset grab rail in blue.

**S674536**  
Easy adjust handset  
holder in blue.

**L6919AA**  
Shower diverter.

**S6751AC**  
Shower curtain rail.

**S675001**  
Shower curtain.

**E4705AA**  
Shower wall elbow.

**E4745AA**  
Shower hose.

**L6739AA**  
Shower handset.

**S9340AA**  
Anti vandal shower head.  
*(all products listed above, see right)*



*For more information on Pressalit  
multi system track rails call 0870 122 8822*

For complete technical  
information please call  
0870 122 8822

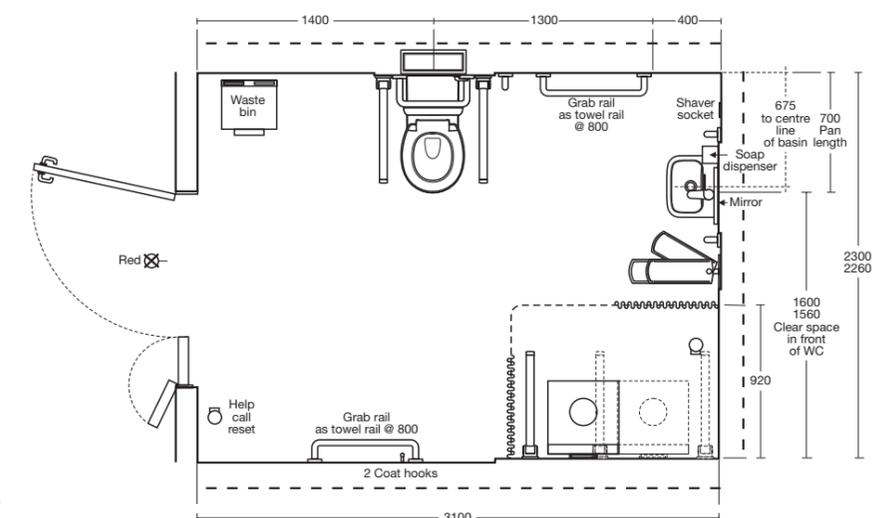


Figure #1  
Assisted shower room

## semi-ambulant accessible bathroom

This general-purpose room provides changing and dressing, bathing, washing and toilet facilities for those who have independent, but limited movement.



**S225401**  
Portman 21  
50cm basin no overflow  
right hand taphole.

**A4169AA**  
Contour 21  
Single lever one taphole  
sequential thermostatic  
basin mixer – no waste.

**S305701**  
Contour 21  
Raised height rimless  
back-to-wall WC pan –  
standard projection.

**S406636**  
Contour 21  
Top fix toilet seat only  
in blue.

**S648236**  
650mm hinged drop  
down arm support  
in blue.

**S646836**  
Toilet roll holder in blue.

**S645436**  
7 x 600mm grab rails  
in blue

**S169901**  
Nisa steel bath  
1700 x 700mm set  
at 480mm height.  
*(all products listed, see above)*



For complete technical  
information please call  
0870 122 8822

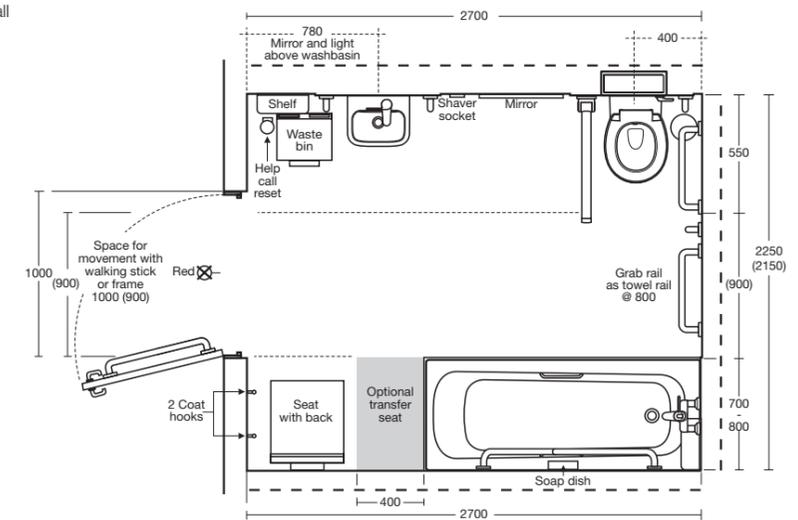


Figure #1  
Semi-ambulant  
accessible bathroom

**A4135AA**  
Contour 21  
Wall mounted  
thermostatic bath mixer.  
A single lever provides  
sequential control of water  
flow and temperature.

**S647536**  
Contour 21  
Angled grab rail in blue.  
*(all products listed, see above)*

## independent wheelchair accessible bathroom

The space and ergonomics of this washroom enable the wheelchair user to wash and bathe themselves with efficiency and safety. The hand-rinse basin can be used from the WC and the washbasin is positioned at a wheelchair friendly height.

For complete technical information please call 0870 122 8822

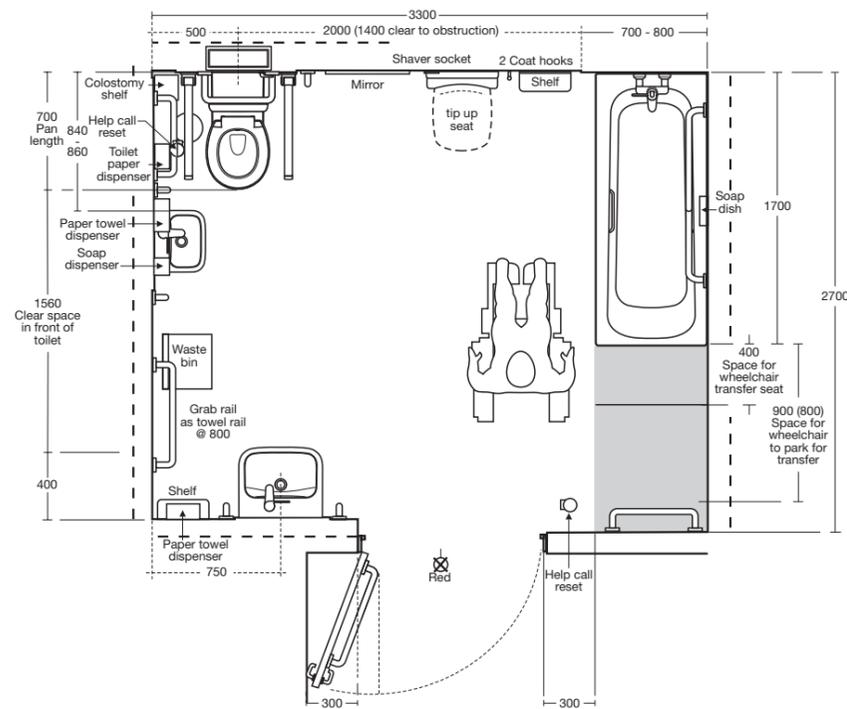


Figure #1  
Independent wheelchair accessible bathroom



**S225401**  
**Portman 21**  
50cm basin no overflow  
one right hand taphole.

**A4169AA**  
**Contour 21**  
Single lever one taphole  
sequential thermostatic  
basin mixer – no waste.  
*(all products listed, see above)*

**S231401**  
**Portman 21**  
40cm basin no overflow  
or chain hole – one right  
hand taphole.

**A4169AA**  
**Contour 21**  
Single lever one taphole  
sequential thermostatic  
basin mixer – no waste.

**S305501**  
**Contour 21**  
Raised height rimless  
back-to-wall WC pan –  
70cm projection.

**S406636**  
**Contour 21**  
Top fix toilet seat  
only in blue.

**S688467**  
Back rest cushion.

**S648136**  
**Contour 21**  
Back rest rail in blue.

**S6632XK**  
Shower seat in grey.

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

**A4135AA**  
**Contour 21**  
Wall mounted  
thermostatic bath mixer.  
A single lever provides  
sequential control of water  
flow and temperature.

**S647536**  
**Contour 21**  
Angled grab rail in blue.

**S648236**  
2 x 650mm hinged drop  
down arm support in blue.

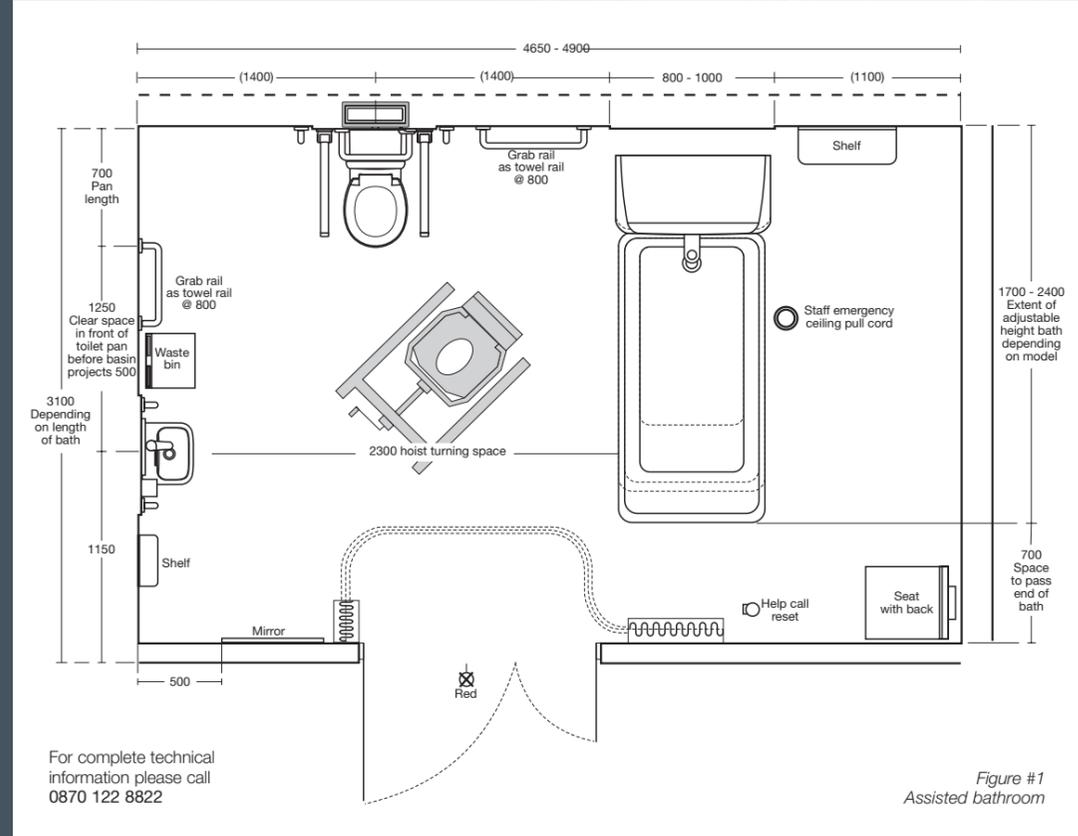
**S646836**  
Toilet roll holder in blue.

**S645436**  
7 x 600mm grab rails  
in blue.

*(all products listed, see above)*

## assisted bathroom

The centrally located variable height bath promotes easy access for wheelchair users and their carers. The open floor space is invaluable if patient transfer hoists are necessary.



**HTM64**  
product  
solutions

**S231401**  
**Portman 21**  
40cm basin with back outlet, no overflow or chain hole – one right hand taphole.

**A4169AA**  
**Contour 21**  
Single lever one taphole sequential thermostatic basin mixer – no waste.  
*(all products listed, see left).*

**S305501**  
**Contour 21**  
Raised height rimless back-to-wall WC pan – 70cm projection.

**S406636**  
**Contour 21**  
Top fix toilet seat only in blue.

**S648236**  
2 x 650mm hinged drop down arm support in blue.

**S645436**  
6 x 600mm grab rails in blue.

*(all products listed, see diagram left).*

The specialised high/low bath not specified by Armitage Shanks.



*Armitage  
Shanks*

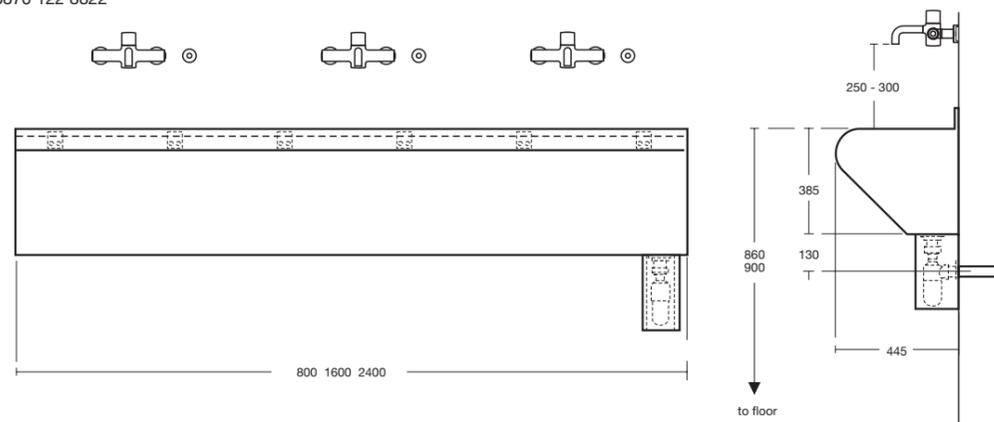


## scrub-up troughs SU H

Nowhere is hygiene more critical than the operating theatre. A choice of one, two or three person Firth troughs ensure that a surgeon's preparation proceeds quickly and effectively.



For complete technical information please call 0870 122 8822



**S2856MY**  
160cm Firth scrub up trough with right hand outlet (above).

**S8252AA**  
Markwik wall mounted thermostatic mixer with timed flow sensor (above).

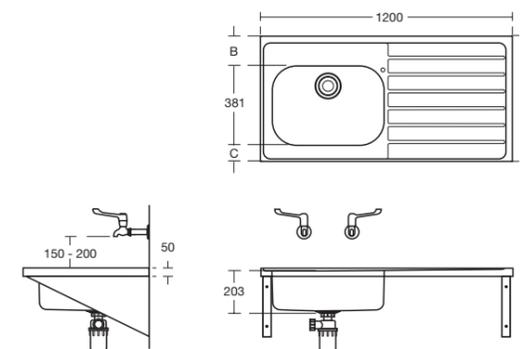
	waste	
	Left hand	Right hand
<b>240cm</b>	<b>S2858MY</b>	<b>S2860MY</b>
<b>160cm</b>	<b>S2854MY</b>	<b>S2856MY</b>
<b>80cm</b>	<b>S2850MY</b>	<b>S2852MY</b>

## clinical sinks ST A (hospital pattern)

The demands of clinical procedures are met by the Doon drainer sink with several variations on the number and position of bowl and drainer offered.



For complete technical information please call 0870 122 8822



**S5841MY**  
Doon sink, single bowl with right hand drainer, no tapholes and no overflow (above).

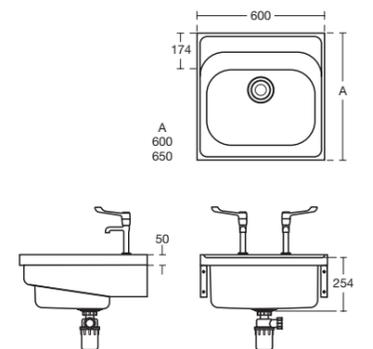
**S8270AA**  
Markwik lever action bib taps (above).

## domestic service sinks SK 1 (general pattern)

Intended for use in general domestic service applications the Doon stainless steel sink is available in either single or double bowl options, both without a drainer.



For complete technical information please call 0870 122 8822



**S5860MY**  
Doon 60 x 62cm sink (above).

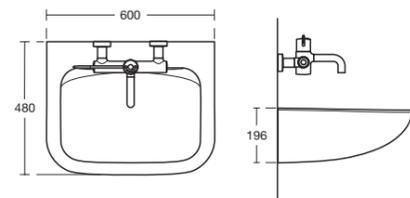
**S8265AA**  
Markwik high neck sink pillar taps (above).

## clinical basins (hospital pattern) LB H M

Served by a sequential single lever mixer, this Contour 21 basin allows medical staff to wash their hands under running water only. Concealed plumbing and smooth lines provide no place for bacteria to gather.



For complete technical information please call 0870 122 8822



**S215501**  
**Contour 21**  
60cm basin with back outlet, no overflow or tapholes (above).

**S215401**  
**Contour 21**  
50cm basin with back outlet, no overflow or tapholes (not shown).

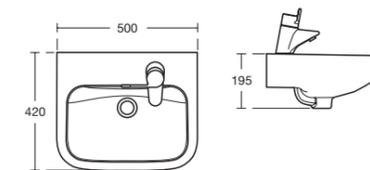
**S8247AA**  
Markwik thermostatic sequential mixer (above).

## personal washing basins LB G L/M (general pattern)

While displaying many of the same anti-infection features as the clinical basin, this version allows the user the option of washing in a reservoir of water.



For complete technical information please call 0870 122 8822



**S225401**  
**Portman 21**  
50cm basin without overflow and chain hole – one right hand taphole (above).

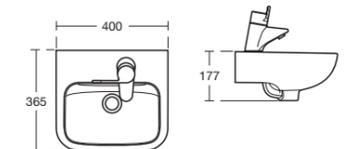
**A4169AA**  
**Contour 21**  
Single lever one taphole sequential thermostatic basin mixer – no waste (above).

## hand-rinse basins LB G S (general pattern)

Often used in public areas of a hospital, this assembly provides simple hand rinsing under running water for non-clinical users.



For complete technical information please call 0870 122 8822



**S231401**  
**Portman 21**  
40cm basin no overflow or chain hole – one right hand taphole (above).

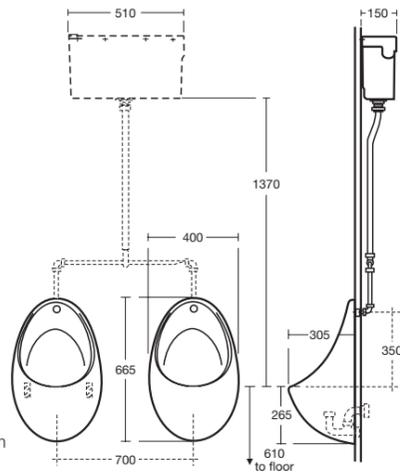
**A4169AA**  
**Contour 21**  
Single lever one taphole sequential thermostatic basin mixer – no waste (above).

## urinals (hospital pattern 1)

The Contour urinal is designed to be hygienic. It's smooth profile conceals the flushing inlet and waste trap, ensuring the highest standards of protection from infection carrying bacteria.



For complete technical information please call 0870 122 8822



Urinals for junior use should be set at 510mm from floor to lip of bowl

S611001  
Contour urinal (above).

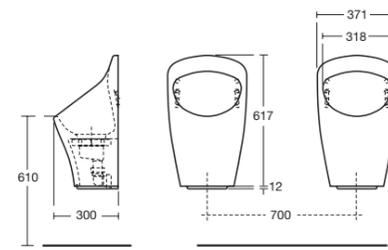
S6286  
Back inlet spreader (above).

## urinals (hospital pattern 2 - waterless)

Aridian does not use water to flush itself. A replaceable cartridge prevents odour and normal cleaning keeps the bowl clean. And it has the potential to save almost 160 thousand litres of water per year.



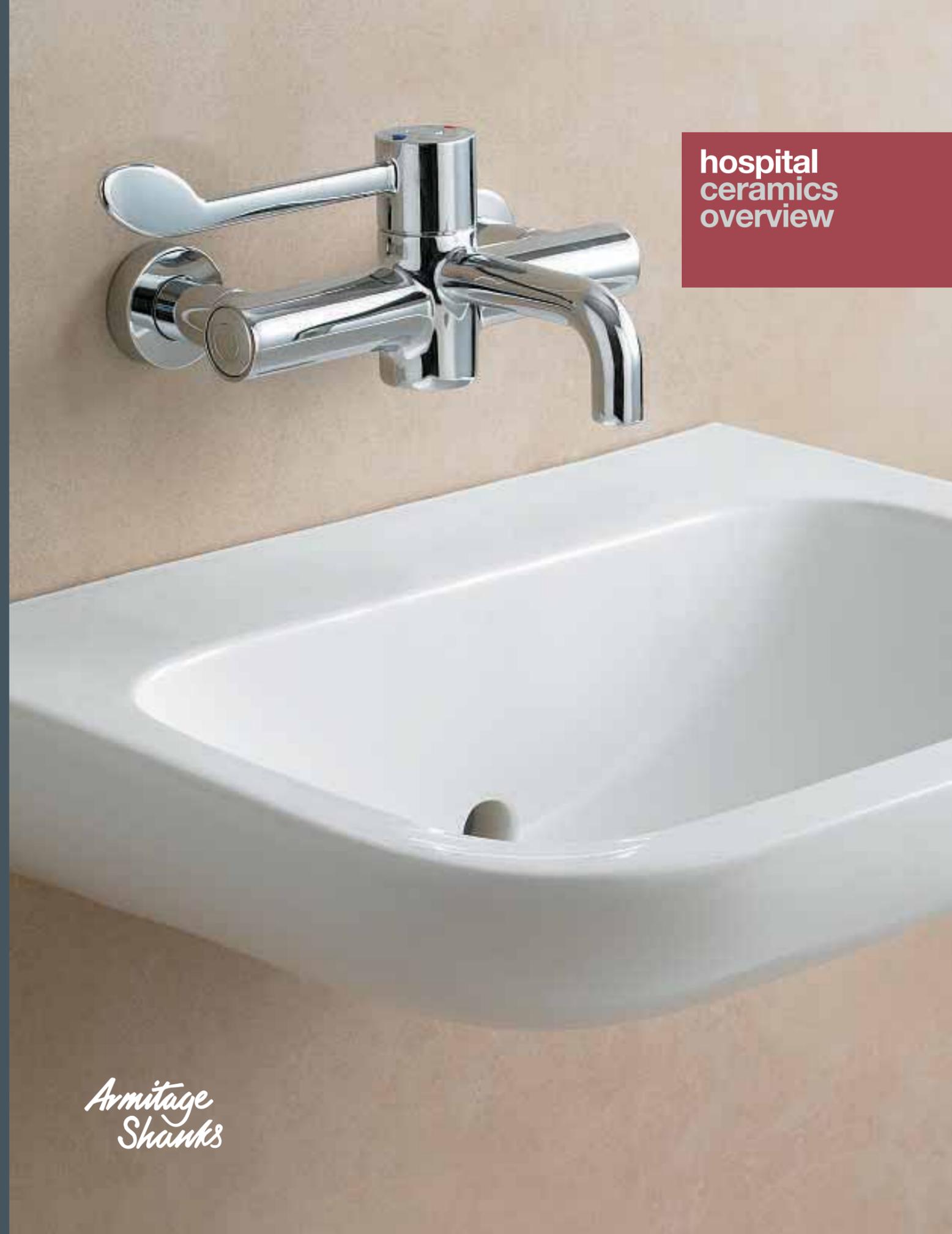
For complete technical information please call 0870 122 8822



S632101  
Aridian waterless urinal (above).

S612001  
Vitreous china division (above).

hospital  
ceramics  
overview



Armitage  
Shanks

## hospital ceramics

the healthcare industries leading sanitaryware is manufactured at europe's most modern bathroom factory near to rugeley in staffordshire.

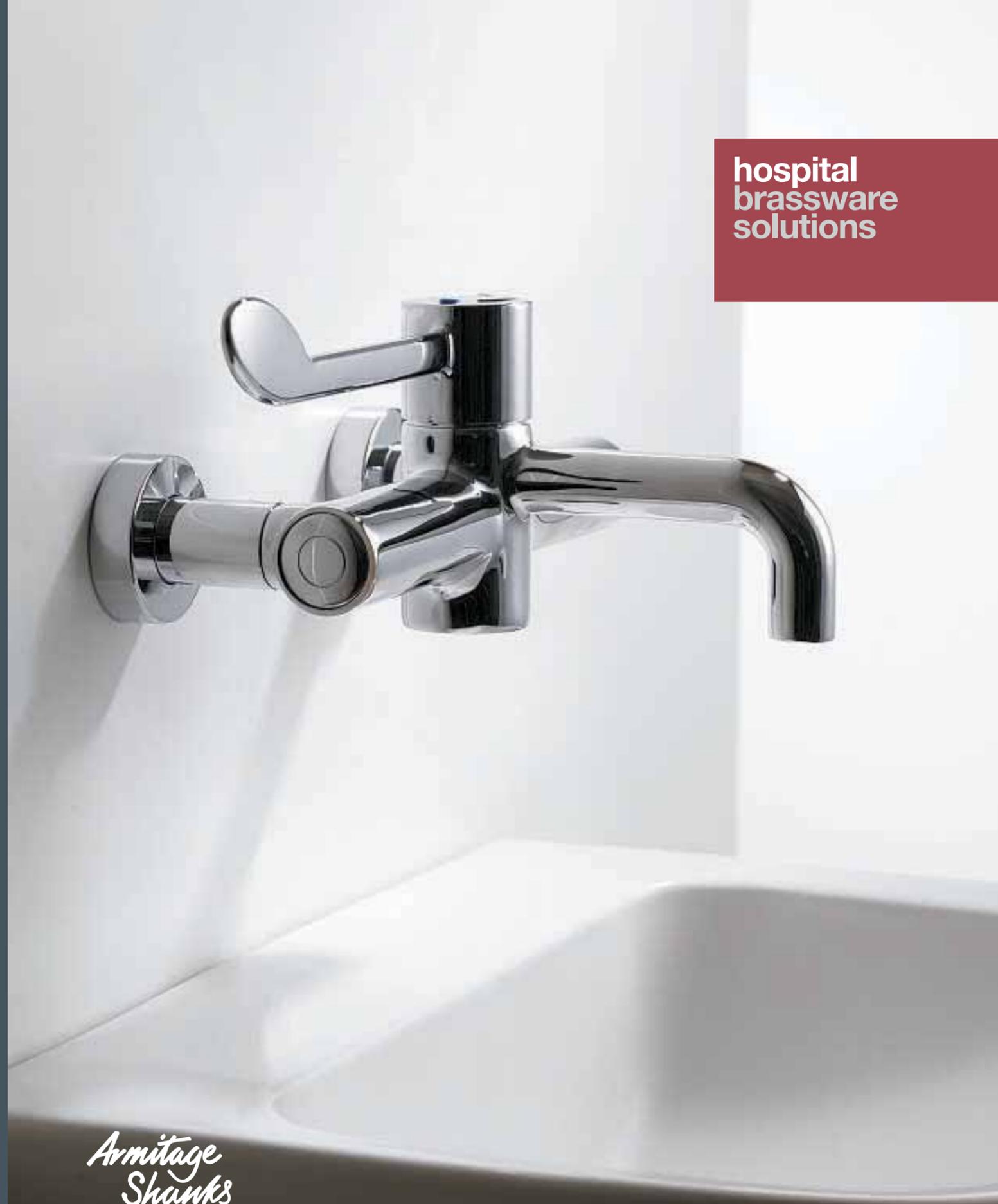
The vitreous china used is a blend of white burning clays and fine minerals which after firing has a 99.5% vitreosity. Even when unglazed the product cannot be contaminated by bacteria. A non-crazing impervious vitreous glaze ensures full compliance with BS3402 and supports the very highest standards of hygiene.

	name	description and features	usage
	<p>Contour 21 50cm basin with back outlet, no overflow or tapholes. Code: S215401</p>	<ul style="list-style-type: none"> <li>- Hospital pattern washbasin for clinical use.</li> <li>- Large basin, for use with wall mounted mixer.</li> <li>- Concealed supply and waste minimise bacteria traps.</li> <li>- Non reservoir basin improves hygiene.</li> </ul>	<p>The Contour 21 basin allows medical staff to wash their hands under running water only. It's concealed plumbing and smooth lines provide no place for bacteria to gather.</p>
	<p>Contour 21 60cm basin with back outlet, no overflow or tapholes. Code: S215501</p>	<ul style="list-style-type: none"> <li>- Hospital pattern washbasin for clinical use.</li> <li>- Large basin, for use with wall mounted mixer.</li> <li>- Concealed supply and waste minimise bacteria traps.</li> <li>- Non reservoir basin improves hygiene.</li> </ul>	<p>The Contour 21 basin allows medical staff to wash their hands under running water only. It's concealed plumbing and smooth lines provide no place for bacteria to gather.</p>
	<p>Portman 21 40cm basin, no overflow or chain hole - one right hand taphole. Code: S231401</p>	<ul style="list-style-type: none"> <li>- General pattern washbasin for non-clinical use.</li> <li>- Small compact size.</li> <li>- Exposed supply and waste for easy maintenance.</li> <li>- Smooth easy to clean shape.</li> </ul>	<p>In addition to many anti-infection features, the general pattern Portman 21 allows the user the option of washing in a reservoir of water.</p>

	name	description and features	usage
	<p>Portman 21 50cm basin, no overflow or chain hole - one right hand taphole. Code: S225401</p>	<ul style="list-style-type: none"> <li>- General pattern washbasin for non-clinical use.</li> <li>- Medium size for extra washing capacity.</li> <li>- Exposed supply and waste for easy maintenance.</li> <li>- Smooth easy to clean shape.</li> </ul>	<p>In addition to many anti-infection features, the general pattern Portman 21 allows the user the option of washing in a reservoir of water.</p>
	<p>Portman 21 60cm basin, no overflow or chain hole - one right hand taphole. Code: S229801</p>	<ul style="list-style-type: none"> <li>- General pattern washbasin for non-clinical use.</li> <li>- Medium size for extra washing capacity.</li> <li>- Exposed supply and waste for easy maintenance.</li> <li>- Smooth easy to clean shape.</li> </ul>	<p>In addition to many anti-infection features, the general pattern Portman 21 allows the user the option of washing in a reservoir of water.</p>
	<p>Contour 21 55cm accessible basin - one centre taphole. Code: S216501</p>	<ul style="list-style-type: none"> <li>- General pattern washbasin for non-clinical use.</li> <li>- Small compact size.</li> <li>- Exposed supply and waste for easy maintenance.</li> <li>- Smooth easy to clean shape.</li> </ul>	<p>The extended projection of the Contour 21 wheelchair accessible basin ensures that disabled users can effectively wash without discomfort.</p>
	<p>Contour 21 60cm accessible basin - one centre taphole. Code: S216801</p>	<ul style="list-style-type: none"> <li>- General pattern washbasin for non-clinical use.</li> <li>- Unique design allows use from wheelchair.</li> <li>- Exposed supply and waste for easy maintenance.</li> <li>- Reservoir design for easy use.</li> </ul>	<p>The extended projection of the Contour 21 wheelchair accessible basin ensures that disabled users can effectively wash without discomfort.</p>

	name	description and features	usage
	Contour 21 Rimless wall hung WC pan – standard projection. Code: S305801	<ul style="list-style-type: none"> <li>– Hospital pattern WC for clinical use</li> <li>– Rimless design eliminates potential bacteria hot spot</li> <li>– Wall hung for easier floor cleaning</li> <li>– Concealed cistern minimises projection into the room</li> </ul>	The Contour 21 WC is suitable for use by ambulant and disabled ambulant users in a range of clinical environments.
	Contour 21 Rimless wall hung WC pan – 70cm projection. Code: S305101	<ul style="list-style-type: none"> <li>– Hospital pattern WC for clinical use</li> <li>– Rimless design eliminates potential bacteria hot spot</li> <li>– Padded back support for improved comfort</li> <li>– Easier transfer from wheelchair to WC</li> </ul>	The extended projection Contour 21 WC is designed primarily for use by wheelchair users in a range of clinical environments.
	Contour 21 Raised height rimless back-to-wall WC pan – standard projection. Code: S305701	<ul style="list-style-type: none"> <li>– Hospital pattern WC for clinical use</li> <li>– Rimless design eliminates potential bacteria hot spot</li> <li>– Floor mounted, 46cm high for disabled users</li> <li>– Concealed cistern minimises projection into the room</li> </ul>	The Contour 21 WC is suitable for use by ambulant and disabled ambulant users in a range of clinical environments.
	Contour 21 Raised height rimless back-to-wall WC pan – 70cm projection. Code: S305501	<ul style="list-style-type: none"> <li>– Hospital pattern WC for clinical use</li> <li>– Rimless design eliminates potential bacteria hot spot</li> <li>– Floor mounted, 46cm high for disabled users</li> <li>– Easier transfer from wheelchair to WC</li> </ul>	The extended projection, extended height Contour 21 WC is designed primarily for use by wheelchair users in a range of clinical environments.

hospital  
brassware  
solutions



Armitage  
Shanks

**Q: when renovating a hospital, what sanitary items are subject to new regulations?**

**A: the 2006 version of HTM 64 outlines new requirements for hospital pattern mixers.**

**before 2006**

In response to the recent increase in Healthcare Acquired Infections, HFN 30 (Infection Control in the Built Environment, 2003) recommends that the swan neck mixer, a staple in UK hospitals for many years, should no longer be used. Why?

- The neck of the old mixer has a vertical section that does not drain down after use. This is a potential reservoir for bacterial growth, the first link in the chain of infection (see page 08).
- A mixer with twin lever controls tends to generate a dead-leg of water on the cold side of the mixer. Once again, a haven for the growth of bacteria.
- Older designs often do not have thermostatic temperature control which may lead to scalding. If they do have thermostatic control it is usually remote and will produce an undesirable reservoir of mixed water in the pipe work.

As a result HTM 64 recommends that when such fittings become damaged or are due for repair they be replaced by a fitting that complies with new anti-infection measures.



**Before 2006**  
a) Typical pre 2006 deck mounted swan neck hospital mixer



**Before 2006**  
b) Typical pre 2006 wall mounted swan neck hospital mixer

**after 2006**

Health Technical Memorandum 64 (Sanitary Assemblies, 2006) addresses the new requirements for mixers that will replace swan necks in item TB H2a. The key points are;

- The fitting must have a thermostat that manages the mixing and temperature close to the point of discharge.
- Water flow and temperature must be controlled by a single sequential lever.
- The spout must be a single flow, fixed horizontal design.

The new Markwik fitting (shown right and below) is fully compliant with current HTM 64 requirements and is the ideal replacement for old swan neck mixers. Upgrading from old style fittings has been made as simple as possible; the new mixers have the same supply pipe work centres as the old ones, so there is no need to replace basins or wall panels.



**After 2006**  
S8249AA Markwik deck mounted sequential thermostatic mixer



**After 2006** S8243AA Markwik wall mounted sequential thermostatic mixer with extended legs

## hospital brassware

infection control has recently become a renewed healthcare priority and the new markwik range of fittings was developed with this in mind.

Markwik specialist healthcare mixers are simply the mixers of choice for the NHS. This extensive selection of new fittings is fully compliant with the latest requirements of HFN 30, HTM 04 and HTM 64. These documents define sanitary equipment in the modern hospital. These fittings meet that definition and more.

- Horizontal spout, provides no opportunity for standing water
- Sterilisation feature allows the fitting to be flushed and disinfected
- Front mounting means that maintenance can be done easily
- Basin mounting option simplifies retro fitting during refurbishment

	name	description and features	usage
	<p>Markwik deck mounted sequential thermostatic mixer.</p> <p>Code: S8249AA 135mm spout</p> <p>S8238AA 160mm spout</p>	<ul style="list-style-type: none"> <li>- Can be easily retro fitted on existing basins and sinks with 200mm tap centres.</li> <li>- Easy access for maintenance.</li> <li>- No need to remove panels.</li> <li>- Horizontal spout.</li> <li>- Cleansing feature.</li> </ul>	<p>Retro fit on basins and sinks with 200mm centres.</p>
	<p>Markwik thermostatic sequential mixer.</p> <p>Code: S8247AA</p>	<ul style="list-style-type: none"> <li>- Single lever operation with large easy to use lever.</li> <li>- 200mm tap centres.</li> <li>- Easy access for maintenance.</li> <li>- No need to remove panels.</li> <li>- Horizontal spout.</li> <li>- Cleansing feature.</li> </ul>	<p>Medical or nursing procedures.</p> <p>For use on basins in dirty utility, clean utility, consulting, treatment room, wards.</p> <p>For use on troughs in scrub up areas.</p>

	name	description and features	usage
	<p>Markwik electronic thermostatic mixer with proximity sensor.</p> <p>Code: S8244AA</p>	<ul style="list-style-type: none"> <li>- Sensor operated means no hand touch.</li> <li>- 200mm tap centres.</li> <li>- Easy access for maintenance.</li> <li>- No need to remove panels.</li> <li>- Horizontal spout.</li> <li>- Cleansing feature.</li> </ul>	<p>Medical or nursing procedures.</p> <p>For use on troughs in scrub up areas.</p>
	<p>Markwik electronic thermostatic mixer with time flow sensor.</p> <p>Code: S8252AA</p>	<ul style="list-style-type: none"> <li>- Sensor operated means no hand touch.</li> <li>- 200mm tap centres.</li> <li>- Easy access for maintenance.</li> <li>- No need to remove panels.</li> <li>- Horizontal spout.</li> <li>- Cleansing feature.</li> </ul>	<p>Medical or nursing procedures.</p> <p>For use on troughs in scrub up areas.</p>
	<p>Markwik sequential thermostatic mixer with extended legs.</p> <p>Code: S8243AA</p>	<ul style="list-style-type: none"> <li>- Can be retro fitted from existing swan neck/twin lever tap with separate thermostat, without need to change IPS panels.</li> <li>- 200mm tap centres.</li> <li>- Easy access for maintenance.</li> <li>- No need to remove panels.</li> <li>- Horizontal spout.</li> <li>- Cleansing feature.</li> </ul>	<p>Medical or nursing procedures.</p> <p>For use on basins in dirty utility, clean utility, consulting, treatment room, wards.</p> <p>For use on troughs in scrub up areas.</p>
	<p>Markwik high neck sink pillar taps.</p> <p>Code: S8265AA</p>	<ul style="list-style-type: none"> <li>- Deck mounted chrome plated taps with 15cm levers.</li> <li>- Suitable for closed fist operation.</li> </ul>	<p>For use on all sinks in kitchen, pantry, slop sink, plaster sinks etc.</p>

## hospital brassware

armitage shanks has a fitting for every hospital application, from a simple classic bib tap or a push button pillar tap to a thermostatic single lever mixer.

	name	description and features	usage
	Markwik lever action bib taps. Code: S8270AA	<ul style="list-style-type: none"> <li>– Wall mounted chrome plated taps with 15cm levers.</li> <li>– Suitable for closed fist operation.</li> <li>– HTM64 TB H1.</li> </ul>	For use on all sinks in kitchen, pantry, slop sink, plaster sinks etc.
	Nuastyle thermostatic basin mixer with flexitails. Code: S7443AA	<ul style="list-style-type: none"> <li>– Suitable for healthcare and less abled bathrooms.</li> <li>– HTM64 TP6.</li> <li>– Single easy use lever suitable for closed fist operation.</li> <li>– Integral thermostat set at 41°C.</li> </ul>	For use with general pattern basins in public areas, off ward assisted WC and Part M.
	Nuastyle thermostatic basin mixer with copper tails. Code: S7449AA	<ul style="list-style-type: none"> <li>– Sequential operation. To ensure system hygiene and user safety the water is always drawn from first cold and then the hot supply.</li> <li>– Can be fitted in standard pillar taps hole.</li> </ul>	
	Nuastyle pillar taps. Code: S7106AA	<ul style="list-style-type: none"> <li>– Deck mounted chrome plated brass taps with anti vandal indices.</li> <li>– Particularly suitable for contract use.</li> <li>– Suitable for closed fist operation.</li> <li>– HTM64 TP5.</li> </ul>	For use in en suites, bathrooms, staff areas and public areas.

	name	description and features	usage
	Contour 21 wall mounted thermostatic bath mixer. Code: A4135AA	<ul style="list-style-type: none"> <li>– Single easy turn lever</li> <li>– Sequential operation. To ensure system hygiene and user safety the water is always drawn from first cold and then the hot supply.</li> <li>– 150mm tap centres.</li> <li>– Built in thermostat.</li> </ul>	For use with baths.
	Contour 21 single lever one taphole sequential thermostatic basin mixer – no waste with copper tails. Code: A4169AA	<ul style="list-style-type: none"> <li>– Basin mixer with extended easy use lever particularly suitable for closed fist operation.</li> <li>– Suitable for healthcare and less abled bathrooms.</li> <li>– HTM64 TP6.</li> <li>– Integral thermostat set at 41°C.</li> <li>– Sequential operation. To ensure system hygiene and user safety the water is always drawn from first cold and then the hot supply.</li> <li>– Can be fitted in standard pillar taps hole.</li> </ul>	For use with general pattern basins in public areas, off ward assisted WC and Part M.
	Sterilisation kit for Markwik thermostatic taps. Code: S8239NU	<ul style="list-style-type: none"> <li>– Built in cleansing feature.</li> <li>– Bridging hose connects hot and cold water inlets.</li> <li>– Tap can be hot water flushed, killing bacteria.</li> </ul>	To thermally disinfect new Markwik mixer taps.
	Markwik purging kit for healthcare thermostatic mixers. Code: S8214NU	<ul style="list-style-type: none"> <li>– Flushes debris after installation.</li> <li>– Purging cartridge replaces maintenance cartridge.</li> <li>– Mixer can be flushed without affecting thermostat.</li> </ul>	

## hospital brassware

to fully address the needs of modern healthcare facilities, 'brassware' must mean more than simply taps and mixers.

	name	description and features	usage
	Contour 21 built in thermostatic sequential shower. Code: A4129AA	<ul style="list-style-type: none"> <li>Built in sequential shower.</li> <li>Built in thermostat.</li> <li>120mm long lever suitable for closed fist operation.</li> <li>Safety temperature stop.</li> <li>Sequential operation.</li> </ul> <p>To ensure system hygiene and user safety the water is always drawn from first cold and then the hot supply.</p>	For use in shower areas.
	Nuastyle 1/2" under basin thermostatic valve. Code: S7435AA	<ul style="list-style-type: none"> <li>Suitable for 15mm copper.</li> <li>Automatic shut off if cold supply fails.</li> <li>Multi-point usage.</li> <li>Precise temperature control.</li> <li>Anti tamper shield.</li> <li>TMV3 scheme approved.</li> <li>Suitable for 2 taphole basins.</li> </ul>	Designed to be positioned under basin, bidet or bath immediately below the hot water inlet.
	Nuastyle 3/4" under bath thermostatic valve. Code: S7436AA	<ul style="list-style-type: none"> <li>Suitable for 22mm copper.</li> <li>Automatic shut off if cold supply fails.</li> <li>Multi-point usage.</li> <li>Precise temperature control.</li> <li>Anti tamper shield.</li> <li>TMV3 scheme approved.</li> </ul>	Designed to be positioned under basin, bidet or bath immediately below the hot water inlet.

## thermostatic shower with mounting box

TMV3 (type 3) approved, this single lever thermostatic shower valve significantly reduces the cost and complexity of installation. The valve is pre-plumbed into it's own stainless steel service box which is easily fitted into either block work or panel walls.

Thermostatic shower and mounting box.

Code: S6933MY  
Stainless Steel  
S6933AC  
White

### Features and benefits

- 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.

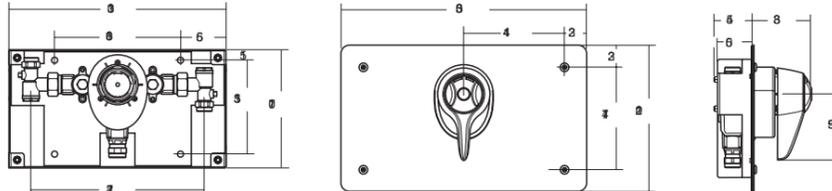


HTM64 TM1 fitting

For complete technical information please call 0870 122 8822



The shower box offers the option of being plumbed from either the top or the bottom, as shown by the arrows.



## part m

An Approved Document is one issued by the Secretary of State 'for the purpose of providing practical guidance' to the Building regulations. Approved Document M addresses 'Access to and use of buildings'. In particular it deals with the requirements of Part M of schedule 1 of the Building Regulations.

### key points at a glance

- All public buildings are legally required to provide disabled toilet facilities
- Part M and the Disability Discrimination Act are directly linked
- Anyone who is disabled or temporarily impaired must be catered for
- HBN 00-002 applies in clinical areas, not Part M

Until recently Part M referred to, and was seen as specific to, 'disabled people'. The 2004 edition promoted a more inclusive approach to building design so that the needs of all people are accommodated.

In 2004 the Disability Discrimination Act addressed the issue of providing access to buildings. It requires that every organisation takes reasonable steps to ensure those with a disability have equal access to their premises and facilities.

Part M therefore has a direct linkage to the Disability Discrimination Act and the relationship between the two is addressed in the 'Use of Guidance' section of Approved Document M.

Anyone who is permanently, or temporarily, disabled is now within the remit of Part M. This expanded definition is key to the 2004 Disability Discrimination Act. It opens the Act up to include people with long term and obvious physical or mental disabilities, and those whose condition is short term, such as pregnant women, adults with babies or even those carrying heavy bags.

Part M only applies in the public areas of a hospital. In the clinical areas HBN 00-002 supersedes Part M and tackles the provision of sanitary facilities for patients in a more aggressive manner. It's fundamental assumption is that the majority of patients will be incapacitated and will therefore need more privacy than normal and may require medical assistance in order to use the facilities. As a result HBN 00-002 calls for a specification beyond Part M and should be used as the guide in all patient and clinical sanitary layouts.

For detailed information and layout proposals please see the Essential Specifier Series guide 'Part M Solutions... What Works and Why'.

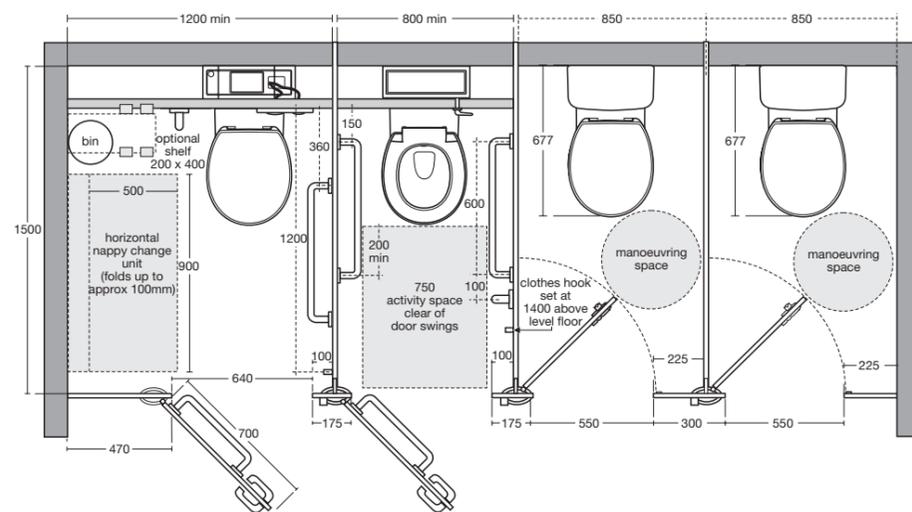


Figure #1  
Four cubicle combination



Contour 21 Back-to-wall WC concealed Doc M pack



Contour 21 Close Coupled WC Doc M pack

## guarantee

### lifetime

all ceramic products

---

### 5 years

on taps and mixers, toilet seats  
and cistern fittings

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Our confidence in the quality and reliability of our product allows us to offer outstanding extended guarantees on all our products – where the product fails within 5/25 years/lifetime we offer a free replacement or replacement part (or nearest equivalent). So when your washroom has been satisfactorily installed and is working well, please ensure you register your guarantee.

This guarantee is transferable – it applies to the product not the purchaser provided the guarantee registration is passed on to the new owner.

Liability is limited to individual products and the guarantee does not cover the consequential loss or damage or installation costs. This guarantee does not affect your statutory rights. Products must be installed, used and cared for in line with our fixing instructions and local water regulations, and room must be adequately ventilated.

Parts (eg. flushvalves) are guaranteed for five years and will be replaced if found to be faulty. The guarantee does not cover general wear and tear.

Applies to UK and Republic of Ireland only.

You can register for guarantees on a bathroom bought on your behalf by a plumber or builder.

Colours printed in this book are as near as possible to the manufactured range of Armitage Shanks quality bathrooms. For accurate comparisons of colours, see actual ware on display at Armitage Shanks retailers. Our policy is one of continuous improvement and we reserve the right to change specification and design at any time without notice.

All measurements are in millimetres and are approximate. Products can be subject to tolerances due to manufacturing processes.

#### Additional Resources

Further information about the Disability Discrimination Act is available from the following organisations.

Department for Work & Pensions  
[www.dwp.gov.uk](http://www.dwp.gov.uk)

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Disability Rights Commission  
[www.drc-gb.org](http://www.drc-gb.org)

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Direct Gov  
[www.direct.gov.uk](http://www.direct.gov.uk)

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**technical helpline**  
**0870 122 8822**

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Shanks*

CREDITS

p28 & 29

Floor tiles EGC7010STR 300 x 300mm

Floor tiles EGC7013STR 300 x 300mm

p32, 33, 34, 35 & 36

Wall tiles BAVPN16 100x100mm

Wall tiles BAVPN00 200x200mm



All tiles supplied by

Grestec Tiles Limited

Unit 7

Wheelbarrow Park Estate

Pattenden Lane

Marden

Kent

TN12 9QJ

T: 0845 130 2241

F: 0845 130 2242

E: [mail@grestec.co.uk](mailto:mail@grestec.co.uk)

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Armitage Shanks  
Armitage  
Rugeley  
Staffordshire  
WS15 4BT

Tel 01543 490253  
Fax 01543 491677

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