

*Armitage  
Shanks*

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](mailto: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](mailto:infoafrica@armitageshanks-MENA.com)

[www.armitageshanks-MENA.com](http://www.armitageshanks-MENA.com)

# brassware solutions... what works and why

an informative guide to:  
brassware 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 brassware requirements where, who, when, what...

In a world increasingly conscious of its diminishing natural resources it could be argued that no object in the washroom is more important than the one that controls the flow of water. Although the humble tap has been with us for many years its importance in water economy has only recently been widely acknowledged and supported by development.

Of course Armitage Shanks has produced water saving taps for over 30 years.

Armitage Shanks has long recognised the benefits of designing taps, mixers and valves for a specific purpose; ceramic disc technology provides low maintenance and drip free outlet for a range of domestic and commercial applications, Thermostatic valves allow precise

temperature and safety control in healthcare projects, while automatic and self closing taps provide water economy in public washrooms. Whatever the application a tap, valve or mixer exists within the Armitage Shanks range to satisfy it.

A depth of knowledge and experience in the fields of research and development, casting and assembly enables Armitage Shanks to provide cutting edge performance in almost every commercial application, from executive bathroom to surgical operating theatres. This guide will outline the specification issues of individual applications, cover the relevant legislation, and ensure the selection of the most suitable brassware items for future projects.

## Contents

### Information

- Features and benefits (02)
- Water saving (06)
- Product solutions introduction (08)

### Product offering

- Single lever mixers and pillar taps (10)
- Electronic brassware (14)
- Thermostatic brassware (24)
- Fixed showerheads (28)
- Push button brassware (30)
- Brassware industry uses (34)
- Guarantee (40)



## Q: what are the key features, and the associated benefits of modern brassware?

A: brassware performance can be described by three criteria; durability, functionality and economy.

### Lever (1)

The critical human interface with any tap or mixer is the handle. Our ergonomically designed handle delivers precision control of both water flow and temperature even when the users hands are wet, thanks to its unique grip characteristics. Die-cast from zinc for consistent performance and long term durability, this single lever handle has clear hot and cold indices that will not fade or rub-off even after many years of use and cleaning.

### CLICK technology (2)

The efficient use of water is always a priority; why use a mixers full flow rate when a reduced flow will suffice? A special cartridge allows the lever to be 'clicked' from off to 50% flow and then to 100% if required. Saves water, saves money.

### Seal (3)

Commercial spray cleaners are effective, but can damage the inner workings of many mixers. But not this one. A special seal underneath the handle ensures that liquid cleaners cannot enter the body of the tap. This attention to detail helps to produce a mixer that has an unrivalled life expectancy.

### Temperature limiter (4)

Performance must always be balanced with safety. The internal casting of the lever has a 'stop' that acts as a mechanical, foolproof, method of controlling the maximum hot water temperature that the mixer will release.

### Ceramic disc (5)

Two small ceramic discs, polished so smoothly that when placed together they create a vacuum that holds them in place, are the key components of the ceramic disc cartridge assembly. The discs, made from a material developed during the space race, replace the traditional rubber washer as a method of controlling water flow.

### Metal pop-up waste (6)

How many times have you seen it; you walk to a washroom basin to wash your hands and each basin is full of scummy second-hand water? Why? Because the waste plug is not working. This durable, all metal, pop-up waste mechanism has been tested through thousands and thousands of open/close cycles. It doesn't do anything clever it just keeps working. For a very long time.

### Incorporating advanced ceramic disc flow control and water saving CLICK technology, no mixer is more reliable, safer, efficient and eco-friendly.

### SPX hoses (7)

Bacteria love nothing more than a dark, damp crevice in which to hide and multiply. In most water supply systems the inner bore of the copper or plastic pipe work is smooth, discouraging bacteria growth. That's until the water reaches the flexible connector to the mixer, whose interior bore is often ridged and therefore a haven for bacteria. The SPX hoses supplied with our mixers have a precision formed smooth inner bore. The bacteria simply have nowhere to hide.

### EasyFix (8)

The difficulty of centring a mixer in the tap hole of a basin is well known to any plumber; position the mixer, snug up the bolt, turn the basin over (or go underneath it), fully tighten the bolt, turn the basin over, discover the mixer has moved (exposing a gap between it and the basin). Frustrating, time consuming and costly. The EasyFix system uses a single stainless steel bolt to both secure and centre the mixer automatically, in one single, fast operation.

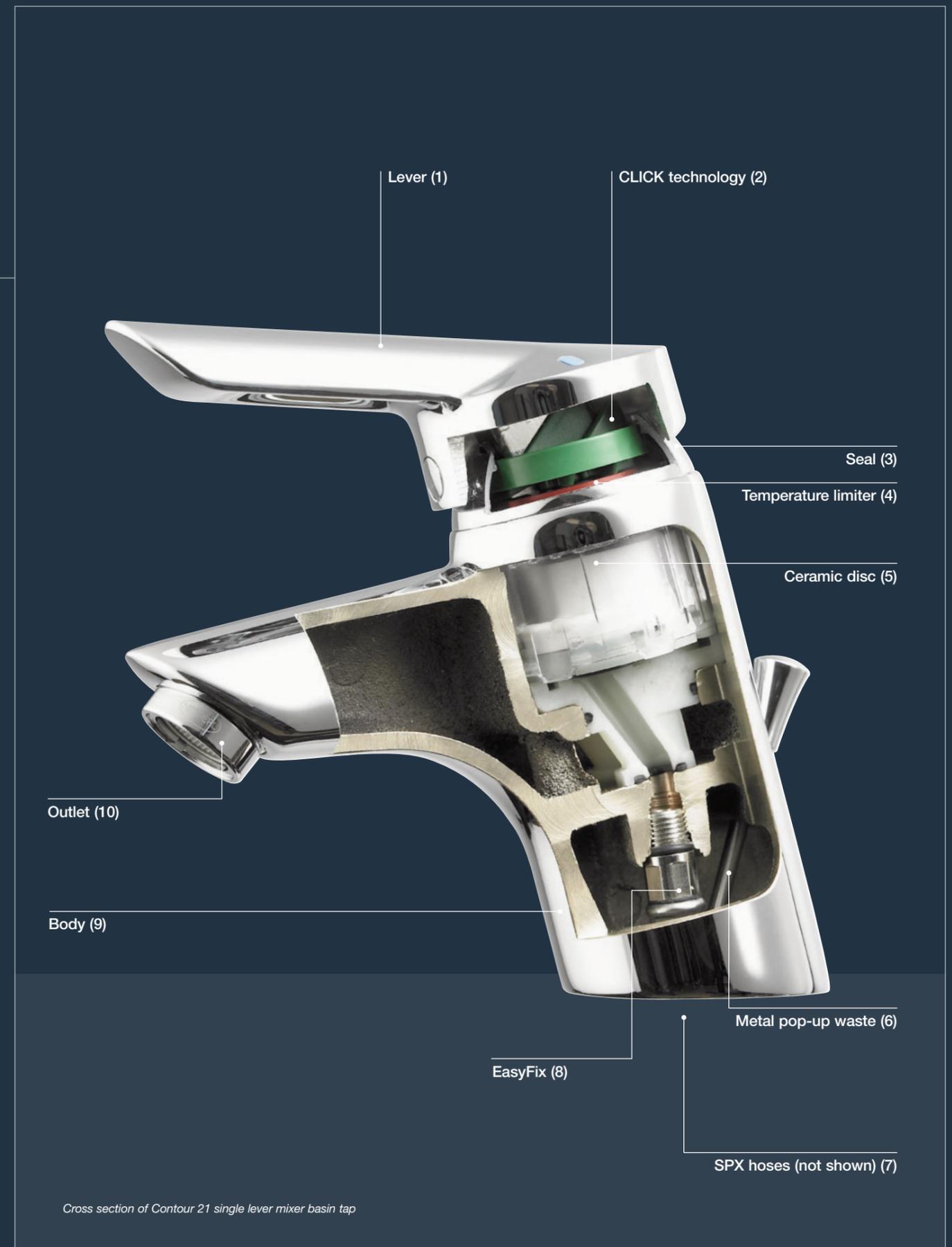
### Body (9)

The heart of any item of brassware is the body; a precision cast and machined industrial sculpture that defines the look and performance of the product. Each body is manufactured in a highly automated facility to ensure a consistently high level of quality. Then it is finished and inspected by skilled workers before assembly can begin. As you would expect, the body is cast from brass fully compliant with European material standards.

Water inside the body of a mixer is subject to many different twists, turns and constraints. Often the flow pattern at the outlet may be effected and efficiency reduced. Perhaps more importantly a disturbed outlet flow tends to produce an aerosol of water, any bacteria lurking inside that aerosol will be inhaled by the user. Our mixer bodies are designed to produce a laminar flow that delivers a smooth flow and no airborne bacteria.

### Outlet (10)

To ensure the optimum performance of a tap or mixer, the outlet nozzle of many products can be removed so that limescale and other debris can be cleared. This feature also allows the fitting of a water saving flow restrictor capable of reducing water usage by up to 80%. Of course, outlets can only be removed with a special key, just one of our mixers anti-vandal properties.



## Q: can technology really improve the simple tap?

A: applying technological innovation to brassware optimises the performance of a client's washroom, improves safety and can save them money.

### Technical innovation

Contour 21 sets the standard for modern commercial taps and mixers. Their technical excellence makes them the most reliable, fit for purpose brassware products in the market today. Many of their features have benefited from Armitage Shanks continual development; the ceramic disc now controls water flow and temperature even more precisely; Single lever operation offers even safer, smoother and simpler usage while quarter turn taps have never been more reliable.

### Simple installation

EasyFix is an innovative feature that allows Contour 21 mixers to be perfectly centred in the tap hole of any basin at the first attempt. This makes for a simpler and faster installation and can therefore provide potential cost savings to the client.

The difficulty of centring a mixer is well known to any plumber; position the mixer, snug up the bolt, turn the basin over (or go underneath it), fully tighten the bolt, turn the basin over, discover the mixer has moved (exposing a gap between it and the basin), repeat as necessary.

EasyFix uses a single stainless steel bolt that secures and centres the mixer in one quick operation, minimising the time spent on this simple but traditionally time-consuming task.

### Ease of use

The use of a multiport performance ceramic disc cartridge in Contour 21 gives the product a simple mixed water temperature control system. The sweep of a mixers single lever has a comfort zone within which water is mixed to between 30 – 45°C when set. This gives the user more sensitive control and provides effortless operation even at high water pressures.

### Reduced risk

No responsible client wants their workforce exposed to the potential scalding danger of a mixer without an upper temperature limit. The temperature limit stop built into the CLICK cartridge eliminates this risk. A maximum hot temperature can be chosen from one of four pre-set temperatures, all of which will stop the delivery of scalding water when the mixer is in the fully open hot position.

### Saving water

In most cases the ultimate water usage of a fitting is determined by the building water pressure and the size of the valve in the brassware. In many commercial buildings, fittings operating on a high-pressure supply may be delivering unnecessary volumes of water. Installing a flow restrictor in the supply pipe work or the tap/mixer outlet ensures only the amount of water necessary for the purpose flows through the fitting. This saves water and reduces supply and drainage costs to the client.

The mixer outlet regulator will limit the maximum flow of a fitting to only 5 litres of water per minute at 3 bar. The restrictor simply screws onto the outlet and produces a laminar flow that saves a significant volume of water and well suited for effective cleansing.

### Electronic brassware (1)

What was once the stuff of science-fiction is now common place. Only a few years ago a tap that switched itself on and delivered water just when you wanted it, without having to touch it, would have been seen as a technological marvel. Today such outlets are well established, but not all electronic mixers are created equal.

The broad category of mixers that can be called 'no-touch' mixers must be more than just a technical gimmick. To meet the needs of demanding specifiers and clients they must be aesthetically pleasing, reliable, hygienic, resistant to vandalism or misuse and easy to maintain.

Our sensors are intelligent. They recognise when they are being misused. If someone tries to fool the mixer into releasing water permanently by covering the sensor for a prolonged period, it will shut off the supply and will only resume normal operation when the object is removed. In addition to defeating vandalism this feature can be used by those who need to clean and maintain the mixer. Temporarily disabling the sensor stops the water flow for 30 seconds and lets them complete their legitimate tasks.

### Thermostatic brassware (2 & 3)

The purpose of a thermostat is to control and limit temperature. This prevents scalding and makes the washroom a safer environment for everyone.

Unfortunately many water-borne bacteria can survive in low/inrequently used fittings, which deliver mixed water in the 25-55°C range.

For these types of installation the two mixers opposite have unique maximum temperature override facilities. By using a special tool, maintenance staff can effectively shut down the thermostat and allow hot water to flow through the fitting at full system temperature. This will thermally disinfect the mixer and, when performed on a regular basis, will inhibit the growth and transmission of bacteria.



**Q: can taps and mixers make a washroom water efficient? and how will it benefit the client?**

**A: yes, by selecting water saving products and ensuring compliance with relevant DEFRA and BREEAM guidelines, your clients paying corporation tax at the 30% rate will save money and all your clients can gain BREEAM credits.**



**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**
- A 50% reduction in water bills is possible in some washrooms
  - Tap or mixer flow limiters reduce water usage by up to 80%
  - Products on DEFRA's Water Technology List have a 100% first year tax allowance
  - BREEAM defines the environmental impact of modern buildings



B8260AA Piccolo 21 single lever monoblock basin mixer, without pop up waste.



A4176AA Sensorflow 21 electronic monoblock basin mixer, with fixed spout.



B8263AA Avon 21 push button basin mixer without pop up waste.



A4180AA Sensorflow 21 electronic tubular wall spout with sensor and 150mm spout projection.

Saving water makes good sense for both environmental and financial reasons. All washrooms have the potential to save money and natural resources by sound product specification and building management.

**The modern washroom is not a place for the endlessly running tap and overflowing basin.**

**Water saving**

The Environment Agency estimates that most UK buildings can easily reduce water consumption, and their water bills by 30% to 50%. So, in addition to saving your client money, you can also help them save the planet.

**Taps**

Almost 33% of all the water used in a typical washroom comes out of taps and mixers. Current best practice focuses on managing user behaviour and flow rates.

For example, just by specifying a tap with a flow limiter, the Environment Agency has measured an 80% reduction in water usage.

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. Most contour 21 basin fittings are fitted with 5lpm laminar flow regulators, with a flow straightener supplied where water pressures are low. Showers can be fitted with 8lpm regulators.

**DEFRA**

The Water Technology List ([www.eca-water.gov.uk](http://www.eca-water.gov.uk)) was published in 2003, highlighting products that DEFRA believed will make a positive impact on water saving. The Enhanced capital Allowance scheme means that any products purchased that are on the list can be offset against Corporation tax.

Most of the Contour 21 brassware featured in this Essential Specifiers Series guide is DEFRA Water Technology List approved.

Simply put, clients who pay corporation or income tax will get a 100% first year tax allowance on all brassware products that are chosen from the Water technology list. And every client will save money on water bills.\*

**BREEAM**

The Building Research Establishment set up BREEAM (Building Research Establishment Environmental Assessment Method) to assess the environmental impact 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 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 are sections dedicated to designing and assessing schools, retail facilities, offices, prisons, courts and general industrial buildings. A bespoke section caters for all other building types. Each section sets out the steps necessary to obtain compliance and the highest BREEAM points ranking.

**CLICK technology**

Energy efficiency is increasingly important to clients and specifiers. In response to this the CLICK cartridge has been introduced to the Contour 21 range of mixers. To operate, the user lifts the lever vertically until they feel a resistance. This indicates that a flow rate of 50% has been achieved and water is being saved.

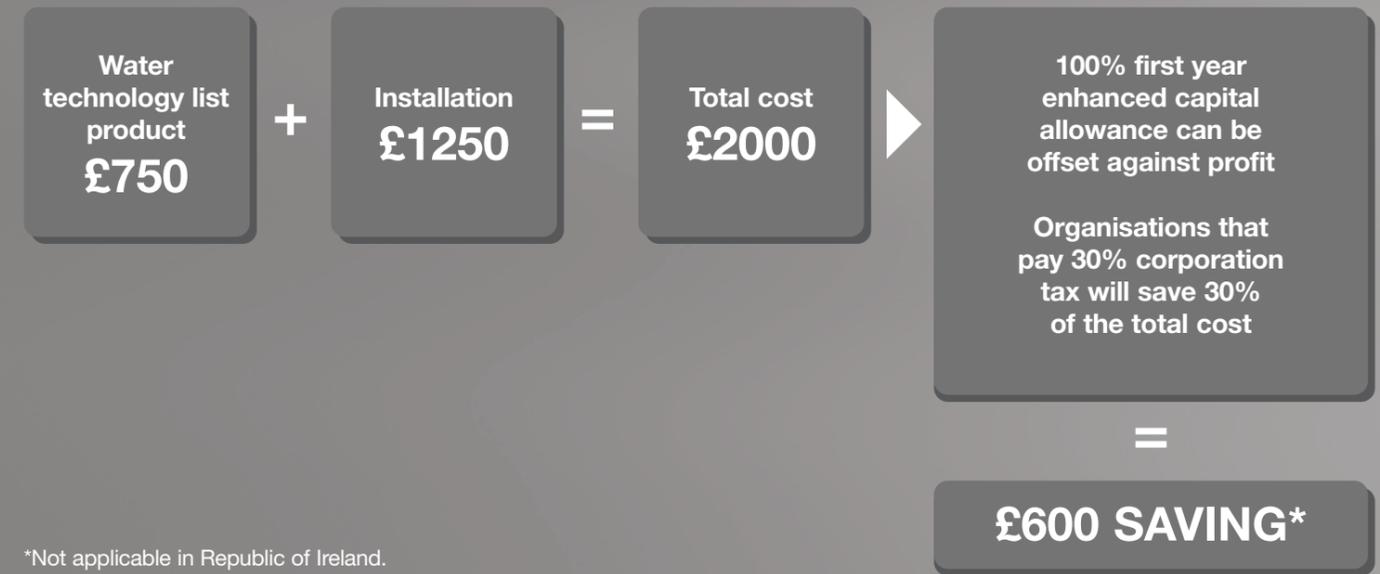
By continuing to lift the handle to its 'stop' 100% water flow will be reached. Each CLICK cartridge also includes a temperature limiting system that can be set at one of four pre-set temperatures to reduce the risk of scalding and save water heating costs.



CLICK technology

**water savings using CLICK technology** The example below shows the water used by running a tap for 2 minutes, twice a day while brushing teeth. Of course, we wouldn't suggest you leave the tap running whilst brushing your teeth!

Water pressure	0.5 bar	1.0 bar	2.0 bar	3.0 bar
Conventional tap uses	11 litres	16 litres	22 litres	27 litres
CLICK tap uses	2.5 litres	3.5 litres	5 litres	6 litres
Water saving	8.5 litres	12.5 litres	17 litres	21 litres



\*Not applicable in Republic of Ireland.

**Q: a tap is a tap, is a tap. isn't it?**

**A: every tap or mixer is designed to do a specific job. form follows function**

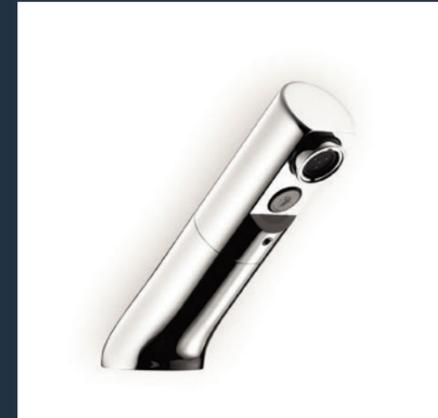


### single lever mixers and pillar taps / p10

World famous industrial designers. Cutting edge technology. State of the art manufacture. These taps and mixers will perform outstandingly in a wide spectrum of buildings, giving year after year of reliable use.

#### Features and benefits

- Extensive style choices cater for a wide range of installations.
- Ceramic disc technology improves performance and reduces maintenance.
- 50% reduction in water usage thanks to CLICK technology.
- Clear hot/cold indices that will not wear off through use or cleaning.
- Laminar flow design helps to eliminate the creation of airborne bacteria.
- Smooth inner bore SPX hoses helps to reduce bacteria growth.
- Ergonomic handles provide precise control even when wet.
- Easy to clean smooth organic body design.

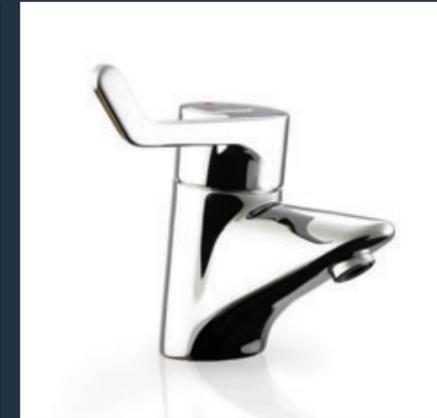


### electronic brassware / p14

The demand for hygiene and performance is met by a range of hands-free electronic taps second to none. Remote sensors detect a users presence at the basin and control water flow to ensure that it is only released when required.

#### Features and benefits

- 'No touch' operation improves the hygiene of the washroom.
- Controlled water release improves water economy.
- Power can be supplied by mains or battery.
- No moving external parts reduces the chances of vandalism.
- Available for basins, showers and urinals.
- Easy to clean smooth organic body design.
- Fully compliant with Part M of the building regulations.



### thermostatic brassware / p24

When the safe delivery of water at a specific temperature is paramount, the thermostatically controlled mixer represents the ultimate. A predetermined maximum temperature reduces chances of scalding and saves water wasted whilst establishing a comfortable temperature.

#### Features and benefits

- Prevents scalding by limiting maximum temperature.
- Fully Part M compliant.
- Single lever operation makes use quick and simple even when wet.
- Can be operated with a closed fist by the physically impaired.
- Clear hot/cold indices that will not wear off through use or cleaning.
- Easy to clean smooth organic body design.



### push button brassware / p30

Often the durability of a fitting must be balanced with its water saving characteristics. Push button taps require no such compromise. It has no handle, making it very robust, and pushing the button starts water flowing for a pre-set period only.

#### Features and benefits

- Anti-vandal design minimises maintenance and downtime costs.
- Self closing 'shut off' action provides excellent water economy.
- Can be operated with a closed fist, suitable for Part M use.
- Easy to clean smooth organic body design.

## single lever mixers and pillar taps

Piccolo 21 and Nuastyle 21 are a range of pillar taps and monoblock mixers designed to satisfy the performance needs of specifiers and clients alike. Style and durability are built in, user safety and ergonomics are a given.



**B8260AA**  
**Piccolo 21**  
Single lever monoblock basin mixer, without pop-up waste (left, also see page 13).

**B8262AA**  
**Nuastyle 21**  
1/2" basin pillar taps pair (right, also see page 12).

### features and benefits

World famous industrial designers. Cutting edge technology. State of the art manufacture. These taps and mixers will perform outstandingly in a wide spectrum of buildings, giving year after year of reliable use.

- Extensive style choices cater for a wide range of installations.
- Ceramic disc technology improves performance and reduces maintenance.
- Lever operation, makes for better ergonomics.
- CLICK technology reduces water usage by 50% (single lever mixers only).
- Clear hot & cold indices that resist wear from use and cleaning.
- SPX hoses have a smooth inner bore which help to reduce bacteria growth (single lever mixers only).
- DDA compliant ergonomic handles give precise control even when wet.

For complete technical information please call 0870 122 8822



## single lever mixers and pillar taps: the complete range

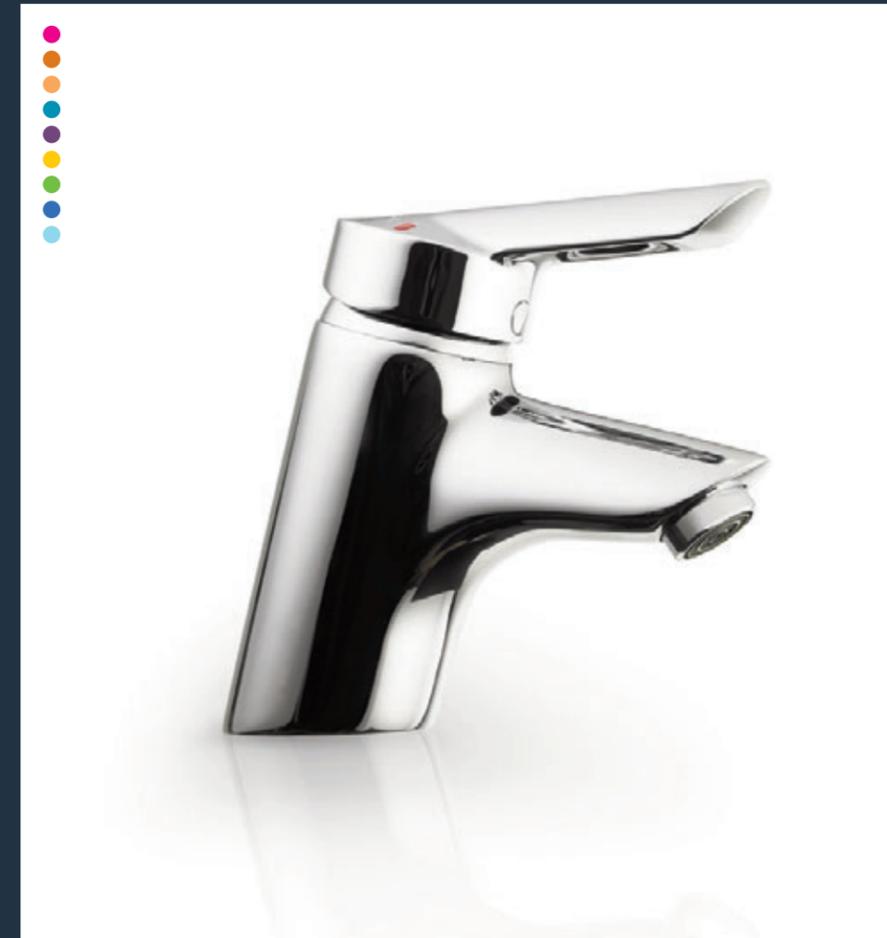
### key

This key helps to quickly and accurately assess whether a particular product is suitable for your requirements. For a complete overview please see p35.

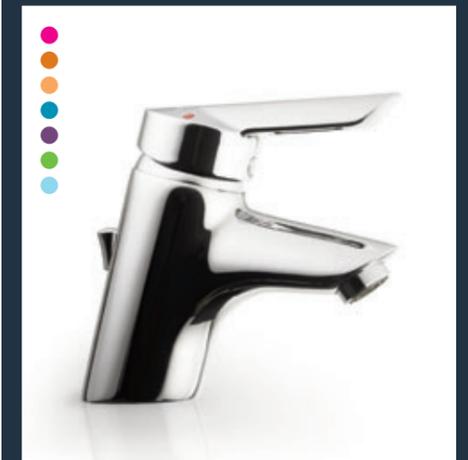
factory	●	retail	●
general	●	schools	●
hospitals/healthcare	●	sport and leisure	●
hotel bathroom areas	●	anti-vandal	●
hotel public areas	●	part m	●
office	●	water-saving	●



**B8262AA Nuastyle 21**  
1/2" basin pillar taps (pair).  
Robust and durable, featuring anti-vandal outlets, these taps are perfect for use in public buildings and schools. Ergonomic quarter-turn handles control a ceramic disc cartridge and a laminar flow internal design minimises the risk of bacterial growth. Dual hot/cold indices are included and each tap is fitted with a 5lpm regulator (*above*).



**B8260AA Piccolo 21**  
Single lever monoblock basin mixer, without pop-up waste. This tough and easy to clean design has clear hot/cold identification that will not wear off and a special seal to protect the ceramic disc cartridge from harsh cleaning fluids. Water economy is optimised by CLICK technology. SPX hoses, built in temperature stop and laminar flow design make this a safe and hygienic mixer (*above*).



**B8261AA Piccolo 21**  
Single lever monoblock basin mixer, with pop-up waste (*above*).

## electronic brassware

Sensorflow 21 is a complete range of sensor operated taps, showers, wcs and urinals for the modern washroom. The combination of aesthetics and practicality demanded by the 21st century washroom are exemplified by its contemporary design and state of the art electronics. With ultra hygienic 'no-touch' operation, efficient water management and mains or battery power, sensorflow 21 is the future of the automatic washroom.



**Sensorflow 21**  
230mm tubular basin wall  
spout, with separate sensor.  
A4183AA Mains Transformer  
A4184AA Links Box  
A4182AA Battery  
*(left, also see page 20).*

**Sensorflow 21 Compact**  
Stylish compact deck  
mounted basin fitting with  
built in sensor, suitable for  
pre-mixed water.  
A4852AA Mains Transformer  
A4853AA Links Box  
A4851AA Battery  
*(right, also see page 18 ).*

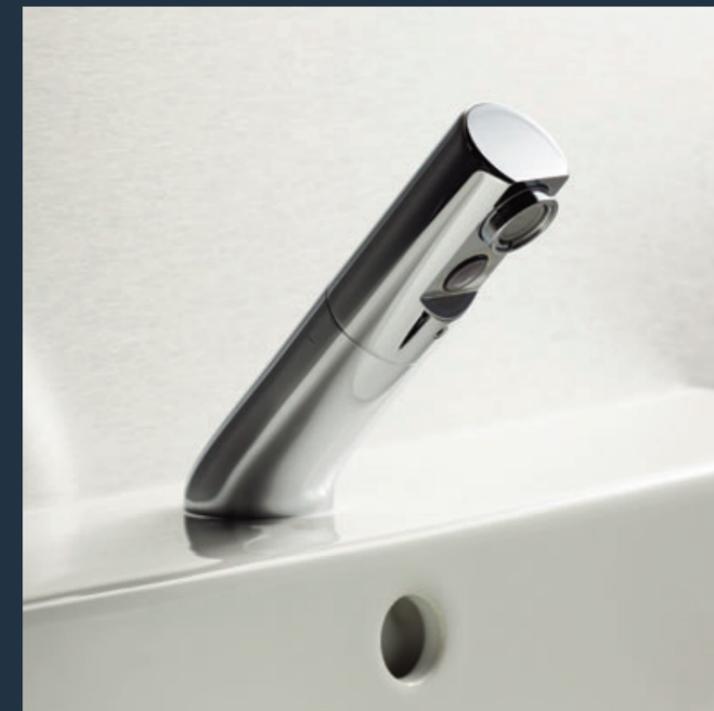
i

### features and benefits

The demand for hygiene and performance is met by a range of hands-free electronic taps second to none. Remote sensors detect a users presence at the basin and control water flow to ensure that it is only released when required.

- 'No touch' operation improves the hygiene of the washroom.
- Controlled water release improves water economy.
- Power can be supplied by mains or battery (WCs = mains only).
- No moving external parts reduces the chances of vandalism.
- Available for basins, showers and urinals.

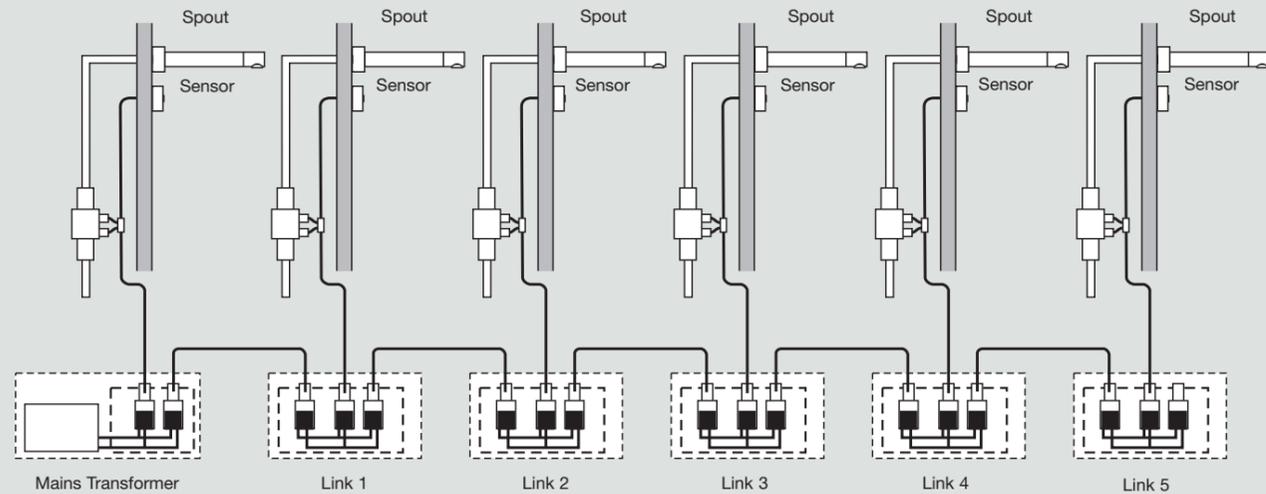
For complete technical information  
please call 0870 122 8822



## the sensorflow 21 system

Sensorflow 21 can be electronically joined together in a run of up to six fittings. Once the first fitting has been linked to the Sensorflow 21 transformer, subsequent fittings only need to be linked to the preceding fitting. Each fitting will still work independently from its own sensor via a solenoid, as shown in the diagram below.

### Linking diagram for basins

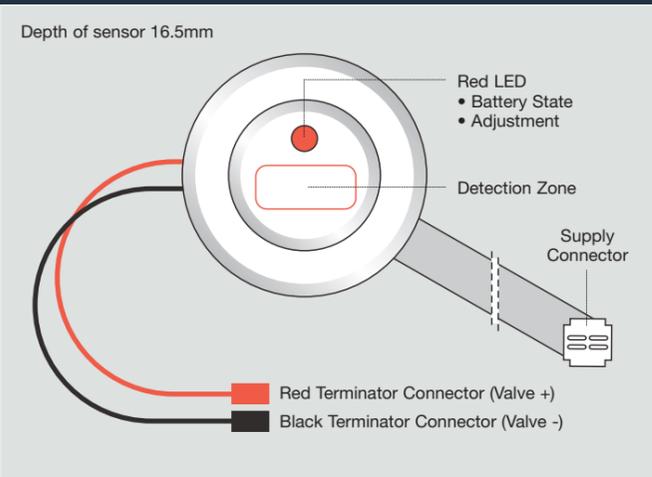


No. of basins, showers or urinals in a run	1	2	3	4	5	6	7	8	9	10
No. of Mains Transformer products needed	1	1	1	1	1	1	2	2	2	2
No. of Link Box products needed	0	1	2	3	4	5	5	6	7	8
No. of Battery products needed	N/A									

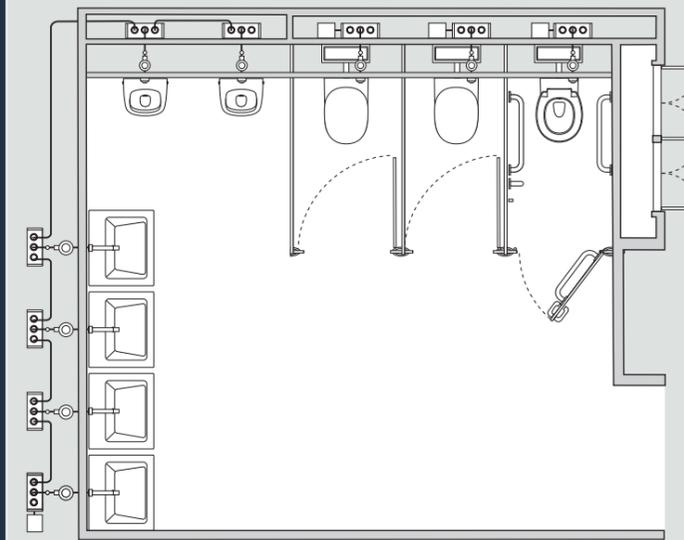
## sensor technology

All Sensorflow 21 sensors incorporate the technology inside the sensor, which has the advantage of less working parts and takes less space. The sensor is factory set for run times and sensor detection distances (See list of settings opposite).

Run times can be adjusted by a remote control purchased separately.



### Example washroom



The diagram shows an example of a Sensorflow washroom. The WCs are solus installations while the urinals and basins are linked together, starting from the first mains unit which includes a transformer. Each item in the run operates separately with its own sensor and solenoid.

Link leads are supplied with 1.5 metre cables. There are extension cables available to cover longer distances between fittings.

**Sensorflow 21**  
3 metre extension lead  
**A962282NU**

**Sensorflow 21**  
10 metre extension lead  
**A960707NU**

## key information:

### For all products:

- Each run of up to 6 units must have 1 mains box with the option of 1-5 link boxes. Link boxes come with 1.5 metre cables.
- Mains fittings come with a transformer.
- Link fittings do not have a transformer but are linked to the mains version.
- Battery mixers are run as solus installations and cannot be linked together.

### For basin mixers:

- With the exception of A4176AA, A4177AA and A4124AA, all Sensorflow 21 taps are non-mixing, so temperature needs to be controlled by a mixing thermostat installed before the tap.
- With A4176AA, A4717AA and A4124AA the user can adjust the water temperature manually. Hot water is mixed with cold water in the fitting. Hot water needs to be regulated by a separate thermostat.

- All Sensorflow 21 taps are supplied with 5 litres per minute laminar flow regulators for use on pressures greater than 1 bar, making them particularly economical with water.

Flow straightener inserts supplied separately (not fitted) for use on pressures less than 1 bar.

For complete technical information please call 0870 122 8822

## sensor factory settings

Sensorflow 21 fittings come factory set to work at pre set sensing distances/zones and the length of rinse times. These settings can be changed for different requirements using a special remote control unit or by manual procedures.

The pre set factory settings are shown (right) together with the range of sensing distances and run times that can be set.

**Sensorflow 21**  
Remote control unit  
**A961765NU**

### Auto Cleanse feature

Fittings and urinals can be set to automatically flush with fresh water if they haven't been used in a given period. E.g. after 24 hours for a period of 15 seconds.

Sensor can be changed from proximity (water stops when user moves away) or Time Flow (water runs for pre set time).

### Sensor settings

Setting the sensing distance and automatic rinse time

		Basin	Shower	Urinal
Sensing distance	Factory settings	Spout Length + 20mm	50mm	400mm
	Setting range	50-250mm	50-250mm	400-800mm
Automatic rinse time	Factory settings	Set OFF	15 seconds every 48 hours	5 seconds every 24 hours
	Setting range rinse time frequency	1-60 seconds Every 6,12, 24, 48 or 72 hours	1-60 seconds Every 6,12, 24, 48 or 72 hours	1-60 seconds Every 6,12, 24, 48 or 72 hours

## sensorflow 21 compact

Sensorflow 21 Compact is a new range of electronic basin fittings with an integral sensor in the spout itself. The downward pointing sensor is set to work in the normal hand washing position. This helps to eliminate false triggering from high visibility clothing associated with forward facing sensors.

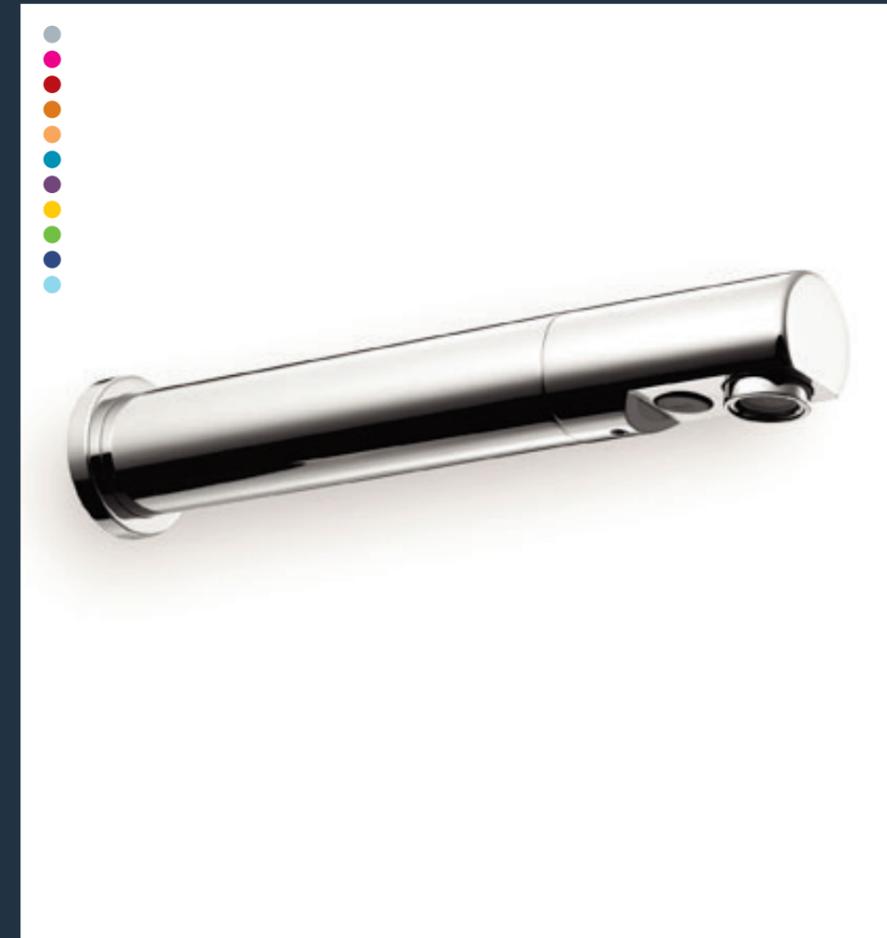
### key

This key helps to quickly and accurately assess whether a particular product is suitable for your requirements. For a complete overview please see p35.

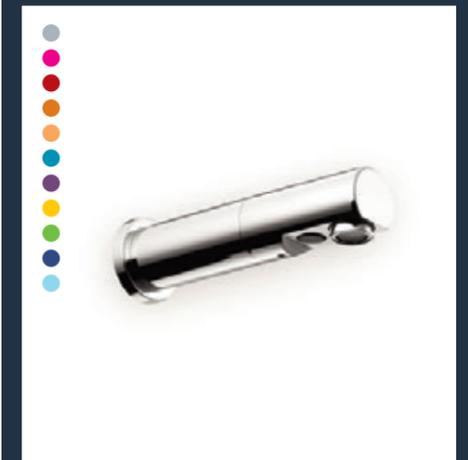
factory	●	retail	●
general	●	schools	●
hospitals/healthcare	●	sport and leisure	●
hotel bathroom areas	●	anti-vandal	●
hotel public areas	●	part m	●
office	●	water-saving	●



**Sensorflow 21 Compact**  
Stylish compact deck mounted basin fitting with built in sensor, suitable for pre-mixed water *(above)*.  
A4852AA Mains Transformer  
A4853AA Links Box  
A4851AA Battery



**Sensorflow 21 Compact**  
Compact 230mm basin wall spout with built in sensor, suitable for pre-mixed water *(above)*.  
A4849AA Mains Transformer  
A4850AA Links Box  
A4848AA Battery



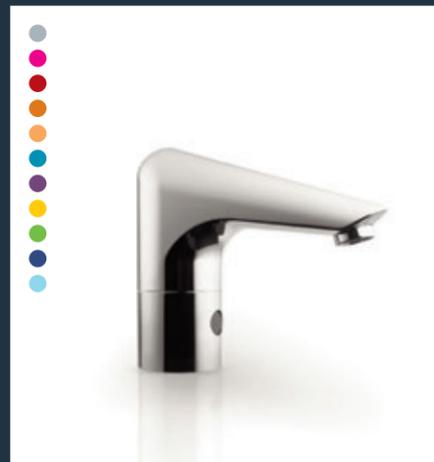
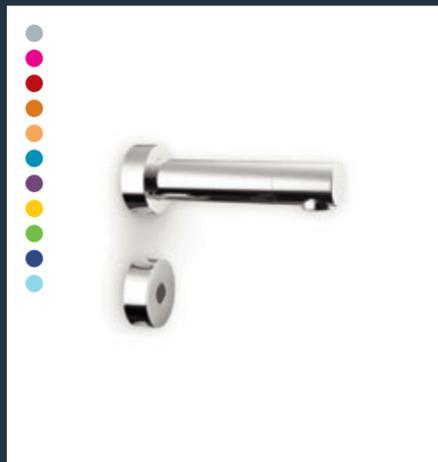
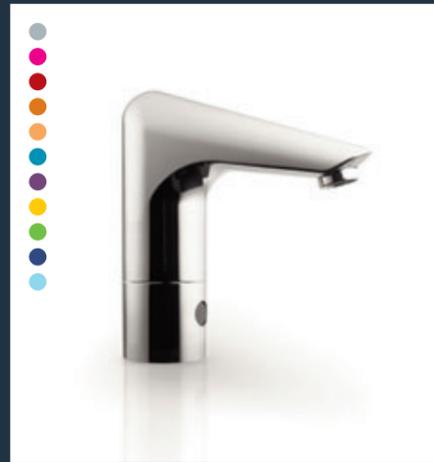
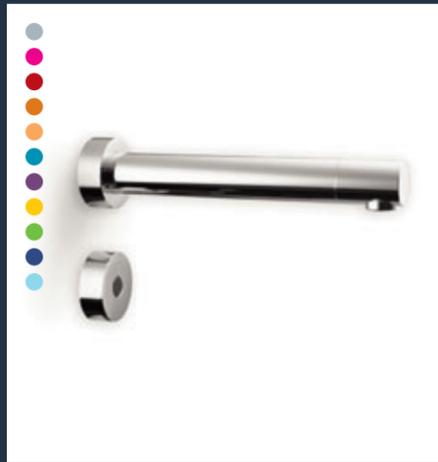
**Sensorflow 21 Compact**  
Compact 150mm basin wall spout with built in sensor, suitable for pre-mixed water *(above)*.  
A4846AA Mains Transformer  
A4847AA Links Box  
A4845AA Battery

## sensorflow 21 for basins and showers

### key

This key helps to quickly and accurately assess whether a particular product is suitable for your requirements. For a complete overview please see p36-37.

factory	●	retail	●
general	●	schools	●
hospitals/healthcare	●	sport and leisure	●
hotel bathroom areas	●	anti-vandal	●
hotel public areas	●	part m	●
office	●	water-saving	●



**Sensorflow 21**  
Electronic tubular wall spout, with separate sensor. For pre-mixed water. 230mm spout projection (*above, top*).  
A4183AA Mains Transformer  
A4184AA Links Box  
A4182AA Battery

**Sensorflow 21**  
Electronic tubular wall spout, with separate sensor. For pre-mixed water. 150mm spout projection (*above, bottom*).  
A4180AA Mains Transformer  
A4181AA Links Box  
A4126AA Battery

**Sensorflow 21**  
Electronic one taphole basin spout, suitable for pre-mixed water. Anti-vandal and water economy properties make this outlet suitable for every building. Laminar flow internal design ensures water-borne bacteria are minimised. The sensor also shuts off water supply if obstructed (*above, top*).  
A4171AA Mains Transformer  
A4172AA Links Box  
A4122AA Battery

**Sensorflow 21**  
Smaller version of A4171AA. Compact electronic non-mixing basin spout (*above, bottom*).  
A4798AA Mains Transformer  
A4799AA Links Box  
A4664AA Battery

**Sensorflow 21**  
Electronic wall spout, with built-in sensor. For pre-mixed water. 150mm spout projection (*above, top*).  
A4178AA Mains Transformer  
A4179AA Links Box  
A4125AA Battery

**Sensorflow 21**  
Electronic one tap hole basin mixer with the ability to adjust temperature by top lever control, combined with the durability and hygiene benefits of electronic brassware (*above, bottom*).  
A4176AA Mains Transformer  
A4177AA Links Box  
A4124AA Battery

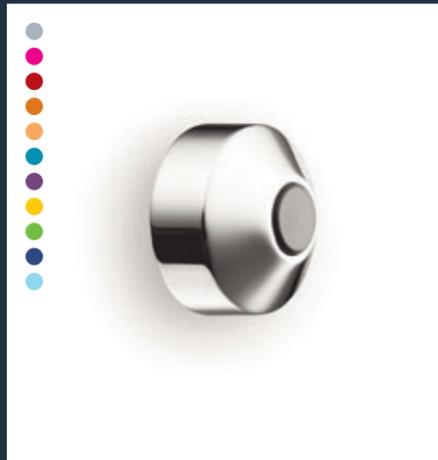
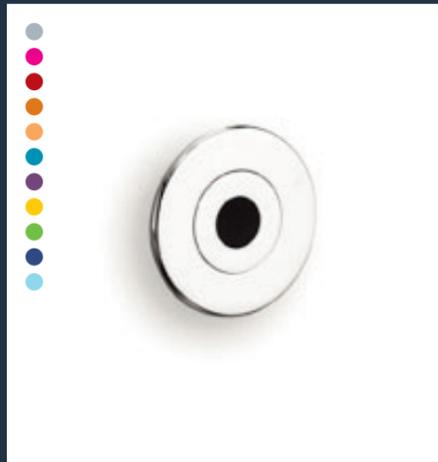
**Sensorflow 21**  
Shower sensor and solenoid suitable for pre-mixed water (*above*).  
A4185AA Mains Transformer  
A4186AA Links Box  
A4168AA Battery

# sensorflow 21 for wcs and urinals

## key

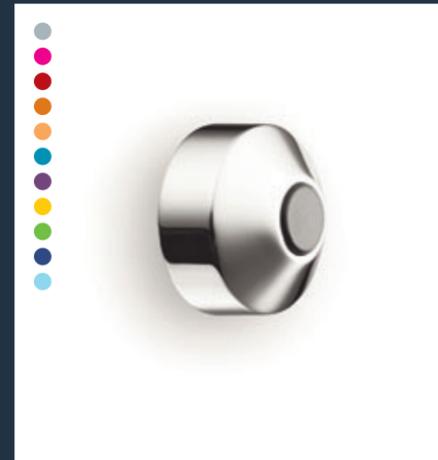
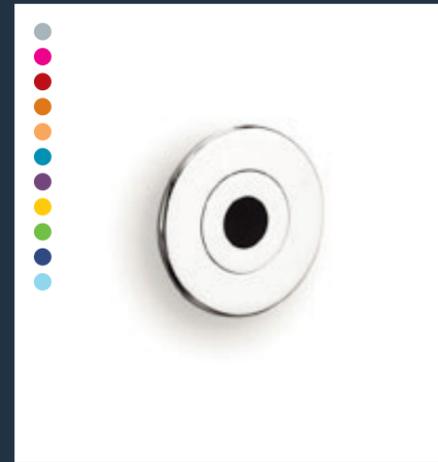
This key helps to quickly and accurately assess whether a particular product is suitable for your requirements. For a complete overview please see p37.

factory	●	retail	●
general	●	schools	●
hospitals/healthcare	●	sport and leisure	●
hotel bathroom areas	●	anti-vandal	●
hotel public areas	●	part m	●
office	●	water-saving	●



**Sensorflow 21**  
Panel mounted electronic WC flush control and cistern. The flush is activated by waving hand in front of sensor. Cistern, flush pipes, sensor and flush activation mechanism all included  
*(above, top and main image).*  
**Side inlet:**  
S358967 6 Litres  
S359967 4.5 Litres  
S360067 4 Litres  
**Bottom inlet, delay fill:**  
S360467 4.5 Litres  
S360567 4 Litres

**Sensorflow 21**  
Surface mounted electronic WC flush control, for use with pneumatic cisterns (e.g. where room incorporates a walk in duct with solid wall). The flush is activated by waving hand in front of sensor  
*(above, bottom).*  
A4669AA Surface Mounted Electronic WC control



**Sensorflow 21**  
Panel mounted electronic urinal flush control. Suitable for use with rim and rimless flushing urinals from mains or tank fed water supply  
*(above, top).*  
A4854AA Mains Transformer  
A4855AA Links Box  
A4670AA Battery

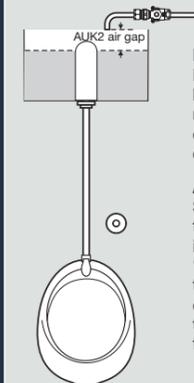


**Sensorflow 21**  
Surface mounted electronic urinal flush control. Suitable for use with rim and rimless flushing urinals from mains or tank fed water supply  
*(above left, bottom and main picture).*  
A4856AA Mains Transformer  
A4857AA Links Box  
A4671AA Battery

## installing sensorflow 21 urinals

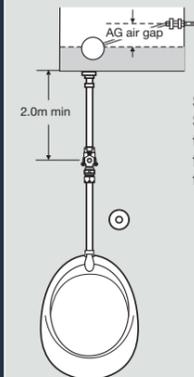


**Box Rim Urinals**  
On box rim urinals water is supplied direct from the mains. Water is delivered through a check valve to the solenoid valve which opens for a few seconds.



**Rimless Urinals**  
Rimless urinals cannot be fed direct from the mains. Water is supplied either from an 'auto' cistern or a storage tank.

**Auto Cistern**  
Solenoid signals water to be released from mains into 'auto' cistern via a 'pet cock' which restricts the amount of water entering the tank. When tank is full it automatically flushes the urinal.



**Storage Tank**  
Solenoid signals water to be released directly from the tank every time the sensor is activated.

## thermostatic brassware

Control is everything. Each fittings built in thermostat allows the user to set a specific temperature. Their control levers guarantee the right amount of water is delivered at the right temperature. Safely and precisely.



**A4128AA**  
Contour 21  
Wall mounted thermostatic  
shower mixer, exposed  
*(left, also see page p27).*

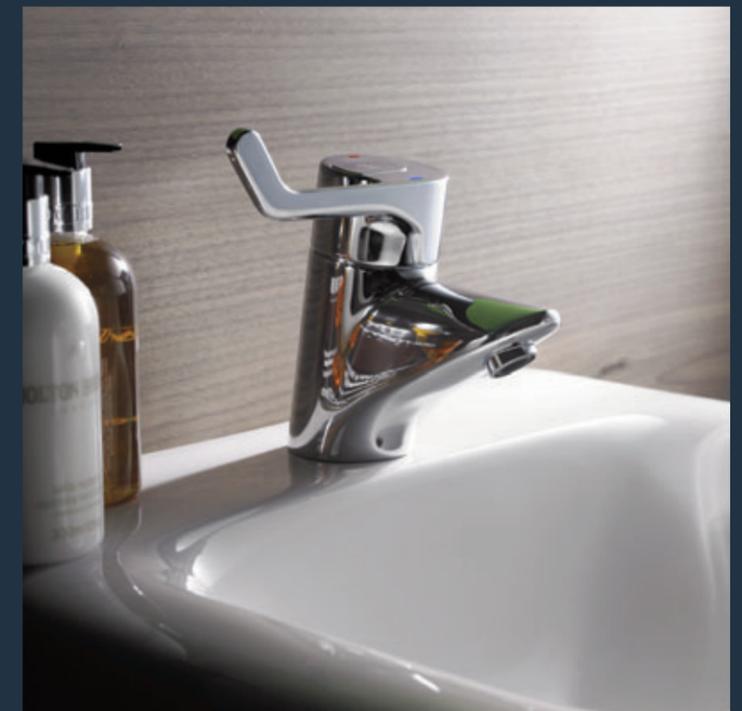
**A4131AA**  
Contour 21  
Thermostatic monoblock  
basin mixer, without pop-up  
waste. Single control lever  
for simple operation  
*(right, also see page 26).*

## features and benefits

When the safe delivery of water at a specific temperature is paramount, the thermostatically controlled mixer represents the ultimate. A predetermined maximum temperature reduces chances of scalding and saves water wasted whilst establishing a comfortable temperature.

- Prevents scalding by maximum temperature control.
- Fully Part M compliant.
- Single lever operation makes use quick and simple even when wet.
- Can be operated with a closed fist by the physically impaired.
- Clear hot/cold indices that will not wear off through use or cleaning.

For complete technical information  
please call 0870 122 8822

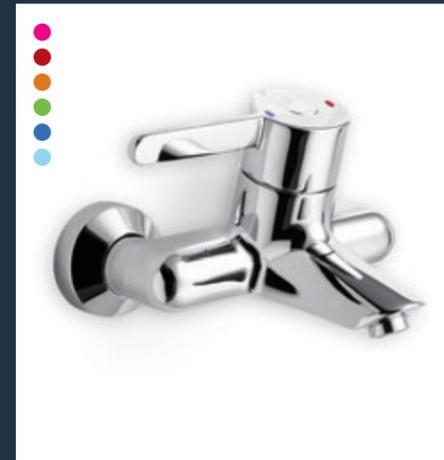


# thermostatic brassware: the complete range

## key

This key helps to quickly and accurately assess whether a particular product is suitable for your requirements. For a complete overview please see p38.

factory	●	retail	●
general	●	schools	●
hospitals/healthcare	●	sport and leisure	●
hotel bathroom areas	●	anti-vandal	●
hotel public areas	●	part m	●
office	●	water-saving	●

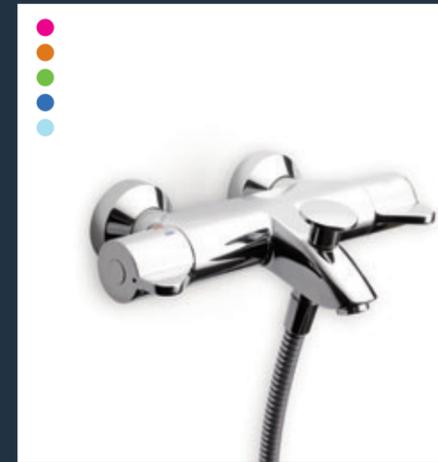


**A4135AA Contour 21**  
Wall mounted thermostatic bath mixer. A single lever provides sequential control of water flow and temperature (above).

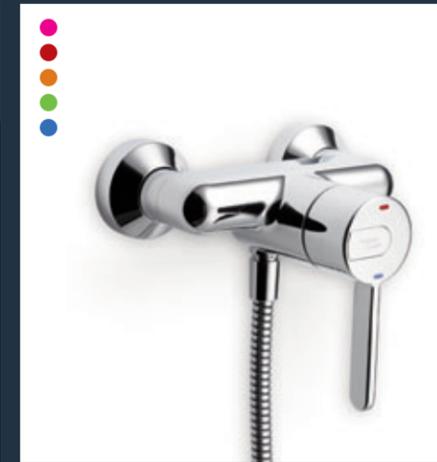


**A4131AA Contour 21**  
Thermostatic monoblock basin mixer, without pop-up waste. Part M compliance is achieved thanks to its single sequential control lever (above).

Also available  
**A4132AA Contour 21**  
Thermostatic monoblock basin mixer, with pop-up waste.



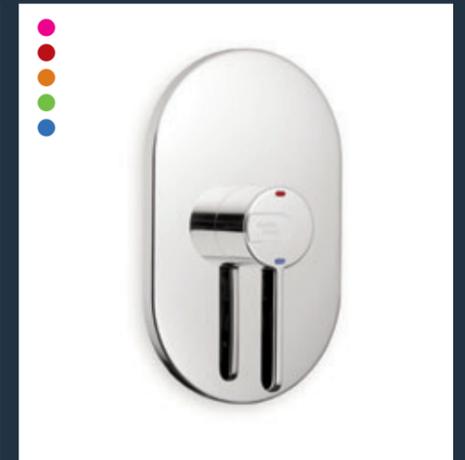
**A4128AA Contour 21**  
Wall mounted thermostatic bath/shower mixer, with lever handles. A unique thermal disinfection facility helps to reduce the risk of bacteria infection (above).



**A4130AA Contour 21**  
Exposed thermostatic shower mixer, with 120mm lever. A safety temperature stop is built into the mixer and the single lever provides sequential flow and temperature control (above, top).



**A4127AA Contour 21**  
Wall mounted thermostatic shower mixer, with lever handles. A unique thermal disinfection facility helps to reduce the risk of bacteria borne infection (above, bottom). More information on p5.



**A4129AA Contour 21**  
Built in thermostatic shower mixer, with 120mm lever. A safety temperature stop is built into the mixer and the single lever provides sequential flow and temperature control (above).

## fixed showerheads

A very flexible range of durable fixed shower head for use in a number of different applications. The range includes an anti ligature head for secure premises and heads for fixing onto panels or solid walls. Each head incorporates a water regulator to ensure efficient use of water.



### key

This key helps to quickly and accurately assess whether a particular product is suitable for your requirements.

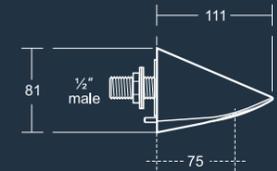
factory	●	retail	●
general	●	schools	●
hospitals/healthcare	●	sport and leisure	●
hotel bathroom areas	●	prisons & secure areas	●
hotel public areas	●	anti-vandal	●
office	●	part m	●
		water-saving	●

#### Panel Mounted Anti Ligature Fixed Shower Head - for concealed pipework (back inlet)

##### A4858AA

Anti vandal, anti ligature, fixed shower head for panel mounting.

- Anti ligature
- Not demountable
- Panel mounting

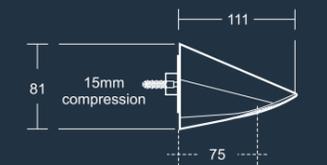


#### Surface Mounted Fixed Shower Head - for concealed pipework (back inlet)

##### A4672AA

Demountable, anti vandal shower head for wall fixing (to a solid wall and a 15mm copper pipe).

- Solid wall fixing
- Back inlet
- Anti vandal
- Fixed by attaching to 15mm pipe

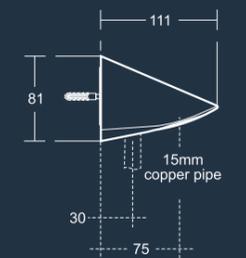


#### Surface Mounted Fixed Shower Head - for exposed pipework (bottom inlet)

##### A5451AA

Demountable, anti vandal shower head for wall fixing with exposed plumbing (solid wall).

- Exposed pipework
- Demountable
- Uses fixing plate

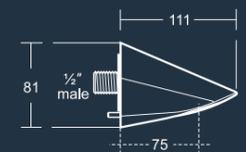


#### Surface Mounted Fixed Shower Head - for concealed pipework (back inlet)

##### A5452AA

Demountable, anti vandal shower head for wall fixing (to a solid wall containing a female nipple).

- Solid wall fixing
- Back inlet
- Anti vandal



## push button brassware

The simplicity of their use and the intrinsic toughness of their design is coupled with real elegance in the Avon and Contour 21 push button range of mixers, pillar taps and showers.



**B8263AA**  
Avon 21  
Push button basin mixer,  
without pop-up waste.  
The choice in washrooms  
where durability, water  
economy and temperature  
control is paramount  
*(left, also see page 30).*

**B8264AA**  
Avon 21  
Push button shower  
mixer, for fixed/overhead  
showerhead *(right, also  
see page 31).*

i

### features and benefits

Often the durability of a fitting must be balanced with its water saving characteristics. Push button taps require no such compromise. It has no handle, making it very robust, and pushing the button starts water flowing for a pre-set period only.

- Anti-vandal design minimises maintenance and downtime costs.
- Can be operated with a closed fist, suitable for Part M use.

For complete technical information  
please call 0870 122 8822

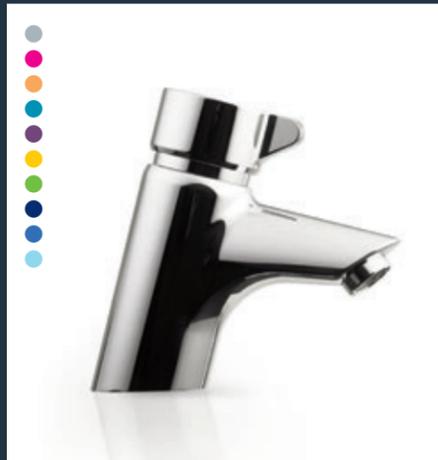


## push button brassware: the complete range

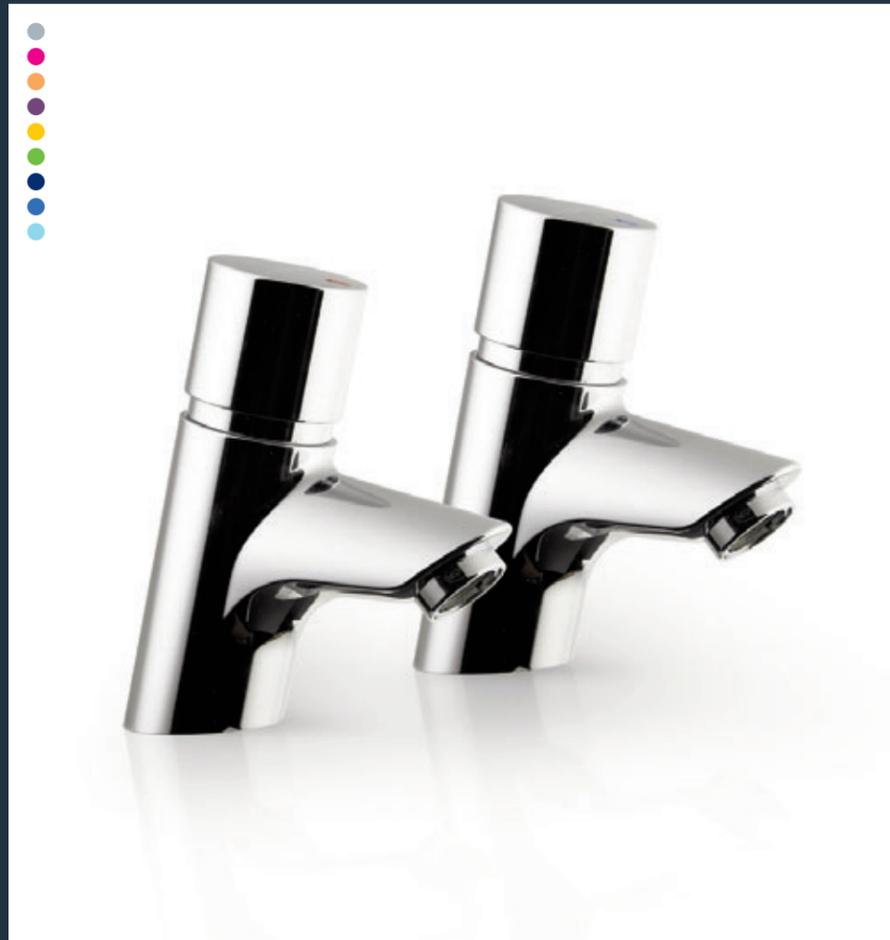
### key

This key helps to quickly and accurately assess whether a particular product is suitable for your requirements. For a complete overview please see p39.

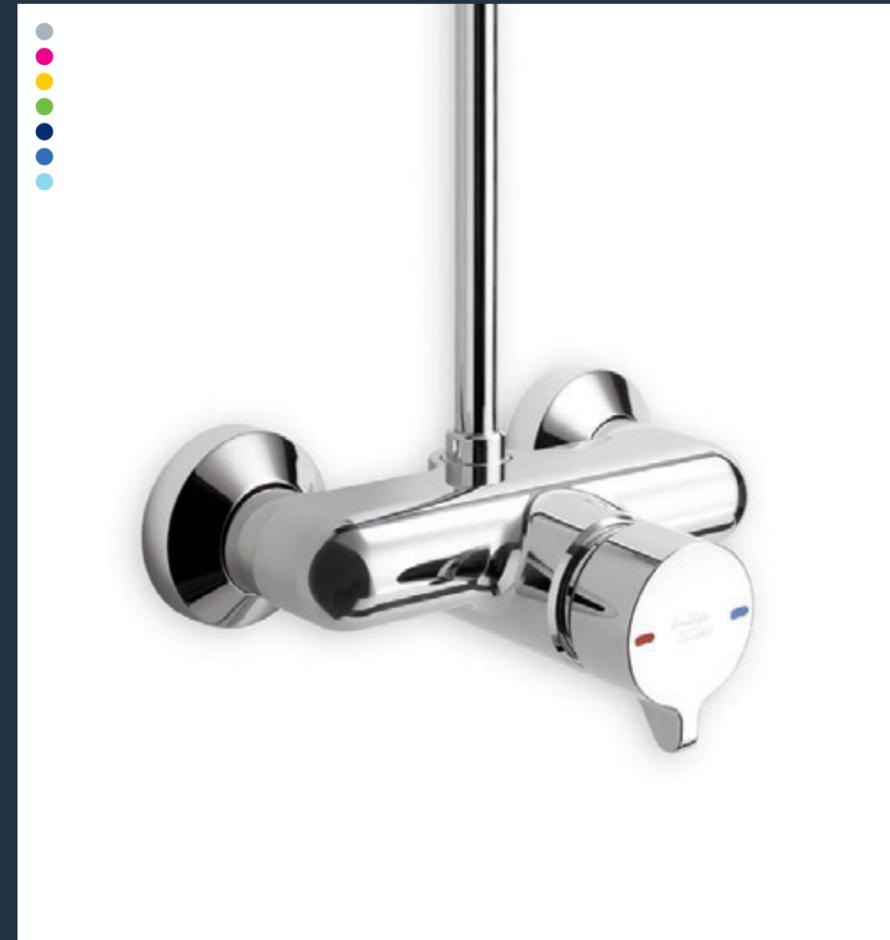
factory	●	retail	●
general	●	schools	●
hospitals/healthcare	●	sport and leisure	●
hotel bathroom areas	●	anti-vandal	●
hotel public areas	●	part m	●
office	●	water-saving	●



**B8263AA Avon 21**  
Push button basin mixer, without pop-up waste. The choice for washrooms where durability, water economy and temperature control is paramount. This anti-vandal outlet has a laminar flow internal design and features the EasyFix installation system (above).



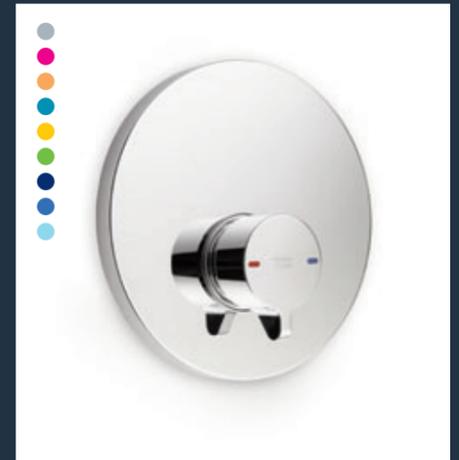
**B8267AA Avon 21**  
Push button 1/2" basin pillar taps (pair), with dual hot/cold indices (above).



**B8246AA Avon 21**  
Push button shower mixer, with top water outlet (above).



**B8266AA Avon 21**  
Built in push button urinal flush/shower valve, non-mixing (above, top).



**B8265AA Avon 21**  
Built in push button shower mixer (above, bottom).

for every taste a style,  
for every need a solution.

choosing the appropriate brassware  
for a project is a process of aligning  
design, performance and budget, with  
the demands of a particular client

The product selection guide on  
the following four pages will help  
you to strike this balance.

Choosing brassware based  
on the function of your clients  
building is straightforward; the  
fittings most suitable for use within  
nine building types are identified  
and indicated on a selection  
matrix by colour-coded dots.

Alternatively, if you prefer to  
select a fitting based on it's key  
features, the guide provides an at  
a glance, colour-coded, reference  
for every product.

Simplify, specify.

key

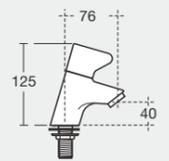
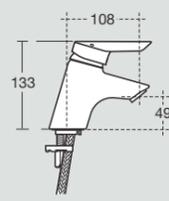
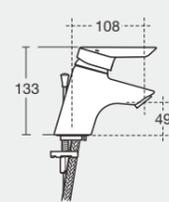
- factory
- general
- hospitals/healthcare
- hotel bathroom areas
- hotel public areas
- office
- retail
- schools
- sport and leisure
- anti-vandal
- part m
- water-saving

single lever mixers and pillar taps

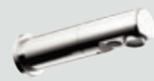
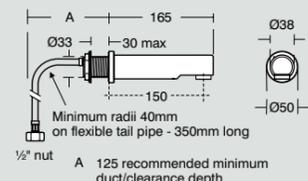
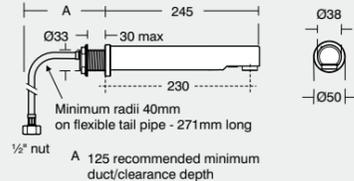
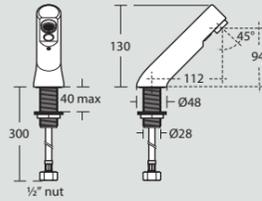
(see p10-13)

- factory
- general
- hospitals/healthcare
- hotel bathroom areas
- hotel public areas
- office
- retail
- schools
- sport and leisure
- anti-vandal
- part m
- water-saving

\*Mains Transformer \*\*Link box \*\*\*Battery

taps	description	specification	factory	general	hospitals/healthcare	hotel bathroom areas	hotel public areas	office	retail	schools	sport and leisure	anti-vandal	part m	water-saving
	B8262AA Nuastyle 21 1/2" basin pillar taps (pair).													
	B8260AA Piccolo 21 Single lever monoblock basin mixer, without pop-up waste. 5lpm†													
	B8261AA Piccolo 21 Single lever monoblock basin mixer, with pop-up waste. 5lpm†													

electronic brassware (see p14-23)

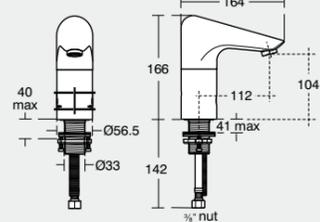
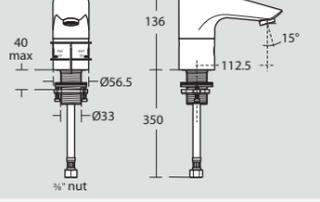
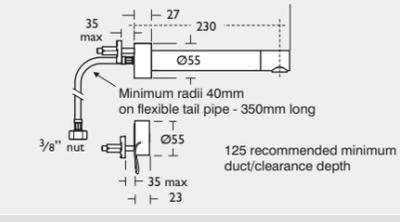
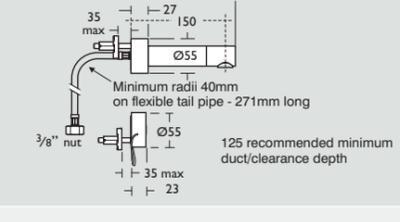
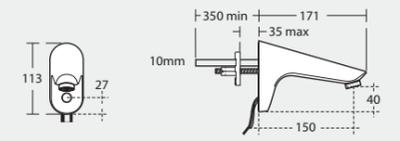
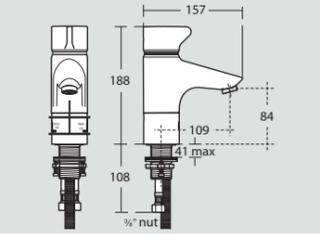
	Sensorflow 21 Compact 150mm non-mixing basin wall spout. N.B. Minimum duct allowance 125mm.  A4846AA* 5lpm† A4847AA** A4845AA***													
	Sensorflow 21 Compact 230mm non-mixing basin wall spout. N.B. Minimum duct allowance 125mm.  A4849AA* 5lpm† A4850AA** A4848AA***													
	Sensorflow 21 Compact Deck mounted non- mixing basin spout.  A4852AA* 5lpm† A4853AA** A4851AA***													

† These fittings are fitted with a 5lpm laminar flow regulator.  
Flow straightener supplied for low water pressure.  
\*\* These fittings are fitted with an 8lpm laminar flow regulator.

electronic brassware  
(see p14-23)

\*Mains Transformer \*\*Link box \*\*\*Battery

factory  
general  
hospitals/healthcare  
hotel bathroom areas  
hotel public areas  
office  
retail  
schools  
sport and leisure  
anti-vandal  
water-saving

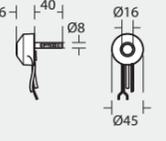
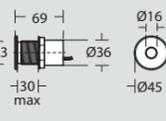
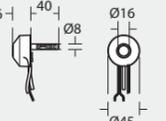
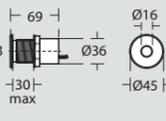
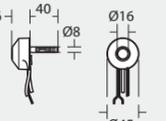
taps	description	specification	factory	general	hospitals/healthcare	hotel bathroom areas	hotel public areas	office	retail	schools	sport and leisure	anti-vandal	water-saving
	Sensorflow 21 Electronic non-mixing basin spout. A4171AA* 5lpm† A4172AA** A4122AA***		●	●	●	●	●	●	●	●	●	●	●
	Sensorflow 21 Compact electronic non-mixing basin spout. A4798AA* 5lpm† A4799AA** A4664AA***		●	●	●	●	●	●	●	●	●	●	●
	Sensorflow 21 230mm tubular non- mixing basin wall spout, with separate sensor. A4183AA* 5lpm† A4184AA** A4182AA***		●	●	●	●	●	●	●	●	●	●	●
	Sensorflow 21 150mm tubular non- mixing basin wall spout, with separate sensor. A4180AA* 5lpm† A4181AA** A4126AA***		●	●	●	●	●	●	●	●	●	●	●
	Sensorflow 21 Non-mixing basin wall spout, with built in sensor. A4178AA* 5lpm† A4179AA** A4125AA***		●	●	●	●	●	●	●	●	●	●	●
	Sensorflow 21 Monobloc basin mixer with temperature adjustment. A4176AA* 5lpm† A4177AA** A4124AA***		●	●	●	●	●	●	●	●	●	●	●

For complete technical information please call 0870 122 8822

electronic brassware  
(see p14-23)

\*Mains Transformer \*\*Link box \*\*\*Battery

factory  
general  
hospitals/healthcare  
hotel bathroom areas  
hotel public areas  
office  
retail  
schools  
sport and leisure  
anti-vandal  
water-saving

taps	description	specification	factory	general	hospitals/healthcare	hotel bathroom areas	hotel public areas	office	retail	schools	sport and leisure	anti-vandal	water-saving
	For Showers: Sensorflow 21 Shower valve and sensor. A4185AA* A4186AA** A4168AA***		●	●	●	●	●	●	●	●	●	●	●
	For Urinals: Sensorflow 21 Urinal flush valve panel mounted. A4854AA* A4855AA** A4670AA***		●	●	●	●	●	●	●	●	●	●	●
	For Urinals: Sensorflow 21 Urinal flush valve surface mounted. A4856AA* A4857AA** A4671AA***		●	●	●	●	●	●	●	●	●	●	●
	For WCs: Sensorflow 21 Panel Mounted Conceala cistern panel mounted sensor. Includes cistern, flush pipes, sensor and flush activation mechanism. Side Inlet: S358967 6 Litres S359967 4.5 Litres S360067 4 Litres Bottom Inlet, delay fill: S360467 4.5 Litres S360567 4 Litres		●	●	●	●	●	●	●	●	●	●	●
	For WCs: Sensorflow 21 Surface Mounted Conceala cistern surface mounted electronic WC sensor. For use with pneumatic cisterns (not included). Includes sensor and flush activation mechanism. A4669AA		●	●	●	●	●	●	●	●	●	●	●

\*These fittings are fitted with a 5lpm laminar flow regulator. Flow straightener supplied for low water pressure.

\*\*These fittings are fitted with an 8lpm laminar flow regulator.

# thermostatic brassware

(see p24-29)

factory  
 general  
 hospitals/healthcare  
 hotel bathroom areas  
 hotel public areas  
 office  
 retail  
 schools  
 sport and leisure  
 anti-vandal  
 part m  
 water-saving

taps	description	specification	factory	general	hospitals/healthcare	hotel bathroom areas	hotel public areas	office	retail	schools	sport and leisure	anti-vandal	part m	water-saving
	A4135AA Contour 21 Wall mounted thermostatic bath mixer.*													
	A4131AA Contour 21 Thermostatic monoblock basin mixer, without pop-up waste. 5lpm <sup>†</sup>													
	A4169AA Contour 21 Thermostatic monoblock basin mixer, with pop-up waste and copper tails.													
	A4128AA Contour 21 Wall mounted thermostatic bath/ shower mixer, with lever handles.*													
	A4130AA Contour 21 Exposed thermostatic shower mixer, with 120mm lever.* 8lpm <sup>††</sup>													
	A4127AA Contour 21 Wall mounted thermostatic shower mixer, with lever handles.*													
	A4129AA Contour 21 Built in thermostatic shower mixer, with 120mm lever. 8lpm <sup>††</sup>													

\*Panel fixing requires an additional fixing kit and escutcheons as follows – S7839AA Panel Fixing Kit and B8485AA Escutcheons.  
 For complete technical information please call 0870 122 8822

# push button brassware

(see p30-33)

factory  
 general  
 hospitals/healthcare  
 hotel bathroom areas  
 hotel public areas  
 office  
 retail  
 schools  
 sport and leisure  
 anti-vandal  
 part m  
 water-saving

taps	description	specification	factory	general	hospitals/healthcare	hotel bathroom areas	hotel public areas	office	retail	schools	sport and leisure	anti-vandal	part m	water-saving
	B8263AA Avon 21 Push button basin mixer, without pop-up waste. 5lpm <sup>†</sup>													
	B8267AA Avon 21 Push button 1/2" basin pillar taps (pair). 5lpm <sup>†</sup>													
	B8264AA Avon 21 Push button shower mixer, with top water outlet.													
	B8266AA Avon 21 Built in push button urinal flush/shower valve, non-mixing.													
	B8265AA Avon 21 Built in push button shower mixer.													

<sup>†</sup> These fittings are fitted with a 5lpm laminar flow regulator. Flow straightener supplied for low water pressure.

<sup>††</sup> These fittings are fitted with an 8lpm laminar flow regulator.

## guarantee

### 5 years

on taps and mixers, toilet seats  
and cistern fittings

---

Our confidence in the quality and reliability of our brassware allows us to offer outstanding extended guarantees on all our products – where the product fails within 5 years we offer a free replacement or replacement part (or nearest equivalent).

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 the room must be adequately ventilated.

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)

---

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

---

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

---

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

---

*Armitage  
Shanks*

For further information  
on any of our products;

please call  
**0870 122 8822**

or visit  
[www.thebluebook.co.uk](http://www.thebluebook.co.uk)



The bluebook has long been the most comprehensive guide to bathroom and washroom products. Now the bluebook DVD provides an interactive version allowing you to navigate through more than 1250 pages of detailed drawings and specifications instantly. Once installed on your hard drive blue book can be automatically updated with the latest product information every time you go online.

A division of Ideal Standard (UK) Ltd.

© Armitage Shanks  
P1158(2) 08/10



[www.reef-design.co.uk](http://www.reef-design.co.uk)

