



EVERYTHING YOU NEED TO KNOW ABOUT SENSOR TAPS

TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	WHY SENSOR TECHNOLOGY IS THE BEST OPTION FOR WASHROOMS IN A POST-COVID WORLD	2
	Hands-free sensor taps are more environmentally friendly	2
	Hands-free taps contribute to a more positive impression of your washrooms	3
	Many diseases are spread through poor hand hygiene	3
	Sensor taps show visitors that you take hand hygiene seriously	3
	Sensor taps use much less water than traditional taps	4
	Sensor taps are more energy-efficient	4
	Sensor taps are easy to install and maintain	5
	No dripping, minimal cleaning needed and improved safety	5
	Customers increasingly expect to see sensor taps in public washrooms ..	5
3.	HOW MUCH MONEY WILL SWITCHING TO SENSOR TAPS SAVE YOU?	5
4.	PROVING THE ROI OF INVESTING IN SENSOR TAPS	6
5.	THINGS TO CONSIDER WHEN CHOOSING TAPS	8
	How are they powered?	8
	What smart features do they have?	9
	How reliable are they?	9
	Are they easy to install?	9
	How safe are they?	9

1 INTRODUCTION

At Ecoprod we offer a wide range of sensor taps so there's something that is suitable for every kind of washroom environment. Many of our sensor tap clients are doctors, dentists and vets – people for whom hand hygiene is an absolute essential in their daily work. The same is true in hotels, restaurants and other hospitality and catering

environments, where sensor taps offer clear advantages over manual and press taps. However, sensor taps offer several other advantages beyond the obvious improvement in hygiene and in this white paper we will discuss these and make some recommendations to help you think about what type of sensor taps might be best for you.



2 WHY SENSOR TECHNOLOGY IS THE BEST OPTION FOR WASHROOMS IN A POST-COVID WORLD

Since the start of the Covid-19 pandemic in 2020, hand washing and personal hygiene, always important, has become even more relevant in our everyday lives. The fear of contracting coronavirus has exposed how easily germs could be transferred from person to person, even whilst in a seemingly 'clean' environment. The Covid-19 pandemic has hugely increased how aware the average person is of their hand hygiene. During the pandemic, over 54% of people changed their hygiene habits by washing their hands more frequently and thoroughly than they had done before.

Consumers want to feel safe and as hygienic as possible after the trials of the coronavirus pandemic and so businesses need to adapt accordingly. In particular washroom design needs to change to accommodate consumers' new requirements for enhanced hygiene. Hand operated taps and shared soap dispensers are no longer sufficient.

Fortunately, there is a large range of hands-free, sensor operated taps and other products on the market these days. Organisations, whatever their budget, can find hands-free products to suit and such technology has moved on in leaps and bounds from the times when you would wave your hands under a sensor hoping that the tap might spring into life, often being disappointed. Modern sensor technology is extremely reliable, low maintenance, uses much less water so is the greener option whilst obviously being significantly more hygienic than the alternatives.

How your washroom looks, feels and operates has never been more important. Consumers want the most hygienic, pleasant and environmentally friendly washroom experience possible. That's why hands-free technology is the ideal solution for businesses looking to save water and keep customers safe. In this white paper we'll explore the benefits of sensor taps in more detail and discuss some of the things you should consider when choosing sensor taps for your organisation.



2.1 Hands-free sensor taps are more environmentally friendly

In addition to concerns about hygiene, consumers are also growing ever more interested in the environmental credentials of the organisations they buy from or work for. Hands-free sensor taps are a good way to show your environmental commitment in your washrooms as they are much more efficient than traditional manually operated taps, using much less water as well as needing less energy to heat water, saving you money whilst providing excellent handwashing.

2.2 Hands-free taps contribute to a more positive impression of your washrooms

On top of the cleanliness and safety of a washroom, how washroom users view their experience is incredibly important for businesses. In a recent survey, almost three quarters (73%) of all respondents agreed that a bad restroom experience implies poor management and indicates that the company does not care about their customers. In addition, Cannon Hygiene found that 86% of people wouldn't return to an establishment if the washroom was dirty or unhygienic. This clearly shows that what the room looks like contributes massively to how the client views its hygiene and can create a more pleasant experience with a sleek design.

2.3 Many diseases are spread through poor hand hygiene

We know now that COVID is not primarily spread by poor hand hygiene. However, there are plenty of other diseases that definitely are spread this way. Norovirus is the most common cause of viral gastroenteritis and is primarily transmitted by people not washing their hands. Other diseases such as common colds, flu, meningitis and chicken pox are all widely spread by poor hand hygiene. Hepatitis A is often spread by eating contaminated food prepared by people who have not washed their hands after using the washroom.

One of the unintended but positive consequences of the behavioural changes during the pandemic (changes such as lower social contacts, wearing masks, improved hand hygiene) was a much lower incidence of many of these other diseases. Levels of flu, for example, were way lower than ever before during the winter of 2020-21. As life has returned to something more like normal, so incidences of these other illnesses has risen as people get out of the good hand hygiene habits that they formed during the pandemic. Sensor taps are an excellent way to make a very substantial improvement to hand hygiene in your washrooms.



2.4 Sensor taps show visitors that you take hand hygiene seriously

Sensor taps such as those offered by CONTI+ or miscea provide an additional level of hygiene in your washroom by enabling people to wash their hands without having to touch the tap at all. In the case of miscea taps they can also automatically dispense soap and control the temperature of the water completely hands-free. The pandemic has made people more aware of the importance of hygiene in communal washrooms and switching to sensor products is a good way to reassure anyone who uses your washrooms that you take hygiene seriously.

It used to be the case that sensor taps were seen as only really an option for larger organisations. Fortunately, there is a large range of hands-free, sensor operated taps and other products on the market these days.

For example, CONTI+ sensor activated taps offer a totally hands-free activation method and prevent the transfer of bacteria and build-up of germs through the use of bacteriostatic materials, whilst saving up to 70% of water used in traditional taps. Alternatively, the FX-M washing station unit is a compact and modular washroom unit designed for semi-public and public sanitary rooms which includes touch-free activation of water, soap and air all from a single unit, giving the user a hygienic washing experience, all inside a sleek and modern design.

miscea sensor taps are specifically developed for healthcare, dental and other medical environments where hand hygiene is really critical and, in addition to sensor activated water and temperature control, also offer completely hands-free dispensing of soap and / or disinfectant. From getting water, soap and disinfectant to changing the water temperature, miscea systems are operated completely touch free thanks to state of the art sensor technology. The lack of contact with the tap itself reduces the risk of cross contamination before and after hand washing. This ensures the highest hygiene standards can be consistently met. miscea is the only company in the world offering an all-in-one, completely touch free solution that satisfies hand hygiene guidelines in healthcare settings recommended by world leading healthcare organizations.

Contaminated liquid soap can actually increase the number of bacteria on your hands after washing. Once a dispenser is contaminated, it becomes very difficult to clean as the bacteria will simply regrow. miscea systems use peristaltic pumps to ensure reliable and accurate dispensing of the liquid products. This particular type of pump has no seals or valves that can clog, which making it the most hygienic pump available.

2.5 Sensor taps use much less water than traditional taps

At Ecoprod our main aim has always been to offer products that help our clients to conserve water (download your free copy of our Guide to Saving Water in your Business if you are interested in learning more about water saving). One of the biggest benefits of sensor taps is that they use much less water than traditional taps, making them both the greener and cheaper option for businesses.

This is because sensor taps generally include an aerator in the spout which disperses the water and means that much less is needed for washing than is the case with traditional taps. Consequently, sensor taps generally have a much lower flow rate than traditional hand-operated basin taps. Traditional taps can use up to 10-15 litres of water per minute. In comparison, our CONTI+ taps offer flow rates of as little as 2 litres per minute, up to 70% less than traditional taps and our miscea taps use around 60% less water than traditional taps.

2.6 Sensor taps are more energy-efficient

We sometimes speak to customers who are concerned that switching to sensor taps might increase their energy usage, given that sensor taps need electricity in order to work. However, there are many more factors to consider when determining the energy efficiency of taps. Whilst traditional hand-operated taps don't require any electricity for their operation, they are extremely inefficient in other ways.

Choosing the user's preferred flow and temperature every time a traditional tap is turned on wastes a great deal of energy. In contrast, sensor taps enable you to keep water at a constant temperature, so you don't need to expend energy changing the water temperature. For this reason, taken as a whole, they tend to be much more energy efficient than traditional hand operated taps.

Another difference between sensor taps and traditional taps is that the flow rate of sensor taps is predetermined whereas for traditional taps the user has to select their preferred flow rate every time. This is very inefficient, given that 99% of the time users will want the same flow. Pre-setting the flow rate also prevents user from selecting a flow rate that's too powerful, which helps to reduce splashing and means that the washroom stays cleaner.

2.7 Sensor taps are easy to install and maintain

Installation is simple, CONTI+ products self-commission without the need for additional trades onsite and ongoing maintenance is simple with above deck access to all working parts available on selected products.

2.8 No dripping, minimal cleaning needed and improved safety

Studies have shown that unhygienic and unappealing washrooms discourage hand washing and drive users away. Dirty washbasins, empty soap dispensers or puddles on counter tops are just some of the things that can negatively impact hand hygiene behaviour and user experience. Sensor taps generally improve the washroom environment because it's not possible for users to inadvertently leave them running and the controlled rate of flow means that they don't splash water around the rest of the washroom. miscea taps dispense soap or other liquids as well as water so ensure that all liquid products end up directly in the sink, keeping surrounding surfaces cleaner for longer. Cleaner spaces mean improved safety for everyone. As a result, the cleaning effort is minimized, which leaves more time for the important things.

2.9 Customers increasingly expect to see sensor taps in public washrooms

As hands-free taps are installed in an ever-wider range of locations, customers increasingly expect them to be provided as part of a high-quality washroom environment. If you're installing hands-free taps in your premises for the first time it's always worth including some clear signage to ensure that visitors know how to use them. Overall, however, we find that modern hands-free taps are very intuitive to use and completely remove many of the user-error problems that can occur with traditional manually operated taps, such as people leaving the taps running, scalding themselves with water that's too hot, or splashing water over the washroom.



3 HOW MUCH MONEY WILL SWITCHING TO SENSOR TAPS SAVE YOU?

As already discussed, by using sensor-controlled taps in office buildings facilities managers can reduce water usage by up to 70%. As water costs rise you can save up to £165.05 per tap per annum, which can translate into many thousands of pounds across an entire estate. By using less water, you'll need to heat less water, providing additional energy saving for your organisation.

We've made some calculations, based on a number of fixed assumptions, which we think provides compelling evidence of the benefits of switching to CONTI+ sensor-controlled taps which can deliver a return on investment within a minimum of 12- 14 months.

*1 Correct at time of printing October 2022

Tap type	Flow rate	Daily 1 min activations	Water supply and waste volume	Cost for supply of water and waste, based on UK average Cubic metre	Cost Saving using CONTI+ Taps as repl	Return on investment
Conventional tap by others	7 litres per minute	50	350 litres per day, 127.75 cubic metres per annum	£447.12	N/A	N/A
CONTI+ UMAXX	3 litres per minute	50	150 litres per day, 54.75 cubic metres per annum	£191.62	£255.50	9 months
CONTI+MAXX	3 litres per minute	50	150 litres per day, 54.75 cubic metres per annum	£191.62	£255.50	Under 12 months
CONTI+ Lino	2 litres per minute	50	100 litres per day, 36.5 cubic metres per annum	£127.75	£319.37	13 months
CONTI + ULTRA	1.9 litres per minute	50	95 litres per day, 34.67 cubic metres per annum	£121.34	325.78	13 months

*2 For Specific Return on investments please speak directly to Ecoprod Sales Team

Assumptions: Single tap in commercial washroom being used 50 times per day. Water meter supply site. Supply and waste combined costs. Water costs taken from current market supply and waste combined costs, based on average UK charge for water supply and waste.

The CONTI+ range of quality, WRAS-approved products can deliver savings to your building that can recover the capital cost within a short time and then provide valuable ongoing water savings for your business.

4 PROVING THE ROI OF INVESTING IN SENSOR TAPS

We work with many clients who want to be able to measure the ROI of investing into water saving washroom equipment such as waterless urinals or water saving taps. Understandably, financial directors often require proof of the likely ROI before signing off the capital expenditure involved in a washroom refit. Here's an example of how we measured the ROI of sensor taps for a major chain of service stations, who installed CONTI+ Ultra water saving taps which use up to 70% less water than traditional taps.

In order to measure the ROI they would achieve from installing water saving taps, the company first needed a clear idea of their existing water usage. We took one service station and installed water meters (two measuring hot water consumption and two measuring cold) in two banks of tap ranges. We used these to measure hot and cold water consumption over a period of 10 weeks. The results showed that prior to the installation of water saving taps the site used 252.6m³ of water over the ten

week monitoring period (150.3m³ of cold water and 102.3m³ of hot water).

We then installed 15 CONTI+ Ultra taps and measured the water consumption for a further 10 week period. We were then able to compare water consumption before and after the installation of the taps. Ten weeks is generally long enough to be representative and so we were able to extrapolate from that what the saving would be over the course of a year.

- The results showed that after the installation of water saving taps the site used 51.5m³ of water (28.1m³ of cold and 23.4m³ of hot).
- This is a saving of 201.1m³ water over a ten week period which equates to a saving of 1,045.72m³ over a full year – a reduction of almost 80%.
- At the time of the test the company was paying £1.705 per m³ for their water so this reduction in water use equates to £1,782.95 over the year for a single washroom.

The company also wanted to know what their total hot water saving was for the test period, in terms of the energy that they had saved due to the reduction in hot water usage. For this we calculated the cost of the hot water used, assuming it was all heated in one hour, and then multiplied this by a diversity factor of 12 to take into account the fact that the facility is open 24 hours a day. This is a conservative estimate, rather than multiplying by 24, to take into account that usage will vary according to the time of day.

- Over the course of the 10 week trial the company cut hot water usage by 78.9m³, which equates to a reduction of 410.28m³ (or 410,280 litres) over a year, the equivalent of 1,124 litres saved per day.
- It takes 59.2 kwh of energy to heat 1,124 litres of water if heated in one hour.
- The service station chosen is a remote site using LPG rather than natural gas. One litre of LPG produces 6.9kwh and cost £0.178 per litre so the company saved at least £4.02 per day in heating costs.
- The total saving on the cost of heating water is £1,467.30 over the course of a year.

Using these figures we were able to calculate that the water saving taps would save a total of £3,250.25 per year (£1,782.95 in reduced water usage and £1,467.30 in heating costs) and pay for themselves within 16 months from installation. This figure takes into account the cost of running the trial and the metering too, as there is obviously a cost associated with installing meters that needs to be factored in when calculating ROI.

In this case the organisation was also planning to replace all circular sinks from its sites. These sinks all had self-closing non-concussive taps installed – taps that produce a timed flow of water in response to the user depressing the control or push button and then self-close after a period of time.

These types of taps are notoriously known for failure due to the mechanism wearing with use so they have a very high breakage rate. Correct installation together with regular servicing is required to ensure optimal performance. Failure to ensure that the taps remain free from dirt or scale build up can seriously affect the taps' performance, and of course they don't offer any water saving features so are inefficient in that regard as well.



As mentioned above, we installed water meters at one location for a test trial period. First, the meters ran with the old taps still installed to measure their water consumption. We collected roughly 150 days' worth of water use data from the old taps. We then installed CONTI+ Ultra sensor taps and tracked the change in water usage for another 150 days. The results were as follows:

- Total water consumption with the old taps was 511.224 m³ – an average of 3.235 m³ of water used per day
- Total water consumption with the CONTI+ Ultra taps was 195.866 m³ – an average of 1.216 m³ per day
- This equates to an average daily saving of 2.019 m³ water
- Across a full year the organisation would save 736.935 m³ water
- Using Severn Trent's published water tariffs we calculate that this saves the organisation £1,842.50 per year from this single site alone
- The organisation would achieve payback on installing these taps in only 7.5 months

There's also an additional energy saving achieved through the non-delivery of hot water but more heat source details will be needed before this can be accurately measured. That said, we do know that the amount of hot water saved over the test period was 197.458 m³, a significant reduction.

CONTI+ taps are sensor operated so not prone to the mechanical faults that are common with non-concussive taps. The CONTI+ taps have been installed for over 6 months and the client has had zero problems. With reduced maintenance required the organisation will also make significant savings to its maintenance budget for parts and labour.

5 THINGS TO CONSIDER WHEN CHOOSING

Investing in touch-free sensor taps can bring significant benefits to both building managers and users, from saving water to keeping washrooms hygienically clean. Over recent times their rise in popularity has been significant, but how do you decide which sensor taps are right for you?

5.1 How are they powered?

As an electronic device, all touchless taps require power to operate. There are a number of options available:



1. Mains power – This is a permanent installation with a hardwire to the main electrical circuit. The benefit is that this power source never needs to be replaced however alternative power sources would be required in the event of a power failure. Installers will need to use an electrician to make the 230v/6v connection.

2. Battery power – check batteries are readily available and how long they are expected to last. CONTI+ taps use standard AA batteries which usually last around 4 years.

3. Solar power – boost the power of your battery by utilising solar power. You don't need to be in bright sunshine! Power can be obtained with ambient artificial interior lighting. This usually extends the battery life to around 10 years.

4. Turbine power – harness the power of water with a built in turbine which recharges while the water is running will extend the power of the 4 x AA batteries to ten years.

5.2 What smart features do they have?

How about a countdown timer to make sure hands are washed for the recommended length of time? An option on the CONTI+ Ultra.

5.3 How reliable are they?

The CONTI+ design and manufacture team are based in Switzerland and Germany and have decades of tradition in developing world-beating sensor technology. The manufacture of key components is kept in house to guarantee quality, reliability and functionality for the long term. The sustainability afforded by the taps and showers is recognised the world over as being the best on the market



5.4 Are they easy to install?

CONTI+ sensor taps are extremely easy to install, no special skills are required other than connecting a hot and cold water supply. A retro fit to remove and replace existing traditional taps can be completed with ease.

No requirement for mains electricity is necessary as many of the CONTI+ faucets are available as a battery version with an extraordinary 4 year life expectancy on the batteries due to its unique and patented technology (based on a user turning the tap on up to 150 times a day). And with the CONTI+ ultra you can access all working parts from above, making maintenance simple!

Check out our demo video for more information about how CONTI+ taps are installed and maintained.

5.5 How safe are they?

CONTI+'s thermostatic options give complete reassurance in spaces such as schools and accessible bathrooms. The taps have an automatic reliable shut-off. The patented, thermostatically controlled anti-scalding protection of the CONTI+ lino AS L13 offers increased safety in the case of cold water system failure, shutting off the hot water supply in accordance with EN 1111 after a maximum water flow of 300 ml whilst pressure fluctuations in the cold/hot water system are also balanced out.

**If you'd like to find out more
about sensor taps or discuss whether
they're right for your washrooms then
please do get in touch with us.**

Visit our website **www.ecoprod.co.uk**

Email us **enquiries@ecoprod.co.uk**

Give us a call **0844 800 7890**

