



COMPLETE WASHROOM AIRCARE



KILLS BACTERIA AND VIRUSES | ELIMINATES ODOURS | CHEMICAL-FREE

**BIOZONE**
SCIENTIFIC



UNDERSTANDING THE PROBLEMS

An unpleasant odour in your washroom gives the impression of poor hygiene and can even affect people's view of your organisation. Despite rigorous and regular cleaning, smells can linger (as the primary source of these odours are places where bacteria are present). Busy washrooms are home to many unpleasant organisms, i.e. bacteria, fungi and Volatile Organic Compounds (VOCs).

The bacteria risk in washrooms

- Faecal and other micro-organisms are ejected from toilets and urinals into the air during flushing (The Sneeze Effect*) and settle on washroom surfaces.
- Poor ventilation in shared washrooms increases the accumulation of microbial pathogenic bacteria (e.g. Salmonella and the Influenza virus) which can then be transmitted.
- Use of disinfectants and regular cleaning can only help in controlling bacterial spread*.
- Bacteria multiply at exponential rates – from 1 cell to 8 million cells in an 8 hour working day – too fast for normal cleaning products to keep up.

Types of bacteria found in washrooms

- Salmonella (Food poisoning)
- Streptococcus (Urinary tract infection)
- E Coli (Urinary tract infection, Septicaemia, Diarrhoea)
- Hepatitis A
- Common cold and flu
- Rhinovirus

**Source: Air Hygiene in Washrooms study, University of Singapore*

The impact of bacteria and bad odours in washrooms is:

- The spread of diseases among users.
- Adverse effects on employee health.
- Increased absenteeism among staff.
- Perception of poor standards throughout the facility.
- Individuals will avoid using facilities.

On average:

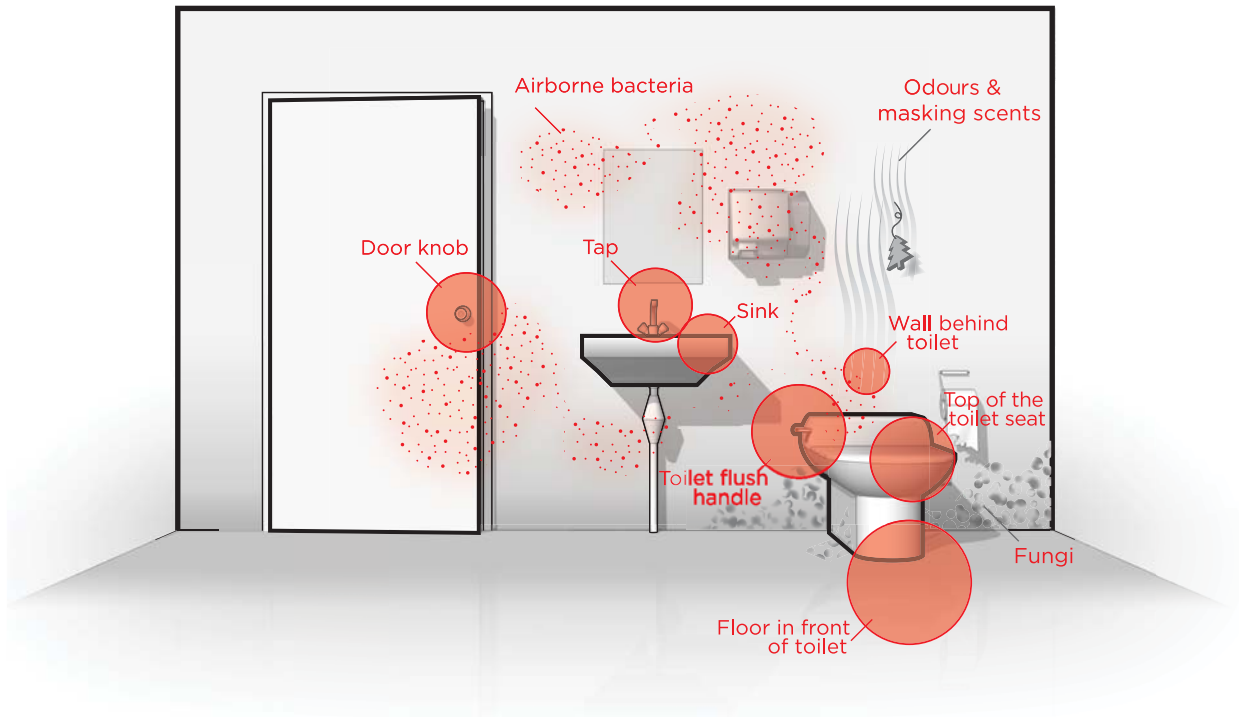
- 90% of people say their satisfaction level is negatively impacted by a dirty restroom.
- 76% of people stated that sanitized washrooms increase customer loyalty.
- 70% of consumers associate the cleanliness of the washroom with a company's image.
- 84% of people surveyed would feel more comfortable using a bacteria-controlled public washroom.

Marriott Business School Survey - A Study for Customer Perception of the Public Restrooms 2006

Main reasons that keep people from public washrooms

- Toilet smells bad
- It's dirty

** Metsä Tissue, The School Hygiene Report 2008*



WHERE THE PROBLEM LIES

Bacteria collects and is found all over a washroom. As you can see by the diagram above, the larger the circle, the greater the concentration of harmful bacteria.

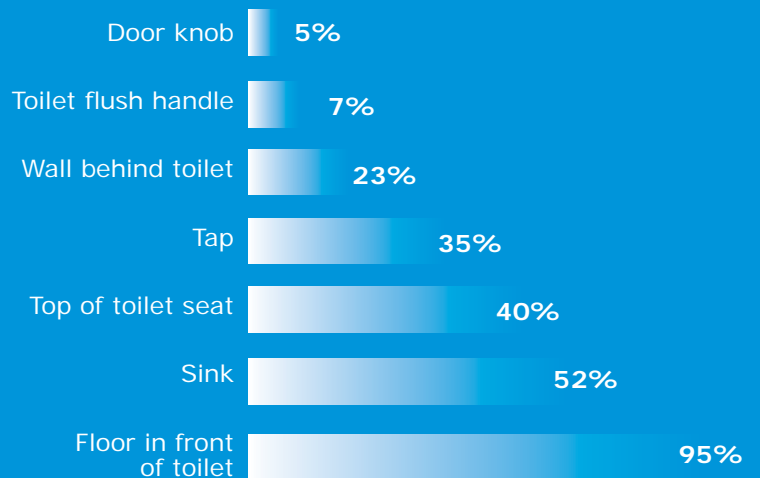
As it is warm and moist, a washroom provides the ideal breeding ground for bacteria. On average, at the work place employees visit washrooms 3 times a day. This provides many opportunities to add to and pick up both air and exposed surface bacteria that resides within.



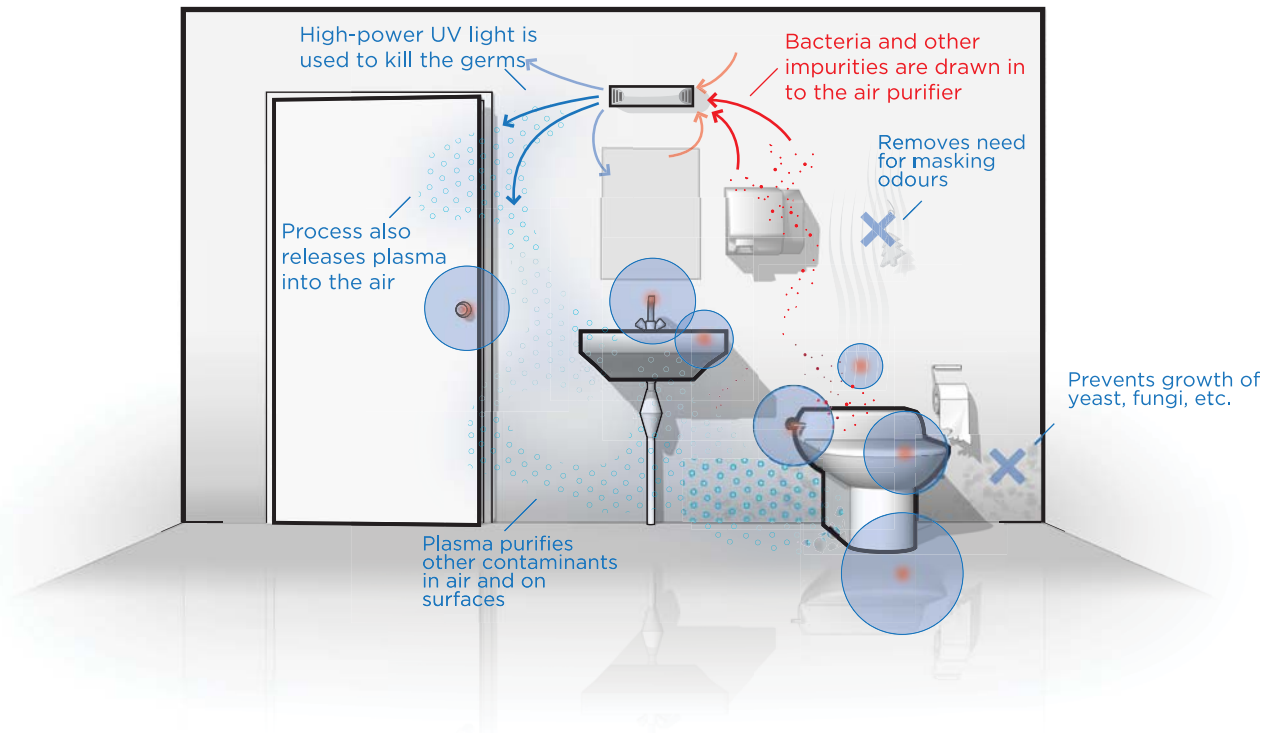
- Specific washroom **hot-spots** can attract bacteria which multiplies rapidly.
- **Germs and infections** will continue to circulate in the washroom throughout the day and night.
- **Traditional cleaning** can not keep up with the rate of bacterial growth.

Harmful airborne bacteria deposited on surfaces of washrooms

(Demonstrated in percentage)



Source: Air Hygiene in Washrooms study, University of Singapore



THE PROBLEM SOLVED

The introduction of BioZone's Aircare system drastically reduces the amount of germs and bacteria found in the washroom, as seen in the above diagram.



The BioZone Aircare solution has many benefits

- Creates a fresh-smelling washroom that is pleasant to use by removing odour-causing airborne and surface bacteria.
- Protects washroom users by promoting a hygienic environment that is free of viruses, mould and fungi.
- Environmentally friendly - reduces the need for chemical solutions to control bad odours e.g. urinal blocks, harsh chemical cleaners.
- Equivalent to a 16-watt low-energy light bulb, reduces energy cost.
- Enhanced user experience - increases overall customer and employee satisfaction.

The end result is a *bacteria-controlled* washroom that is *odour-free!*

AirCare kills viruses!

BioZone technology deactivates viral DNA and RNA, effectively killing highly pathogenic viruses.

Lab test conducted by:



a World Health Organization (WHO) collaborative center

Avian Influenza Virus (H5N2)

99.9998% of the virus was destroyed in less than 0.44 seconds

Human Parainfluenza Virus (hPIV-3)

99.9999% of the virus was destroyed in less than 0.44 seconds

AirCare kills bacteria!

BioZone technology has the capability to reduce the microbial burden of the air in a room.

Real environment test conducted by:



University College Dublin

70% reduction of micro-organisms in air samples taken from a seminar room after a lecture had been held there. The reduction was maintained during long-continued use of the device in that room.

BioZone methods act against an increase of microbial contamination, even with the introduction of polluted outside air and movement of personnel around the room, by sterilizing the air it treats.

AirCare kills odours!

BioZone technology is effective in air quality improvement by eliminating airborne microbes, particles and odours.

CASE STUDY: Air quality testing was conducted by a third-party research agency (SARL AFR) for a private hospital and a residential care home in France. Samples were analysed by an independent laboratory (Clean Concepts Measurements).

AREAS TESTED:

Private Hospital

- Endoscopy ward
- Reception hall toilet
- Small surgery ward
- Intensive care unit

Residential care home

- First floor corridor
- Patient's room

During only the second week of testing:

- Greater than 70% reduction of airborne bacteria
- 68% reduction of yeast and mould
- 100% improvement of air quality
- 100% improvement of odour
- Greater than 79% feeling of purity

Customer testimonial - Heathrow airport

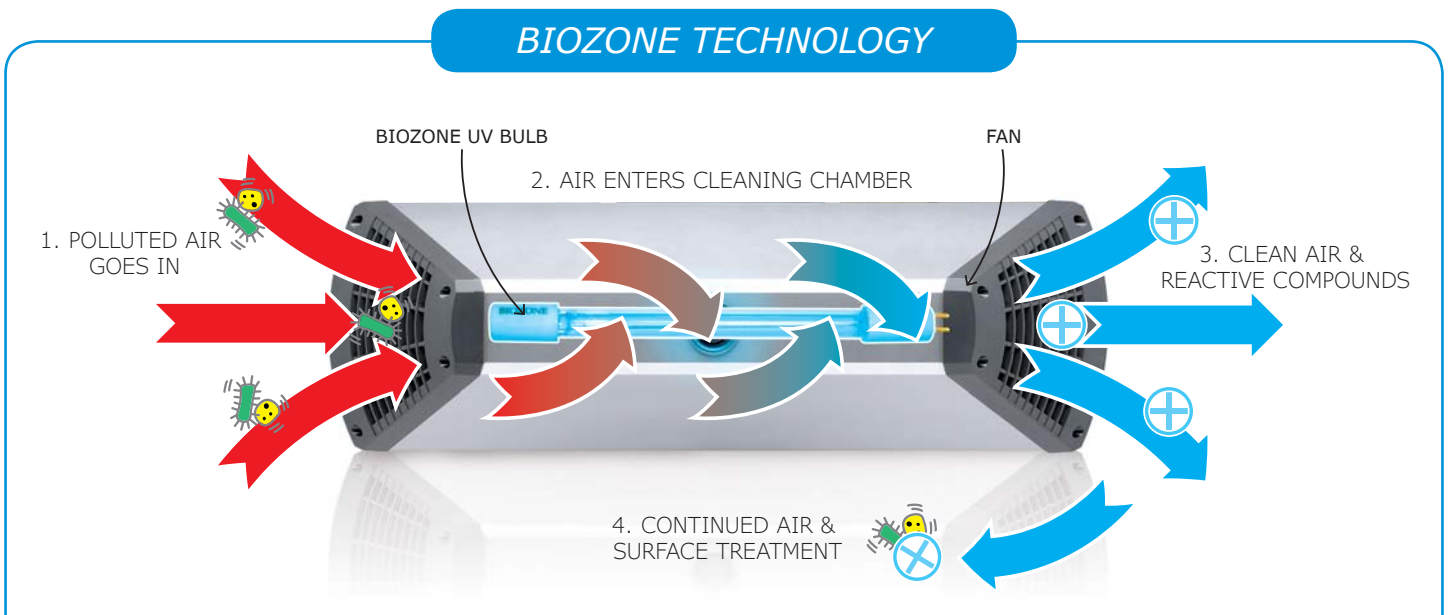
- 50,000 travellers per day using washrooms.
- Traditional cleaning methods had failed to tackle odours.
- BioZone Aircare installed has dramatically reduced odours.

I'm convinced these units provide a healthier environment for our cleaners and the public.

Operation Support Manager, FM Company

HOW IT WORKS

Using BioZone patented technology to target and kill odour-causing bacteria, BioZone's Aircare operates continuously to combat and eliminate the numerous germs and viruses that are present in all washrooms.



What happens in the cleaning chamber?

UV light in the cleaning chamber uses water and oxygen from the air to create highly reactive compounds*. These compounds remove odours, bacteria, viruses, mould, mildew and unwanted chemical compounds from the air and surfaces in the washroom. The reactive compounds destroy membranes, DNA (in organic pollutants/microorganisms) and chemical bonds (in chemical pollutants). When air leaves the BioZone unit it is still charged with reactive compounds, which continue to sanitize the air and surfaces of the entire washroom.

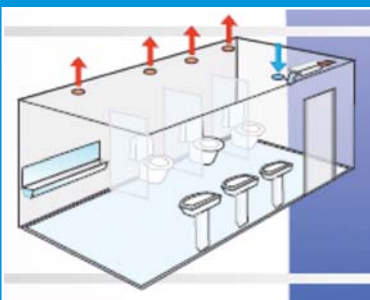
*Reactive Compounds: Photo plasma, Positive & Negative Ions, Hydroxyl Radicals, Singlet Oxygen (O) & Minimal Ozone

BioZone Aircare certified technology

Ensuring the safety of the product, BioZone Scientific has certified the Aircare products with SGS, which is one of the leading certification institutes in the world. SGS has acknowledged GS, SGS FI certifications for the BioZone Aircare product. This certification demonstrates that the Aircare product fulfils the requirements for harmonized EN and IEC standards.



BioZone model



The BioZone Aircare product is to be installed on the ceiling or wall near the incoming air vent.

AC10 covers an area of 10 m²
AC20 covers an area of 20 m²
AC30 covers an area of 30 m²



THE DIFFERENCE IS BIOZONE

BioZone Aircare is the only truly effective way to eradicate bacteria and eliminate bad odours in washroom facilities.

BioZone Aircare is more effective than alternate solutions

ODOURS

- Creates fresh-smelling washrooms completely eliminating unpleasant odours.
- Kills odour-causing microbes at the source, thus eliminating the primary reason for odour.
- Enhances and protects your reputation and company image

BACTERIA AND VIRUSES

- Kills bacteria and viruses in the air and on the exposed surfaces, eliminating the risk of cross contamination.
- Provides 70% bacteria reduction in the air.
**Dublin study*
- Kills 99.9998% of viruses in the air you breathe.
**CNRS virus tests*

CHEMICAL AND BATTERY FREE

- No replacement cartridges or filters.
- Always working: 24 hours a day, 7 days a week.
- Low energy consumption and maintenance (12 month service intervals).

With heightened hygiene standards, you can strengthen your competitive position today

BIOZONE WILL HELP YOU TO

- Achieve the highest customer satisfaction rating.
- Secure your future business by offering cutting-edge technology.
- Offer a competitive advantage.
- Increase your profitability.





BioZone Scientific International (BSI) researches, develops and manufactures technology-based solutions for microbial contaminant and VOC-originated hygiene and odour problems in human environments. Our solutions are designed and proven to solve such contamination problems in specific applications and uses, such as hygiene facilities, ventilation systems, and ice machines.

The BioZone promise

We are committed to providing enhanced user experience in public washrooms and changing rooms by creating a fresh-smelling environment. We also take pride in protecting washroom users by promoting an hygienic environment that's free of odour-causing bacteria, viruses, mould and fungi, thereby enhancing and protecting your reputation and company image.

Why choose BioZone Aircare:

We offer the ultimate air care solution by creating a fresh-smelling and bacteria-controlled washroom – all day long. BioZone Aircare enables you to:

- Protect your staff, visitors and other users.
- Clean embarrassing odours.
- Eliminate bacteria and viruses in the air and on surfaces.
- Cut chemical usage.
- Reduce the need for deodorants and perfumes.
- Improve the image of your organisation.

The total BioZone Scientific product Family

- Aircare offers fresh-smelling and bacteria-controlled washrooms and changing rooms.
- Aircare S, Water and particle resistant (IP45 compliant).
- IceZone eliminates mould, slime and bacteria problems inside ice machines, offering clean and pure ice and offers ROI during the first year.
- Water purification systems for commercial use.