Medi-Shower™

Medi-Shower™ is a patented new anti-microbial and water-saving shower head and hose from multi-award-winning manufacturer Multishower GB Ltd. Easy to maintain, hygienic and efficient, the **Medi-Shower™** is ideally suited to the demands of the healthcare sector where containing the spread of infection and meeting budgetary requirements are key priorities.

Most healthcare facilities in the UK currently use domestic showerheads that rely upon traditional spray plate technology. However, these components create the conditions for problematic limescale deposits and bacterial growth.

Medi-Shower™ overcomes these problems by:

1. Removing the spray plate to dramatically reduce the surface contact area.*
2. Providing a new and patented delivery system Medi-Flush - a small, replaceable insert that prevents the build-up of limescale and limits the spread of harmful bacteria.

Medi-Shower™ components contain Biomaster™, a silver ion additive with proven anti-bacterial properties.

Medi-Shower™ is100% designed and manufactured in the UK. The Medi-Flush system is engineered to prevent bio-film build-up. As a result bio-film simply passes through the shower head as part of a regular flushing regime.

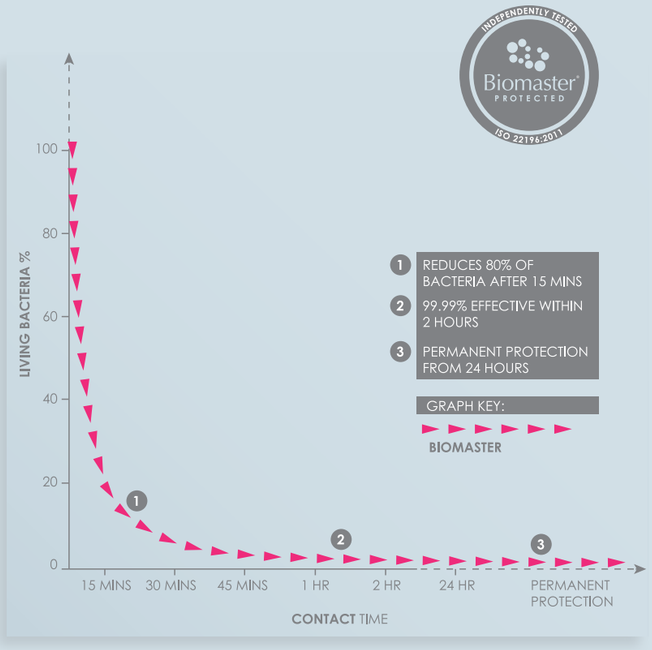
Medi-Shower™ Benefits:

- **Anti-bacterial**
- **Medi-Flush replaceable insert**
- **Low maintenance costs**
- **Reduced risk of infection**
- **Saves water and energy**
- **Easy to clean/retrofit**
- **Medi-Shower has up to a five year warrranty and a 5 year guarantee against limescale clogging when inserts are replaced on a quarterly basis.**

* Independent testing at the Questor Research Centre, Queen's University Belfast, found that traditional showerheads contained up to 160% more internal surface area than Multishower technology (Multishower GB Ltd).

Medi-Shower™ – Using Biomaster Technology. Silver has been used in its pure form for many centuries to prevent growth of bacteria. Incredibly durable, long lasting and highly active, when Biomaster is added into a product it is dispersed throughout the item, will not wash off and will last its entire active lifetime.

GRAPH ILLUSTRATING EFFECTIVENESS OF BIOMASTER



Biomaster is inorganic and non-leaching, which means unlike organic antimicrobrial technologies it stays within the item to which it is added.

Tested on over 50 different bacterial species in over 2,000 applications, Biomaster has been proven to reduce harmful species such as Pseudomonas, Legionella, MRSA, E.Coli, Listeria, Salmonella and Campylobacter by up to 99.99%. Biomaster has also been proven to remove over 80% of these bacteria in as little as 15 minutes and will last for decades in even the thinnest of coatings.

The Questor Centre at Queen's University, Belfast, tested the Multishower GB Ltd shower head for limescale and bacteria.

Queen's University Belfast

QUESTOR CENTRE

The QUESTOR Centre carried out work on behalf of Multishower GB Ltd comparing their product to shower heads that delivered the water jet through small holes. These shower heads are referred to in this summary as Shower Head B.

Prior to delivery to the QUESTOR Centre, 2 of each of the shower heads had been trialled over an eight-week period in homes in a hard water area in County Laois in which at least two adults reside. Following the trial, one of each of the shower heads was analysed for build-up of limescale, while samples of the other were obtained and examined using a Scanning Electron Microscope (SEM). These samples were compared with the clean shower head samples.

Limescale

Limescale analysis was carried out by ICP analysis of a known volume of extract water which was passed through each of the shower heads. This analysis determined the calcium concentrations of the extract water (a key indicator of limescale build-up).

The extracts from the Multishower GB Ltd head showed a small increase in Calcium content to 0.6 milligrams/kg.

Shower Head B showed a large increase in Calcium content to a figure of 143 milligrams/kg. The increase in concentration with Shower Head B was approximately 238 times higher than observed with the Multishower GB Ltd head.

Bacteria

SEM microscopy gave an indication of the degree to which the shower heads became colonised by micro-organisms. At a magnification of 10000x, 2 bacterial cells were observed with the sample taken from a Multishower GB Ltd head and 27 cells were observed in the sample taken from the Shower Head B, i.e. there were 13.5 times more bacteria in Shower Head B than the Multishower GB Ltd head. The result implies that bacteria are significantly less likely to colonise a Multishower head than their competitors.

Dr Julie-Anne Hanna
QUESTOR CENTRE Applied Technology Unit

Pharmaceutical packaging company Qualiti Burnley reports a significant reduction of micro-organisms following the installation of **Medi-Shower™** systems.

QUALITI
CONTRACT PHARMACEUTICAL PACKERS

As a pharmaceutical packaging company we are required to follow strict controls and guidelines in all our packaging operations in order to comply with licences granted and controlled by the Medicines and Healthcare Products Regulatory Agency.

A significant part of our obligations include an effective cleaning program to ensure all traces of previously packed product are removed from contact parts. All washing of the contact parts is performed in house under clean-room conditions and the final stage of a contact part wash is a triple rinse in purified water. The purified water used is produced on site using a water de-ionising plant. This in itself can present problems in that the water has to be monitored for micro organism growth.

Through work with **Medi-Shower™**, we have been able to significantly control the levels of micro organisms present in our water. We identified the point of dispense as being a vulnerable area for microbial growth that had to be addresses. Following a full clean of the system, a **Medi-Shower™** head was fitted and put into service. Four weeks after installation a sample was sent for analysis at an independent testing facility and was found to fall within European Pharmacopoeia limits. Subsequent tests on following months samples have shown the levels found falling to a manageable level.

Medi-Shower™ have identified that the shower head is a high risk area for microbial growth and through the use of their equipment a benefit in reduction of growth can be found.

Chris Bracken
QA Technical Manager

Medi-Shower™ Control Kits

Each **Medi-Shower™** Control Kit contains a colour-coded system for the Medi-Flush inserts, where 4 colours represent the calendar quarters.

Inserts should be replaced at the beginning of each new quarter as part of the standard cleaning regime. This corresponds with a simple colour-coded chart which should be placed in close proximity to the shower unit. The healthcare facility can use this to easily identify and monitor the system. The used inserts are then returned to **Medi-Shower™** by freepost on a quarterly basis for recycling.

Medi-Shower™ Packages

A **Package A**
- **Medi-Shower™** shower head and hose

B **Package B**
- **Medi-Shower™** 1 year Control Kit
- Shower head and hose
- 4 inserts
- Colour-coded chart

C **Package C**
- **Medi-Shower™** 5 year Control Kit
- Shower head and hose
- 20 inserts
- Colour-coded chart

Medi-Shower™ Distributors

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Multishower GB Ltd, **Medi-Shower™**