

What is a medical grade PC keyboard?

Direct comparisons between PC keyboard types

Not all medical grade keyboards meet infection control guidelines and can be dangerous bacteria breeding grounds.

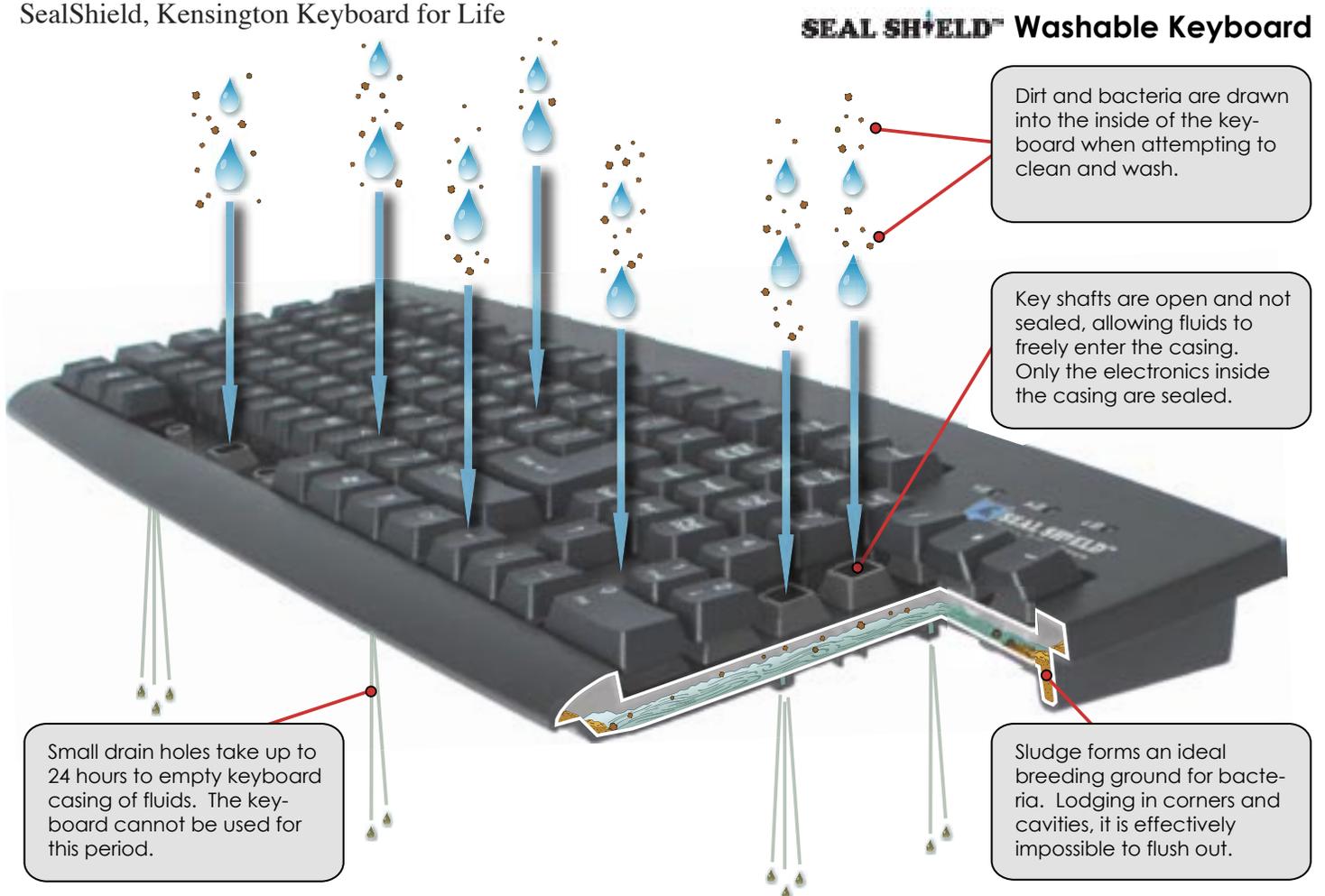
Keyboards suitable for healthcare environments can be put in to two categories:

- Washable non-medical grade keyboards
- Washable medical grade keyboards

Washable, non-medical grade keyboards

Though fully washable, these keyboards allow solid and liquid particles to enter and lodge in the internal cavities of the keyboard. Because only the electronics inside these keyboards are waterproof and washable, effective internal cleaning of these keyboards cannot be ensured as it is impossible to directly clean, drain or dry the fouled internal areas. The design of these keyboards allows debris to become lodged and trapped in the internal cavity, both impacting keyboard functionality and more dangerously, harbouring contaminants which can contribute to the spread of bacteria and infections.

Washable non-medical grade keyboard examples:
SealShield, Kensington Keyboard for Life



These keyboards DO NOT meet infection control guidelines.

Kensington® Spill Resistant Keyboard



The electronics are sealed inside the **Kensington®** keyboard using the same simple principle as the **SEAL SHIELD™** keyboard where the sealed electronics are water or dishwasher proof but the casing fills with fouled liquid as shown in the illustration printed on the **Kensington®** keyboard box.



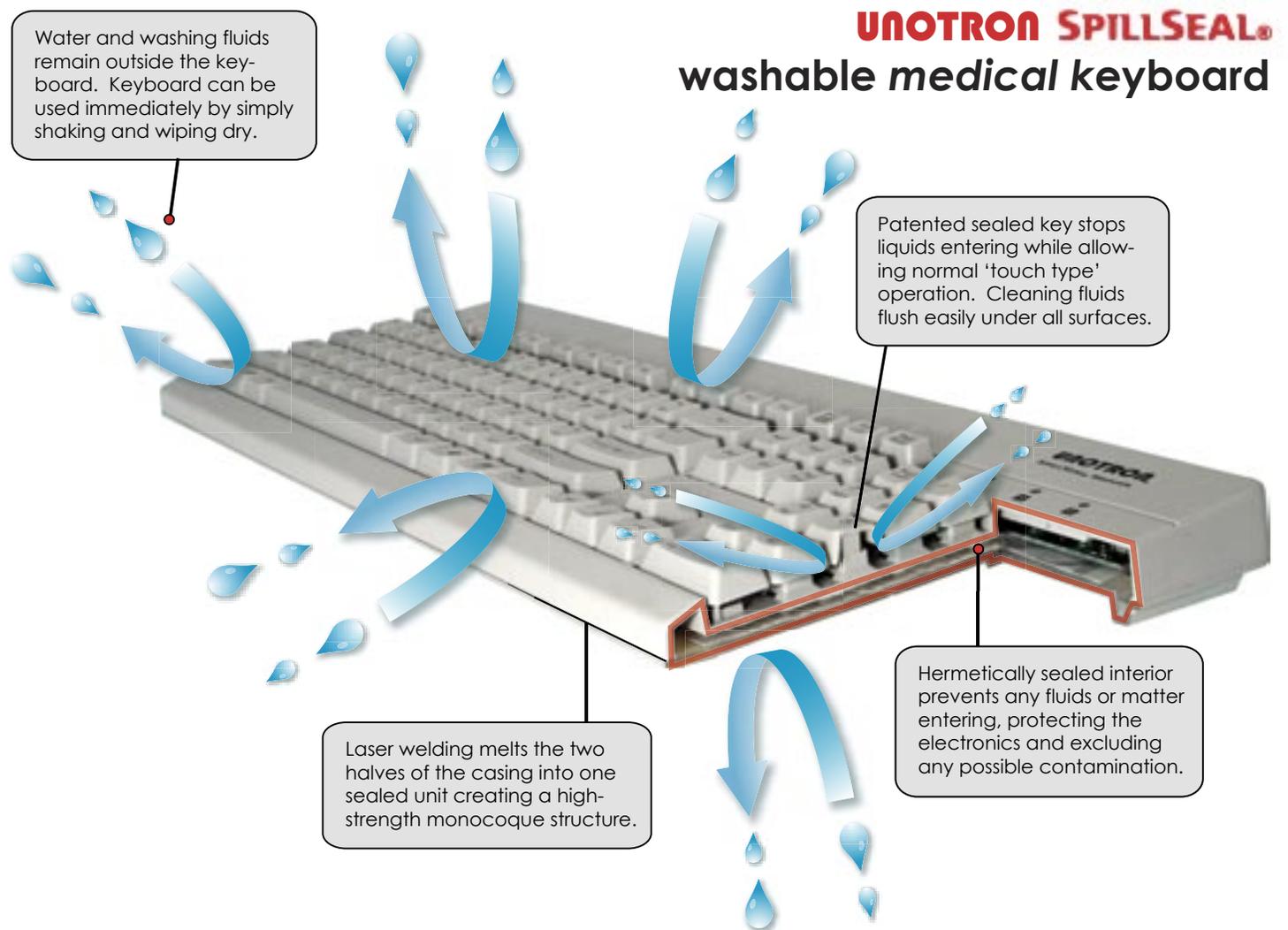
Similar to washable non-medical grade keyboards are spill resistant keyboards which are even less effective, featuring smaller drain holes. Spill resistant keyboards, due to their design, cannot be washed and disinfected as the electronic components of the keyboard are not fully protected from running water.

Washable medical grade keyboards

These are the only type of keyboards featuring a fully sealed design that allows for complete washing and disinfecting, providing an easy solution to the problem of bacterial infection. True medical grade keyboards can be immersed in commercial grade detergents or antibacterial solutions, without damaging the product or impacting functionality. Solid matter and fluids remain on the outside of the keyboard and are unable to enter the cavities where they cannot be flushed out and sterilized.

Medical grade keyboard examples:

PC Type - Unotron SpillSeal **Solid Rubber** - M & M ReallyCool, IKey



These keyboards DO meet infection control guidelines.

Finally, there is a difference between these *medical grade keyboards*, and it is a matter of typing preference as to which is chosen. Unotron's SpillSeal has a long stroke touch type key exactly the same as a "normal" PC keyboard, while the other suitable keyboards mentioned are made from solid silicon rubber, which is harder to type on, but extremely rugged when impacted.

Conclusion

While all the keyboards described here are washable in some way, only one type, the *washable medical grade*, features this fully sealed structure that allows for effective washing and disinfecting to infection control standards. The fully sealed structure keeps solid matter and fluids on the outside of the keyboard, ensuring that the keyboard is fully sanitized and no particles become stuck inside the keyboard structure.

It is the non invasive casing internal design of the keyboard which ensures effective disinfecting to infection control standards. The claims made for spill-resistant, washable non-medical grade keyboards for use in a medical environment are deceptive and dangerous to the patient and amount to bad infection control practice by the hospital.

Extreme caution is called for as there are instances of gross misrepresentation in the sales claims of certain importers of cheap Asian keyboards. These keyboards when used in the healthcare environment are potentially dangerous.

About the author

P. N. Freeman B-Eng (Hons.) has over 18 years experience in the field of Research & Development. Former Director of The National Center for Product Design and Development Research (PDR/DERC) in the UK. He is now based in China where he is engaged primarily in a project to bring low cost magnet powered and Hall effect input devices to the industrial and defense markets. He has worked in the fields of the Manufacture of Human Implant Prosthesis, Manufacture of 3D Human Surgical models for Reconstructive Surgery, as well as various applications in the Aerospace, Military, Automotive and FMCG sectors.

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The Manufacturing Engineer*

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