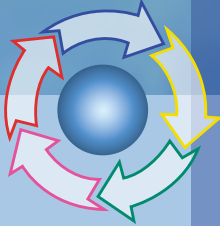


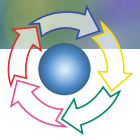


Sterile E Online NetworkTutorials



**Steam sterilizers Sterilization Sizes and
Process Types according to norms**





Background

In daily practice we encounter many sizes of steam sterilizers. In the norms 2 sizes are defined: Small steam Sterilizers and Big Steam Sterilizers (EN 13060, ISO 17665). The processes programmed in the steam are split up in 3 types: B, N and S are defined.

Key Learnings

- Differences between small and big steam sterilizers
- Differences between the Type B, S, and N processes

Steam sterilizers defined:

A Small Steam Sterilizer is a steam sterilizer which is unable to accommodate a sterilization module and has a chamber volume not exceeding 60 litres (EN 13060, clause 3.34).

The volume of 60 litres is based on a standard sterilization module: rectangular parallelepiped (square bar) of dimensions 300 mm (height) × 600 mm (length) x 300 mm (width) (EN285, clause 3.33). If the volume of a standard module is calculated it is 54 litres. Of course, a package positioned in a steam sterilizer has to have space in the sterilizer. This is the reason why 6 litres are added to the volume of a small sterilizer and became 60 litres.

A big steam sterilizer is a sterilizer with a loadable space bigger as defined for a small steam sterilizer.

Steam Sterilization Process types

In the norms define and classify 3 different process types, regardless the size of the steam Sterilizer. The types are type B, type S, and Type N (EN 13060).

Type B process: The sterilization of all wrapped or non-wrapped, solid, hollow load products type and porous products as represented by the test loads in the EN 13060 is possible.

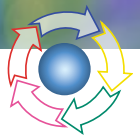
Type S process: The sterilization of products as specified by the manufacturer of the sterilizer including non wrapped solid products and at least one of the following: porous products, small porous items, hollow load products type A, hollow load products B, single wrapped products, multiple-layer wrapped products, is possible.

Type N process: The sterilization of non wrapped solid products is possible.

Add B: The letter 'B' stands for 'Big' from 'Big' sterilizers. In the process of writing the EN 13060 it was assumed that in Big Sterilizers all medical devices, e.g. wrapped, none wrapped, hollow, non hollow, porous and none porous, can be sterilized in a big sterilizer. Of course, one has to realize that the load that to be sterilized is determining the minimum requirements for the process to be used. In Big sterilizer, it is possible to have type S or type N processes, e.g. for water like medicines in closed containers it is necessary to have special (type S) process.

Add S: The letter 'S' stands for Special, form 'Special' or 'Specified' products. In these sterilizers the manufacturer of the sterilizer has to specify what can and cannot be sterilized in this type S process.

Add N: The letter 'N' stands for 'None', from none wrapped and none hollow. These sterilizers or sterilizers that cannot sterilize wrapped product. Consequently, the products sterilized have to be used immediately, or NOT regarded as sterilized but as disinfected.



Summary

Depending on the sort load to be sterilized a process can be chosen. Depending on the load and the amount items to be sterilized a size of the steam sterilizer can be chosen. It is of importance that the sterilizer, its process, the load, the loading pattern and its wrapping is aligned with each other.

For more information on Steam Sterilizers

- EN 285
- EN 13060
- ISO 17665
- Sterilization of dental instruments, J.P.C.M. van Doornmalen, M. Verschueren, J. Dankert, A.G.M. Rietmeijer, NTVT July 2001; 108: 269-272



**3M Sterilization Assurance
Products Europe**

c/o 3M Deutschland GmbH
Hammfelddamm 11
41453 Neuss, Germany
Phone: +49 (0)21 31/14-3000
Fax: +49 (0)21 31/14-4443
www.3m.com

3M is a trademark of the
3M Company
© 3M 2009. All rights reserved.
1423-101-EU 07/09