

FLAMELESS STERILIZER

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The Flameless Sterilizer** is an electrical device designed for heat sterilization of tissue culture (TC) glass containers (for mouth-rim region) and surgical apparatus. It is a replacement for the flaming process that is commonly conducted using a Bunsen burner or alcohol lamp. The sterilizer has a circular heating coil in the centre where the TC vessels can be inserted from below, in an upright position, for heating the vessel mouthparts. An adjustable platform is created to cater for various vessel types of different heights such as flasks, jars or test tubes. In addition, the top part of the device has a chamber that holds glass beads for sterilization of surgical apparatus (such as forceps and scalpels). The hot coil is made to dissipate heat of as high as 300°C. This single heating coil is designed to sterilize both vessel mouthparts below it and surgical apparatus above it, hence maximizing use of the heat generated.

FEATURES

- No flame – avoid fire mishap;
- No emission of fumes/gaseous chemicals/smokes;
- No hand holding of vessels during heating;

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**application for Utility Innovation pending (Malaysia).

- Dual purpose device - able to sterilize vessel mouthparts and surgical apparatus simultaneously;
- Adjustable platform to accommodate different heights of most common TC vessels such as flasks, jars and test tubes (customizable for other sizes);
- Available with a double test tube holder;
- Adjustable temperature setting;
- Stainless steel construction;
- Movable/collapsible windshield; and
- Incorporating a hook – transient device for placing vessel closure such as cotton bung, cap or lid.



Figure 1. Simultaneous sterilizing of flask mouthparts and surgical apparatus.



SPECIFICATIONS

- Temperature range setting: 50°C – 300°C accuracy $\pm 10^\circ\text{C}$ (with analog thermostatic control).
- Panel: fitted with power-on and heating indicator light.
- Heating element: dry type approximately 800 Watt capacity.
- Dimension (l x w x h): 140 mm x 190 mm x 340 mm
- Power supply: 220-230 volt
- Weight: 4.0 kg
- Power consumption: 0.3 kW hr⁻¹
(8 hr = 2.4 kW)
- Power cost day⁻¹: 2.4 kW x RM 0.288
kW⁻¹ = RM 0.69

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