

Description Of The Eniware™ Portable Sterilizer (EPS™) For The Developing World

General Description

The Eniware® Portable Sterilizer (EPS™) for the Developing World is intended to address the need for power-independent, low-cost sterilization for use in remote areas and low-resource environments.

Overview of the EPS™ System

The EPS™ System as depicted in Figure 1 consists of the following:

1. A portable, rugged enclosure with a basic valve and timer function.
2. Trays for the placement of the medical instruments to be sterilized that can then be placed in the case.
3. Gas cartridges or ampoules for the transport and introduction of the sterilizing agent NO₂ into the enclosure.
4. Scrubbers for the consumption of NO₂ gas residue at the end of the exposure cycle.
5. A chemical indicator to confirm exposure to NO₂ and effective sterilization.

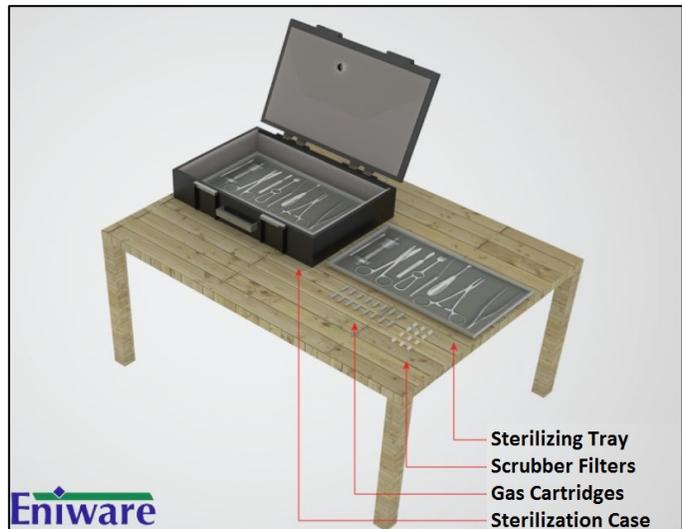


Figure 1. The Eniware™ Portable Sterilizer and its accessories.

Safety Mechanisms

The EPS™ will employ a safety locking mechanism designed to prevent the exposure of personnel to nitrogen dioxide by:

1. Inhibiting the start of the sterilization cycle until the enclosure is closed.
2. Inhibiting the opening of the case until the sterilization process has completed and the scrubber has absorbed the nitrogen dioxide such that the levels are below the Occupational Health and Safety Administration (OSHA) permissible exposure limits (PEL).

Product Specifications

1. Enclosure size: 10 – 25 L to be optimized for specific applications
2. Enclosure ingress protection: IP67
3. Weight: not to exceed 5 Kg to allow for portability
4. Operating Temperature: Ambient temperatures 10 - 40°C
5. Storage Temperature: -20 - 85°C
6. Power requirements: none – self-contained design
7. Atmospheric pressure: 0.9 – 1.05 bar
8. Humidity: 30-95% RH non-condensing
9. Timer: mechanical or battery powered to indicate process progress and completion

Target Wholesale Price

1. Sterilizing Case: \$500
2. Consumables for sterilizing cycle (cartridge/ampoule, scrubber, chemical indicator): \$5

The Sterilization Process

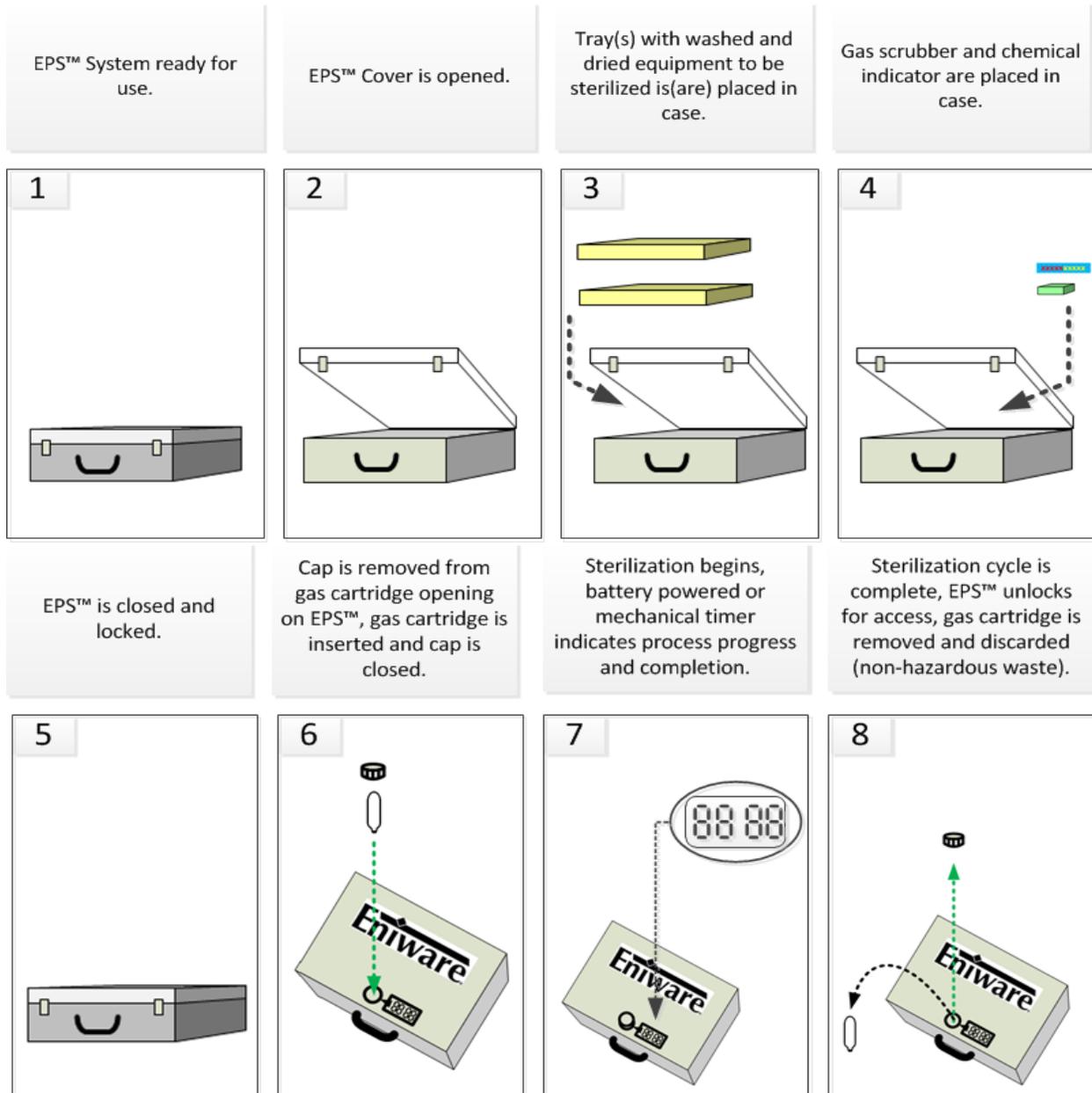


Figure 2. Visual description of intended sterilization process with the Eniware™ Portable Sterilizer

Eniware™

PRODUCT CONCEPT

EPS™ case is opened, chemical indicator is checked for success.

Gas scrubber is removed and discarded (non-hazardous waste).

Sterilized equipment is ready for use.

EPS™ System is ready for reuse.

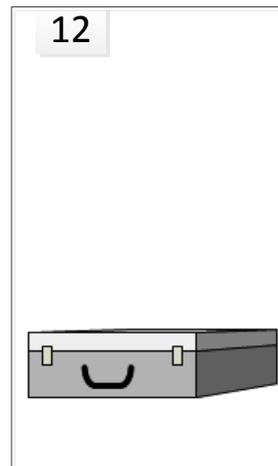
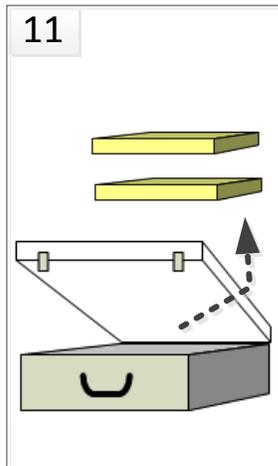
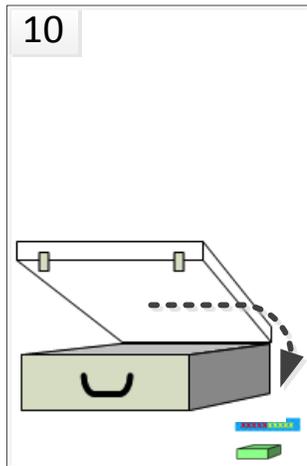
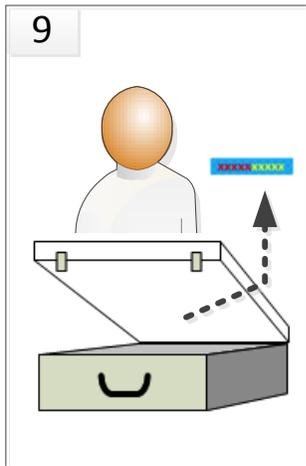


Figure 2 cont. Visual description of intended sterilization process with the Eniware™ Portable Sterilizer