

Non-Electric Pressure Steam Sterilizer 1925X Project #12-008



The All American non-electric pressure steam sterilizer is a pressure steam sterilizer that utilizes an external heat source such as a stove or propane burner instead of electricity. According to the manufacturer, the sterilizer is made of high quality cast aluminum alloy that resists aging and corrosion, ensuring years of trouble-free operation and features an exclusive, precision machined "Metal-to-Metal" sealing system. Positive action clamping locks align the cover to the base forming a steam tight seal. Model 1925X overall height is 16 3/4 inches with a chamber dimension of 11.125" dia X 10.25" deep. It has an inner capacity (inside tray) of 13.7 liters and outer capacity (without tray) 24 liters. Features include a calibrated pressure gauge, pressure control valve, over-pressure safety plug, and cool Bakelite handles and wing nuts. A simple non-electric pressure steam sterilizer, Model 1925X, utilizes an external heat source such as a propane source and burner to control heat levels and is commercially available. The sterilizer has a pressure gauge to measure internal pressure and a pressure safety valve that prevents excess pressure which will vent if pressure builds up more than needed. A perforated inner container rack is placed in the inner container so air can circulate freely around the packs. Items to be sterilized are placed in the inner container on the rack. The lid has an air exhaust tube which must slide into the guide channel attached to the inner wall of the inner container as the lid is being seated to direct trapped air out of the chamber as the sterilizer is heating up. The lid is secured with 6 wing nuts. According to the manufacturer, clean tap water can be used in place of distilled water. Only a small amount of water is needed to create the dry steam. According to the manufacturer, after achieving a minimum temperature of 250°F (121°C), and a pressure of 17psi, the dry steam penetrates the bandages or instruments, making them sterile in 35 minutes and ready for immediate use. The manufacturer states the pressure gauge conforms to the pressure gauge standard ANSI B40-1-1980. The All American non-electric pressure steam sterilizer Model 1925X weighs 24lbs.



Manufacturer:

Alfa Medical

(800) 801-9934

(516) 301-5567

(516) 977-7434 FAX,

[http:// www.all-american-sterilizers.com](http://www.all-american-sterilizers.com)

Suggested Retail Price:

\$388.00 (web price)

Government Price:

5% off the web price (~\$368.00) – must use the discount code "245".

ADVANTAGES:

- + Easy to read pressure gauge
- + Pressure safety valve on lid to prevent excess pressure build-up within the sterilizer
- + Lid secured with 6 wing nuts to prevent lid from popping off during the sterilization cycle
- + No toxic chemicals
- + Can use clean water in chamber if distilled water is not available
- + Does not rely on an electrical power supply
- + Easy to read and understand user manual
- + Minimal maintenance required
- + Easy to set up
- + Offers reliable steam sterilization
- + Easy to load and remove packs
- + Easy to add and drain water
- + Available in different chamber sizes
- + Can monitor cycles with chemical indicators and Biological indicators
- + Relatively inexpensive compared to table top sterilizers

DISADVANTAGES:

- Packs come out wet
- External surface of sterilizer extremely hot during cycle
- Lid sticks and requires a tool such as a flathead screw driver to break the seal and loosen the lid
- Maintaining psi between 17 – 21 during sterilization cycle requires constant supervision
- Requires an external heat source

SUMMARY AND CONCLUSIONS:

According to the manufacturer, the All-American non-electric pressure steam sterilizer is simple to use and operate. The sterilizer was set up and used according to the manufacturer's instructions and recommendations. Items to be sterilized were placed in the inner container on the rack. Without the inner container in the sterilizer, water was placed in the sterilizer bottom to a depth of ¾ inches and then the loaded inner container was placed in the sterilizer. The sterilizer has very few parts and is easy to assemble. The manufacturer's instructions are easy to understand and follow. The sterilizer was easy to operate throughout the test and clean up simply involved wiping down the sterilizer and it's inner components to ensure they were dry, which needs to be done daily. Packs do come out wet, but that can be minimized by placing a clean towel over the top of the packs, according to the manufacturer. The sterilizer has an easy to read pressure gauge but does not have a recording device to document sterilization parameters. The operator would need to continually monitor the sterilization process to ensure time, temperature and pressure parameters are met. Chemical and biological indicators are able to be used with this sterilizer, allowing assurance of chemical and biological monitoring. The sterilizer took 54 minutes to complete a cycle, which is 9 minutes longer than manufacturer claim of 45 minutes, but the manufacturer states hot water can be used instead of cold water which would decrease the time to bring the sterilizer up to operating temperature where steam is produced. The sterilizer passed all biological spore testing and all external sterilization indicator tape and internal Class 5 indicators demonstrated proper color change indicating that the steam reached the instruments inside the packages. The **Non-Electric Pressure Steam Sterilizer Model 1925X** is rated **Outstanding** for use by US Air Force dental facilities.