



Bioscience, Inc.

Environmental Products & Services

ISO 9001:2015 Certified

Ampulmatic®-10 Ampule Sealer Filling and Sealing System Introduction

Heat sealable glass ampules (ampoules or vials) are widely used in the laboratory setting to preserve and store samples, especially sensitive samples for long-term storage. The advantage of ampules is the inert properties of glass. When the ampule is heat sealed, sample isolation and integrity can be insured over long periods of time, especially if inert gas is injected into the ampule prior to sealing.

Hand sealing is a hot, labor-intensive process subject to the skill of the glass worker. It involves heating the neck of the ampule and pulling off or tying off the neck to create a glass seal. This pull seal method can create an inconsistent seal, with a sharp or irregular top.



The Ampulmatic Ampule Sealer is a dramatic step up in ease, speed and consistency of ampule sealing. It automatically spins the ampules while melting the top with an oxygen/propane flame to form a positive hemispherical seal. When combined with the optional Purge Gas Injector and/or the optional Liquid Filler, the Ampulmatic-10 represents a start-to-finish solution,

creating excellent seals faster and more consistent than manual sealing. This speeds up the process and yields a much higher degree of consistency. The Ampulmatic-10 ampule sealing and filling system is made in the USA.

Ampulmatic-10 Ampule Sealer Base Unit

The Ampulmatic-10 base unit features easy setup, fully automatic operation, and proven seal consistency at the bench and pilot scale. With the easily adjustable ampule dwell time, it is capable of sealing approximately 900 ampules per hour with ampule sizes ranging from “onion skin” 1mL to 50mL. Custom carousels can be created for non-standard ampule sizes. For sealing different types of glass, the Ampulmatic-10 can be operated on natural gas, MAPP or propane, with technical grade oxygen at 10 to 20 psi. The Ampulmatic-10 is designed with a universal 100-240v power supply.

The following customizations are available:



- Dual flame for sealing very thick glass ampules or vials.
- Taller torch tip bracket for very tall ampules or vials.
- Customized dwell time ranges for a variety of sealing applications.
- Carousel inserts for sealing chilled ampules that condensate.

Purge Gas Injector Accessory

The Purge Gas Injector accessory automatically purges the headspace of each ampule with an inert gas before and/or after filling to minimize the oxygen concentration in the ampule head space and thus minimize sample deterioration over time and/or reduce flammability of ampule contents. This accessory is also very useful for sealing volatile substances. In lab simulations starting with empty ampules, the residual oxygen concentration after purging can be reduced to as low as 1%.



Liquid Filler Accessory

The Liquid Filler accessory fills each ampule with a precisely measured quantity of liquid ranging from 0.1 mL to 20 mL with a relative standard deviation of 0.5%. The flexible design allows for a wide range of filling and sealing operations.

Safety Accessories:

The Ampulmatic-10 ampule sealing and filling system has been designed with many built-in safety features to ensure ease of operation. Additional safety accessories include:

- Flame Shield to protect the operator's hands from the sealing flame.
- Foot pedal to shut off the system if necessary.
- Safety glasses (Glass Lampworking grade) designed to fit with or without prescription glasses.
- Safety gloves (Kevlar) with a flexibility to allow for easy handling of glass ampules.

About Bioscience, Inc.

Bioscience, Inc., has been a trusted partner in the field of waste and wastewater treatment and monitoring worldwide for 30 years. Founded in 1984, the Pennsylvania firm specializes in the application of custom microbial cultures for the biological processing of waste, as well as the manufacture of specialized instruments and test kits for wastewater analysis. Bioscience, Inc., which holds ISO 9001:2008 certification, provides innovative services and solutions for environmentally sound biotreatment and analysis of waste and wastewater.

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