Special to PHARMACEUTICAL LABORATORY

Improvements Make Ampule Sealer More Versatile

The automatic flame sealer known in the industry as the Ampulmatic (Bioscience, Inc.) was originally developed to seal glass containers holding Chemical Oxygen Demand (COD) samples for analysis in wastewater treatment When most laboratories went to twist-tubes for COD samples, the machine gained a new market in pharmaceutical laboratories for sealing glass ampules holding standards, sera, QA/QC specimens, pilot production batches, exotic chemicals and other materials that must be stored or shipped in small quantities in glass ampules to preserve their quality and character. Hand sealing had been the norm for such samples, but the Bioscience machine speeded up this skilled task and made sealing more consistent. Because of its small footprint and ease of operation, the Ampulmatic fits easily on a lab bench top or inside a hood.

Recognizing its new role, the manufacturer has recently added several features to give the machine a wider range of applications while retaining speed and accuracy of sealing.

Ampule Sealing of Volatile, Oxidative or Reactive Substances

Many substances must be stored in the absence of oxygen, due to their reactive nature, When sealing these substances in ampules, a new attachment injects an inert gas into the ampule before it is sealed, dramatically reducing the oxygen level inside, The new gas-purging accessory uses a timer, solenoid valve and air cylinder and gas injection head to purge the head space of the ampule with inert gas, nitrogen or argon, prior to sealing. Operation of the gas purging accessory is completely automatic and can be modified for most ampule sizes. Purging the ampules with inert gas prior to sealing can reduce the volatility of the ampule contents and increase the stability of the sealed material by reducing oxidation.

Examples of materials which have increased stability when oxygen is excluded are anaerobic microbes, metals standards, unsaturated fats and phenolic compounds.

Custom Packaging and Storage

Some ampules have excessively long necks. In many cases it is desirable to seal them at a variety of heights, but this generated excess glass overmelts. A new attachment allows for sealing ampules at various points on the neck. The new excess glass remover uses a timer, an electronic switch, guide tubes and a spring mechanism to remove excess glass from the neck of an ampule to allow for sealing at shorter heights. The guide tubes hold the neck of the ampule as it is being sealed, and remove the excess glass after the seal is made. The excess glass is transferred away from the sealing area and discharged into a disposal bin. This accessory seals most common sizes, reduces the amount of storage space required for sealing, and provides for seals at custom heights for storage or packaging.

A laboratory storing sera for extended periods is sealing in 1.2 ml ampules. The 1.2 ml ampule has an overall length of 2.25", which when sealed at the top does not conveniently fit into storage trays for placement in freezers. Using the glass removal accessory, the ampule is sealed at a height of 1.75", which allows for easy storage and more available freezer space.

Use Abroad

A new 220-volt model provides for automatic ampule sealing all over the world. UL listed and CE-marked components, rated for 220-volt operation are used in this version.

Sealing a Wide Range of Ampule Sizes

Newly designed carousel racks expand the range of ampule sizes that can be sealed. New 1 ml and 50 ml racks have been added to the previously available 2, 5, 10 and 20 ml sizes.. Custom designed carousels can also be provided. The racks are interchangeable when loaded to seal several different sample sizes without changing machine settings. The racks are constructed of a new material for greater durability and improved sealing performance.

For further information, call Bioscience, Inc. at 484-245-5232, FAX 484-245-5236, or e-mail bioscience@bioscienceinc.com.