Syringe Cleaner

Congratulations! You have purchased the finest quality precision syringe cleaning device available today. We combine top quality materials with skilled workmanship, ensuring the highest possible performance level of every device we manufacture. With proper care and handling, Hamilton's Syringe Cleaner (P/N 76610 and P/N 76615) will provide unsurpassed performance year after year.

Syringes and needles manufactured by Hamilton Company are intended for scientific research and laboratory use only and are not intended for human *in vivo* use.

Specifically designed for rapidly cleaning Hamilton Company's 7000 Series Modified Microliter™ syringes, Hamilton's Syringe Cleaner also effectively cleans Hamilton Microliter™ and Gastight® syringes. A combination of heat (approximately 370 °C) and vacuum vaporizes and extracts contaminants from the needle. Hamilton's Syringe Cleaner is ineffective for septa-plugged needles, seized plungers, and other irreparable needles.

CAUTION: Because the syringe cleaner operates at temperatures greater than 350 °C, its exterior, including the septum cap, will be very hot during operation, causing severe discomfort if touched. Post safe laboratory practices for handling the heated syringe cleaner.

Specifications

Overall Dimensions	6.0 x 1.77 x 2.66 inches (152.4 x 45.0 x 67.6 mm)
Weight	0.63 kg
Supply Voltage	110/120 VAC, 60 Hz, 0.50 A (P/N 76610) 220 VAC, 60 Hz, 0.25 A (P/N 76615)

Syringe Cleaner Environmental Conditions

Operating Temperature	50 to 95 ºF (10 to 35 ºC)
Storage Temperature	-40 to 140 ºF (-40 to 60 ºC)
Relative Humidity	5% to 80% non-condensing
Installation Category	II
Pollution Degree	2
Maximum Altitude	6,562 feet (2,000 meters)

Operating the Syringe Cleaner

Numbers in parentheses refer to parts in Figure 1.

The 120 VAC syringe cleaner (P/N 76610) is operational when shipped. Hamilton's 220 VAC syringe cleaner (P/N 76615) is shipped with a cord, but without a plug. A qualified electrician can supply and install the appropriate plug for 220 VAC operation.

1. To use the syringe cleaner, plug the power cable (1) into a grounded power receptacle. The grounded receptacle should be in close proximity to the designated syringe cleaning area.

2. Allow the syringe cleaner approximately 30 minutes to reach its operational temperature.

Cleaning 7000 Series Modified Microliter Syringes

The 7000 Series Modified Microliter syringes contain the entire capacity of the syringe within the needle and are termed zero dead volume syringes. Follow these steps to clean 7000 Series Modified Microliter syringes:

1. When the syringe cleaner reaches its full operational temperature (approximately 370 °C), insert the syringe needle into the hole of the septum cap (4), through the septum, and into the heated chamber.

2. With the needle in the heated chamber, rapidly pump the syringe plunger several times. This process takes approximately 30 seconds.

3. Remove the syringe. Repeat the above procedure as necessary.

Cleaning Microliter or Gastight Syringes

Generally, Microliter or Gastight syringes require a lower cleaning temperature than do the Modified Microliter syringes.

Note: Do not heat the syringes with cemented needles above 50 °C. Thermal expansion of the needle will fracture the glass. Do not allow the glass barrel to come into contact with the hot septum cap.

1. Lower the temperature to about 80 °C using a voltage rheostat (not supplied) at approximately 1/3 of full setting.

2. Connect the vacuum source (not supplied) to the barbed fitting (3) at the rear of the syringe cleaner.

3. Ensure that a continuous flow of solvent (alcohol, xylene, methyl ethyl ketone, acetonitrile, or distilled water) passes through the syringe glass barrel and needle while the needle is in the heated chamber. To maintain a continuous solvent flow, use a rubber bulb-type aspirator filled with solvent and flush it through the syringe barrel while the needle is in the heated chamber. Two options are suggested:

    a. Fill the syringe with a suitable solvent, and insert the syringe needle into the heated chamber.

    b. Fill the syringe; dispense the contents; immediately remove the plunger; and flush the syringe barrel with solvent from a pre-loaded rubber bulb aspirator.

4. Remove the syringe and repeat the procedure(s) as necessary.

Replacement Parts

The syringe cleaner has no user serviceable internal parts.

Fuses are the slo-blo glass body type available through any electronics supply house. Suggested manufacturers are listed in the table below.

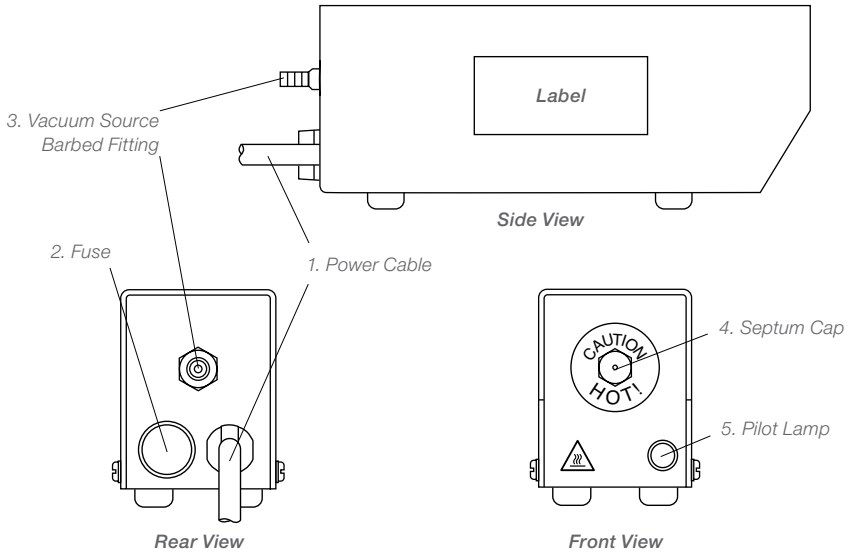
Replacement Part Information

Manufacturer	Part Number	Application
Littelfuse	313.250	220 VAC Syringe Cleaner
Bussmann	#MDL-1/4	220 VAC Syringe Cleaner
Littelfuse	313.500	120 VAC Syringe Cleaner
Bussmann	#MDL-1/2	120 VAC Syringe Cleaner

Purchase replacement 5 mm septa directly from Hamilton Company (P/N 76022).

If the pilot lamp on the front panel of the syringe cleaner does not illuminate after providing AC power, remove the plug from the receptacle and check the fuse on the rear panel and the wall receptacle. If both the fuse and wall receptacle are functioning, contact Hamilton Company.

Figure 1: Diagram of Syringe Cleaner Parts



WARRANTY STATEMENT

Hamilton Company unconditionally guarantees its products to be free of defects in materials and workmanship. Any product which fails due to such a defect will be repaired or replaced at our discretion without cost, provided the device is returned on a Return Materials Authorization (RMA). It is the responsibility of the purchaser to determine the suitability of application and material compatibility of the products based on the published specifications of the products.

RETURN OF GOODS

Hamilton Company's return and repair policy is written to protect its employees from potentially hazardous materials (e.g. serum, radioactive materials, carcinogenic chemicals, etc.) or any substance that may cause them partial or permanent disability during the inspection or repair process. In returning a product, the customer acknowledges that the product is free from any hazardous materials. Furthermore, the customer assumes responsibility should the returned product be determined to be hazardous.

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