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## **INSTRUCTIONS: CLEAN LENS ADAPTOR - LFD2**

### **Introduction**

The BGI Clean Lens Adaptor (Patent No. 7,256,882 B2) is designed to prevent the deposition of aerosols on the lens surfaces of Photometers. This function is achieved by structuring a Laminar flow which will jump the air gap at the light beam without the loss of particles.

This effect is achieved at any flow rate from 0.5 to 16 lpm, *provided that the flow is smooth and non-pulsating*. Part Number **LFD2**, was specifically developed for the Casella Microdust Pro. It is also usable on the previous AMS 950 (However, BGI can not guarantee the uniformity of the tube diameter of earlier units. If difficulty is encountered contact BGI).

### **Assembly**

**Note:** *The adaptor is shipped completely assembled as shown in Figure 1.*

### **Attaching the Unit to the Microdust Pro Probe.**

- 1) Remove the Inlet and outlet fittings from the adaptor block:
  - a) Unscrew the inlet fitting (this is the smaller of the two fittings).
  - b) The outlet fitting is attached to both the adapter block and 37mm filter cassette housing. It should be removed in the same fashion as the inlet. Note: *the outlet nozzle is larger than the inlet nozzle.*
- 2) With the inlet and outlet removed, the round opening of the adaptor block should be slid over the probe of the Microdust. If it does not readily slide along the length of the probe apply light lubricant to the internal o-rings.
- 3) The inlet and outlet hole must align visually with the corresponding hole on the probe.
- 4) Re-screw the inlet and outlet fittings into their respective openings. Never use more than hand tight force.

### **Application**

The inlet side of the adaptor (straight tube) may be used for ambient sampling or connected to other aerosol apparatus. The outlet is designed to accept 37 mm filter cassettes of the disposable type. If a reloadable metal cassette is required the BGI Slayton cassette may be utilized (S1)

<http://www.bgiusa.com/ih/slaton.htm>

Although a filter may be left out of the cassette there will be the risk of aerosol damage to the pump. In order to preserve laminar flow within the system it is only necessary for the user to provide a pump which falls within the flow rate range of the adaptor, 0.5 to 16 lpm, and has sufficient static pressure capability to overcome the resistance of your chosen filter. For laboratory applications, particularly with no filter a water aspirator may prove useful.

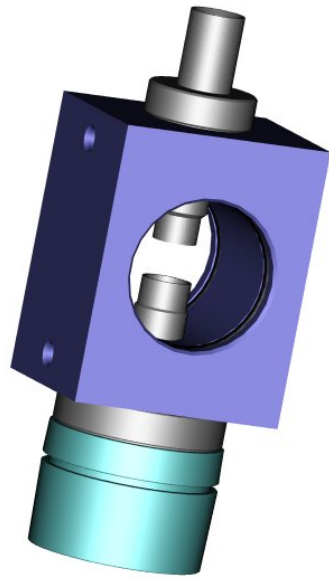


Figure 1: Assembled Adapter



Figure 2: Exploded Adapter

### Cleaning

**Note:** *It is up to the user to determine how often cleaning will be required as this is dependent upon*

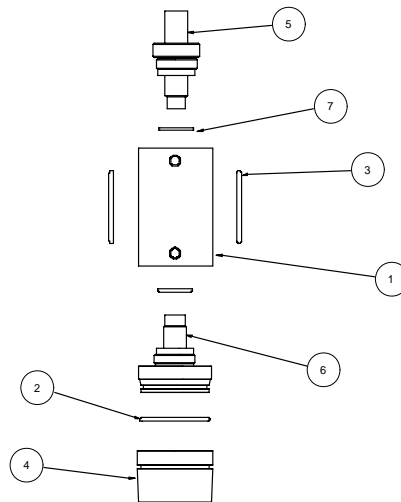
*aerosol concentration and frequency of use.*

- 1) Disassemble and remove the adaptor from the probe.
- 2) Wipe excess soil as warranted. If an ultrasonic cleaner is available, clean using a water-soluble cleaner. If unavailable clean with hot soapy water and rinse thoroughly with clear or distilled water. At all times observe good Occupational Health and Safety practice.

### Specifications

Inlet outside diameter:	0.5 inch (1.27 cm)
Inlet inside diameter:	0.375 inch (0.953 cm)
Inlet length:	0.688 inch (1.75 cm)
Outlet:	Standard or Slayton 37 mm cassettes
Height o/a:	6.5 inches (16.5 cm)
Width:	1.625 x 2 inches (4.13 x 5.08 cm)
Weight:	4.74 oz. (296 grams)
Mounting points:	(2) #1/4 -20 (1/4 Whit.) holes provided on narrow face on C.L., 2 in. apart.

### Parts List



Detail #	Print #	Qty.	Description
1	2724	1	2724 MAIN BLOCK (MICRODUST DESIGN 2)
2	028 ORING	1	028 ORING
3	126 ORING	2	126 ORING
4	37mm FILTER CASSETTE	1	37 mm FILTER CASSETTE
5	2722	1	2722 LAMINAR INLET (DESIGN 2 MICRODUST)
6	2723	1	2723 LAMINAR OUTLET (MICRODUST DESIGN 2)
7	016 ORING	2	016 ORING