BGI, INC.
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INSTRUCTIONS: GK2.69 Respirable/Thoracic Cyclone

Introduction:

This cyclone is intended to be used with the BGI-AFC-123 R/T personal sampling pump or any personal sampling pump meeting the following pressure/volume characteristics:

37 mm Media Type	Flow Rate - LPM	Pressure Drop, cm of H2O
GF/A Fiberglass	4.2	11.5
GF/A Fiberglass	1.6	3.4
0.8µm MCE	1.6	11.9
Gelman Teflo, 2µm	4.2	7.4
Gelman Teflo, 2µm	1.6	1.8

At the stipulated flow rate of 4.2 Lpm, the instrument conforms to the US and European respirable dust curve with a 50% cut point of 4µm. At 1.6 Lpm, it corresponds to the standard for the Thoracic curve with a 50% cut point of 10µm.

Operation:

Remove the front portion of a 3 piece cassette (blue plug) by inserting a coin in the annular slot closest to the blue plug and twisting. Save the portion removed to reinstall for filter protection after sampling. Press the portion of the cassette containing the filter onto the tapered top of the cyclone - fitted with an orange “O” ring.

Next, remove the red plug from the back of the cassette and push in the taper luer plug, which is attached to the hose.

The cyclone is clipped to the worker’s lapel and the long hose is run over the worker’s shoulder to the personal sampler appropriately situated on the worker’s waist belt.

Proceed with sampling according to your experience, regulations, or the instructions for the personal sampler being used. The procedures are the same as for a routine cassette dust sample, except that only the respirable or thoracic fraction actually reaches the filter surface. Selection of filter materials varies with different countries and regulations.

Calibration:

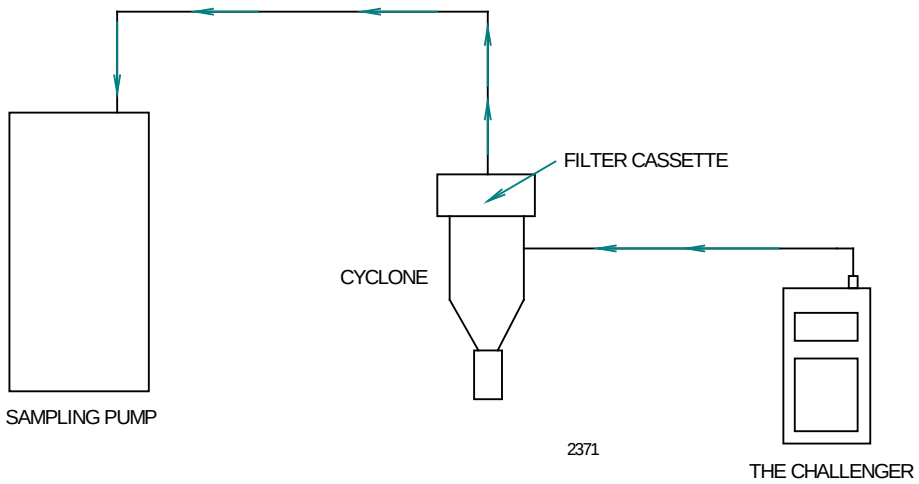
Attach your calibration device (rotameter or preferably The Challenger) to the inlet tube of the cyclone with a suitable section of 1/4 inch I.D. tubing. The cyclone should be set up for normal use with a fresh filter. Turn the personal sampler on and adjust the flow rate to 4.2 or 1.6 liters per minute. Because of the inlet tube used on this cyclone design, the old fashioned calibration jar is no longer necessary.

Cleaning:

After disconnecting the suction tubing, carefully remove the cassette and replace the cover and red plug.

Remove the grit pot by unscrewing it. Dispose of its contents and clean and dry it. Unscrew the top of the cyclone and remove the clean out plug above the inlet tube. The parts can now be cleaned, thoroughly. ***PROTRACTED SOAKING IN SOAP/CAUSTIC SOLUTIONS WILL DAMAGE THE ALUMINUM COMPONENTS!***

WARNING: Because of the almost infinite variety of dusts which may be sampled with this device, it is not possible to give specific, recommendations for cleaning substances. Also, it must be noted to be careful not to re-aerosolize hazardous materials when using compressed air for cleaning. Utilize good hygiene practices at all times.



Schematic Diagram of Connections for Calibrating a Personal Sampling Cyclone

REVISIONS

June, 2007	Added “The Challenger” to schematic