BGI, INC.
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Instructions: GK2.05 (KTL) and GK2.05 SH (KTL) 2.5 Cyclone (Rev. 2)

Introduction:

This cyclone is intended to be used with the BGI AFC-123 R/T or BGI 400 personal sampling pump or any personal sampling pump meeting the following pressure volume characteristics:

GK2.05 (KTL)

37mm Media Type	*Flow Rate - LPM*	*Pressure Drop cm of H2O*
GF/A Fiberglass	4.0	10.2
0.8ìm MCE	4.0	33.0
Gelman Teflo, 2ìm	4.0	7.0

GK2.05 SH (KTL)

37mm Media Type	*Flow Rate - LPM*	*Pressure Drop cm of H2O*
GF/A Fiberglass	3.5	8.9
0.8ìm MCE	3.5	29.0
Gelman Teflo, 2ìm	3.5	6.2

At the stipulated flow rate of 4.0 lpm (GK2.05) or 3.5 lpm (GK2.05 SH) the instrument conforms to US EPA (PM) 2.5 Standard with a 50% cut point of 2.5ìm.

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 (PM)2.5 fraction actually reaches the filter surface. Selection of filter materials varies with different countries and regulations.

Calibration GK2.05:

Attach your calibration device (rotameter or preferably a soap film meter or BGI TetraCal (formally triCal)) 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 liters per minute. Because of the inlet tube used on this cyclone design, the old fashioned calibration jar is no longer necessary.

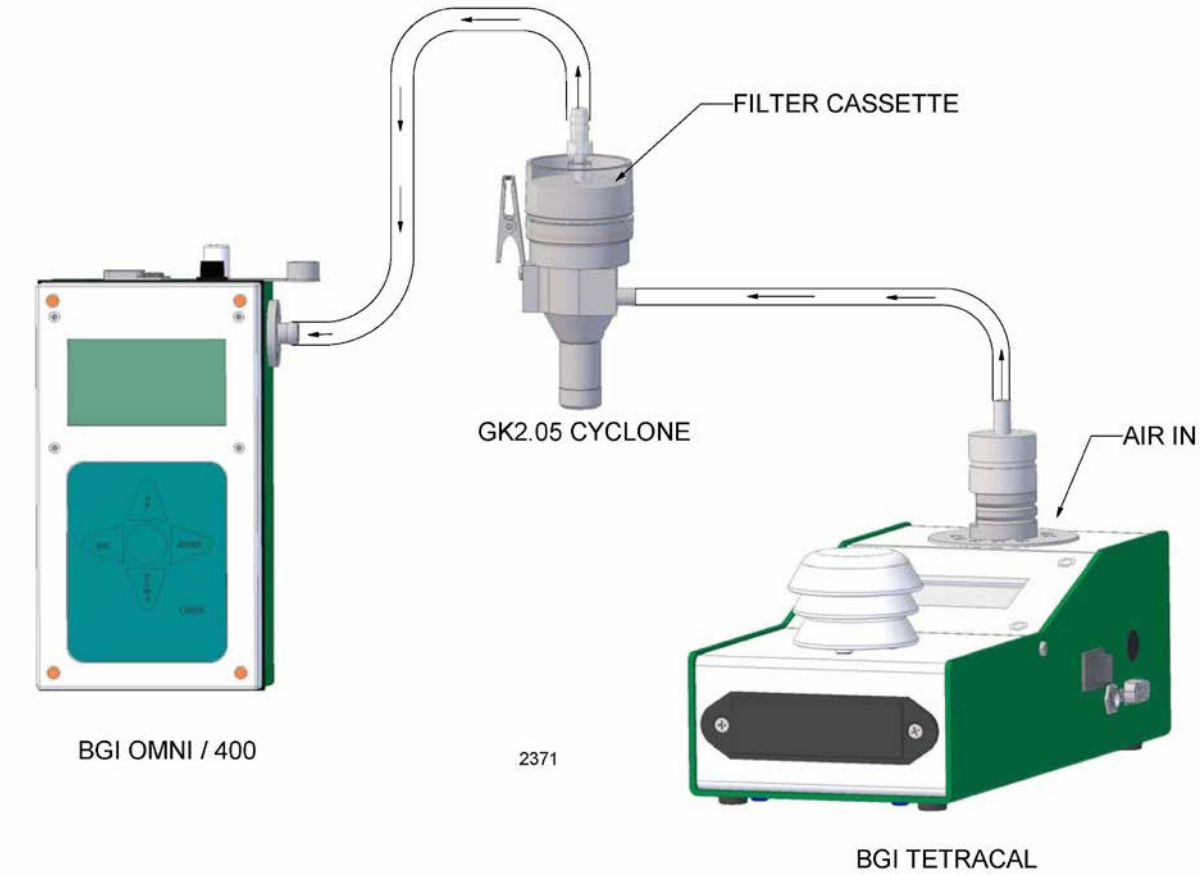
Calibration GK2.05 SH

Press the calibration adapter (GK2.05CC) onto the body of the cyclone. Attach your calibration device (rotameter or preferably The Challenger) to the calibration adapter of the cyclone with a suitable section of ¼ 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 3.5 liters per minute.

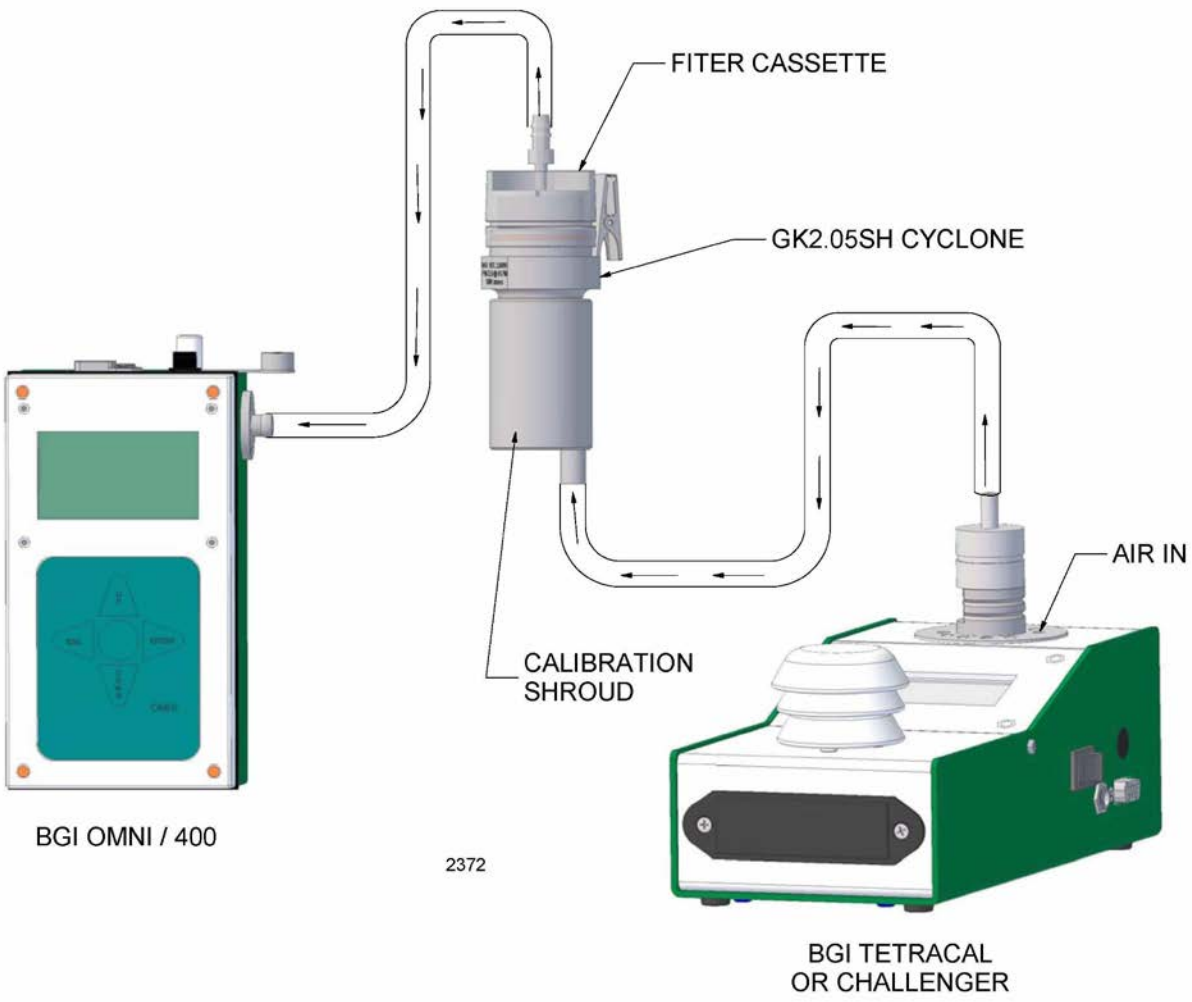
Cleaning:

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. The parts can now be cleaned, thoroughly. ***Protracted soaking in soap/caustic solutions will damage the aluminum components!***

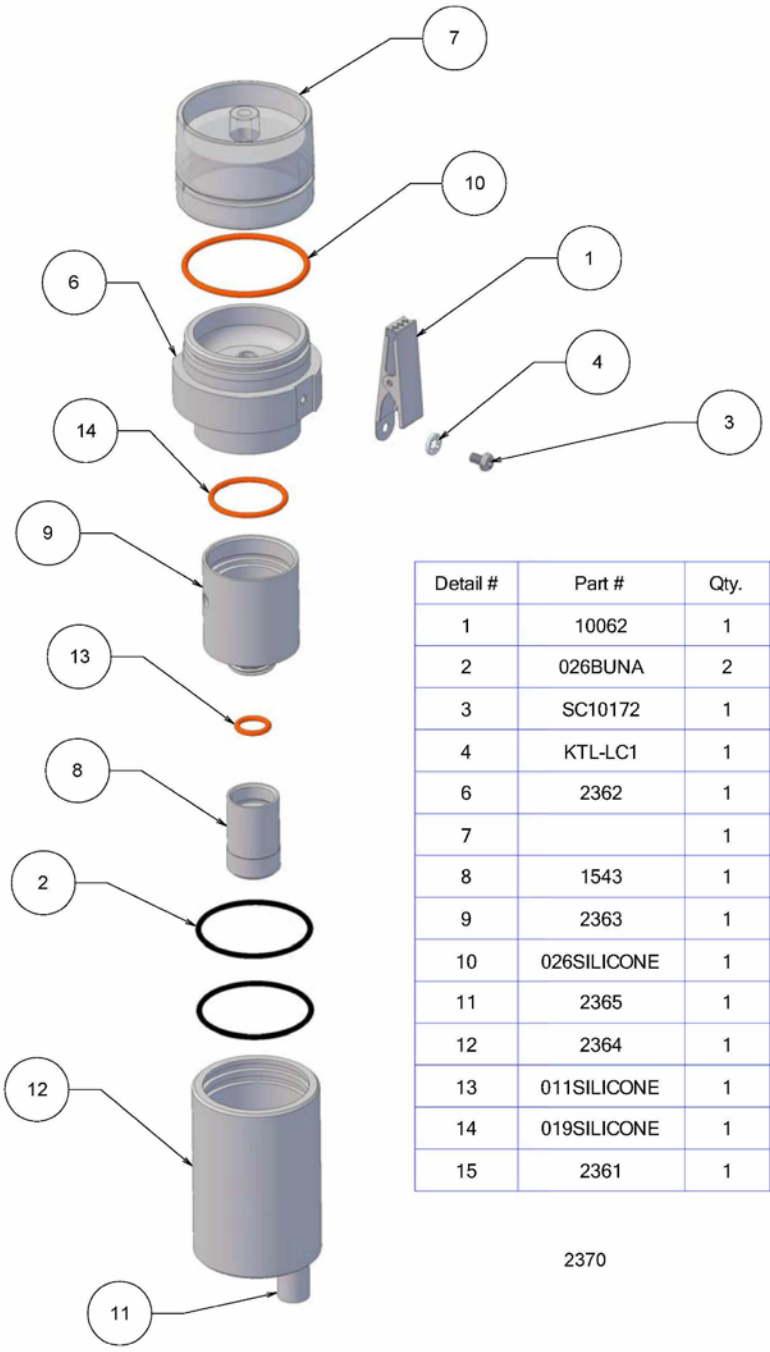
WARNING: Because of the almost infinite variety of dusts, which may be sampled with this device, it s not possible to give specific recommendations for cleaning substances. Also, it must be noted to be careful not to re-aerosolize hazardous materials when using compressed air for cleaning. Utilize good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



Schematic Diagram of Connections for Calibrating a GK2.05 Sampling Cyclone



Schematic Diagram of Connections for Calibrating a GK2.05SH Sampling Cyclone



Detail #	Part #	Qty.	Description
1	10062	1	ALLIGATOR CLIP
2	026BUNA	2	026 ORING
3	SC10172	1	4-40 x 3/ 16 PAN HEAD
4	KTL-LC1	1	#4 INTERNAL TOOTH
6	2362	1	2362 SHROUD
7		1	37 mm FILTER CASSETTE
8	1543	1	1543 DUST CUP
9	2363	1	2363 CYCLONE BODY W-SHROUD
10	026SILICONE	1	026 ORING
11	2365	1	2365 TUBE, CALIBRATION SHROUD
12	2364	1	2364 CALIBRATION SHROUD
13	011SILICONE	1	011 Oring
14	019SILICONE	1	019 ORING
15	2361	1	2361 CYCLONE TOP W-SHROUD

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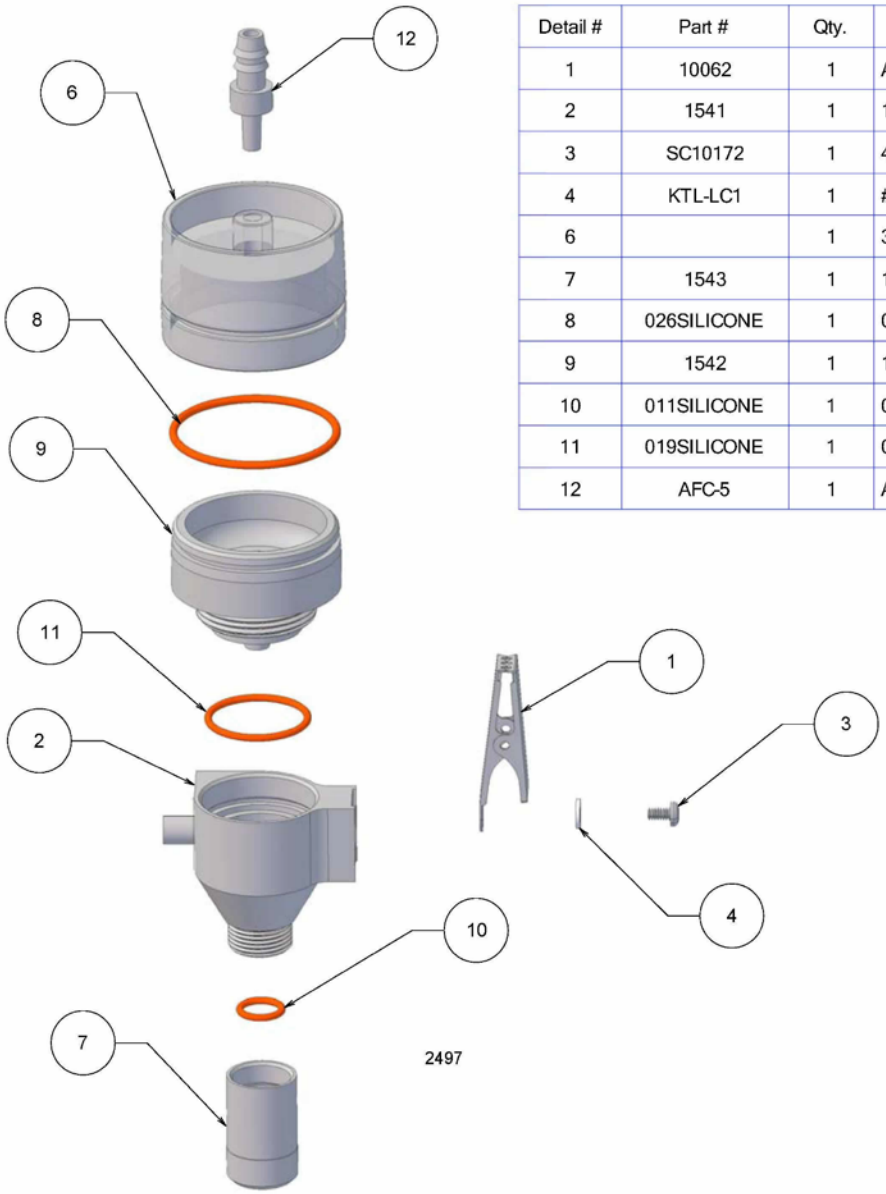
Exploded View of GK2.05SH (KTL) Cyclone



Detail #	Part #	Qty.	Description
1	10062	1	ALLIGATOR CLIP
2	1541	1	1541 CYCLONE BODY
3	SC10172	1	4-40 x 3/ 16 PAN HEAD
4	KTL-LC1	1	#4 INTERNAL TOOTH
6		1	37 mm FILTER CASSETTE
7	1543	1	1543 DUST CUP
8	026SILICONE	1	026 ORING
9	1542	1	1542 CYCLONE TOP
10	011SILICONE	1	011 Oring
11	019SILICONE	1	019 ORING
12	AFC-5	1	AFC-5 LUER ADAPTER

Exploded View of GK2.05 (KTL) Cyclone

REVISIONS

May, 2007	Added tetraCal
June, 2007	Added “The Challenger” to Figures
Nov, 2012	Removed Challenger , added tetraCal