

**BGI**

58 Guinan St.  
Waltham, MA 02451  
V: 781.891.938

## TetraCal Volumetric Air Flow Calibrator



tetraCal

Designed to go anywhere, indoors or out. From the top a 15,000 ft mountain to a 55° C desert or a -30° C snow field. Our first principle, Venturi calibrators will operate for 20 continuous hours on 4 AA cells. We are pulsation free, accurate to less than 0.75% of the flow rate reading, NIST traceable and designed, built and calibrated in an ISO 9001-2000 facility. We have always built our calibrators to these standards. Now our output screens show both Actual and Standard flow rates. This feature is applicable to every calibrator that we have ever produced and will be applied, during a recalibration, to every instrument at no charge.

The BGI tetraCal<sup>®</sup> is the first and only volumetric continuous flow calibration/audit device which gives a direct indication of volumetric flow rate, standard flow rate, barometric pressure (both mm/Hg & mb), and ambient temperature in one instrument. It was developed for use with all types of air samplers in the 0.1 to 30 Lpm range. Typical screens are shown below on the left.



tetraCal  
Complete in Fitted Case

It is the only field audit/calibration device which meets the same temperature criteria as the EPA designated samplers themselves. The temperature range is -30° to 55° C (EPA requires up to 40° C).

The heart of the tetraCal<sup>®</sup> is a venturi which is superior to an orifice in that it offers no sharp edges which can be damaged and a 90% recovery of the measurement pressure drop, important when calibrating some forms of speciation samplers or other critical orifice controlled devices. Because flow through the instrument is uninterrupted, our graphic software provides a continuous output display of all functions.

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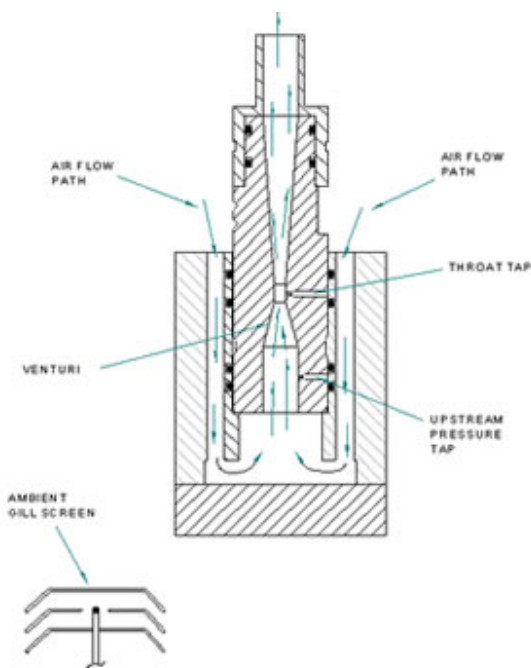
The tetraCal<sup>®</sup> was originally developed as the triCal<sup>®</sup>, for Industrial Hygiene applications. Several years experience showed that the internally aspirated temperature sensor was too slow to respond to changes in overall ambient conditions. It has now been redeveloped as the tetraCal<sup>®</sup> which houses the temperature thermistor in a normally aspirated Gill Screen. This is the same type of housing seen on all EPA PM<sub>2.5</sub> and Speciation Samplers. We find that it comes to equilibrium in 2-3 minutes.

### Applications

- Calibration and audits of PM<sub>10</sub>, PM<sub>2.5</sub>, and speciation samplers to U.S. EPA requirements
- May be used on any sampler in the 0.1 to 30 Lpm range
- Usable in field or laboratory
- Suitable for calibration of cascade impactors

### Features

- One switch (off/on) operation -- all data displayed on screen
- No moving parts
- 20 hour battery life (4-AA)
- Furnished with universal power supply (120/240 VAC)
- Download feature with supplied software



Sectional View of Measuring Section

### Ordering Information

<u>TC5</u>	tetraCal <sup>®</sup> , complete in fitted case, std. cond. temp at 25° C
<u>TC5MB</u>	tetraCal <sup>®</sup> , complete in fitted case, std. cond. temp at 0° C
<u>TC12</u>	tetraCal <sup>®</sup> /EPA speciation audit model with temperature probe, std. cond. temp at 25° C
<u>TC12MB</u>	tetraCal <sup>®</sup> /EPA speciation audit model with temperature probe, std. cond. temp at 0° C
<u>TCIMP</u>	tetraCal <sup>®</sup> adapters (3) for use with the Improve

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### ***tetraCal Specifications***

Flow Rate Range	0.1-30 LPM (actual volumetric reading)
Temp. operational range	-30° C to 55° C
Temp. reading range	-40° C to 55° C
Baro. pressure range	400 to 800 mm of Hg 534 to 1066 millibars

### ***Dimensions***

Control Module	3.25 in. high (8.25 cm) X 3.125 in. wide (7.94 cm) X 9 in. long (22.86 cm) Height with venturi and hose adaptor 6.30 in (16.00 cm)
Weight with venturi	2.38 lbs (1.08 kg)
Carrying Case	15.75 in. wide (40.00 cm) X 4.5 in. high (11.43 cm) X 12.25 in. thick (31.20 cm)
Weight complete with contents	4.69 lbs (2.13 kg)

#### TO ORDER CONTACT:

Thomson Environmental Systems

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