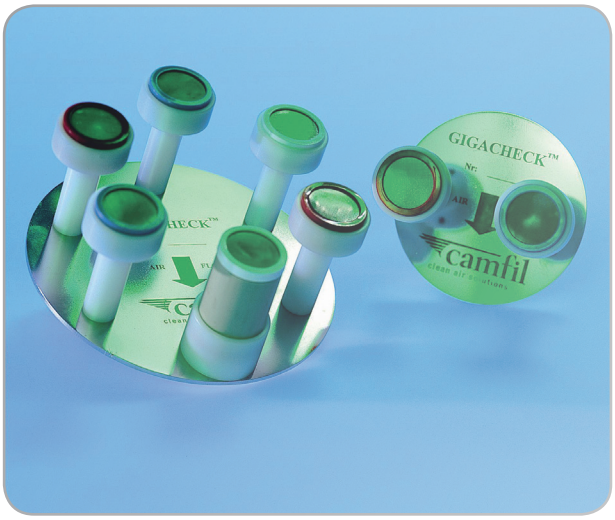
Gigacheck™

Air Quality Detection System



SELECTIVELY MEASURE GASEOUS CONTAMINANTS WITHOUT THE NEED FOR SPECIALIST TECHNICIANS, TOOLS, OR OTHER EQUIPMENT

The Camfil Gigacheck™ is an analytical system to selectively measure gaseous airborne molecular contaminants (AMC) in cleanrooms and accompanying air handling systems used for microelectronics and integrated circuit manufacture. Common contaminants of analysis include acids, acid precursors, bases and ozone. Other possible applications for Gigacheck™ are museums, airports, hospitals, pulp and paper industries etc.

The Gigacheck™ provides an aid for the selection of an appropriate molecular filtration system to limit manufacturing level contamination. The resultant data, in conjunction with an analysis of the air handling systems served, and the process being protected, will help differentiate between the need for various filter configurations or allow the proper selection of the most cost-effective system for a specifically defined contaminant.

The Gigacheck™ has the resolution capability to distinguish between different sources of an element. Chlorine, Cl can be detected as originating from Cl_2, or from HCl. Particle sources, like NaCl, will not interfere since it is of particle origin and not gaseous.

The Gigacheck™ may be applied during new construction, or be applied in an existing system where molecular filters may be required. The kit, and the samplers are supplied in a case and sealed plastic bags. The Gigacheck™ can be located inside the cleanroom, in a ventilation duct, inside make-up air systems, or in a minienvironment. A proven tool, it is small, light weight, cost effective, noiseless, reusable, and does not require electric or field calibration.

The only requirements are ambient temperature and normal airflow. Exposure times of samplers are 1 day, 1 week, 2 weeks or 1 month dependent upon application requirements. Data sheets are provided with each kit.

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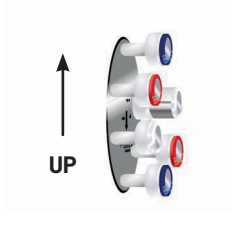
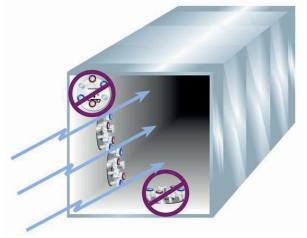
Performance data

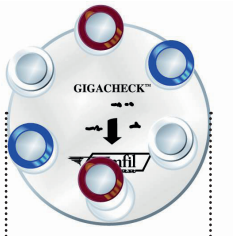
Description Code	Substance	Detection Limit µg / m³ per month	Detection Limit ppb per month	Max concentration µg / m³ per month
AA200	Sulfur dioxide SO_2	0.2	0.08	200
AA210	Nitrogen dioxide NO_2	0.1	0.05	100
AA220	Nitrogen Oxides NO & NO_2	3 (2 weeks)	–	250
AA230	Hydrochloric acid, HCl	0.5	0.33	100
AA240	Chlorine Cl_2	1.0	1.02	200
AA250	Ammonia, NH_3	0.3	0.43	100
AA260	Nitric acid, HNO_3	0.1	0.04	3
AA270	Ozone, O_3	0.4	0.2	150
AA280	VOC*	0.16 (1 week)	–	–
AA300	Multiple acid**	0.5 0.1 0.2 1.0 0.7	0.33 0.12 0.08 0.4 0.37	–

DATA NOTES:
Normal exposure times are 1 day, 1 week, or 1 month. A low concentration requires a longer exposure time, up to two weeks or more.
Double samples are recommended the first time measurements are taken in unknown environments.
* For VOC the detection limit is given for the maximum suitable exposure time which is one week. The measurement is also limited to benzene, toluene, octane, butyl acetate, ethyl benzene, xylene and nonane
** HCl, HF, SO_2, Acetic acid, Formic acid.

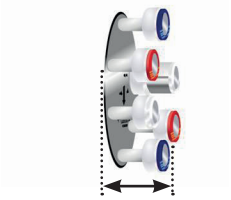




The Gigacheck should always be mounted vertically and perpendicular to the airflow. They may also be mounted in-room.



Multi-sensor unit 125 mm (4.92")



Unit depth, from bottom of base plate to top of sensors is 58 mm (2.28"). 2-sensor unit is 80 mm wide (3.15").

Specifications

1.0 GENERAL

1.1 - Air quality detection system shall be Camfil Gigacheck or approved equal.

1.2 - Kit numbers and samplers shall be as identified on enclosed documents or drawings.

2.0 CONSTRUCTION

2.1 - Base unit shall consist of mounting plate, constructed of steel, and shall accept sampler mountings as provided by Camfil.

2.2 - Samplers shall be constructed of PE, PP and POM and shall arrive on the site in sealed plastic containers.

2.3 - Sampling medium shall be appropriate to contaminants of concern as listed on enclosed documents or drawings.

3.0 PERFORMANCE

3.1 - Sampling times shall be defined on enclosed documents or drawings. The manufacturer shall provide data sheets detailing installation, and the process of obtaining analysis.

3.2 - A sampling time of (1 day, 1 week, 1 month) shall be used unless defined elsewhere in enclosed documents or drawings.

** Items in parentheses ( ) require selection.*