Fiber Monitor, Model F-1K

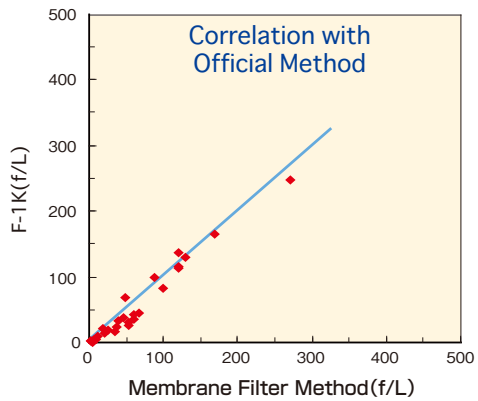
The SIBATA Fiber Monitor, Model F-1K, is an asbestos monitor which measures relative fiber consentration. It detects only fiber particles.
Sampling air flows into the body and pass through the screening section and sampling filter.
The F-1K can be used as realtime monitoring where the asbestos related workplace.

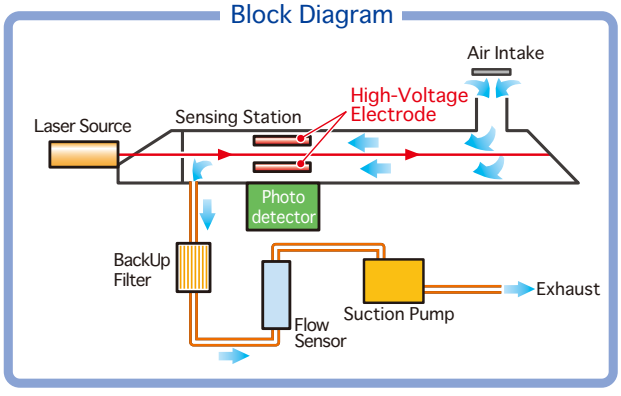
Features of F-1K:

- You can save the data with logging function.
- The F-1K informs with alarm when the fiber concentration gets over the limit.
- The F-1K can be connected with a PC for real time monitoring.
- The sampling filter can be used for a number count analysis after sampling.
- Real time display of fiber concentration in f/L. (every 60 seconds)

Specifications

Code	080000-1000
Model	F-1K
optical source	laser diode
Measuring Scale	0.0 to 1,000 f/L
Intake Air Flow	2L / min
Display	1. Fiber Counts 2. Fiber Concentration (f/L) 3. Time 4. Air Flow 5. Error (battery, laser, etc.)
Data Output	1. USB 2. RS-232C 3. Printer 4. Alarm (Open-Collector)
Measuring Mode	1. Timer 2. Manual 3. Logging
Power Supply	AC100V – 240V and NiMH Battery
Battery Life	about 4 continuous hours (at 25˚C)
Usage Environment	Temperature: 0 to 40℃ Humidity: 5 to 90%
Dimensions	380(W) X 230(D) X 240(H) mm
Weight	Approx. 5.2kg
Accessories Included	AC adapter, Carrying Case, Zero Air Filter, Storage Bag

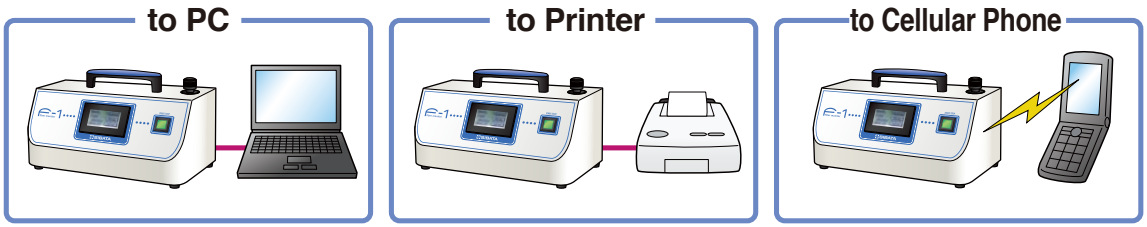




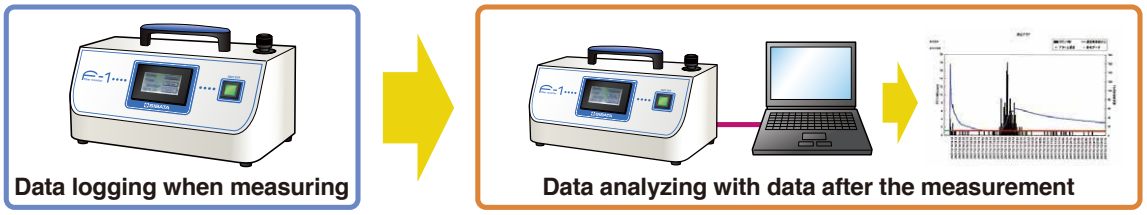
Principle

Fiber Monitor, Model F-1K, relatively measures a fiber concentration by separating fiber particles from whole suspended particles. Sample air is taken inside from an Air Intake, goes through a Sensing Station, a Back Up Filter, and a Flow Sensor, and is exhausted inside of its housing. A High-Voltage Pipe, which consists of four Electrodes, is inside of the Sensing Station and vibrates fiber particles, which go through an electric field, by generating high DC and AC Voltages together. A Semiconductor Laser, which is irradiated to inside of the Sensing Station, is scattered by the vibration of fiber particles. The scattered light is detected by a Photomultiplier, and an intensity of the scattered light changes in pulse when the fiber particles pass through the Sensing Station. In contrast, the intensity of scattered light hardly change when non-fiber particles go through the Sensing Station. A longer and thicker fiber particle shows a higher peak of the pulse, and a pulse area becomes larger when a fiber is longer. By setting an aspect ratio and length of a fiber with referring the ratio of the peak and area of scattered light pulse, it measure a concentration which is the same as a count-analytical value from a phase-contrast microscope method.

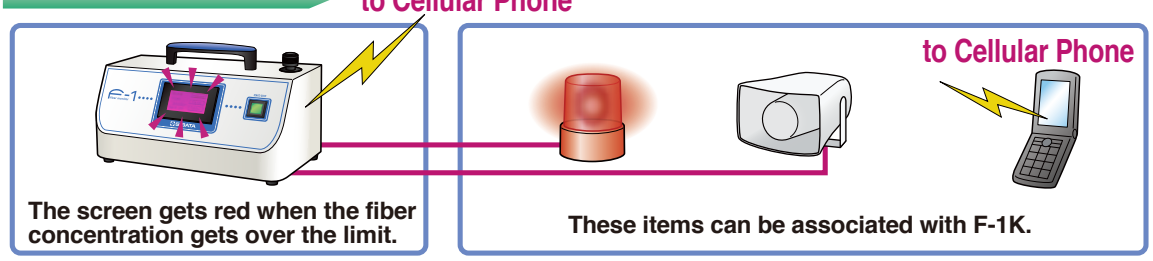
1. Real Time Data Transfer



2. Data Logging Function



3. Alarm Function



Spair Parts / Option

Code	Item
080000-1004	Suction adapter for F-1K
080000-1007	Zero air filter for F-1K with connector
091600-000414	Therminal printer Model DPU-414
080200-061	Connection cable for DPU-414
080000-4516	AC Adapter Model RC-45-16B
G61860-000419	Printer paper for DPU-414 10pcs/set

SIBATA's calibration room

Specifications, and appearance described in this document are based on information as of November 25, 2016. They are subject to change without notice for improvement of the product.

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