



Application Spotlight

Verification of microbial environmental air samplers

Reliability, repeatability and traceability

Verification of microbial environmental air gas samplers

To avoid the risk of microbial contamination, environmental monitoring in pharmaceutical manufacturing facilities is controlled through aseptic processing, comprising microbiological test methods. In order to guarantee proper functioning of these air sample devices, regular verification is necessary.

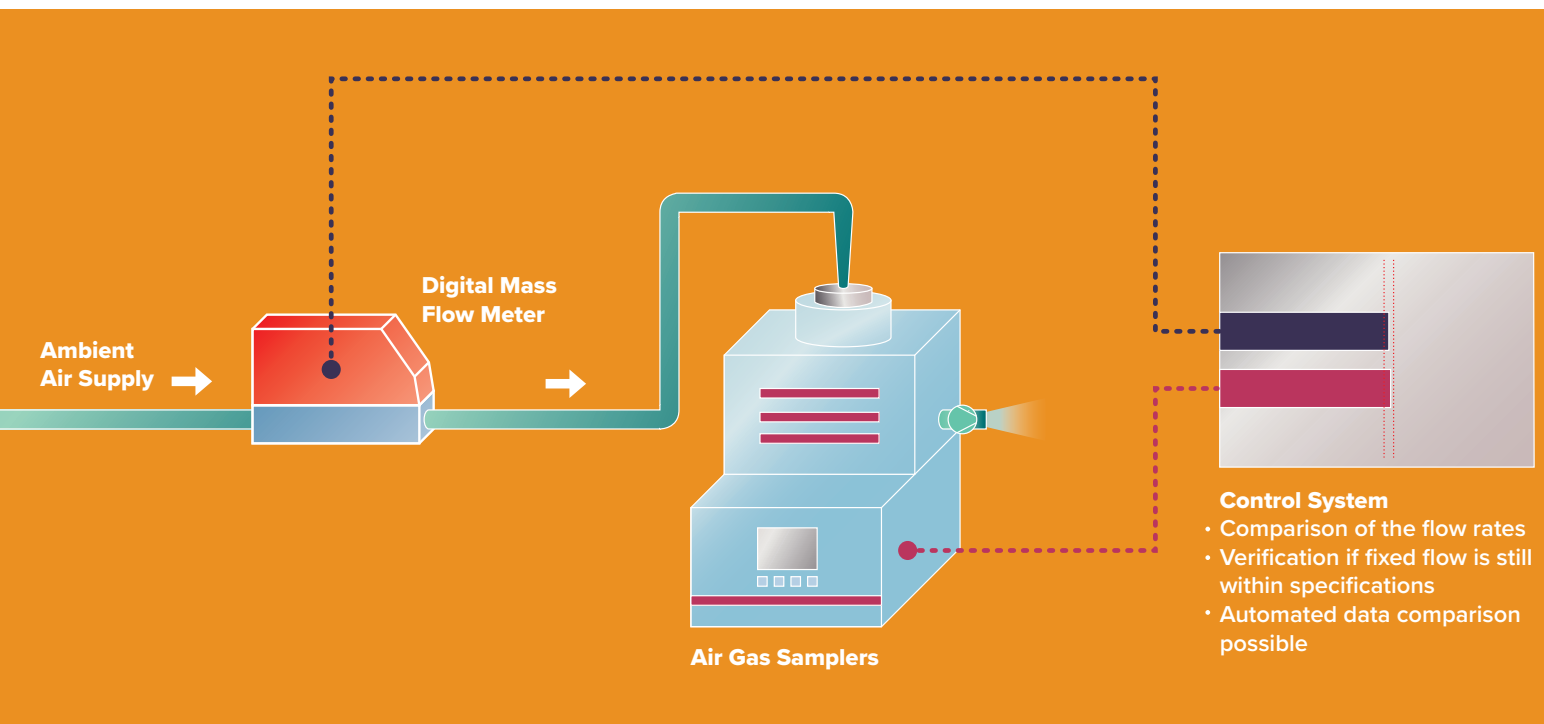


Fig. 1 Functional scheme of the verification of a microbial environmental air sampler



Fig. 2 Thanks to its high accuracy and repeatability, its long term stability and perfect temperature compensation, the digital mass flow meters *red-y smart series* from Vögtlin are especially suited for air sampler verification processes. Various interface protocols allow integration into digital control systems.

Application

The control of microbial contamination in clean rooms and other controlled environments is critical for all contamination-sensitive production facilities (e.g. in terms of patient risk in pharmaceutical production).

Air samplers are used to monitor the quality of the environmental air. The devices operate with agar plates which are sprayed with a constant flow of ambient air. These plates are later analyzed with regard to microbial contamination in the production area.

In order to guarantee monitoring at a constant flow rate, the environmental air sample devices must be checked at regular intervals. In this context, reliability, repeatability and traceability of the testing instruments are key parameters for a valid measurement.

Challenge

For a reliable inspection of the microbial environmental air gas samplers, the testing instruments must guarantee an accurate and reproducible measurement over a long period of time. Measurements must be traceable at all times.

Solution

The MEMS technology of the mass flow meters from Vögtlin provides high accuracy and repeatability. Plug-and-play functionality and no warm-up periods improve user productivity.

Vögtlin mass flow meters and controllers have a unique way of compensating for changes in ambient and gas temperature, which strongly improves the repeatability. This ensures a long-term stability without any drift.

The devices also allow to record all measurements with the use of digital control systems for later traceability. Gas flow readings are taken 12 times per second and can be stored using data logger software.



Fig. 4 **Mobile Microbial Air Sampler MiniCapt®**
 Courtesy of Particle Measuring Systems®, USA



Fig. 3 **Battery-powered mass flow meters can be used for mobile verification of air samplers**

Key Features

- ★ High repeatability & reliability
- ★ Long-term stability
- ★ Plug-and-play functionality
- ★ Data logging of measurements
- ★ Compact unit with high-quality components

Interfaces

- ★ Analog
- ★ Modbus RTU
- ★ Profibus DP-V0/DP-V1
- ★ Profinet RT
- ★ EtherCAT

About Vögtlin Instruments GmbH

Established in 1986, Vögtlin Instruments GmbH is a Swiss designer of precision flow instrumentation. Vögtlin became a member of the TASI group in 2011. The division TASI Flow delivers flow meter, flow control and dispensing solutions.

TASI Flow products are developed, customized and serviced through technical centers in the US (Wisconsin), in Europe (Germany, Switzerland and UK) and China (Beijing and Shanghai).

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