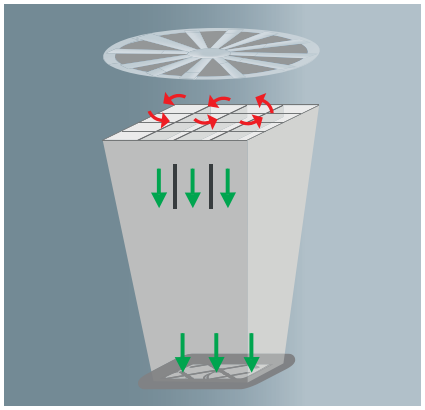
Be sure. testo

Precise measurement of prescribed air exchange rates in cleanrooms with volume flow hood testo 420.

VAC systems in cleanrooms must meet strict legal hygiene requirements. In order for the various norms and guidelines for these standards to be adhered to, the prescribed air exchange rate of a room must be regularly ensured by testing the total volume flow of the system. These checks are often carried out at larger swirl outlets which distribute the air evenly. The problem at swirl outlets: the turbulent air can severely falsify the measurement result. With the volume flow hood testo 420, these measurement errors can be significantly reduced. The integrated flow straightener pacifies the turbulence, ensuring more a precise determination of the volume flow at swirl outlets. And thanks to the low weight of the hood, frequent measurements in large rooms, as well as measurements above head height can be carried out safely and comfortably.



Functional principle of the flow straightener

Measurement and data management with testo 400

Differential pressure measurement with connection hose

The challenge.

In cleanrooms, just as in hospitals, laboratories or food producers, hygiene is an especially sensitive topic. This is why the VAC systems in such rooms are required to adhere to stringent norms and guidelines. The norm EN ISO 14644, for example, defines the degree of purity of the ambient air in a cleanroom, which in its turn must be maintained by a certain air exchange rate. Depending on the VAC system, this rate must be checked several times a year by an air conditioning technician, by measuring the total volume flow at the air outlet or in a duct. In measurements at air outlets, a problem occurs: Rooms such as these have large swirl outlets installed as standard, which do not blow the air into the room straight, but instead continually swirl it. The consequence of this swirl: Air flows are often incorrectly measured at these locations. And this complicates the determination of the volume flow substantially.

The solution.

The volume flow hood testo 420 significantly reduces measurement errors at larger swirl outlets. The innovative flow straightener converts the turbulence into an almost uniform air flow, leading to a considerably more accurate measurement.

Another advantage of the hood is its low weight of only 2.9 kg. In combination with ergonomic handles, frequent or difficult measurements can therefore be conducted comfortably and safely. In addition to this, the hood records the ambient climate using an integrated temperature and humidity sensor as well as an absolute pressure sensor.

The application is simple too: Funnel-shaped tension rod sockets support easy and quick set-up, and the trolley included in delivery ensures safe transport.

Particularly practical: The flow hood can be connected to the testo 400 multifunction IAQ measuring instrument via Bluetooth. This offers access to other smart functions such as the entire customer and measuring site management system via the testo 400 IAQ measuring instrument. Mobile devices such as smartphones and tablets can be used as a second display and remote control by connecting to the testo Smart App via Bluetooth – especially useful for the safe use of a tripod for high ceilings. After the measurement, the App allows the finalization and sending of the measurement protocol directly on site. Differential pressure or Pitot tube measurements are also possible with the removable measuring instrument, by simply entering the duct geometry.

With the volume flow hood testo 420, users can quickly and accurately fulfil hygiene guidelines and regulations on Indoor Air Quality for ventilation and air conditioning systems in cleanrooms.

The advantages.

- More precise measurement of volume flow at larger swirl outlets
- Uniquely light, with only 2.9 kg
- Quick set-up, easy handling and user-friendly operation via the testo 400 or testo Smart App

More information.

More information from our experts at www.testo.com

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