

LABORATORY HYGIENE AND AIR FILTRATION

Air hygiene is essential for daily practice in laboratories, it is therefore necessary to ensure sufficient air change rate and thus fresh air. A mechanical ventilation system is indispensable to ensure the required air change rate at all times and also to meet the energy requirements for buildings. Ventilation systems that ensure a hygienic, safe and yet pleasant working environment have been specially developed for use in laboratories. Numerous factors have to be taken into account, such as

- Compliance with standardised air exchange rates for laboratories and people
- Automatic air balancing of all volume flow rates
- An appropriate room pressure regime for critical rooms
- The use of suitable air filters, depending on the laboratory standard

We at TROX have understood this complexity and therefore offer customised systems for the demands of different types of laboratories. Air hygiene is our top priority.

[Discover now the different laboratory standards that TROX serves.](#)

WHAT IS NECESSARY FOR "CLEAN" AIR?



Especially when using and processing chemicals, solvents and biological samples, a clean working environment is of elementary importance. This is the only way to prevent bacteria and micro-organisms from multiplying in the air and causing health damage or contamination of samples.

HOW WE ACHIEVE A CLEAN AND SAFE ATMOSPHERE IN LABORATORIES:

- Dilution and removal of possibly released hazardous substances in the laboratory via an appropriate air exchange with conditioned fresh air
- Air intake specially adapted to the room situation to prevent short circuits and/or blind spots in the air distribution
- The containment and contamination control of potentially hazardous concentrations of gases, vapours and dust in fume cupboards
- The prevention of explosive substances in fume cupboards and in the room air
- Depending on the type of laboratory, a 2 to 10-times air exchange rate must be maintained as standard (according to TS 17441 (DIN 1946 T7) 8-time air exchange)
- Use appropriate air filter stages depending on the application and situation.

But clean air can also increase work productivity and the well-being of laboratory staff. A comfortable working environment definitely also includes the appealing design

and construction of ventilation elements. These aspects increase the feel-good factor at the workplace not only through the design, but also significantly through the control of the air intake and speed in the room. Draught and cold phenomena are therefore avoided despite regular air changes and high thermal loads. A customised ventilation system increases air quality and employee productivity in equal measure and is therefore essential for daily work in the laboratory.

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PROTECTION OF EMPLOYEES AND PRODUCTS



In addition to contamination caused by accidental spills, splashes or the improper storage of materials, it is also important to keep the air free of pollutants in the laboratory. Contamination of samples or other working materials should always be reliably prevented.

Compliance with hygiene standards additionally has a direct influence on the quality and results of the employees' work. Strict air hygiene protects them from potentially hazardous substances. For example, work in the laboratory can result in the release of gases or vapours that are hazardous to health, which must be hygienically cleaned and removed as quickly as possible via air filter systems. Only in this way can possible health hazards via the breathing air be prevented and the ability of laboratory personnel to work with a high degree of protection be ensured.

Our TROX systems ensure that air hygiene is maintained in the laboratory at all times. We also offer correspondingly individual air filter solutions for clean rooms - tailor-made for your requirements.

[To air solutions in the clean room](#)

CONSULTING AND PROJECT DEVELOPMENT



I AM HAPPY TO ASSIST YOU

We will be happy to help you with the individual planning and implementation of air distribution strategies for your laboratories. Arrange your non-binding consultation now!

Patric Unterdorfer

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