

# LABORATORY AIR: SAFETY, EFFICIENCY AND COMFORT WITH TROX

Whether in the field of chemistry, pharmacy, biology or medicine: in laboratories, people work with a wide variety of contaminants and organisms and therefore are often exposed to increased hazards.

Working with different equipment creates heat loads and a high energy input. Due to this, the **demand on room air conditioning is increased:**

- **Highest safety standards** have priority, particularly in laboratories, as the protection of people must be the focus. Dealing with pollutants, chemicals and organisms makes frequent air exchange essential. To ensure safety in laboratories, standards and legal regulations must be observed; these standards and regulations may differ depending on the type of laboratory and country of location. [More on safety standards in the laboratory](#)
- **Sustainability and efficiency:** The complex ventilation technology results in high energy costs. In addition to a high air exchange rate, the use of laboratory equipment generates heat loads that make it necessary to cool the laboratory spaces. Intelligent systems that are perfectly adapted to the respective laboratory conditions can significantly reduce energy consumption and, at the same time, ensure an optimum air supply. [More on efficiency and sustainability](#)
- **Thermal comfort for employees.** Thermal comfort and a pleasant indoor climate are challenges that can be mastered by intelligent air distribution and the choice of the right air terminal devices and control systems. [More on air distribution in laboratories](#)

## X-CUBE UBOX: EFFICIENT REMOVAL OF THERMAL LOADS



The requirements on **ventilation strategies in laboratories** are high and ensuring safety and comfort often requires high efforts and results in high spendings on energy. At the same time, the conditions in laboratories are very different: Often, laboratories are not fully occupied and there is a low level of pollution in the indoor air, which means that a lower supply of fresh air is sufficient.

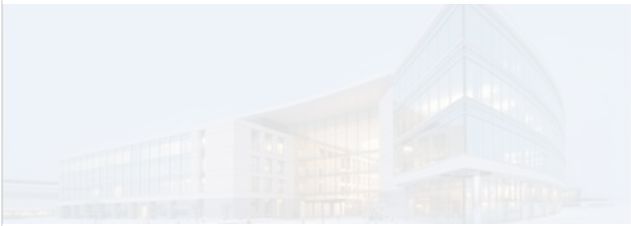
The X-CUBE UBox is a system that **combines supply air and recirculation air**. The recirculation air cooling system is integrated directly into the EASYLAB laboratory system. The addition of recirculation air can significantly reduce the energy expenditure and, at the same time, ensures an optimum supply of fresh air. This makes the X-Cube UBox an efficient and safe alternative to a standard dual system with a non-integrated split device.

### Advantages at a glance:

- Fast installation and commissioning
- A uniform system for cooling and heating, no systems working against each other
- Less interfaces
- Smaller duct networks
- Smaller central units due to lower fresh air demand
- Heat loads are dissipated where they occur
- Modern EC fans in the decentralised units

- Factory acceptance test (FAT)

## IN THE LABORATORY SECTOR



### TROX REFERENCE PROJECTS

In the Laboratory sector

[Go to References](#)

UNIVERSITÉ STRASBOURG