

## HIGH-TECH ROOM AIR CONDITIONING



Thanks to their modular design, TROX X-CUBE air handling units can be perfectly adapted to fit any conditions. They can be individually configured and are hence suitable for a wide spectrum of applications. More than 70 sizes are available, and they are designed for volume flow rates of 600 to 100,000 m<sup>3</sup>/h at an airflow velocity of 2 m/s. X-CUBE units are available as supply or extract air units or as a combination of both.

The units can be arranged side by side or on top of each other, depending on the installation site. Thanks to lifting eyes at the top the cubes can be easily lifted and moved with a crane. If an X-CUBE unit is to be installed in a shopping centre with small doorways, it is possible to ship individual modules and assemble them on the construction site. A plethora of intelligent product features, such as easy-to-replace filters or an automatic fan diagnosis system, mean that installation, maintenance and operation are much simpler jobs.

An air handling unit – the image to the left shows a rooftop installation – provides centralised fresh air treatment to ensure ideal indoor air quality in terms of air cleanliness, temperature and humidity. High-efficiency fans are used as an energy-efficient means of transporting the air. Sound attenuators minimise operating noise.

Effective, efficient filter systems remove high levels of particulate matter. One or two filter stages, depending on the quality of the local fresh air, provide effective and efficient separation of particulate matter (present in high concentrations at most shopping centres).

Building owners are obviously also interested in filter systems to be cost effective. The economic efficiency depends on the type of use, the prevailing dust concentration and the operating hours. For this purpose TROX has developed an LCC analysis tool which considerably simplifies selecting the best filter for an application.

Considering practical and location parameters (with data provided by the German environment agency) simplifies and optimises the process for selecting the most efficient filter.

By adapting a filter to local conditions, e.g. air quality, by selecting the correct length or number of pockets, or by balancing between prefilters and final filters, the optimum economic efficiency can be achieved.

In areas where the air is less polluted, filters with lower filtration and energy efficiency can be used. If, however, the air is more polluted, a higher number of filter pockets may yield the desired result. Here, the average differential pressure over the entire period of use must be taken into consideration.



### X-CUBE AIR HANDLING UNIT

- Special materials, smooth surfaces on the inside and outside due to high-quality duplex powder coating
- With unlimited configuration options, allowing for project-specific adjustments
- Fast and simple installation due to modular construction
- Complete condensate drainage thanks to stainless steel condensate drip tray, sloped in all directions
- Components are easily accessible for maintenance and cleaning
- Construction variant with controls package is easily connected to the central BMS
- High-quality TROX filters
- High energy efficiency through the use of highly efficient heat recovery systems and fans
- Also available (optional) as a weatherproof version with a drip edge for effective water drainage and an intake hood with tested rain water elimination

X-CUBE air handling units comply with AHU Guideline 01 and are Eurovent-certified. They meet the requirements of all relevant standards and guidelines:

- VDI 6022
- ÖNORM H 6020 and 6021
- SWKI Standard VA 104-01
- DIN 1946-4
- EN 1751
- EN 13053
- EN 1886
- EN 13779