

**Air-Technology**  
**QUALITY FOR LIFE**

**AL-KO**



**AIR-HANDLING-UNITS**

# **AIR-HANDLING-UNITS FOR THE CHEMICAL / PHARMACEUTICAL SECTORS**

# Production safety through maximum unit quality



Together we find  
the right solution

- | designs compliant with ATEX 95
- | specialised coatings for every application
- | process-oriented hygiene solutions

**Chemical and pharmaceutical development and production processes place extremely high demands on the involved air-handling and climate systems with regard to safety, precision, reliability, reproducibility, and durability.**

In chemical and pharmaceutical processes, safety is the top priority. Whether in handling with aggressive and explosive substances or when handling toxic and environmentally harmful, natural or genetically modified biomaterials, it is always valid to use controlled supply and exhaust via suitable air-handling-systems.

The demands for material purity on the one hand and economy on the other place extremely high demands on the precision and reliability of modern chemical and pharmaceutical production pro-

cesses. The air-handling-systems used must, among other things, assure the thermodynamic, air-handling, and climatic environmental conditions required for this and must therefore fulfil the same precision and reliability requirements as the actual systems themselves.

Air-handling and climate systems represent an essential component of the primary development and production apparatuses in the chemical and pharmaceutical process chain. From a quality management standpoint, these systems are therefore subject to the same demands as for the actual development and production plants themselves. The requirement for “best practice performance” therefore sets the quality bar for reliability and reproducibility, which must also apply to the air-handling-systems used.

In addition to the actual process sequences, achieving the necessary level of economy and product quality requires all apparatuses and systems to be of extremely high durability and intrinsic value. Particularly in the field of chemical and pharmaceutical production, this requires the use of the best materials as well as special, adapted, and optimised structural, global, and detailed solutions.

AL-KO Air-Technology has been involved for decades in the development and production of air-handling-units that fulfil all of the requirements mentioned above of chemical and pharmaceutical development and production. The special material adaptations, structural features, modular design, and optimised energy consumption of the AT4 and AT6 unit series assure a client-specific application for every process situation.





# Air-handling-units for the pharmaceutical sector

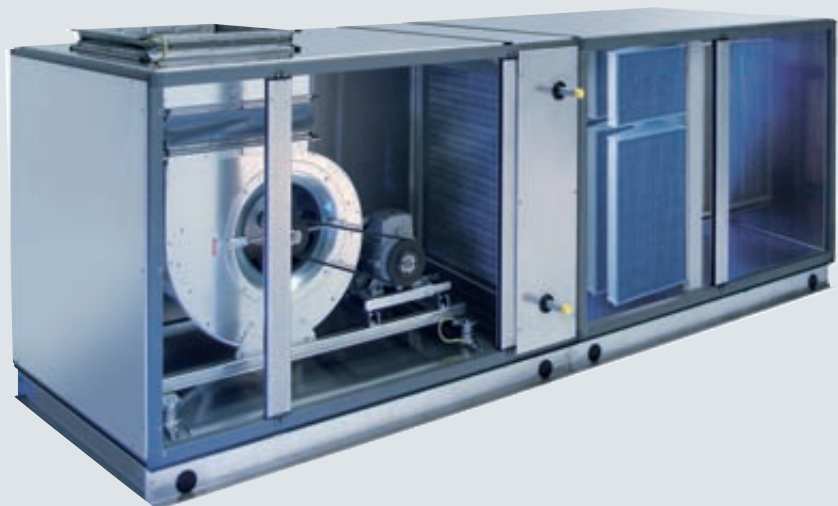
**The pharmaceutical development and production of synthetic or biotech substances and their formulation (galenics) place extremely high demands on the design and function of air-handling-units. This is true for the sectors of both “bench engineering” and large-scale production.**

With its AT4 and AT6 unit series, AL-KO Air-Technology offers a modular system that fulfils all of the requirements of the pharmaceutical industry:

- | the highest level of hygiene design
- | easy, quick and complete cleanability
- | precisely targeted application to the process requirements
- | precision of thermal air-handling
- | durability and longevity
- | operational and process safety

A few of the special structural features of the AT4 and AT6 unit series:

- | entirely smooth inner surfaces without undercuts and cavities thanks to patented housing construction
- | free and complete access to all functional units and components through optimised supply and exhaust chambers
- | can be fully inspected from outside through mandatory large sight glasses and internal lighting
- | extremely high resistance to housing leakage F9 in compliance with EN 1886
- | extremely high corrosion protection through adapted material selection at all quality levels of stainless steel
- | low operating costs due to optimised fan units and minimised pressure losses
- | performance certification in compliance with EUROVENT
- | hygiene certification in compliance with VDI 6022, DIN 1946 and VDI 3803
- | ATEX certification zone 21 and 22





## REFERENCES

- | Bayer AG
- | Aventis Pharma AG
- | Boehringer Ingelheim
- | Merck KGaA
- | Schering AG
- | Altana AG
- | Merckle GmbH
- | Pfizer Gruppe
- and many more

# Air-handling-units for the chemical sector

**All areas of the chemical process chain, from the laboratory through technical production, in the sectors of development, synthesis and analysis place extremely high demands on the design, function and durability of the involved air-handling-units.**

With its AT4 and AT6 unit series, AL-KO Air-Technology offers a modular system, that fulfils all of the requirements of the chemical industry:

- | resistant to almost all substances and gaseous combinations of substances
- | client-specific application in compliance with process requirements
- | easy, quick and complete cleanability
- | precision of thermal air-handling with regard to temperature, humidity and airflow
- | durability and lasting quality
- | energy efficiency
- | operational and process safety

A few of the special structural features of the AT4 and AT6 unit series:

- | extremely high corrosion protection and durability through adapted material selection at all quality levels of stainless steel
- | surface textures available in powder coating, epoxy resin coating, and wet lacquer coating
- | fully explosion-protected designs
- | extremely high resistance to housing leakage F9 in compliance with EN 1886
- | low operating costs due to optimised fan units and minimised pressure losses
- | entirely smooth inner surfaces without undercuts and cavities thanks to patented housing construction
- | free and complete access to all functional units and components through mandatory operating doors and optimised supply and exhaust chambers

- | can be fully inspected from outside through mandatory large sight glasses and internal lighting
- | performance certification in compliance with EUROVENT
- | hygiene certification compliant with VDI 6022, DIN 1946 and VDI 3803
- | ATEX certification zone 1 and 2







## REFERENCES

- | BASF AG
- | Degussa AG
- | Henkel KGaA
- | Fresenius AG
- | Beiersdorf AG
- | B. Braun Melsungen AG
- and many more

# AL-KO



**AL-KO THERM GmbH**

Hauptstraße 248-250

89343 Jettingen-Scheppach

Phone (+49) 8225/39-269

Fax (+49) 8225/39-271

E-Mail [madelene.laeth@al-ko.de](mailto:madelene.laeth@al-ko.de)

[www.al-ko.com](http://www.al-ko.com)