

Air-Technology
QUALITY FOR LIFE



www.
al-ko.cn

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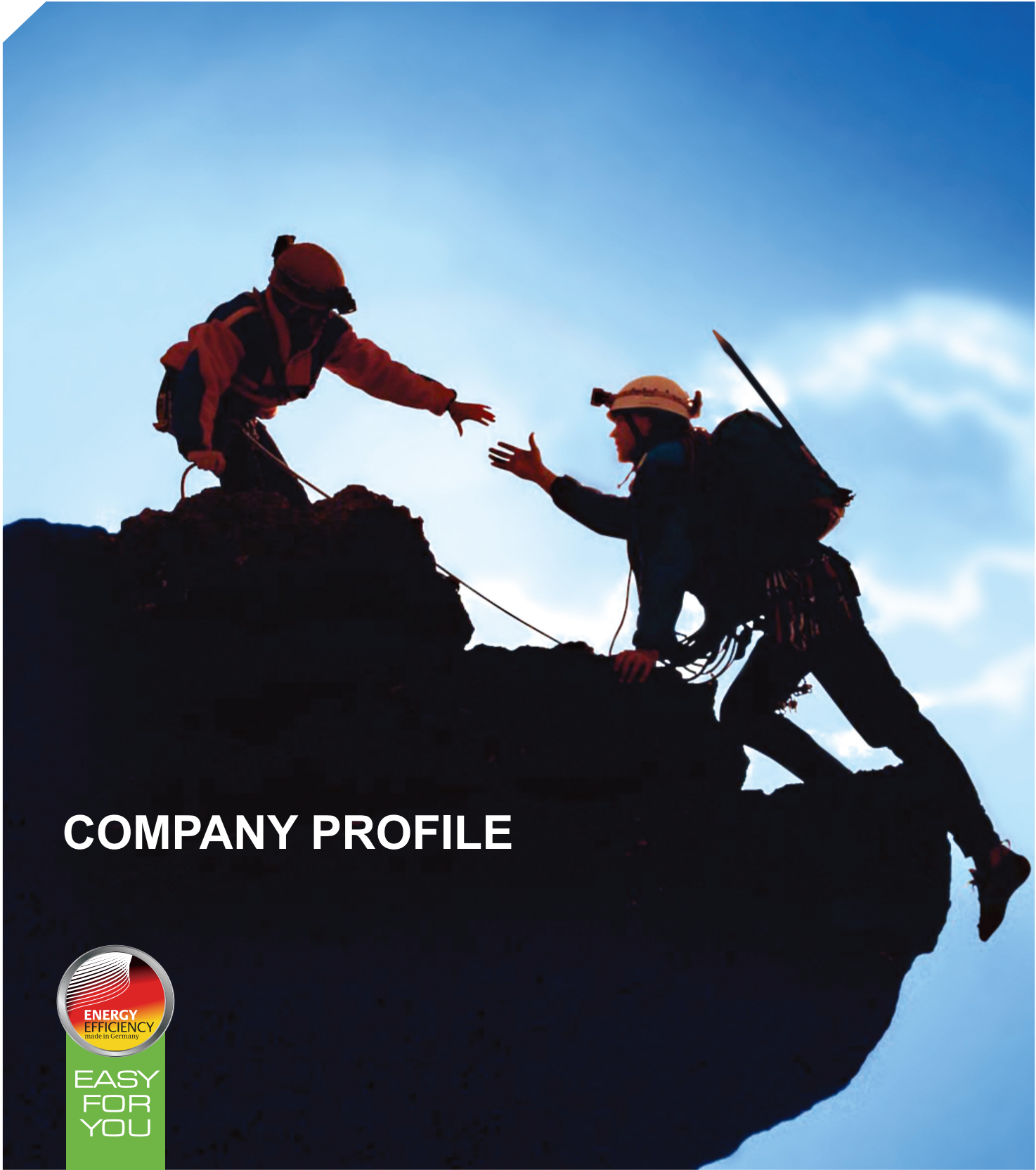
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Air-Technology
QUALITY FOR LIFE

AL-KO



COMPANY PROFILE



EASY
FOR
YOU



AL-KO GROUP



Founded in 1931 by Mr. Alois Kober, AL-KO Group is a German family-run enterprise with more than 80 years of history, which set up its global headquarter in Koetz, Bavaria, Germany. As a result of over 80 years' development, AL-KO has grown to a multinational cooperation that established more than 86 subsidiaries and employed more than 6000 people in every major region of the world.

Our business mainly covers such three fields as air treatment technology, automobile technology, and gardening machinery and more than ten subdivided industries, especially in the fields of energy-saving central air-conditioning and clean air treatment, AL-KO group has evolved into a leader of Euro-market, as well as the forefront of the international market depends on its unique proprietary technology.

AL-KO CHINA

AL-KO Air Technology (Suzhou) Co., Ltd was established in Taicang, China in 1998, which is a wholly-owned subsidiary of AL-KO Group. It's mainly responsible for the product manufacturing and sales in the Asia-Pacific region, as well as providing the professional solutions of air treatment. The AT4, AT7/AT-Marine series units manufactured by AL-KO are widely used in the fields and industries involving pharmacy, hospital, laboratory, industrial, automobile, public/commercial, maring, etc.

AL-KO China has the exactly same product quality and standards as AL-KO Germany does and has imported the whole set of state-of-the-art manufacturing facility. AL-KO is the first domestic manufacturer of air-conditioning cabinet granted the certificate of Eurovent. On the premise of fulfilling the customer's requirements of clean, we also focused on researching and developing the air treatment solution of low energy consumption, low operating costs, and more environmentally friendly, and devoted ourselves to providing the most professional, practical, and convenient services.



Air Technology



Vehicle Technology



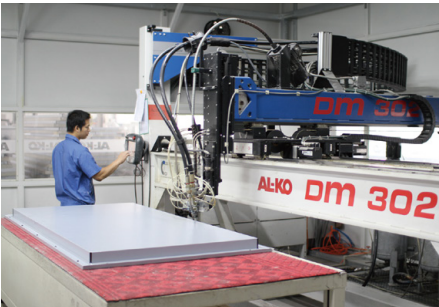
Garden+Hobby



Punch



Powder Coating Equipment



Liquid Polymer Sealing Machine

AL-KO MILESTONE



1931

Mr. Alois Kober founded
the AL-KO Group



1988

Complied the measurement
and test specifications
obtained the TUV certificate.



1996

Started the market
promotion of new AT4 units



2009

Come to Antarctic
Newmyer Research Expedition Station



2012

German Customer
Centre Building completed

1975

Set foot in the field of air
treatment technology



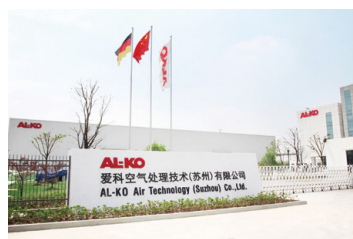
1991

AL-KO Wittenberg Branch
Responsible for sheet metal processing



1998

AL-KO
Air Technology (Suzhou) Co., Ltd



2011

Produce EASR AIR flat ®



2016

Established the AL-KO
Research & Development Center



CORPORATE CULTURE

Brand Image

AL-KO has been devoted itself to shaping the brand imaged integrated with safety, comfort, and luxury. As a global brand. AL-KO is active in the international market



Our Belief

All commercial activities shall follow the tenet of respecting the benefits of customers and partners, and hold the principles of benefit employees and service society

Confidence

Expressiveness and high technological competitiveness

Dynamic

Advanced thinking, positive attitude

Trustworthy

AL-KO, most trustworthy brand

Humanized

Transparently handle the relationships with partners and customers

AL-KO



Our Target

Improve the life quality of global customers, business partners and employees



1. Air Conditioning Units Series AT

- 1. Design & Manufacture Standard: EN1886, DIN1946, RLT, GB19489-2008, GB50356-2008, GB/T14294-2008
- 2. Authorized certification: Eurovent, VDI6022, ISO9001, ISO14001, CRAA
- 3. Efficient software -Klim@soft helps the designer to conduct the equipment previous model selection
- 4. Prepared more than 330 kinds of modular standard size, which can meet the design requirements of all units with different air volumes and functions
- 5. In pharmaceutical industry, it could meet the requirements of air-conditioning and ventilating system specified in the new version of GMP



3. Industry Recognition

As the first European brand air-conditioning in China market, AL-KO has introduced the German advanced products and innovative solutions of air treatment to the industry. AL-KO always adheres to the European quality standard, and it is the first enterprise granted the certificates of Eurovent, TUV, CAA, etc. We believe, the third party certification and the best user experience are the most effective methods to prove our product quality! After more than 20 years' development in China, AL-KO has accumulated rich experience and lots of successful cases in such areas as pharmacy, laboratory, automobile, industrial engineering and electronic engineering, and provided excellent product and service for thousands of customers at home and abroad.



2. Product Features

- 1. Energy-saving**
 - Energy-saving design
 - Energy-saving control
 - Energy recovery
- 2. Hygienic**
 - Smooth and anti-corrosive surface, easy to clean
 - All materials can eliminate the breeding of bacteria
 - All cabinet plates adopt the liquid epoxy seals
 - All grooves and joints of equipment inside are filled with sealant, which can prevent the dusts from gathering
- 3. Non-standard design, standardized production**
 - With decades of rich experience, we have independently developed the software-- Klim@soft specialized in air conditioning design
 - Fast model selection, by employing the unique, non-standard, and flexible design, this unit occupies the minimum space
- 4. Sound-, heat-, and fire-proof**
 - The cabinet plate adopts 1.0mm galvanized steel sheet, which subject to the treatment of electrostatic powder coating
 - Filled with the rock wool materials, which bulk density could up to 70kg/ m³, its fire-proof performance reaches A1 grade
 - Adopt the structure of double layer, removable sandwich face-plate
 - Adopt the technology of patented "pyrolysis coupling" and cold-proof bridge between the face-plate and frame
- 5. Convenient to install and maintain**
 - It's available to transport the equipment by loose parts and assemble them on the site
 - All face-plates can be individually removed
 - It's available to realize the side pulling for all functional sections
 - The access door adopts unique technology

4. Mechanical properties and performance

Overall Performance

Type	Casing strength class	Thermal transmittance class	Filter bypass leakage class	Thermal bridging factor class
AT4	D1(M)/1A	T1	F9(M)	TB1

Casing acoustical insulation

Type	casing acoustical insulation at 125 Hz (dB)	casing acoustical insulation at 250 Hz (dB)	casing acoustical insulation at 500 Hz (dB)	casing acoustical insulation at 1000 Hz (dB)	casing acoustical insulation at 2000 Hz (dB)	casing acoustical insulation at 4000 Hz (dB)	casing acoustical insulation at 8000 Hz (dB)
AT4	15.2	25.9	27.3	29.6	33.3	36.7	41.7

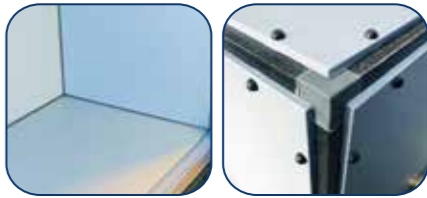
Air leakage

Type	Casing air leakage class at -400Pa	Casing air leakage class at -700Pa
AT4	L1(M)	L1(M)

Note: "M" means the "Model box"



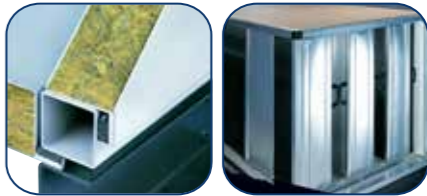
Plug Fan Rotary heat exchanger



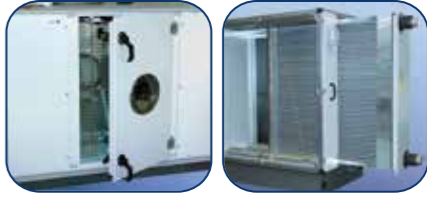
Inner panel Outer panel



Klim@soft selection Klim@soft selection



Sandwich panel structure Sound attenuator



Operation door and safe grid Cooling coil

1. Pharmaceutical

Industry special requirements

1. Meet the requirements of cleanliness and air output of the pharmaceutical workshop
2. Control the microorganism amount in the workshop by such methods as air filtering, disinfection, sterilization, etc
3. Stable air volume control, maintain the relative pressure difference in the room
4. Require low air leakage rate to eliminate the possibility of cross contamination between different areas or between the workshop inside and outside
5. Keep the unit inside clean and dry to prevent the bacteria from breeding
6. Convenient to conduct regular maintenance to the unit, including the unit cleaning, sterilization, etc
7. Meet the requirements of customization, as well as provide stable environment of high/low temperature during medicine production, transportation, and storage
8. The unit adopts energy-saving design to reduce the energy consumption of air conditioning system



Heat recovery unit

AL-KO Solution

1. Strictly follow the national GMP standard of pharmaceutical industry to design
2. All joints and grooves of the cabinet are sealed by the closed-hole type sealing materials, which are inert to the microorganism
3. All "sandwich" face-plates adopt the 1.0mm galvanized steel sheet to guarantee the unit structural strength
4. The face-plates and components subject to the treatment of 80μm electrostatic powder coating, which can realize the function of anti-corrosion and prevent the bacteria from breeding
5. Removable face-plate, the coil and filtering sections adopt the design of side pulling, easy to maintain and repair
6. By employing the rock wool materials, which fire-proof performance reaches A1 grade, this equipment has excellent performance on heat preservation; it also adopts the technology of patented "pyrolysis coupling" and cold-proof bridge
7. Efficient plate heat recovery device/coil glycol heat recovery device/heat-pipe heat recovery device (Optional)



Clean design



High-quality filter



Plate heat exchanger



Concealed cable trunk

Classic reference projects

AT4 units are applied in public and private pharmaceutical industries, Some of the partners are as follows:



2. Hopastal / Laboratory

Industry special requirements

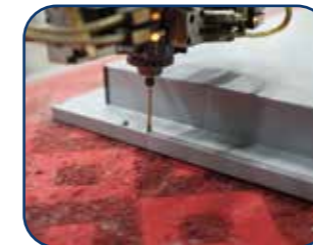
1. In these fields and industries, the unit shall meet the special requirements of indoor air environment such as temperature, humidity, cleanliness, etc
2. Ensure the unit to meet the requirements of infection control of this industry, avoid the microbial contamination and cross infection
3. Guarantee that the unit could meet the requirements of purifying capacity of medical treatment, as well as the supplying of sterile air
4. The hazardous substance contained in the exhausted air shall be recycled and treated, otherwise, it may result in cross infection with outside
5. Meet the industry requirements, including the system safety, reliability, precision, repeatability, durability, etc
6. Meet the requirements of noise reduction and sound-proof, provide quiet and comfortable environment for the patients
7. Low-temperature air supply for the laboratory, fast cooling for the operating room of cardiac surgery department of the hospital, and other requirements
8. Support the modular customization, ensure the unit could be normally used under all environmental conditions



Clean-type unit

AL-KO Solution

1. Patented cabinet structure, adopt the working procedure of cutting before coating, thus the metal cutting surface also subject to the anti-corrosive treatment
2. In order to guarantee the cabinet strength, the unit adopts the integrated structure of GFK frame works with the "Sandwich" structural face-plate
3. All cabinet plates adopt the liquid epoxy sealing materials to prevent the bacteria from breeding, the cabinet could realize the functions of anti-corrosion and anti-aging
4. By employing the EPDM cold sealing technology, the access door keeps low air leakage rate after using for a long period of time
5. Provide the stainless stall plate, or the plate subject to the treatment of electrostatic powder coating to prevent the bacteria from breeding, and guarantee the unit performance of anti-corrosion
6. Provide the equipment life cycle cost (LCC) analysis
7. Provide the direct evaporative cooling air conditioning unit (direct-expansion unit), and the highly integrated modular functional sections



Panel sealing process



Sealed filter frame



Integrated cooling device



Handle

Classic reference projects

AT4 units are applied in public and private hospital, biological institutes and laboratories, Some of the partners are as follows:



3. Industrial / Electronic

Industry special requirements

1. Effectively control the amount of particle and floating dust.
2. Require the higher filtering grade, and lower leakage rate.
3. Prevent the treated and untreated air from cross contamination.
4. The unit shall have high strength and bearing capacity.
5. Strictly control the indoor temperature and humidity.
6. Large air volume.



Unit Inside View



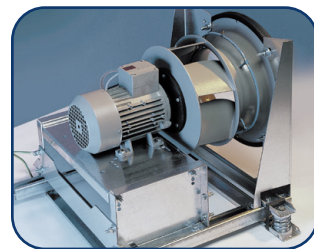
AT4-7 filter frame



Ex-proof damper



AT4-7 damper



Plug fan

AL-KO Solution

1. Adopt the working procedure of cutting before coating to guarantee the entire unit has high cleanliness and excellent performance on anti-corrosion.
2. By employing a complete set of liquid sealing & processing equipment that exported from Austria, the cabinet body has excellent sealing performance and long service life.
3. By employing the AL-KO particular air-tight air valve, the unit could keep the inside air clean after power off.
4. AL-KO filter adopts the side pulling structure, the durable filter frame is equipped with clamping device, easy to replace and maintain.
5. Adopt the maintenance-free and efficient IE2 motor to reduce the energy consumption, in addition, we have prepared the IE4 permanent magnet motor (optional), which is one of the most efficient motor in the world.
6. Adopt the volute-less and directly drive fan, provide the high-static pressure, and prevent the belts from producing dusts.
7. Adopt the smart automatic control device to fulfill the requirements of constant temperature and humidity.

Classic reference projects

AT4 / AT4-7 units are applied in integrated circuit dust-free room, chip manufacturing workshop and other extremely high air quality requirements, Some of the partners are as follows:



4. Automotive

Industry special requirements

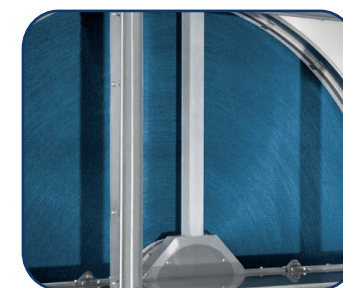
1. High occupant density in the workshop, and large heat released amount.
2. Require large air amount.
3. Special requirements to the air, including air dehumidification, humidification, or heating.
4. The larger the air volume, the higher the energy consumption, require to reduce the energy cost.
5. Timely supply the fresh air and exhaust the indoor air.
6. Treatment of the returned air and exhausted air in the workshop (such as the painting workshop), recycling and filtering of paint mist.
7. Unit shall be made by the materials with no silicone.
8. Combustible and explosive areas must adopt the design of high-temperature resistance and anti-explosion.



Large air volume unit

AL-KO Solution

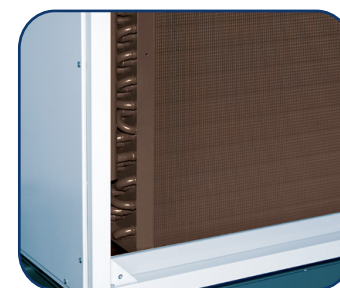
1. According to the customer's requirements, it's available to flexibly customize the AL-KO AT4-7 and improve its performance, thus it will be applicable to all special sites.
2. By employing the 57mm (optional 70mm) insulation board, the AL-KO AT4-7 has excellent performance on thermal insulation and sound insulation.
3. By employing the advanced cabinet sealing technology, the cold-bridges effect has been reduced to the minimum (TB1).
4. We have designed the such functional sections as heating and spraying for this equipment according to the customer's requirements, hence it can meet the special requirement of air treatment.
5. AL-KO team has reduced the unit internal pressure to the minimum level by optimizing the unit inside air-flow structure to reduce the energy consumption.
6. Appropriate fan and heat recovery system will be selected according to the specific requirements of operation site.
7. Guarantee that all units are made by the materials with no silicone.
8. It's available to adopt the completely anti-explosion design according to the customer's requirements.



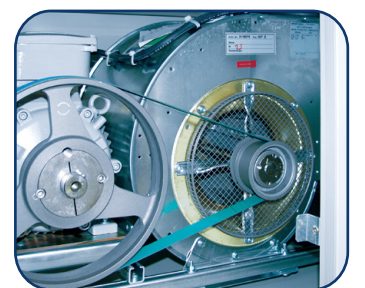
Rotary dehumidifier



Anti-explosion design



Coil



Radial fan

Classic reference projects

AT4-7 units are applied in automotive spray shop, assembly shop and other windy occasions, Some of the partners are as follows:



5. Commercial and residential buildings

Industry special requirements

1. Low energy consumption, effectively save the running cost.
2. Reasonable size of unit, realize the space optimization.
3. Low running noise, simple to control and operate.
4. Integrate the technology of air purification.



AT4-Easyair



AT4-smart (with automatic control)



EC Fan



Rotary heat exchanger



Plate heat exchanger

AL-KO Solution

1. By employing an efficient heat recovery system (counter-flow and inclined plate heat recovery/high-density runner/counter-flow and coil heat recovery), the heat recovery efficiency of this unit is higher than 80%.
2. In order to minimize the energy consumption of air blower, all components adopt the design of low-resistance.
3. The relevant technologies of permanent magnet motor, which energy consumption grade reaches IE4 (National standard 1), are widely used in this equipment, and greatly reduced the energy consumption.
4. By employing the unique, non-standard, and flexible design, this unit occupies the minimum space.
5. It's available to transport the equipment by loose parts and assemble them on the site.
6. Completely in accordance with the world's strictest requirements of hygiene certification (VDI6022), this equipment is designed and manufactured.
7. Adopt the high density rock wool to fill up the "sandwich" plate, thus the noise reduction of this cabinet is much better than the similar cabinet manufactured by domestic and overseas peers.
8. As we have prepared Noise Data Sheet, covering full-spectrum, for each designed unit, the designer is convenient to design the whole system.

Classic reference projects

AT4-Easyair / AT4-Smart units are applied in commercial office buildings, luxury hotels and villas, Some of the partners are as follows:



AL-KO MAJOR APPLICATION FIELDS



6. Marine industry

Industry special requirements

1. Flexible unit size, suitable for small cabins
2. Perfectly protected against corrosive environment such as salt mist, mold and humidity
3. Safe and reliable unit, easy for maintenance



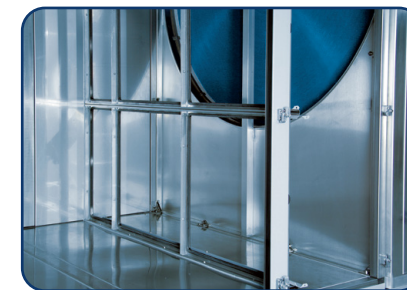
AT4-Marine



Filter



Coil and drip
eliminator



Rotary heat exchange
and filter frame

AL-KO Solution

1. Flexible modular unit structure, can be produced in more than 25 standard unit dimensions and several non-standard sizes
2. Powder-coated treatment, protected against corrosion
3. Different materials available on demand for inner and outer panel, e.g. galvanized steel, stainless steel ss304 and ss316L
4. Marine unit coil section uses removable mounting rails. Coils are removable from the side, saving much space for maintenance
5. AL-KO AT4 series provides rotary heat recovery plan, improving system energy efficiency and thus realizing energy saving



Classic reference projects

AT4-Marine application variety ranges from oil tanker, marine platform to AHTS, Some of the partners are as follows:





Care Details & Deliver Values!