REMAK

PORTFOLIO

WHO WE ARE

It may seem that we are manufacturers of air conditioning. But we think we rather are **CONNECTION CREATORS**.

For the third decade we have been bringing together the generations of our colleagues associates, the best experts in the field and designers into a team dedicated to the matter of quality air inside buildings.

The team who listen to the expressed wishes, needs and try to sense the unspoken ones and give them clear content. And this is the solution tailored to each project.

WHAT WE DO

Yes, we do ventilation and air air handling.
But above all, we believe that each peace of our equipment is jointly created unique work that fulfills the purpose of its existence.

And that is the interconnection of the building indoor environment with the surroundings so that the key part of nature is available to people inside – QUALITY AIR.

So, our primary goal is not just to produce machines and of course we do not even produce air, our mission is to enable the access to quality air inside buildings, wherever and whatever they are.

SOLUTION FOR EACH ENVIRONMENT

Administrative buildings

As people spend more time in office space and the quality of the work environment directly affects their well-being and productivity, our primary goal is to offer air handling units that maximize air quality, minimize noise pollution and optimize operating costs in such spaces.

Clean rooms

Clean or also hygienic operations such as operating theaters, laboratories, pharmaceutical plants or of high-tech materials manufacturing impose specific and extreme demands on cleanliness, cleanability and material stability. For this purpose we offer a completely specific unit design that meets the most demanding technical and legislative requirements.

Pool halls

Indoor pool halls, water parks or rehabilitation facilities with water treatment are extremely demanding concerning keeping an acceptable level of operating costs as well as ensuring durability especially from the point of view of corrosion resistance. For this purpose we deliver units with special surface finishing of casing and components, and specially developed and tested control systems.

DUETT Business Residence

The Office building of the highest standard Class A. The central air-handling units are equipped with EC motors and sorption regeneration wheels for heat and humidity recovery.

NZ Nutritionals

The hygienic unit equipped with high-efficiency fans with EC motors maintains the indoor microclimate in the manufacturing facilities of a leading manufacturer of food supplements in New Zealand. In addition, the control unit features remote management and visualization via PC for easy administration, and it is capable of sending an alert email in case of failure.

Teplice Aquacentrum

A swimming stadium featuring thermal water, water attractions, including sports and leisure time areas. The delivered central air-handling units include a measuring and control system.

SOLUTION FOR EACH ENVIRONMENT

Explosive environment

For decades, REMAK has been a reliable supplier of certified solutions for ATEX equipment, where safety and reliability are key requirements.

Industrial corrosive environment

For this type of environment we offer units in a special design with a of corrosion resistance corresponding to C5 class according to EN ISO 14713.

Public buildings

Whether large or small shopping malls, theatres or sports halls, we always have a solution to guarantee quality indoor environment for visitors and staff while ensuring optimum operating costs. This also makes our equipment suitable for buildings with BREEAM or LEED certification.

Nizhnekamskneftechim

Four Explosion-proof ExdIIBT air handling units with standard control systems have been delivered to one of the largest petrochemical companies in Europe, which is the leader in synthetic rubber and plastic production in Russia. Many units are equipped with standby components ensuring continuous operation without possible failures.

Rosum, Bratislava

LEED Gold certified Office building, which includes retail areas and parking facility . The delivered central air-handling units are equipped with adiabatic cooling and heat recovery to optimise operating costs.

Gold mining plants, Chelyabinsk

For construction of the newly build gold mining factory in Chelyabinsk, air handling units were installed for ventilation with a special requirement for corrosion protection of the casing and components. This is because cyanidation and leaching processes are used during the gold mining proces where aggressive chemicals such as hydrochloric acid and sodium cyanide are used.

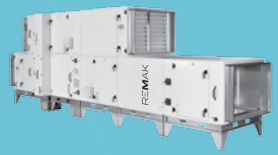
PRODUCT LINES

- The new AHU Remak X series modular units can fit into every building – thanks to a combination of cross-sections with the air-flow from 1.000 to 38.000 m^3/h (for ErP 2018 compliant units it is 30,000 m^3/h), the dismountable frameless construction and the custom made length. Bidirectional AHU can also be selected using two different cross-sections – e.g. supply can be square and exhaust rectangular cross-section. The total number of different combinations is virtually unlimited.

- The AeroMaster Cirrus modular units are designed for the air flow range of 12.500 to 99.500 m^3/h; for units meeting the requirements of ErP 2018 the upper output limit is approximately 63.000 m^3/h. The units are designed for larger commercial, administrative, industrial, sports and other public buildings. They can also be supplied in the make for outdoor installation. The number of optional components allows for an optimal selection according to the needs of a particular project. Built on a unique design of self-supporting lamella panels, the sandwich casing guarantees superior mechanical stability and tightness as well as a high level of thermal insulation and acoustic attenuation.

- The AeroMaster XP modular units are currently the main product line covering an air flow range of 1.500 to 28.000 m^3/h; for units meeting ErP 2018 an output of approximately 20.000 m^3/h can be reached. Like the AeroMaster Cirrus, the AeroMaster XP units also have a wide range of applications and we also offer them in special design such as clean-room and healthcare applications, pool halls, buildings with increased anti-corrosion requirements and ATEX design. In all these modifications, the AeroMaster XP units consistently comply with the applicable technical standards. The sophisticated self-supporting sandwich casing design (including make for outdoor installation) ensures optimum thermal insulation, acoustic attenuation, tightness and mechanical stability. A wide range of components and built-in components allows to design and deliver very efficient equipment from the point of view of installation, operation and energy efficiency.

- AeroMaster FP modular ceiling suspended units are intended for the air flow of 1.000 to 4.000 m^3/h; for units meeting ErP 2018 the upper output limit is approximately 2.600 m^3/h. The units are designed for indoor installation and are suitable for installation above suspended ceiling thanks to low height and service access from below. The sandwich casing design provides excellent thermal insulation, acoustic attenuation, tightness and mechanical stability.

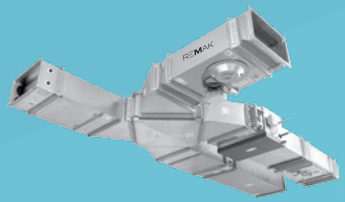


VCS is a compact control unit for decentralized control of air handling units. It ensures high reliability and safety of AHU´s operation.
It enables easy operation including visualization of operating conditions.

compact units

The CAKE - compact unit line is designed for the air flow range of 400 to 3.600 m³/h. The units can be installed in a wide range of commercial places, and are also available in the so-called Plug & Play make for fast installation. They also meet the requirements for clean room ventilation as a standard. Although being compact, the Cake units are characterized by variability of solutions, for example including selection of the access side , location of inlet and exhaust openings or the integration of the cooler. The units are further characterized by uncompromising processing quality and maximum energy efficiency. The original sandwich casing design provides excellent thermal insulation, acoustic attenuation, tightness and mechanical stability.

duct units



The duct units of Vento line are the optimal solution for less demanding applications in the air flow range of 250 to 10.000 m³/h. As one of the few manufacturers on the market we also offer plate heat exchangers for these units meeting the requirements of ErP; the maximum air flow for such solution meeting ErP 2018 is about 5.500 m³/h. The kit concept allows maximum adaptation to the complex disposition conditions of reconstructed and extended buildings. The great advantage of these units is among other things short lead time thanks to having them on stock.

decentralized equipment

In addition to air handling units, we also offer equipment for decentralized ventilation, specifically the comfortable design air curtains of the C and D series primarily designed for restaurants, commercial or administrative places; as well as industrial air curtains of the P series. Other decentralized ventilation equipment in our portfolio include duct and roof fans. Having these products including fans designed for use in explosive environment (ATEX) or fans with EC motors on stock is a great advantage.

MODULAR UNITS

REMAK X

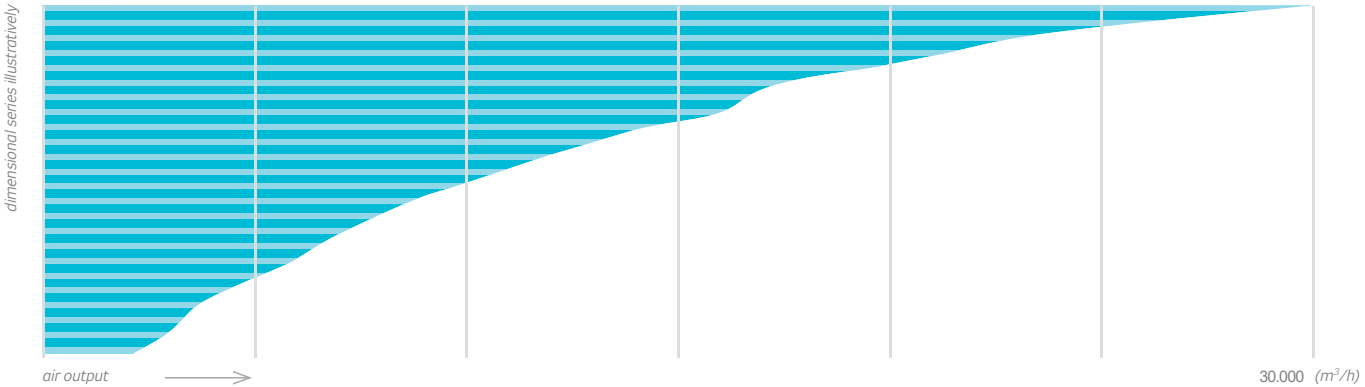
EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

ecoDESIGN 2018

BIM READY

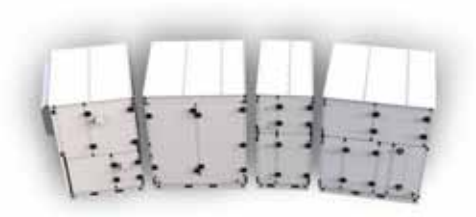
TECHNICAL PARAMETERS

PERFORMANCE



CASING PARAMETERS (ACCORDING TO EN 1886)

Mechanical stability	**D1 (M)**
Casing leakage	**L1(M), L2(R)**
Filter bypass leakage	**< 0,5% (F9)**
Thermal transmittance	**T2(M)**
Thermal bridging	**TB3(M)**



MODULAR UNITS

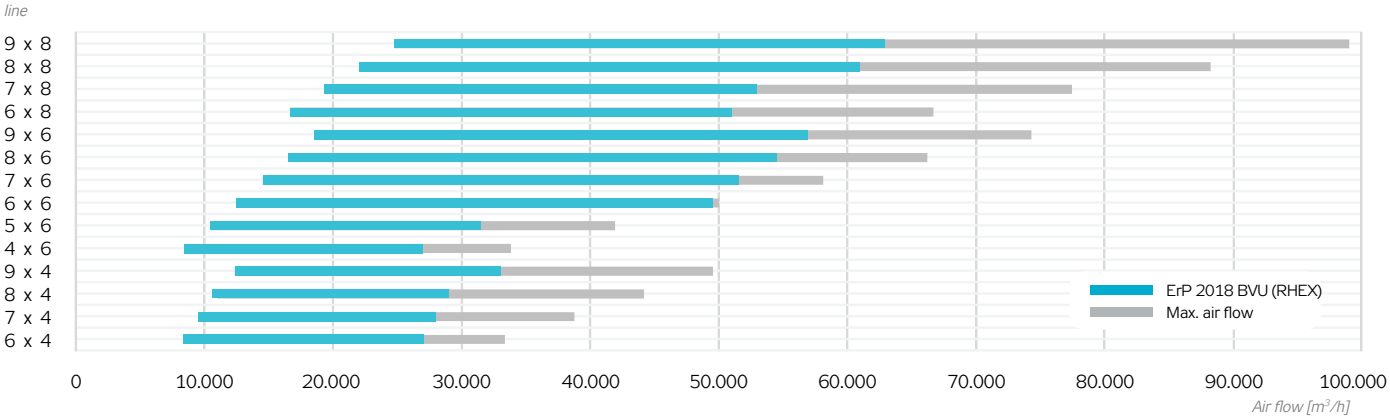
AEROMASTER CIRRUS

ecoDESIGN 2018 BIM READY

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

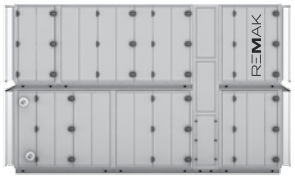
TECHNICAL PARAMETERS

PERFORMANCE



CASING PARAMETERS (according to EN 1886)

Mechanical stability	**D1(M)**
Casing leakage	**L1(M)**
Filter bypass leakage	**< 0,5% (F9)**
Thermal transmittance	**T3(M)**
Thermal bridging	**TB3(M)**



MODULAR UNITS

AEROMASTER XP

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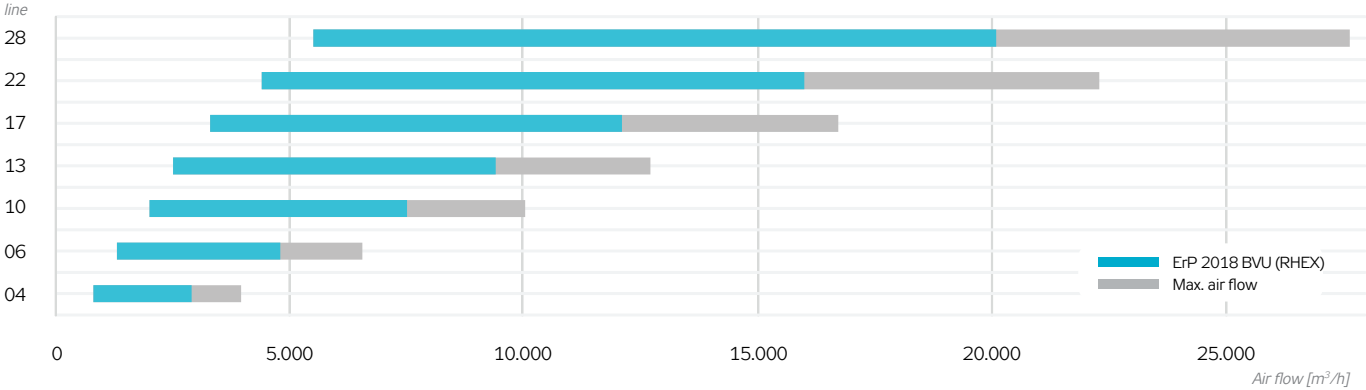
BIM READY

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

TECHNICAL PARAMETERS

PERFORMANCE



CASING PARAMETERS (according to EN 1886)

Mechanical stability	**D2 (M)**
Casing leakage	**L1(M), L3(R)**
Filter bypass leakage	**< 0,5% (F9)**
Thermal transmittance	**T4(M)**
Thermal bridging	**TB3(M)**

MODULAR UNITS

AEROMASTER FP

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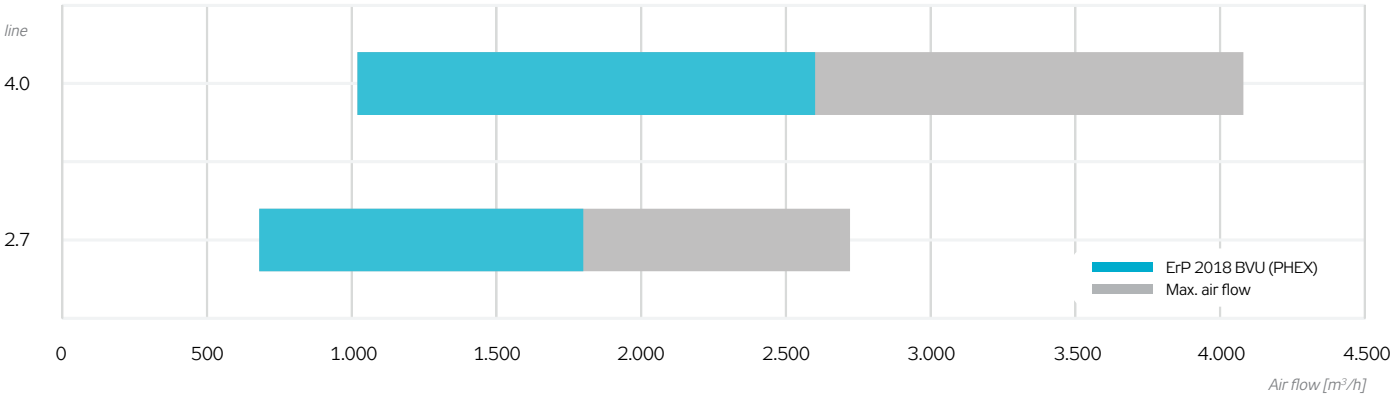
BIM READY

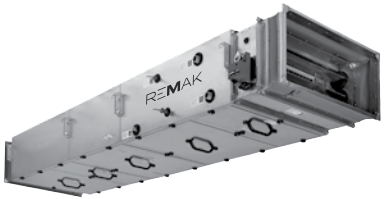
TECHNICAL PARAMETERS

PERFORMANCE



CASING PARAMETERS (according to EN 1886)

Mechanical stability	**D1(M)**
Casing leakage	**–**
Filter bypass leakage	**–**
Thermal transmittance	**T3(M)**
Thermal bridging	**TB2(M)**



COMPACT UNITS

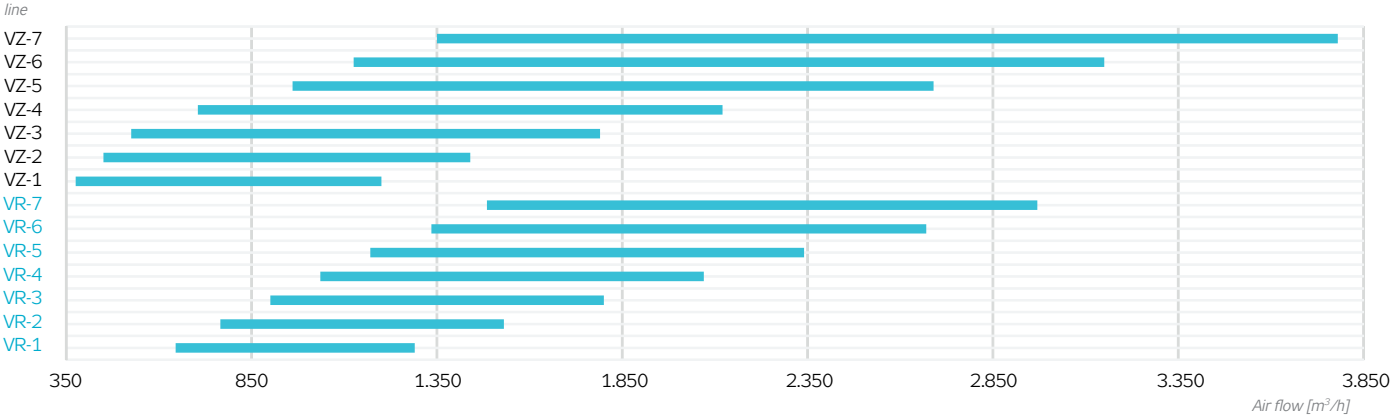
CAKE

ecoDESIGN 2018

BIM READY

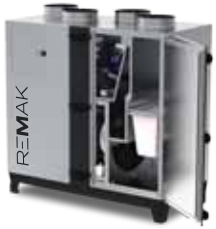
TECHNICAL PARAMETERS

PERFORMANCE



CASING PARAMETERS (according to EN 1886)

Mechanical stability	**D1(M)**
Casing leakage	**L1(M)**
Filter bypass leakage	**< 0,5% (F9)**
Thermal transmittance	**T2(M)**
Thermal bridging	**TB2(M)**



DUCT UNITS

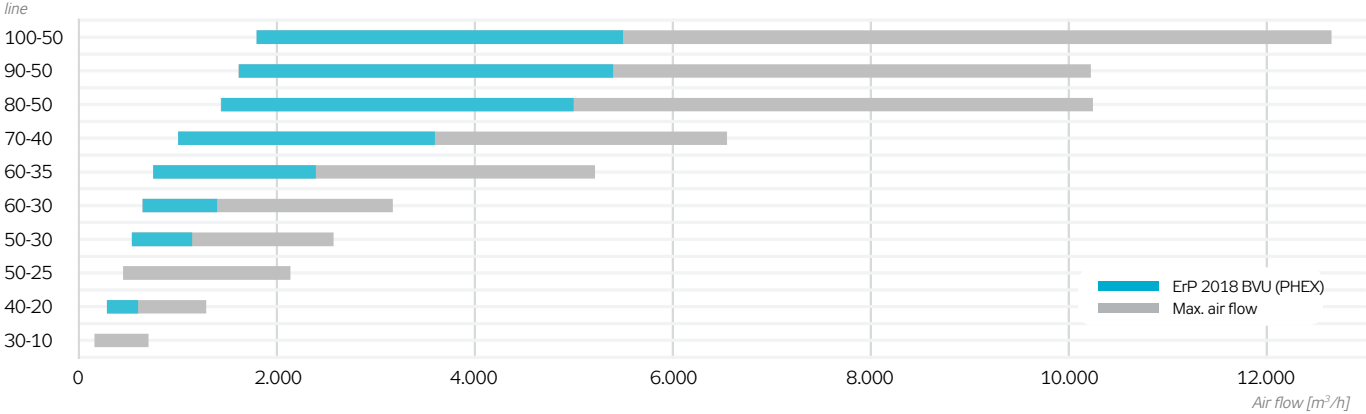
VENTO

ecoDESIGN 2018

BIM READY

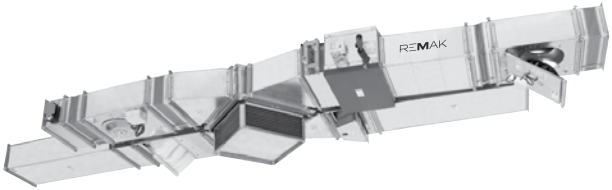
TECHNICAL PARAMETERS

PERFORMANCE



HRZ PLATE HEAT EXCHANGERS

Dimension series	Designation	Air flow [m³/h]	Efficiency [%]
90-50 100-50	HRZT 121-100 / 4Z / ...	5000	76
80-50	HRZT 121-90 / 6S / ...	4110	77
70-40	HRZT 71-80 / 7Z / ...	2880	78
60-35	HRZT 61-80 / 6S / ...	2160	76
50-30 60-30	HRZT 61-60 / 0S / ...	1810	75
40-20	HRZT 51-35 / 9Z / ...	760	73
30-15	HRZT 21-30 / 3S / ...	330	78



AIR CURTAINS

DOORMASTER

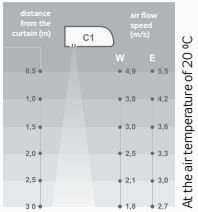
TECHNICAL PARAMETERS

PARAMETERS AND PROPERTIES

DOORMASTER C

LENGTH

- 1 m
- 1,5 m
- 2 m



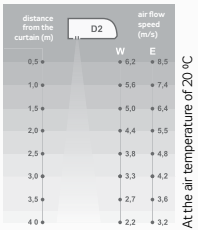
Recommended installation height:

2,2 ~ 2,5 m

DOORMASTER D

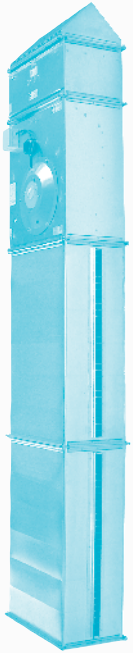
LENGTH

- 1 m
- 1,5 m
- 2 m
- 2,5 m



Recommended installation height:

2,4 ~ 3,0 m



DOORMASTER P

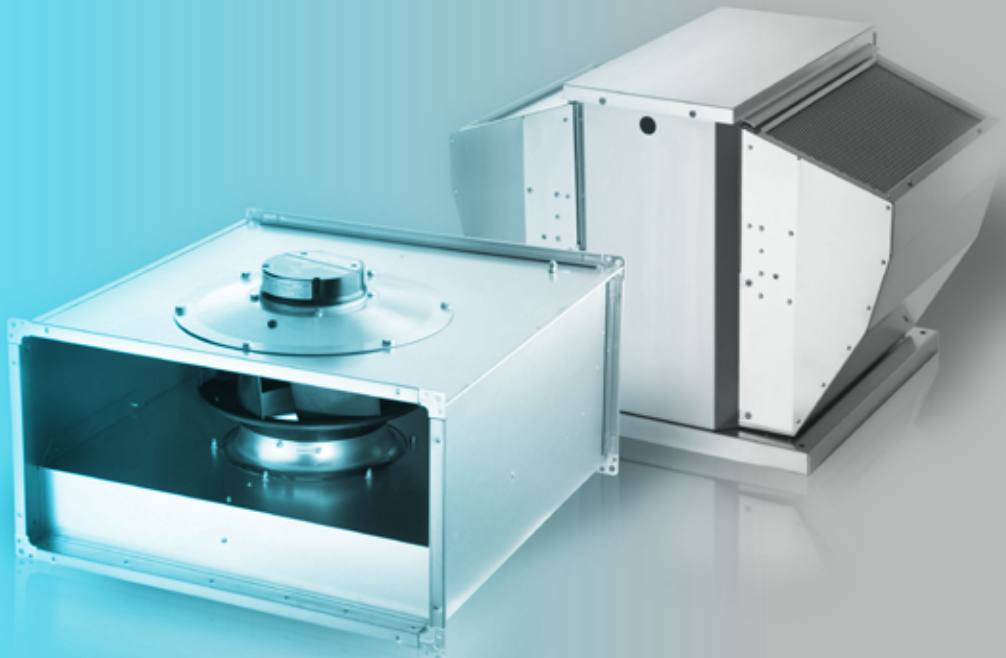
GRILLE LENGTH

- 2 m
- 2,5 m
- 3 m
- 3,5 m
- 4 m

Installation with a range of:

2,0 ~ 4,0 m

FANS



ecoDESIGN 2018

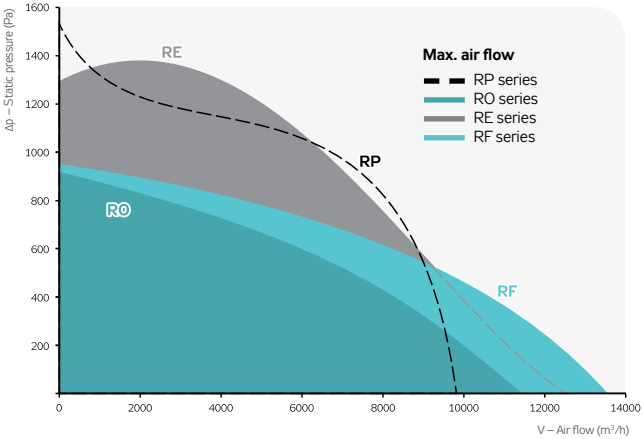
BIM READY

RP DUCT FANS

Usable universally from simple ventilation to air handling systems for complex air treatment. Connection of RP fans with other components of the Vento modular system guarantees mutual compatibility and balance of parameters which is always the ideal solution.

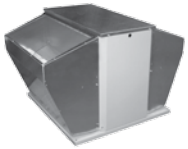
RE DUCT FANS

For use in systems with a high demand on the output regulation during operation i.e.- significant part of operation at less than the maximum output is the case, when the properties of the EC motor used are appreciated the most. The integrated electronics also simplifies installation and maintenance (no external output regulator required).



RO DUCT FANS

Suitable especially for simple ventilation equipment. Thanks to the tilting panel (with an impeller) for small types of fans, these fans can be used, for example, at kitchen hoods where higher amount of grease and the need to clean frequently are expected.



RF ROOF FANS

These are used for ventilation of apartment buildings, workshops, production halls, restaurants and other buildings with flat and sloping roofs. We offer fans that are designed to be placed and connected to a common conduit in apartment blocks or ventilation ducts leading to the roof of the building.

VCS CONTROL

MOBILE CONTROL

REMAK mobile application enables basic control and monitoring of VCS control units using a mobile device (phone, tablet) based on Android OS.

RELIABILITY

A quality air handling unit can hardly serve the operator well without quality control. Only as a whole, the required final quality and customer satisfaction can be achieved. The VCS control system is based on Siemens controllers with reliable control application tested in the Swiss laboratory (Siemens) and tuned based on long-term experience of REMAK.

MODERN FUNCTIONS

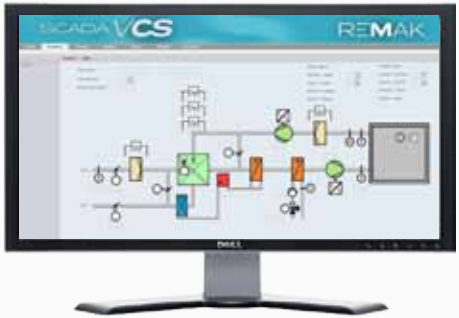
The unit has all the necessary functions for quality control but also a function with added value for energy saving. For example fan speed regulation based on CO2 (air quality), freecooling, and more. An essential part is also the connection to the BMS system according to the customer's needs using Modbus TCP/IP or RTU, BACnet/IP, LON.

OUTDOOR DESIGN

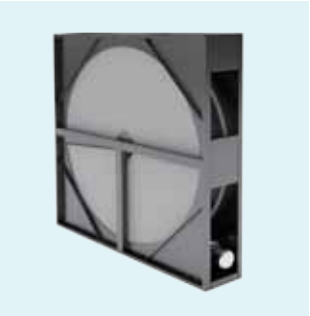
The control unit is mounted in a special outdoor casing or in a special AHU section. It is also possible to use this casing or special AHU section for installation of frequency inverters. As standard, the casing is equipped with heating and ventilation ensuring the cooling. However, other accessories such as service outlet, lighting, etc. can also be selected.

VISUALIZATION

The SCADA web interface, designed for visualization and data collection provides intuitive and comfortable control of all air parameters. It is a tool for tracking of the AHU´s operation and its optimization, it enables AHU visualization, contains a clear list of failures and history, clear scheduling and calendar settings and enables tracking and optimizing AHU´s operation using trends. The HMI@Web interface provides access to all data points.



KEY COMPONENTS



HEAT EXCHANGERS

Rotary heat exchangers reach up to 90% heat and moisture recovery efficiency. Using exchangers with different wave heights to optimize the design. In addition to the traditional aluminium foil exchanger there also sorption rotor with a unique molecular sieve layer available. This sorption type of rotor ensures high moisture transfer efficiency throughout the year minimizing the risk of exchanger freezing and reducing odour transfer (VOC).

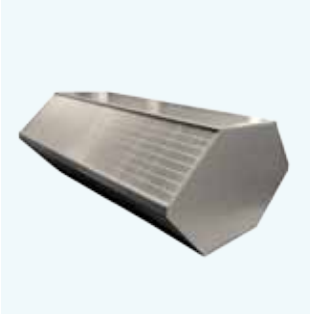
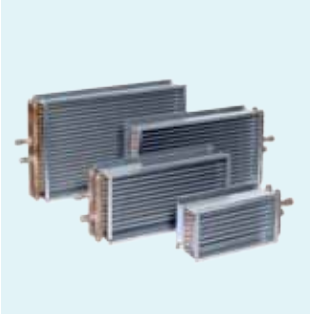


PLATE HEAT EXCHANGERS

In ventilation systems where there is a need to minimize contamination of the supply air by the exhaust air plate heat exchangers reaching up to 90% heat recovery efficiency are the ideal solution. We use both counter-flow and cross--flow types. There can be used also heat exchangers in design with high corrosion resistance thanks to the epoxy coated surface of the lamellas. The anti-frost protection of the exchanger is ensured by an integrated bypass.

FANS

Thanks to the ongoing innovations of our product range we offer fans with the highest efficiency on the market - up to 79 %. In addition to fans with a free impeller, there are also supplied belt driven fans with spiral casing as well as fans with stand-by motor as well as fans using AC or EC motors. There are also available motors with the highest efficiency in accordance with EN 60034-30-1, namely the IE5 class.



AIR COOLING AND HEATING

We use finned pack heat exchangers or electric heaters to ensure heating or cooling of the air. In case of finned pack heat exchangers the copper tube and aluminium finns are the standard, then the collector material is either copper for the evaporators or steel with a protective coating for the water heat exchangers. Heat exchangers are also available in a variety of other materials to ensure the enhanced corrosion resistance.

- The units can be optimized in terms of accessories, dimensions and price.
- Depending on the customer's needs, we assemble units from a wide range of components and accessories

FILTERS

Air filtration is one of the basic tasks of air handling unit; so we solve various requirements for filtration quality with a wide range of available filters. In our portfolio you can find frame, insert, pocket, compact, grease or activated carbon filters and we are well experienced with air ionizers or HEPA filters. There is also a wide range of filtration classes available from the lowest G3 up to ultra-fine filters of the U15 class.

INTEGRATED COOLING

Air handling units with integrated cooling system considerably simplify and shorten installation of the cooling system in the building. The heart of the system we use are highly efficient, reliable and low-maintenance scroll compressors. In addition to compressors with ON/OFF control, there are also used compressors with stepless output control. Compressors can be also supplied with control system optimizing their operation.

FREQUENCY INVERTERS

We use highly efficient and reliable Danfoss FC 101 or Micro drive frequency inverters in IP21 or IP54 for efficient fan output control and anti-frost protection of heat and moisture exchangers (optional delivery of other inverters according to customer's request). For fast and easy commissioning inverters are always supplied with set data points, which is not a standard for many other manufacturers.

MIXING SETS

Together with the air handling units, we also supply accessories necessary for their operation and control; so as a matter of course mixing sets are also supplied for water heat exchangers. These sets are composed of: pump (Grundfos), three-way mixing valve (ESBE) and actuator (Belimo). According to their size the mixing sets are assembled either with screw fitting or in case of larger size with unassembled flange.

SIGNIFICANT REFERENCES

Petrol Slovenia

Gas stations network by the Petrol company, the largest energy company in Slovenia, puts emphasis on the quality of all products sold, cleanliness and professionalism. Air handling units provide a pleasant microclimate for both customers and employees of these stations.

Autoliv Romania

Autoliv is the world's largest automotive safety supplier, selling to all major automobile manufacturers in the world, developing, manufacturing and selling airbags, seat belts and steering wheels. Outdoor air handling units provide ventilation with the central control in the Brasov factory.

Prague National Museum

The higly respected Czech museum institution. Air-handling units were specially designed for areas with strict requirements for cleanliness, temperature and humidity control. The units for the book depositaries were specially designed using adsorption dehumidification and humidification using resistive humidifiers.

Luzhniki Stadium

The largest sports stadium in Russia, where the 2018 FIFA World Cup final match was played and a concert by The Rolling Stones was held. The delivered air-handling units provide a unimaginable air output of 1,000,000 m^3/h.

Grand Elysee Moldova

The unique architecture thewhite limestone walls, facade and interior were designed by the best designers from Moldova and France. Thanks to exclusive details, impressive palace atmosphere and air-handling units with heat recovery guests can enjoy a pleasant and relaxing atmosphere.

OXY Oil Field, Oman

We delivered air-handling equipment to ensure the operating environment for the water pumping and transport technology. Our delivery included AeroMaster Cirrus air-handling units in the C3 class corrosion resistance made according to EN ISO 14713, including condensing units with a total cooling capacity of 328 kW.

55R08041407

REMAK

SOLUTION FOR A BETTER ENVIRONMENT

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