AmberAir

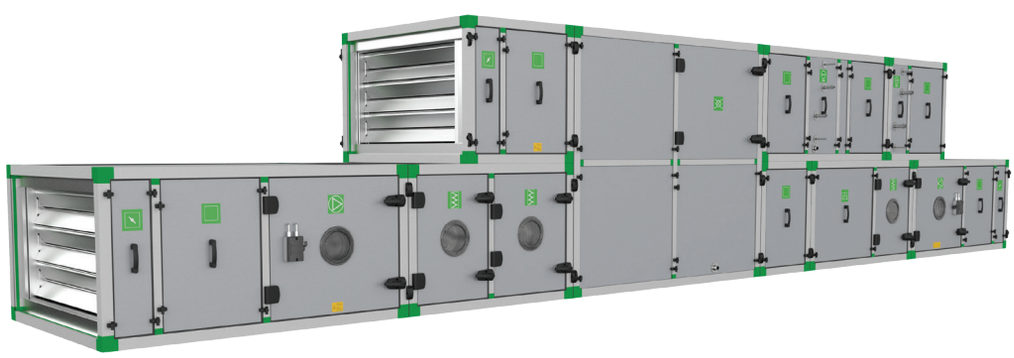
SMART WAY TO HANDLE THE AIR

SALDA

WWW.SALDA.LT

AmberAir – GEMSTONE IN AHU MARKET!

SALDA UAB devoted 27 years to investigation, production, qualification of employees in order to create their own amber — a Eurovent certified series of modular Air Handling Units AmberAir. These units provide You complete freedom in search of air handling ideas: using 3D selection program an individual solution can be found from practically unlimited range of components and it can be transferred to technical design using Audesk Revit or dxf format. Air Handling Units are manufactured using the components of the leading European manufacturers (e.g. ebm-papst, Ziehl-Abbeg, Klingenburg, Belimo). It ensures durability and lower operating costs. Furthermore, we propose one of the best casings in the market SW50+, featuring supreme properties of mechanical strength, air tightness, thermal resistance and thermal bridge. Every year we present novelties – specialised solutions, more efficient components, wider selection possibilities. The accumulated ideas culminated in recognition and evaluation of the first Eurovent hygienic Air Handling Unit in the world supplying healthy air to our public buildings.



WHY IS IT WORTH CHOOSING **AmberAir**?

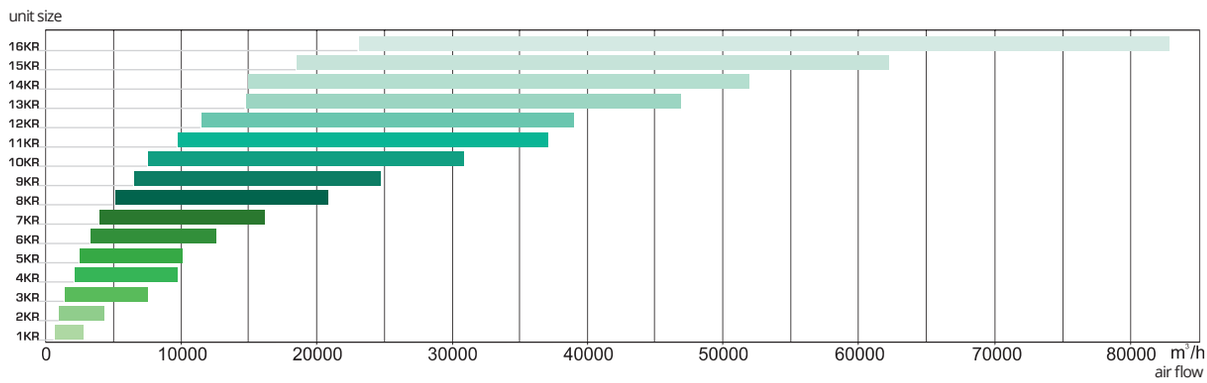
- The largest selection:
- supply air-flows – from 700 to 80,000 m^3/h;
- 4 casing types (from mid QII 2018);
- 5 heat recovery systems – counter-flow, cross-flow, rotary heat exchangers, run around coils, section of rotary heat-exchanger with heat pump;
- specialized units – AmberAir Hygienic, AmberAir Pool, AmberAir Coastal.

- Quality and reliability:
- components – only from the leading European manufacturers;
- SW50+ casing – **D1, L1, T2, TB1, F9** – the best properties in the market;
- certified with Eurovent Certita Certification;
- 4-step quality assurance system pursuant to ISO 9001/2015 standard.

- User friendly (from designing to installation and maintenance):
- 3D Air Handling Unit selection program, possibility to export to Autodesk Revit or .dxf and LCC calculator;
- the unit sections are easily connectable on installation site;
- all components are easily removable if replacement or maintenance is necessary.

WIDE RANGE OF AmberAir SIZES FOR YOUR PROJECTS

Supply air flow volume

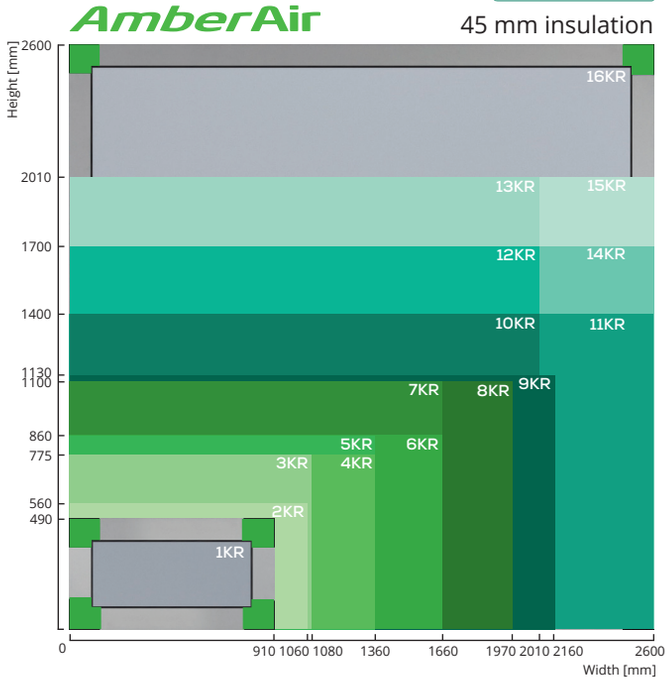


TECHNICAL CHARACTERISTICS OF CASING SW50+*

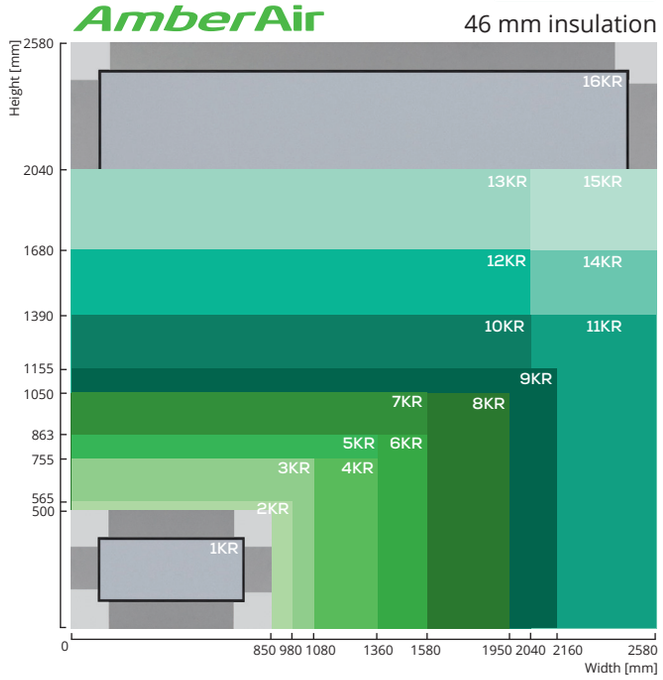
Model	Casing strength class	Casing air leakage class at -400 Pa	Casing air leakage class at +700 Pa	Filter bypass leakage class	Thermal transmittance class	Thermal bridging factor class
SW50+	D1(M)	L1(M)	L1(M)	F9(M)	T2	TB1

* - It is planned to introduce additional profiles from June 2018: with mineral wool or with PU insulation and with or without a thermal bridge.

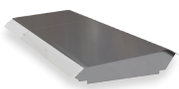
SW50+
Eurovent certified
AmberAir
45 mm insulation

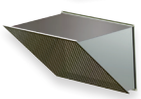


SW50
Eurovent certified
AmberAir
46 mm insulation



AmberAir





OUTDOOR INSTALLATION

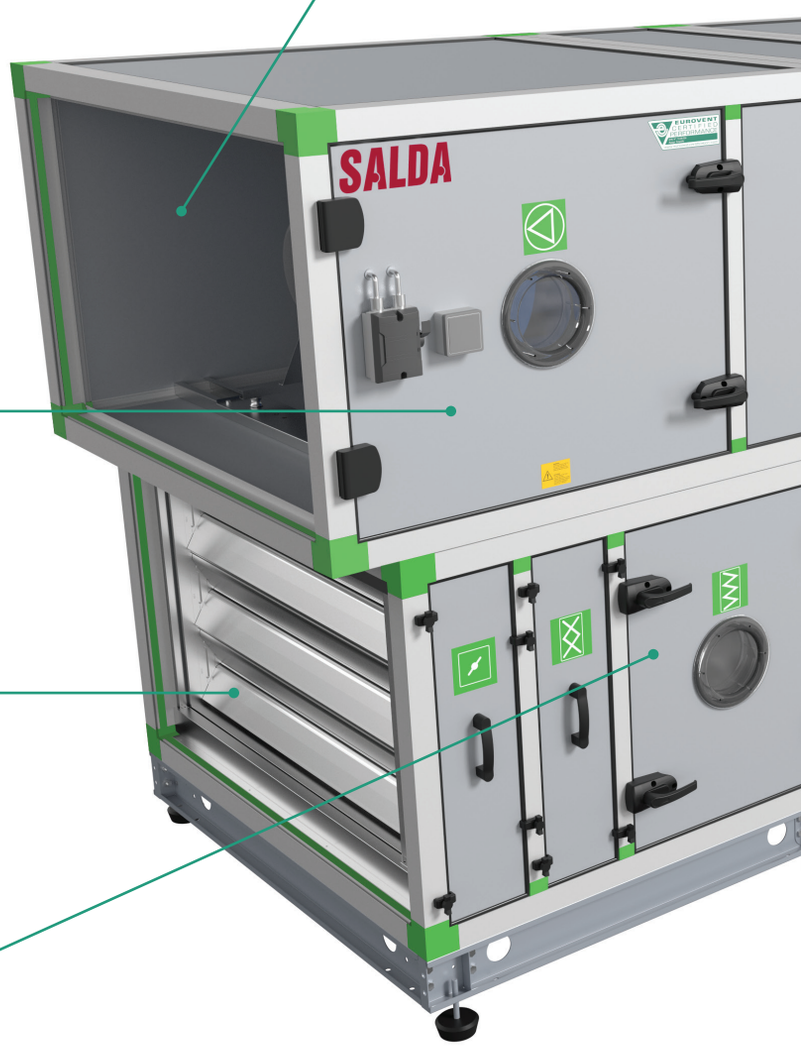
› Roof.
› Branch with net.
› Outdoor grilles.

SILENCER

› With casing /duct mounted silencers.
› Baffles filled with mineral wool or glass fiber.

INTERNAL PANELS:

› Galvanized steel;
› Galvanized steel epoxy-coated;
› Aluzinc AZ185;
› Stainless steel AISI-304;
› Stainless steel AISI-316.



FANS

NEW PM 3D
› Direct drive centrifugal.
› IE4 class motor.
› Top efficiency.

EC
› Direct drive centrifugal.
› IE4 class motor.
› High efficiency.

AC
› Direct drive centrifugal.
› IE3 class motor.
› Economy.

Belt-drive
› Centrifugal.
› IE3 class motor.

ATEX
› Fans for explosive environments.

DAMPER

› With casing /duct mounted dampers.
› Aluminium blades.
› Damper leakage class: 2/4.

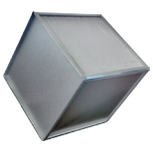
FILTER

› Panel (prefilter).
› Pocket.
› HEPA/EPA.
› Grease.
› Activated carbon cartridge.

HEAT EXCHANGER

Rotor
› Efficiency – up to 87%.

Rotor-Heat pump
› COP up to 7, EER up to 8.5.



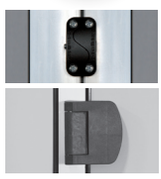
Cross-flow plate
› Efficiency – up to 75%.

Counter-flow plate
› Efficiency – up to 95%.

Glycol run around coils
› Heat recovery rate up to 80%.

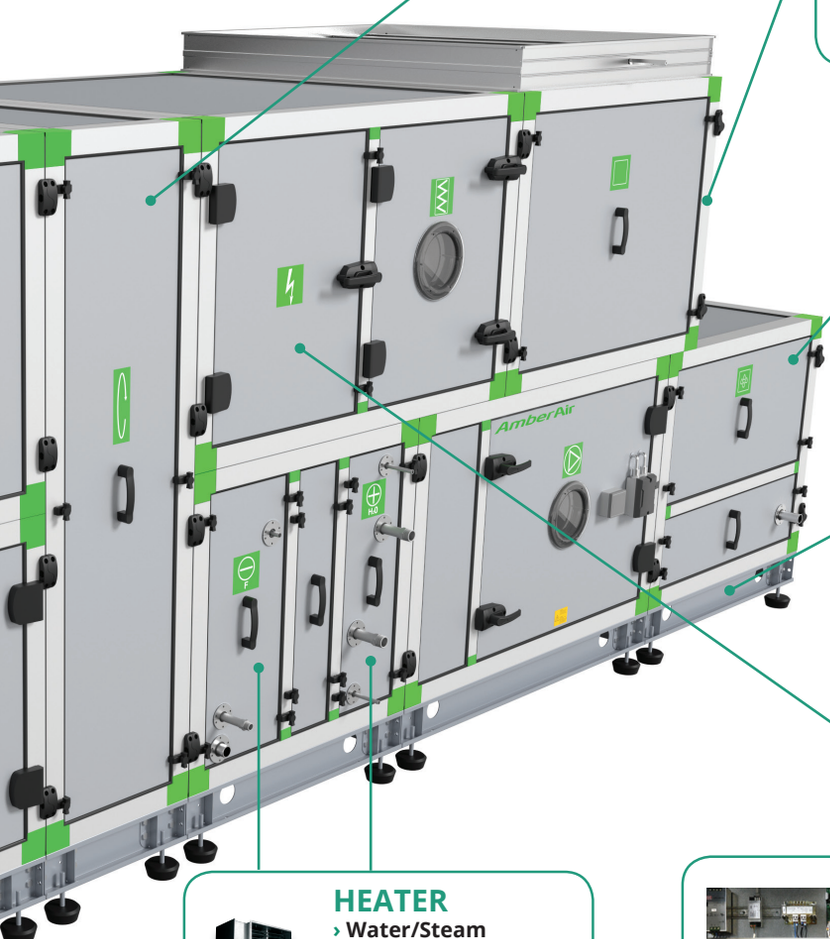
CONSTRUCTION

INSPECTION WINDOW
› Lightning inside available.
› Easy monitoring of the section.



JOINT BRACKETS & HINGES
› Supreme air-tightness.
› Low thermal losses.
› Perfect adjusting section to each other.
› Easy mounting.
› Extremely strong and reliable.

LOCKS AND ERGONOMIC HANDLES
› Prevention from accident opening with lock.
› Easy and safe maintenance.



HUMIDIFIER

Steam
› No water treatment required.
› Very reliable operation.

Evaporative
› Water supply is controlled by a built-in solenoid valve.

BASE

Base frame
› Rigid frame for lifting the unit.
› Optional height.

Adjustable legs
› Leveling the unit on site.
› Antivibration.
› Possibility to install AHU on sloped surface.

HEATER

› **Water/Steam**
› **Electric**
› **Gas**

COOLER

› **Water cooler**
› **DX cooler**

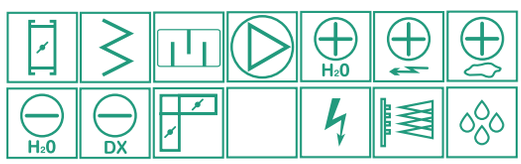
SMART control equipment

› Indoor/outdoor installation options.
› Plug-and-play.
› Powerful MCB control board.
› Siemens or Regin control systems ready.
› Positioning: in section, on the doors, mounted in distance.

TYPES OF
MODULAR AIR HANDLING UNITS

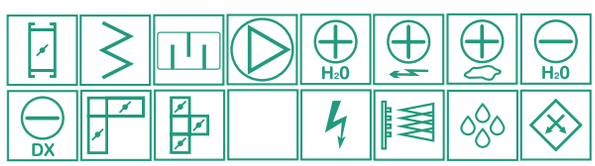
Air handling unit consists of appropriate size and function modules. It depends on air flow and pressure of air handling unit. AmberAir R/C/CX/N/RR can supply and/or exhaust air in different directions.Air can be heated, cooled, filtered (depends on function of modules) saving warmth and electricity. Air handling can be all-in-one (depends on configuration and size of unit) or made from modules.

AmberAir N



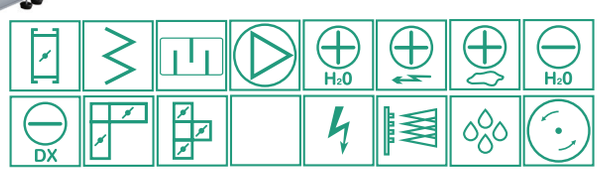
Air supply unit, intended for supply of fresh air into premises. The unit may consist of fan, heater (water, electric, gas or steam), cooler (water or DX), humidifier (steam or evaporative), filters, recirculation, silencer, control, sections also service section and damper can be added.

AmberAir C

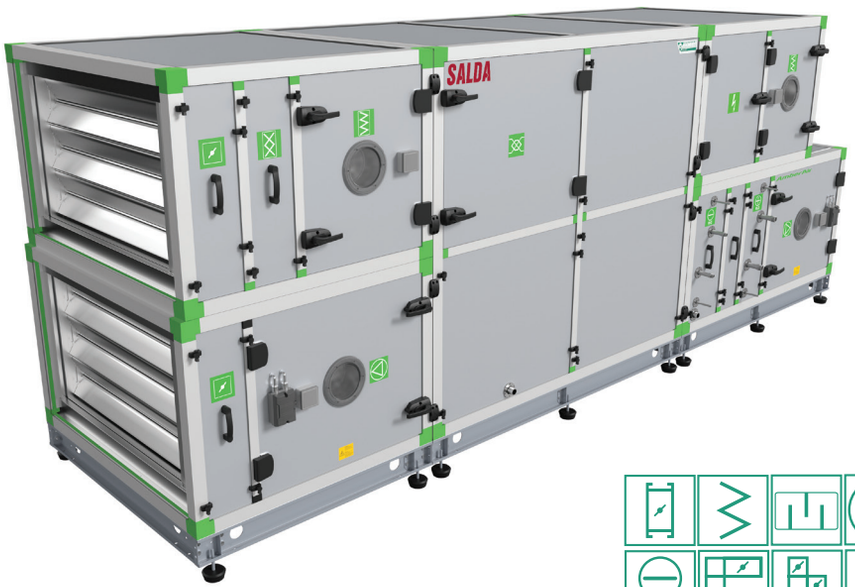


Heat recovery unit with plate cross flow heat exchanger. The unit may consist of fans, heater (water, electric, gas or steam), cooler (water or DX), humidifier (steam or evaporative), filters, recirculation, silencer, control, sections also service section and damper can be added.

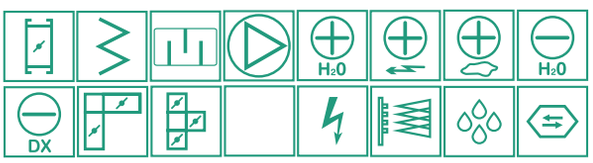
AmberAir R



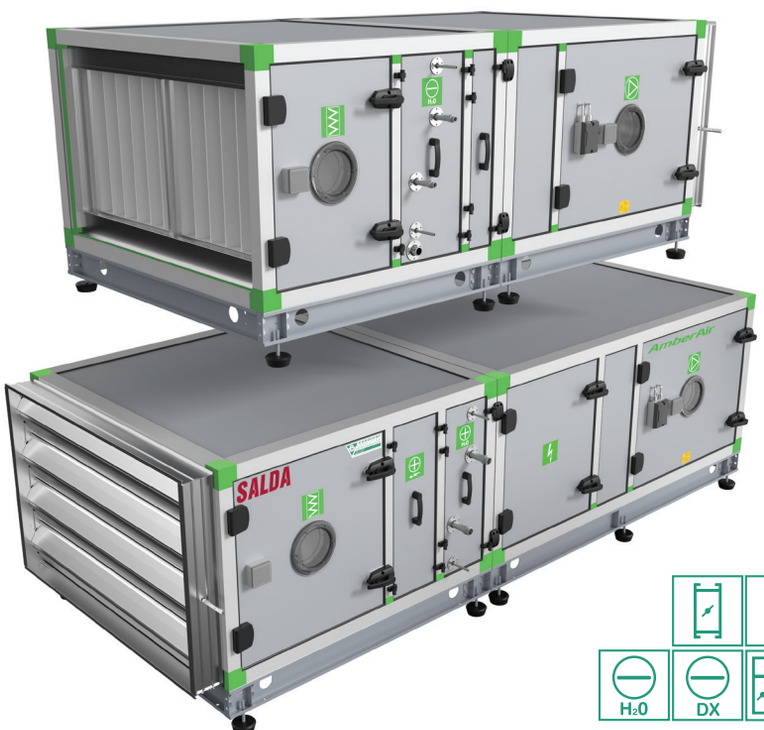
Heat recovery unit with rotor heat exchanger. The unit may consist of fans, heater (water, electric, gas or steam), cooler (water or DX), humidifier (steam or evaporative), filters, recirculation, silencer, control, sections also service section and damper can be added.



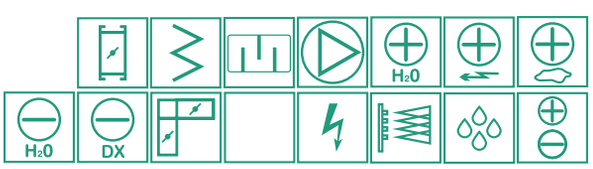
AmberAir CX



Heat recovery unit with plate counter-flow heat exchanger. The unit may consist of fans, heater (water, electric, gas or steam), cooler (water or DX), humidifier (steam or evaporative), filters, recirculation, silencer, control, sections also service section and damper can be added.



AmberAir RR



Heat recovery unit with heat recovery coil. The unit may consist of fans, heater (water, electric, gas or steam), cooler (water or DX), humidifier (steam or evaporative), filters, recirculation, silencer, control, sections also service section and damper can be added.

SPECIALIZED UNITS

AmberAir HIGIENIC

Salda AmberAir Hygienic unit was developed, tested and approved according new Eurovent Certita Certification standard for Hygienic Air Handling Units. In present days hygiene is critically important not only for hospitals but also for public buildings, new unit corresponds demand for clean and healthy air in wide areas of everyday life. Reliability and serviceability of the units are much higher than VDI 6022 standard requires. Salda Hygienic proves to be the most service friendly unit in the market.

WHY
AmberAir Hygienic?

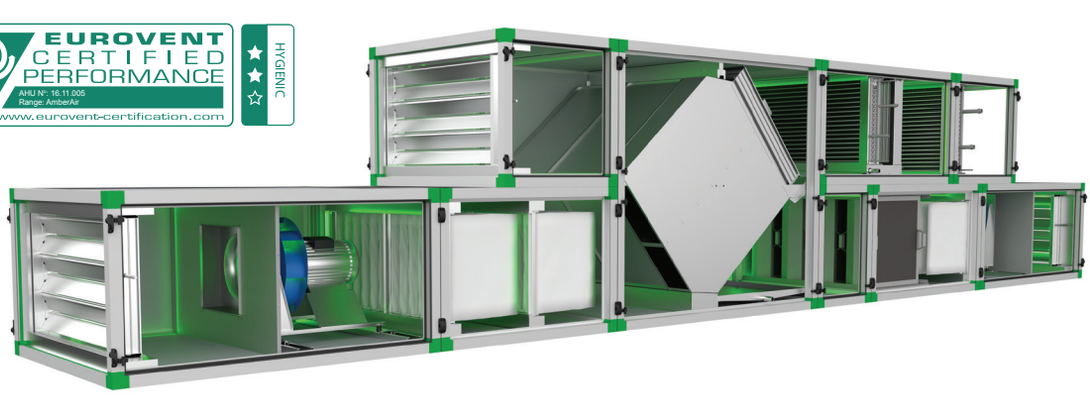
› Top class SW50+ casing: exceeds Eurovent requirements;
› Wide range of options: airflow from 1000 up to 80,000 m^3 with multiple component variations;
› Antimicrobial: all non-metallic parts inside the unit (sealants, gaskets, filters, etc.) have been tested according to the EN ISO 846 standard to prove the impossibility for bacterial growth;
› Anticorrosive: all metallic materials inside the unit (panels, rails, holding constructions and components itself) comply with corrosion class C3 according to EN ISO 12944-2, and the drip trays are made from stainless steel EN 1.4301 (AISI 304);
› Maintenance friendly: quickly accessible or easy removable components to ensure proper cleaning.

DESIGNED TO SUPPLY CLEAN, HEALTHY AIR:

Educational buildings | **Offices** | **Retailers** | **Hotels** | **Hospitals**

ECP HYGIENIC AIR HANDLING UNITS: MORE RELIABLE THAN THE VDI 6022:

› Detailed specifications;
› Annual audits;
› Specific requirements for selection software.



AmberAir POOL (NEW!)

Air handling unit for swimming pools

In conformity with the requirements of VDI 2089!

AmberAir Pool units have been designed to create an ideal microclimate for indoor swimming pool premises. Depending on settings and air parameters, smart control automatically ensures air quality parameters by extracting excessive humidity, supplying fresh air, returning most of the extract air heat, and maintaining the required temperature of supplied air. The internal components and surfaces are made of corrosion-resistant materials, thus ensuring perfect hygiene.

Characteristics of the design

› Internal and external metal surfaces meet the requirements of corrosion category C4 (EN ISO 12944-2);
› Drip trays for condensate are made of AISI 304;
› Components (heat exchanger, heating-cooling coils, compressor) are made of aluminium or covered with epoxy coating;
› Dampers are equipped with gears designed for swimming pools (IP66);
› Casing profile is made of anodised aluminium.

Available options:

› With or without a heat pump;
› Counter-flow or cross-flow heat exchanger;
› Optional AC, EC, or PM fans;
› Pocket filters of class M5/F7/F9.

AmberAir COASTAL (NEW!)

Air handling unit designed for coastal regions

Coastal regions are at higher risk of corrosion. SALDA has developed a modular air handling unit in series AmberAir specifically designed for such regions. The following modifications of the design contribute to higher resistance to corrosion:

› casing profile is made of anodised aluminium;
› internal and external metal surfaces meet the requirements of corrosion category C4 (EN ISO 12944-2);
› fins of water and Freon heating/ cooling elements and heat exchangers are covered with epoxy coating.

AmberAir
SECTIONS

FILTERS

Panel pre-filter

› Panel filter with galvanized steel frame and G4 filtration class synthetic media. Pre-filter for comfortable air conditioning applications.
› Slide-type filter rack.
› Temperature resistant up to 110°C.

Pocket filter

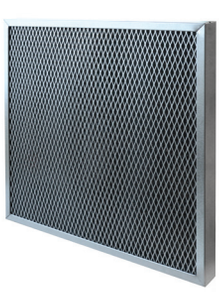
› Pocket filter with galvanized steel frame and M5, F7 or F9 filtration-class synthetic media. Main filter for comfort air conditioning applications.
› Slide-type filter rack.
› M5 temperature resistant up to 110°C, F7 and F9 up to 80°C.

EPA / HEPA filter

› Efficient particulate arrestance (EPA) air filters - class E10, E11 or E12.
› High-efficiency particulate arrestance (HEPA) air filters - class H13 or H14.
› Very high efficiency final filtration in air conditioning systems.
› Special coated galvanized steel holding frame.
› MDF filter frame with separate aluminum and fiberglass media.
› Temperature resistant up to 100°C.

Activated carbon cartridge filter

› For purification of supply air, exhaust air and circulating air streams from harmful gases, steams and odors in kitchens, museums, hospitals, laboratories, computer areas, chemical industrial spaces, paint shops, airports, petrol stations, parking garages.
› Galvanized steel cartridges filled with untreated carbon.
› Galvanized steel holding frame.
› Temperature resistant up to 70°C.
› Minimum contact period depending on application - 0.05s to 1.0s.
› Pre-filtration with F7-class filters is necessary.



Grease filter

› Filter for grease elimination or coarse dust removal. Used in kitchen extract systems or as pre-filtration within air conditioning systems.
› Panel filter cells in an aluminium wire mesh.
› Slide-type filter rack.
› Filter section with grease-collecting tray.
› Temperature resistant up to 200°C.

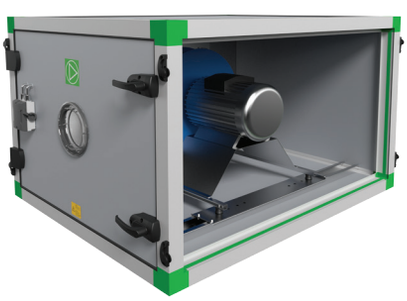
FANS

With PM motor

› Energy efficiency category IE4 (IEC 60034-30).
› Permanent magnet AC-motor.
› The highest efficiency available (exceeds EC-motor by up to 10%).
› Low losses: The high-efficiency motor, optimal fan impeller air flow, and high-efficiency fan impeller provide very high energy savings.
› 100% controllability.
› Ultra-low noise generation.
› Free flow through impeller.
› Very long service life.
› High control accuracy.
› Extremely high system efficiency.

With EC motor

› Energy efficiency category IE4 (IEC 60034-30).
› DC motor with electronic commutation.
› 100% controllability.
› Low noise generation.
› Highly efficient, even in the partial load range.
› Easy to clean due to unimpeded access to all components.
› High operational reliability and easy maintenance.
› Very long service life.
› High control accuracy.



With AC motor

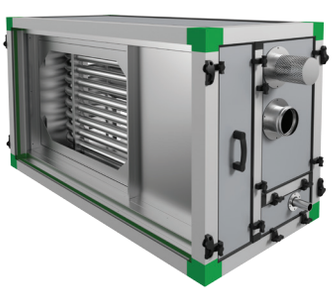
› High fan efficiency levels.
› High pressure increases possible.
› Low sound emissions.
› Forward or backward impellers.
› Very long service life.

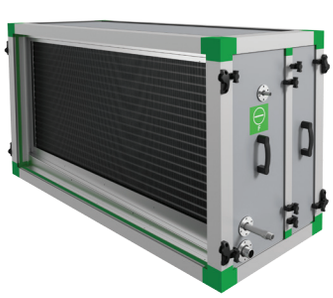
Belt drive fan

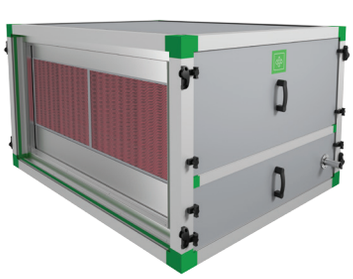
› High fan efficiency levels.
› High pressure increases possible.
› Low sound emissions.
› Forward or backward impellers.
› At least 40,000 hours of operating life for motor and fan, and at least 25,000 hours for the belts.

ATEX fan

› Explosion protected design fulfill the requirements of the 94/9/EU (ATEX 95) directive, in accordance with the device group II, device group 2G and 3G, explosion group IIB, and can be utilized in zone 1 and zone 2.







HEATERS, COOLERS, HUMIDIFIERS

Water/ Steam

› Copper pipes and aluminium plates.
› Max. operating pressure: 16 bar at a max. operating temperature of 100°C.
› Max. operating pressure: 10 bar at a max. operating temperature of 150°C.
› Wide range of heaters, which can match the special requirements of most applications.
› Special coil options available.

Electrical

› Long-life three-phase (3 x 230V, 3 x 400V) heating elements.
› Two thermal protection capabilities.
› Heating by steps.

Gas heater

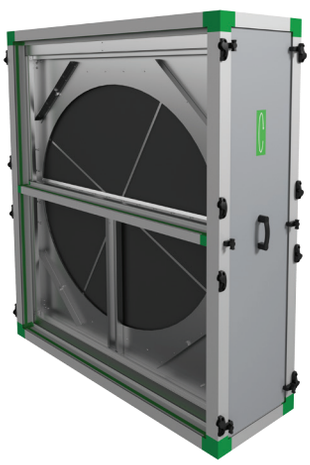
› Suitable for air-supply units for warm-air heating in industrial or commercial buildings that are connected to a natural gas supply.
› Equipped with modulating gas fan burners for natural gas;
› Short heat-up time, very economical.
› Produced with corrosion-resistant stainless steel so that additional latent heat available through the condensation of the exhaust gas can be used for heating purposes.

Cooler

› Coolers come in two types: water or evaporative refrigerant.
› Water coolers are used when cold water connections are available, and the cooling energy is transmitted via water.
› DX cooler is used when the cooling energy is transmitted via cooling refrigerant.
› Copper pipes and aluminium plates.
› Max. operating pressure: 16 bar at a max. operating temperature of 100°C (water).
› Max. operating pressure: 10 bar at a max. operating temperature of 150°C (water).
› Max. operating pressure: 22 bar at a max. operating temperature of 100°C (DX).
› Cooling section has a drop eliminator and stainless steel drip tray for water draining.
› Our wide range of coolers can match the special requirements of most applications.
› Special coil options available.

Humidifier

› Increases moisture of the supplied air.
› Evaporative or steam versions.
› Possibility of air cooling with evaporative humidifier.
› Operates on standard mains water.
› Low energy consumptions.
› Hygienic and service friendly.



HEAT EXCHANGERS

Rotor-Heat Pump

› Two–stage heat (or cold) energy recovery system.
› Integrated independent section control coordinated with the main air ventilation unit controller.
› An integrated rotor heat exchanger with efficiency of up to 85%.
› Smooth heating (or cooling) capacity control responding to changes in working conditions.
› Ensuring of the required energy demand with the use of up to two circuit heat pump systems.
› R410A– type environmentally friendly cold medium used in the heat pump circuit.
› All elements of the heat pump circuit inside the product – the product is compact and does not require any additional accessories.
› The product is fully configured and tested at the factory.
› The efficiency of the heat pump (without regard to the rotor heat exchanger) for the heating mode – COP up to 7; for cooling – EER up to 8.5.

Rotor

› Efficiency up to 87%.
› Humidity transfer.
› Aluminium rotor with galvanized steel frame.
› Special coatings for various applications: condensation, condensation (epoxy coating), condensation (aluminium alloy), hygroscopic, sorption.
› Space-saving installation.
› Suitable for high air volumes.
› Can be equipped with variable control (0- 10V signal).
› Freeze resistant and condensate-free.
› Low pressure loss.

Cross-flow plate

› Efficiency up to 75%.
› Separated supply and exhaust air: almost no moisture transfer, no mixing.
› Low maintenance.
› No moving parts.
› Frost protection function.
› Variable output control via bypass: summer function, etc.
› Aluminium heat exchanger.
› Aluminium- or epoxy-coated plates.
› Stainless steel drip tray.
› Large inspection door that provides access for inspection and service.

Counter-flow plate

› Efficiency up to 95 %.
› Separated supply and exhaust air: almost no moisture transfer, no mixing.
› Low maintenance.
› No moving parts.
› Variable output control via bypass: summer function, etc.
› Aluminium heat exchanger.
› Aluminium- or epoxy-coated plates.
› Compact, efficient and economically ideal solution for small and medium-sized air volumes.
› Variable output control via bypass: summer function, etc.
› Stainless steel drip tray.
› Large inspection door that provides access for inspection and service.

Heat recovery coil

› Heat recovery rate up to 80%.
› Energy transfer due to closed media circuit.
› Supply and extract parts can be placed separately.
› Can be retrofitted into existing equipment.
› Compact construction.
› No intermixing of air flows.
› Small space requirements.

OTHER SECTIONS

Mixing section

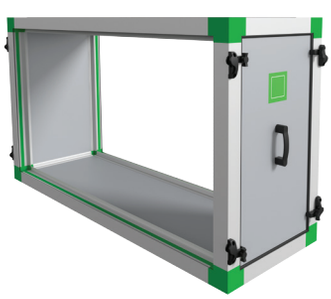
› For mixing air flows.
› Perfect for low-energy recirculation operations.
› Heat energy transferred by mixing removed and supplied air flows.
› Shut-off or recirculation.

Damper

› For closing or regulating air flows.
› Aluminium damper blades with rubber sealing gaskets.
› Counter-rotating damper blades with double-skin design.
› Suitable to use from -40°C to 80°C temperature ranges.
› Damper leakage class: 2/4.
› With/without housing.

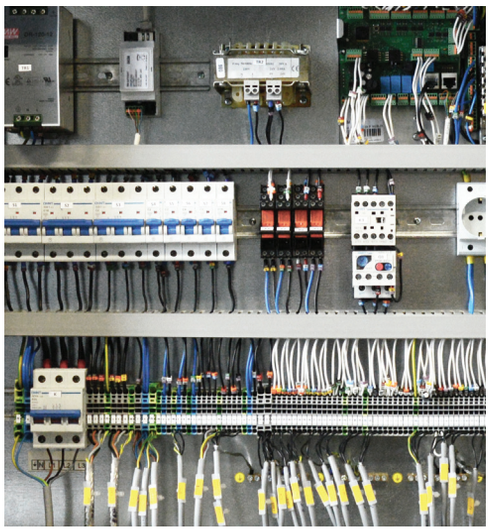
Silencer

› Absorbs noise with baffles filled with mineral wool.
› Section length: from 600 mm to 1800 mm.
› Minimal pressure loss.
› Option without housing.
› Consists of casing and perforated division walls.
› Walls filled with mineral wool.



Service section

› For inspection and maintenance operations.
› Can be used to integrate special components into the unit.
› With/without inspection window.
› With/without lighting.
› Section length from 300 up to 2000 mm.



Control

Control equipment may be customized according to every client's need. AmberAir units are factory-configured and tested together with all necessary field components. The control system complies with EU directives (MD, EMC and LVD) and is CE-marked. AmberAir is the perfect solution for both small installations with straight-forward control functions and large installations with data communication requirements. Units are self-contained and require no major on-site electrical installation. The control equipment is ready to go as soon as the unit is installed (plug-and-play). The control unit can be built into its unit, built into its doors or mounted at a particular distance from the unit if necessary. Siemens (with POL871; POL822; POL 895 remote controller), Regin (ED9200; E3-DSP) or MCB (Stouch; SALDA AIR) control systems are available.
AmberAir control features:

- Indoor/outdoor operation capabilities (up to IP65).
- PC control via Modbus (RS485); TCP/IP; LON; BACNet MSTP; Mbus; BACNet IP; Web; KNX*.
- Air quality control: CO_2, Humidity, Constant pressure.
- One or two remote controllers can be plugged in*.
- Plug and play – all components connected and tested.
- Water heater/cooler actuator.
- Filter contamination control.
- Motorized air supply, exhaust and mixing dampers.
- Sensors for different parameters.
- External fan switches.
- Duct/room sensors for night cooling.
- Frost protection for heating coil.
- Smoke detector and fire damper with accompanying control unit.

* - depending on the controller

AmberAir WILL CONTRIBUTE TO CREATION OF A GOOD INDOOR MICROCLIMATE AT SANTIAGO INTERNATIONAL AIRPORT

Pudahuel, Santiago Metropolitan Region, Chile
Installed equipment:
Modular air handling units AmberAir N with a mixing section

SMART SELECTION SOFTWARE FOR MODULAR AIR HANDLING UNITS

VentMaster v5

Using Ventmaster makes selection of AmberAir quick and user-friendly:
› simulation in a 3D environment;
› price calculation and placing of orders directly (for registered users only);
› exporting a drawing to a .dxf format;
› exporting a drawing and technical data to Autodesk Revit;
› LCC calculations.

Choose an optimal option by using the LCC (operating costs) calculation program, which estimates costs to be incurred within the course of operation of the air handling unit by evaluating:
› the initial investment;
› fan power consumption;
› heating equipment power consumption, fuel or hot water consumption.

VentMaster

2-YEAR WARRANTY

2 YEAR warranty

Using only reliable components and modern equipment for assembling the products enables us to guarantee an exceptional operation period thereof. All SALDA air handling units are provided with a 2-year warranty.

SIVENTA LAB

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001

CE

Tested in independent Laboratory ***"SIVENTA"***.
Performed tests:
› Aerodynamic.
› Thermal.
› Acoustic.
› Electrical performance.
› Sound power level.
› Sound energy level determination.

Distributor

SALDA UAB
Ragainės g. 100
LT-78109 Šiauliai, Lithuania

+370 41 54 04 15
+370 41 54 04 17

office@salda.lt
www.salda.lt