



CLIMACS
by **amco**

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Your point of view will change when you read this page

When searching for a product, it may be difficult to select a product among similar ones. If you are at this stage, we would like to remind you some important points.

This catalogue contains technical details for our product range. When you review and compare the products, you will see the superior features of our products. You will discover the potential that how our products can contribute to your firm.

Your purchase decision affects your future!

"The evaluation criterion should not be limited to price only but price & performance!"

Market researches showed that the price of a product has a significant role in decision making process for purchase. In the manufacturing sectors based on advanced engineering, experienced buyer companies generally review a product down to the subcomponents. Fans, motors, coils and all other components that are used for manufacturing, actually constitute the road map of the problems that you may encounter in the future. Weak decisions of purchase are generally resulted by time and effort loss in a shorter term, as well as financial damages.

When we planned our first unit for our first customer we were discussing this question: "Which problems may arise?" We are still discussing the same question with the responsibility we carry for our thousands of customers. We equipped our products with the most advanced technology by which we provide remote control and remote report retrieval via the Internet connection; many of our competitors in the sector fall behind the technology level we use. Our R&D department continues to develop to add more. All our investments are made to a single question "Which problem may the our customer encounter?"

Sales ok, then?

"All our activity planning is based on possible down time, which we limit it down to moments, not hours or days."

Aftersales support is particularly important in the sectors based on intensive engineering. There is no doubt that every manufacturer has its own aftersales support policy. On the other hand, some technical problems demand urgent intervention where well prepared technical documentation plays a crucial role. In addition to hard copy training manuals printed, "online training documents" will be an indispensable source for your technical team. Moreover, "online training videos" are being prepared for you.

In this short article, we would like to remind you to consider not only the product you plan to use but also consider whose product you plan to use.



AIR
HANDLING
UNIT



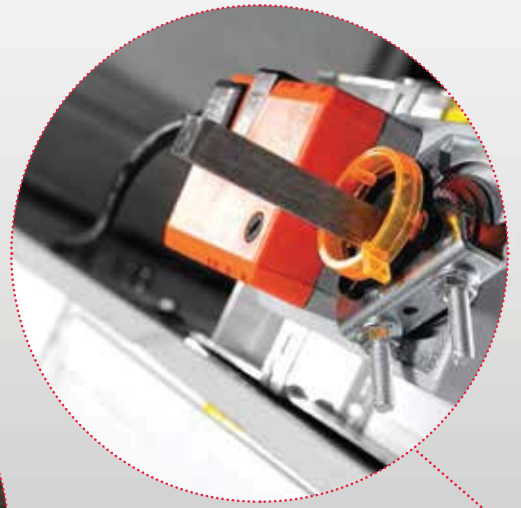


AIR HANDLING UNIT

Air handling units are used in ventilation, filtering, heating, cooling, humidifying and dehumidifying applications.

Air handling units under serie namely ACS50 having 50 mm rockwool insulation respectively. There are totally 42 models are available in the product range with capacities varying from 1,000 to 100,000 cubic meter per hour. ACS50 with range ACS 71 -1003 has been tested According to european standards.





FRAMEWORK

The frame is composed of specially rolled steel profiles and plastic brackets designed specially for these profiles. Interior surfaces of the profiles are designed to be smooth and free of recess and protrusion and are fully sealed in order to minimize pressure loss and avoid aggregation of contaminants inside the air handling unit.

PANEL

The panels constituting the body have double layers. The inner surface of the panels is composed of electrostatic painted galvanized sheets. Heat and sound isolation is achieved either by fixing rockwool plates of suitable shape and density into the gap between the layers.

Beside serving as fixed body panels, the panels can be used as service doors as well. The panels serving as service doors are equipped with hinges and handle mechanisms of which number differ from 2 to 4 depending on the height of the unit. The units are equipped with emergency stop button for emergency and another safety switch will stop the operation in case the maintenance.

RADIAL AND PLUG FANS

Cell aspirators and ventilators, depending on the pressure loss in the ventilation system, either tightly set forward curved blade fans (in systems with low to medium pressure loss, 100-700 Pa) or widely set backward curved blade fans (in systems with high pressure loss, 700-1500 Pa) are used. The fans are statically and dynamically balanced, highly efficient, silent, double suction, NICOTRA brand radial fans. Optionally, direct driven NICOTRA plug fans can be used.

Electric motors have IP54 protection and F isolation classes and operate with 380 V 50 Hz. Selection criterion depends on the power required by the fan shaft: Motors having 15% higher capacity (safety margin) are selected. Radial fans and electric motors can be fixed on the same chassis. In order to prevent transmission of possible vibration into the cabinet rubber or spring vibration absorbers are used on the support skids standing on the body panel below the fan chassis. Fan cabinet outlet mouth and centrifugal fan mouth are interconnected by using rubber sealing and flexible flange.

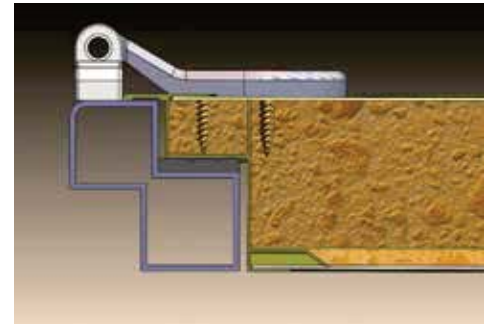
Air handling unit uses NICOTRA plug fan which are centrifugal fans without scroll. The fans have impellers with backward curved blades and they are statically and dynamically balanced, silent and high efficient fans and are suitable for velocity control and easy to clean inside the air handling unit.



Motor is directly coupled to the rotor. This way power loss caused by transmission components is avoided and contamination and breaking risk of belt is eliminated. Because the revolutions of the fan and the motor are the same air flow rate control can be managed by controlling the frequency in the fans. Fans are powered 380V /50 Hz. Asynchronous motors have IP55 protection class and F isolation class.

SEALING

Special extruded rubber gaskets with air cushion are used to avoid possible air leakage caused by the pressure difference at the seams where framework and body panels overlap.



AIR DAMPERS

The dampers used in the air handling units are made of special self sealing aluminium flaps with hidden plastic gear mechanism and bearing components. Air dampers provide seamless adjustment for air proportions ranging from 0 to 100% and they are designed according to the air flow rate and unit dimensions to minimize air leakage at the edges. Optionally, dampers can be controlled manually or by a servo motor.



FILTERS

Depending on the requirements various types of filters are used in the air handling units. As per standards EN ISO 16890; Class (G3,G4) ISO Coarse pre-filters are used to catch coarse dust particles and they are arranged in V-form in order to keep the air velocity at minimum over the filter. Class (M5, M6, F7 and F9) ISO ePM1-2,5-10 synthetic bag filters have efficiency and they are installed in air handling units in the form of cartridges enabling the easy installation and dismounting. Cartridges are composed of specially designed galvanized sheet frame with rubber gaskets. Filter cell structure is designed to avoid unwanted air leakage and complies to international filter dimensions and optimum air velocity. All filter cells are equipped with a lid providing easy access for replacement and cleaning.



SILENCERS

Silencers are designed to absorb noise to reduce it to a required level. The filters are composed of galvanized frame with glass wool filling and the frame is covered by a fabric forming a silencer chamber. The cover fabric is either glass fabric or a special fabric according to hygienic conditions.



Heating and Cooling Coils

Heater and cooler coils can be composed of either copper pipe and aluminium fins or steel pipe and steel fins depending on the purpose of the component and type of the fluid. All coils are subjected to pressurized hydrostatic test upon completion of the production. Coils are installed on the studs arranged in a way to enable easy access and maintenance. Cooling coils exchangers are equipped with a stainless steel trays or a specially formed PVC droplet catcher for condensing water. Electric heaters are produced using steel pipe and steel fins with optional safety thermostat.



Heat Recovery Unit

Diagonal flow heat recovery unit is composed of aluminium plates. As a result of the high coefficient of heat transfer and large surface area, the unit provides an effective heat transfer between the fresh air coming in and the discharged air going out of the air handling unit. The optimum solution for each system is achieved through consideration of summer and winter design temperatures and operational aspects.



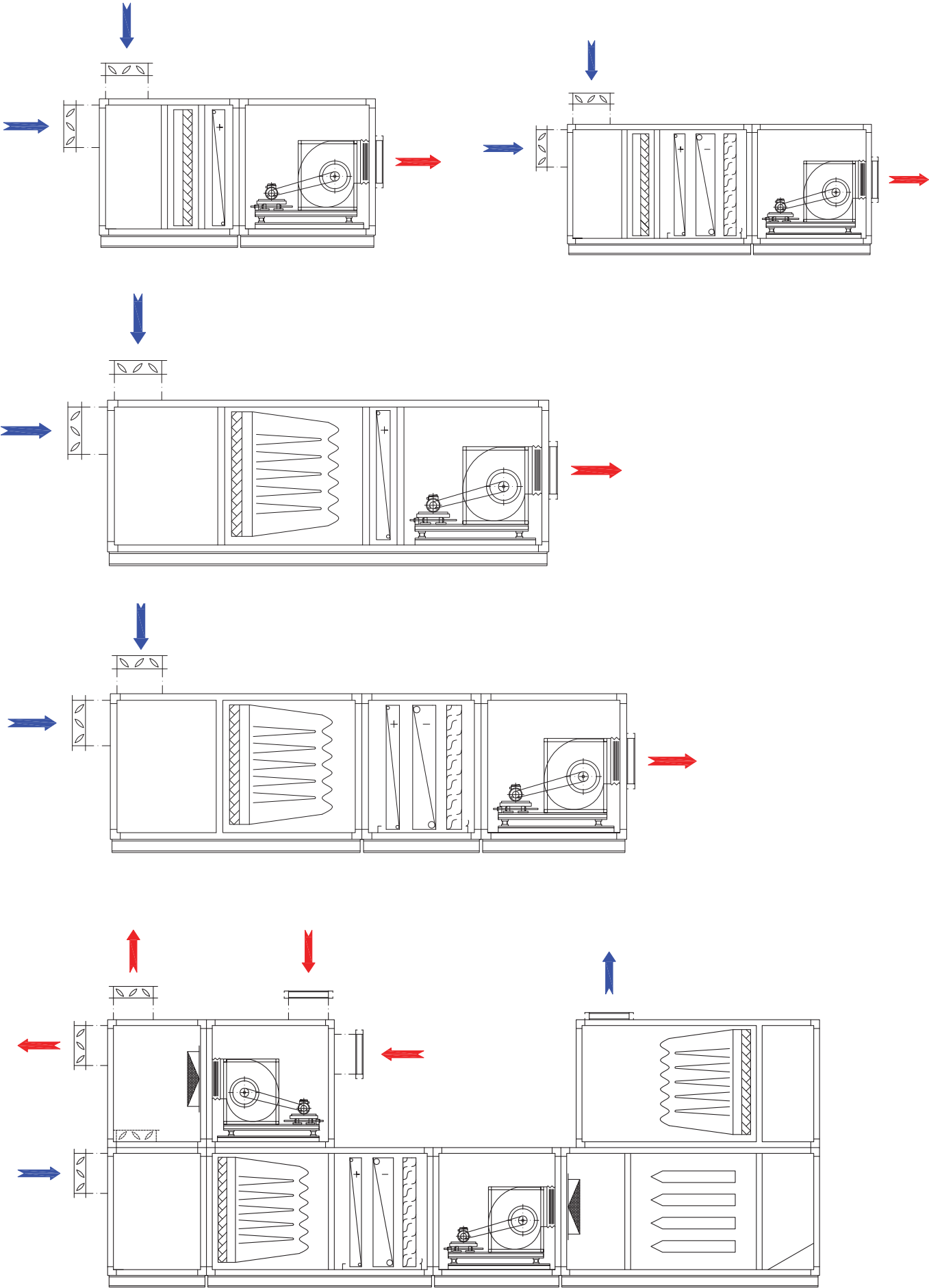
Steam Humidifiers

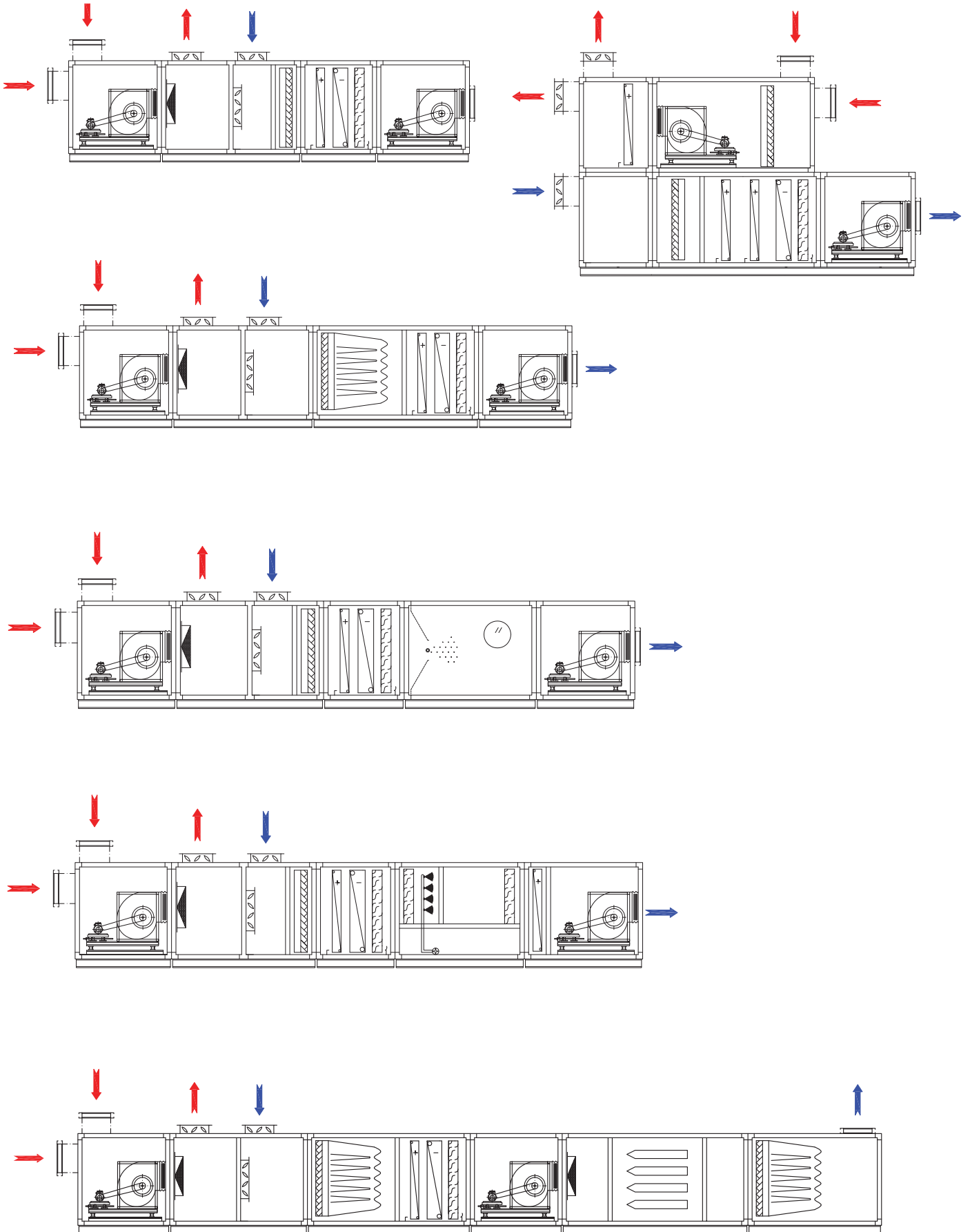
Steam humidifiers are composed of following components: Fittings for steam distributors. The fittings are available in various dimensions and numbers depending on the capacity and are installed in the cabinets built of standard panels; Hard PVC monitoring glass; PVC and stainless steel droplet catchers to avoid drift of water.



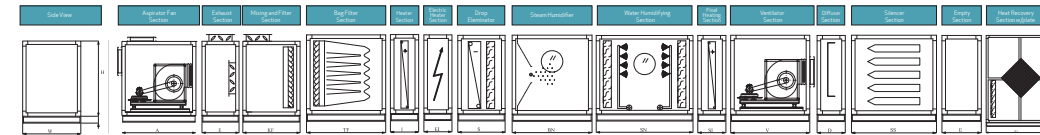


AIR HANDLING UNIT





ACS 50 AIR HANDLING UNIT DIMENSIONS TABLE



Model	Air Flow Rate (m³/s)	Width (mm)	Height (mm)	A	E-4F	TP	I	E	S	BN	SN	SI	V	D	SS	E	INLET NOZZLE			HEAT RECOVERY			EXHAUST & FRESH AIR			COOLING HEATING COLLS										
																	INLET NOZZLE	HEAT RECOVERY	EXHAUST & FRESH AIR	HEAT RECOVERY	EXHAUST & FRESH AIR	COOLING HEATING COLLS	COOLING HEATING COLLS													
70	162.4	AT 7-7	750	1050													600	183	240	224	220	400	400	400	400	500	500	500	500	500	500	500	500	500	500	500

All air handling unit cell dimensions of sections in "mm"



AIR HANDLING UNIT
WITH HEAT RECOVERY

AIR HANDLING UNIT WITH HEAT RECOVERY

In air handling units with heat recovery, effective heat transfer takes place between the incoming fresh air and exhaust air. The efficiency of the heat recovery reaches to levels up to 70%. The level of energy saving varies depending on the location and temperature and air volume of fresh air.

Optionally, the units can also be designed to operate with mixed air. Although heat recovery does not take place at a higher degree as in the case of 100% fresh air operation, there will still be some remarkable amount of heat recovery.

There are two types of heat recovery namely air-to-air and air-to-water.

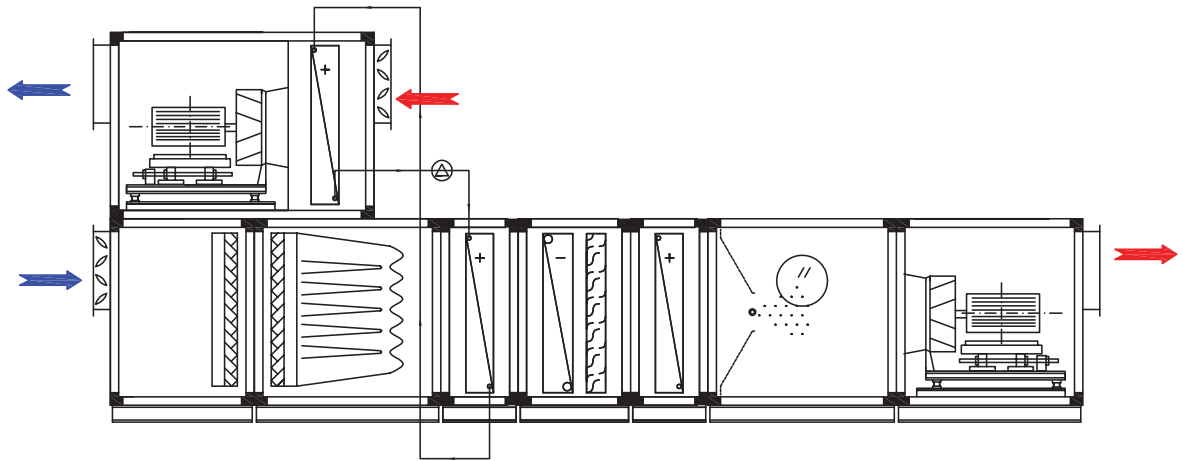


AIR HANDLING UNIT WITH HEAT RECOVERY

Water-to-Air Heat Recovery

There are two separate exchangers in the water-to-air heat recovery systems. One exchanger is on the exhaust side and the other is on the fresh air side. These two exchangers operate in a close circuit by means of a water recirculation pump.

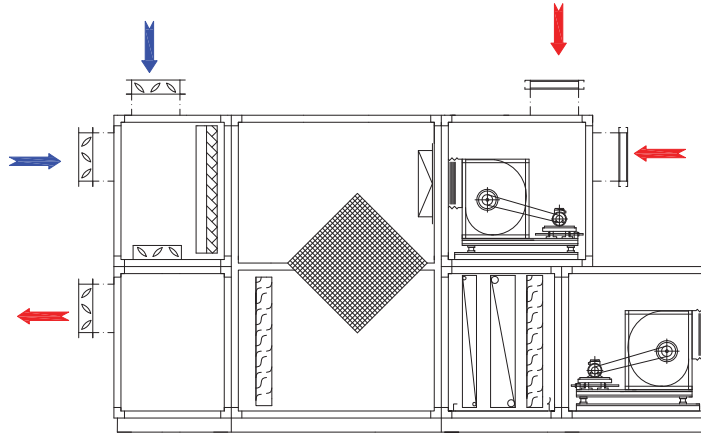
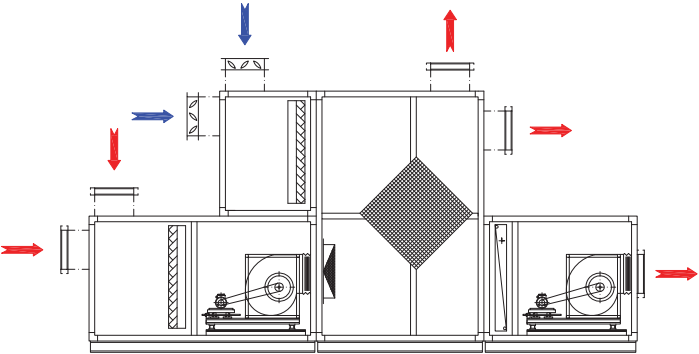
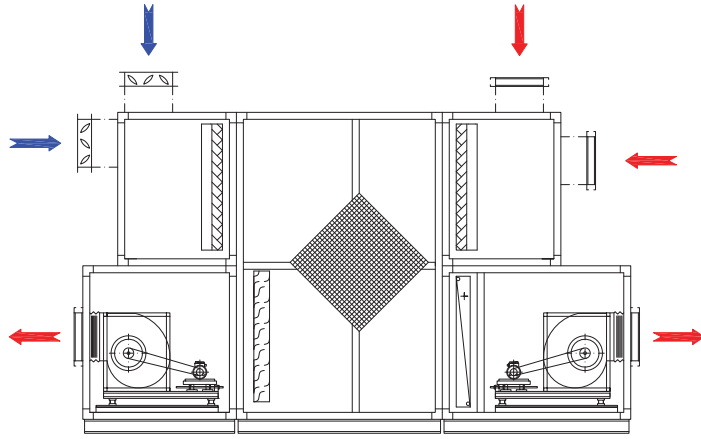
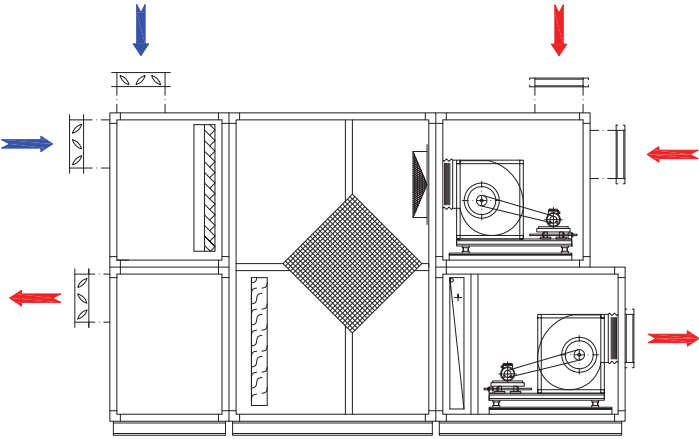
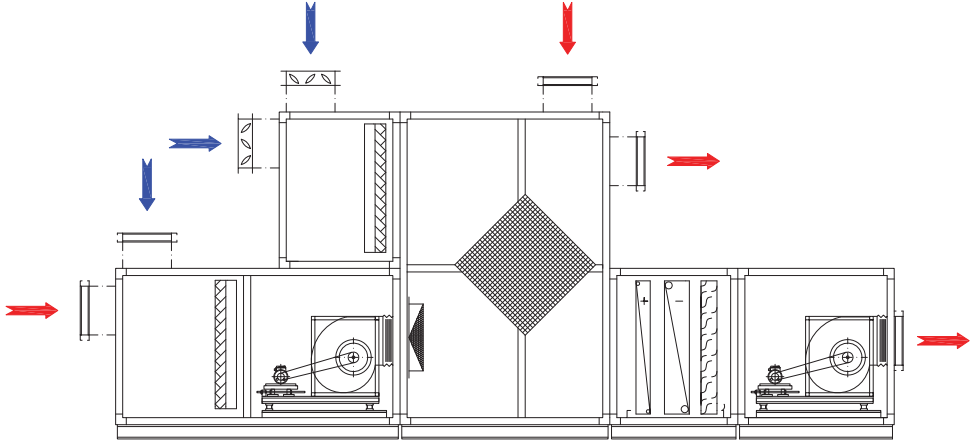
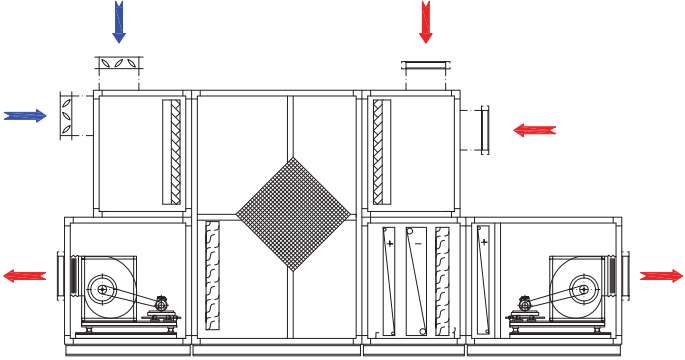
The purpose of the system is to reclaim the energy of the air on the exhaust side and transfer it to the fresh air; the system can be used for both heating and cooling.



AIR-TO-AIR HEAT RECOVERY

In air-to-air heat recovery systems, the energy of the exhaust air is transferred to the fresh air via heat converters consisting of aluminium profile plates.

Units can be designed differently depending on the requirements of projects.





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