

FLEXIBILITY AND EFFICIENCY FOR ALL PROJECTS

# AIR HANDLING UNITS

RECAIR AIR HANDLING UNITS MEET ALL YOUR AIR HANDLING NEEDS



Finnish high quality

RECAIR MODULAR  
RECAIR SMART



**Recair**  
MODULAR

**Recair**  
SMART

# RECAIR

## RECAIR AIR HANDLING UNITS

### FINNISH HIGH QUALITY

Recair Oy is well known in the industry, developing and manufacturing reliable air handling units since 1993. Our central goals are to create high quality products, deliver them as promised, and ensure customer satisfaction. We strive to achieve these goals through the right selection of devices, flexible production, and product development that takes into consideration customer needs.

### ENVIRONMENT

The environmental impact of our manufacturing process is something we take seriously. All waste material from aluminium is collected for reuse. We minimize the loss of galvanized sheet metal through re-processing. We recycle packaging waste and reuse wooden pallets as much as possible.

### RESEARCH AND DEVELOPMENT

The foundation of our product development is our customers' needs for indoor air handling and efficient energy use. We constantly try to improve and develop the overall quality of our products based on customer feedback. We design our products according to European-wide as well as local standards and specifications to ensure smooth operation with our partners in creating indoor air handling solutions. The performance of our products including air leakage, pressure losses, and noise attenuators are measured by independent experts at Finland's VTT Technical Research Centre laboratory of air engineering and acoustics.

### SATISFIED CUSTOMERS

Recair Air Conditioning has hundreds of satisfied customers. Our sales personnel can serve the whole sales channel: from developers and designers to contractors and end users.

### WHY CHOOSE RECAIR AS YOUR AHU SUPPLIER?

- Recair is a respected Finnish supplier with a proven track record of reliable delivery of solutions that meet customer's needs.
- We offer one of the widest selection of unit sizes (up to 20 m<sup>3</sup>/s) helping ensure customers plant space is used effectively and coil face velocity stays within the stated requirements.
- Cooler, Renovation and Hygiene models ensure that even the most challenging projects succeed.
- Modularity and innovative coupling methods allow for quicker installation on site.
- Three different control options for the Smart model group allow customers choose just what they need. Air tight construction and attention to details help keep energy consumption and noise levels down.
- Selection software for air conditioners is fast, easy to use and works without an internet connection.
- With the selection software it is easy to compare different unit size options, for example, according to coil face velocity, sfp number, heat recovery -efficiency, noise level or price index. (Price index does not require a separate password.)





## RESPECTED AND WELL-ESTABLISHED AIR HANDLING UNITS

Recair Modular Air Handling Units have been manufactured and designed in Finland since 1993. The idea behind the Modular series is to offer customers freely customizable air handling solutions. With Recair Modular selection software, customers can customize unit sections and components, as well as left or right-hand orientation and section order. The wide selection also offers many options for the coil face of the module. There are 31 coil face sizes, the widest selection in the market. Different coil face widths and heights offer the customer a chance to choose just the right sized air handler. This helps ensure the space in the ventilation room are is used effectively and the set coil face velocity remains within limits.



Recair's unique quick coupling method helps ease assembly on site. No putty or drill is needed at the site. A half-inch spanner is enough. The air handler is easy to transport to the site in pieces and can be quickly assembled.

Modular series units are always project-specific solutions. Selection is best done with our Recair Modular selection software, which can be freely downloaded from our website. Our air handlers are manufactured in Tuusula, Finland, which helps us deliver products with the flexibility required by customers.

## NEW RECAIR HYGIENE AIR CONDITIONERS



The Recair Hygiene series is developed for hospital and cleanroom environments. Hygiene units are optimized to help with maintenance and to sustain a high level of cleanliness throughout its lifespan. The construction is smooth and easy to clean, ensuring that the proper hygiene level can be sustained in all climate conditions.

Five different models cater to the full range of customer needs. The aluminium framework can also be epoxy-coated if necessary. Customers can select from galvanised, stainless or acid-proof steel plate, as well as other epoxy-coated casing materials. Because of the Recair's advanced construction design, casing materials can be combined so that the inside and outside panels use different materials. For example, the outside panels can be galvanised steel and the inside casing stainless steel. This allows customers to find cost-effective solution that that still meet strict requirements.

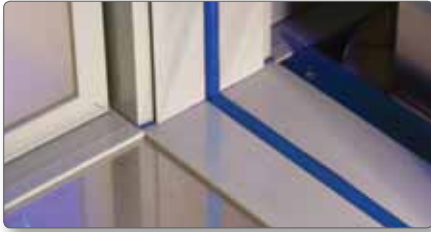


Customers can also order epoxy-coated components, heaters with special cooling coil (steel, epoxy, copper, stainless steel), custom painted fans, chemical or HEPA -filters and other special parts. Standards VDI6022 and EN1886 are used as a design basis for the Hygiene series. Special attention has been given to the tightness of the bypass filter and casing. The casing air leakage fulfils A and B -classes of the old standard and L2-class of the new standard, easily exceeding the minimum requirements.

- Five different models, outside and inside casing materials can be different
- Pull-out, wet-wash noise attenuators are equipped with lifting handles
- Bottom drainage in unit sections for washing, ; manual shut-off valve in a discharge pipe.
- Each filter cassette fits independently into the reinforced metal sealing surface so that bypass leakage is minimised.
- Large selection of special parts



# RECAIR MODULAR AIR CONDITIONER



## RECAIR RENOVATION UNIT

The RECAIR Renovation unit is delivered to the construction site in parts where it is assembled to requirements for air tightness, structural firmness and performance.

### Same quality as in the factory

The Renovation unit goes through complete assembly at the factory before being deconstructed with each part marked and prepared for transport. At the construction site the unit is reassembled by an air conditioning technician or by a Recair technician who also does the assembly at the factory.

### Fast and easy to assemble

Well-marked parts speed up unit assembly at the construction site. Assembling the unit is easy. Only a screwdriver is needed.

### RECAIR SPECIAL SOLUTIONS – customer-specific models:

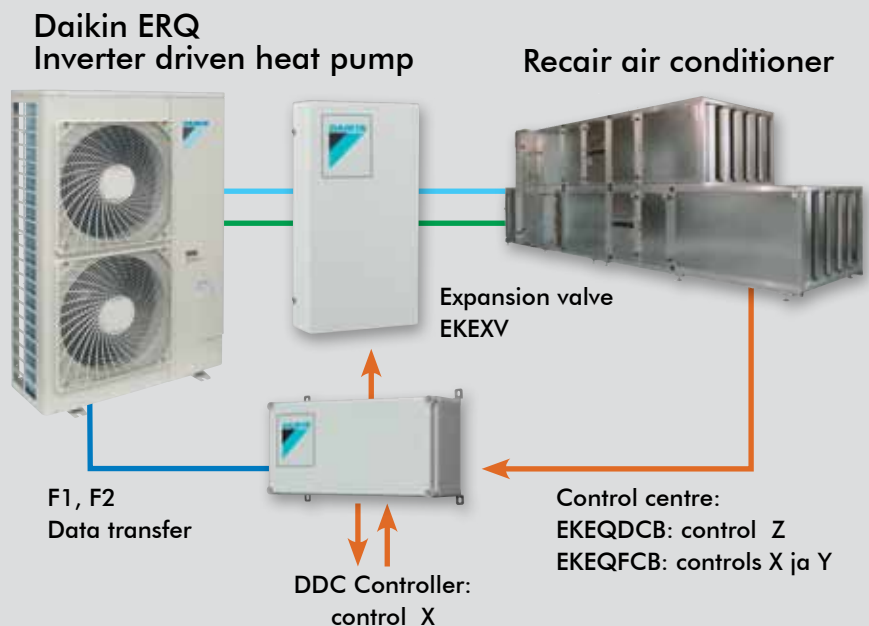
- Ex-protected units, ATEX
- Units for chemical filters
- Special filters for cleanrooms and different industrial processes
- Special materials
  - stainless steel panels
  - epoxy-coatings
  - plastic-coated panels
- Special parts according to customer request
- Supply air chambers
- Heat recovery solutions for kitchen's exhaust air

## COMPLETE SOLUTION FROM RECAIR

Recair air handler and Daikin ERQ heat pump for heating and cooling supply air.

### » WHY DAIKIN ERQ HEAT PUMP?

- » Cost-effective and energy-efficient investment
- » Effective cooling
- » Affordable heating
- » No water, direct expansion heater
- » Precise relative control with inverter
- » Quick reaction to load changes using refrigerant R410A



# RECAIR MODULAR AIR HANDLING UNITS

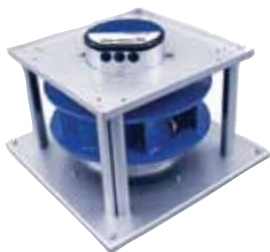
## » RECAIR FANS

Recair Modular air conditioners are available with a wide selection of fan options. This ensures that the best choice for your needs can be found. Choose from belt-driven AC-fans and direct-drive plug fans with AC, integral or DC motors.

### » FANS WITH AC MOTORS

Fans with AC motor are more commonly used for industrial applications. These are products designed for variable-frequency drive use. Because of the AC motor's torque curve, there are many fan options, consisting of different combinations of impeller and motor. As a result, more designing points are closer to the optimum efficiency curve.

### » INTEGRAL MOTOR FANS



Integral motor fans are fans with AC motors that have an integrated, specially designed variable-frequency drive. This eliminates the need for a separate variable-frequency drive, saving money and installation costs.

### » DC MOTOR FANS (EC)

Fans with DC motors differ from the AC motor collection due to a new type of motor. There are no brushes in DC motors; instead a permanent magnet is used to spin the motor. This reduces wear and energy loss because there is no mechanical friction. A Hall-sensor transmits information about the position of the motor to the motor's control unit which sends current to the right coil, causing the motor to spin with the permanent magnet. The greatest advantages of EC (Electronically Commutated) technology are high efficiency, continuous control (no need for variable-frequency drive, only control signal is brought to motor) and also good efficiency with partial loads.

## » DC MOTOR'S FANS (PM)

The PM (Permanent magnet) motor is a DC motor in which the motor's speed is controlled by a separate variable-frequency drive instead of an internal control unit. Although the motor uses a variable-frequency drive, the technology is similar to EC motors. PM motors combine the advantages of DC technology (better efficiency, adjustability) and AC motors (wide fan selection, also for larger fans).

### » SPECIAL MODELS

Special purpose fans are also on offer, including fans with explosion protection (ATEX selections), fans equipped with an epoxy or composite wheel, vertically mounted fans, and many other solutions. All air handling units ordered after 1.1.2011 will be delivered with at least EFF1/IE2 -class motors.

## » RECAIR AND HEAT RECOVERY

In Nordic climates you can save thousands of Euros in heating costs with a good heat recovery ventilation system. Although regulations have increased the minimum level for heat recovery efficiency, it is still in the best interest of property owners to select the optimal heat recovery solution. With a wide selection of advanced heat recovery solutions, Recair can meet and often exceed customer requirements. We offer cross-flow heat exchangers, coil heat exchangers, as well as rotary heat exchangers.

### » CROSS-FLOW PLATE HEAT EXCHANGERS

Advantages of plate heat exchangers are cost-effectiveness and very little air flow leakage.

### » COIL HEAT EXCHANGERS

The greatest advantage of cooling coils is that the supply air coil and the exhaust air coil can be in separate locations, allowing greater flexibility in the installation of supply and exhaust air units. Because heat is transferred through glycol, there is no air flow leakage.

## » ROTARY HEAT EXCHANGERS

Our product selection includes many different rotary heat exchanger solutions. Air flow leakage can be controlled with the rotor's cleaning sector. Rotors have easily the best efficiency, so they are recommended in all suitable locations. There is several rotor options. When sizing the rotor, you can change the amplitude of the rotor matrix and the thickness of material.



There are many rotor matrix options: from commonly used non-hygroscopic to hygroscopic and sorptio models. The need for cooling during peaks can be significantly lowered with sorptio rotors, which can reduce the required cooling capacity. Also specially thick and coated rotor matrices are possible if the rotor needs to be installed in challenging air conditioning environments.

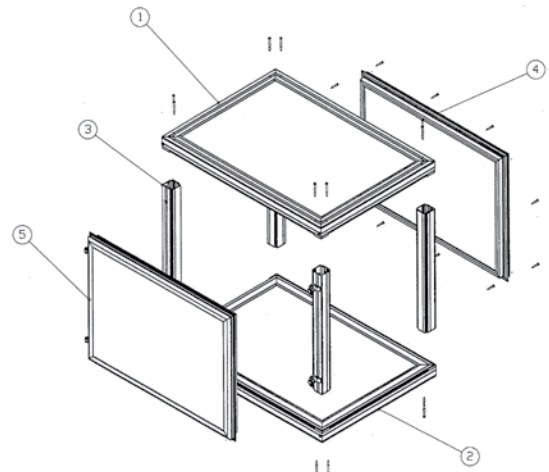
# RECAIR MODULAR QUICK SELECTION TABLE

- » In brackets under the unit type: nominal air flow at the coil face velocity 2.5 m/s
- » Size of the free opening is the outside measurement - 122 mm

		WIDTH mm										
HEIGHT mm	465	720 1A (0,45)	1010 1B (0,65)	1320 1C (0,93)								Unit sizes 1A-4F: hauling openings width x height 800 x 2150 mm  The smallest hauling opening that fits the size of the renovation unit
	620	2A (0,75)	2B (1,1)	2C (1,5)								
	770	3A (0,93)	3B (1,4)	3C (1,9)	1600 3D (2,2)							
	1100	4B (2,1)	4C (2,9)	4D (3,6)	1910 4E (4,4)	2500 4F (5,7)						
	1450	5B (2,9)	5C (3,8)	5D (4,7)	5E (5,7)	5F (7,5)						Unit sizes 5B-6F hauling opening width x height 1000 x 2500 mm  The smallest hauling opening that fits the size of the renovation unit
	1750			6C (4,7)	6D (5,7)	6E (7,0)	6F (9,4)					
	2050			7D (6,9)	7E (8,3)	7F (11,2)	7G (13,9)					Unit sizes 7D-8G: contact Recair sales representative  The smallest hauling opening that fits the size of the renovation unit
	2715			8E (11,2)	8F (15,1)	8G (18,8)						
								3100				

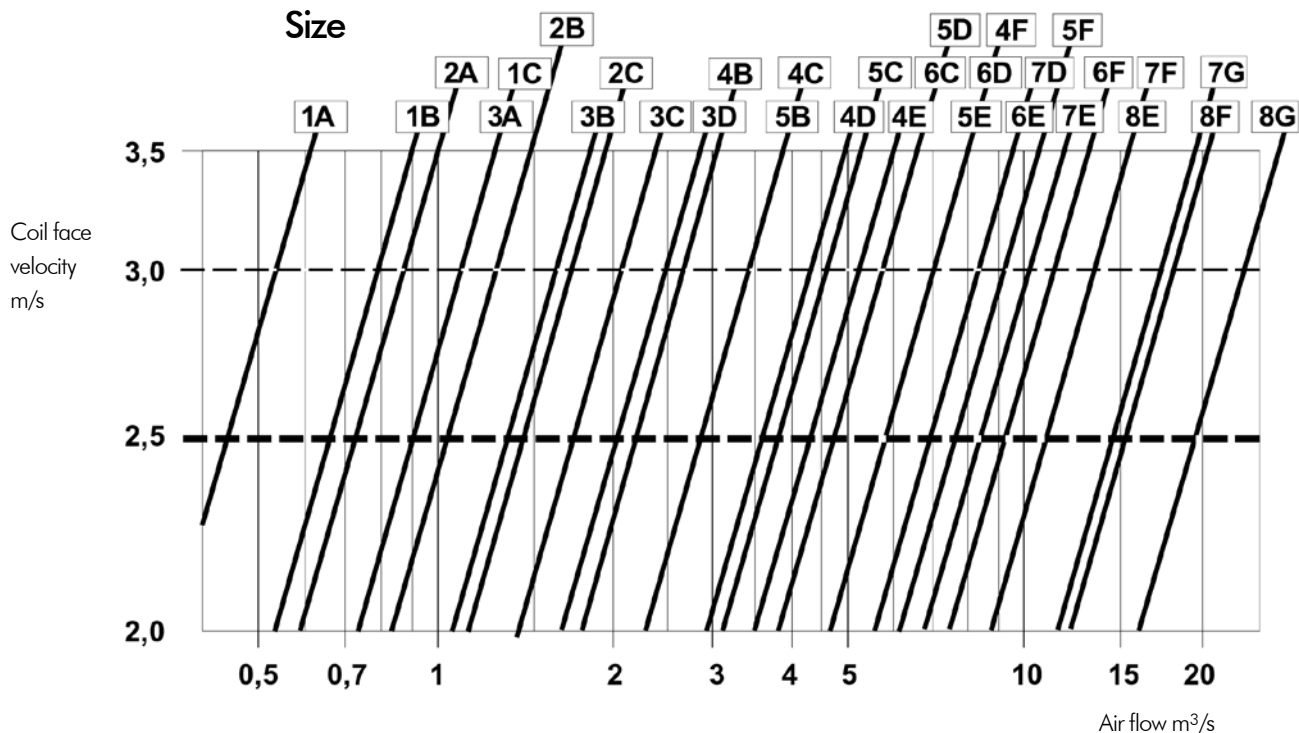
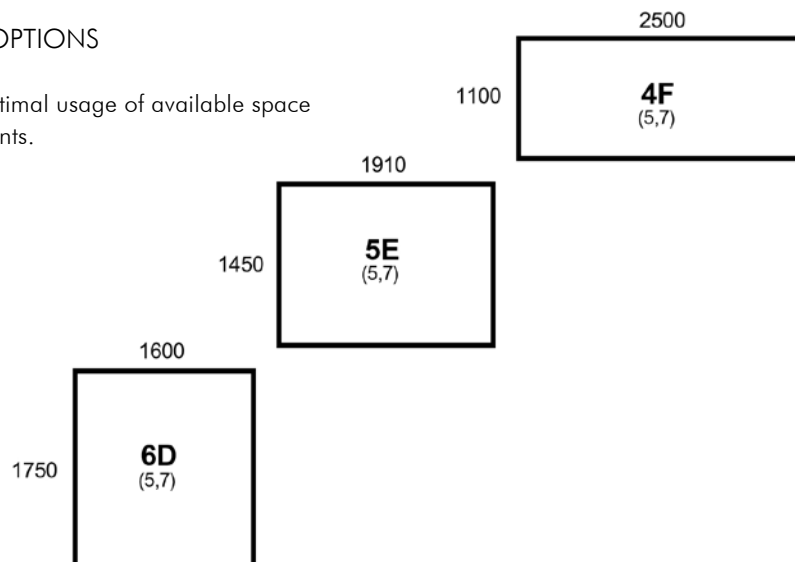
## RECAIR RENOVATION UNIT ALL YOU NEED IS A SCREWDRIVER

- » Because of the unique design, parts can be sealed tightly with only a screwdriver.
- » Assembling the renovation unit at the construction site is fast and easy.
- » Delivery-specific hauling openings are confirmed in a written agreement



## SAME AIR FLOW, DIFFERENT UNIT SIZE OPTIONS

- » The air conditioner can be designed for optimal usage of available space according to the project-specific requirements.



### AVAILABLE IN RECAIR MODULAR® UNITS

- » Air flow -range 0.45 -20 m<sup>3</sup>/s
- » Everything necessary for air handling
- » Hundreds of different assemblies
- » Standardized module solutions
- » Customer-specific solutions

### RECAIR MODULAR® FRAMEWORK

- » Aluminium Recair frame profile
- » Solid framework
- » 50mm mineral wool insulation in all unit parts
- » Double casing construction

### ADDITIONAL FEATURES

- » Inspection windows (by default in fan section and rotary heat exchanger unit)
- » Drain couplings
- » Interior light
- » Air flow meter
- » Supply air chamber

### RECAIR MODULAR® -COUPLING METHOD

- » Unique framework and quick coupling method developed by Recair

### SERVICE

- » Hinged service-doors with durable sealing
- » Workplace safety for serviceman
- » Illustrated installation and service manuals can be found at [www.recair.fi](http://www.recair.fi)

### ALL UNITS HAVE CLASS L2 (A - B) AIR TIGHTNESS

# RECAIR SELECTION SOFTWARE

## RECAIR MODULAR SELECTION SOFTWARE

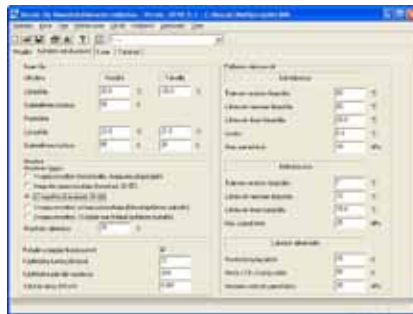


- » WITH RECAIR MODULAR SELECTION SOFTWARE YOU CAN EASILY COMPARE THE FUNCTIONALITY OF DIFFERENT SOLUTIONS ACCORDING TO YOUR SPECIFIC NEEDS.
- » SPECIFYING MODULAR AIR HANDLING UNIT WITH THE SELECTION SOFTWARE IS FAST AND SIMPLE. LET THE SOFTWARE CALCULATE DIFFERENT OPTIONS AND CHOOSE THE MOST SUITABLE FOR YOU.

Launch the program by clicking the white Recair icon on your desktop. Start a new project by inserting a basic information about your air handling application.



Local measurements; temperature, humidity in winter and summer and also common technical data that repeat from project to project are saved and available in the next new project until changed.



Choose a suitable preset as a basis for your selection. You can get a suitable unit for your intended use by editing the preset.



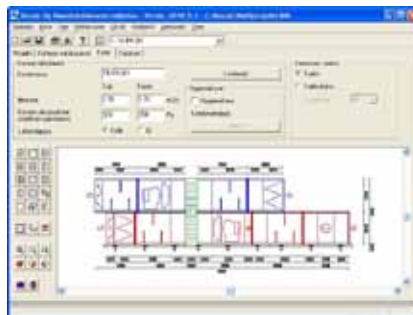
Define the hygiene level of the air handling unit when choosing a unit if necessary. Choose the best option with a click of the button.



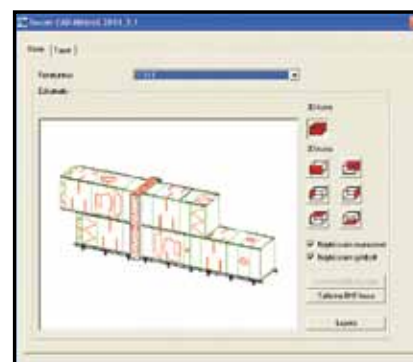
Once you are finished, you can create a PDF of your choices that you can print or save.



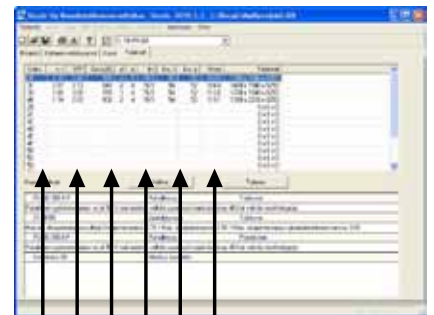
Unit sections and components can be freely moved, added or removed.



You can also save and import your selection as a dxf-model to CAD- systems (also in 3D).



After sizing the unit you can get a comparison window of the options. Choose the most appropriate unit. The price index indicated the estimated cost of the selection.



- Price index
- Noise level
- Efficiency
- SFP-number
- Coil face velocity
- Unit size

- » RECAIR Selection Software can be downloaded for free at [www.recair.fi](http://www.recair.fi)



# RECAIR SELECTION SOFTWARE AIR DESIGNER FOR RECAIR SMART



- » WITH AIR DESIGNER FOR RECAIR SMART YOU CAN CHOOSE THE MOST SUITABLE AIR HANDLING UNIT FOR YOUR NEEDS FROM THE RECAIR SMART MODEL SERIES.
- » USER-FRIENDLY AIR DESIGNER SOFTWARE CAN BE INSTALLED AS A PART OF **MagiCAD**-SOFTWARE.

Launch Air Designer software from MagiCAD or by clicking the black Recair desktop icon. Insert the project details on the first tab and click next →



By choosing "Add handedness options" you can choose right-hand orientation and, for example, change the direction of the exhaust air.



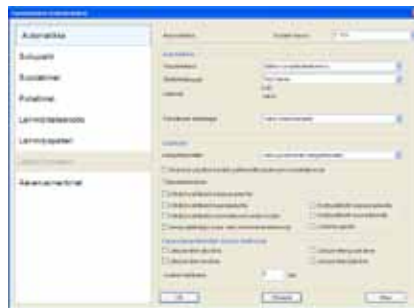
You can print a test run based on your selections which shows the performance of every component in addition to the dimensions and project data. Notice that if you choose a unit with an automatic control you also get an operating plan that corresponds to your selections.

TEKNINEN MÄÄRITTELY		Sivu 1(6)
Asiakkaan tiedot: Mälliprojekt Projektin tiedot / kohde: Mälliprojekt Käsittelijä: Sino Suominen Lisätiedot: -stä lähtien kaikkien aikojen hienoin tv-kone		
<b>KONE:</b> TK1 A 120-4H S8040- ja sähkölähtökeskus TAC Xenta		
<b>ILMANVAHTOKOJE, 3-OSAINEN</b> Pyöreä lämmönvaihdin (ei-hygrokooppinen) Kälteystyy: Oikea Sähkölämmitys: Vasen Eristeet: 50 mm mineraalivilla Koneen paino (kuiva / märkä): 2413 / 2420 kg SFP-arvo (pöly-suuri): 1,42 MW(m³/s)		
<b>TULOILMA</b>		
Ilmanvirta		3 000 m³/s
Ulkoilmaiset paineet		300 Pa
<b>Ulkoilmasuodatin</b>	F7	
Tyyppi	A 120 Pussisuodatin 592-892-535/10	m³
Suodatinta-ala		27,66
Koko	3 kpl 592x892x535 mm	Pa
Alkuperäinen virtaus		95 Pa
Loppuperäinen virtaus (ilmanen)		75 Pa
Minuspaineeroitus		1 kpl
<b>Pyöreä lämmönvaihdin (ei-hygrokooppinen)</b>	Vakio Recair A 120, Ø 2020 mm	
Tyyppi	Ø-hygrokooppinen	
Lämmönvaihtimen ohjaus	Pariston	
Lämmönvaihtimen muoto	230 V (1~), 100 W, 1,30 A	
Hinnoittelusäädin	Ø132 1SPA teräs	
Tuotteen	3 000	m³/s
Ilmanvirta		2,0
Ohjauksenopeus		95
Päästövirtaus		Pa
Ulkoinen	-26 °C / 35 °C	%
Ilmavirtaus	10 °C / 65 °C	%
Tuotteen lämmönvaihtimen jälkeen	76,0	%
Lämpötilavaihtelu	81,2	%
Kuivatuskyky	180,4	KW
Teho		

Choose what kind of AHU you need, horizontal or vertical. Choose the recovery method: rotary or plate heat exchanger and how you want it to be equipped (terminal block, power, control). If you choose a unit with an automatic control you have three options.



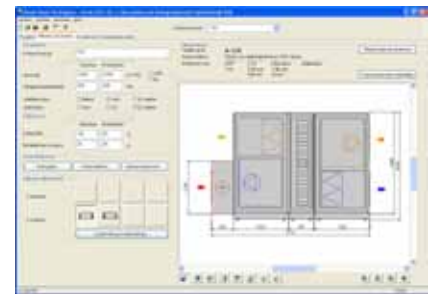
By clicking advanced settings you can edit the product-specific details. You can make choices and changes for every component individually. For example, you can choose noise attenuators, pumps or pump groups, valves, actuators, vent dampers, etc.



You can save and import your unit choice to AutoCAD in 2D or 3D. If you are using Air Designer through MagiCAD, you can import units into your MagiCAD project. The right size and duct size is fetched automatically when the duct drawing is started from the unit. Also noise level information, air flow and duct



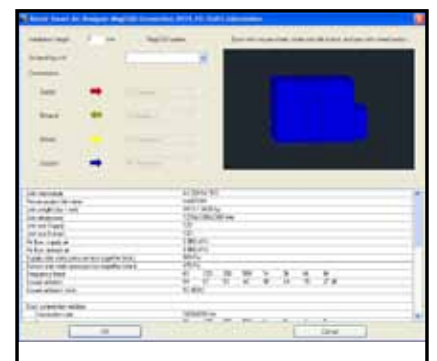
After you have inserted the initial data for the air handling unit, the program will immediately calculate a suitable unit for you. Change the design conditions and heating or cooling functions if necessary.



On the unit sizes -tab you can view different unit sizes and choose suitable air velocity, SFP-number, and noise level, according to measurements or price.



pressures are imported. This makes it possible to check that the air handling unit is large enough and inspect noise levels through the whole duct length. The unit size can be changed quickly and easily by clicking the update button. Specific use and installation manuals can be downloaded from Recair's website.



# RECAIR SMART RECAIR SMART -AIR HANDLING UNIT SERIES

## » RECAIR SMART OVERVIEW



New in the Recair's product range is Smart air handling unit series. Smart air handling units have been manufactured in Finland since 1993. The greatest advantages of the Smart-series is possibility to have preinstalled control, actuator and electronic devices. Multiple control options make sure that customers can get just the right the control mode they need. Units can also be delivered without an automatic control or only with an electric board. Optional preinstalled pump, valve groups and vent dampers on an actuator offer customers a complete package. Preinstallations can significantly reduce installation time at the site. The completely equipped air handling unit goes through a test run at the factory, and all installations and connections are checked. The unit is essentially ready to use, just needing the appropriate air ducts, electrical input and water manifold connections at the installation site.



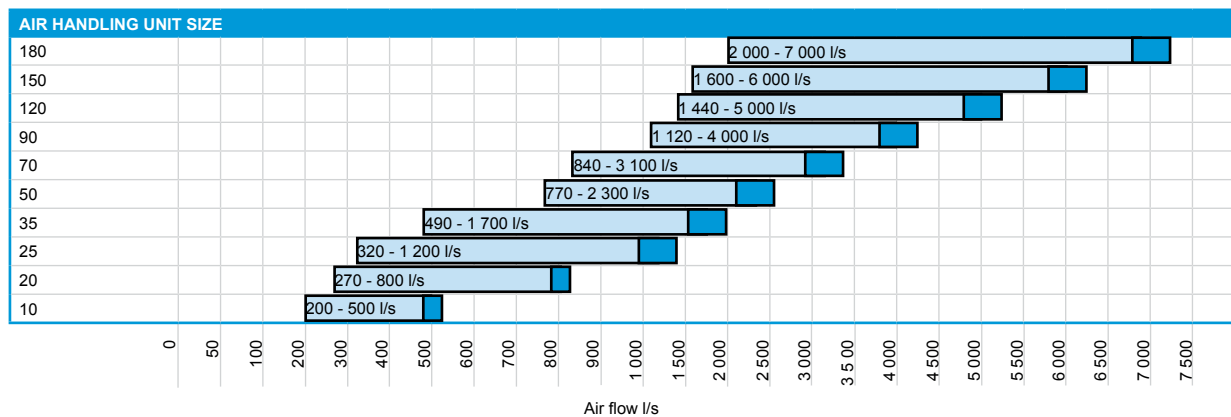
The innovative Booster Cooler solution of the Smart series offers a better option when Cooler air handling units are needed. Cooler units are air handling units that have preinstalled refrigerating systems. Refrigerators cool the supply air by transferring heat from it to the exhaust air that the air handling unit then moves away. The Booster Cooler offers a new approach. Find more information about Booster Coolers at our website. Booster Coolers are delivered pre-tested with set up control and adjustment automation.



The Smart series includes both horizontal and vertical air handling units. The duct outlets of the vertical air handling units are located on top of the unit. Horizontal units can be offered as supply and exhaust units or as a combination of both. Horizontal units are also available as outdoor units with 100mm insulation, outdoor mesh screen and exhaust air cover.

Units can be delivered in one or multiple sections. Vertical air handling units are also available in three parts which helps ease installation in tight spaces. Preassembled and sized pump groups for heating and cooling coils are available with one and three-phase pumps. They can be delivered preinstalled to the air handling unit or as separate preassembled groups. Multiple handedness options and the possibility to connect to the unit from different directions give a high degree of flexibility to the Smart series, helping customers in both planning and operation.

## RECAIR SMART AIR HANDLING UNITS SIZE TABLE



# CONTROL OPTIONS FOR SMART SERIES

## » AUTOMATION OVERVIEW

Recair Smart model group can be delivered with three different automated control options. Automation and type of adjustment can be easily chosen with Air Designer for Recair Smart -selection software which can be downloaded at our website. With Air Designer you can get control diagrams and operating reports that show the selections. Diagrams and reports are also available in dwg-format from our sales representatives.

### » TAC XENTA

TAC Xenta control devices are freely customizable controllers that can carry out nearly every kind of adjustment and control functions. Standard functions of TAC Xenta -controller include:

- » Double set value, week clock controlled with either standard air flow control or standard duct pressure control.
- » Cascade-connected exhaust air control with maximum and minimum limits for supply air.
- » Adjustment and control of heating with both electric heating and water coils.
- » Adjustment and control of cooling with chilled water or direct expansion coils.
- » Recooling, risk of freezing, etc. functions
- » Continuous heat recovery control with defrost function (with air flow dependent defrost limit set value)
- » Summer night cooling, carbon dioxide and humidity enhancing, emergency and fire hazard stop, alarm output, filter alarms, LON-connection and both supply and exhaust air fire alarms.

### » OUMAN EH-105

EH-105 controller includes all necessary measuring, control and adjustment functions that are needed when operating an air handling unit system. 18 simultaneous measurements (six NTC-measurements, five transmitter measurements and several digital contact measurements) can be connected to the controller. Standard functions of EH-105 -controller include:

- » The controller can control variable-frequency drive and traditional contactor controlled fans.
- » Variable-frequency drive controlled fans can be adjusted according to air flow or duct pressure. Alternatively they can be driven according to a set rotational speed.
- » User-friendly clock-programs
- » Four-stepped (damper, heat recovery, heating, cooling step) sequence control for temperature control.
- » Alarm output
- » Summer night cooling

### » SIEMENS CLIMATIX

Climatix is the newest Siemens controller family that replaces Saphir ACX36 controllers. This user-friendly controller can also be easily extended. Parameterization of the controller can be directly done from the operating terminal. Controller settings can be saved to an SD -memory card or new settings can be imported from the memory card to the controller.

- » Suitable for use between -40°C and +70°C, requires POL871 (IP65) – user interface
- » Six-stepped sequence control to maintain temperature (4 heating and 2 cooling steps)
- » Possibility to connect fire and smoke damper functions to the controller.
- » Modbus- bus connection ( can be master and slave)
- » Easily understandable user interface. , Roll and click wheel, dedicated alarm button with LED indicator button for alarms.
- » User interface can also be connected to bus so that it can be located far from the AHUs.
- » Adding features to the air handling unit after initial installation is easy with the extension modules
- » SMS-alarms transmission option through modem
- » Bus modules as accessory, three can be used simultaneously: LON, BACnet (IP/MSTP), 2 x Modbus (one as a default in the controller), Wide WEB (generates website for the AHU TCP/IP)

Recair Smart air handling units are also available with only an electric board or without a control unit.



Accessories: LON -adapter card, RS-485 bus adapter, Modbus -adapter card, GSM-modem and EH-686-Input/ Output -unit. The unit can accomplish carry out different relay functions (for example, powered roof ventilator control) and both measuring and alarm functions.

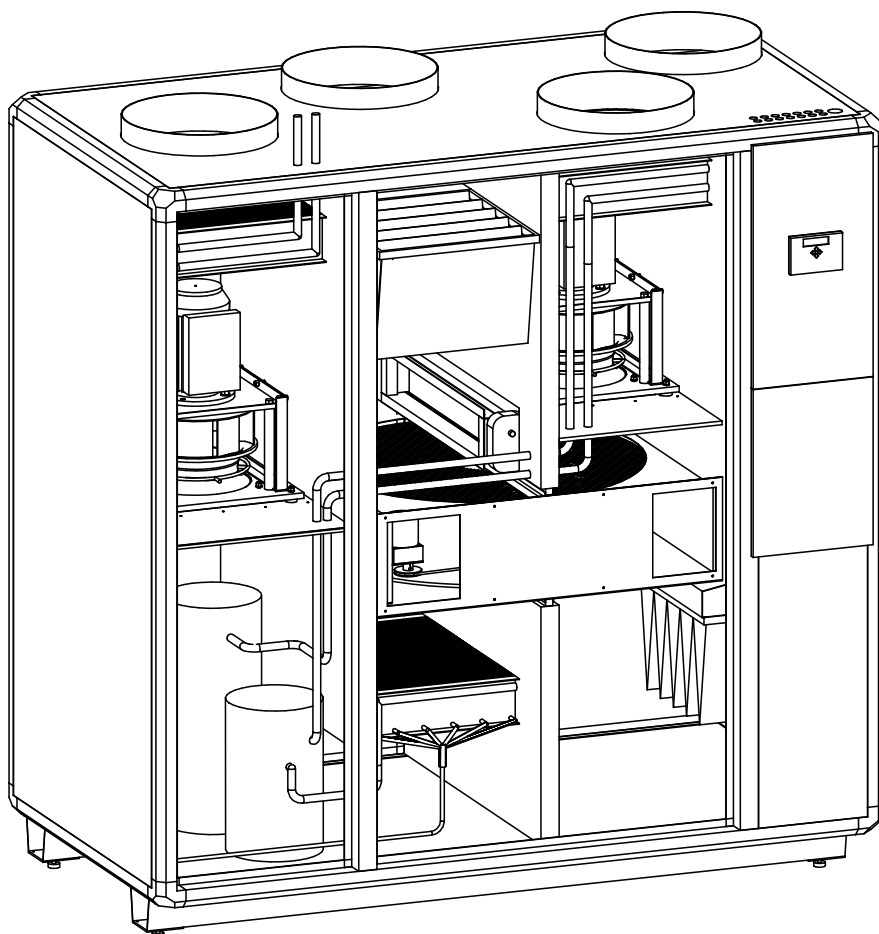


# RECAIR SMART AIR HANDLING UNITS OF COOLER- SERIES

Air handling units with  
heat recovery and cooling units

## » PRODUCT OVERVIEW

- » Double casing with 50mm fire insulation.
- » Framework is aluminium profile and galvanized sheet metal.
- » Inspection windows in access hatches.
- » Heat exchanger
- » Direct-drive variable-frequency drive controlled plenum fans with B-wheel.
- » Filtration class of filters can be from F3 to F8.
- » Optional control: TAC Xenta or Ouman.
- » Product delivered with Cooler cooling unit. Cooler unit is available for both horizontal and vertical Recair Smart frameworks.
- » In addition to the cooling unit, delivery includes evaporator and condenser coils, accumulator, compressor and other necessary components.
- » Refrigerant used in cooling coils is the environmentally friendly R410A.
- » The product is a direct expansion (DX) system so the compressor pumps refrigerant to the condenser where it condenses. Liquid is directed to an expansion valve where it will expand and cool the supply air.
- » Supply air temperature can be adjusted with an electronic hot gas bypass regulator. Units equipped with continuous control do not use the hot gas bypass regulator. The supply air temperature is regulated by the compressor's output.
- » Cooling capacity depends on air quantity, temperature and humidity and is defined case-by-case.
- » Air quantity or standard pressure control.
- » 2 or 3-way valves and 0-10 V valve actuators for hot water heating coils.
- » Additional features: outdoor and dampers with actuators.
- » Cooler- units can be equipped with Booster function.
- » Booster function is the condenser coil's additional air booster that allows flexible use in different temperature and air quantity conditions. Ask our sales representative for more information.



Vertical  
RSA Booster Cooler

Cooler air handling units are always dimensioned according to the specific application.

» HORIZONTAL COOLER AIR HANDLING UNITS (A-SERIES)

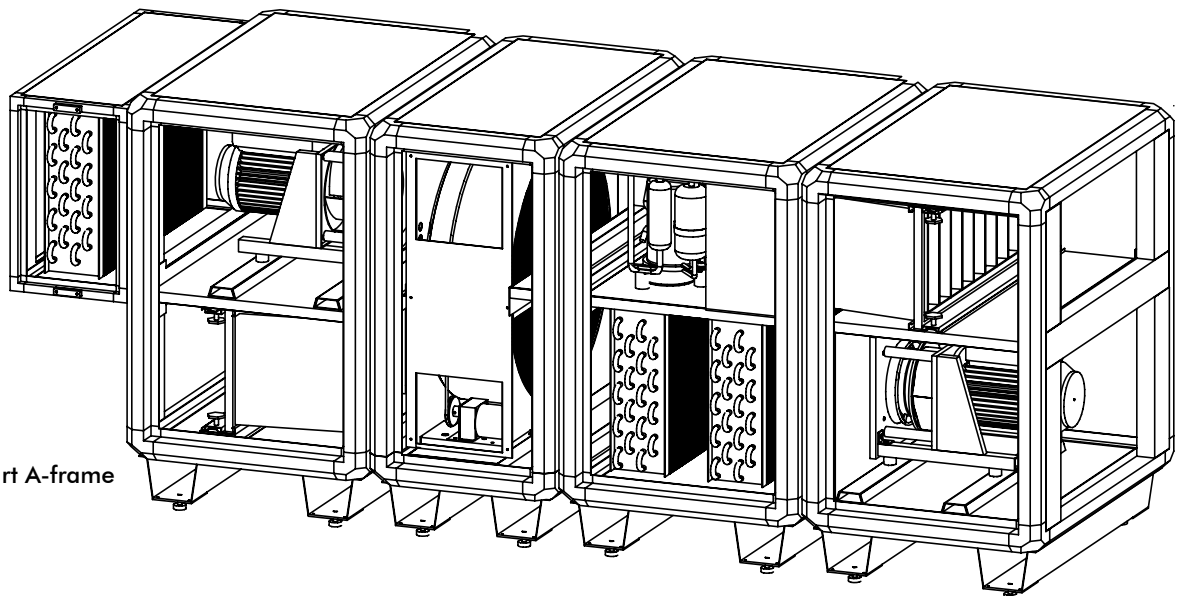
UNIT SIZE	AIR FLOW (l/s)	MAX. COOLING CAPACITY (kW) <sup>1)</sup>	SUPPLY AIR DUCT (mm)	EXHAUST DUCT (mm)	OUTSIDE AIR INTAKE DUCT (mm)	EXHAUST AIR DUCT (mm)	LENGTH (mm) <sup>2)</sup>	HEIGHT INCL. PLATFORM (mm) <sup>2)</sup>	DEPTH (mm) <sup>2)</sup>
10	200 - 500	11,7	600x400	600x300	600x400	600x400	3 000	1 240	890
20	270 - 800	17,7	600x400	600x400	600x400 800x500 <sup>3)</sup>	600x400 800x500 <sup>3)</sup>	3 250	1 440	1 090
25	320 - 1 100	26,3	800x500	800x500	800x500 1 000x500 <sup>3)</sup>	800x500 1 000x500 <sup>3)</sup>	3 550	1 590	1 290
35	490 - 1 600	33,5	1 000x500	1 000x500	1 000x500 1 200x600 <sup>3)</sup>	1 000x500 1 200x600 <sup>3)</sup>	3 820	1 740	1 440
50	770 - 2 600	52,4	1 200x600	1 200x600	1 200x600 1 400x600 <sup>3)</sup>	1 200x600 1 400x600 <sup>3)</sup>	4 000	1 990	1 690
70	1 000 - 3 100	66,3	1 400x600	1 400x600	1 600x700	1 600x700	4 450	2 230	1 930

- 1) Maximum cooling capacity is reached with Booster function.
- 2) Measurements are for single-part air handling unit.  
Measurements for multi-part units differ from those presented above.
- 3) Booster installation requires bigger ducts.

» VERTICAL COOLER AIR HANDLING UNITS (RSA-SERIES)

UNIT SIZE	AIR FLOW (l/s)	MAX. COOLING CAPACITY (kW) <sup>1)</sup>	SUPPLY AIR DUCT (mm)	EXHAUST DUCT (mm)	OUTSIDE AIR INTAKE DUCT (mm)	EXHAUST AIR DUCT (mm)	LENGTH (mm)	HEIGHT INCL. PLATFORM (mm)	DEPTH (mm)
12	200 - 500	9,1	600x300	600x300	600x300	600x300	1 750	1 850	770
20	270 - 800	13,3	600x400	600x300	600x400	600x400	2 000	2 000	1 050
25	320 - 1 100	17,7	800x400	800x400	800x500	800x400	2 250	2 050	1 240

- 1) Maximum cooling capacity is reached with Booster function.



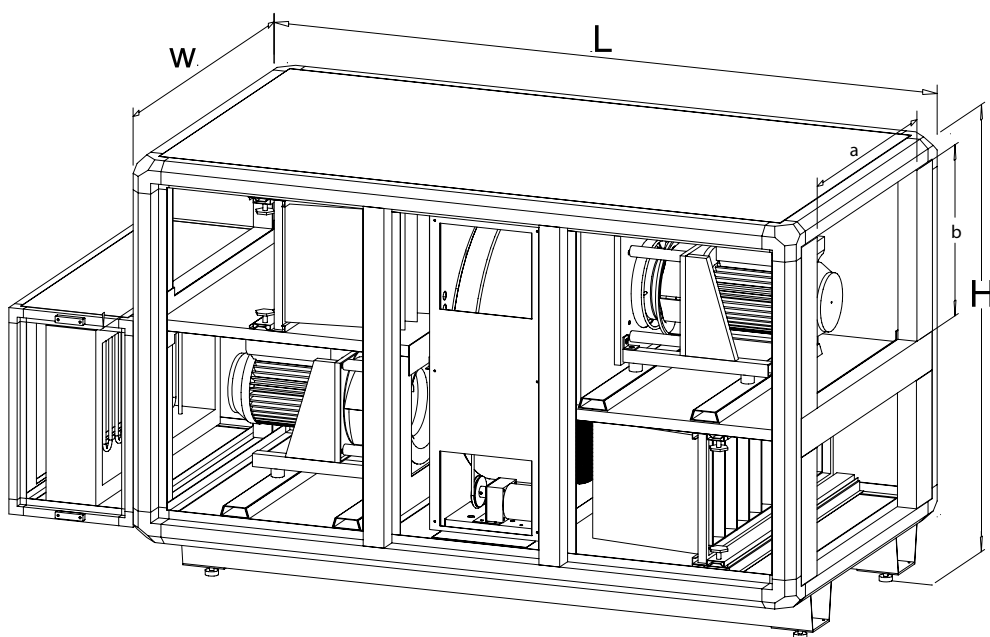
Horizontal 4-part A-frame with Cooler.

# RECAIR SMART HORIZONTAL AIR HANDLING UNIT WITH ROTARY HEAT EXCHANGER

## A-series

### » PRODUCT OVERVIEW

- » Air handling unit with duct outlets on the ends; manufactured both as single or multi-part unit.
- » Double casing with 50mm fire insulation.
- » Framework is aluminium profile and galvanized sheet metal.
- » Inspection windows in access hatches.
- » Rotary heat exchanger with continuous control and rotation guard.
- » Direct-drive variable-frequency drive controlled plenum fans with B-wheel.
- » Filtration class of filters can be from F3 to F8.
- » Electric or hot water re-heating coil installed to an insulated case outside the unit.
- » Chilled water or evaporator cooling coil installed in an insulated case outside the unit.
- » Optional control: TAC Xenta, Ouman EH-105 or Siemens Saphir.
- » Air quantity or standard pressure control.
- » 2 or 3-way valves and 0-10 V valve actuators heating and cooling coils.
- » Units are also available with an electric board without a control unit.
- » Additional features: water circulation pump for heating and cooling coils, outdoor and exhaust air dampers with actuators and also mixing section with dampers and actuators.



### SIZES AND AIR FLOWS

SIZE	AIR FLOW l/s	DUCT CONNECTION mm (axb)*	WIDTH mm (W)**	HEIGHT mm (H)**	LENGTH mm (L)**
10	200 - 500	600 x 300/400	890	1 040	1 610
20	270 - 800	600 x 400	1 090	1 240	1 710
25	320 - 1 200	800 x 500	1 240	1 390	1 860
35	490 - 1 700	1 000 x 500	1 440	1 590	2 110
50	770 - 2 300	1 200 x 600	1 690	1 840	2 310
70	840 - 3 100	1 400 x 600	1 930	2 080	2 660
90	1 120 - 4 000	1 600 x 700	2 130	2 280	3 010
120	1 440 - 5 000	1 800 x 800	2 380	2 530	3 210
150	1 600 - 6 000	2 000 x 800	2 580	2 730	3 310
180	2 000 - 7 000	2 000 x 1 000	2 780	2 930	3 510

\* Standard size duct connections. Also round connections available for many models.

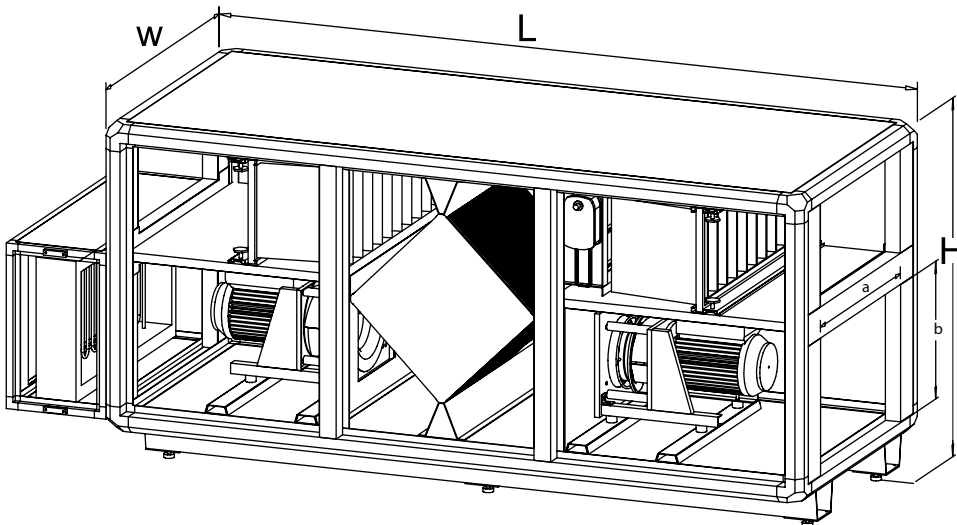
\*\* Measurements are for single-part air handling unit – possible heating and cooling coils or dampers are not included. Measurements for multi-part air handling units differ from those presented above.

NOTICE! The correct size and air flow are easily defined in Air Designer which can be downloaded at [www.recair.fi](http://www.recair.fi)

## ATC- series with plate heat exchanger

### » PRODUCT OVERVIEW

- » Air handling unit with duct outlets on the ends; manufactured both as single or multi-part unit
- » Double casing with 50mm fire insulation.
- » Framework is aluminium profile and galvanized sheet metal.
- » Inspection windows in access hatches.
- » Plate heat exchanger with bypass damper plate.
- » Direct-drive variable-frequency drive controlled plenum fans with B-wheel.
- » Filtration class of the filters can be from F3 to F8.
- » Electric or hot water re-heating coil installed in an insulated case outside the unit.
- » Chilled water or evaporator cooling coil installed in an insulated case outside the unit.
- » Optional control: TAC Xenta, Ouman EH-105 or Siemens Saphir.
- » Air quantity or standard pressure control.
- » 2 or 3-way valves and 0-10 V valve actuators for heating and cooling coils.
- » Units are also available with an electric board without a control unit.
- » Additional features: water circulation pump for heating and cooling coils, outdoor and exhaust air dampers with actuators and also mixing section with dampers and actuators.



### SIZES AND AIR FLOWS

SIZE	AIR FLOW l/s	DUCT CONNECTION mm (axb)*	WIDTH mm (W)**	HEIGHT mm (H)**	LENGTH mm (L)**
10	200 - 500	600 x 300/400	890	1 040	2 110
20	270 - 800	600 x 400	1 090	1 240	2 510
25	320 - 1 200	800 x 500	1 240	1 390	2 560
35	490 - 1 700	1 000 x 500	1 440	1 590	3 110
50	770 - 2 300	1 200 x 600	1 690	1 840	3 310
70	840 - 3 100	1 400 x 600	1 930	2 080	3 620
90	1 120 - 4 000	1 600 x 700	2 130	2 280	4445
120	1 440 - 5 000	1 800 x 800	2 380	2 530	4 485
150	1 600 - 6 000	2 000 x 800	2 580	2 730	4 585
180	2 000 - 7 000	2 000 x 1 000	2 780	2 930	4 785

\* Standard size duct connections. Also round connections available for many models.

\*\* Measurements are for single-part air handling unit – possible heating and cooling coils or dampers are not included. Measurements for multi-part air handling units differ from those presented above.

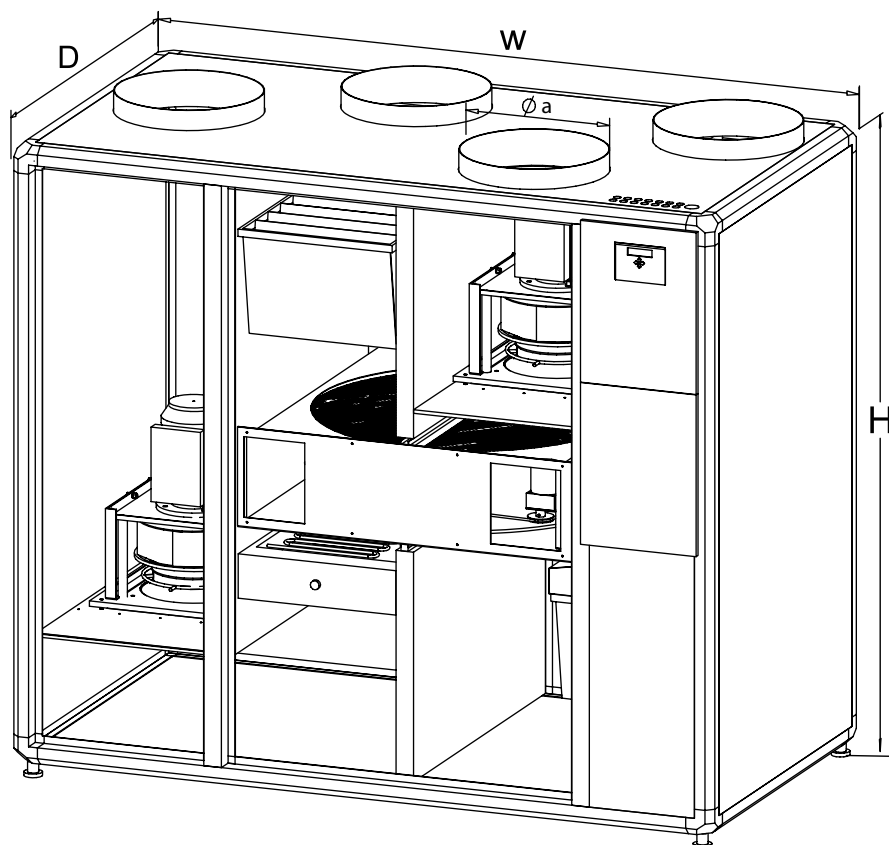
NOTICE! The correct size and air flow are easily defined in Air Designer which can be downloaded at [www.recair.fi](http://www.recair.fi)

# RECAIR SMART VERTICAL RECAIR SMART AIR HANDLING UNITS

RSA- series with rotary heat exchanger

## » PRODUCT OVERVIEW

- » Single-part air handling unit with duct outlets pointing up.
- » Double casing with 50mm fire insulation.
- » Frame casing is aluminium profile and galvanized sheet metal.
- » Inspection windows in access hatches.
- » Rotary heat exchanger with continuous control and rotation guard.
- » Direct-drive variable-frequency drive controlled plenum fans with B-wheel.
- » Filtration class of filters can be from F3 to F8.
- » Integrated electric or hot water re-heating coil.
- » Integrated chilled water or evaporator cooling coil.
- » Optional control: TAC Xenta, Ouman EH-105 or Siemens Saphir.
- » Air quantity or standard pressure control.
- » 2 or 3-way valves and 0-10 V valve actuators for water cycle heating and cooling coils.
- » Units are also available with an electric board without a control unit.
- » Additional features: water circulation pump for heating and cooling coils and also outdoor and exhaust air dampers with actuators.
- » Also manufactured with a three-part construction.



Also manufactured with a three-part construction

## SIZES AND AIR FLOWS

SIZE	AIR FLOW l/s	DUCT CONNECTION mm (axb)	WIDTH mm (W)	HEIGHT mm (H)*	DEPTH mm (D)
12	170 - 400	315	1 780	1 800	770
20	270 - 800	400	2 000	2 050	1 050
25	320 - 1 200	500	2 250	2 100	1 240

\*Measurements without possible vent dampers.

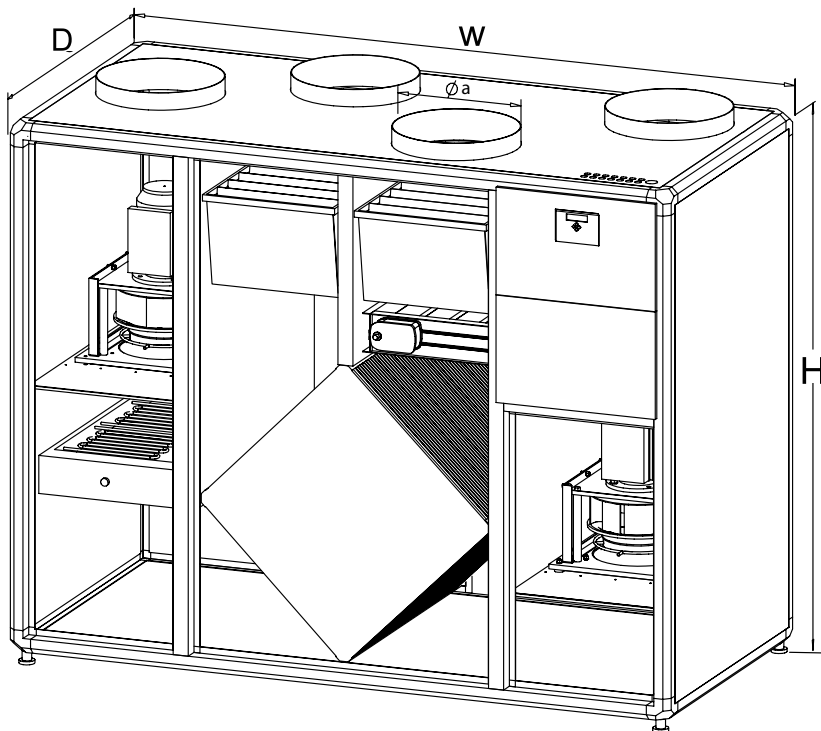
NOTICE! The correct measurements and air quantities are easily measured in Air Designer which can be downloaded at [www.recair.fi](http://www.recair.fi)



## RCA- series with plate heat exchanger

### » PRODUCT OVERVIEW

- » Single-part air handling unit with duct outlets pointing up.
- » Double casing with 50mm fire insulation.
- » Framework is aluminium profile and galvanized damper.
- » Inspection windows in access hatches.
- » Cross-flow plate heat exchanger with bypass sheet metal plate.
- » Direct-drive variable-frequency drive controlled plenum fans with B-wheel.
- » Filtration class of the filters can be from F3 to F8.
- » Integrated electric or hot water re-heating coil.
- » Integrated chilled water or evaporator cooling coil.
- » Optional control: TAC Xenta, Ouman EH-105 or Siemens Saphir.
- » Air quantity or standard pressure control.
- » 2 or 3-way valves and 0-10 V valve actuators for water cycle heating and cooling coils.
- » Units are also available with an electric board without a control unit.
- » Additional features: water circulation pump for heating and cooling coils and also outdoor and exhaust air dampers with actuators.



### SIZES AND AIR FLOWS

SIZE	AIR FLOW l/s	DUCT CONNECTION mm (axb)	WIDTH mm (W)	HEIGHT mm (H)*	DEPTH mm (D)
12	170 - 400	315	1 820	1 800	770
20	270 - 800	400	2 200	1 900	1 050
25	320 - 1 200	500	2 400	2 100	1 240

\*Measurements without possible vent dampers.

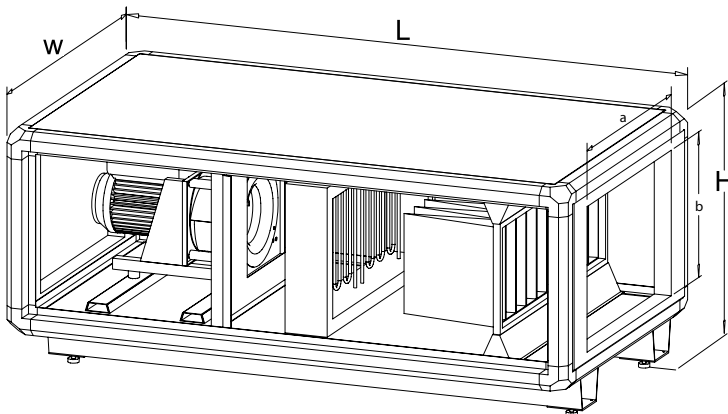
NOTICE! The correct measurements and air quantities are easily measured in Air Designer for Recair Smart -selection software which can be downloaded at [www.recair.fi](http://www.recair.fi)

# RECAIR SMART SUPPLY AND EXHAUST UNITS

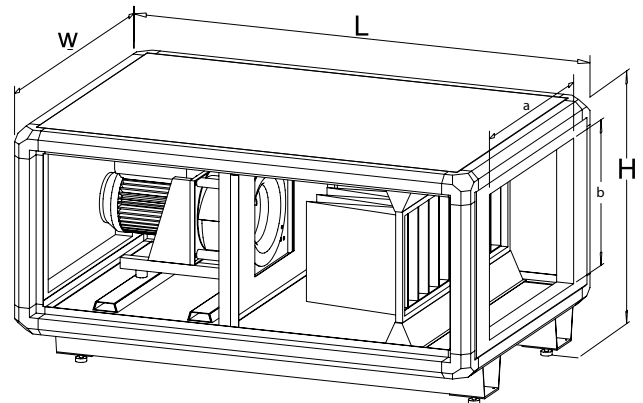
## ATT and ATP -series

### » PRODUCT OVERVIEW

- » Air handling unit with duct outlets on the ends, manufactured both as single and multi-part units.
- » Double casing with 50mm fire insulation.
- » Framework is aluminium profile and galvanized sheet metal.
- » Inspection windows in access hatches.
- » Plate heat exchanger with bypass damper.
- » Direct-drive variable-frequency drive controlled plenum fans with B-wheel.
- » Filtration class of the filters can be from F3 to F8.
- » Electric or hot water re-heating coil installed in an insulated case outside the unit.
- » Chilled water or evaporator cooling coil installed in an insulated case outside the unit.
- » Optional control: TAC Xenta, Ouman EH-105 or Siemens Saphir.
- » Air quantity or standard pressure control.
- » 2 or 3-way valves and 0-10 V valve actuators for water cycle heating and cooling coils.
- » Units are also available with an electric board without a control unit.
- » Additional features: water circulation pump for heating and cooling coils, outdoor and exhaust air dampers with actuators and also mixing section with dampers and actuators.



Supply air unit ATT



Exhaust air unit ATP

### SIZES AND AIR FLOWS

SIZE	AIR FLOW l/s	DUCT CONNECTION mm (axb)*	LENGTH MM (L)** SUPPLY/EXHAUST	HEIGHT MM (H)**	WIDTH MM (W)**
10	200 - 500	600 x 300	2 110 / 1 410	710	890
20	270 - 800	600 x 400	2 210 / 1 510	760	1 090
25	320 - 1 200	800 x 500	2 310 / 1 610	850	1 240
35	490 - 1 700	1 000 x 500	2 610 / 1 910	930	1 440
50	770 - 2 300	1 200 x 600	2 710 / 1 910	1 060	1 690
70	840 - 3 100	1 400 x 600	3 060 / 2 210	1 200	1 930
90	1 120 - 4 000	1 600 x 700	3 210 / 2 360	1 250	2 130
120	1 440 - 5 000	1 800 x 800	3 410 / 2 510	1 425	2 380
150	1 600 - 6 000	2 000 x 800	3 580 / 2 570	1 500	2 580
180	2 000 - 7 000	2 000 x 1 000	3 880 / 2 870	1 625	2 780

\* Standard size duct connections. Also round connections available for many models.

\*\* Measurements are for single-part air handling unit – possible dampers aren't included. Measurements for multiple-part air handling units differ from those presented above.

NOTICE! The correct measurements and air quantities are easily measured in Air Designer which can be downloaded at [www.recair.fi](http://www.recair.fi)





ILMASTOINNIN JA JÄÄHDYTYKSEN ASiantuntija