komfovent®

VENTILATION EQUIPMENT

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DOMEKT 12

Residential ventilation units
50 – 1 000 m³/h

VERSO 42

Commercial ventilation units
1000 – 40 000 m³/h

komfovent®

KK-18-03

Why KOMFOVENT?

High energy efficiency standards
All components and parts are accurately selected and assembled to achieve the best efficiency. An advanced control system optimizes unit's performance.

Silent operation and easy mounting
The units have tight, insulated and painted casing and high quality components, which ensure extremely silent operation and easy mounting.

High efficiency PM fans
High efficiency PM (permanent magnet synchronous motors) fan motors use significantly less energy than AC (alternating current) motors. Automation communicates with PM motors trough MODBUS protocol.

The rotary wheel
Efficient heat recovery with an rotary wheel efficiency. EC motors are used to ensure an efficient rotary wheel performance and minimum operating expenses.

Connection possibilities
One of the main advantages of "U" series units is the multipurpose application of one unit – the unit can be connected to the ducts horizontally or vertically. An installer can always reverse the unit into the required version and choose the duct connection's position on site. One air handling unit – lots of connecting positions.

Plug & Play solution
All units are completely prewired and have an integrated automatic control.

Intelligent control
The units can be controlled by either control panel, via web browser and mobile devices or both. Due to the implemented protocols the units are easily integrated into any desired BMS.

RHP solution
Added value to the indoor climate – heating and humidity recovery in winter, cooling and dehumidification in summer. No need for condensing unit, chiller, piping or additional work to be carried out.

Eco-friendly and protected
R410A and R134A refrigerants are used in units with heat pumps.

Laboratory tested units
Our units are tested in our laboratory and in the independent testing centers in Germany and Switzerland.

International quality approvals
Komfovent VERSO and KLASIK units is Eurovent certified, TÜV and RLT approved and conforms to all required EU norms and regulations. Passive House Institute Certificate is also available for several units.

Projects

KOMFOVENT energy efficient air handling units are being exported to 30 countries.
Wide range of the units and their functionality allows to apply the equipment in different type of projects: residential, public, hospitals, shopping malls, industrial buildings. Efficient performance and innovative automatic control corresponds and may satisfy the most demanding requirements.

The Four Courts
Dublin, Ireland

Hospital TILKKA
Helsinki, Finland

Offices building
Vilnius
Lithuania

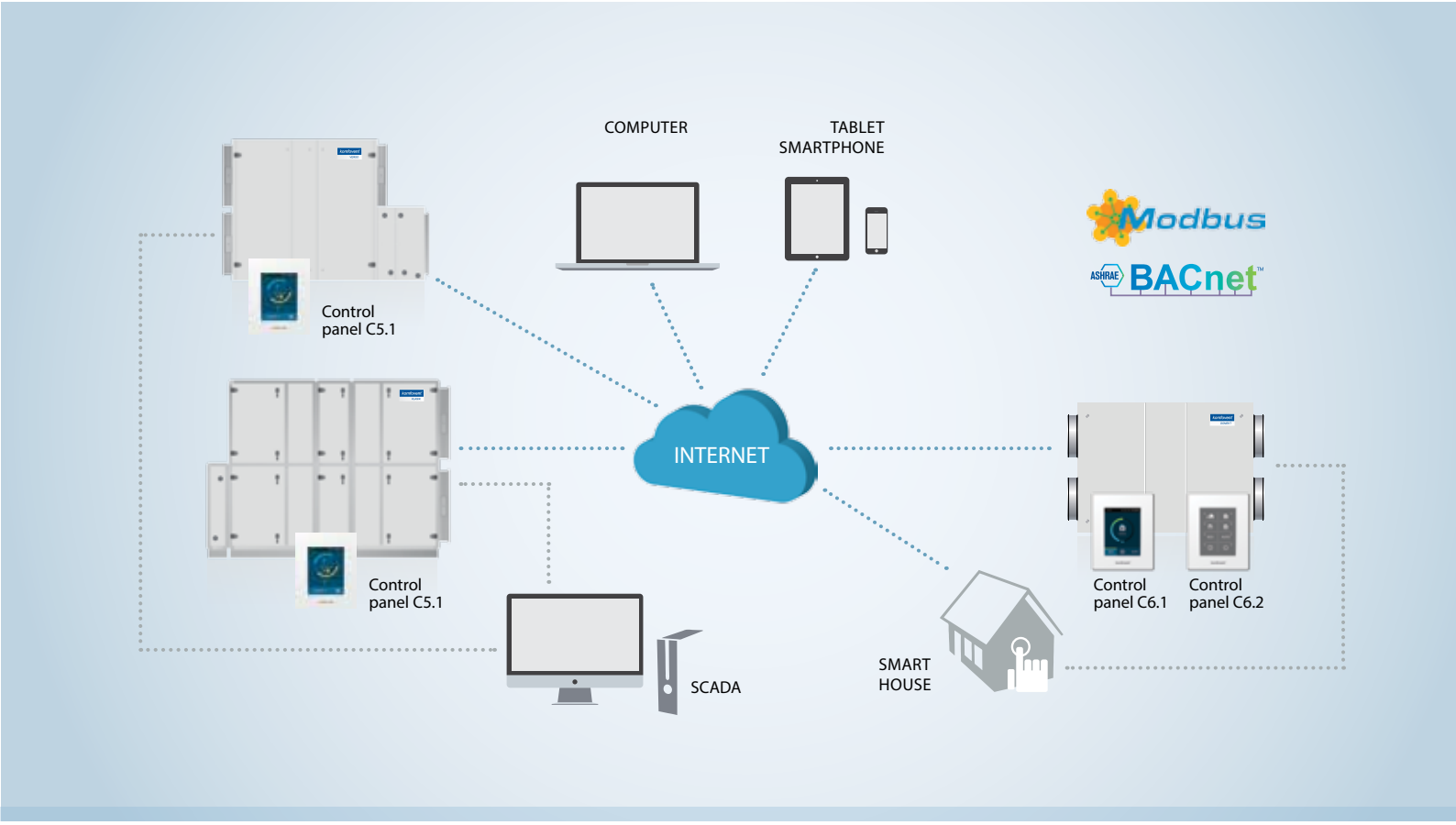
Shopping mall
FORNEBU SENTER
Ostend, Norway

THERMAL POWER
STATION
Lidkoping, Sweden

KK-18-03

Automatic control system
KOMFOVENT

C5 C6



Fully integrated control system KOMFOVENT ensures safe operation, control of the unit based on user preset parameters and optimization of operating costs. To ensure reliable operation, reduce installation work costs and other expenses, automatic control is fully integrated in the air handling unit and the system of connected automatic elements ensures quick and easy installation of the unit.

Implemented Modbus and BACnet protocols allow easy integration of KOMFOVENT air handling units to any desired Building Management Systems.

The control system has integrated web server for controlling and monitoring the AHU's operation via internet. AHU can be controlled via web browser on your computer or mobile devices. Smartphone applications were are specially developed for more convenient control. User-friendly interface enables clear and easy of air handling unit control.

Each series of the air handling units have specially adapted KOMFOVENT controller, which an ensures functionality and operational needs of the air handling unit in the best way.

"Komfovent LogPlotter" software has been designed to analyze the unit's operation history of the last 7 days. From now on, not only are you able to see real-time data but to analyze past performance as well.

Scan the QR codes below and download mobile applications:

"Komfovent" application for units with integrated C5 control system.

"Komfovent Home" application for units with integrated C6 control system.

Automatic control system C5 for VERSO, RHP and KLASIK units

Panel C5.1

- Modern design
- Extremely thin – only 12,5 mm
- Coloured touch-sensitive LED display
- Smart control
- Integrated thermometer and hygrometer
- Customized screen saver: up to 3 parameters can be displayed, when unit is in a stand-by mode
- 3 ways of fixing the panel

Detailed information for the user

- Air flow indication (m^3/h, m^3/s, l/s)
- Thermal efficiency of the heat exchanger (%)
- Heat exchanger energy recovery (kW)
- Thermal energy savings indicator (%)
- Air heater energy consumption (kWh)
- Heat exchanger recovered energy counter (kWh)
- Fans energy consumption (kWh)
- SFP factor of the fans*
- Clogging level of filters (%)

Various operating modes

- 5 different operation modes: *Comfort1*, *Comfort2*, *Economy1*, *Economy2*, and *Special*. User may set supply and extract air volumes as well as air temperature for each of mode separately.
- Temperature control modes: Supply air / Extract air / Room / Balance. Possibility to select which temperature to maintain.
- Flow control modes: Constant Air Volume (CAV), Variable Air Volume (VAV), Directly Controlled Volume (DCV).
- Universal operating schedule with up to 20 events, for which of them user can assign weekday(s) and one of five operating modes.
- Holliday scheduling allows the user to change operating mode or switch off the air handing unit at some dates of the year. Up to 10 events are possible.

Extended control possibilities

- Controlling up to 30 units connected into a network from one panel.
- Ability to connect the controller to the Internet network and manage it via a standard internet browser without any accessories.
- Possibility to control air handling unit by Smartphone via Android OS or iOS application software.
- Ability to control the unit not only by a control panel or a computer, but also by different external devices (switch, timer, etc.) and systems (e.g. the smart house system).

Connectivity & Protocols

- Modbus RTU over RS-485
- Modbus TCP over Ethernet
- BACnet/IP over Ethernet

Modbus BACnet

* only with PM fans

Energy saving C5 functions	
Air quality control	Two different air quality values may be set for two different unit operating modes (e.g. *Comfort* and *Economy*). These values will be maintained by automatically increasing or reducing the intensity of ventilation
Outdoor compensated ventilation	This function adjusts the air volume depending on the outdoor temperature. It is possible to enter four temperature points where two of them define winter conditions and the other two define summer conditions. Upon entering the compensation curve according to the outdoor temperature, the current intensity of ventilation is decreased or increased accordingly
Summer night cooling	This function is intended for energy saving in summer: utilising the outside chill of night hours to cool down the heated rooms. The user may enable or disable function at any time as well as set the room temperature at which the function is automatically activated
Override function	Override control of the unit can be performed by an external device (timer, switch, thermostat, etc.). The signal received from the outside activates the function which switches the unit to the pre-programmed mode ignoring the current operating mode
Minimum temperature control	This function forces the reduction of the supply and extract air volumes set by the user when the heater capacity available in the unit is insufficient and/or heat recovery does not ensure the supply of the minimum temperature to the room
Humidity control	An air handling unit can be ordered with an air humidity control function. If this function is available the user is able to choose the humidity control location: supply air, extract air or room. The user is also able to choose the method of control: humidification, dehumidification or both at a time
Circulation pumps control on demand	Both heating and cooling pumps are controlled according to the current need for heating or cooling instead of a season control
Air flow density compensation	Air density depends on the temperature. The controller has a function which adjusts the air flows automatically to avoid any misbalance in rooms while being ventilated
Operation on demand	The air handling unit start-up function is designed to start the unit operating in off mode when one of the selected parameters (CO_2, air quality, humidity, or temperature) has exceeded the critical limit
Change-over function	Control of combined water heater cooler and DX cooler reversing to the heating mode
Additional zone control	Option for independently control of additional heaters and coolers in separately ventilated area. Up to two additional temperature zones can be controlled
Recirculation control	The controller has a modulated extract air recirculation function. There are four control options: 1) recirculation according to the air quality which may be defined by one of the selected parameters: CO_2, air pollution by organic components and chemical substances, humidity or temperature; 2) recirculation according to the external temperature curve; 3) recirculation according to a weekly schedule; 4) recirculation controlled by an external device
Recirculation limitation by temperature	Recirculation may be limited according to the need for heating or cooling. In cases where recirculation is controlled automatically according to one of the air quality sensors or the recirculation level set by the user, the required value of extract air recirculation may be ignored if recirculation heats or cools down the supplied air too much. In such a case recirculation is forcibly reduced until the temperature of supply air set by the user has been reached
Safety features	
Rotary or plate heat exchanger failure protection	This function observes the thermal efficiency of the heat exchanger. If it does not reach the required level a fault is recorded and indicated
Rotary or plate heat exchanger anti-frost	Under the low outdoor temperature conditions, this function is constantly observing decreasing tendency of the heat exchanger thermal efficiency, determines the moment when the heat exchanger starts freezing, and activates the defrosting function automatically
Service time	A warning message appears when the continuous operation of the AHU has reached 12 months
Rotor warm-up function	This function forcibly activates the rotary heat exchanger if the air handling unit is turned off for some time and the temperature inside the unit or ventilation system is low enough for the rotor to freeze
Circulation pumps start-up in off mode	This function starts water circulation pumps for a short period of time when they are off longer than the set period
Warning for too low air flow	If the air handling unit does not reach the air volume set within the time set, the user is warned by an informative message
External stop	Shut-down function from external device. May be used with or without an automatic unit restart
Emergency shut-down in case of fire	The external fire alarm is provided when the unit is connected to the building fire alarm system. There is also an internal fire alarm to detect an increased temperature inside the air handling unit or the ventilation system
Intelligent self-diagnostic	Self-check function of controller and elements of the air handling unit. If a fault is detected, controller terminates the operation of the unit and warns about such a fault using the respective informative messages

Automatic control system C6 for DOMEKT units

C6 SMART HOME

Panel C6.1

- Colored touch-sensitive LED display
- Indication of parameters
- Setting of all parameters from the panel

Panel C6.2

- Modern panel with touch buttons
- Factory preset parameters
- Smart and easy control

C6 automation allows you to intelligently adjust the air handling unit's operating modes – in this way automation allows you to save energy while ensuring the desired comfort level.

For both: beginners and advanced users

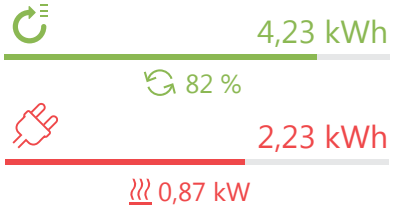
User-friendly interface enables intuitive navigation and control of the unit. Core philosophy behind the design of C6 was so the ventilation unit would operate properly without constant adjustments from the user. Different ventilation modes are optimized for user's daily needs. Automatic air quality control selects the most appropriate mode and ensures the comfort conditions in the room.
Advanced users can control unit's operation according to his needs, as many settings and control possibilities are provided as well.

Control options

- Possibility to choose from two control panels
- Control via web browser / smartphone
- Ability to control via BMS (Modbus, BACnet)

Energy counters

- Real time energy consumption indicator
- Possibility to observe the running costs of ventilation unit
- Heat recovery counter



Operating modes

- 8 preset modes
- Intelligent energy saving algorithms
- Automatic air quality control with optional AQ sensor
- Extensive weekly schedule

For advanced users

- Advanced users are able to set and control a wide range parameters available to ventilation unit in order to meet their needs
- Airflow control: CAV / VAV / DCV
- Intensity control by air quality, CO_2, humidity level
- Many others possibilities

Smart control functions	
Supply air temperature control	The unit supply a user-defined temperature air
Extract air temperature control	The unit automatically delivers air at a temperature so that the set temperature of the exhaust air is maintained
Room air temperature control	The unit supports the user-set ambient room temperature, according to the temperature sensor located in the panel
Temperature balance control	The temperature support value of the supply air is automatically set on the basis of the current extract air temperature, i.e. the extract air temperature and the supply air temperature will be the same
Constant air volume control (CAV)	The unit supplies and extracts a constant air volume as set by the user, regardless of changes in the ventilation system
Variable air volume control (VAV) *	The unit supplies and exctracts air volume correspondingly to the ventilation requirements in different premises
Directly controlled volume (DCV)	The air volumes are controlled by direct external control signals
External water coil control	There is estimated an additional water duct heater or cooler control that can be activated by the user on the control panel
External DX unit control	There is estimated an additional external direct expansion (DX) unit control that can be activated by the user on the control panel
Weekly operation schedule	It is possible to choose one of the four pre-set weekly operation schedules. If necessary, the schedule can be modified
Holidays planning	The user can set the holiday dates for period when he is away. Then the unit will not operate for most of the time, but ventilate the premises occasionally
Air quality control *	Upon connecting the external air quality/humidity sensors, the ventilation intensity is chosen automatically. In this way, the maximum room comfort is ensured with the minimum energy cost
Operation on demand *	The ventilation unit will operate when the air quality in the premises exceeds the set levels
Cool recovery	During the summer season, in the conditioned premises cool from extract air is returned back into the premises
Temperature saving function	The automatic function attempts to maintain comfortable temperature conditions in the premises by reducing the ventilation intensity, i.e. it prevents excessive cooling down or overheating of the premises
Free cooling	When the room temperature air exceeds the set value, and the outdoor temperature is lower than the room temperature, the heat recovery and the other heating/cooling processes is blocked automatically and freecooling are performed only by fans
Ventilation control by external contacts	Air flow can be controlled by three external contacts, each of which can be assigned to different ventilation intensity
Control via internet browser	When the device is connected to the computer network or the Internet, the user-friendly web interface allows the operator to control the equipment with a computer or with another mobile device
Control with smartphones	The "Komfovent Home" mobile app has the same interface as the control panel and allows the user to control the ventilation unit from any point
Safety functions	
Filter clogging indication	Clogging of the air filters is measured depending on the duration and intensity of the unit's operation. The user is informed by a message, when it is time to change air filters
Water mixing system warming-up	For units with additional external water heaters/coolers, the circulation pump and mixing valve motion system is provided
Rotor warm-up and cleaning function	In order to prevent the eventual contamination of the stopped rotary heat exchanger, the unit has a periodical forced activation
Heat exchanger frost protection	Units with a counter-flow plate heat exchanger have a primary elected heater that is controlled as needed, and is operated only at the capacity to ensure frost protection. In this way, the ventilation unit can operate in low outside temperatures
Heat exchanger failure indication	In units with plate or rotary heat exchanger, a control system monitors the thermal efficiency, and if it does not reach the stated level, a fault is indicated
Water heater frost protection	This ensures the maximum reduction of the possibility of water freezing during the unit's operation. When the unit is swiched off, warm water circulation is supported
Electric heater overheat protection	If there is danger of overheating, heater shuts down automatically. When unit is shut down during the heating operation, fans will continue to operate for set time period
Low air flow indication	If the ventilation unit does not reach the set air volume during the specified time, the unit's operation is stopped
Emergency shut down in case of fire	The external fire alarm is provided when the unit is connected to the building fire alarm system. There is also an internal fire alarm to detect an increased temperature inside the air handling unit or the ventilation system
Emergency shut down when temperature reaches critical limits	When the supply air temperature drops below or exceeds the permitted value, the unit is stopped
Intelligent self-diagnostic	Self-check function of controller and elements of the air handling unit. If a fault is detected, controller terminates the operation of the unit and warns about such a fault using the respective informative messages

* – these functions require additional accessories.

DOMEKT

Residential ventilation units

Simple & convenient selection
Detailed information on all units can be found in the DOMEKT selection software or on our website komfovent.com, where you can quickly select the unit tailored to your needs.

Wide range
Depending on your installation plans, you can choose the most appropriate model: horizontal, vertical or flat. Non-freezing rotary or high efficiency counterflow plate heat exchangers are available. All units are equipped with electrical heaters. Water heater is available as an option.

Plug & Play
DOMEKT ventilation units require minimum maintenance – an intelligent automation C6 which is integrated in all ventilation units does all the work for you. Factory settings are fully tested and predefined – just turn on and use. An advanced user can change all the settings according to individual preferences.

Connectivity to WEB
The units can be controlled not only with the control panel, but also remotely via a web browser on your computer or mobile devices. "Komfovent Home" application was specially developed for more convenient control.

Low noise level
Only perfectly balanced fans with unique geometry are used in DOMEKT units. All of the unit's components are aerodynamically matched. Housings padded with mineral wool and the use of special composite materials ensure silent operation of these units.

Energy recovery
DOMEKT series are equipped with only the most efficient EC (electronically commutated) fans, high efficiency rotary and counter flow plate heat exchangers, filters with huge filtering area and intelligent automation C6. All these components dramatically reduce energy consumption while maintaining a comfortable indoor climate.

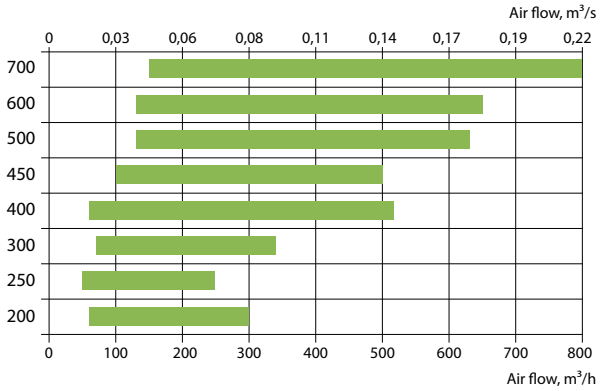
Integration to BMS
All KOMFOVENT air handling units have fully implemented Modbus and BACnet protocols, which allows seamless integration with any desired Building Management Systems.

Reliability and durability
The housing of the units is made of galvanized steel with a powder coated finish. Fan motors are protected from moisture and dust, and equipped with long life bearings.

Domekt R

Air handling units with a rotary heat exchanger

Sizes of Domekt R units



Advantages of Domekt R units

Efficient heat
Under the normal operational conditions, the rotary heat exchanger does not freeze: even at outdoor temperatures below -20 °C, no additional warming up required of the outdoor air which results in efficient heat energy saving even in the presence of hard frosts.

Low noise level
Silently operating fans and sound insulation ensures low noise level.

Air humidity balance
Under the normal operating conditions, condensation does not form in the process of heat exchange in the rotary heat exchanger, because most of the moisture is returned to to the premises. Excess moisture is removed outside. The air in the premises is less dry and the air humidity balance is maintained. As condensation does not form, drainage is not necessary – this simplifies the mounting of the unit.

Rotary heat exchanger

Advantages of rotary heat exchanger

- High thermal and latent efficiency.
- Non-freezing.
- Humidity is transferred to supply air – a lower power humidifier may be needed.
- No drainage is necessary – easy unit installation.
- Very compact in size.
- Cooled air may be recovered that results in the reduced energy consumption for air cooling.
- According to tests carried out by independent laboratory, mixing of the air flows does not exceed one percent.

The efficiency on the demand: two levels of rotor efficiency are available. Optimum efficiency is achieved with L type rotor, the best efficiency may be reached with optional SL type rotor.

Air handling units are equipped with two types of rotary heat exchangers:

- Aluminum (AL): it recovers heat or cold and controls humidity in winter time.
- Hygroscopic aluminum (AZ): it recovers latent heat or cold and controls humidity more efficiently.

Energy efficient EC rotor motor
Rotary heat exchangers are equipped with EC motors, which ensure the smooth rotor operation and control.

Domekt R range

Unit size	Heat exchanger				Supply/ exhaust air filter class		Heater			Cooler		Inspection side				Control system / panel		
	Type		Wave height													C4	C6	
	AL	AZ*	L	SL	M5	F7	HE	HW	HCW	CW	DX	R1	R2	L1	L2	C4.1	C6.1	C6.2
Domekt R 200 V	●		●	○	●	○	●	△	△			○		○		●		
Domekt R 250 F	●	○	●	○	●	○	●	△	△				○		○		○	○
Domekt R 300 V	●	○	●	○	●	○	●	△	△			○		○			○	○
Domekt R 400 V	●	○	●	○	●	○	●	△	△	△	△	○		○			○	○
Domekt R 400 H	●	○	●	○	●	○	●	△	△	△	△	○		○			○	○
Domekt R 400 F	●	○	●	○	●	○	●	△	△	△	△	○		○			○	○
Domekt R 450 V	●	○	●	○	●	○	●	△	△	△	△	○		○			○	○
Domekt R 500 V / H	●	○	●	○	●	○	●	△	△	△	△	○		○			○	○
Domekt R 600 H	●	○	●	○	●	○	●	△	△	△	△	○		○			○	○
Domekt R 700 V	●	○	●	○	●	○	●	△	△	△	△	○		○			○	○
Domekt R 700 H	●	○	●	○	●	○	●	△	△	△	△	○		○			○	○
Domekt R 700 F	●	○	●	○	●	○	●	△	△	△	△	○		○			○	○

● standard equipment
○ possible choice
△ ordered separately duct heater/cooler
* available only L wave height

Duct connection

H – horizontal
V – vertical
F – false ceiling

Heat exchanger

AZ – entalpic, sorption rotary heat exchanger coated with special 4Å coating. Wave hight of this heat exchanger is L.

AL – aluminum, condensing rotor. As a standard, units are equipped with L wave height of the rotors. In exceptional cases, when increased thermal efficiency is required, the units can be equipped with SL wave.

Heater

HE – electric heater.

HW – water duct heater is installed on the duct and must be ordered separately. Heaters are mounted on the outside of the unit in any user-convenient place. 0...10 V heater control included in automatic control system.

HCW – heater-cooler one for both – heating and cooling. Ideal for buildings using geothermal energy.

Cooler

CW – designed for air cooling using cold water (water-glycol mixture), provides a higher comfort level in rooms.

DX – designed for air cooling/heating using direct expansion heat pump unit, provides a higher comfort level in rooms.

Inspection side

See p. 116.

Control system

C6 Control features:

- Temperature maintenance modes: Supply air / Extract air / Room / Balance;
- Air flow indication: m^3/h; l/s;
- Constant air volume control (CAV);
- Variable air volume control (VAV)*;
- Directly controlled volume (DCV);
- External water coil control;
- External DX unit control;
- Weekly operation schedule;
- Holidays planning;
- Air quality control*;
- Operation on demand*;
- Cool recovery;
- Temperature saving function;
- Free cooling;
- Ventilation control by external contacts;
- Control via internet browser;
- Control with smartphones;
- Filter clogging indication;
- Water mixing system warming-up;
- Rotor warm-up and cleaning function;
- Heat exchanger frost protection;
- Heat exchanger failure indication;
- Water heater frost protection;
- Electric heater overheat protection;
- Low air flow indication;
- Emergency shut down in case of fire;
- Emergency shut down when temperature reaches critical limits;
- Intelligent self-diagnostic;
- Indication of the heat exchanger thermal efficiency (%);
- Indication of heat exchanger energy recovery (kW);
- Energy consumption counters for heater and whole unit (kWh);
- Indication of the whole unit power consumption (kW);
- Specific power (SPI) indication;
- Unit operation parameters history storage and analysis;
- Possibility to choose desired control panel.

* these functions require additional accessories.

Information about control system C4 see in **www.komfovent.com**.

KK-18-03

Domekt R 200 V

Maximal air flow, m³/h	258
Panel thickness, mm	25
Unit weight, kg	42
Supply voltage, V	1~ 230
Maximal operating current, A	HE 4,7
Thermal efficiency of heat recovery, %	82
Reference flow rate, m³/s	0,05
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,35
Filters dimensions B×H×L, mm	285×130×46-M5
Electric power input of the fan drive at reference flow rate, W	27
Electric power input of the fan drive at maximum flow rate, W	66
Electric air heater capacity, kW / Δt, °C	0,8 / 12,3
Control panel	C4.1
Maintenance space, mm	300

C4.1

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	53
Supply outlet	66
Exhaust inlet	53
Exhaust outlet	66
Casing	43

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	33

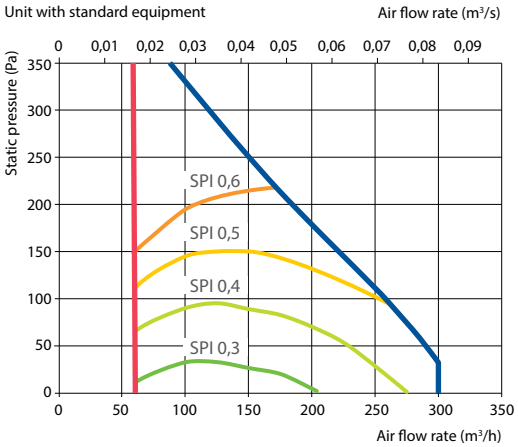
Temperature efficiency

	Winter				
Outside temperature, °C	-23	-15	-10	-5	0
After heat exchanger, °C	11,6	13,5	14,6	15,8	16,9

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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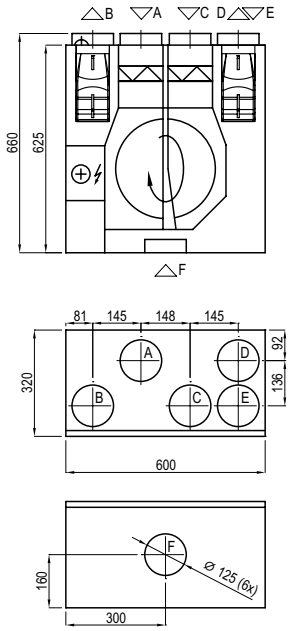

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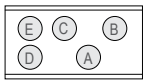


A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)
F kitchen hood connection (by-pass – extraction without heat recovery)

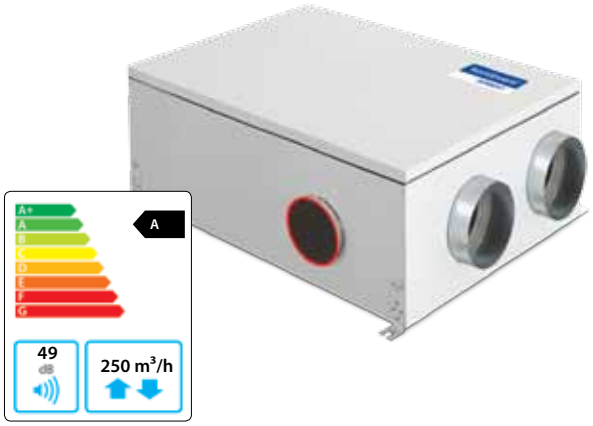
Accessories (p. 108)

Closing damper		AGUJ-M-125+LF230/LM230
Silencer	A/D	AGS-125-50-600-M
	B/C	AGS-125-50-900-M
Water heater		DH-125
PPU		PPU-HW-3R-15-0,4-W1
2-way valve (water heater)		VVP47.10-0,4

Water cooler	DHCW-125
2-way valve (water cooler)	VVP47.10-1,6
Kitchen hood	KH
Decorative panel	DP
Air distribution box	OSD-200 VE-125
Outdoor grill	LD-125

Domekt R 250 F

Maximal air flow, m³/h	250
Panel thickness, mm	50
Unit weight, kg	40
Supply voltage, V	1~ 230
Maximal operating current, A	HE 6,1
Thermal efficiency of heat recovery, %	80
Reference flow rate, m³/s	0,049
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,53
Filters dimensions B×H×L, mm	278×258×46-M5
Electric power input of the fan drive at reference flow rate, W	40
Electric power input of the fan drive at maximum flow rate, W	90
Electric air heater capacity, kW / Δt, °C	1 / 15,9
Control panel	C6.1 / C6.2
Maintenance space, mm	300




C6.1


C6.2

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	61
Supply outlet	70
Exhaust inlet	61
Exhaust outlet	70
Casing	49

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	38

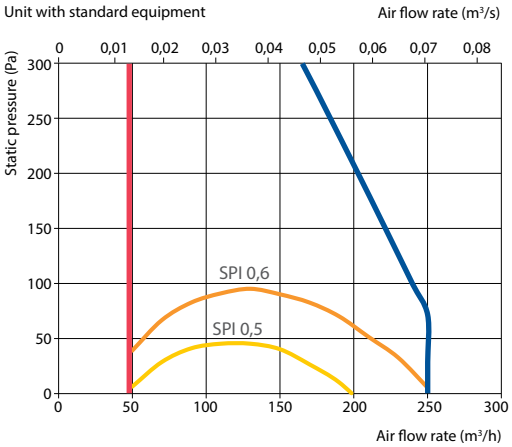
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,7	12,7	14,0	15,2	16,5	22,8	24,0	25,3

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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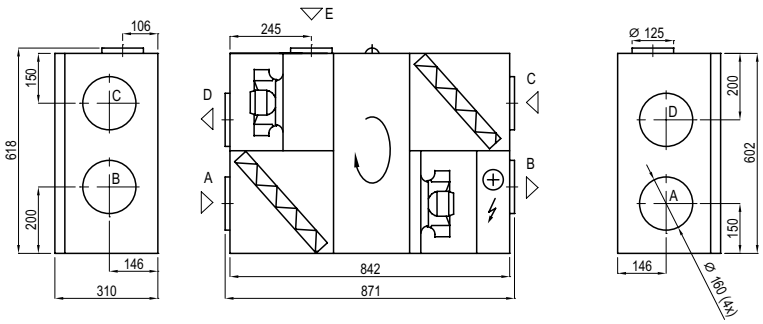

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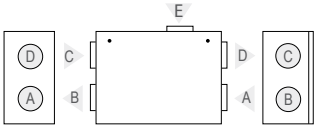

A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

Accessories (p. 108)

Closing damper		AGUJ-M-160+LF230/LM230
Silencer	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M
Water heater		DH-160

PPU	PPU-HW-3R-15-0,4-W1
2-way valve (water heater)	VVP47.10-0,4
Air heater-cooler	DHCW-160
2-way valve (water cooler)	VVP47.10-1,6

KK-18-03

Domekt R 300 V

Maximal air flow, m³/h	324
Panel thickness, mm	30
Unit weight, kg	28
Supply voltage, V	1~ 230
Maximal operating current, A	HE 4
Thermal efficiency of heat recovery, %	83
Reference flow rate, m³/s	0,063
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,33
Filters dimensions B×H×L, mm	290×205×46-M5
Electric power input of the fan drive at reference flow rate, W	34
Electric power input of the fan drive at maximum flow rate, W	90
Electric air heater capacity, kW / Δt, °C	0,5/ 6,1
Control panel	C6.1 / C6.2
Maintenance space, mm	450


C6.1


C6.2

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	54
Supply outlet	62
Exhaust inlet	54
Exhaust outlet	62
Casing	43

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	32

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	12,8	14,4	15,4	16,5	17,5	22,6	23,6	24,7

indoor +22°C, 20 % RH

Performance

Unit with standard equipment

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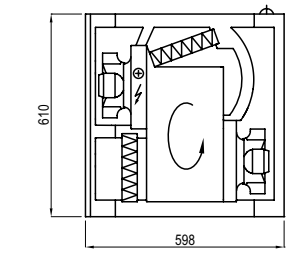

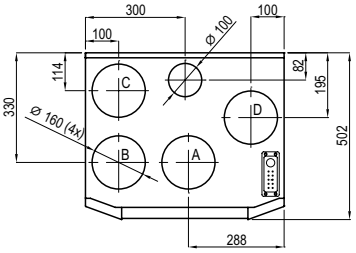

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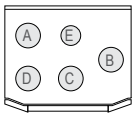

A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

Accessories (p. 108)

Closing damper		AGUJ-M-160+LF230/LM230
Silencer	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M
Water heater		DH-160

PPU	PPU-HW-3R-15-0,4-W1
2-way valve (water heater)	VVP47.10-0,4
Air heater-cooler	DHCW-160
2-way valve (water cooler)	VVP47.10-1,6

komfovent®

Domekt R 400 V

Maximal air flow, m³/h	287
Panel thickness, mm	25
Unit weight, kg	50
Supply voltage, V	1~ 230
Maximal operating current, A	HE 5,5
Thermal efficiency of heat recovery, %	86
Reference flow rate, m³/s	0,056
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,27
Filters dimensions B×H×L, mm	450×210×46-M5
Electric power input of the fan drive at reference flow rate, W	23
Electric power input of the fan drive at maximum flow rate, W	71
Electric air heater capacity, kW / Δt, °C	1 / 13,8
Control panel	C6.1 / C6.2
Maintenance space, mm	450


C6.1


C6.2

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	52
Supply outlet	65
Exhaust inlet	52
Exhaust outlet	65
Casing	39

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	29

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,8	16,1	16,9	17,7	18,5	22,5	23,3	24,1

indoor +22°C, 20 % RH

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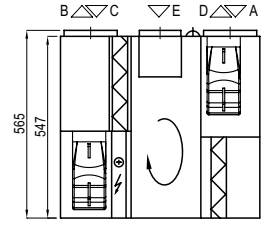

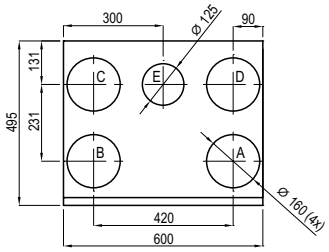

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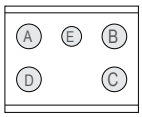
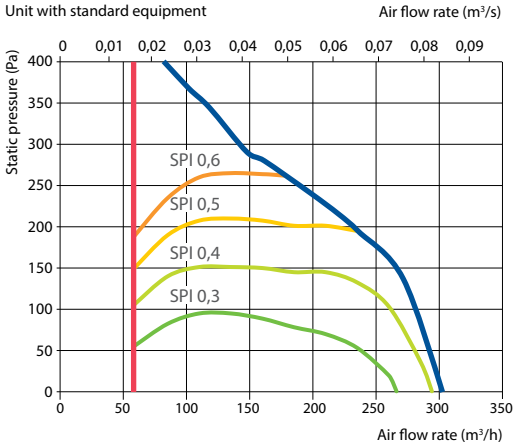


A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

Performance

Unit with standard equipment



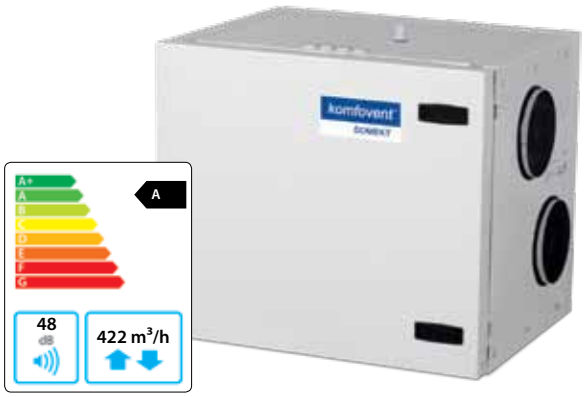
Accessories (p. 108)

Closing damper		AGUJ-M-160+LF230/LM230
Silencer	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M
Water heater		DH-160
PPU		PPU-HW-3R-15-0,4-W1

2-way valve (water heater)	VVP47.10-0,4
Air heater-cooler	DCW-0,4-3 / DHCW-160
2-way valve (water cooler)	VVP47.10-1,6
DX cooler	DCF-0,4-3

Domekt R 400 H

Maximal air flow, m³/h	422
Panel thickness, mm	50
Unit weight, kg	45
Supply voltage, V	1~ 230
Maximal operating current, A	HE 6,3
Thermal efficiency of heat recovery, %	84
Reference flow rate, m³/s	0,082
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,38
Filters dimensions B×H×L, mm	410×200×46-M5
Electric power input of the fan drive at reference flow rate, W	55
Electric power input of the fan drive at maximum flow rate, W	126
Electric air heater capacity, kW / Δt, °C	1 / 9,4
Control panel	C6.1 / C6.2
Maintenance space, mm	650



The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	60
Supply outlet	69
Exhaust inlet	60
Exhaust outlet	69
Casing	48

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	37

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	13,4	14,9	15,9	16,8	17,8	22,6	23,5	24,5

indoor +22°C, 20 % RH

Performance

Unit with standard equipment

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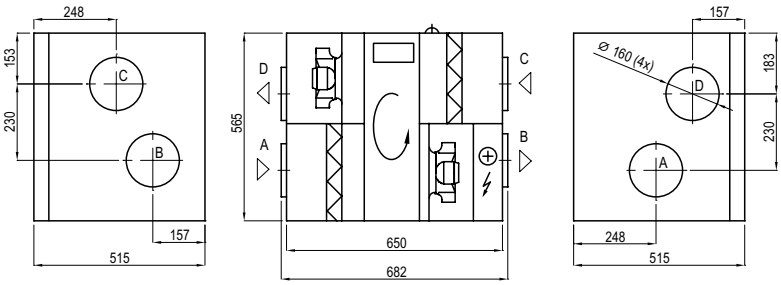

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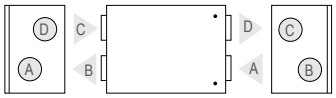


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

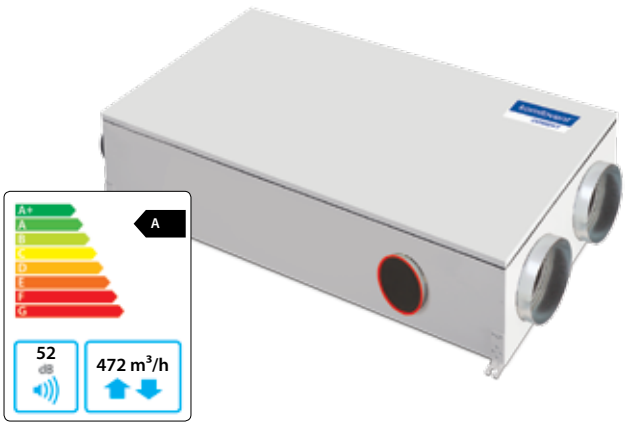
Closing damper		AGUJ-M-160+LF230/LM230
Silencer	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M
Water heater		DH-160
PPU		PPU-HW-3R-15-0,4-W1

2-way valve (water heater)	VVP47.10-0,4
Air heater-cooler	DCW-0,4-3 / DHCW-160
2-way valve (water cooler)	VVP47.10-1,6
DX cooler	DCF-0,4-3

komfovent®

Domekt R 400 F

Maximal air flow, m³/h	472
Panel thickness, mm	50
Unit weight, kg	67
Supply voltage, V	1~ 230
Maximal operating current, A	HE 7,3
Thermal efficiency of heat recovery, %	81
Reference flow rate, m³/s	0,092
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,44
Filters dimensions B×H×L, mm	278×258×46-M5
Electric power input of the fan drive at reference flow rate, W	72
Electric power input of the fan drive at maximum flow rate, W	165
Electric air heater capacity, kW / Δt, °C	1 / 8,4
Control panel	C6.1 / C6.2
Maintenance space, mm	300



The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	63
Supply outlet	72
Exhaust inlet	63
Exhaust outlet	72
Casing	52

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	41

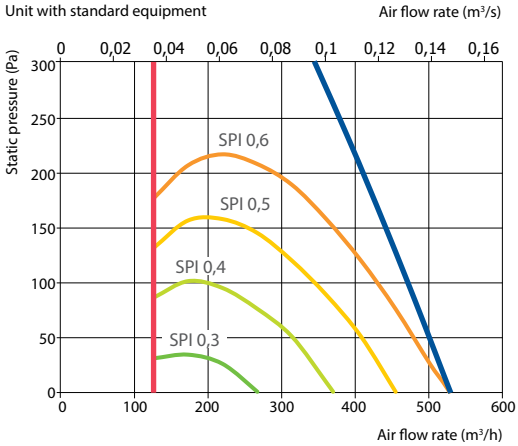
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	11,4	13,3	14,5	15,7	16,8	22,7	23,9	25,1

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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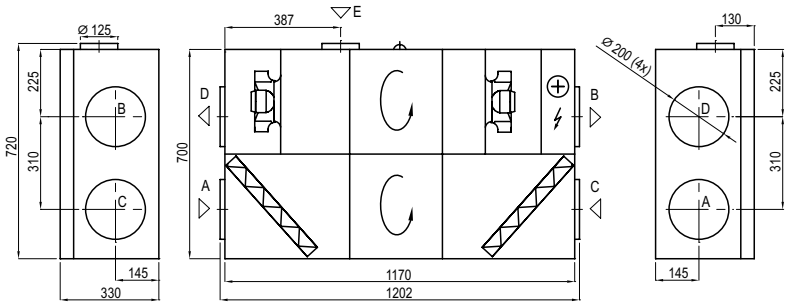

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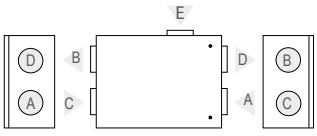


A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

Accessories (p. 108)

Closing damper		AGUJ-M-200+LF230/LM230
Silencer	A/D	AGS-200-50-600-M
	B/C	AGS-200-50-900-M
Water heater		DH-200
PPU		PPU-HW-3R-15-0,63-W1

2-way valve (water heater)	VVP47.10-0,63
Air heater-cooler	DCW-0,4-3 / DHCW-200
2-way valve (water cooler)	VVP47.10-2,5
DX cooler	DCF-0,4-3

KK-18-03

Domekt R 450 V

Maximal air flow, m³/h	472
Panel thickness, mm	50
Unit weight, kg	60
Supply voltage, V	1~ 230
Maximal operating current, A	HE 7,2
Thermal efficiency of heat recovery, %	85
Reference flow rate, m³/s	0,092
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,44
Filters dimensions B×H×L, mm	470×240×46-M5
Electric power input of the fan drive at reference flow rate, W	72
Electric power input of the fan drive at maximum flow rate, W	170
Electric air heater capacity, kW / Δt, °C	1 / 8,4
Control panel	C6.1 / C6.2
Maintenance space, mm	500

The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate	
Supply inlet	58
Supply outlet	72
Exhaust inlet	58
Exhaust outlet	72
Casing	39

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	29

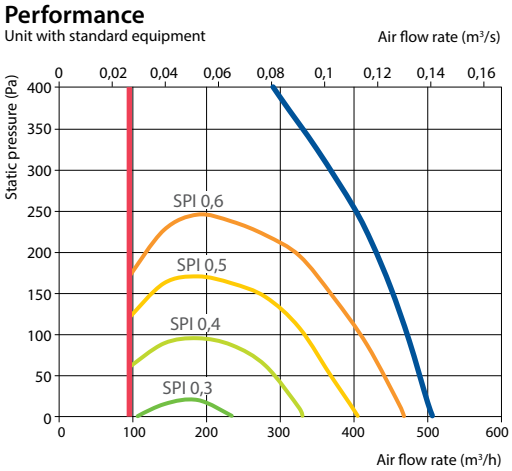
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,0	15,4	16,3	17,2	18,1	22,5	23,4	24,3

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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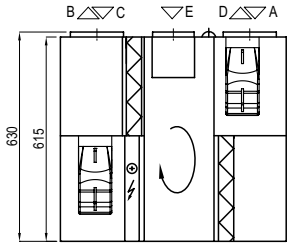

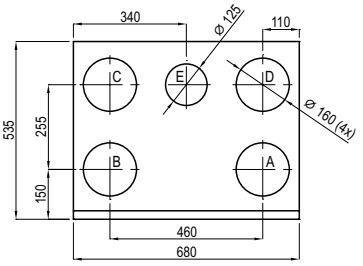

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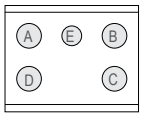


A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

Accessories (p. 108)

Closing damper		AGUJ-M-160+LF230/LM230
Silencer	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M
Water heater		DH-160
PPU		PPU-HW-3R-15-0,4-W1

2-way valve (water heater)	VVP47.10-0,4
Air heater-cooler	DCW-0,5-3 / DHCW-160
2-way valve (water cooler)	VVP47.10-1,6
DX cooler	DCF-0,5-3

Domekt R 500 V

Maximal air flow, m³/h	630
Panel thickness, mm	50
Unit weight, kg	113
Supply voltage, V	1~ 230
Maximal operating current, A	HE 7,3
Thermal efficiency of heat recovery, %	85
Reference flow rate, m³/s	0,123
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,35
Filters dimensions B×H×L, mm	540×260×46-M5
Electric power input of the fan drive at reference flow rate, W	77
Electric power input of the fan drive at maximum flow rate, W	144
Electric air heater capacity, kW / Δt, °C	1 / 6,3
Control panel	C6.1 / C6.2
Maintenance space, mm	1050

The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	57
Supply outlet	65
Exhaust inlet	57
Exhaust outlet	66
Casing	44

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	34

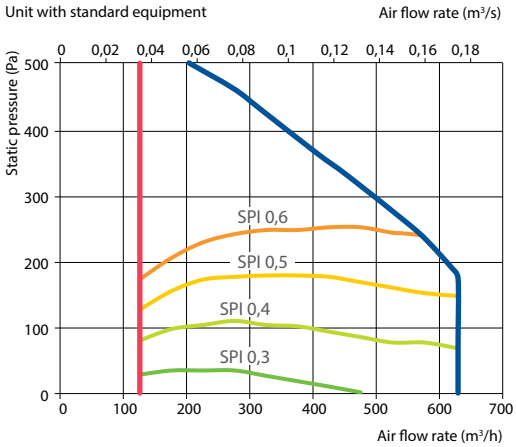
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,0	15,4	16,3	17,2	18,1	22,5	23,4	24,3

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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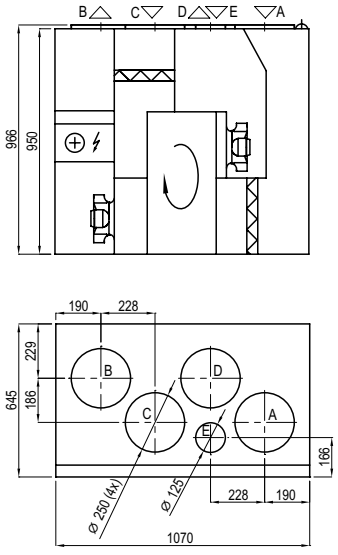

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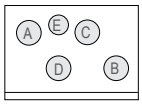


A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

Accessories (p. 108)

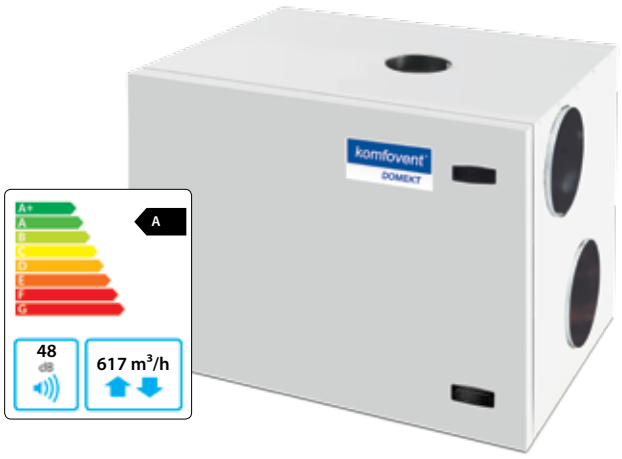
Closing damper		AGUJ-M-250+LF230/LM230
Silencer	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M
Water heater		DH-250
PPU		PPU-HW-3R-15-0,63-W1

2-way valve (water heater)	VVP47.10-0,63
Air heater-cooler	DCW-0,5-3 / DHCW-250
2-way valve (water cooler)	VVP47.10-2,5
DX cooler	DCF-0,5-3

KK-18-03

Domekt R 500 H

Maximal air flow, m³/h	617
Panel thickness, mm	50
Unit weight, kg	86
Supply voltage, V	1~ 230
Maximal operating current, A	HE 7,3
Thermal efficiency of heat recovery, %	85
Reference flow rate, m³/s	0,120
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,44
Filters dimensions B×H×L, mm	540×260×46-M5
Electric power input of the fan drive at reference flow rate, W	73
Electric power input of the fan drive at maximum flow rate, W	180
Electric air heater capacity, kW / Δt, °C	1 / 6,4
Control panel	C6.1 / C6.2
Maintenance space, mm	950



The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	59
Supply outlet	68
Exhaust inlet	59
Exhaust outlet	68
Casing	48

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	37

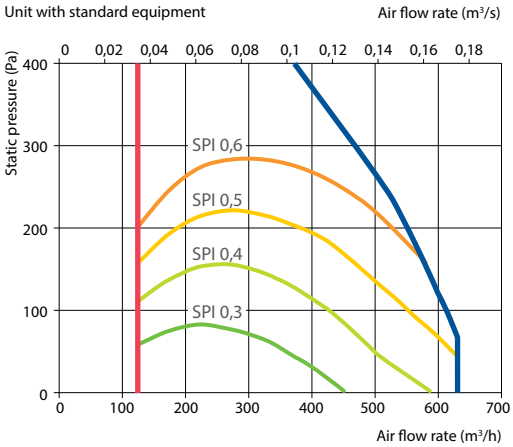
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,0	15,5	16,3	17,2	18,1	22,5	23,4	24,3

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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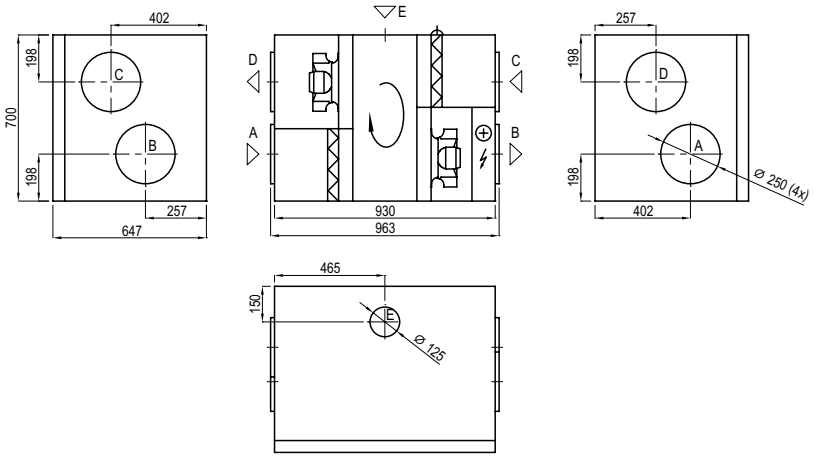

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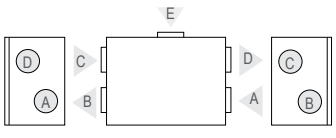


A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

Accessories (p. 108)

Closing damper		AGUJ-M-250+LF230/LM230
Silencer	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M
Water heater		DH-250
PPU		PPU-HW-3R-15-0,63-W1

2-way valve (water heater)	VVP47.10-0,63
Air heater-cooler	DCW-0,5-3 / DHCW-250
2-way valve (water cooler)	VVP47.10-2,5
DX cooler	DCF-0,5-3

komfovent®

Domekt R 600 H

Maximal air flow, m³/h	584
Panel thickness, mm	50
Unit weight, kg	80
Supply voltage, V	1~ 230
Maximal operating current, A	HE 7,3
Thermal efficiency of heat recovery, %	83
Reference flow rate, m³/s	0,114
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,38
Filters dimensions B×H×L, mm	475×235×46-M5
Electric power input of the fan drive at reference flow rate, W	77
Electric power input of the fan drive at maximum flow rate, W	179
Electric air heater capacity, kW / Δt, °C	1 / 6,8
Control panel	C6.1 / C6.2
Maintenance space, mm	500

The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	58
Supply outlet	67
Exhaust inlet	58
Exhaust outlet	67
Casing	47

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	36

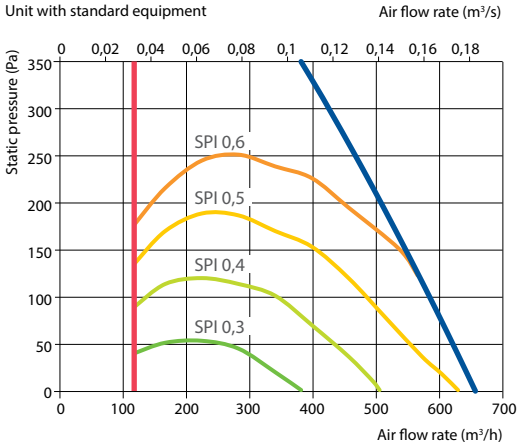
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	13,1	14,7	15,7	16,7	17,6	22,6	23,6	24,6

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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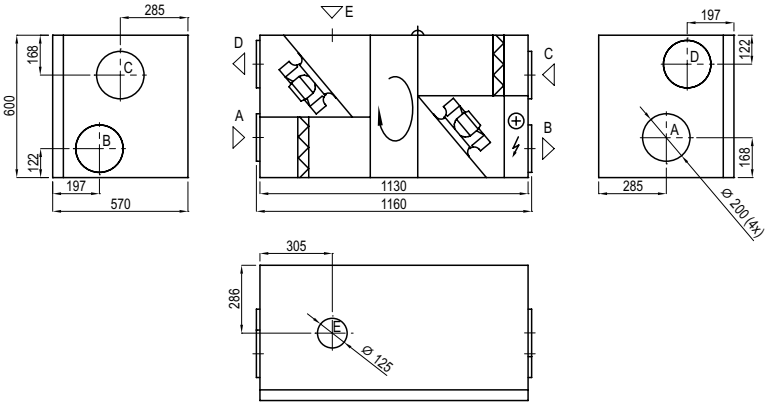

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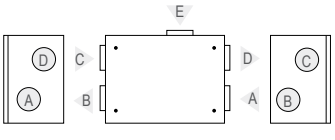


A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

Accessories (p. 108)

Closing damper		AGUJ-M-200+LF230/LM230
Silencer	A/D	AGS-200-50-600-M
	B/C	AGS-200-50-900-M
Water heater		DH-200
PPU		PPU-HW-3R-15-0,63-W1

2-way valve (water heater)	VVP47.10-0,63
Air heater-cooler	DCW-0,7-5 / DHCW-200
2-way valve (water cooler)	VVP47.10-2,5
DX cooler	DCF-0,7-5
Cooling unit	MOU-18HFN6-KA8243

KK-18-03

Domekt R 700 V

Maximal air flow, m³/h	764
Panel thickness, mm	50
Unit weight, kg	114
Supply voltage, V	1~ 230
Maximal operating current, A	HE 11,7
Thermal efficiency of heat recovery, %	83
Reference flow rate, m³/s	0,149
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,29
Filters dimensions B×H×L, mm	540×260×46-M5
Electric power input of the fan drive at reference flow rate, W	76
Electric power input of the fan drive at maximum flow rate, W	181
Electric air heater capacity, kW / Δt, °C	2 / 10,4
Control panel	C6.1 / C6.2
Maintenance space, mm	1050

The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	55
Supply outlet	63
Exhaust inlet	55
Exhaust outlet	63
Casing	44

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	33

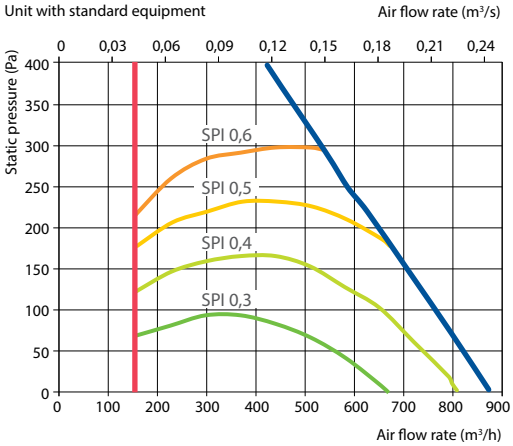
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	13,1	14,7	15,7	16,7	17,7	22,6	23,6	24,6

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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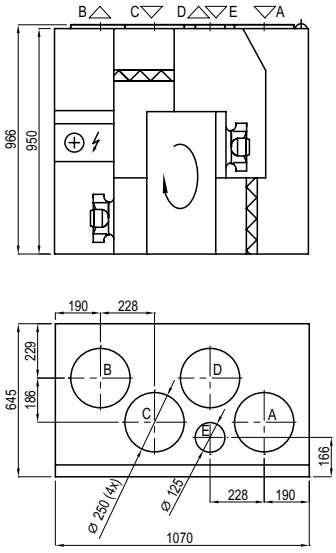

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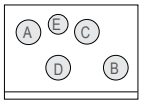


A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

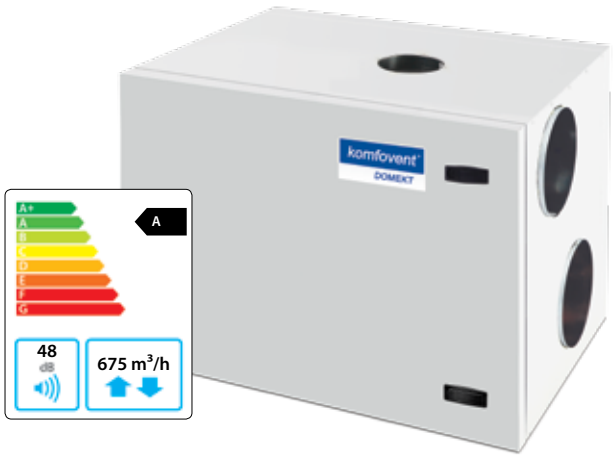
Accessories (p. 108)

Closing damper		AGUJ-M-250+LF230/LM230
Silencer	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M
Water heater		DH-250
PPU		PPU-HW-3R-15-0,63-W1

2-way valve (water heater)	VVP47.10-0,63
Air heater-cooler	DCW-0,7-5 / DHCW-250
2-way valve (water cooler)	VVP47.10-2,5
DX cooler	DCF-0,7-5
Cooling unit	MOU-18HFN6-KA8243

Domekt R 700 H

Maximal air flow, m³/h	675
Panel thickness, mm	50
Unit weight, kg	87
Supply voltage, V	1~ 230
Maximal operating current, A	HE 11,7
Thermal efficiency of heat recovery, %	84
Reference flow rate, m³/s	0,131
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,33
Filters dimensions B×H×L, mm	540×260×46-M5
Electric power input of the fan drive at reference flow rate, W	77
Electric power input of the fan drive at maximum flow rate, W	179
Electric air heater capacity, kW / Δt, °C	2 / 11,8
Control panel	C6.1 / C6.2
Maintenance space, mm	950



The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	58
Supply outlet	67
Exhaust inlet	59
Exhaust outlet	67
Casing	48

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	36

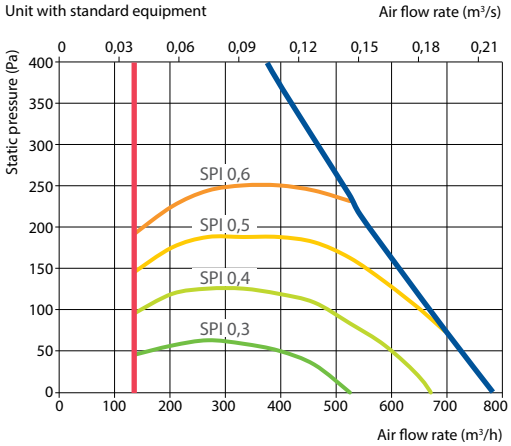
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	13,7	15,2	16,1	17,0	17,9	22,6	23,5	24,4

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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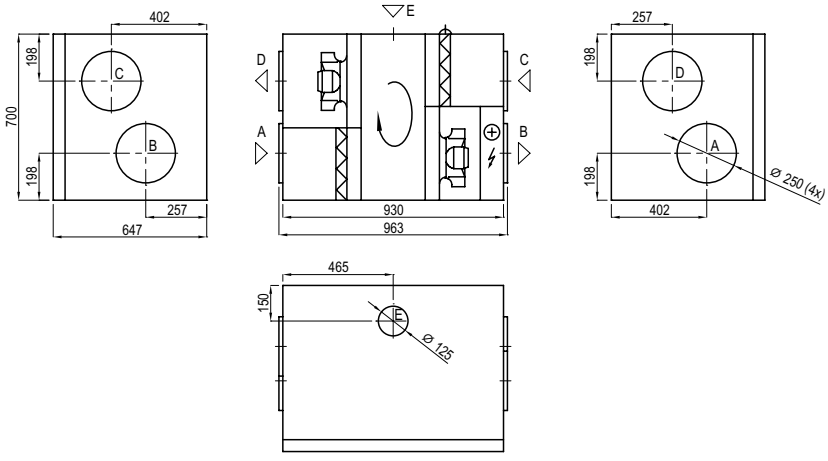

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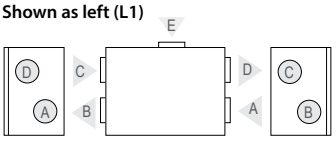


A outdoor intake
B supply air
C extract indoor
D exhaust air
E additional extraction connection (by-pass – extraction without heat recovery)

Accessories (p. 108)

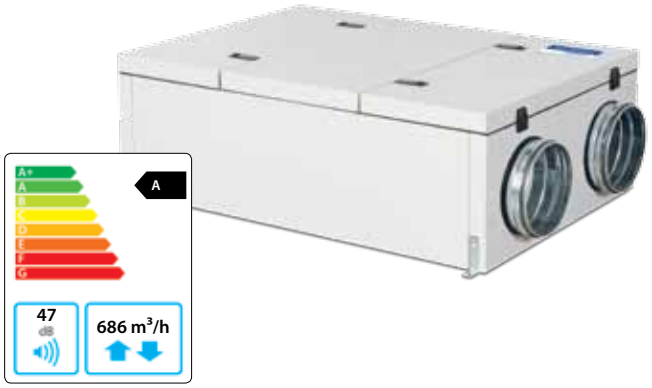
Closing damper		AGUJ-M-250+LF230/LM230
Silencer	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M
Water heater		DH-250
PPU		PPU-HW-3R-15-0,63-W1

2-way valve (water heater)	VVP47.10-0,63
Air heater-cooler	DCW-0,7-5 / DHCW-250
2-way valve (water cooler)	VVP47.10-2,5
DX cooler	DCF-0,7-5
Cooling unit	MOU-18HFN6-KA8243

KK-18-03

Domekt R 700 F

Maximal air flow, m³/h	686
Panel thickness, mm	50
Unit weight, kg	93
Supply voltage, V	1~ 230
Maximal operating current, A	HE 11,7
Thermal efficiency of heat recovery, %	83
Reference flow rate, m³/s	0,133
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,32
Filters dimensions B×H×L, mm	370×360×46-M5
Electric power input of the fan drive at reference flow rate, W	76
Electric power input of the fan drive at maximum flow rate, W	176
Electric air heater capacity, kW / Δt, °C	2 / 11,6
Control panel	C6.1 / C6.2
Maintenance space, mm	430



The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	54
Supply outlet	67
Exhaust inlet	54
Exhaust outlet	67
Casing	47

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	36

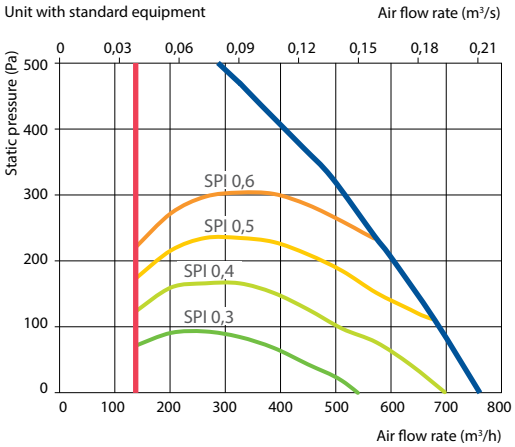
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	12,6	14,3	15,3	16,4	17,4	22,6	23,7	24,7

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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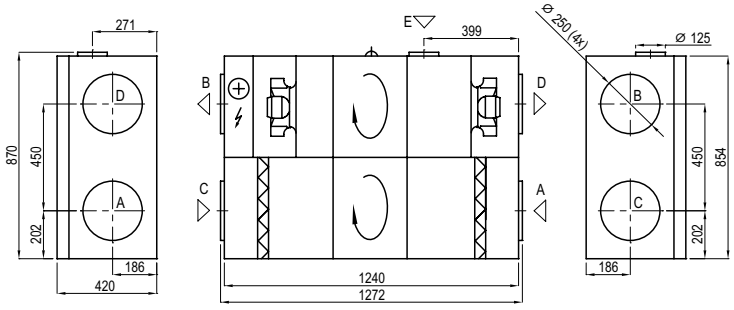

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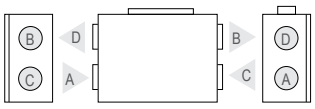


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

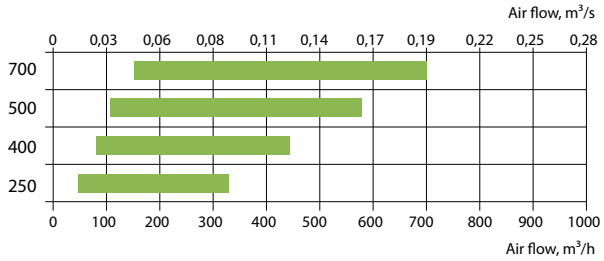
Closing damper		AGUJ-M-250+LF230/LM230
Silencer	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M
Water heater		DH-250
PPU		PPU-HW-3R-15-0,63-W1

2-way valve (water heater)	VVP47.10-0,63
Air heater-cooler	DCW-0,7-5 / DHCW-250
2-way valve (water cooler)	VVP47.10-2,5
DX cooler	DCF-0,7-5
Cooling unit	MOU-18HFN6-KA8243

Domekt CF

Air handling units with a counterflow plate heat exchanger

Sizes of Domekt CF units



Advantages of Domekt CF units

Heat energy saving and dehumidification
The counter flow plate heat exchanger maintains high efficiency at a positive outdoor air temperature, which means that during the transitional period, the operating costs are minimal. The humidity in the air of the room is condensed, so this heat exchanger is most suitable for high humidity rooms.

Low noise level
Only perfectly balanced fans with unique geometry are used in all DOMEKT units. All the elements inside the unit are aerodynamically matched. Housings padded with mineral wool and the use of special composite materials ensures a minimum level of noise in the environment.

Enthalpy energy saving
As option it is possible to order unit/s with enthalpic counter flow plate heat exchanger which recovers heat or cold and also controls humidity in premises during winter time.

Totally separated air flows
The supply and exhaust air flows are separated, thus making it possible to utilize heat of the extracted foul air.

Long term efficient operation
The absence of movable parts ensures effective heat exchange and longevity.

Counter flow plate heat exchanger

Advanced counter flow plate heat exchanger

- The patented design ensures the outstanding performance of this exchanger.
- The triangular ducts in the recuperator are arranged so that each one is surrounded by parallel ducts in which the air is in counter flow.
- Each fresh-air duct is surrounded by three ducts filled with warmer exhaust air. Likewise, each duct with exhaust air is surrounded by three fresh-air ducts. This maximizes the surface area over which energy can efficiently be transferred, recaptured and reused.

Enthalpic counter flow plate heat exchanger

- The design uses special patented membranes. Humidity is transferred to supply air – a lower power humidifier may be needed.
- The rooms have a more comfortable microclimate.
- Lower risk of heat exchanger icing.

Anti-frosting Protection. Domekt CF units with counter flow plate heat exchanger and C6 controller are equipped with integrated primary electric heaters for protecting heat exchanger against icing. A special algorithm has been developed – measurement of indoor and outdoor temperature and humidity is being carried out in order to calculate dew point and predict the risk of icing. In the event of increased risk of icing the primary heater is switched on. Such algorithm leads to significant reduction of operating costs and allows to achieve maximum energy efficiency.

KK-18-03

Domekt CF range

Unit size	Heat exchanger		Supply/ exhaust air filter class		Preheater	Heater			Cooler		Inspection side				Bypass	Control system/ panel		
																C4	C6	
	Condensating	Enthalpic	M5	F7	HE	HE	HW	HCW	CW	DX	R1	R2	L1	L2	Inner	C4.1	C6.1	C6.2
Domekt CF 250 V	●	○	●	○							○		○		●	●		
Domekt CF 250 F	●	○	●	○	●	●	△	△			○	○	○	○	●		○	○
Domekt CF 400 V	●	○	●	○	●	●	△	△	△	△	○		○		●		○	○
Domekt CF 500 F	●	○	●	○	●	●	△	△	△	△	○	○	○	○	●		○	○
Domekt CF 700 V	●	○	●	○	●	●	△	△	△	△	○		○		●		○	○
Domekt CF 700 H	●	○	●	○	●	●	△	△	△	△	○		○		●		○	○
Domekt CF 700 F	●	○	●	○	●	●	△	△	△	△	○	○	○	○	●		○	○

● standard equipment
○ possible choice
△ ordered separately (duct heater/cooler)

Duct connection

H – horizontal
V – vertical
F – false ceiling

Heater

HE – electric heater.

HW – water duct heater is installed on the duct and must be ordered separately. Heaters are mounted on the outside of the unit in any user-convenient place. 0...10 V heater control included in automatic control system.

HCW – heater-cooler one for both – heating and cooling. Ideal for buildings using geothermal energy.

Cooler

CW – designed for air cooling using cold water (water-glycol mixture), provides a higher comfort level in rooms.

DX – designed for air cooling using direct expansion cooling unit, provides a higher comfort level in rooms.

Inspection side

See p. 116.

Bypass

Inner bypass is controlled by smart control system.

Control system

C6 Control features:

- Temperature maintenance modes: Supply air / Extract air / Room / Balance;
- Air flow indication: m^3/h; l/s;
- Constant air volume control (CAV);
- Variable air volume control (VAV)*;
- Directly controlled volume (DCV);
- External water coil control;
- External DX unit control;
- Weekly operation schedule;
- Holidays planning;
- Air quality control*;
- Operation on demand*;
- Cool recovery;
- Temperature saving function;
- Free cooling;
- Ventilation control by external contacts;
- Control via internet browser;
- Control with smartphones;
- Filter clogging indication;
- Water mixing system warming-up;
- Rotor warm-up and cleaning function;
- Heat exchanger frost protection;
- Heat exchanger failure indication;
- Water heater frost protection;
- Electric heater overheat protection;
- Low air flow indication;
- Emergency shut down in case of fire;
- Emergency shut down when temperature reaches critical limits;
- Intelligent self-diagnostic;
- Indication of the heat exchanger thermal efficiency (%);
- Indication of heat exchanger energy recovery (kW);
- Energy consumption counters for heater and whole unit (kWh);
- Indication of the whole unit power consumption (kW);
- Specific power (SPI) indication;
- Unit operation parameters history storage and analysis;
- Possibility to choose desired control panel.

* these functions require additional accessories.

Information about control system C4 see in **www.komfovent.com**.

komfovent®

Domekt CF 250 V

Maximal air flow, m³/h	211
Panel thickness, mm	30
Unit weight, kg	41
Supply voltage, V	1~230
Maximal operating current, A	1,7
Thermal efficiency of heat recovery, %	89
Reference flow rate, m³/s	0,041
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,44
Filters dimensions B×H×L, mm	145×350×46-M5
Electric power input of the fan drive at reference flow rate, W	33
Electric power input of the fan drive at maximum flow rate, W	90
Electric air heater capacity, kW / Δt, °C	–
Control panel	C4.1
Maintenance space, mm	600

C4.1

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	48
Supply outlet	70
Exhaust inlet	53
Exhaust outlet	70
Casing	49

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	38

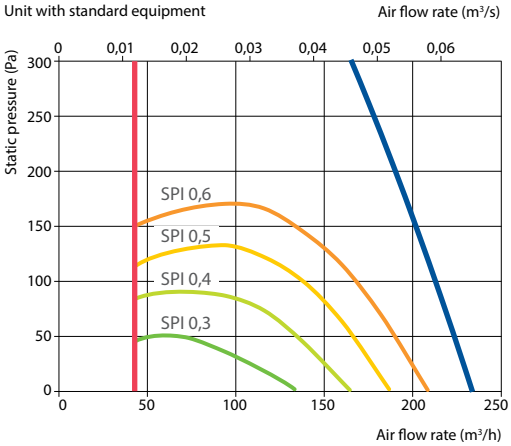
Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	16,6	17,3	17,7	18,1	18,8	22,4	23,2	23,9

indoor +22°C, 20 % RH

Performance

Unit with standard equipment



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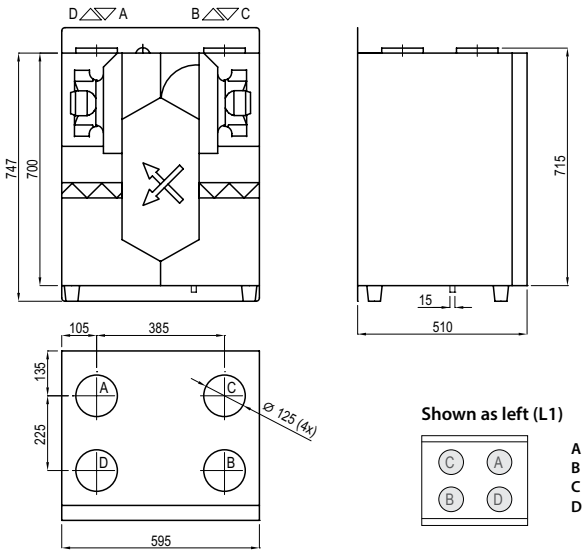


Shown as left (L1)

A outdoor intake
B supply air
C extract indoor
D exhaust air

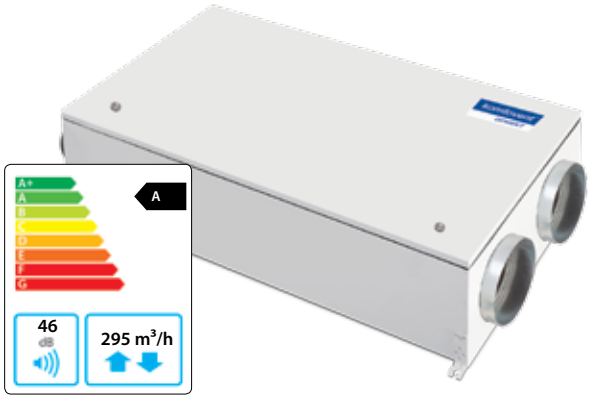
Accessories (p. 108)

Closing damper		AGUJ-M-125+LF230/LM230
Silencer	A/D	AGS-125-50-600-M
	B/C	AGS-125-50-900-M

Duct electric heater with integrated control	EHC-125-1,0-1f SI/FC

Domekt CF 250 F

Maximal air flow, m³/h	295
Panel thickness, mm	30
Unit weight, kg	52
Supply voltage, V	1~230
Maximal operating current, A	8,3
Thermal efficiency of heat recovery, %	86
Reference flow rate, m³/s	0,0574
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,3
Filters dimensions B×H×L, mm	265×250×46-M5
Electric power input of the fan drive at reference flow rate, W	32
Electric power input of the fan drive at maximum flow rate, W	89
Electric air heater capacity, kW / Δt, °C	0,5 / 6,7
Electric preheater capacity, kW / Δt, °C	1 / 13,4
Control panel	C6.1 / 6.2
Maintenance space, mm	300



The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	53
Supply outlet	65
Exhaust inlet	54
Exhaust outlet	65
Casing	46

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	35

Temperature efficiency

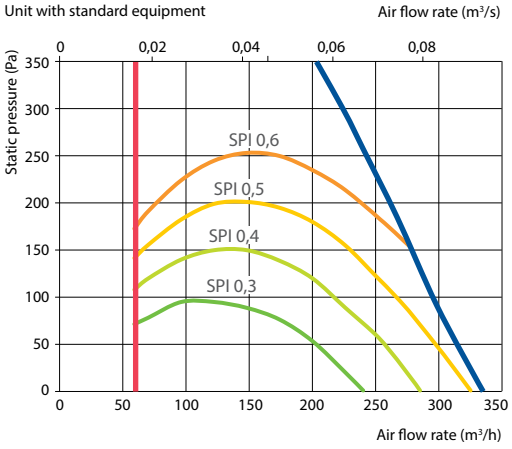
	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	16,1*	17,0*	17,0*	17,0	17,9	22,6	23,5	24,4

indoor +22°C, 20 % RH

* calculations made after evaluation of the preheater.

Performance

Unit with standard equipment



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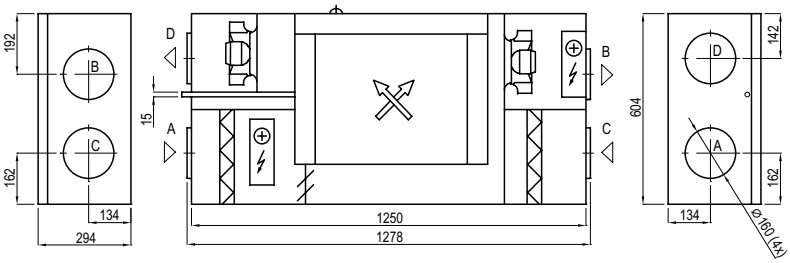

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A outdoor intake
B supply air
C extract indoor
D exhaust air

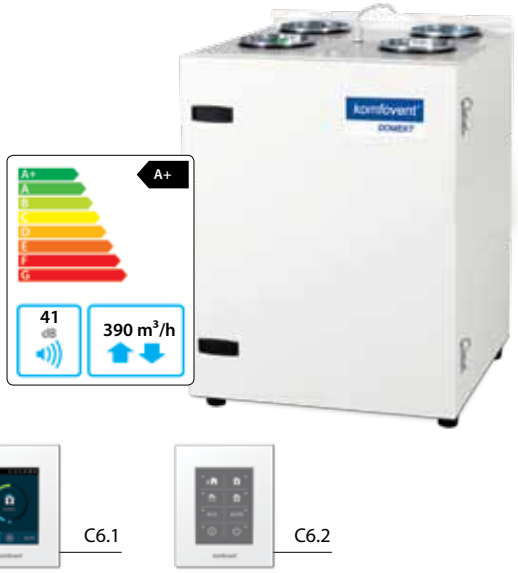
Accessories (p. 108)

Closing damper		AGUJ-M-160+LF230/LM230
Silencer	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M
Water heater		DH-160

PPU	PPU-HW-3R-15-0,4-W1
2-way valve (water heater)	VVP47.10-0,4
Air heater-cooler	DHCW-160
2-way valve (water cooler)	VVP47.10-1,6

Domekt CF 400 V

Maximal air flow, m³/h	390
Panel thickness, mm	30
Unit weight, kg	54
Supply voltage, V	1~230
Maximal operating current, A	HE 10.5
Thermal efficiency of heat recovery, %	88
Reference flow rate, m³/s	0,0758
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,22
Filters dimensions B×H×L, mm	350×235×46-M5
Electric power input of the fan drive at reference flow rate, W	33
Electric power input of the fan drive at maximum flow rate, W	91
Electric air heater capacity, kW / Δt, °C	0,5 / 5,1
Electric preheater capacity, kW / Δt, °C	1,5 / 15,3
Control panel	C6.1 / 6.2
Maintenance space, mm	600




C6.1

C6.2

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	58
Supply outlet	53
Exhaust inlet	58
Exhaust outlet	53
Casing	41

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	31

Temperature efficiency

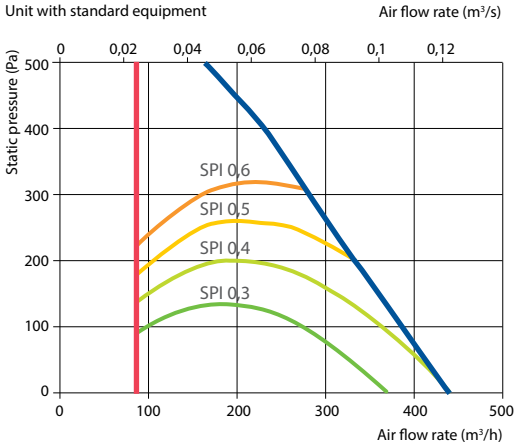
	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	17,4*	17,9*	17,9*	17,9	18,6	22,5	23,2	24,0

indoor +22°C, 20 % RH

* calculations made after evaluation of the preheater.

Performance

Unit with standard equipment



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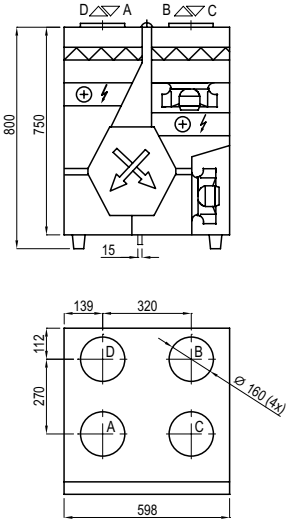

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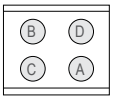


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

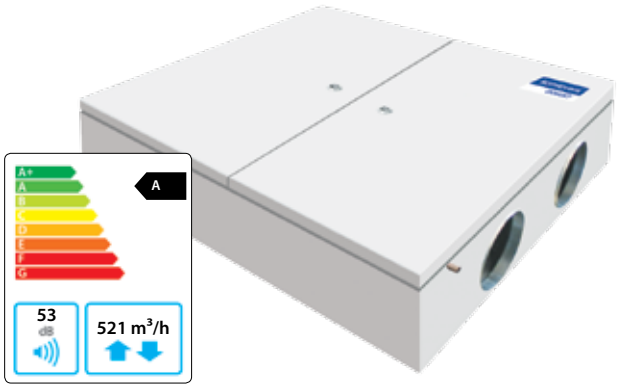
Closing damper		AGUJ-M-160+LF230/LM230
Silencer	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M
Water heater		DH-160
PPU		PPU-HW-3R-15-0,4-W1

2-way valve (water heater)	VVP47.10-0,4
Air heater-cooler	DCW-0,4-3 / DHCW-160
2-way valve (water cooler)	VVP47.10-1,6
DX cooler	DCF-0,4-3

KK-18-03

Domekt CF 500 F

Maximal air flow, m³/h	521
Panel thickness, mm	30
Unit weight, kg	93
Supply voltage, V	1~230
Maximal operating current, A	HE 11,7
Thermal efficiency of heat recovery, %	87
Reference flow rate, m³/s	0,1013
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,35
Filters dimensions B×H×L, mm	484×250×46-M5
Electric power input of the fan drive at reference flow rate, W	67
Electric power input of the fan drive at maximum flow rate, W	171
Electric air heater capacity, kW / Δt, °C	0,5 / 3,8
Electric preheater capacity, kW / Δt, °C	1,5 / 11,4
Control panel	C6.1 / 6.2
Maintenance space, mm	520



The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	56
Supply outlet	70
Exhaust inlet	56
Exhaust outlet	70
Casing	53

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	42

Temperature efficiency

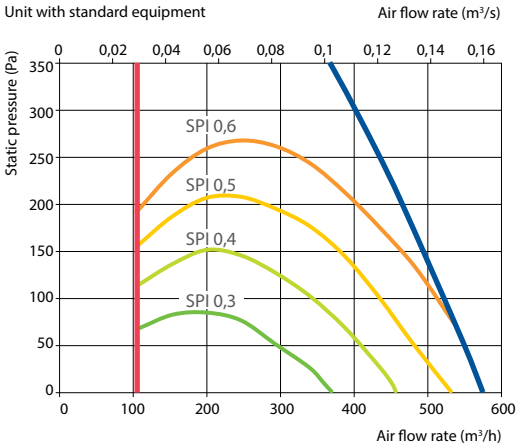
	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	17,4*	18,0*	18,2*	18,2	18,8	22,4	23,2	24,0

indoor +22°C, 20 % RH

* calculations made after evaluation of the preheater.

Performance

Unit with standard equipment



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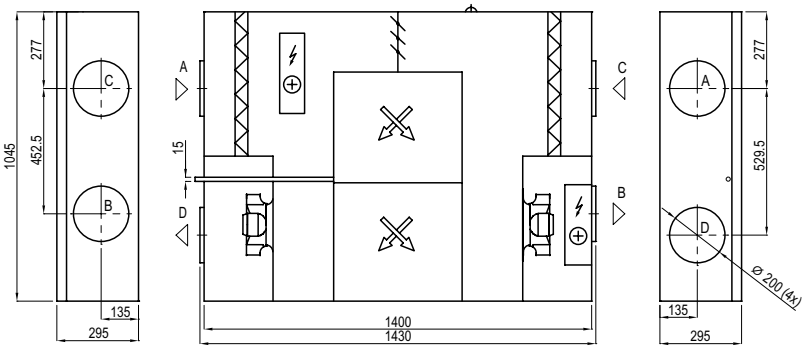

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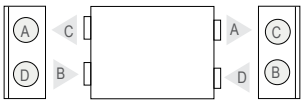


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		AGUJ-M-200+LF230/LM230
Silencer	A/D	AGS-200-50-600-M
	B/C	AGS-200-50-900-M
Water heater		DH-200
PPU		PPU-HW-3R-15-0,4-W1

2-way valve (water heater)	VVP47.10-0,4
Air heater-cooler	DCW-0,5-3 / DHCW-200
2-way valve (water cooler)	VVP47.10-1,6
DX cooler	DCF-0,5-3

komfovent®

Domekt CF 700 V

Maximal air flow, m³/h	637
Panel thickness, mm	50
Unit weight, kg	100
Supply voltage, V	1~230
Maximal operating current, A	HE 11,7
Thermal efficiency of heat recovery, %	88
Reference flow rate, m³/s	0,1239
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,30
Filters dimensions B×H×L, mm	390×300×46-M5
Electric power input of the fan drive at reference flow rate, W	73
Electric power input of the fan drive at maximum flow rate, W	179
Electric air heater capacity, kW / Δt, °C	0,5 / 3,1
Electric preheater capacity, kW / Δt, °C	1,5 / 9,3
Control panel	C6.1 / 6.2
Maintenance space, mm	1000

The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	47
Supply outlet	67
Exhaust inlet	47
Exhaust outlet	67
Casing	47

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	36

Temperature efficiency

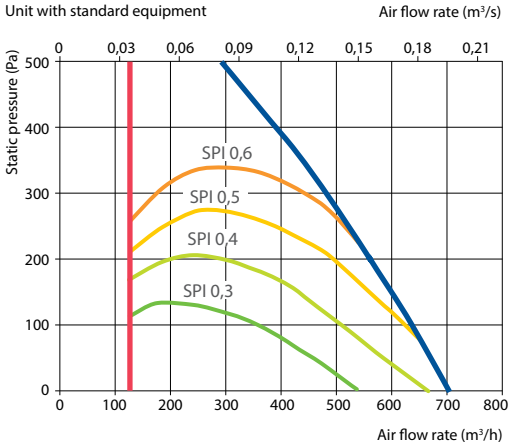
	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	17,3*	17,9*	18,1*	18,1	188	22,4	23,2	23,9

indoor +22°C, 20 % RH

* calculations made after evaluation of the preheater.

Performance

Unit with standard equipment



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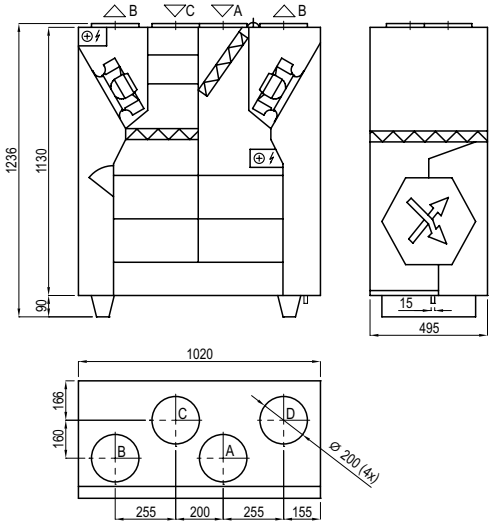

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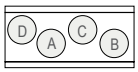


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		AGUJ-M-200+LF230/LM230
Silencer	A/D	AGS-200-50-600-M
	B/C	AGS-200-50-900-M
Water heater		DH-200
PPU		PPU-HW-3R-15-0,4-W1

2-way valve (water heater)	VVP47.10-0,4
Air heater-cooler	DCW-0,7-5 / DHCW-200
2-way valve (water cooler)	VVP47.10-2,5
DX cooler	DCF-0,7-5
Cooling unit	MOU-18HFN6-KA8243

KK-18-03

Domekt CF 700 H

Maximal air flow, m³/h	651
Panel thickness, mm	50
Unit weight, kg	115
Supply voltage, V	1~230
Maximal operating current, A	HE 11,7
Thermal efficiency of heat recovery, %	88
Reference flow rate, m³/s	0,1266
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,29
Filters dimensions B×H×L, mm	390×300×46-M5
Electric power input of the fan drive at reference flow rate, W	72
Electric power input of the fan drive at maximum flow rate, W	178
Electric air heater capacity, kW / Δt, °C	0,5 / 3,0
Electric preheater capacity, kW / Δt, °C	1,5 / 9,1
Control panel	C6.1 / 6.2
Maintenance space, mm	500

The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate	
Supply inlet	47
Supply outlet	67
Exhaust inlet	47
Exhaust outlet	67
Casing	47

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	36

Temperature efficiency

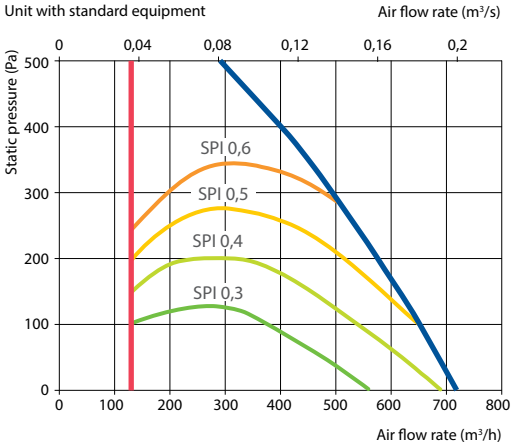
	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	17,2*	17,7*	18,0*	18,0	18,8	22,4	23,2	23,9

indoor +22°C, 20 % RH

* calculations made after evaluation of the preheater.

Performance

Unit with standard equipment



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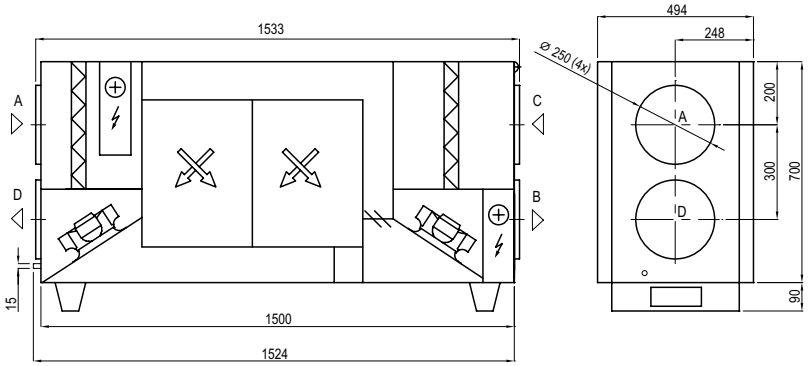

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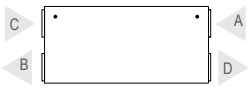


A outdoor intake
B supply air
C extract indoor
D exhaust air

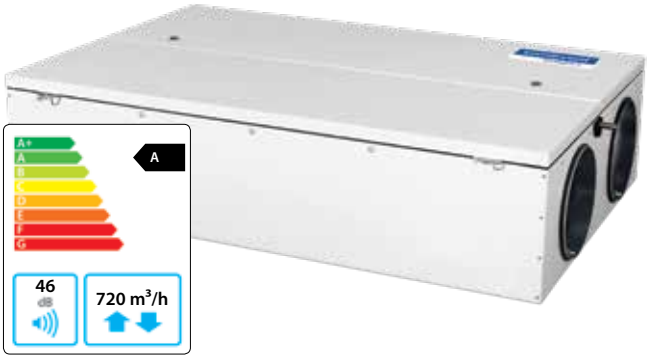
Accessories (p. 108)

Closing damper		AGUJ-M-250+LF230/LM230
Silencer	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M
Water heater		DH-250
PPU		PPU-HW-3R-15-0,63-W1

2-way valve (water heater)	VVP47.10-0,63
Air heater-cooler	DCW-0,7-5 / DHCW-250
2-way valve (water cooler)	VVP47.10-2,5
DX cooler	DCF-0,7-5
Cooling unit	MOU-18HFN6-KA8243

Domekt CF 700 F

Maximal air flow, m³/h	720
Panel thickness, mm	30
Unit weight, kg	81
Supply voltage, V	1~230
Maximal operating current, A	HE 11,7
Thermal efficiency of heat recovery, %	82
Reference flow rate, m³/s	0,14
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,27
Filters dimensions B×H×L, mm	400×300×46-M5
Electric power input of the fan drive at reference flow rate, W	70
Electric power input of the fan drive at maximum flow rate, W	177
Electric air heater capacity, kW / Δt, °C	0,5 / 2,8
Electric preheater capacity, kW / Δt, °C	1,5 / 8,3
Control panel	C6.1 / 6.2
Maintenance space, mm	450



The photo is intended for informational purposes only, exact details may vary.


C6.1


C6.2

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	53
Supply outlet	66
Exhaust inlet	53
Exhaust outlet	66
Casing	46

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	35

Temperature efficiency

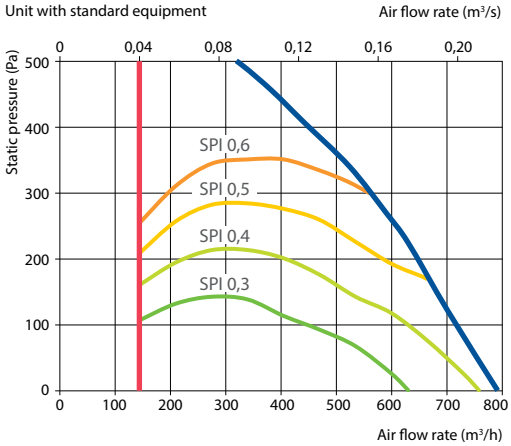
	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	15,5*	16,1*	16,8*	16,8	17,7	22,5	23,5	24,4

indoor +22°C, 20 % RH

* calculations made after evaluation of the preheater.

Performance

Unit with standard equipment



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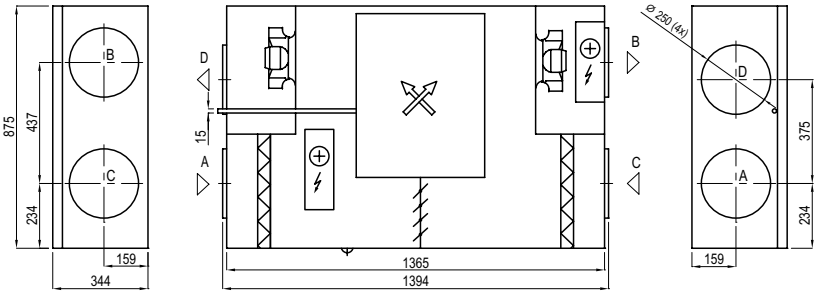

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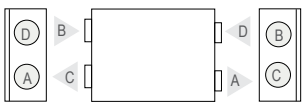


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		AGUJ-M-250+LF230/LM230
Silencer	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M
Water heater		DH-250
PPU		PPU-HW-3R-15-0,63-W1

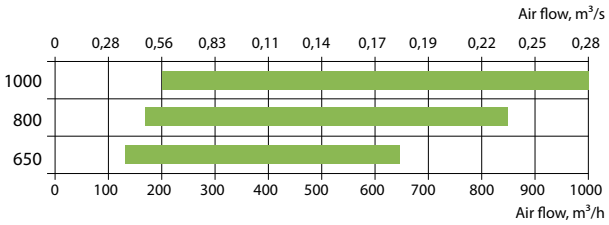
2-way valve (water heater)	VVP47.10-0,63
Air heater-cooler	DCW-0,7-5 / DHCW-250
2-way valve (water cooler)	VVP47.15-2,5
DX cooler	DCF-0,7-5
Cooling unit	MOU-18HFN6-KA8243

KK-18-04

Domekt S

False ceiling supply air handling units

Sizes of Domekt S units



Advantages of Domekt S units

- Height is only 297 mm / 350 mm – easy to choose the place for installation.
- Units are complemented with fastening profiles and vibration absorbing holders.
- Safe and handy design of removable cover ensures easy fixing of cover at different opening levels for performing maintenance and service inspection.
- Air handling units have integrated control system.
- Control panel may be installed in any user-convenient place.
- Control panel display enables to set the operation parameters of the unit and monitor them.
- There is a possibility to complement and control the duct mounted cooling section.

Domekt S range

Unit size	Supply/exhaust air filter class		Heater		Cooler		Inspection side		C5 panel
	M5	F7	HE	HW	CW	DX	R1	L1	C5.1
Domekt S 650 F	●	○	●		△	△	○	○	●
Domekt S 800 F	●	○	●	○	△	△	○	○	●
Domekt S 1000 F	●	○	●	○	△	△	○	○	●

● standard equipment
○ possible choice
△ ordered separately (duct heater/cooler)

Duct connection
F – false ceiling

Heater
HE – electric heater.
HW – water air heater.

Inspection side
See p. 116.

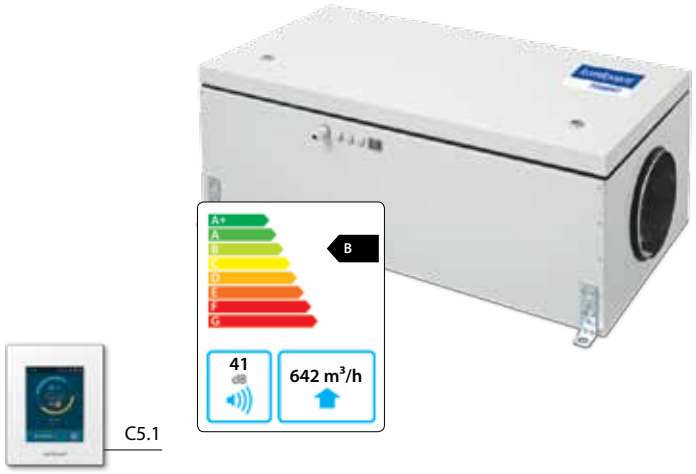
Cooler
CW – designed for air cooling using cold water (water-glycol mixture), provides a higher comfort level in rooms.
DX – designed for air cooling using direct expansion cooling unit, provides a higher comfort level in rooms.

Control system
More information about C5 on p. 8.

komfovent®

Domekt S 650 F

Maximal air flow, m³/h	642
Panel thickness, mm	50
Unit weight, kg	35
Reference flow rate, m³/s	0,125
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,15
Filters dimensions B×H×L, mm	371×235×46-M5
Electric power input of the fan drive at reference flow rate, W	63
Electric power input of the fan drive at maximum flow rate, W	172
Control panel	C5.1
Maintenance space, mm	300



The photo is intended for informational purposes only, exact details may vary.

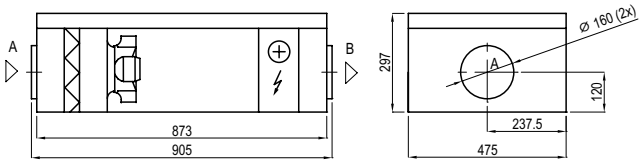
Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	63
Supply outlet	69
Casing	41

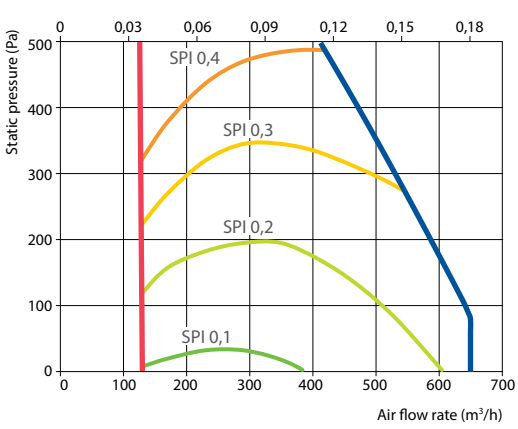
A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	30



Performance

Unit with standard equipment



Technical data

Supply air handling unit	Supply voltage, V	Air heater capacity, kW	Maximal operating current, A	ΔT, °C
Domekt S 650 F-HE/3	1~230	3,0	14,7	13
Domekt S 650 F-HE/6	3~400	6,0	10,4	26

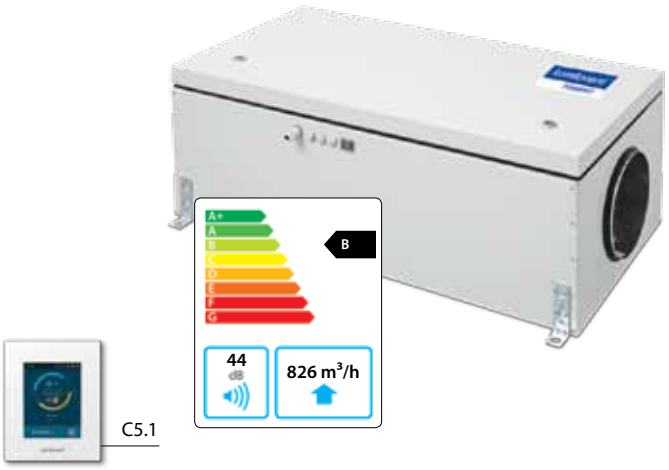
Accessories (p. 108)

Closing damper		AGUJ-M-160+LF24/LM24
Silencer	A	AGS-160-50-600-M
	B	AGS-160-50-900-M
PPU		–
Air heater-cooler		DCW-0,7-5
2-way valve		VVP47.15-2,5+SSP61
DX cooler		DCF-0,7-5
Cooling unit		MOU-18HFN6+KA8243

KK-18-03

Domekt S 800 F

Maximal air flow, m^3/h	826
Panel thickness, mm	50
Unit weight, kg	37
Reference flow rate, m^3/s	0,161
Reference pressure difference, Pa	50
SPI, $W/(m^3/h)$	0,14
Filters dimensions B×H×L, mm	371×287×46-M5
Electric power input of the fan drive at reference flow rate, W	75
Electric power input of the fan drive at maximum flow rate, W	181
Control panel	C5.1
Maintenance space, mm	400



The photo is intended for informational purposes only, exact details may vary.

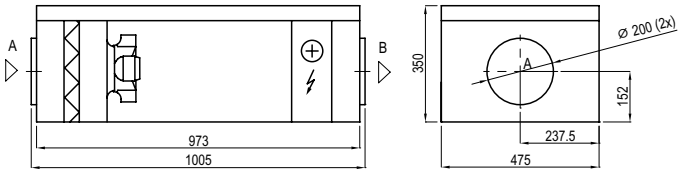
Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	60
Supply outlet	65
Casing	44

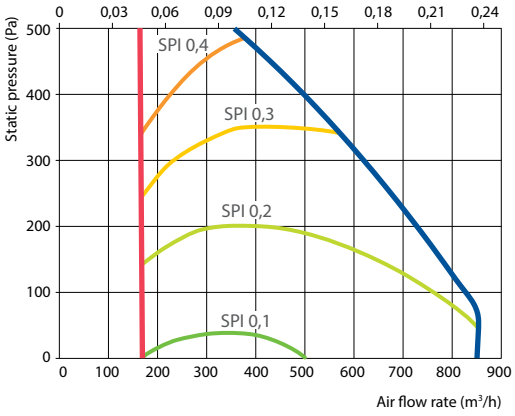
A-weighted sound pressure level L_{PA}, dB(A)
10 m^2 normally isolated room, distance from casing – 3 m.

Surroundings	33



Performance

Unit with standard equipment



Technical data

Supply air handling unit	Supply voltage, V	Air heater capacity, kW	Maximal operating current, A	ΔT, °C
Domekt S 800 F-HE/6	3~400	6,0	10,3	20,2
Domekt S 800 F-HE/9	3~400	9,0	14,6	30,3
Domekt S 800 F-HW	1~230	–	1,9	–

Hot water air heater

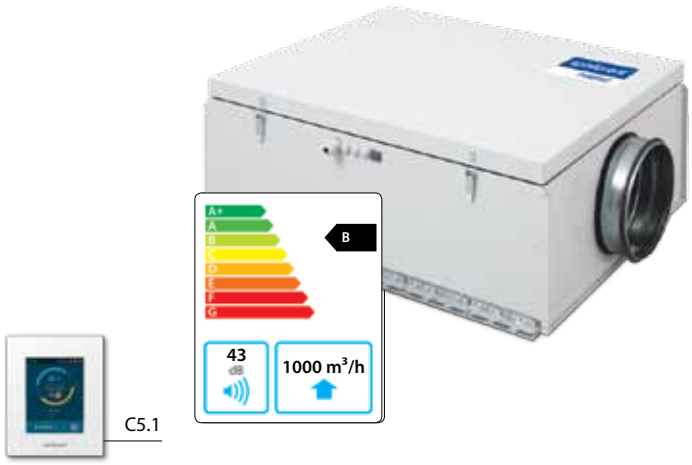
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	6,3	5,2	4,1
Flow rate, dm^3/h	277	230	181
Pressure drop, kPa	4,8	3,8	3
Temperature in/out, °C	-5/20,0	-5/15,9	-5/11,6
Maximal capacity, kW	6,3	5,2	4,1
Connection, ″		½	

Accessories (p. 108)

Closing damper		AGUJ-M-200+LF24/LM24
Silencer	A	AGS-200-50-600-M
	B	AGS-200-50-900-M
PPU		PPU-HW-3R-15-1,6-W2
Air heater-cooler		DCW-0,9-6
2-way valve		VVP47.15-2,5+SSP61
DX cooler		DCF-0,9-6
Cooling unit		MOU-18HFN6-KA8243

Domekt S 1000 F

Maximal air flow, m^3/h	1000
Panel thickness, mm	50
Unit weight, kg	46
Reference flow rate, m^3/s	0,194
Reference pressure difference, Pa	50
SPI, $W/(m^3/h)$	0,12
Filters dimensions B×H×L, mm	558×287×46-M5
Electric power input of the fan drive at reference flow rate, W	82
Electric power input of the fan drive at maximum flow rate, W	182
Control panel	C5.1
Maintenance space, mm	400



The photo is intended for informational purposes only, exact details may vary.

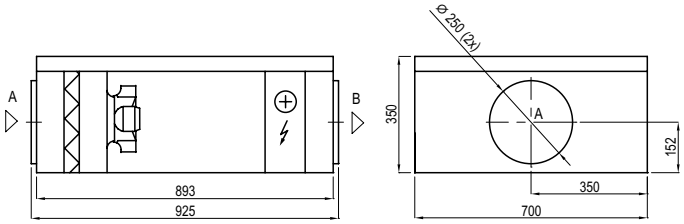
Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	60
Supply outlet	66
Casing	43

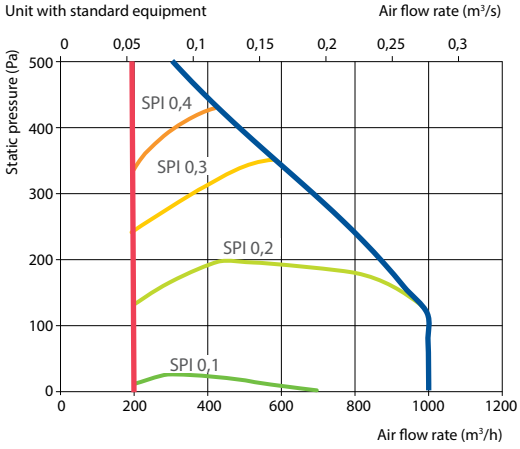
A-weighted sound pressure level L_{PA}, dB(A)
10 m^2 normally isolated room, distance from casing – 3 m.

Surroundings	32



Performance

Unit with standard equipment



Technical data

Supply air handling unit	Supply voltage, V	Air heater capacity, kW	Maximal operating current, A	ΔT, °C
Domekt S 1000 F-HE/9	3~400	9,0	14,6	25
Domekt S 1000 F-HE/15	3~400	15,0	23,3	41,7
Domekt S 1000 F-HW	1~230	–	1,9	–

Hot water air heater

Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	8,1	8,0	6,5
Flow rate, dm^3/h	358	351	286
Pressure drop, kPa	8,1	7,9	6,0
Temperature in/out, °C	-5/20	-5/19,7	-5/15,2
Maximal capacity, kW	9,4	8,0	6,5
Connection, ″		½	

Accessories (p. 108)

Closing damper		AGUJ-M-250+LF24/LM24
Silencer	A	AGS-250-50-600-M
	B	AGS-250-50-900-M
PPU		PPU-HW-3R-15-1.6-W2
Air heater-cooler		DCW-0,9-6
2-way valve		VVP47.15-2,5+SSP61
DX cooler		DCF-0,9-6
Cooling unit		MOU-18HFN6-KA8243

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VERSO

Commercial ventilation units

1 000 – 40 000
(m³/h)

Eurovent certified
VERSO units are tested on a regular basis at the Eurovent climatic laboratory in Germany. Parameters such as performance, efficiency, noise level, tolerances and others are tested.

Energy saving technology
Units are equipped with the most efficient and advanced technical solutions: high efficiency PM/EC fans, non-freezing rotary heat exchangers, high efficiency counter flow heat exchangers, high surface area air filters. All of these solutions greatly reduce operational costs and shorten payback time.

PM motors
Ultra Premium efficiency IE5 class PM fan motors minimize power consumption and ensure durability of the unit.

Plug & Play – all included
All units are assembled and tested at the factory, therefore installation and commissioning work is significantly simplified. Integrated intelligent automation requires minimum user input. Factory predefined settings – simply "Plug and Play". The user can change every setting according to individual preferences. Units can be monitor and controlled remotely via the Internet.

Inteligent control
Smart algorithms in the integrated automation ensure reliable and efficient operation of the unit and reduce operating costs.

Energy recovery
Non-freezing rotary heat exchangers efficiently recover heat and cold, control humidity and provide comfort throughout the year.

Wide range

VERSO units are designed for efficient ventilation and are suitable for various types of projects. You can choose unified unit from VERSO Standard series, or VERSO Pro which can be specifically tailored to meet your requirements. Large number of configurations (vertical, horizontal, flat and universal type, with rotary or plate heat exchangers) allows you to always select optimal and most efficient solution.

Verso R
units with a rotary heat exchanger

Verso CF
units with a counterflow plate heat exchanger

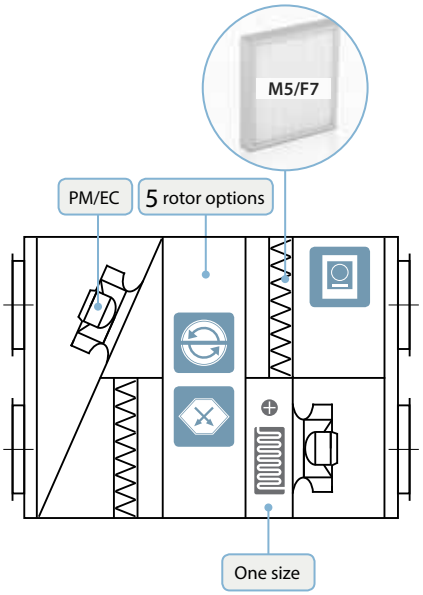
Verso P
units with a plate heat exchanger

Verso S
supply air units

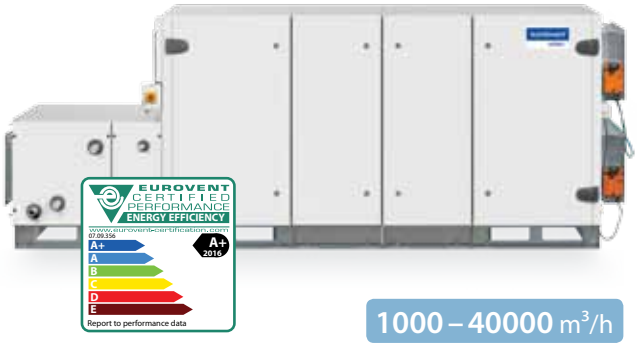
VERSO Standard

1000 – 8000 m³/h

- ✓ Vertical, horizontal, flat or universal application
- ✓ Compact design
- ✓ Models for REVIT software

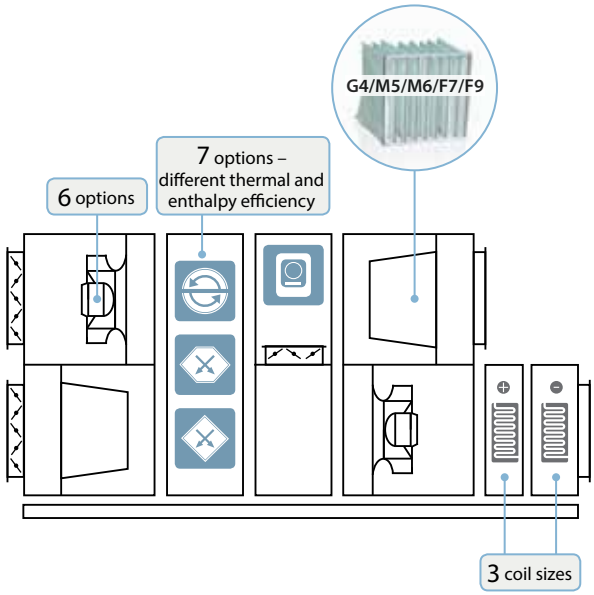


VERSO Pro



1000 – 40000 m³/h

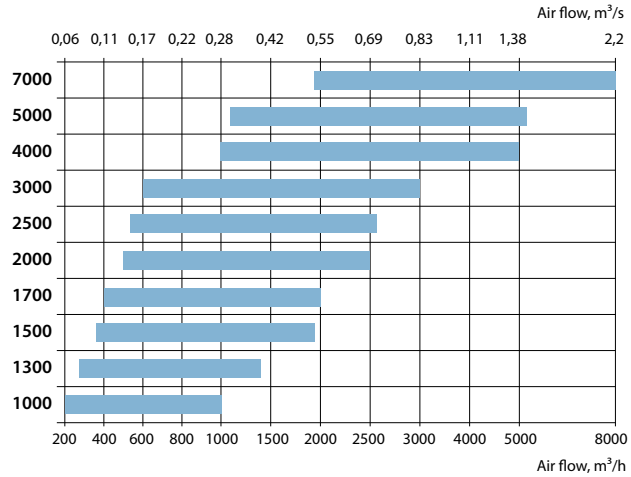
- ✓ 10 basic sizes for various combinations
- ✓ Professionally convenient software
- ✓ Selection of desired heat exchanger, fan, heater/cooler
- ✓ REVIT models



Verso R

Air handling units with a rotary heat exchanger

Sizes of Verso R units



Advantages of Verso R units

Energy saving
The rotary heat exchanger effectively regenerates the sensible and latent heat, which significantly saves both heating and air conditioning costs throughout the year.

Efficient heat
Under the normal operational conditions, the rotary heat exchanger does not freeze: even at outdoor temperatures below -20 °C, no additional warming up required of the outdoor air which results in efficient heat energy saving even in the presence of hard frosts.

Air humidity balance
Under the normal operating conditions, condensation does not form in the process of heat exchange in the rotary heat exchanger, because most of the moisture is returned to to the premises. Excess moisture is removed outside. The air in the premises is less dry and the air humidity balance is maintained. As condensation does not form, drainage is not necessary – this simplifies the mounting of the unit.

Low noise level
Verso R air handling units are equipped with silently operating fans and sound insulation, which ensures low noise level.

Rotary heat exchanger

Advantages of rotary heat exchanger

- High efficiency coefficient.
- Non-freezing.
- Humidity is transferred to supply air – a lower power humidifier may be needed.
- No drainage is necessary – easy unit installation.
- Very compact in size.
- Cooled air may be recovered that results in the reduced energy consumption for air cooling.

The efficiency on the demand: two levels of rotor efficiency are available. Optimum efficiency is achieved with L type rotor, higher values may be reached with optional SL type rotor.

Air handling units are equipped with three types of rotary heat exchangers:

- **Condensation heat exchanger is made from aluminum foil (AL).** It recovers moisture.
- **Enthalpy heat exchanger is made from hygroscopic and aluminium foil (AZM).** It recovers moisture more efficiently than AL type exchanger.
- **Sorption heat exchanger is made from hygroscopic aluminum foil (AZ).** Heat exchangers of this type regenerate moisture the most efficiently.

Energy efficient EC motor
Rotary heat exchangers are equipped with EC motors, which ensure the smooth rotor operation and control.

Preheater
As an additional protection for very low outdoor temperatures such as -30°C and lower, it is recommended to use duct mounted preheater.

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Verso R range

Unit size	Heat exchanger					Supply/exhaust air filter class		Heater			Cooler		Inspection side		Control system C5
	Type			Wave height											
	AL	AZ*	AZM*	L	SL	M5	F7	HE	HW	HCW	CW	DX	R1	L1	panel C5.1
Verso R 1000 U	●	O	O	●	O	●	O	O		O	△	O	O	O	●
Verso R 1000 H/V	●	O	O	●	O	●	O	O	O		△	△	O	O	●
Verso R 1300 U	●	O	O	●	O	●	O	O		O	△	O	O	O	●
Verso R 1300 H/V	●	O	O	●	O	●	O	O	O		△	△	O	O	●
Verso R 1300 F	●	O	O	●	O	●	O	●	△	△	△	△	O	O	●
Verso R 1500 U	●	O	O	●	O	●	O	O		O	△	O	O	O	●
Verso R 1500 H/V	●	O	O	●	O	●	O	O	O		△	△	O	O	●
Verso R 1700 U	●	O	O	●	O	●	O	O		O	△	O	O	O	●
Verso R 1700 H/V	●	O	O	●	O	●	O	O	O		△	△	O	O	●
Verso R 2000 U	●	O	O	●	O	●	O	O		O	△	O	O	O	●
Verso R 2000 H/V	●	O	O	●	O	●	O	O	O		△	△	O	O	●
Verso R 2000 F	●			O	●	●	O	●	△	△	△	△	O	O	●
Verso R 2500 H	●	O	O	●	O	●	O	O	O		△	△	O	O	●
Verso R 3000 U	●	O	O	●	O	●	O	O		O	△	O	O	O	●
Verso R 3000 H/V	●	O	O	●	O	●	O	O	O		△	△	O	O	●
Verso R 3000 F	●			O	●	●	O	●	△		△	△	O	O	●
Verso R 4000 U	●	O	O	●	O	●	O	O		O	△	O	O	O	●
Verso R 4000 H/V	●	O	O	●	O	●	O	O	O		△	△	O	O	●
Verso R 5000 H	●	O	O	●	O	●	O		●		△	△	O	O	●
Verso R 7000 H	●	O	O	●	O	●	O		●		△	△	O	O	●

● standard equipment
O possible choice
△ ordered separately duct heater/cooler
* available only L wave height

Duct connection

H – horizontal
V – vertical
U – universal, 14 installation options
F – false ceiling

Heat exchanger

AL – aluminum, condensing rotor. As a standard, units are equipped with L wave height of the rotors. In exceptional cases, when increased thermal efficiency is required, the units can be equipped with SL wave.

AZ – sorption rotary heat exchanger coated with special 4Å coating. Wave height of this heat exchanger is L.

AZM – enthalpy rotor is "hybrid" that combines the good condensing and sorptive heat exchanger properties, e.g. high temperature efficiency and good performance of latent (the hidden) energy transfer, thus effectively operates both in winter and summer. Wave height of this heat exchanger is L.

Heater

HE – electric heater.

HW – water duct heater is installed on the duct and must be ordered separately. Heaters are mounted on the outside of the unit in any user-convenient place. 0...10 V heater control included in automatic control system.

HCW – heater-cooler one for both – heating and cooling. Ideal for buildings using geothermal energy.

Cooler

CW – designed for air cooling using cold water (water-glycol mixture), provides a higher comfort level in rooms.

DX – designed for air cooling using direct expansion cooling unit, provides a higher comfort level in rooms.

Inspection side

See p. 116.

Control system

C5 Control features:

- 5 different operation modes: *Comfort1*, *Comfort2*, *Economy1*, *Economy2* and *Special;*
- Temperature control modes: Supply air / Extract air / Room;
- Energy parameters indication: thermal efficiency of the heat exchanger, heat exchanger's recovered energy, energy saving indicator;
- Air quality, minimum temperature control;
- Flow control modes: CAV, VAV and DCV;
- Weekly operating schedule;
- Air flow indication (m^3/h, m^3/s, l/s);
- Rotary or plate heat exchanger failure protection;
- Rotary heat exchanger cleaning and warm-up function;
- Intelligent self-diagnostic;
- Summer night cooling;
- Air quality function;
- Supply air temperature control;
- Min. supply air temperature maintenance;
- Combined water heater & cooler control;
- Inverter-type DX outdoor unit control;
- Cooling recovery function;
- Outdoor compensated ventilation;
- Humidity control: air humidification and dehumidification*;
- Circulation pumps control by demand;
- Warm-up function of circulation pumps and mixing valves;
- Air filter clogging indication;
- Operation hours and energy counters;
- Remote control via web interface;
- Built-in data logger for all air handling unit parameters;
- Application software for smartphones based on "Android" and "iOS".

* additionally ordered function.

komfovent®

Verso R 1000 U / H / V

Nominal air flow, m³/h	900
Panel thickness, mm	50
Unit weight, kg	196
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	7,3
Maximal operating current HW, A	3,3
Filters dimensions B×H×L, mm	800×400×46-M5
Electric power input of the fan drive at maximum flow rate, W	178
Electric air heater capacity, kW / Δt, °C	3 / 9,3
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	58
Supply outlet	72
Exhaust inlet	58
Exhaust outlet	70
Casing	51

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	41

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	13,9	15,4	16,3	17,2	18,1	22,5	23,4	24,3

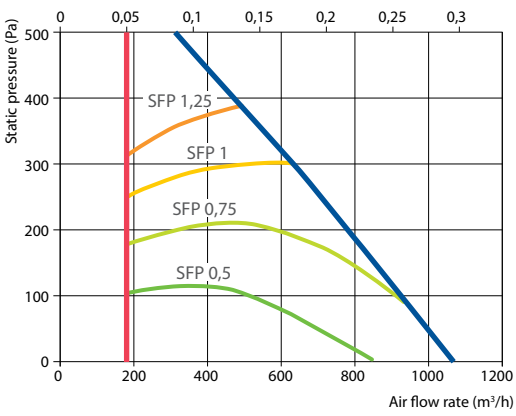
indoor +22°C, 10% RH

Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	2,4	2,4	2,4	5,6
Flow rate, dm³/h	108	108	107	954
Pressure drop, kPa	1,8	1,9	1,9	24,9
Temperature in/out, °C		13,9/22		24,3/18
Maximal capacity, kW	13,1	10,6	8,1	9,4
Connection, ”			½	

Performance (Verso R 1000 UH data)

Supply air filter F7, exhaust air filter M5



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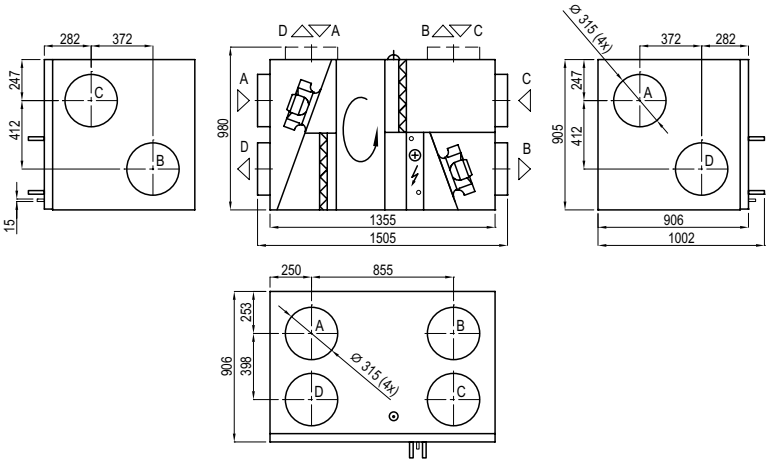

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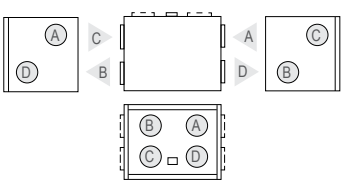

A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
PPU		PPU-HW-3R-15-0,63-W1
Water cooler		DCW-0,9-6
2-way valve		VVP47.15-2,5+SSP61
DX cooler		DCF-0,9-6
Cooling unit		MOU-18HFN6-KA8243

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Verso R 1300 U / H / V

Nominal air flow, m³/h	1300
Panel thickness, mm	50
Unit weight, kg	203
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	11,7
Maximal operating current HW, A	5,5
Filters dimensions B×H×L, mm	800×400×46-M5
Electric power input of the fan drive at maximum flow rate, W	221
Electric air heater capacity, kW / Δt, °C	4,5 / 9,6
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	57
Supply outlet	71
Exhaust inlet	57
Exhaust outlet	68
Casing	51

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	41

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	12,9	14,5	15,5	16,5	17,5	22,6	23,6	24,6

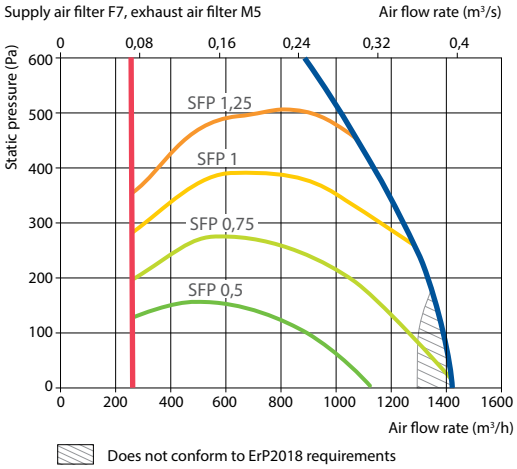
indoor +22°C, 10% RH

Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	4,0	4,0	4,0	8,3
Flow rate, dm³/h	175	175	174	1429
Pressure drop, kPa	2,3	2,4	2,4	51,2
Temperature in/out, °C		12,9/22		24,6/18
Maximal capacity, kW	17,7	14,4	11,1	12,3
Connection, ”			½	

Performance (Verso R 1300 UH data)

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
PPU		PPU-HW-3R-15-1-W2
Water cooler		DCW-1,2-8
2-way valve		VVP45.20-4.0+SSB61
DX cooler		DCF-1,2-8
Cooling unit		MOU-36HFN6-KA8243

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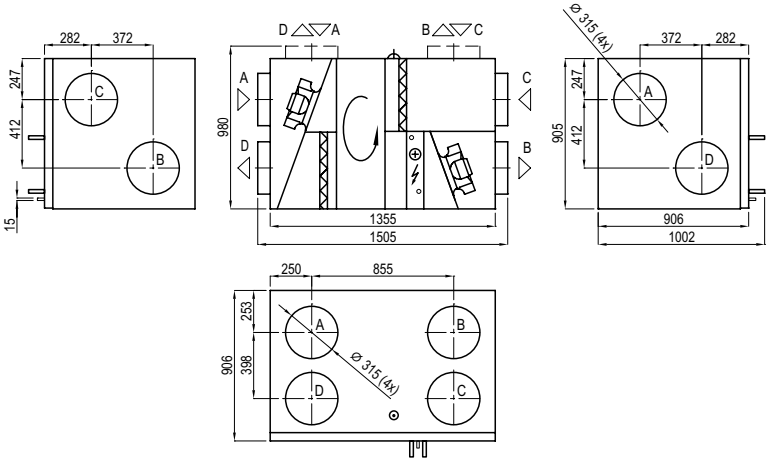

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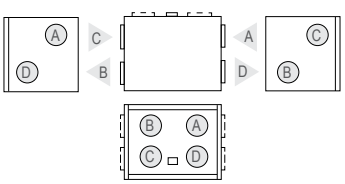


A outdoor intake
B supply air
C extract indoor
D exhaust air

Verso R 1300 F

Nominal air flow, m³/h	1500
Panel thickness, mm	50
Unit weight, kg	144
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	10,7
Maximal operating current HW, A	6,7
Filters dimensions B×H×L, mm	410×420×46-M5
Electric power input of the fan drive at maximum flow rate, W	428
Electric air heater capacity, kW / Δt, °C	3 / 5,6
Control panel	C5.1
Maintenance space, mm	400

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	68
Supply outlet	77
Exhaust inlet	67
Exhaust outlet	76
Casing	59

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	49

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	9,4	11,6	13,0	14,4	15,8	22,8	24,2	25,7

indoor +22°C, 10% RH

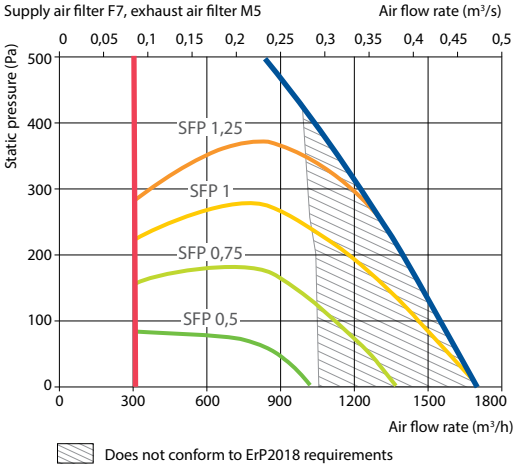
Hot water duct air heater (DH)*

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	6,3	6,3	6,3
Flow rate, dm³/h	280	279	277
Pressure drop, kPa	17,2	17,3	17,5
Temperature in/out, °C		9,4/22	
Maximal capacity, kW	14,3	11,8	9,3
Connection, "		½	

* option

Performance

Supply air filter F7, exhaust air filter M5



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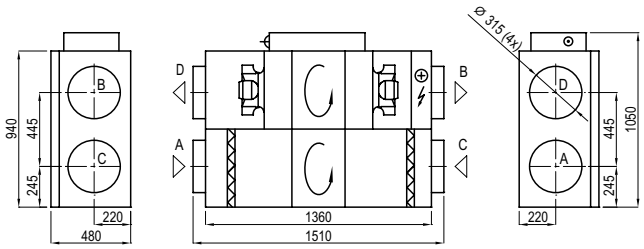

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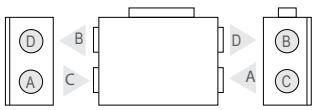


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
Water heater		DH-315
PPU		PPU-HW-3R-15-1-W2
Air heater-cooler		DCW-1,2-8 / DHCW-315
2-way valve		VVP47.15-2,5+SSP61
DX cooler		DCF-1,2-8
Cooling unit		MOU-24HFN6-KA8243

KK-18-03

Verso R 1500 U / H / V

Nominal air flow, m³/h	1800
Panel thickness, mm	50
Unit weight, kg	206
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	12,9
Maximal operating current HW, A	6,7
Filters dimensions B×H×L, mm	800×400×46-M5
Electric power input of the fan drive at maximum flow rate, W	444
Electric air heater capacity, kW / Δt, °C	4,5 / 6,9
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate	
Supply inlet	62
Supply outlet	77
Exhaust inlet	62
Exhaust outlet	74
Casing	58

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	47

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	11,5	13,3	14,5	15,7	16,8	22,7	23,9	25,0

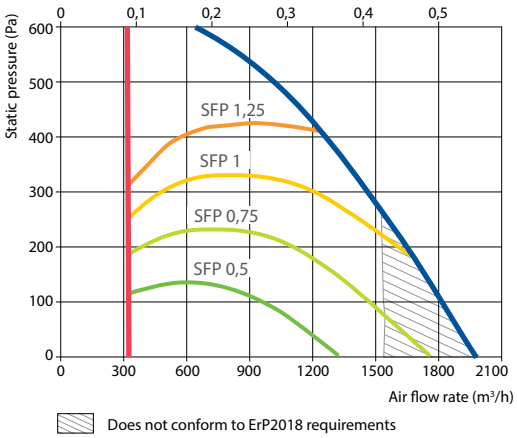
indoor +22°C, 10% RH

Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	6,3	6,3	6,3	12,0
Flow rate, dm³/h	280	279	277	2053
Pressure drop, kPa	3,5	3,5	3,6	99,7
Temperature in/out, °C		11,5/22		25/18
Maximal capacity, kW	22,9	18,8	14,6	15,2
Connection, ”			½	

Performance (Verso R 1500 UH data)

Supply air filter F7, exhaust air filter M5



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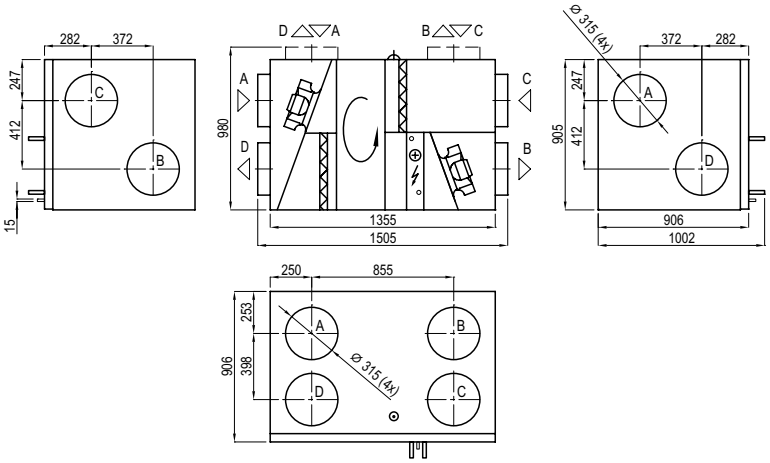

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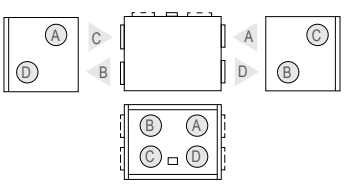

A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
PPU		PPU-HW-3R-15-1,6-W2
Water cooler		DCW-1,4-9
2-way valve		VVP47.20-4,0+SSP61
DX cooler		DCF-1,4-10
Cooling unit		MOU-36HFN6-KA8243

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Verso R 1700 U / H / V

Nominal air flow, m³/h	2000
Panel thickness, mm	50
Unit weight, kg	220
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	12,9
Maximal operating current HW, A	6,7
Filters dimensions B×H×L, mm	800×450×46-M5
Electric power input of the fan drive at maximum flow rate, W	430
Electric air heater capacity, kW / Δt, °C	4,5 / 6,3
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	62
Supply outlet	77
Exhaust inlet	62
Exhaust outlet	74
Casing	57

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	46

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,8	12,8	14,3	15,5	16,7	22,7	23,9	25,2

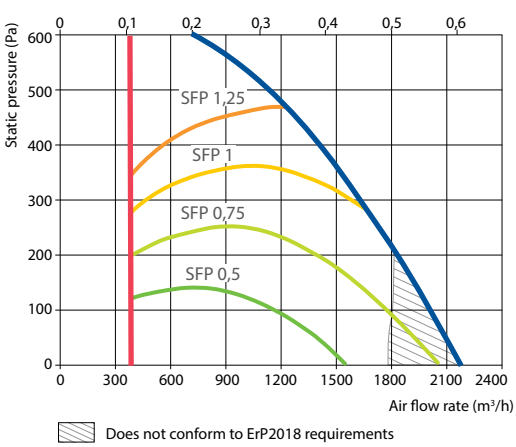
indoor +22°C, 10% RH

Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	7,5	7,5	7,5	13,5
Flow rate, dm³/h	331	329	327	2317
Pressure drop, kPa	1,8	1,8	1,8	12,5
Temperature in/out, °C		10,8/22		25,2/18
Maximal capacity, kW	24,9	19,8	14,3	15,0
Connection, ”			¾	

Performance (Verso R 1700 UH data)

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

Accessories (p. 108)

Closing damper	H	SRU-M-300x400+LF24/LM24
	V	SRU-M-400x300+LF24/LM24
Silencer	A/D	STS-IVR3BA-600-300-700-S
	B/C	STS-IVR3BA-600-300-1250-S
PPU		PPU-HW-3R-15-1,6-W2
Air heater-cooler		DCW-1,6-11
2-way valve		VVP47.20-4,0+SSP61
DX cooler		DCF-1,6-11
Cooling unit		MOU-36HFN6-KA8243

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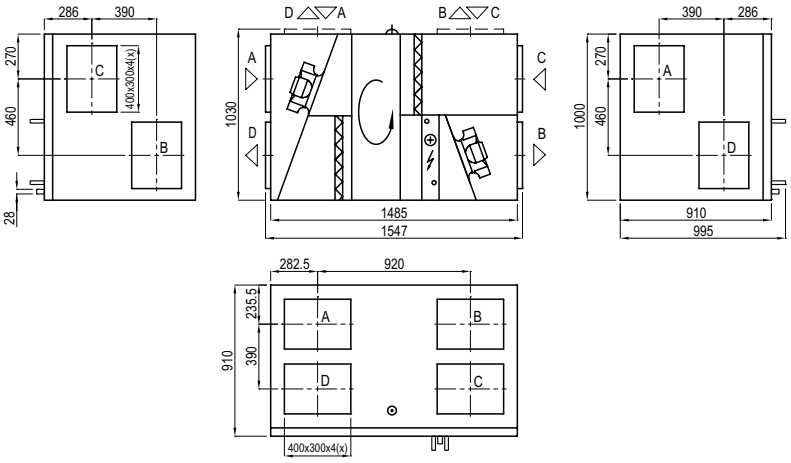

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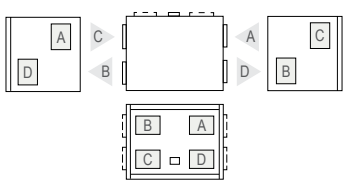


A outdoor intake
B supply air
C extract indoor
D exhaust air

Verso R 2000 U / H / V

Nominal air flow, m³/h	2500
Panel thickness, mm	50
Unit weight, kg	210
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	16,9
Maximal operating current HW, A	6,3
Filters dimensions B×H×L, mm	800×450×46-M5
Electric power input of the fan drive at maximum flow rate, W	610
Electric air heater capacity, kW / Δt, °C	7,5 / 8,3
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate	
Supply inlet	67
Supply outlet	82
Exhaust inlet	67
Exhaust outlet	79
Casing	60

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	49

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	9,2	11,5	12,9	14,3	15,7	22,9	24,3	25,7

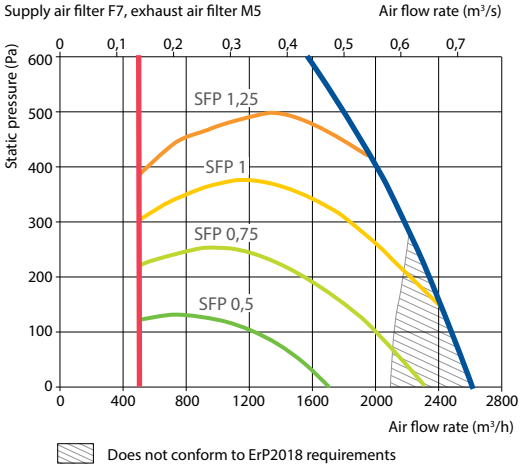
indoor +22°C, 10% RH

Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	10,7	10,7	10,7	17,7
Flow rate, dm³/h	474	472	470	3043
Pressure drop, kPa	2,0	2,0	2,0	22,7
Temperature in/out, °C		9,2/22		25,7/18
Maximal capacity, kW	31,5	25,3	18,8	18,4
Connection, ”			¾	

Performance (Verso R 2000 UH data)

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

Accessories (p. 108)

Closing damper	H	SRU-M-300x400+LF24/LM24
	V	SRU-M-400x300+LF24/LM24
Silencer	A/D	STS-IVR3BA-600-400-700-S
	B/C	STS-IVR3BA-600-400-1250-S
PPU		PPU-HW-3R-15-2,5-W2
Air heater-cooler		DCW-2,5-17
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-2,5-17
Cooling unit		MOU-55HFN6-KA8243

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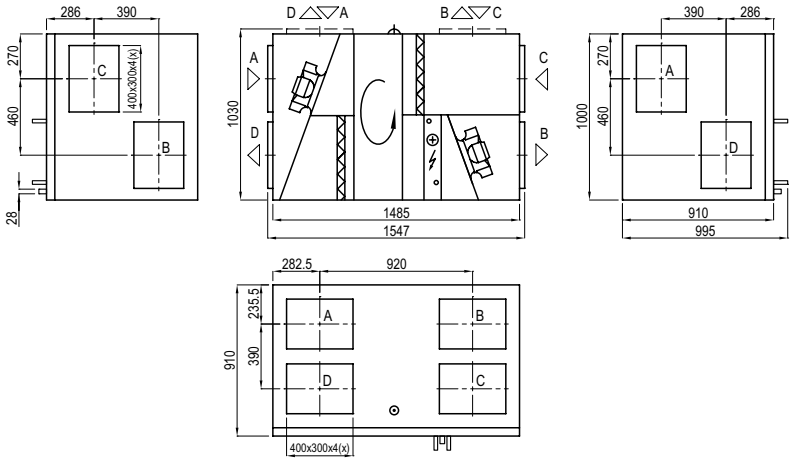

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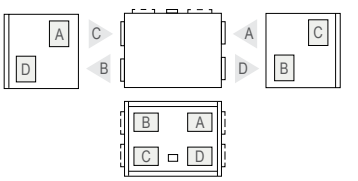

A outdoor intake
B supply air
C extract indoor
D exhaust air

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Verso R 2000 F

Nominal air flow, m³/h	2150
Panel thickness, mm	50
Unit weight, kg	280
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	16,8
Maximal operating current HW, A	6,3
Filters dimensions B×H×L, mm	560×420×96
Electric power input of the fan drive at maximum flow rate, W	580
Electric air heater capacity, kW / Δt, °C	7,5 / 9,7
Control panel	C5.1
Maintenance space, mm	400

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	69
Supply outlet	79
Exhaust inlet	69
Exhaust outlet	79
Casing	60

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	49

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,8	16,9	17,6	18,3	18,9	22,4	23,1	23,8

indoor +22°C, 10% RH

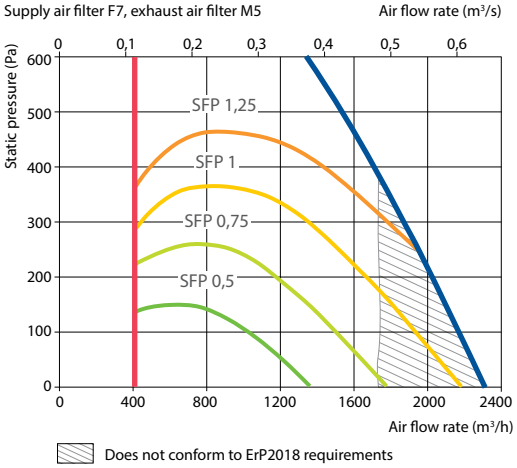
Hot water duct air heater (DH)*

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	4,2	4,2	4,2
Flow rate, dm³/h	185	184	183
Pressure drop, kPa	9,1	9,1	9,2
Temperature in/out, °C		15,8/22	
Maximal capacity, kW	16,50	13,3	10,0
Connection, "		½	

* option

Performance

Supply air filter F7, exhaust air filter M5



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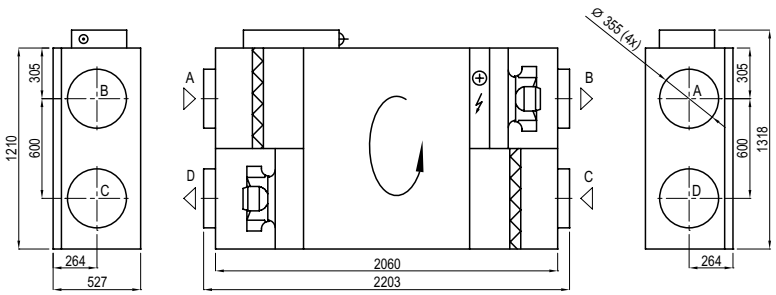

Accessories (p. 108)

Closing damper		AGUJ-M-355+LF24/LM24
Silencer	A/D	AGS-355-100-900-M
	B/C	AGS-355-100-1200-M
Water heater		DH-355
PPU		PPU-HW-3R-15-1-W2
Air heater-cooler		DCW-2,0-13/ DHCW-355
2-way valve		VVP47.20-4,0+SSP61
DX cooler		DCF-2,0-14
Cooling unit		MOU-48HFN6-KA8243

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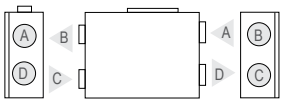


A outdoor intake
B supply air
C extract indoor
D exhaust air

New

Verso R 2500 H

Nominal air flow, m³/h	2800
Panel thickness, mm	45
Unit weight, kg	289
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	22
Maximal operating current HW, A	11,7
Filters dimensions B×H×L, mm	792×392-10×500
Electric power input of the fan drive at maximum flow rate, W	771
Electric air heater capacity, kW / Δt, °C	7,5 / 7,4
Control panel	C5.1
Maintenance space, mm	900

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	61
Supply outlet	79
Exhaust inlet	63
Exhaust outlet	75
Casing	60

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	45

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,4	12,5	13,7	15	16,3	22,8	24,1	25,4

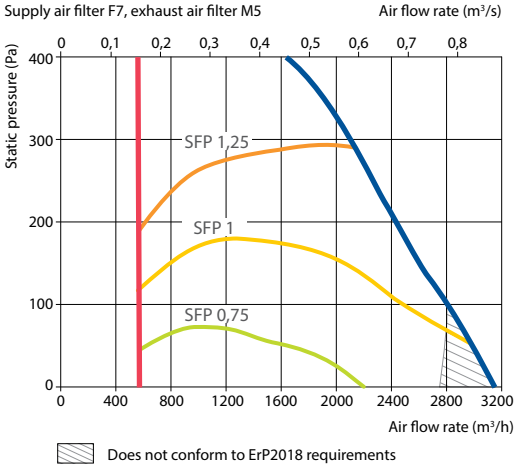
indoor +22°C, 10% RH

Hot water air heater

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	10,9	10,9	10,9
Flow rate, dm³/h	481	479	477
Pressure drop, kPa	3,3	3,3	3,3
Temperature in/out, °C		10,4/22	
Maximal capacity, kW	22,1	17,7	13,2
Connection, "		½	

Performance

Supply air filter F7, exhaust air filter M5



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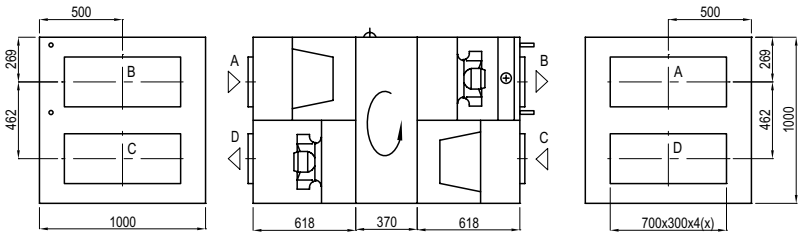

Accessories (p. 108)

Closing damper		SRU-M-700x300+LF24/LM24
Silencer	A/D	STS-IVR3BA-800-300-700-S
	B/C	STS-IVR3BA-800-300-1250-S
PPU		PPU-HW-3R-15-2,5-W2
Air heater-cooler		DCW-2,5-17
2-way valve		VVP45.25-6.3+SSP61
DX cooler		DCF-2,5-17
Cooling unit		MOU-55HFN6-KA8243

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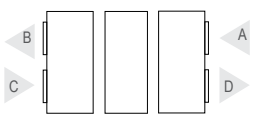


A outdoor intake
B supply air
C extract indoor
D exhaust air

komfovent®

Verso R 3000 U / H / V

Nominal air flow, m³/h	3200
Panel thickness, mm	50
Unit weight, kg	456
Supply voltage HE, V	3~400
Supply voltage HW, V	3~400
Maximal operating current HE, A	19,8
Maximal operating current HW, A	7,1
Filters dimensions B×H×L, mm	525×510×46-M5 (×2)
Electric power input of the fan drive at maximum flow rate, W	688
Electric air heater capacity, kW / Δt, °C	9/7,8
Control panel	C5.1
Maintenance space, mm	1000

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	57
Supply outlet	69
Exhaust inlet	65
Exhaust outlet	76
Casing	57

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	45

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	11,5	13,3	14,5	15,7	16,8	22,7	23,9	25

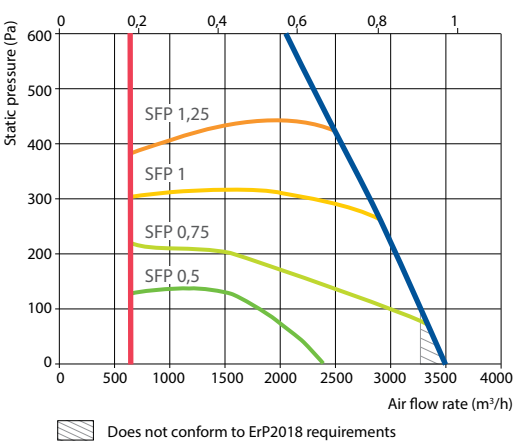
indoor +22°C, 10% RH

Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	11,3	11,3	11,3	21,3
Flow rate, dm³/h	499	496	494	3660
Pressure drop, kPa	1,9	1,9	1,9	20,3
Temperature in/out, °C		11,5/22		25/18
Maximal capacity, kW	39,9	32,2	24,2	25,1
Connection, ”			1	

Performance (Verso R 3000 UH data)

Supply air filter F7, exhaust air filter M5



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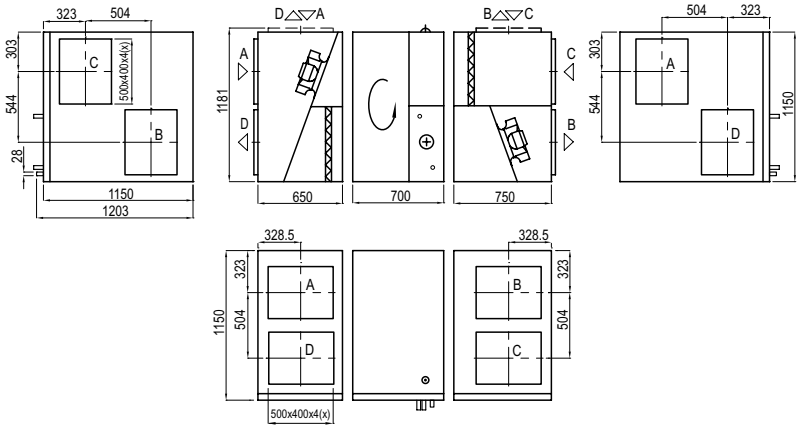

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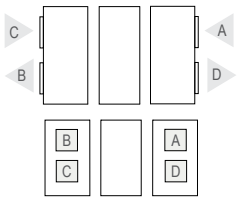


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper	H	SRU-M-400x500+LF24/LM24
	V	SRU-M-500x400+LF24/LM24
Silencer	A/D	STS-IVR3BA-600-500-700-S
	B/C	STS-IVR3BA-600-500-1250-S
PPU		PPU-HW-3R-15-2,5-W2
Air heater-cooler		DCW-3,0-20
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-3,0-20-2
Cooling unit		2xMOU-36HFN6-KA8243

KK-18-03

New

Verso R 3000 F

Nominal air flow, m³/h	4200
Panel thickness, mm	50
Unit weight, kg	289
Supply voltage HE, V	3~400
Supply voltage HW, V	3~400
Maximal operating current HE, A	19.9
Maximal operating current HW, A	7,1
Filters dimensions B×H×L, mm	560×540×96-M5
Electric power input of the fan drive at maximum flow rate, W	1167
Electric air heater capacity, kW / Δt, °C	9/6,0
Control panel	C5.1
Maintenance space, mm	600

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate	
Supply inlet	71
Supply outlet	84
Exhaust inlet	71
Exhaust outlet	84
Casing	62

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	51

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	5,4	8,7	10,8	12,9	14,9	23	25	27

indoor +22°C, 10% RH

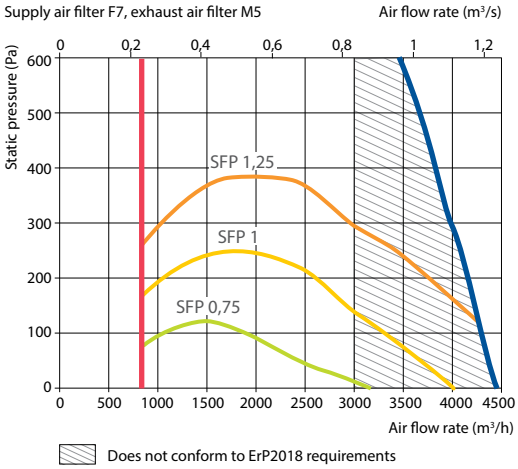
Hot water air heater (SVK)*

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	23,4	23,4	23,4
Flow rate, dm³/h	1034	1029	1024
Pressure drop, kPa	7,6	7,7	7,8
Temperature in/out, °C		5,4/22	
Maximal capacity, kW	37	30,6	24,2
Connection, ”		1	

* option

Performance

Supply air filter F7, exhaust air filter M5



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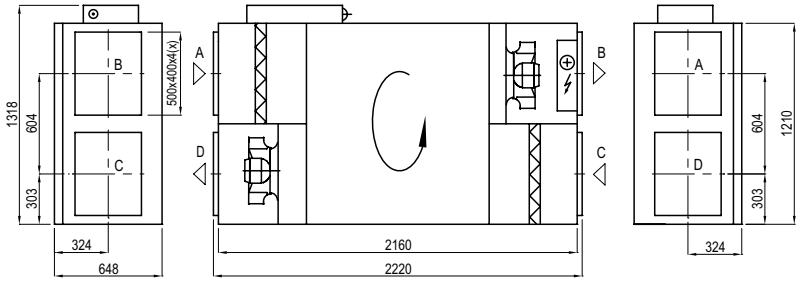

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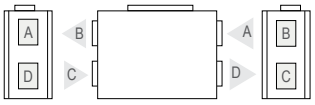

A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		SRU-M-500x400+LF24/LM24
Silencer	A/D	STS-IVR3BA-600-400-700-S
	B/C	STS-IVR3BA-600-400-1250-S
Water heater		SVK-800x500-2R
PPU		PPU-HW-3R-20-4,0-W2
Air heater-cooler		DCW-4,0-27
2-way valve		VVP45.25-10+SSC61
DX cooler		DCF-4,0-27-2
Cooling unit		2xMOU-48HFN6-KA8243

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Verso R 4000 U / H / V

Nominal air flow, m³/h	5100
Panel thickness, mm	50
Unit weight, kg	470
Supply voltage HE, V	3~400
Supply voltage HW, V	3~400
Maximal operating current HE, A	31,1
Maximal operating current HW, A	9,7
Filters dimensions B×H×L, mm	525×510×46-M5 (×2)
Electric power input of the fan drive at maximum flow rate, W	1371
Electric air heater capacity, kW / Δt, °C	15 / 8,2
Control panel	C5.1
Maintenance space, mm	1000

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	66
Supply outlet	85
Exhaust inlet	66
Exhaust outlet	82
Casing	59

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	49

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	7,9	10,4	11,9	13,5	15,1	22,9	24,5	26,1

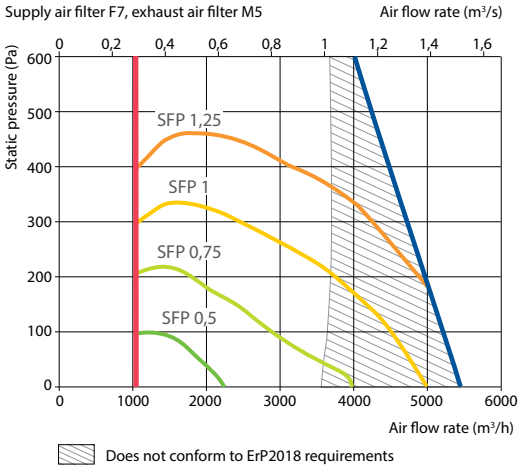
indoor +22°C, 10% RH

Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	24,1	24,1	24,1	33,6
Flow rate, dm³/h	1066	1060	1056	5773
Pressure drop, kPa	3,1	3,1	3,1	46,1
Temperature in/out, °C		7,9/22		26,1/18,7
Maximal capacity, kW	59,0	48,2	37,2	33,6
Connection, ”			1	

Performance (Verso R 4000 UH data)

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

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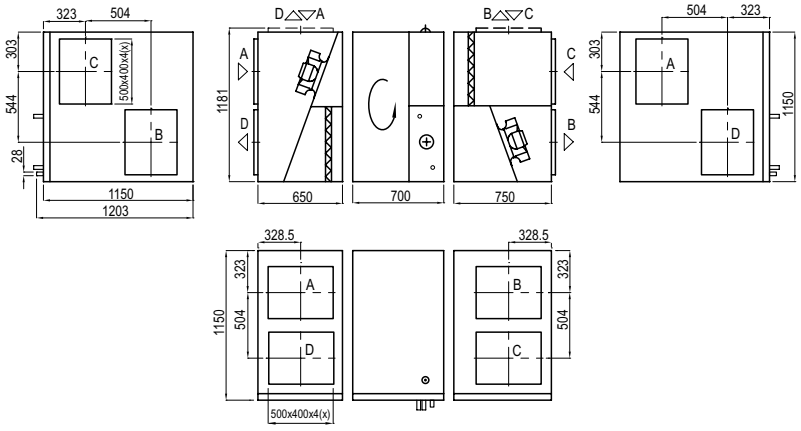

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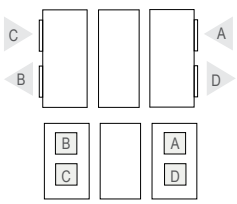


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper	H	SRU-M-400x500+LF24/LM24
	V	SRU-M-500x400+LF24/LM24
Silencer	A/D	STS-IVR3BA-800-500-700-S
	B/C	STS-IVR3BA-800-500-1250-S
PPU		PPU-HW-3R-25-6.3-W2
Air heater-cooler		DCW-4,5-30
2-way valve		VVP45.25-10+SSC61
DX cooler		DCF-4,5-31-2
Cooling unit		2xMOU-55HFN6-KA8243

KK-18-03

New

Verso R 5000 H

Nominal air flow, m³/h	5300
Panel thickness, mm	50
Unit weight, kg	442
Supply voltage HE, V	3~400
Maximal operating current HE, A	13,1
Filters dimensions B×H×L, mm	592×592-8×500 (×2)
Electric power input of the fan drive at maximum flow rate, W	1410
Control panel	C5.1
Maintenance space, mm	1200

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

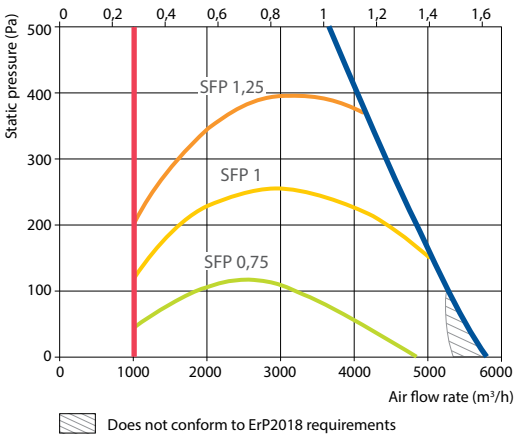
Supply inlet	65
Supply outlet	82
Exhaust inlet	64
Exhaust outlet	80
Casing	61

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	50

Performance

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,5	12,5	13,8	15,1	16,4	22,8	24,1	25,3

indoor +22°C, 10% RH

Hot water air heater

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	20,4	20,4	20,2
Flow rate, dm³/h	903	899	886
Pressure drop, kPa	5,4	5,4	5,3
Temperature in/out, °C	10,5/22	10,5/22	10,5/22,9
Maximal capacity, kW	37,3	29,1	20,2
Connection, ”		½	

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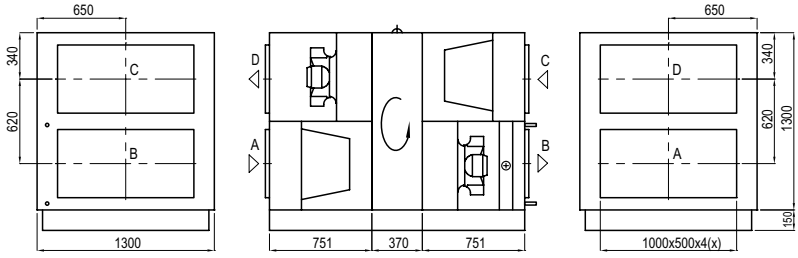

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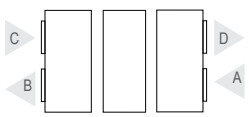


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		SRU-M-1000x500+LF24/LM24
Silencer	A/D	STS-IVR3BA-1000-500-700-S
	B/C	STS-IVR3BA-1000-500-1250-S
PPU		PPU-HW-3R-20-4,0-W2
Air heater-cooler		DCW-4,5-30
2-way valve		VVP45.25-10.0+SSC61
DX cooler		DCF-4,5-31-2
Cooling unit		2xMOU-55HFN6-KA8243

Verso R 7000 H

Nominal air flow, m^3/h	6800
Panel thickness, mm	50
Unit weight, kg	765
Supply voltage HE, V	3~400
Maximal operating current HE, A	18,1
Filters dimensions B×H×L, mm	592×592-8×635-M5 (×2)
Electric power input of the fan drive at maximum flow rate, W	1570
Control panel	C5.1
Maintenance space, mm	1400

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

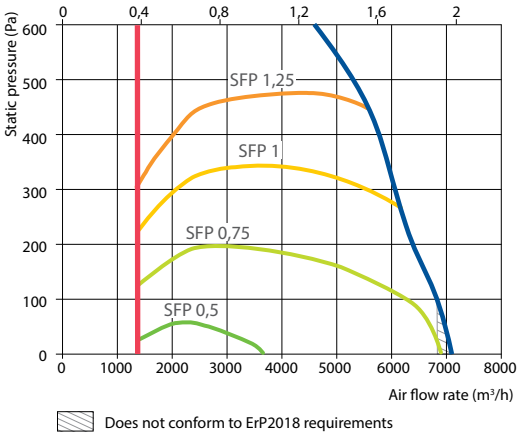
Supply inlet	61
Supply outlet	83
Exhaust inlet	64
Exhaust outlet	83
Casing	59

A-weighted sound pressure level L_{PA}, dB(A)
10 m^2 normally isolated room, distance from casing – 3 m.

Surroundings	48

Performance

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,9	12,9	14,1	15,4	16,6	22,7	24,0	25,2

indoor +22°C, 10% RH

Hot water air heater

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	25,2	25,2	25,2
Flow rate, dm^3/h	1114	1109	1103
Pressure drop, kPa	9,0	9,2	9,3
Temperature in/out, °C		10,9/22	
Maximal capacity, kW	56	45,7	35,4
Connection, "		1	

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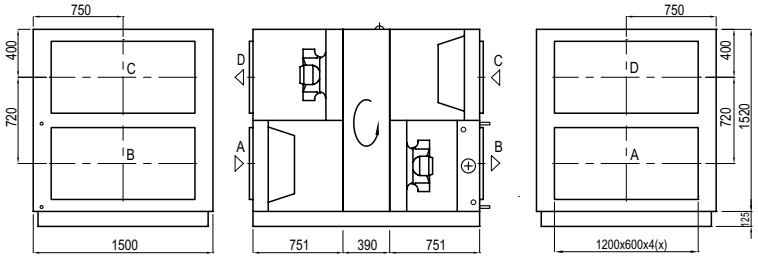

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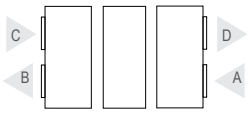


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

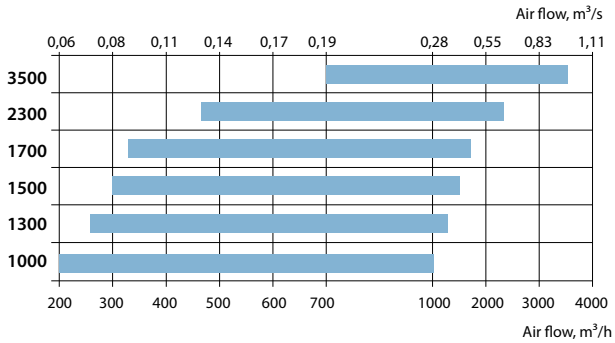
Closing damper		SRU-M-1200x600+LF24/LM24
Silencer	A/D	STS-IVR3BA-1200-600-700-S
	B/C	STS-IVR3BA-1200-600-1250-S
PPU		PPU-HW-3R-20-4,0-W2
Air heater-cooler		DCW-7,0-47
2-way valve		HRB3 32 16+AMB162
DX cooler		DCF-7,0-48-3
Cooling unit		3xMOU-55HFN6-KA8243

KK-18-03

Verso CF

Air handling units with a counterflow plate heat exchanger

Sizes of Verso CF units



Advantages of Verso CF units

Heat energy saving
In the process of ventilation the heat of the exhaust air is recovered to the supplied air.

Totally separated airflows
The supply and exhaust airflows are separated, thus making possible utilization of the heat of the extracted foul air.

Long term efficient operation
The absence of movable parts ensures effective heat exchange and long run.

Low noise level
Verso CF air handling units are equipped with silently operating fans and sound insulation, which ensures low noise level.

Efficient fans
VERSO units are equipped with the most efficient backward curved impellers and either *Ultra Premium* IE5 class PM or *Super Premium* IE4 class EC motors.

Counter flow aluminium plate heat exchanger

Temperature efficiency factor – up to 92% in wet conditions and up to 88% in dry conditions.

- Heat exchanger is tight, both air flows are separated, use of heat of polluted air is possible.
- Aluminium construction is resistant to sea water, it has long service life.
- There is a build-in bypass with damper for heat recovery regulation and exchanger frost protection.
- Each unit with plate heat exchanger is equipped with stainless steel sloping drain tray and water trap.

Anti-frosting protection
If the temperature of the exhaust air drops below 4 °C, freezing may occur at the exhaust air corner of the heat exchanger. To avoid freezing the temperature sensor is installed in this zone to give a signal to the automatic control. If for some period of time temperature will not rise up, by-pass damper is opened to redirect outdoor air through by-pass channel and only warm exhaust air flows through exchanger to defrost risky zone.

Verso CF range

Unit size	Supply / exhaust air filter class		Heater			Cooler		Inspection side		Control system C5
	M5	F7	HE	HW	HCW	CW	DX	R1	L1	panel C5.1
Verso CF 1000 U	●	○	○		○	△	○	○	○	●
Verso CF 1000 H / V	●	○	○	○		△	△	○	○	●
Verso CF 1000 F	●	○	●	△	△	△	△	○	○	●
Verso CF 1300 U	●	○	○		○	△	○	○	○	●
Verso CF 1300 H / V	●	○	○	○		△	△	○	○	●
Verso CF 1300 F	●	○	●	△	△	△	△	○	○	●
Verso CF 1500 F	●	○	●	△	△	△	△	○	○	●
Verso CF 1700 U	●	○	○		○	△	○	○	○	●
Verso CF 1700 H / V	●	○	○	○		△	△	○	○	●
Verso CF 2300 U	●	○	○		○	△	○	○	○	●
Verso CF 2300 H / V	●	○	○	○		△	△	○	○	●
Verso CF 2500 F	●	○	○	△		△	△	○	○	●
Verso CF 3500 U	●	○	○	○		△	○	○	○	●
Verso CF 3500 H / V	●	○	○	○		△	△	○	○	●

● standard equipment
○ possible choice
△ ordered separately

Duct connection

H – horizontal
V – vertical
U – universal, 14 installation options
F – false ceiling

Heater

HE – electric heater.

HW – water duct heater is installed on the duct and must be ordered separately. Heaters are mounted on the outside of the unit in any user-convenient place. 0...10 V heater control included in automatic control system.

HCW – heater-cooler one for both – heating and cooling. Ideal for buildings using geothermal energy.

Cooler

CW – designed for air cooling using cold water (water-glycol mixture), provides a higher comfort level in rooms.

DX – designed for air cooling using direct expansion cooling unit, provides a higher comfort level in rooms.

Inspection side

See p. 116

Control system

C5 Control features:

- 5 different operation modes: *Comfort1*, *Comfort2*, *Economy1*, *Economy2* and *Special;*
- Temperature control modes: Supply air / Extract air / Room;
- Energy parameters indication: thermal efficiency of the heat exchanger, heat exchanger's recovered energy, energy saving indicator;
- Air quality, minimum temperature control;
- Flow control modes: CAV, VAV and DCV;
- Weekly operating schedule;
- Air flow indication (m^3/h, m^3/s, l/s);
- Rotary or plate heat exchanger failure protection;
- Rotary heat exchanger cleaning and warm-up function;
- Intelligent self-diagnostic;
- Summer night cooling;
- Air quality function;
- Supply air temperature control;
- Min. supply air temperature maintenance;
- Combined water heater & cooler control;
- Inverter-type DX outdoor unit control;
- Cooling recovery function;
- Outdoor compensated ventilation;
- Humidity control: air humidification and dehumidification*;
- Circulation pumps control by demand;
- Warm-up function of circulation pumps and mixing valves;
- Air filter clogging indication;
- Operation hours and energy counters;
- Remote control via web interface;
- Built-in data logger for all air handling unit parameters;
- Application software for smartphones based on "Android" and "iOS".

* additionally ordered function.

KK-18-03

Verso CF 1000 U / H / V

Nominal air flow, m³/h	1050
Panel thickness, mm	50
Unit weight, kg	225
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	9,5
Maximal operating current HW, A	3,3
Filters dimensions B×H×L, mm	800×400×46-M5
Electric power input of the fan drive at maximum flow rate, W	165
Electric air heater capacity, kW / Δt, °C	4,5 / 11,9
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	56
Supply outlet	73
Exhaust inlet	56
Exhaust outlet	73
Casing	53

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	42

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,9	16,3	16,9	17,6	18,2	22,6	23,7	24,9

indoor +22°C, 10% RH

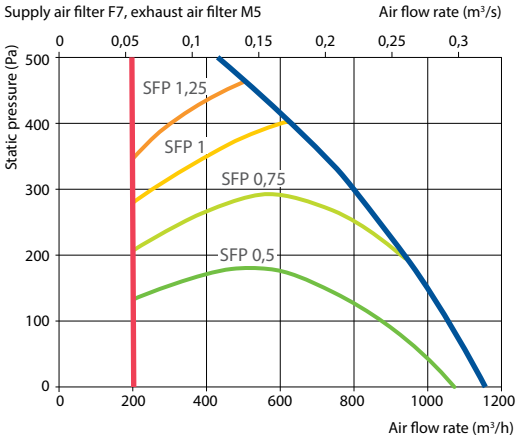
Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	2,0	2,0	2,0	6,6
Flow rate, dm³/h	90	90	89,5	1139
Pressure drop, kPa	1,7	1,7	1,8	33,3
Temperature in/out, °C		15,9/22		24,9/18
Maximal capacity, kW	13,5	10,8	8,2	10,2
Connection, ”			½	

Available versions:
1) Electric air heater (HE)
2) Changeover water heating/cooling exchanger (HCW)

Performance

Supply air filter F7, exhaust air filter M5



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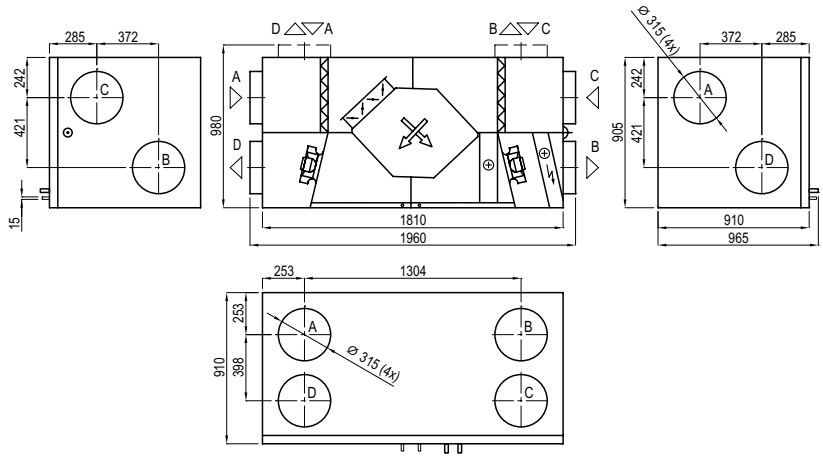

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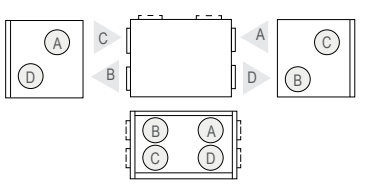


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
PPU		PPU-HW-3R-15-0,63-W1
Water cooler		DCW-0,7-5
2-way valve		VVP47.15-2,5+SSP61
DX cooler		DCF-0,7-5
Cooling unit		MOU-18HFN6-KA8243

komfovent®

Verso CF 1000 F

Nominal air flow, m³/h	1000
Panel thickness, mm	50
Unit weight, kg	173
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	7,3
Maximal operating current HW, A	3,3
Filters dimensions B×H×L, mm	550×420×46-M5
Electric power input of the fan drive at maximum flow rate, W	171
Electric air heater capacity, kW / Δt, °C	3 / 8,3
Control panel	C5.1
Maintenance space, mm	400

C5.1

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	61
Supply outlet	76
Exhaust inlet	61
Exhaust outlet	77
Casing	57

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	46

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	16,1	16,5	17,0	17,6	18,3	22,6	23,7	24,9

indoor +22°C, 10% RH

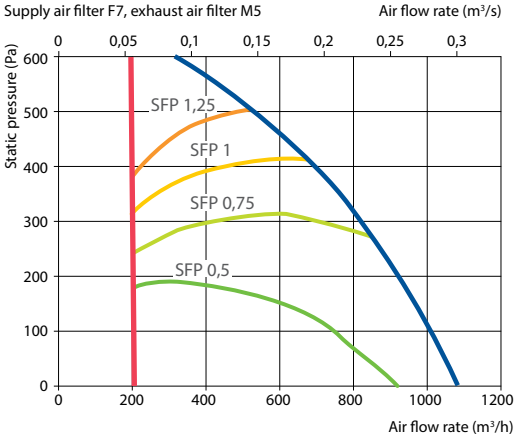
Hot water duct air heater (DH)*

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	2,0	2,0	2,0
Flow rate, dm³/h	87	87	86
Pressure drop, kPa	3,2	3,2	3,2
Temperature in/out, °C		16,1/22	
Maximal capacity, kW	9,9	8,0	6,0
Connection, "		½	

* option

Performance

Supply air filter F7, exhaust air filter M5



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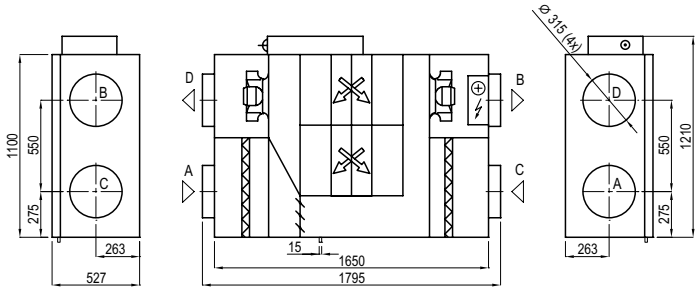

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
Water heater		DH-315
PPU		PPU-HW-3R-15-1-W2
Air heater-cooler		DCW-0,9-6 / DHCW-315
2-way valve		VVP47.15-2,5+SSP61
DX cooler		DCF-0,9-6
Cooling unit		MOU-18HFN6-KA8243

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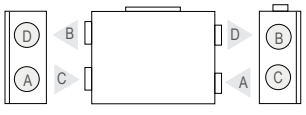


A outdoor intake
B supply air
C extract indoor
D exhaust air

Verso CF 1300 U/H/V

Nominal air flow, m³/h	1400
Panel thickness, mm	50
Unit weight, kg	225
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	11,7
Maximal operating current HW, A	5,5
Filters dimensions B×H×L, mm	800×400×46-M5
Electric power input of the fan drive at maximum flow rate, W	260
Electric air heater capacity, kW / Δt, °C	4,5 / 8,9
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate	
Supply inlet	62
Supply outlet	80
Exhaust inlet	62
Exhaust outlet	80
Casing	58

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	47

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,3	15,8	16,5	17,2	18,0	22,7	23,8	25,0

indoor +22°C, 10% RH

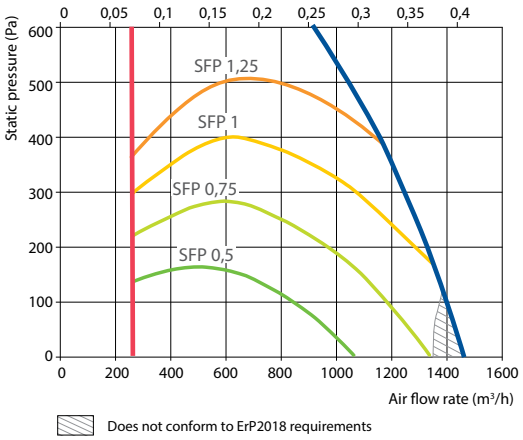
Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	2,9	2,9	2,9	9,3
Flow rate, dm³/h	129	128	128	1400
Pressure drop, kPa	2,0	2,0	2,0	61,3
Temperature in/out, °C		15,3/22		25/18
Maximal capacity, kW	16,7	13,5	10,2	12,8
Connection, ”			½	

Available versions:
1) Electric air heater (HE)
2) Changeover water heating/cooling exchanger (HCW)

Performance

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
PPU		PPU-HW-3R-15-1-W2
Water cooler		DCW-1,4-9
2-way valve		VVP47.20-4,0+SSP61
DX cooler		DCF-1,4-10
Cooling unit		MOU-36HFN6-KA8243

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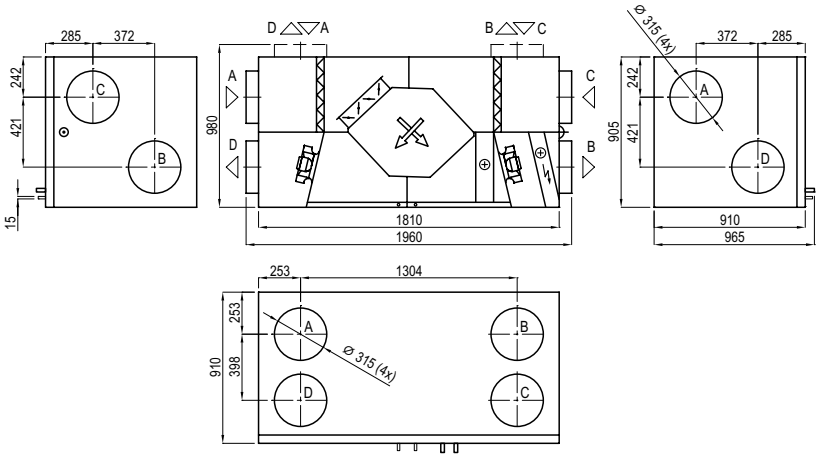

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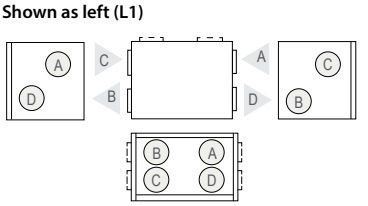


A outdoor intake
B supply air
C extract indoor
D exhaust air

Verso CF 1300 F

Nominal air flow, m³/h	1300
Panel thickness, mm	50
Unit weight, kg	175
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	11,7
Maximal operating current HW, A	5,5
Filters dimensions B×H×L, mm	550×420×46-M5
Electric power input of the fan drive at maximum flow rate, W	310
Electric air heater capacity, kW / Δt, °C	4,5 / 9,6
Control panel	C5.1
Maintenance space, mm	400

C5.1

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	64
Supply outlet	80
Exhaust inlet	64
Exhaust outlet	80
Casing	58

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	47

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,5	16,0	16,6	17,3	18,0	22,6	23,8	25,0

indoor +22°C, 10% RH

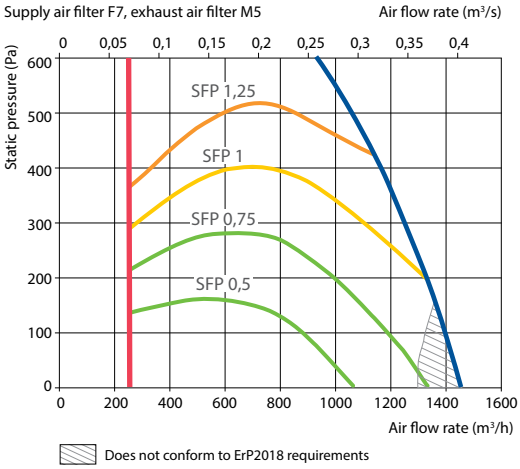
Hot water duct air heater (DH)*

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	2,8	2,8	2,8
Flow rate, dm³/h	125	125	124
Pressure drop, kPa	4,9	4,9	4,9
Temperature in/out, °C		15,5/22	
Maximal capacity, kW	11,8	9,5	7,2
Connection, "		½	

* option

Performance

Supply air filter F7, exhaust air filter M5



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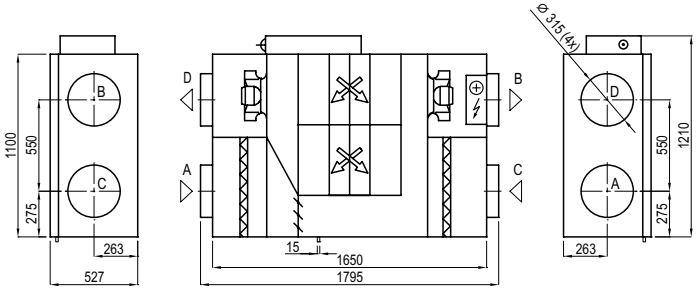

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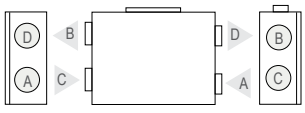


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
Water heater		DH-315
PPU		PPU-HW-3R-15-1-W2
Air heater-cooler		DCW-1,4-9 / DHCW-315
2-way valve		VVP47.20-4,0+SSP61
DX cooler		DCF-1,4-10
Cooling unit		MOU-36HFN6-KA8243

KK-18-03

Verso CF 1500 F

Nominal air flow, m³/h	1600
Panel thickness, mm	50
Unit weight, kg	190
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	12,9
Maximal operating current HW, A	6,7
Filters dimensions B×H×L, mm	550×420×46-M5
Electric power input of the fan drive at maximum flow rate, W	420
Electric air heater capacity, kW / Δt, °C	4,5 / 7,8
Control panel	C5.1
Maintenance space, mm	400

C5.1

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	62
Supply outlet	76
Exhaust inlet	61
Exhaust outlet	76
Casing	58

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	48

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,0	15,6	16,2	17,0	17,8	22,7	23,9	25,1

indoor +22°C, 10% RH

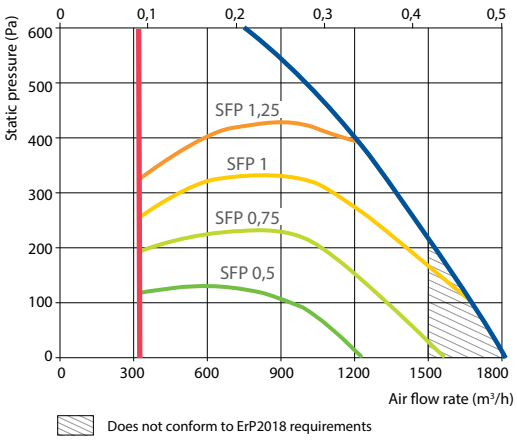
Hot water duct air heater (DH)*

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	3,8	3,8	3,8
Flow rate, dm³/h	165	165	164
Pressure drop, kPa	7,3	7,3	7,4
Temperature in/out, °C		15,0/22	
Maximal capacity, kW	13,5	10,8	8,2
Connection, ”		½	

* option

Performance

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

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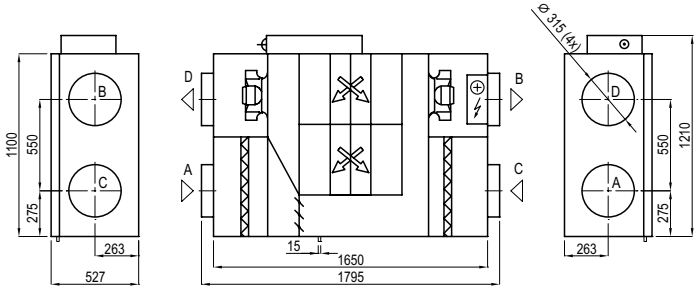

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
Water heater		DH-315
PPU		PPU-HW-3R-15-1-W2
Air heater-cooler		DCW-1,6-11/DHCW-315
2-way valve		VVP47.20-4,0+SSP61
DX cooler		DCF-1,6-11
Cooling unit		MOU-36HFN6-KA8243

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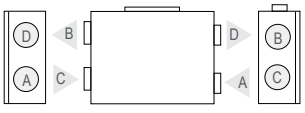


A outdoor intake
B supply air
C extract indoor
D exhaust air

Verso CF 1700 U/H/V

Nominal air flow, m³/h	1700
Panel thickness, mm	50
Unit weight, kg	243
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	12,9
Maximal operating current HW, A	6,7
Filters dimensions B×H×L, mm	800×400×46-M5
Electric power input of the fan drive at maximum flow rate, W	465
Electric air heater capacity, kW / Δt, °C	4,5/7,4
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	60
Supply outlet	77
Exhaust inlet	59
Exhaust outlet	77
Casing	59

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	49

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,7	15,3	16,1	16,8	17,7	22,7	23,9	25,2

indoor +22°C, 10% RH

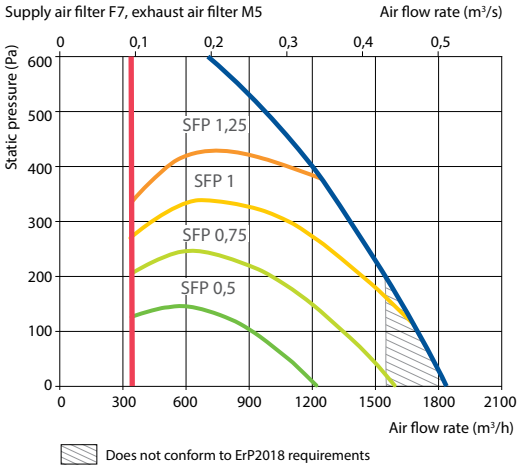
Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	4,2	4,2	4,2	11,5
Flow rate, dm³/h	184	183	182	1971
Pressure drop, kPa	2,4	2,4	2,4	90,6
Temperature in/out, °C		14,7 / 22		25,2 / 18
Maximal capacity, kW	20,7	16,7	12,6	14,5
Connection, "			½	

Available versions:
1) Electric air heater (HE)
2) Changeover water heating/cooling exchanger (HCW)

Performance

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

Accessories (p. 108)

Closing damper		AGUJ-M-315+LF24/LM24
Silencer	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
PPU		PPU-HW-3R-15-1,6-W2
Water cooler		DCW-1,6-11
2-way valve		VVP47.20-4,0+SSP61
DX cooler		DCF-1,6-11
Cooling unit		MOU-36HFN6-KA8243

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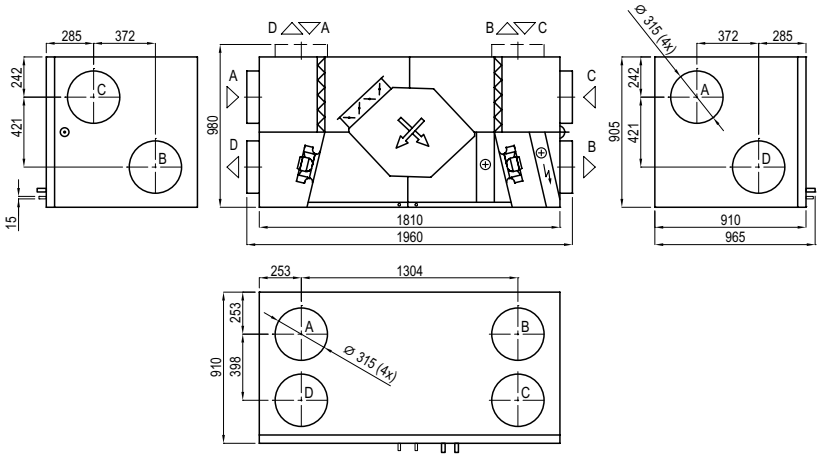

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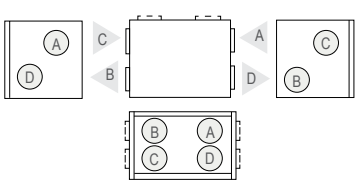


A outdoor intake
B supply air
C extract indoor
D exhaust air

Verso CF 2300 U/H/V

Nominal air flow, m³/h	2400
Panel thickness, mm	50
Unit weight, kg	250
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	16,8
Maximal operating current HW, A	6,3
Filters dimensions B×H×L, mm	800×400×46-M5
Electric power input of the fan drive at maximum flow rate, W	640
Electric air heater capacity, kW / Δt, °C	7,5 / 8,7
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate	
Supply inlet	63
Supply outlet	81
Exhaust inlet	63
Exhaust outlet	81
Casing	61

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	50

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,1	15,8	16,1	16,9	17,8	22,5	23,4	24,3

indoor +22°C, 10% RH

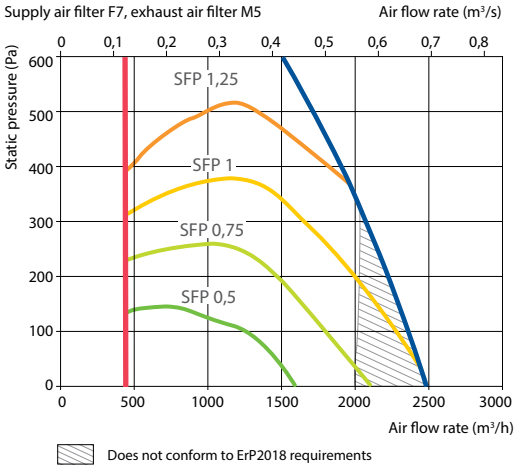
Changeover water heating/cooling exchanger (HCW)

	Winter			Summer
Water temperature in/out, °C	80/60	70/50	60/40	7/12
Capacity, kW	5,1	5,1	5,1	14,2
Flow rate, dm³/h	225	224	223	2439
Pressure drop, kPa	2,8	2,8	2,8	134,8
Temperature in/out, °C		15,4/22		24,3/18
Maximal capacity, kW	25,3	20,3	15,3	16,7
Connection, ”			½	

Available versions:
1) Electric air heater (HE)
2) Changeover water heating/cooling exchanger (HCW)

Performance

Supply air filter F7, exhaust air filter M5



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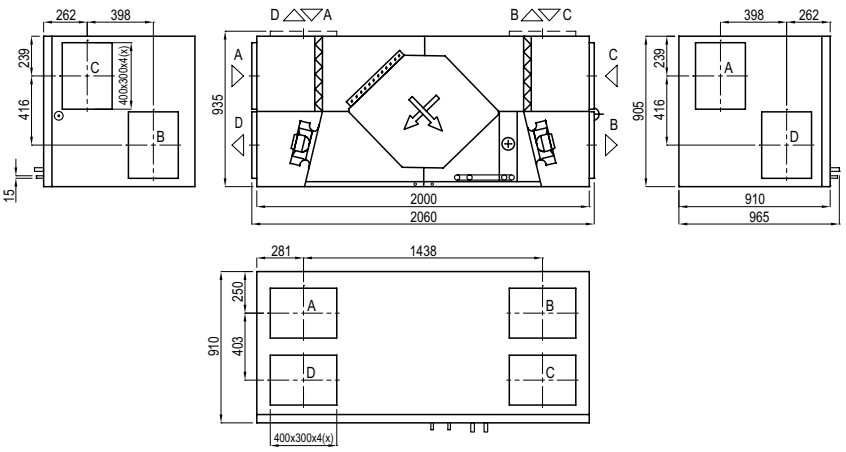

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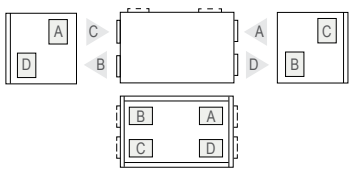


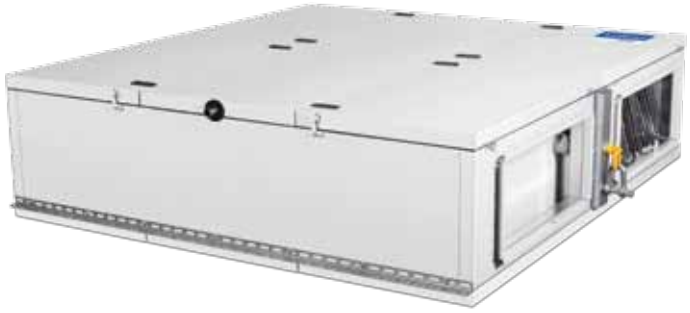
A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

Closing damper	H	SRU-M-300x400+LF24/LM24
	V	SRU-M-400x300+LF24/LM24
Silencer	A/D	STS-IVR3BA-600-400-700-S
	B/C	STS-IVR3BA-600-400-1250-S
PPU		PPU-HW-3R-15-1,6-W2
Air heater-cooler		DCW-2,5-17
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-2,5-17
Cooling unit		MOU-55HFN6-KA8243

Verso CF 2500 F

Nominal air flow, m³/h	2600
Panel thickness, mm	50
Unit weight, kg	340
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	16,9
Maximal operating current HW, A	6,3
Filters dimensions B×H×L, mm	888×420×96-M5
Electric power input of the fan drive at maximum flow rate, W	607
Electric air heater capacity, kW / Δt, °C	7,5 / 8,0
Control panel	C5.1
Maintenance space, mm	620



The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	64
Supply outlet	83
Exhaust inlet	64
Exhaust outlet	83
Casing	62

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	51

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,5	16,0	16,6	17,3	18,0	22,6	23,8	25,0

indoor +22°C, 10% RH

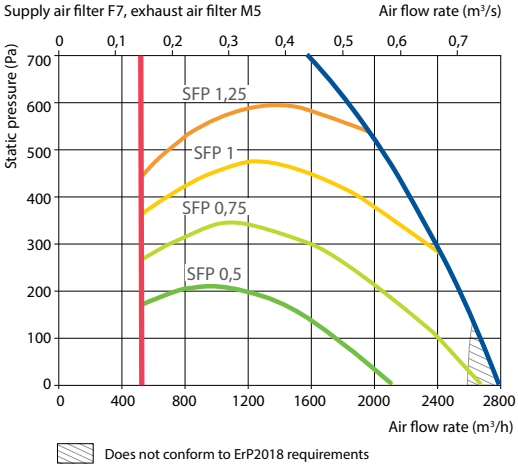
Hot water air heater (SVK)*

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	5,7	5,7	5,7
Flow rate, dm³/h	251	249	248
Pressure drop, kPa	3,7	3,7	3,8
Temperature in/out, °C		15,5/22	
Maximal capacity, kW	21,7	17,4	13,0
Connection, "		½	

* option

Performance

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

Accessories (p. 108)

Closing damper		SRU-M-700x300+LF24/LM24
Silencer	A/D	STS-IVR3BA-800-300-700-S
	B/C	STS-IVR3BA-800-300-1250-S
Water heater		SVK-700x400-2R
PPU		PPU-HW-3R-15-1-W2
Air heater-cooler		DCW-2,5-17
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-2,5-17
Cooling unit		MOU-55HFN6-KA8243

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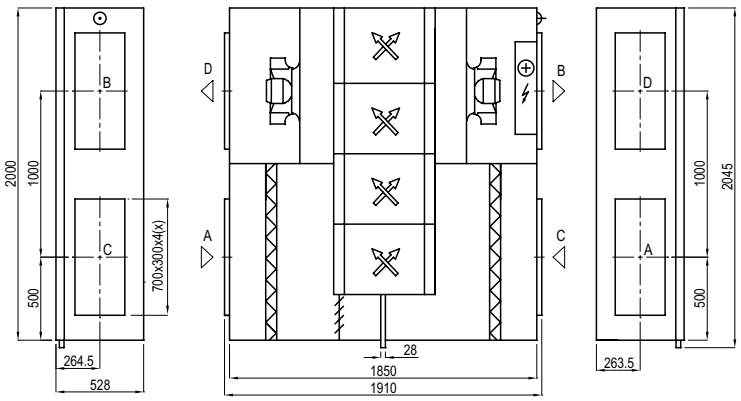

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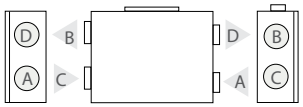


A outdoor intake
B supply air
C extract indoor
D exhaust air

Verso CF 3500 U/H/V

Nominal air flow, m³/h	3700
Panel thickness, mm	50
Unit weight, kg	500
Supply voltage HE, V	3~400
Supply voltage HW, V	3~400
Maximal operating current HE, A	19,8
Maximal operating current HW, A	7,1
Filters dimensions B×H×L, mm	525×510×46-M5 (×2)
Electric power input of the fan drive at maximum flow rate, W	860
Electric air heater capacity, kW / Δt, °C	9/6,8
Control panel	C5.1
Maintenance space, mm	1000

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	56
Supply outlet	75
Exhaust inlet	57
Exhaust outlet	75
Casing	53

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	49

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	16,3	16,6	16,4	17,1	17,9	22,7	23,8	25,1

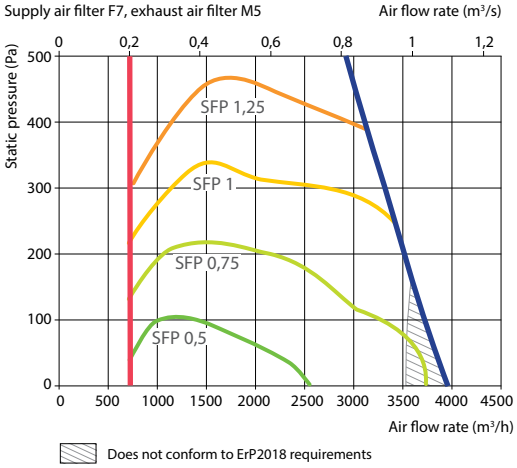
indoor +22°C, 10% RH

Hot water air heater

	Winter		
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	6,9	6,9	6,9
Flow rate, dm³/h	304	303	301
Pressure drop, kPa	2,6	2,6	2,6
Temperature in/out, °C		16,3/22	
Maximal capacity, kW	30,0	23,8	17,5
Connection, "		¾	

Performance

Supply air filter F7, exhaust air filter M5



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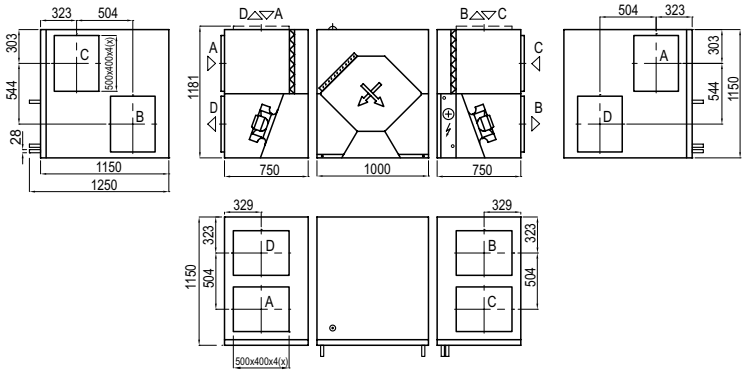

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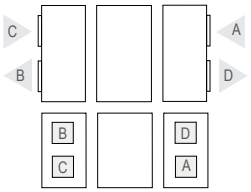


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 108)

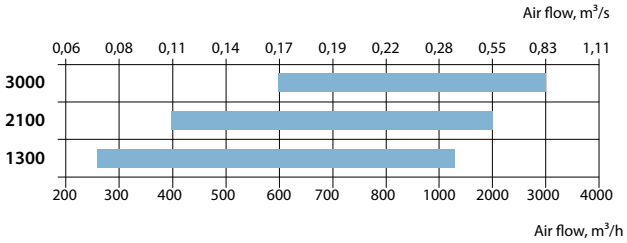
Closing damper	H	SRU-M-400x500+LF24/LM24
	V	SRU-M-500x400+LF24/LM24
Silencer	A/D	STS-IVR3BA-800-500-700-S
	B/C	STS-IVR3BA-800-500-1250-S
PPU		PPU-HW-3R-15-2,5-W2
Air heater-cooler		DCW-4,0-27
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-4,0-27-2
Cooling unit		2xMOU-48HFN6-KA8243

komfovent®

Verso S

False ceiling supply air handling units

Sizes of Verso S units



Advantages of Verso S units

- Height is only 297 mm / 350 mm / 545 mm – easy to choose the place for installation.
- Units are complemented with fastening profiles and vibration absorbing holders.
- Safe and handy design of removable cover ensures easy fixing of cover at different opening levels for performing maintenance and service inspection.
- Air handling units have integrated control system.
- Control panel may be installed in any user-convenient place.
- Control panel display enables to set the operation parameters of the unit and monitor them.
- There is a possibility to complement and control the duct mounted cooling section.

Verso S range

Unit size	Supply/exhaust air filter class		Heater		Cooler		Inspection side	Control system C5
	M5	F7	HE	HW	CW	DX	R1	panel C5.1
Verso S 1300 F	●	○	○	○	△	△	●	●
Verso S 2100 F	●	○	○	○	△	△	●	●
Verso S 3000 F	●	○		●	△	△	●	●

● standard equipment
○ possible choice
△ ordered separately

Duct connection
F – false ceiling

Heater
HE – electric heater
HW – water air heater

Inspection side
See p. 116

Cooler
CW – designed for air cooling using cold water (water-glycol mixture), provides a higher comfort level in rooms.
DX – designed for air cooling using direct expansion cooling unit, provides a higher comfort level in rooms.

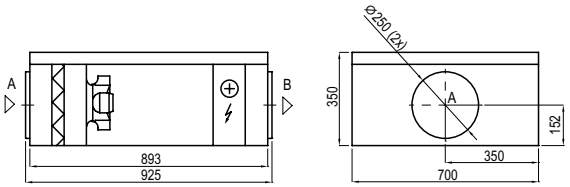
Control system
More information about C5 on p. 8.

KK-18-03

Verso S 1300 F

Nominal air flow, m³/h	1300
Panel thickness, mm	50
Unit weight, kg	46
Filters dimensions B×H×L, mm	558×287×46-M5
Electric power input of the fan drive at reference flow rate, W	350
Control panel	C5.1
Maintenance space, mm	400

The photo is intended for informational purposes only, exact details may vary.



Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	74
Supply outlet	80
Casing	56

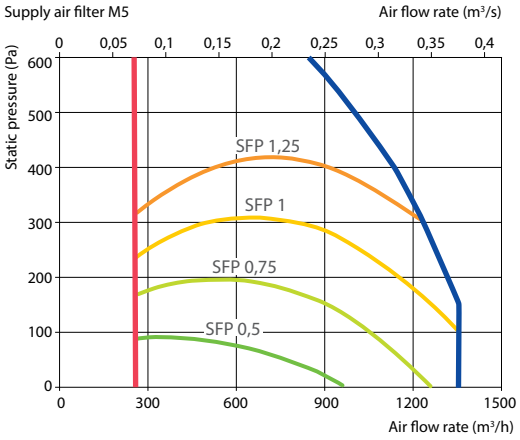
A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	46

Technical data

Supply air handling unit	Supply voltage, V	Air heater capacity, kW	Maximal operating current, A	ΔT, °C
Verso S 1300 F-HE/9	3~400	9,0	15,7	19,2
Verso S 1300 F-HE/15	3~400	15,0	24,4	32,1
Verso S 1300 F-HW	1~230	–	2,9	–

Performance



* Compliance to ErP2018 requirements check with the selection program.

Hot water air heater

Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	10,1	8,4	6,5
Flow rate, dm³/h	448	369	286
Pressure drop, kPa	3,3	2,8	2,3
Temperature in/out, °C	-5 / 18,2	-5 / 14,2	-5,0 / 10,0
Maximal capacity, kW	10,1	8,4	6,5
Connection, ”		½	

Accessories (p. 108)

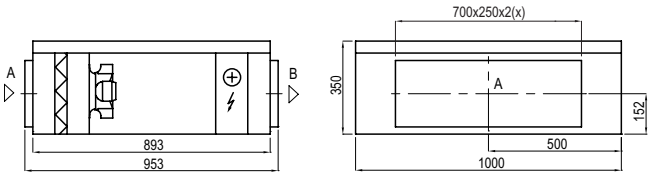
Closing damper		AGUJ-M-250+LF24/LM24
Silencer	A	AGS-250-50-600-M
	B	AGS-250-50-900-M
PPU		PPU-HW-3R-15-2.5-W2
Air heater-cooler		DCW-1,4-9
2-way valve		VVP47.20-4,0+SSP61
DX cooler		DCF-1,4-10
Cooling unit		MOU-36HFN6-KA8243

komfovent®

Verso S 2100 F

Nominal air flow, m³/h	1900
Panel thickness, mm	50
Unit weight, kg	73
Filters dimensions B×H×L, mm	858×287×46-M5
Electric power input of the fan drive at reference flow rate, W	340
Control panel	C5.1
Maintenance space, mm	400

The photo is intended for informational purposes only, exact details may vary.



Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	70
Supply outlet	75
Casing	52

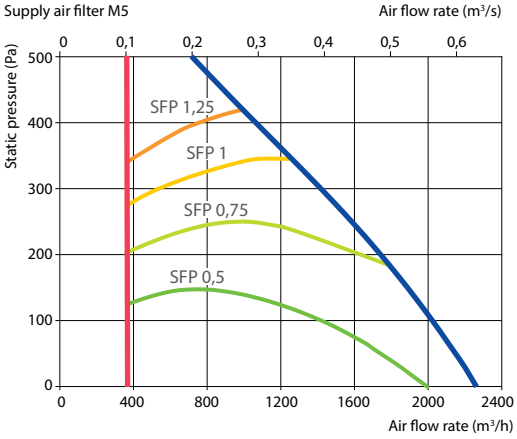
A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	42

Technical data

Supply air handling unit	Supply voltage, V	Air heater capacity, kW	Maximal operating current, A	ΔT, °C
Verso S 2100 F-HE/15	3~400	15,0	24,7	21,9
Verso S 2100 F-HE/22,5	3~400	22,5	35,6	32,9
Verso S 2100 F-HW	1~230	–	3,3	–

Performance



* Compliance to ErP2018 requirements check with the selection program.

Hot water air heater

Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	17,0	14,4	11,7
Flow rate, dm³/h	752	632	511
Pressure drop, kPa	7,5	5,9	4,5
Temperature in/out, °C	-5,0/21,7	-5,0/17,5	-5,0/13,3
Maximal capacity, kW	17,0	14,4	11,7
Connection, ”		½	

Accessories (p. 108)

Closing damper		SRU-M-700x250+LF24/LM24
Silencer	A	STS-IVR3BA-800-250-700-S
	B	STS-IVR3BA-800-250-1250-S
PPU		PPU-HW-3R-15-2.5-W2
Air heater-cooler		DCW-2,0-13
2-way valve		VVP47.20-4,0+SSP61
DX cooler		DCF-2,0-14
Cooling unit		MOU-48HFN6-KA8243

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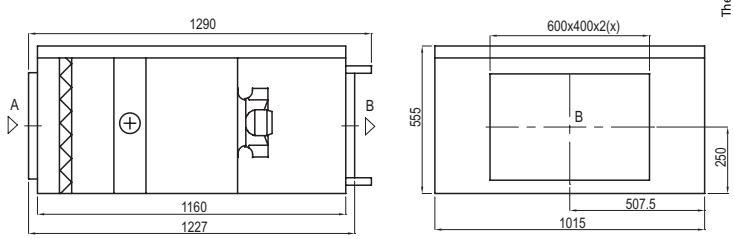
Verso S 3000 F

Nominal air flow, m³/h	3600
Panel thickness, mm	50
Unit weight, kg	130
Filters dimensions B×H×L, mm	450×480×96-M5 (×2)
Electric power input of the fan drive at reference flow rate, W	930
Control panel	C5.1
Maintenance space, mm	600

The photo is intended for informational purposes only, exact details may vary.



Acoustic data

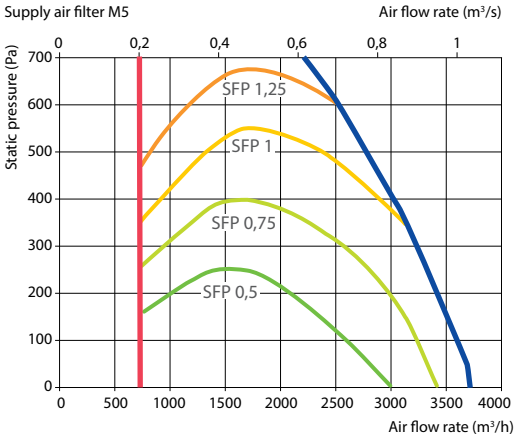
A-weighted sound power level L_{WA}, dB(A) at nominal flow rate	
Supply inlet	67
Supply outlet	78
Casing	53
A-weighted sound pressure level L_{PA}, dB(A) 10 m² normally isolated room, distance from casing – 3 m.	
Surroundings	42

Technical data

Supply air handling unit	Supply voltage, V	Air heater capacity, kW	Maximal operating current, A	ΔT, °C
Verso S 3000 F-HW	3~400	–	2,7	–

Performance

Supply air filter M5



* Compliance to ErP2018 requirements check with the selection program.

Hot water air heater

Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	32,6	32,6	32,6
Flow rate, dm³/h	1442	1435	1429
Pressure drop, kPa	4,5	4,5	4,5
Temperature in/out, °C	-5/22	-5/22	-5/22
Maximal capacity, kW	50,2	42,5	34,7
Connection, ”		1	

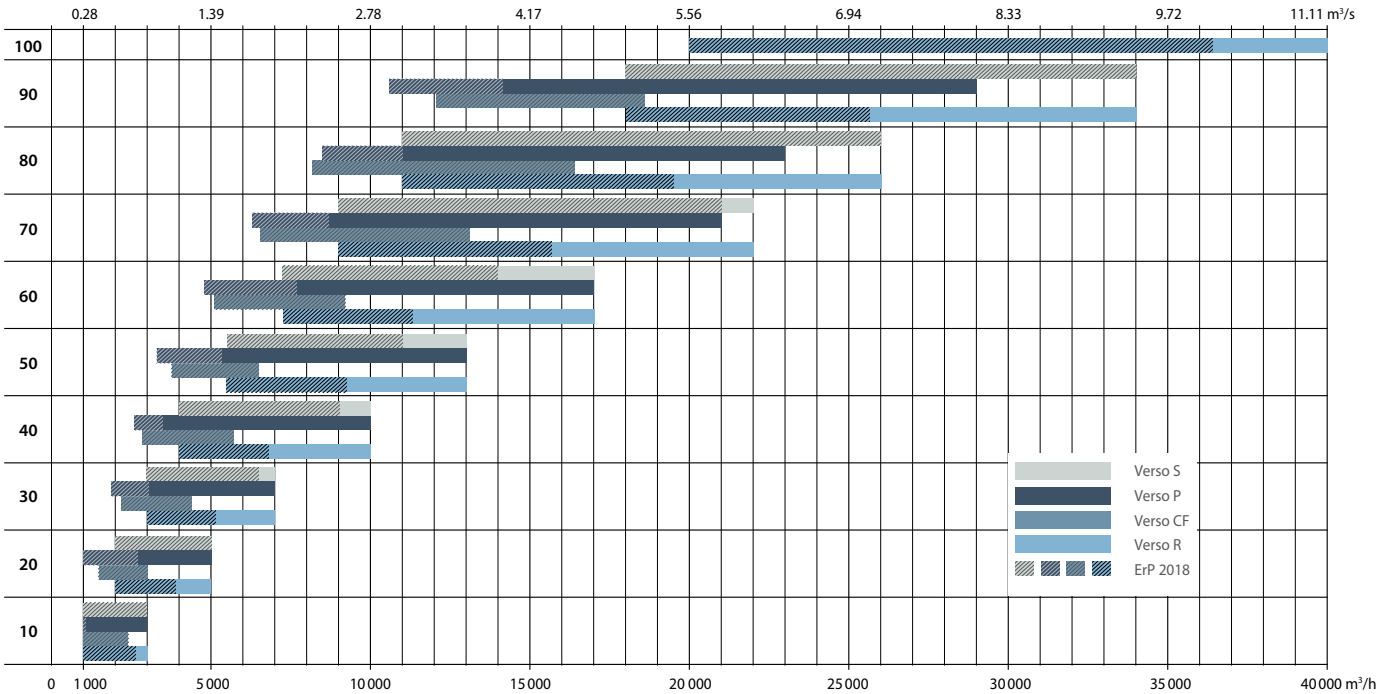
Accessories (p. 108)

Closing damper		SRU-M-600x400+LF24/LM24
Silencer	A	STS-IVR3BA-600-400-700-S
	B	STS-IVR3BA-600-400-1250-S
PPU		PPU-HW-3R-25-6.3-W2
Air heater-cooler		DCW-3,0-20
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-3,0-20-2
Cooling unit		2xMOU-36HFN6-KA8243

VERSO Pro

Heat recovery units' casing is comprised of three main sections. Two side sections are similar fan and filter sections. The middle section is for a heat exchanger. Supply air unit casing is composed of symmetrical filter and fan sections. For customer convenience air heaters, cooler sections are mounted outside the unit.

Air flow



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Advantages

Convenient
Unit design assures effective transportation and easy installation. Separate parts are compact, without projection parts; therefore it is easy to transport them to a designated area of the building, where later they are assembled. Finished air handling units are delivered to the customer in packages that are ready to be transported.

Durable
Unit doors are mounted with firm and aesthetic-looking hinges and are locked with convenient and elegant locks. Door seals are made of firm and elastic foam type gaskets, which are automatically fastened to the door by the newest machinery and are long lasting and hermetic.

Universal
Unit walls are made of galvanized steel sheets with 50 mm thickness insulation. This assures not only effective heat and noise insulation, but also a high level of fire resistance. Air handling unit accessories – external grilles for supply/exhaust vents, hood and roof – allow installing units outside. On request units may be painted customer desired color.

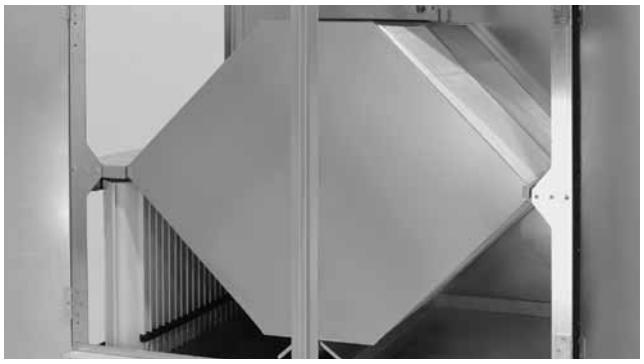
User friendly
Filters, fans, heat exchangers, coolers and other components are easily accessible during use; if necessary, they can be easily replaced. A new filter clamping mechanism, not only assures tightness, but also essentially simplifies filter change procedure.

Design

Rotary heat exchanger

Used in Verso R series units. Temperature efficiency factor – up to 85 %. Possible wave height: 1,4 mm; 1,5 mm, 1,7 mm.
Types of rotary heat exchangers:
- Condensation (aluminium);
- Enthalpy (aluminium and zeolith);
- Sorption (aluminium with zeolith coating);
- Deep epoxy coating "Blygold" technology.

Aluminium foil is made of an aluminium alloy resistant to sea water. Rotary heat exchanger rotation speed is controlled by a frequency converter, according to the air temperature. The heat exchanger can be ordered with an installed purge section.

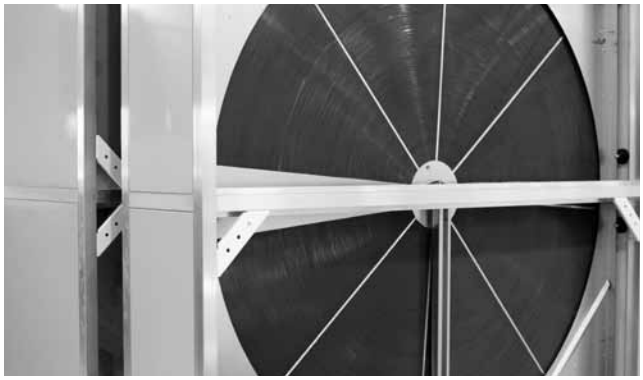


Counter flow plate heat exchanger

Used in Verso CF series units.
Temperature efficiency factor – up to 92 % in wet conditions and up to 88 % in dry conditions.
The plate heat exchanger is equipped with automatic by-pass.
Aluminium plates are made of an aluminium alloy resistant to sea water.

Plate heat exchanger

Used in Verso P series units.
Temperature efficiency factor – up to 75 % in wet conditions and up to 73 % in dry conditions.
Aluminium plates are made of an aluminium alloy resistant to sea water.



Heat exchangers

VERSO air handling units may generate different energy efficiency levels with four main types of heat exchangers. The most advanced one is a rotary heat exchanger with the thermal efficiency of 85 % and the minimum risk of freezing. A counter cross-flow plate heat exchanger and a double plate heat exchanger are also highly effective and may have efficiency coefficients up to 92 % or 82 % correspondingly, however, they are very sensitive to low outdoor temperatures. A standard plate heat exchanger complete the range of the heat exchangers with the maximum efficiency of 73 %. Aluminium is used as a material for the exchangers.

Anti-frost precautions

Under conditions when the outdoor air temperature is low and humidity is high, the risk of heat exchanger frosting may appear. To avoid frosting of the heat exchanger bypass damper is opened. For an extremely low outdoor air temperature the duct mounted electric preheater is recommended. The counter cross-flow heat exchanger is even more sensitive for low outside air temperatures, as the risk of frosting appears in the temperature range from -3°C to -5°C and below. A standard aluminium cross-flow plate heat exchanger has better features, as the risk of freezing appears only at -10°C. As an option, you can choose the latest effective protection from icing of the counterflow heat exchanger – "3+1". The essence of this system is that even after the icing starts, 2/3 of the heat exchanger surface area works efficiently. The lowest risk and the highest resistance to cold outside air is a competitive feature of the rotary heat exchanger, as it does not freeze even at the temperatures of -30°C if the humidity level of the air is appropriate.

Fans

In VERSO series units plug type fans are used, therefore, units are silent and use electricity effectively. The fans are balanced statically and dynamically, based on the ISO 1940 standard; therefore, unit vibration is minimal and meets all requirements.

When running, fans exhibit the following qualities:
- Very high efficiency coefficient
- Frequency converters ensure an optimal capacity
- Good acoustic performance
- Longevity: a fan is directly connected to the electric motor, therefore, there is no a belt gear that simplifies maintenance.
- There is a possibility to install an air flow measuring device

Two types of fan motors are available – three-phase permanent magnet synchronous motors (PM) (400 V, 50 Hz), controlled by frequency converters, or electronically commutated (EC) with an integrated electronic controller with 20–100% speed regulation.
Safety category – IP55 according to IEC 34-5.
Windings insulation category – F.
Maximum operating temperature is 40°C.

An aluminium or high performance composite impeller has less weight and vibration force on motor bearings. A new design of the impeller can reach up to 79 % of static efficiency.

PM and EC fans

Highly efficient in all operating areas, PM and EC motors are available in all types of VERSO PRO units. High efficiency is determined by low energy consumption, high efficiency and the best values of SFP factor.

PM type motors correspond to the *Ultra Premium* Efficiency Class IE5 and ensure high efficiency in a wide operation range with reliable performance, durability, relatively low cost and electrical stability. Their operation is extremely smooth and silent, ensuring the highest efficiency, energy saving and accuracy in operation.

EC type motors correspond to the *Premium Efficiency* Class IE4, have integrated motor controller, and ensure high operation efficiency, smooth and energy saving operation in all working points.

Both types of motors have long-life operation feature and guarantee the highest level of operation.

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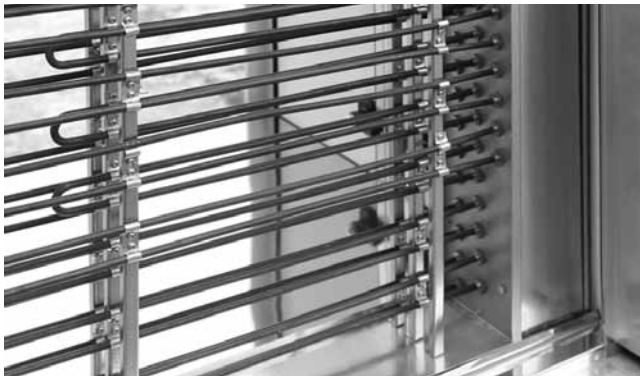

Air heaters

Water air heaters
Normally used with aluminium fins and copper pipes. Can be made with a thread joint to connect a freezing sensor. Insulated with a mineral wool heater section mounted on the outside of the unit – room space is saved this way; it is also more convenient to mount it.

- Maximum operating pressure – 21 bars
- Maximum water temperature – +100°C (on special order – up to +130°C)
- Heated air temperature – up to +40°C

Electric air heaters
Stainless steel heating elements are used in production. A three level protection ensure protection from overheating.
Protection class IP54 in accordance with IEC 34-5.
Heated air temperature – up to +40°C.

Note: exact electric air heater measurements and other information can be found in VERSO air handling units selection software. The electric heater has its own supply voltage.

Air coolers

Water air coolers
Normally used with aluminium fins (spacing 2,5 or 3 mm) and copper pipes. Insulated with a mineral wool heater section mounted on the outside of the unit – room space is saved this way and it is more convenient to mount it.
Maximum operating pressure – 21 bars.
The air cooler section is assembled with a stainless steel sloping drain tray and a water trap.

Direct evaporation air coolers
Normally used with aluminium fins (spacing 2,5 or 3 mm) and copper pipes. Insulated with a mineral wool heater section mounted on the outside of the unit – room space is saved this way; it is also more convenient to mount it.
Maximum operating pressure – 42 bars.
The cooler section is assembled with a stainless steel sloping drain tray and a water trap. The power of the direct evaporation air cooler can be divided into 2 or 3 steps. It is necessary to indicate this upon order. DX coil also can operate in heating mode.

Blygold anti-corrosion treatment

The **Blygold PoluAl XT** anti-corrosion treatment is a revolutionary treatment for coils, which will stop corrosion and capacity loss of your equipment.

Blygold PoluAl XT carries a guarantee of 5 years, provided that the recommended cleaning protocol is maintained. This gives you the guarantee that your coil is in optimal condition resulting in lower running costs and a longer coil life.

Blygold PoluAl XT is an anti-corrosion treatment consisting of a conversion layer followed by a polyurethane top coat. The operating temperature range is -20°C to 150°C. There is no loss of heat transfer performance and only a minimal change in air pressure drop. The Blygold® treatment can be applied to cooling and DX coils, run around coils, heating coils and heat pipes. Areas of application may include: industrial, commercial, medical, process, marine etc. To counteract the possibility of corrosion it is current practice to specify either thicker fin material or higher specification material such as copper. With Blygold® there is significant potential for reducing the overall weight of the coil in addition to corrosion protection.

Blygold PoluAl XT impact on coil lifetime:

- Aluminum pigmentation for heat conducting
- 100 % penetration due to high air volumes
- UV resistance: excellent
- Flexible
- Excellent adhesion
- Thin layer to prevent pressure drop
- Filling and sealing fin-tube spacing
- High mechanical resistance

Air dampers

Closing air dampers installed in the air handling units are produced from aluminium with rubber sealing.
Connectors – L20.
For unit sizes 60, 70, 80 – L30, 90 – L40.
Dampers are located outside the unit; they can be made with an insulated damper casing.
Standard tightness Class 2, it possible to order higher tightness Class 4 or higher thermal insulation Class 2 TBB.

Air filters

From G4 to F9 class synthetic or fiberglass pocket type filters are used.

- Standard length of G4 class filters – 360 mm.
- Standard length of M5–F9 class filters – 500, 635 mm.

The filter clamping mechanism ensures tightness and simplifies a filter replacement procedure.
Also G4 or M5 prefilter can be selected on supply air flow.

Noise reduction sections

To avoid excessive pressure losses inside the air handling unit, duct mounted sound attenuation sections are offered for VERSO units.
The sound attenuation section of 900 mm length will reduce the noise to air ducts by 15 to 20 dB, a longer section of 1200 mm in length – by 20 to 25 dB. The width and height of these sections correspond to air handling unit dimensions.
The baffler-type sound absorber is installed inside this section. Bafflers are filled with special acoustic mineral stone wool and are covered by non-woven glass fibre felt certified to be inside the air duct. Mineral wool can be replaced with polyester wool in the case of a special request.
Splitters of the absorber can be easily removed from the section for dry or semi-wet washing for ventilation hygiene purposes.

The efficiency of the channel noise reduction section, in dB

No.	Length, mm	Efficiency dB when frequency Hz							
		63	125	250	500	1000	2000	4000	8000
10	900	10	19	27	31	33	32	27	17
	1200	13	26	35	42	44	43	36	22
20	900	6	13	17	21	22	21	18	11
	1200	8	17	23	27	29	28	24	15
30	900	7	13	18	22	23	22	19	12
	1200	9	18	24	29	30	30	25	15
40	900	6	13	18	21	22	21	18	11
	1200	8	17	23	27	29	28	24	15
50	900	6	12	17	20	21	21	18	11
	1200	8	16	22	27	28	27	23	14
60	900	8	15	21	25	26	25	21	13
	1200	10	20	28	33	34	34	28	18
70	900	7	14	20	23	25	24	20	13
	1200	10	19	26	31	33	32	27	17
80	900	7	14	19	23	24	23	20	12
	1200	9	18	25	30	32	31	26	16
90	900	7	14	20	23	25	24	20	13
	1200	10	19	26	31	33	32	27	17

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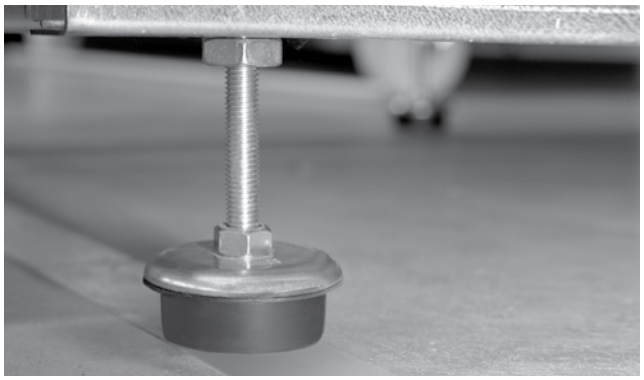
Casing and outside grilles

Casing and outside grilles can be additionally mounted on the supply and exhaust vents of outdoor air handling units.

Roof

A roof with water drainage must be additionally installed on outdoor air handling units.



Height adjustable feet

The construction frame of the air handling unit with height adjustable feet makes it much easier to level the unit on the site.

Door locks and handles

Easy to use door locks and handles ensure safe unit maintenance.

Inspection window and lighting

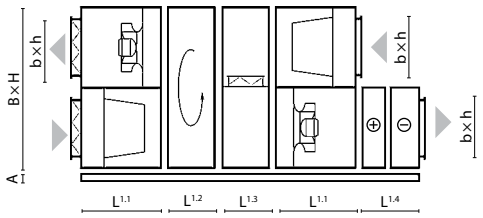
Internal lighting enables to observe unit's internal operation through inspection window. Economy light is used with switch outside the unit.

Inspection window enables to observe unit's internal operation. The diameter of plastic window is 200 mm.

Dimensions

Modern air handling unit proportions allow reaching better technical parameters: a lower air flow velocity inside the unit, better acoustic data.

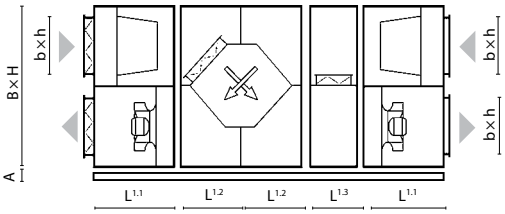
Verso R



Size	B	H	L1.1	L1.2	L1.3	L1.4	b	h	A
10	1000	1000	618	370	435	800	700	300	125
20	1150	1150	751	370	435	800	900	400	125
30	1300	1300	751	370	435	800	1000	500	125
40	1500	1520	751	390	435	800	1200	600	125
50	1700	1715	885	390	435	800	1400	700	125
60	1900	1920	885	390	570	800	1600	800	125
70	2100	2100	885	390	705	800	1800	900	125
80	2300	2420	1250	510	841	830	2000	1000	125
90	2610	2650	1400	550	1040	830	2200	1100	125
100	3770	2420	1250	1400	841	830	3400	1000	125

Note: the electric air heaters, water heaters and coolers section length and configuration are noted in the selection program of VERSO air handling units.

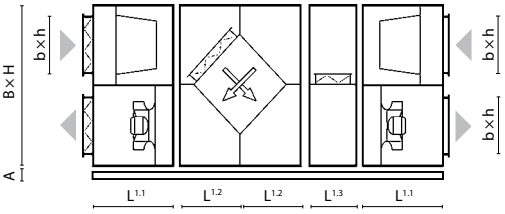
Verso CF



Size	B	H	L1.1	L1.2	L1.3	b	h	A
10	1000	1000	618	570	435	700	300	125
20	1150	1150	751	645	435	900	400	125
30	1300	1300	751	720	435	1000	500	125
40	1500	1520	751	720	435	1200	600	125
50	1700	1715	885	720	435	1400	700	125
60	1900	1920	885	920	570	1600	800	125
70	2100	2100	885	1060	705	1800	900	125
80	2300	2420	1250	1250	841	2000	1000	125
90	2610	2650	1400	1250	1040	2200	1100	125

Notes: size 20÷70 plate heat exchanger section is made of two parts. Size 10, 80 and 90 – of one part. The electric air heater section length is noted in the selection program of VERSO air handling units.

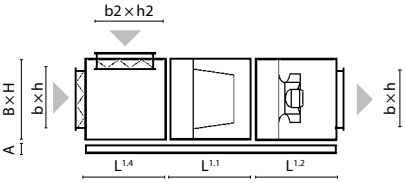
Verso P



Size	B	H	L1.1	L1.2	L1.3	b	h	A
10	1000	1000	618	422	435	700	300	125
20	1150	1150	751	570	435	900	400	125
30	1300	1300	751	570	435	1000	500	125
40	1500	1520	751	570	435	1200	600	125
50	1700	1715	885	707	435	1400	700	125
60	1900	1920	885	845	570	1600	800	125
70	2100	2100	885	845	705	1800	900	125
80	2300	2420	1250	1150	841	2000	1000	125
90	2610	2650	1400	1150	1040	2200	1100	125

Notes: size 20÷70 plate heat exchanger section is made of two parts. Size 10, 80 and 90 – of one part. The electric air heaters, water heaters and coolers section length and configuration are noted in the selection program of VERSO air handling units.

Verso S



Size	B	H	L1.1	L1.2	L1.4	b	h	b1	h1	b2	h2	A
10	1000	490	750	705	430	900	400	700	300	700	300	125
20	1150	585	750	705	430	1100	500	900	400	1000	300	125
30	1300	660	750	705	470	1200	600	1000	500	1100	400	125
40	1500	740	750	842	470	1400	700	1200	600	1200	400	125
50	1700	890	750	842	470	1600	800	1400	700	1400	400	125
60	1900	960	750	979	570	1800	900	1600	800	1600	500	125
70	2100	1085	750	979	705	2000	1000	1800	900	1800	600	125
80	2300	1235	750	1250	705	2200	1100	2000	1000	2000	600	125
90	2610	1350	750	1400	705	2500	1200	2200	1100	2200	600	125

Note: the electric air heaters, water heaters and coolers section length and configuration are noted in the selection program of VERSO air handling units.

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RHP

Ventilation units with heat pump

All HVAC systems in one unit

Complete control of the indoor climate: 5in1

Comfort heating
RHP units can efficiently heat the premises especially during a transitional period.

Fresh air
RHP units provide the premises with fresh air consuming minimal power.

Comfort cooling
RHP units provide the most efficient cooling during the summer.

Clean Air
Fresh air supplying into room is cleaned from dust.

Humidity control
RHP units in summer perform dehumidification and in winter – regeneration of humidity.

New possibilities with RHP:

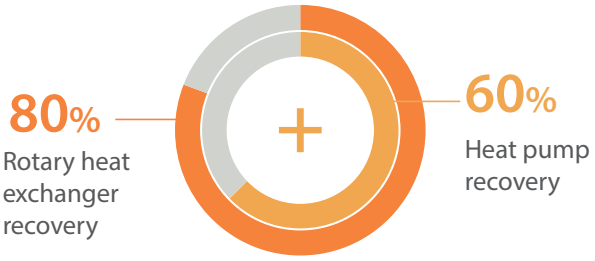
- Plug & Play – all components are installed, aligned and tested at the factory.
- Device monitoring and management through the Internet and BMS.
- Simple designing, installing, operation and maintenance.
- Extremely high energy efficiency.
- Shortest payback time.
- Unified smart control, simplified management.
- No outdoor unit, no refrigeration specialists required.

Two stage heat / cool recovery

Thermal efficiency over 140 %

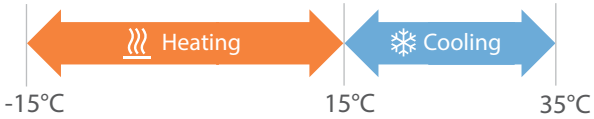
To reach the maximum efficiency Komfovent RHP units are designed to recover the energy in two steps:

- 1st step recovery by enthalpy rotary heat exchanger
- 2nd step recovery by reversible heat pump



Outdoor: -10° C / 80 % RH
Indoor: +20° C / 40 % RH

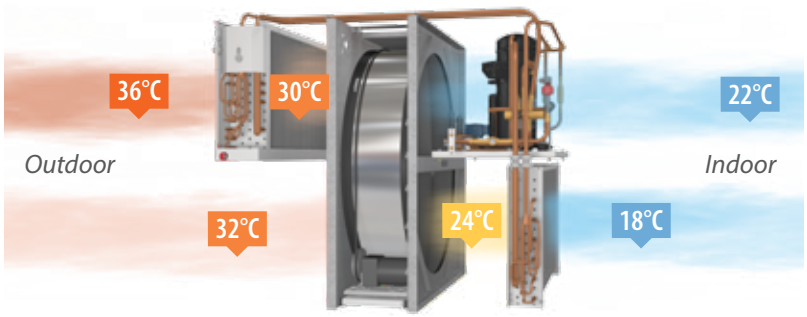
Operation range:



Optimised and efficient operation principles:

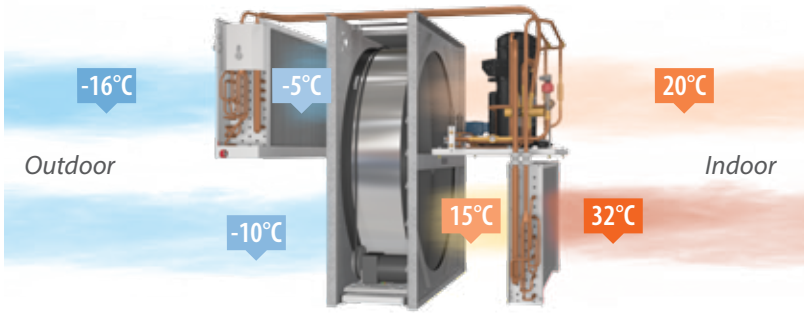
Cooling mode

Due to cooling recovery by rotary heat exchanger, air temperature after rotor is lower than outside air temperature. Condensation temperature in this case is lower, what results in reduced compressor electricity consumption comparing with outdoor condensing unit.



Heating mode

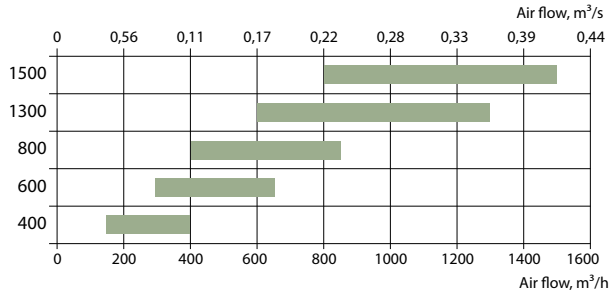
Highly efficient rotary heat exchanger is used for first stage heat recovery, recovering the biggest part of the heat of extracted air. For second stage heat recovery and supply air temperature control, heat pump is used.



RHP Standard

Units with a rotary heat exchanger and an integrated heat pump for smaller area

Sizes of RHP STANDARD units



Advantages of RHP Standard units

Extremely compact design
It saves building spaces, easier transportation.

Exclusive connectivity – 14 ways
(except model RHP 400)
Allows for optimal and rational connection of the ducts.

Two stages of cooling/heating power
The customer can choose the most suitable option.

High efficiency (SCOP up to 17)
The end user can enjoy the inexpensive warmth and air conditioning.

Why to choose RHP Standard units?

Total comfort all year long:
reversible heating and cooling operation of heat pump ensures comfort indoor climate.

Extremely energy efficient and resource saving: two step efficiency is provided by rotary heat exchanger recovery and post heating / cooling operated by heat pump.

Added value to indoor climate:
heating and humidity recovery in winter, cooling and dehumidifying in summer.

"All inclusive" solution:
no need for condensing unit, chiller, piping or additional work providing.

Convenience and safety:
factory charged by refrigerant, no refrigeration knowledge is needed.

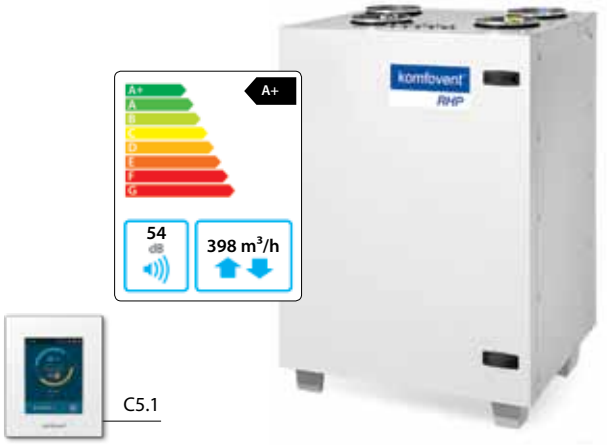
Eco-friendly and protected:
R410A and R134A refrigerant and one circuit charge limits.

Factory tested:
reliable and convenient PLUG & PLAY installation, commissioning and exploitation.

Intelligent control:
clever automatics control algorithms and reliable components ensure safe and efficient equipment operation.

RHP 400 V

Maximal air flow, m^3/h	398
Panel thickness, mm	30/50
Unit weight, kg	106
Supply voltage, V	1~230
Maximal operating current, A	6,6 (RHP 2.2/1.4)
Maximal operating current, A	7,7 (RHP 2.8/2.4)
Thermal efficiency of heat recovery, %	83
Reference flow rate, m^3/s	0,077
Reference pressure difference, Pa	50
SPI, $W/(m^3/h)$	0,4
Filters dimensions B×H×L, mm	462×200×46-M5
Electric power input of the fan drive at reference flow rate, W	58
Electric power input of the fan drive at maximum flow rate, W	103
Electric air heater capacity, kW / Δt, °C	1 / 7
Control panel	C5.1
Maintenance space, mm	720



The photo is intended for informational purposes only, exact details may vary.

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	12,9	13,9	15,0	16,1	17,2	22,7	23,8	24,9

* indoor +22°C, 20 % RH

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	59
Supply outlet	74
Exhaust inlet	59
Exhaust outlet	74
Casing	54

A-weighted sound pressure level L_{PA}, dB(A)
10 m^2 normally isolated room, distance from casing – 3 m.

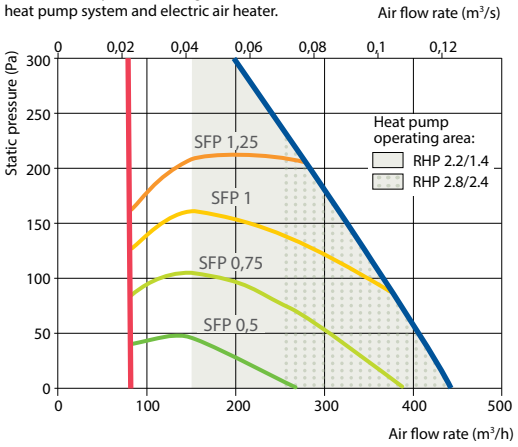
Surroundings	44

Compressor and AHU data

Refrigerant, kg	R134 A	1,1
Compressor heating capacity, kW	RHP 2.2/1.4	1,8
	RHP 2.8/2.4	2,8

Performance

Filter M5, rotary heat exchanger XL, heat pump system and electric air heater.



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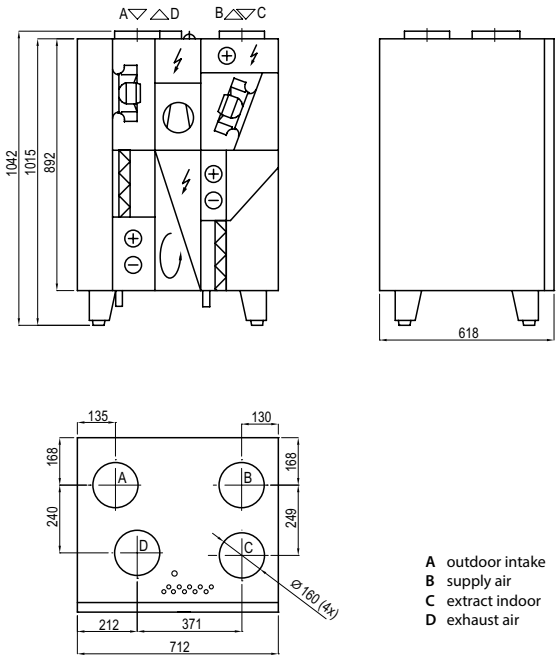


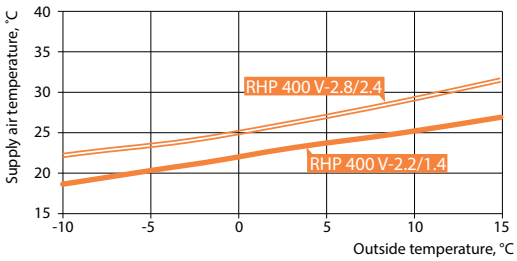
A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories

Closing damper		AGUJ-M-160+LM24
Silencer	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M

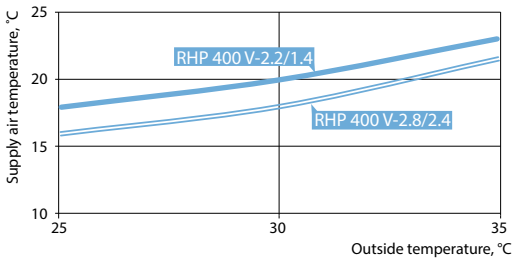
The unit is available only right inspection side.

Heating mode



Application: 20 °C, RH 45% indoor.

Cooling mode



Application: 24°C, RH 55 % indoor
Total (heating and cooling) – rotary heat recovery + heat pump.

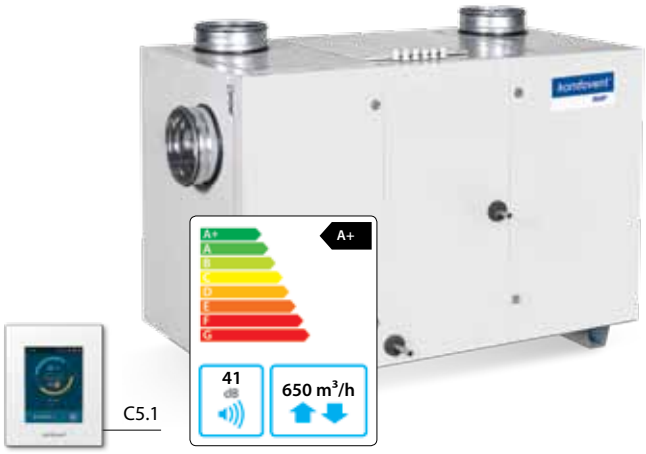
Heat pump parameters

	RHP 400 V-2.2/1.4					RHP 400 V-2.8/2.4				
	Heating			Cooling		Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27	35	27	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45	40	45	74	40	45
Indoor air temperature, °C	20	20	20	27	21	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50	50	50	45	40	50
Supply air temperature, °C	24,2	22,3	19,2	22,0	16,1	29,1	26,8	23,0	20,6	14,5
Heat pump heating/cooling power, kW	0,94	0,84	0,69	1,04	0,95	1,59	1,44	1,18	1,59	1,46
Heat pump heating/cooling power consumption, kW	0,19	0,18	0,16	0,23	0,19	0,42	0,39	0,35	0,51	0,43
Power, recovered by rotary heat exchanger, kW	1,41	2,18	3,46	0,85	0,64	1,41	2,18	3,46	0,85	0,64
COP/EER	4,89	4,58	4,31	4,60	4,90	3,77	3,65	3,40	3,11	3,41

KK-18-03

RHP 600 U

Maximal air flow, m^3/h	650
Panel thickness, mm	50
Unit weight, kg	194
Supply voltage, V	1~230
Maximal operating current, A	9,6 (RHP 3.7/3)
Maximal operating current, A	10,5 (RHP 4.4/3.8)
Thermal efficiency of heat recovery, %	83
Reference flow rate, m^3/s	0,13
Reference pressure difference, Pa	50
SPI, $W/(m^3/h)$	0,32
Filters dimensions B×H×L, mm	500×280×46-M5
Electric power input of the fan drive at reference flow rate, W	70
Electric power input of the fan drive at maximum flow rate, W	142
Electric air heater capacity, kW / Δt, °C	1 / 4,3
Control panel	C5.1
Maintenance space, mm	600



The photo is intended for informational purposes only, exact details may vary.

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	13,9	15,3	16,2	17,1	18,0	22,5	23,4	24,4

* indoor +22°C, 20 % RH

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	58
Supply outlet	71
Exhaust inlet	59
Exhaust outlet	69
Casing	52

A-weighted sound pressure level L_{PA}, dB(A)
10 m^2 normally isolated room, distance from casing – 3 m.

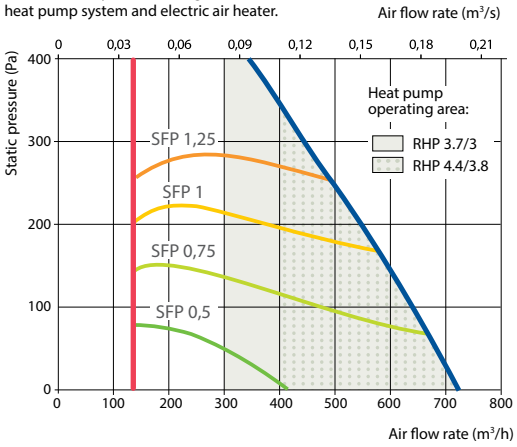
Surroundings	41

Compressor and AHU data

Refrigerant, kg	R134 A	2,2
Compressor heating capacity, kW	RHP 3.7/3	1,8
	RHP 4.4/3.8	2,8

Performance

Filter M5, rotary heat exchanger L,
heat pump system and electric air heater.



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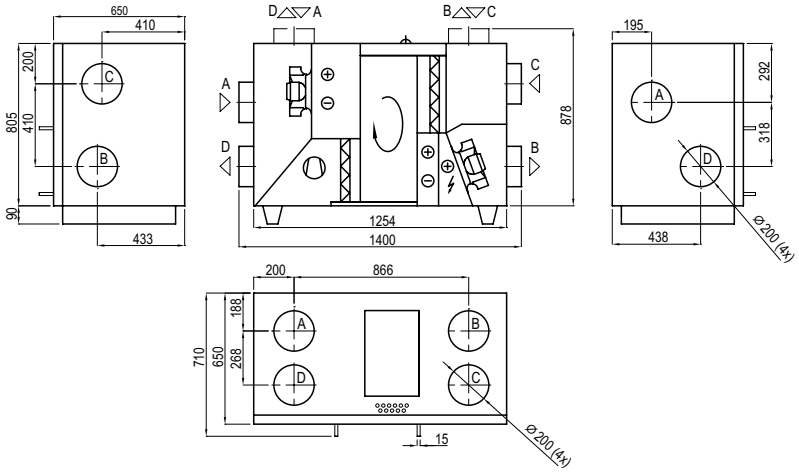

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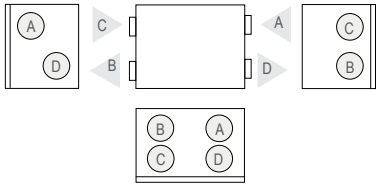
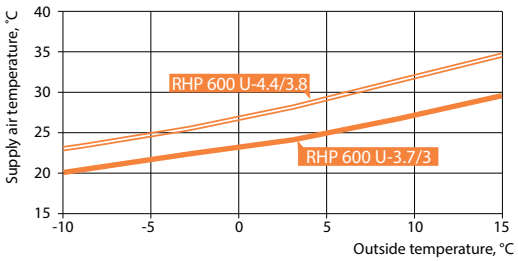


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories

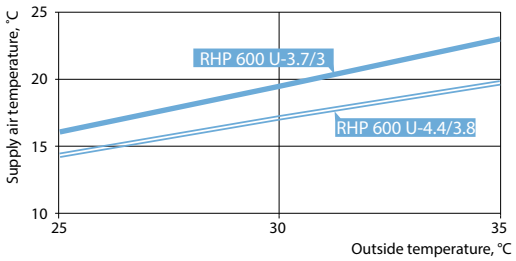
Closing damper		AGUJ-M-200+LM24
Silencer	A/D	AGS-200-50-600-M
	B/C	AGS-200-50-900-M

Heating mode



Application: 20 °C, RH 45% indoor.

Cooling mode



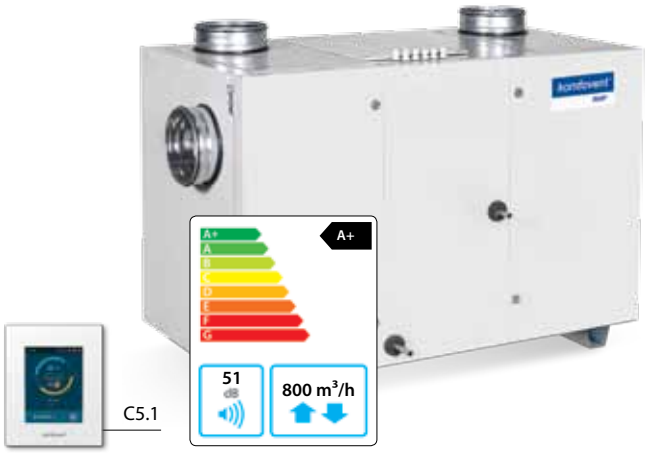
Application: 24°C, RH 55 % indoor
Total (heating and cooling) – rotary heat recovery + heat pump.

Heat pump parameters

	RHP 600 U-3.7/3					RHP 600 U-4.4/3.8				
	Heating			Cooling		Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27	7	2	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45	86	84	74	40	45
Indoor air temperature, °C	20	20	20	27	21	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50	50	50	45	40	50
Supply air temperature, °C	25,8	24,0	20,9	20,8	15,1	29,2	27,1	23,5	20,0	14,0
Heat pump heating/cooling power, kW	1,79	1,59	1,26	1,99	1,84	2,53	2,28	1,83	2,63	2,44
Heat pump heating/cooling power consumption, kW	0,35	0,34	0,31	0,44	0,38	0,54	0,51	0,47	0,70	0,59
Power, recovered by rotary heat exchanger, kW	2,34	3,62	5,87	1,47	1,09	2,34	3,62	5,87	1,47	1,09
COP/EER	5,08	4,71	4,01	4,57	4,83	9,71	4,42	3,91	3,73	4,12

RHP 800 U

Maximal air flow, m³/h	800
Panel thickness, mm	50
Unit weight, kg	255
Supply voltage, V	3~400
Maximal operating current, A	14,8 (RHP 5.3/4.7)
Maximal operating current, A	16,1 (RHP 6.1/5.8)
Thermal efficiency of heat recovery, %	87
Reference flow rate, m³/s	0,17
Reference pressure difference, Pa	50
SPI, W/(m³/h)	0,24
Filters dimensions B×H×L, mm	750×400×46-M5
Electric power input of the fan drive at reference flow rate, W	70
Electric power input of the fan drive at maximum flow rate, W	127
Electric air heater capacity, kW / Δt, °C	2 / 6,9
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only, exact details may vary.

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	15,5	16,7	17,4	18,1	18,8	22,4	23,2	23,9

* indoor +22°C, 20 % RH

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	59
Supply outlet	72
Exhaust inlet	59
Exhaust outlet	69
Casing	51

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

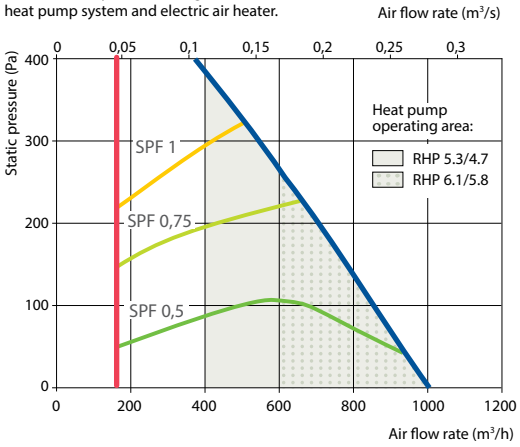
Surroundings	40

Compressor and AHU data

Refrigerant, kg	R134 A	3,1
Compressor heating capacity, kW	RHP 5.3/4.7	2,8
	RHP 6.1/5.8	3,9

Performance

Filter M5, rotary heat exchanger L,
heat pump system and electric air heater.



Accessories

Closing damper		AGUJ-M-250+LM24
Silencer	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M

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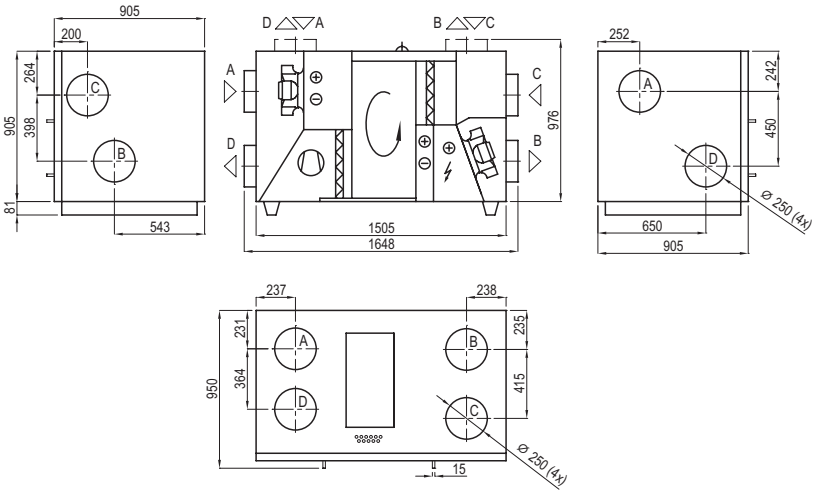

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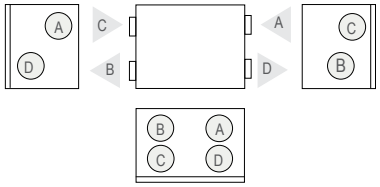
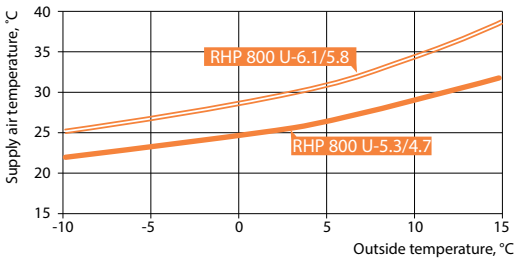


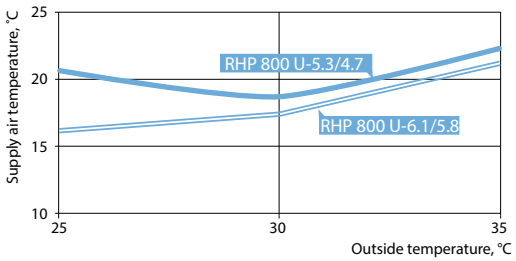
A outdoor intake
B supply air
C extract indoor
D exhaust air

Heating mode



Application: 20 °C, RH 45% indoor.

Cooling mode



Application: 24°C, RH 55 % indoor
Total (heating and cooling) – rotary heat recovery + heat pump.

Heat pump parameters

	RHP 800 U-5.3/4.7					RHP 800 U-6.1/5.8				
	Heating			Cooling		Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27	7	2	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45	86	84	74	40	45
Indoor air temperature, °C	20	20	20	27	21	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50	50	50	45	40	50
Supply air temperature, °C	27,9	26,2	22,9	19,7	14,0	31,1	29	25,5	18,9	13,0
Heat pump heating/cooling power, kW	2,63	2,36	1,83	2,84	2,64	3,49	3,12	2,53	3,53	3,32
Heat pump heating/cooling power consumption, kW	0,49	0,47	0,44	0,67	0,57	0,77	0,73	0,66	1,04	0,88
Power, recovered by rotary heat exchanger, kW	3,14	4,99	7,99	1,89	1,40	3,14	4,99	7,99	1,89	1,40
COP/EER	5,34	4,98	4,16	4,23	4,66	4,52	4,29	3,83	3,41	3,79

KK-18-03

RHP 1300 U

Nominal air flow, m³/h	1200
Panel thickness, mm	50
Unit weight, kg	260
Supply voltage, V	3~400
Maximal operating current, A	18,2 (RHP 8.1/6.6)
Maximal operating current, A	20,5 (RHP 9.2/7.6)
Filters dimensions B×H×L, mm	750×400×46-M5
Electric power input of the fan drive at maximum flow rate, W	253
Electric air heater capacity, kW / Δt, °C	2 / 4,6
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate

Supply inlet	64
Supply outlet	78
Exhaust inlet	64
Exhaust outlet	76
Casing	56

A-weighted sound pressure level L_{PA}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	45

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	14,5	15,8	16,7	17,5	18,3	22,5	23,3	24,2

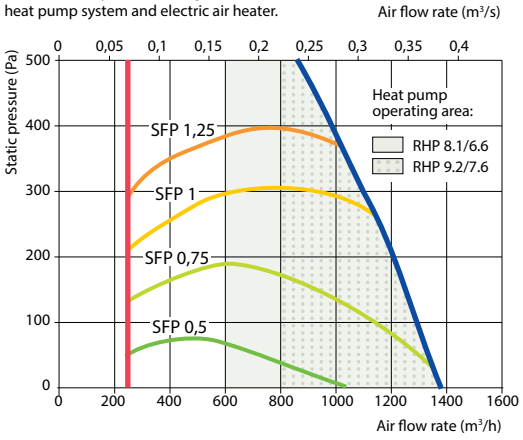
* indoor +22°C, 20 % RH

Compressor and AHU data

Refrigerant, kg	R134 A	3,1
Compressor heating capacity, kW	RHP 8.1/6.6	3,9
	RHP 9.2/7.6	5,1

Performance

Filter M5, rotary heat exchanger L, heat pump system and electric air heater.



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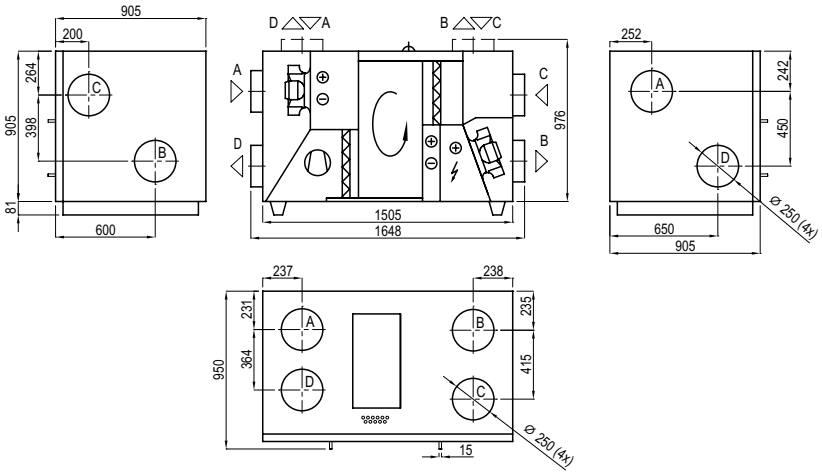

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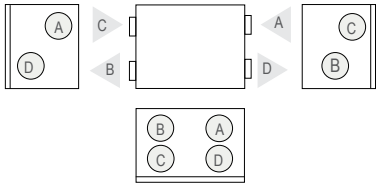
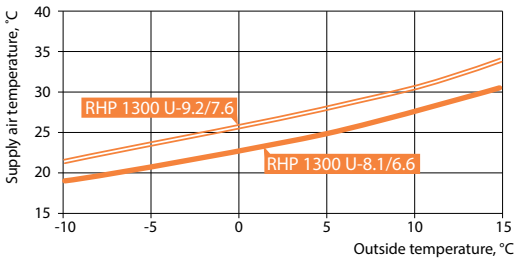


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories

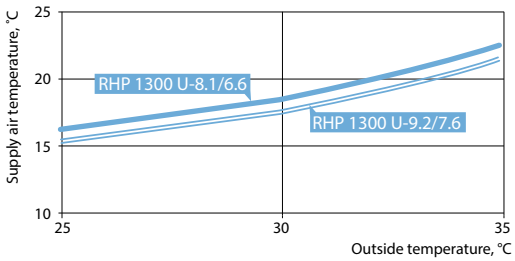
Closing damper		AGUJ-M-250+LM24
Silencer	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M

Heating mode



Application: 20°C, RH 45% indoor.

Cooling mode



Application: 24°C, RH 55% indoor
Total (heating and cooling) – rotary heat recovery + heat pump.

Heat pump parameters

	RHP 1300 U-8.1/6.6					RHP 1300 U-9.2/7.6				
	Heating			Cooling		Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27	7	2	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45	86	84	74	40	45
Indoor air temperature, °C	20	20	20	27	21	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50	50	50	45	40	50
Supply air temperature, °C	27,1	25,3	22,3	20,50	14,70	29,4	27,2	23,9	19,70	13,90
Heat pump heating/cooling power, kW	3,74	3,37	2,72	3,96	3,67	4,66	4,11	3,37	5,09	3,74
Heat pump heating/cooling power consumption, kW	0,73	0,70	0,64	0,96	0,82	1,07	1,01	0,92	1,42	1,21
Power, recovered by rotary heat exchanger, kW	4,41	6,97	11,26	2,76	2,05	4,41	6,97	11,25	2,75	2,05
COP/EER	5,10	4,82	4,24	4,13	4,50	4,37	4,08	3,65	3,5	3,74

RHP 1500 U

Nominal air flow, m³/h	1400
Panel thickness, mm	50
Unit weight, kg	260
Supply voltage, V	3~400
Maximal operating current, A	21,9
Filters dimensions B×H×L, mm	750×400×46-M5
Electric power input of the fan drive at maximum flow rate, W	263
Electric air heater capacity, kW / Δt, °C	2 / 4
Control panel	C5.1
Maintenance space, mm	800

The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at reference flow rate	
Supply inlet	59
Supply outlet	73
Exhaust inlet	60
Exhaust outlet	71
Casing	54

A-weighted sound pressure level L_{PA}, dB(A) 10 m² normally isolated room, distance from casing – 3 m.	
Surroundings	44

Temperature efficiency

	Winter					Summer		
Outside temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger*, °C	14,0	15,4	16,3	17,2	18,1	22,5	23,4	24,3

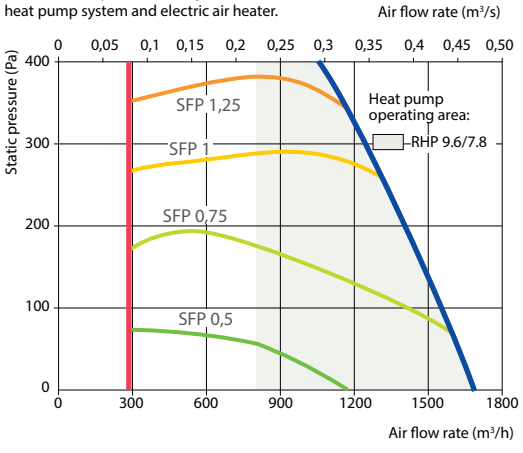
* indoor +22°C, 20 % RH

Compressor and AHU data

Refrigerant, kg	R134A	3,1
Compressor heating capacity, kW	RHP 9.6/7.8	5,1

Performance

Filter M5, rotary heat exchanger L, heat pump system and electric air heater.



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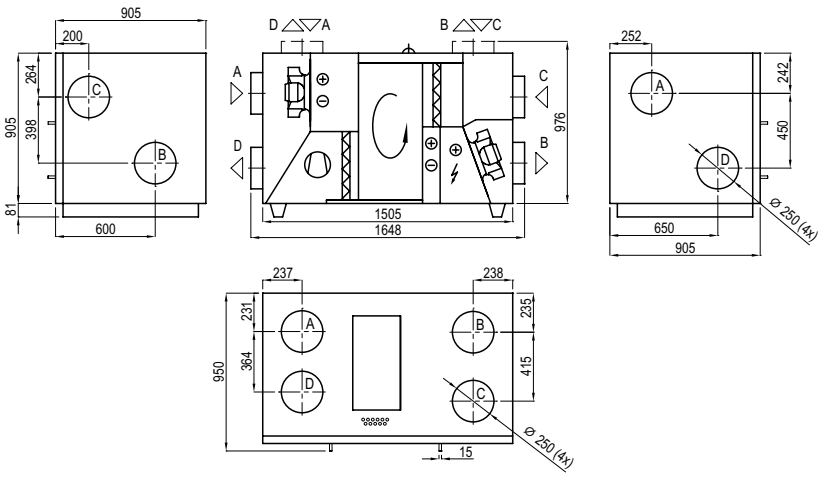

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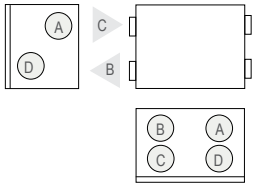
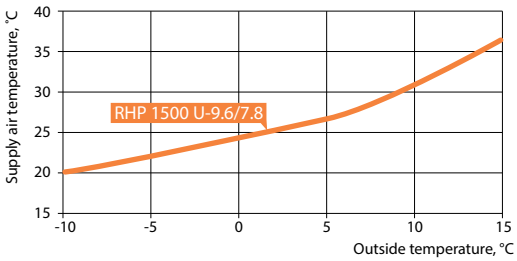


A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories

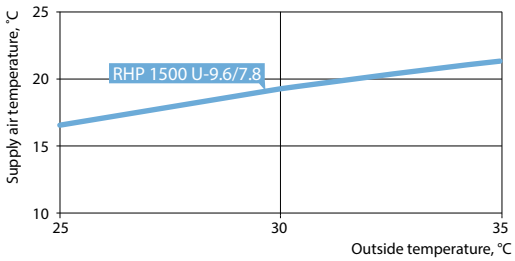
Closing damper		AGUJ-M-250+LM24
Silencer	A/D	AGS-250-100-600-M
	B/C	AGS-250-100-900-M

Heating mode



Application: 20°C, RH 45% indoor.

Cooling mode



Application: 24°C, RH 55% indoor
Total (heating and cooling) – rotary heat recovery + heat pump.

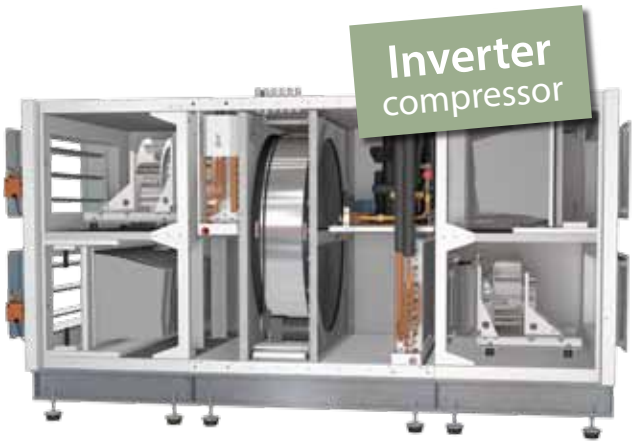
Heat pump parameters

	RHP 1500 U 9.6/7.8				
	Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45
Indoor air temperature, °C	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50
Supply air temperature, °C	27,9	25,8	22,5	20,4	14,5
Heat pump heating/cooling power, kW	4,8	4,23	3,45	5,24	4,72
Heat pump heating/cooling power consumption, kW	1,05	0,99	0,92	1,38	1,18
Power, recovered by rotary heat exchanger, kW	5,07	7,86	12,74	3,17	2,35
COP/EER	4,57	4,27	3,77	3,77	3,99

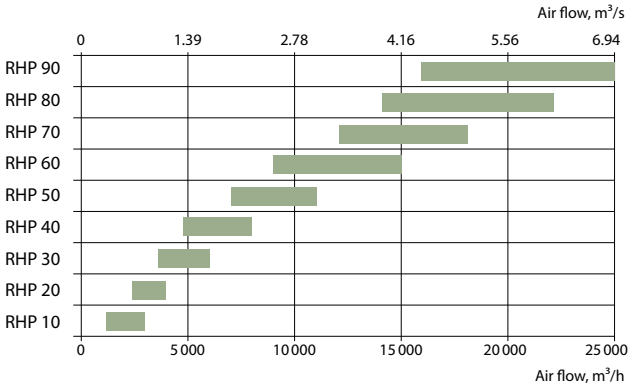
KK-18-03

RHP Pro

Units with a rotary heat exchanger and an integrated heat pump for larger area



Sizes of RHP PRO units



Advantages of RHP Pro units

PLUG & PLAY control system C5
Benefits: real air flow indication; thermal efficiency of the rotary heat exchanger indication; heat exchanger recovery in kW; thermal energy saving factor, SFP factor of the fans and many other important information about functioning of the unit.

Sorption rotary heat exchanger
In RHP units are used sorption rotary regenerators with special 4Å zeolite coating, which because of its hygroscopic selective properties ensures good heat and humidity exchange, so the RHP units maintain an optimum indoor climate with minimal energy consumption.

Inverter compressors
Inverter compressors are used for accurately regulating and maintaining supply air temperature, they are energy-efficient and silent.

PM / EC fan motors
In RHP PRO units are used the most efficient in the market PM (permanent magnet) and EC (electronically commutated) fan motors conforming *Ultra Premium* IE5 or *Super Premium* IE4 efficiency class.

Air filters
All units are equipped with a large surface area air filters with low pressure loss, it saves energy, replacement can be less often.

Electronic expansion valve
For power adjustment of the integrated heat pump are using an electronic EEV (electronic expansion valve), which ensures a stable supply air temperature and allows a wide range of regulation of device performance and heating / cooling capacity.

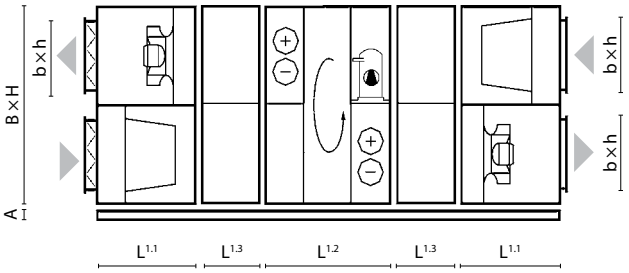
Advantages of the inverter compressors

- More accurate temperature control
- Set temperature is reached faster
- Low starting current
- Longevity
- Lower dimensions and weight
- Lower energy consumption (higher COP and EER)
- Wide working range
- Silent operation

Dimensions

Size	B	H	$L^{1.1}$	$L^{1.2}$	$L^{1.3}$	b	h	A
10	1000	1000	618	900	250	700	300	125
20	1150	1150	751	900	250	900	400	125
30	1300	1300	751	900	250	1000	500	125
40	1500	1520	751	900	250	1200	600	125
50	1700	1715	885	900	250	1400	700	125
60	1900	1920	885	900	250	1600	800	125
70	2100	2100	885	900	250	1800	900	125
80	2300	2420	1250	1500	–	2000	1000	125
90	2610	2650	1400	1500	–	2200	1100	125

Note: the electric air heaters, water heaters and coolers section length and configuration are noted in the selection program of VERSO air handling units.



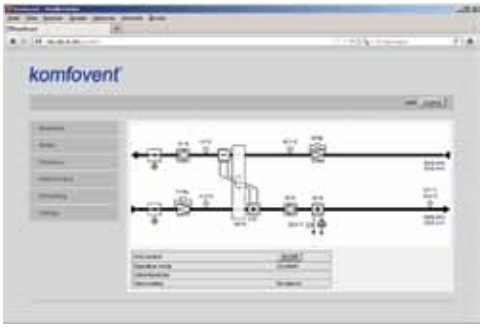
Easy selection

Equipment is selected using an informative and useful software, available to be downloaded to your PC from our website: **www.komfovent.com.**

Technical data sheets present important technical parameters at a specified working point of the selected unit: efficiency, SFP, acoustics and other required data.

Integrated web server

RHP air handling unit operation maybe monitored and controlled via web browser. Implemented Modbus and BACnet protocols allow easy integration of air handling units to any desired Building Management Systems.



Unit's operation analysis

The computer software "Komfovent LogPlotter" has been designed to analyze the unit's operation history of the last 7 days. Unit's operation with C5 can be monitored not only in real-time from now on. The program can be downloaded from **www.komfovent.com.**

KK-18-03

KLASIK

Non residential
ventilation units

Customer oriented and unique energy efficient solutions

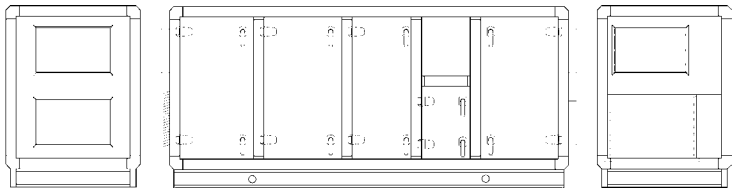
Development of air handling units KLASIK allows to offer the customer reliable and qualitative equipment which technical parameters allow to create not only comfortable conditions of a microclimate in various premise, but also to correspond to modern ecological and energy efficient requirements. Carrying out the monitoring system of quality in conformance to standard ISO 9001, company KOMFOVENT guarantees quality of the manufactured equipment performing and developing production according to all requirements of environment protection standard ISO 14001.

Air handling units KLASIK consist of system of modules which quantity and their functional purpose depends on requirements of the customer and features of the project. Ventilation equipment KLASIK may be offered with heat recovery or just as air supply or exhaust equipment. From the constructional point of view and depending on customer needs units may be monoblock (consisting of one common section in one level) and modular (consisting of several sections or modules). Air handling units are available in 14 sizes with airflows ranging from 1 000 m³/h to 90 000 m³/h (0,3 m³/s to 25 m³/s). Unit of bigger capacity (90 000 m³/h and more) are also available and can be selected according to individual inquiries. All units are designed and made according LST, EN (EN 13053, EN 13779, EN 1886), VDI (VDI 6022, VDI 3803/1), RLT (RLT 01) standards.
KLASIK selection software is approved by Eurovent.

Unit types

Type Klasik R

Air handling units with a rotary heat exchanger.
Temperature efficiency and economy of energy up to 85 %.



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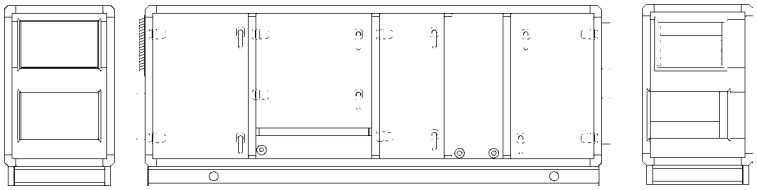
Type Klasik P

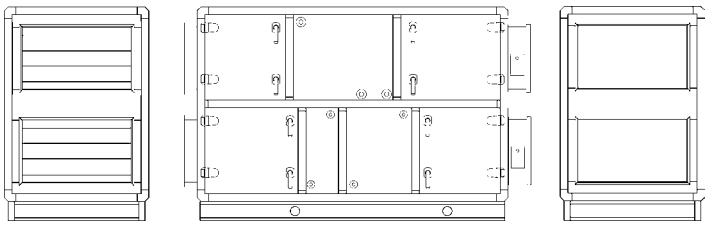
Air handling units with a cross-flow plate heat exchanger.
Temperature efficiency and economy of energy up to 75 % wet.

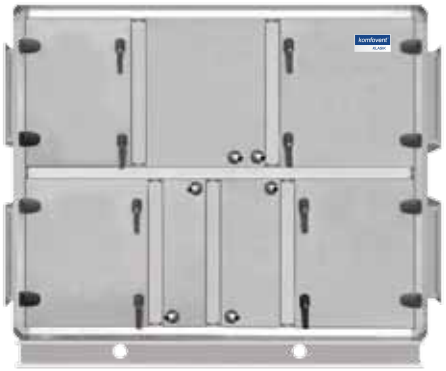


The photo is intended for informational purposes only, exact details may vary.

Type Klasik RA

Air handling units with twin-coil.
Temperature efficiency and economy of energy up to 70 %.





The photo is intended for informational purposes only, exact details may vary.

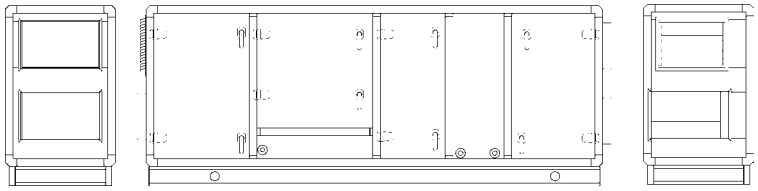
RA – supply/exhaust air handling units with separate air flows.

Advantages:

- Due to totally separate supply and exhaust air flows there is possibility to use the heat of polluted air.
- Supply air and exhaust air units can be mounted separately in different premises.

Type Klasik CF

Air handling units with a counter flow plate heat exchanger. Temperature efficiency and economy of energy up to 92 % in wet conditions and up to 88 % in dry conditions.



The photo is intended for informational purposes only, exact details may vary.

Type Klasik S Hg, RA Hg

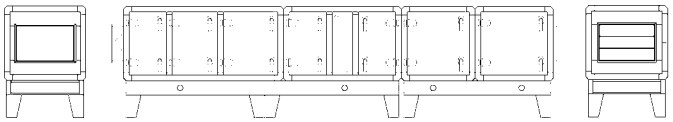
Ventilation equipment of hygienic purpose and clean premises ventilation.

Due to exploitation purposes very high hygienic requirements are applied to air handling units of S Hg, RA Hg type.

Internal surfaces of units S Hg, RA Hg are smooth, without protrusive elements and roughness to avoid and protect from accumulation of impurities and activators of illnesses.

All connections are additionally sealed by dustproof sealant. The bottom of equipment (and in case of need – all internal walls) is produced from stainless steel that allows washing and cleaning of internal surfaces with disinfectants.

Units can be made according VDI and non extended RLT requirements.



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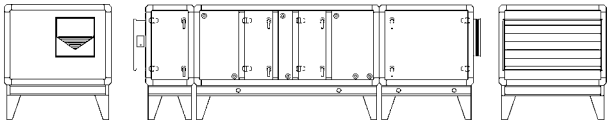
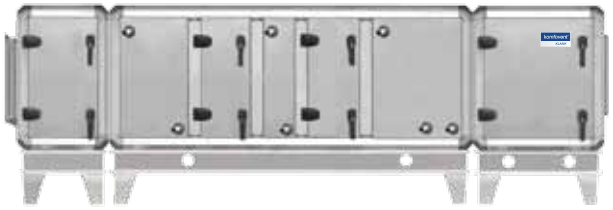
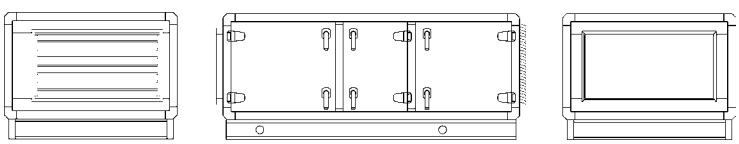




Type Klasik S

Supply or exhaust air handling unit without heat recovery.



The photo is intended for informational purposes only, exact details may vary.

Casing

Standart
Air handling units of KLASIK series characterize in reliable and stable design. Casing frameworks are made of aluminium profiles and solid cast aluminium corner pieces.
Covering panels are 50 mm thickness, made from double-skin galvanized or stainless sheet steel with 45 mm mineral wool sandwiched between sheet steel.
Casing classification in conformance to standard EN 1886: leakage L2; thermal transmittance T3; thermal bridging factor TB4.

Standart TB
Casing frameworks are made of aluminium profiles and solid cast aluminium corner with thermal break system.

Covering panels are made from double-skin galvanized or stainless sheet. The panels are 60 mm thickness: 50 mm mineral wool are used for thermal and sound insulation and 10 mm of polyurethane foam.
Casing classification in conformance to standard EN 1886: leakage L2; thermal transmittance T2; thermal bridging factor TB3.
On request, casing can be painted. KLASIK gaskets and sealing are used to ensure perfect casing tightness and sound insulation.
All doors are hinged and equipped with handles which can be locked.
Variable accessories such as adjustable feet, inspection windows, sections lighting, etc. are available on customers' request.

Filters

KLASIK units pocket synthetic or fiberglass filters with a class of a filtration from G4 up to F9 are used.
Filters have big filtration surface what results in longer terms of exploitation.
Filters are fastened by clamping mechanism which secures tightness and simplifies filter replacement procedure.

Air dampers

Closing air dampers installed in the air handling units are produced from aluminium, or galvanized steel blades with rubber sealing.

Heat Exchanger

KLASIK air handling units can be supplied with:

Rotary heat exchanger
Temperature efficiency – up to 85 %. Depending on required temperature efficiency η (%), the height of a wave of a rotor can be made from 1,4 mm up to 1,7 mm.

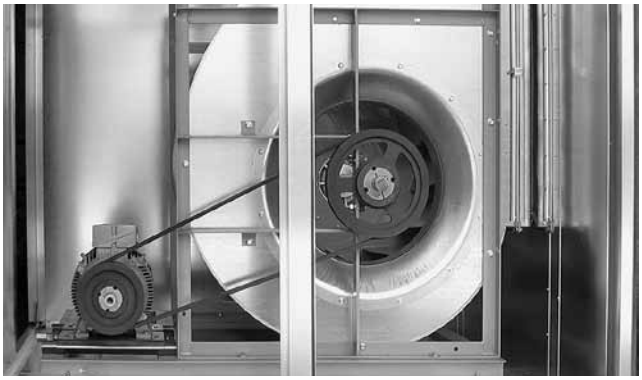
Rotors may be offered of four types:
- aluminium;
- aluminium with a hygroscopic covering;
- aluminium with an epoxy paint covering on embossed rotor edges;
- aluminium with deep epoxy coating "Blygold" technology.

The drive of a rotor is supplied with the frequency converter, allowing supporting an optimum heat exchanger operating mode, smoothly changing speed of rotation of a rotor.
Rotary heat exchanger can be equipped with purge sector on customers' request.

Counter flow plate heat exchanger
Used in Klasik CF series units.
Temperature efficiency factor – up to 92 % in wet conditions and up to 88 % in dry conditions.
The plate heat exchanger is equipped with automatic by-pass. Aluminium plates are made of an aluminium alloy resistant to sea water.

Plate heat exchanger
Temperature efficiency – up to 70% wet.
Heat exchanger is tight, both air flows are separate, use of heat of polluted air is possible. Plate heat exchangers with aluminium lamellas are used in KLASIK units.
There is a built – in bypass with damper for heat recovery regulation and exchanger frost protection.
Each unit with plate heat exchanger is equipped with stainless steel sloping drain tray and water trap.

Run around heat exchanger
Temperature efficiency – up to 70%.
In such system warming up the air exchanger is placed in the supply air and the cooling one – in the exhaust air. Exchangers are connected with pipes and in this contour water and glycol solution is circulating.
Air handling units with such heat recovery are used in cases when air streams must be absolutely separated or when on design features or other requirements unit must be installed on different floors. Heat exchangers are made of copper pipes with aluminium fins.



Fans

Fans statically and dynamically are balanced according to standard ISO 1940, correspond to class G2,5/6,3 (at the maximal rotations).
Thus, even at the maximum rotation of the fan, vibration is minimal and meets modern requirements to ventilating equipment.
Depending on air volume and required static pressure, several types of fans are used in equipment.

Plug fans with EC/PM motor

Highly efficient in all operating areas, EC motors are available in all types of KLASIK units and correspond to the IE4 premium efficiency level. High efficiency is determined by low energy consumption, high efficiency factor and the best values of the SFP factor. By using EC fans in Klasik units the following advantages are achieved:

- extremely high efficiency up to 94 %;
- valuable energy saving up to 30 % comparing with AC in some applications;
- integrated motor controller, no need for a frequency converter;
- very smooth and silent operation;
- long-life;
- compact construction.

PM type motors correspond to the *Ultra Premium* Efficiency Class IE5 and ensure high efficiency in a wide operation range with reliable performance, durability, relatively low cost and electrical stability. Their operation is extremely smooth and silent, ensuring the highest efficiency, energy saving and accuracy in operation.

Plug fans with AC motor

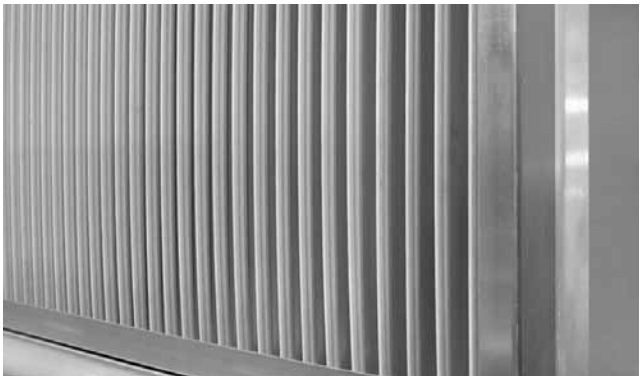
Main advantages:

- high efficiency,
- smoothly adjustable productivity,
- good acoustic characteristics,
- durability.

The laminar stream after the fan wheel allows to lower losses of pressure in a system; there is an opportunity to connect the device for measurement of a stream of air. The fan is connected to the casing by frame with vibroizolators. AC three-phase fan's motor (400 V, 50 Hz) are controlled by frequency converters.
Class of safety IP55 on IEC 34-5, windings of motors has isolation of a category "F".
Working temperature up to 40°C.

Belt driven radial double suction fans

Fans with backward – curved fans' blades insure KLASIK stability of work, provide a high pressure, and their efficiency reaches 85 %.
Fans with forward-curved blades operate on low speed, are quiet, the efficiency reaches 70 %.
Fans are delivered with the one-speed motors controlled by frequency converters.



Air Heaters

Hot water air heaters
In standard version normally used air heaters with aluminium lamellae (spacing 3 or 4 mm) and copper pipes.
Heater can be equipped with thread joint to connect freezing sensor.
Maximum operating pressure – 21 bar.
Maximum water temperature +130°C.
Heated air temperature up to +40°C.

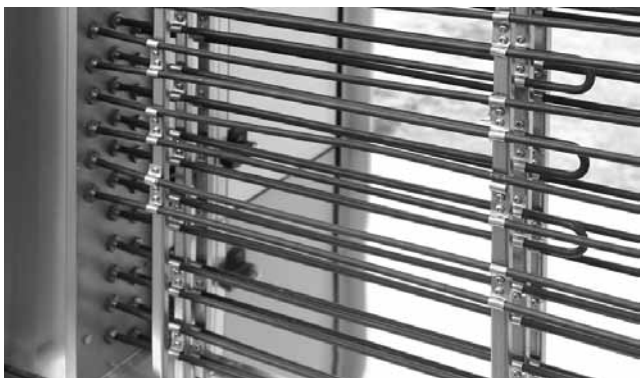
Electric air heaters
Three-phase (400 V/50 Hz) stainless steel heating elements are used in production.
Two level protection ensures protection from overheating.
Protection class IP54 in accordance with IEC 34-5.
Heated air temperature up to +40°C.

Coolers and Humidifiers

Water Air Coolers
Normally used with aluminium lamellae (spacing 2,5 or 3 mm) and copper pipes.
Maximum operating pressure – 21 bar.
Air cooler section assembled with stainless steel sloping drain tray and water trap manifold pipes are covered with a condensation-proof material.

Direct Evaporation Air Coolers
Normally used with aluminium lamellae (spacing 2,5 or 3 mm) and copper pipes.
Maximum operating pressure – 42 bar.
Air cooler section assembled with stainless steel sloping drain tray and water trap manifold pipes are covered with a condensation-proof material. Power of direct evaporation air cooler can be divided into stages. It is necessary to indicate this upon order.

Humidifiers
Low pressure steam humidifiers or atomizing humidifiers can be offer with equipment.



Atomizing humidifier

Sound attenuator section

Integrated sound attenuators or separated sound attenuators maybe offered with air handling units. High performance sound attenuators as well as ventilation unit ensures high sound attenuating level and are completely insulated casing. Inside the section, a wall sound attenuator is mounted. Its elements can be removed easily through the door without using tools. The elements should be removed one by one, not as a whole block, thus providing easy dry or semi-moist cleaning for the purpose of sanitation of the ventilation system. The elements of the sound attenuator are filled with acoustic silicate cotton used for an air channel. The silicate cotton is covered with a fibreglass mat preventing cotton particles from getting into an air channel when the airflow is running at high speed. The fibreglass mat is maximally resistant to the appearance of dust inside the air channel. Sound attenuators are available with two types of cotton: silicate cotton and polyester cotton (Dacron) with a fibre mat and polypropylene fibre covering.

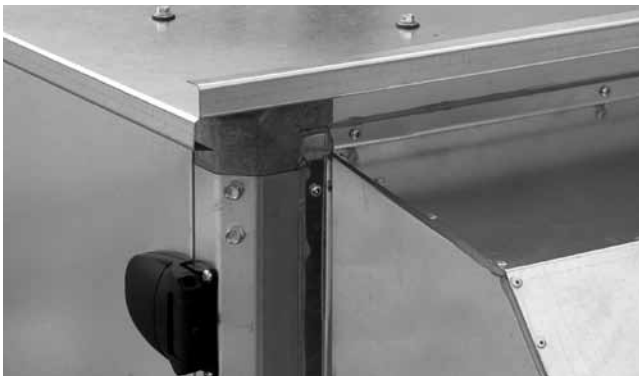
Additional accessories

KLASIK air handling units can be outdoor type.
For such outdoor performance there is complete set enclosed consisting of:

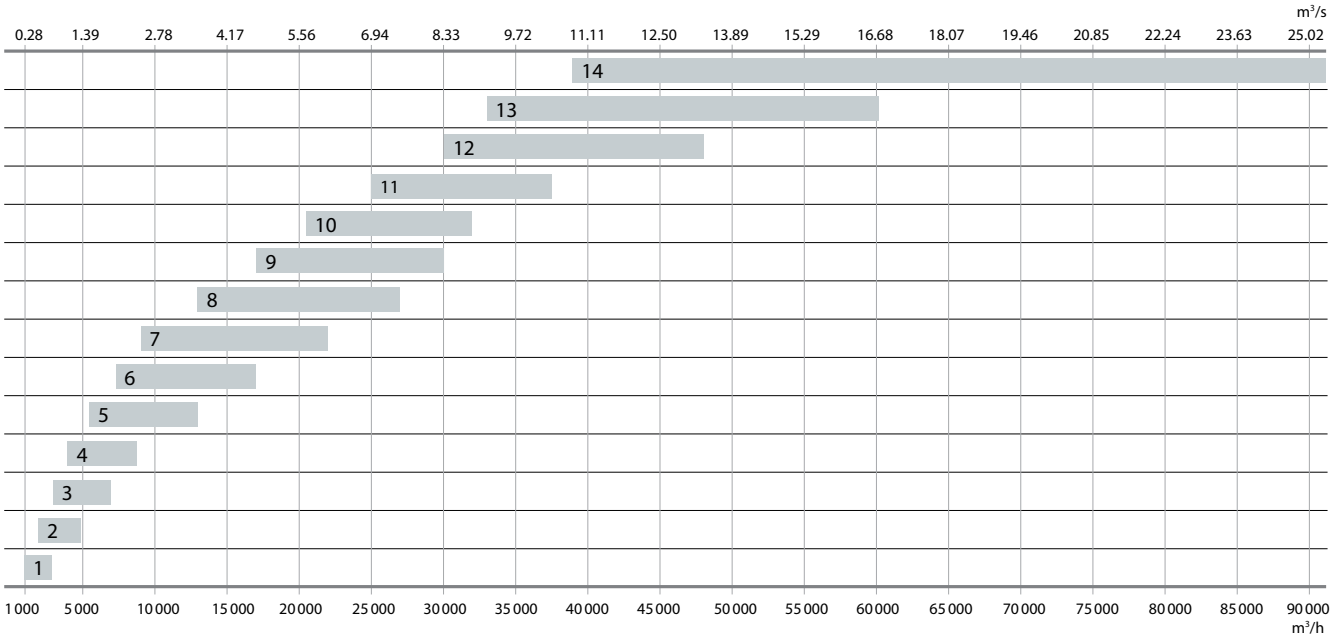
- a protective roof,
- intake and exhaust air hoods,
- external grilles.

Also such additional elements are available:

- inspection window,
- sections lighting.

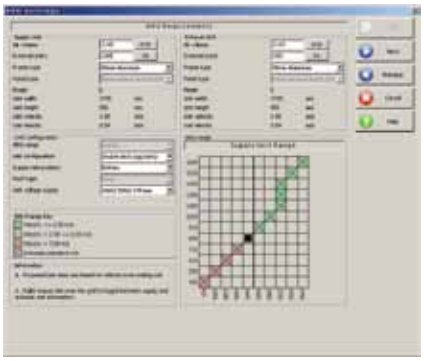


Air flow



For each air handling unit the individual automation control system can be offered. Automatics of air handling units can be mounted in separate control boxes or integrated inside unit. Depending on a degree of complexity of ventilating system and required control functions producer equips control system with controllers KOMFOVENT C5.

For the most perfect control and management of equipment KOMFOVENT engineers have developed a computer control system for one as well as the whole complex of units controlling. More specific information about a specific unit can be obtained using KLASIK air handling unit operating program.



Accessories for DOMEKT, VERSO Standard, RHP units

Supply and exhaust filters

99,9 % (in amount) of particulates in the outdoor air are smaller than 1 µm. By mass the mentioned particulates account for only 30 % of all airborne dust. Thus, if the outdoor air is supplied to the public and dwelling houses, to ensure air purity required by hygienic standards, filters of M5-F7 class are enough. M5 class filters are used for filtering the exhaust air in air handling units. Air filtering protects air handling equipment against pollution, extends its service life. Therefore dirty filters should be replaced on a timely basis to assure comfortable conditions in the premises and protection of air handling units against breakage. A light on the control panel indicates the filter clogging. Usually air filters should be replaced not less than twice per year: after the end of the heating season and in autumn.

Types of filters

M5 (standard filter) or F7 (optional) class filters for supply air filter. Very compact, but are distinguished by extra large filtering surface. Large filtering surface provides long-life performance and low pressure losses (low pressure losses reduce power consumption). Ecologically clean materials allow just burning clogged air filters. Bag filters are used in bigger size units: M5 (or F7) classes for supply and for exhaust air.

The newest filters 'classification according to ISO 16890

According to the newly launched test standard ISO 16890 a completely new approach for filters' classification system is adopted. It gives better and more meaningful results, where the biggest benefit of it has the end user of filters.

Comparison of previous standard EN779 with the newest ISO 16890 rated filters classes

To facilitate an indicative explanation about the meaning of the ISO 16890 classification, European engineering organizations define approximate limits regarding filtration efficiency, which should reach well-known G3/G4, M5, F7 or F9 class filters, in accordance with the new ISO standard: for example, the Association of German Engineers VDI defines:

G3/G4	ISO Coarse ≥ 50%
M5	ISO ePM_{10} ≥ 50%
F7	ISO $ePM_{2,5}$ ≥ 65% or ePM_1 ≥ 50%
F9	ISO ePM_1 ≥ 80%

New standard classifies filters according particulate matter classes PM_1, PM_2, PM_{10}, the particulate matter (PM) is also used by World Health Organization (WHO) and Environmental Agencies to describe the pollution in certain areas. According this information filters user will be able to choose the filter class according pollution in their living area. Below in table are shown all four filter groups:

Group designation	Requirement			Class reporting value
	$ePM_{1,min}$	$ePM_{2,5,min}$	ePM_{10}	
ISO Coarse	–	–	<50%	Initial grav. arrestance*
ISO ePM_{10}	–	–	≥50%	ePM_{10}
ISO $ePM_{2,5}$	–	≥50%	–	$ePM_{2,5}$
ISO ePM_1	≥50%	–	–	ePM_1

Source: ISO 16890-1:2016 Air filters for general ventilation. *Part 1: Technical specifications, requirements and classification system based upon particulate matter efficiency (ePM).*

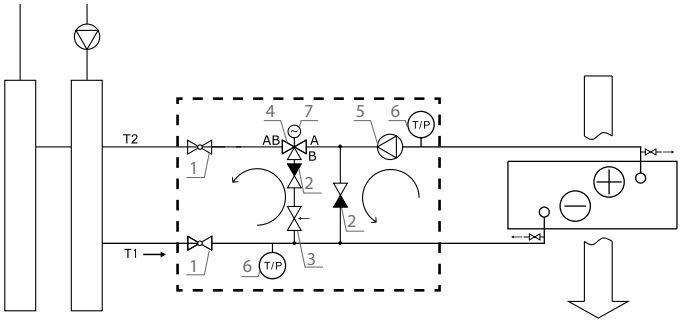
* Initial gravimetric arrestance – ratio of the mass of a standard test dust retained by the filter to the mass of dust fed after the first loading cycle in a filter test

For example:

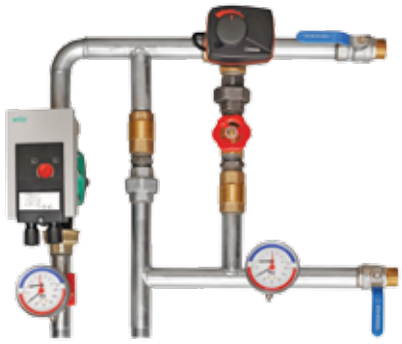
$ePM_{2,5}$ 65% – means that filter minimum efficiency in $ePM_{2,5}$ groups was above 50 % and average efficiency is between 65–69% (values are rounded downwards to the nearest multiple of 5% points).

Pipework package

Pipework Package Units (PPU) are used for water heater power regulation, i.e. for temperature control of supplied air by mixing hot water from boiler with recycled water in heat exchanger. Fully assembled pipework package is available to each size of the air handing unit where hot water heater is used.



1. Stop valve
2. Return valve
3. Throttling valve
4. Control valve
5. Circulation pump
6. Manometer/ Thermometer
7. Actuator



Unit size	Pipework Package
R 200 V R 250 F R 300 V R 400 V/H R 450 V	PPU-HW-3R-15-0,4-W1
R 400 F R 500 V/H R 600 H R 700 V/H/F R 1000 V/H	PPU-HW-3R-15-0,63-W1
R 1300 V/H/F R 2000 F	PPU-HW-3R-15-1-W2
R 1500 V/H R 1700 V/H	PPU-HW-3R-15-1,6-W2

Unit size	Pipework Package
R 2000 V/H R 2500 H R 3000 V/H	PPU-HW-3R-15-2,5-W2
R 3000 F R 5000 H R 7000 H	PPU-HW-3R-20-4,0-W2
R 4000 V/H	PPU-HW-3R-25-6,3-W2
CF 250 F CF 400 V CF 500 F CF 700 V	PPU-HW-3R-15-0,4-W1*
CF 700 H/F CF 1000 V/H	PPU-HW-3R-15-0,63-W1*

Unit size	Pipework Package
CF 1000 F CF 1300 V/H/F CF 1500 F CF 2500 F	PPU-HW-3R-15-1-W2*
CF 1700 V/H CF 2300 V/H	PPU-HW-3R-15-1,6-W2*
CF 3500 V/H	PPU-HW-3R-15-2,5-W2*
S 800 F	PPU-HW-3R-15-1,6-W2
S 1000 F	PPU-HW-3R-20-4,0-W2
S 1300 F S 2100 F	PPU-HW-3R-15-2,5-W2
S 3000 F	PPU-HW-3R-25-6,3-W2

* For outdoor temperature -4°C

Motorized closing dampers

To protect air handling units from freezing or other external factors motorized closing dampers must be used. They are mounted on supply and exhaust vents. There is dampers control possibility in automatic control system.

Unit size	Damper
R 200 V	AGUJ-M-125
R 250 F R 300 V R 400 V/H R 450 V	AGUJ-M-160
R 400 F R 600 H	AGUJ-M-200
R 500 V/H R 700 V/H/F	AGUJ-M-250
R 1000 U/V/H R 1300 U/V/H/F R 1500 U/V/H	AGUJ-M-315
R 2000 F	AGUJ-M-355
R 1700 UH/H R 2000 UH/H	SRU-M-300×400
R 1700 UV/V R 2000 UV/V	SRU-M-400×300
R 2500 H	SRU-M-700×300
R 3000 UH/H R 4000 UH/H	SRU-M-400×500
R 3000 UV/V/F R 4000 UV/V	SRU-M-500×400

Unit size	Damper
R 5000 H	SRU-M-1000×500
R 7000 H	SRU-M-1200×600
RHP 400 V	AGUJ-M-160
RHP 600 U	AGUJ-M-200
RHP 800 U RHP 1300 U RHP 1500 U	AGUJ-M-250
CF 250 V	AGUJ-M-125
CF 250 F CF 400 V	AGUJ-M-160
CF 500 F CF 700 V	AGUJ-M-200
CF 700 H/F	AGUJ-M-250
CF 1000 U/H/V/F CF 1300 U/H/V/F CF 1500 F CF 1700 U/H/V	AGUJ-M-315
CF 2300 UH/H	SRU-M-300×400
CF 2300 UV/V	SRU-M-400×300
CF 2500 F	SRU-M-700×300
CF 3500 UH/H	SRU-M-400×500

Unit size	Damper
CF 3500 UV/V	SRU-M-500×400
S 650 F	AGUJ-M-160
S 800 F	AGUJ-M-200
S 1000 F	AGUJ-M-250
S 1300 F	AGUJ-M-250
S 2100 F	SRU-M-700x250
S 3000 F	SRU-M-600×400

Control system	Actuator ON/OFF	
Komfovent C4, C6	LF230	LM230
Komfovent C5	LF24	LM24

Note:
LF damper actuator is with spring-return
LM damper actuator is without spring-return

Silencers

To ensure the normal noise level in the system and premises, silencers are used. There are circular and rectangular silencers of standard dimensions. Appropriate silencer can be selected using the online selection program, which can be found on **www.komfovent.com**.

Unit size		Silencer type
R 200 V	A/D	AGS-125-50-600-M
	B/C	AGS-125-50-900-M
R 250 F R 300 V R 400 H/V R 450 V RHP 400 V	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M
R 400 F R 600 H RHP 600 U	A/D	AGS-200-50-600-M
	B/C	AGS-200-50-900-M
R 500 H/V R 700 H/V/F RHP 800 U	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M
R 1000 UH R 1300 UH R 1300 F R 1500 UH	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
R 1700 UH	A/D	STS-IVR3BA-600-300-700-S
	B/C	STS-IVR3BA-600-300-1250-S
R 2000 F	A/D	AGS-355-100-900-M
	B/C	AGS-355-100-1200-M
R 2000 UH R 3000 F	A/D	STS-IVR3BA-600-400-700-S
	B/C	STS-IVR3BA-600-400-1250-S
R 2500 H	A/D	STS-IVR3BA-800-300-700-S
	B/C	STS-IVR3BA-800-300-1250-S
R 3000 UH	A/D	STS-IVR3BA-600-500-700-S
	B/C	STS-IVR3BA-600-500-1250-S
R 4000 UH	A/D	STS-IVR3BA-800-500-700-S
	B/C	STS-IVR3BA-800-500-1250-S
R 5000 H	A/D	STS-IVR3BA-1000-500-700-S
	B/C	STS-IVR3BA-1000-500-1250-S
R 7000 H	A/D	STS-IVR3BA-1200-600-700-S
	B/C	STS-IVR3BA-1200-600-1250-S
CF 250 V	A/D	AGS-125-50-600-M
	B/C	AGS-125-50-900-M

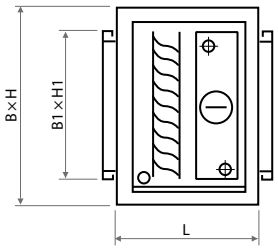
Unit size		Silencer type
CF 250 F CF 400 V	A/D	AGS-160-50-600-M
	B/C	AGS-160-50-900-M
CF 500 F CF 700 V	A/D	AGS-200-50-600-M
	B/C	AGS-200-50-900-M
CF 700 H/F RHP 1300 U RHP 1500 U	A/D	AGS-250-50-600-M
	B/C	AGS-250-50-900-M
CF 1000 V/H/F CF 1300 V/H/F CF 1500 F CF 1700 V/H	A/D	AGS-315-100-900-M
	B/C	AGS-315-100-1200-M
CF 2300 V/H	A/D	STS-IVR3BA-600-400-700-S
	B/C	STS-IVR3BA-600-400-1250-S
CF 2500 F	A/D	STS-IVR3BA-800-300-700-S
	B/C	STS-IVR3BA-800-300-1250-S
CF 3500 V/H	A/D	STS-IVR3BA-800-500-700-S
	B/C	STS-IVR3BA-800-500-1250-S
S 650 F	A	AGS-160-50-600-M
	B	AGS-160-50-900-M
S 800 F	A	AGS-200-50-600-M
	B	AGS-200-50-900-M
S 1000 F S 1300 F	A	AGS-250-50-600-M
	B	AGS-250-50-900-M
S 2100 F	A	STS-IVR3BA-800-250-700-S
	B	STS-IVR3BA-800-250-1250-S
S 3000 F	A	STS-IVR3BA-600-400-700-S
	B	STS-IVR3BA-600-400-1250-S

AGS-d-h-L
d – connecting diameter
h – insulation's thickness
L – silencer's length

A outdoor intake
B supply air
C extract indoor
D exhaust air

Water and direct evaporation air coolers

Air cooler is mounted on the outside of the unit.
Casing of the cooler section corresponds to the unit's casing: galvanized steel sheets with internal mineral wool insulation of 45 mm thickness. Cooler section is assembled with a drop separator and a drain tray. Cooler control function is provided in the automatic control system of the unit.
Internal fluid – R410A, water 7/12 °C.
Air temperature in/out – 30 / 18 °C.



Unit size	Supply air volume, m³/h	Cooler's type	Capacity, kW	Air pressure drop*, Pa	Fluid pressure loss, kPa	B×H×L, mm	B1×H1, mm	Tubes connections, "/mm	Weight, kg
R 400 CF 400	400	DCF-0,4-3	2,7	16	0,3	600×550×390	300×400	½ / 22	40
		DCW-0,4-3	2,7	34	15,8	505×550×390	300×400	½	33
R 450 R 500 CF 500	500	DCF-0,5-3	3,4	19	0,4	600×550×390	400×300	½ / 22	40
		DCW-0,5-3	3,4	30	29,5	600×550×390	400×300	½	35
R 600 S 650	650	DCF-0,7-5	5,3	53	3,9	705×610×390	500×400	½ / 22	46
		DCW-0,7-5	4,4	27	9,9	705×610×390	500×400	½	42
R 700 CF 700 CF 1000	700	DCF-0,7-5	4,7	22	0,4	705×610×390	500×400	½ / 22	49
		DCW-0,7-5	4,7	29	11,2	705×610×390	500×400	½	42
S 800 S 1000 R 1000 CF 1000	800	DCF-0,9-6	6,1	29	0,7	705×610×390	500×400	½ / 22	49
		DCW-0,9-6	6,0	36	3,7	705×610×390	500×400	¾	45
R 1300	1200	DCF-1,2-8	8,2	41	1,2	705×610×390	500×400	½ / 22	49
		DCW-1,2-8	8,1	60	6,3			¾	45
CF 1300 S 1300 R 1500	1400	DCF-1,4-10	9,5	69	8,5	705×610×390	500×400	½ / 22	51
		DCW-1,4-9	9,4	78	8,3			¾	45
CF 1500 R 1700 CF 1700	1600	DCF-1,6-11	10,8	73	11,8	755×610×420	500×400	½ / 22	56
		DCW-1,6-11	10,7	83	11,2			¾	46
R 2000 S 2100	2000	DCF-2,0-14	13,7	67	22,6	920×610×420	700×400	⅝ / 22	65
		DCW-2,0-14	13,4	78	20,6			¾	57
R 2000 R 2500 CF 2300 CF 2500	2500	DCF-2,5-17	17,1	65	11,7	1080×670×420	800x400	⅝ / 22	79
		DCW-2,5-17	16,9	55	28,3			1	65
R 3000 S 3000	3000	DCF-3,0-20	20,4	90	16,5	1080×670×420	800x400	⅝ / 22	79
		DCW-3,0-20	20,2	102	11			1	69
R 3000 CF 3500	4000	DCF-4,0-27	27,2	92	35,8	1220×730×420	900×500	⅝ / 22	97
		DCW-4,0-27	27	106	17,1			1	82
R 4000 R 5000	4500	DCF-4,5-31	30,6	93	28,4	1220×790×420	900×600	¾ / 22	103
		DCW-4,5-30	30,3	108	31,8			1	87
R 7000	7000	DCF-7,0-48	2×23,8	99	8,2	1500×790×480	1200×600	2×¾ / 2×22	125
		DCW-7,0-47	46,5	138	23,4	1500×790×420		1 ½	105

* with drop eliminator.

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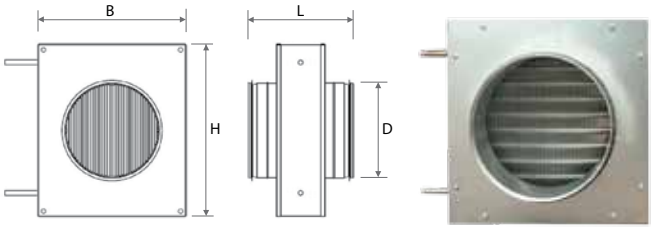
Ducted heater DH and cooler DHCW

For use with DOMEKT and VERSO STANDARD units on supply air duct. Also must be used mixing unit PPU or 2-way valve with modulating actuator. DOMEKT units are prepared for 0...10 V actuator control.
Construction:
• Galvanised steel casing;
• Cu/Al heat exchanger;
• Anti-condensation casing covering and condensate drain (only for DHCW).

Maximal pressure – 10 bar.
Maximal fluid temperature – 100°C.
Maximal air speed – 3 m/s.
Connection – ½".



Supply air volume, m^3/h	Heater's type	Air temper. in/out °C	Internal fluid, water	Capacity, kW	Air pressure drop*, Pa	Fluid pressure loss, kPa	B×H×L, mm	∅D, mm	Weight, kg
450	DH-125	10/22	60/40	1,8	44	0,4	333×293×152	125	6,15
450	DHCW-125	26/18	7/12	1,4	69	5,6	333×333×164	125	11,13
450	DH-160	10/22	60/40	1,8	44	0,4	333×293×152	160	6,15
450	DHCW-160	26/18	7/12	1,4	69	5,6	333×333×164	160	11,13
900	DH-200	10/22	60/40	3,6	101	1,7	358×318×152	200	7,04
900	DHCW-200	26/18	7/12	3,0	153	26,5	363×363×164	200	12,40
900	DH-250	10/22	60/40	3,6	49	2,3	418×378×152	250	9,30
900	DHCW-250	26/18	7/12	3,1	77	37,6	423×423×164	250	15,37
900	DH-315	10/22	60/40	3,6	20	3,4	468×508×152	315	11,75
900	DHCW-315	26/18	7/12	2,8	33	2,2	557×515×164	315	21,60
1600	DH-315	10/22	60/40	6,5	58	9,8	468×508×152	315	11,75
1600	DHCW-315	26/18	7/12	5,2	90	6,8	557×515×164	315	21,60
2000	DH-315M	10/22	60/40	8,1	98	1,3	481×518×132	315	11,75
2000	DHCW-315	26/18	7/12	6,5	133	10,5	557×515×164	315	21,60
2000	DH-355	10/22	60/40	8,1	61	16,7	600×510×152	355	13,34
2000	DHCW-355	26/18	7/12	6,6	55	11,9	605×605×164	355	25,43
2600	SVK-700x400-2R	10/22	60/40	10,5	55	8,7	817×500×100	700×400	12
4200	SVK-800x500-2R	5,4/22	60/40	23,4	81	7,8	923×560×100	800×500	16

* with drop eliminator.

Electric ducted air heater (preheater)

The electric round duct heaters are intended to be used for heating of clean air in the ventilation systems. Also heaters can be used for heating or preheating function with air handling units.
The heaters can be supplied with or without installed electronic controller, with pressure and flow monitoring system. The heater case is made of aluzinc coated metal sheet, with sealing rubber for a tight connection with ventilation ducts system. The stainless steel heating elements are used in the heaters. All heaters are equipped with 2 overheat thermostats. Automatic reset thermostat 60°C is for controlling output air temperature, manual reset thermostat 100°C is for cutoff function in case of overheat. To reset manual reset, a thermostat push button is installed on a heater's cover. Minimum air speed for heaters must be not less than 1,5 m/s. Standard operating range is from -30°C up to 0°C.

Type with integrated controller and flow monitoring	Heating capacity, kW	Voltage, V
EHC-125-1,0-1f SI/FC	1,0	1 ~ 230
EHC-160-1,0-1f SI/FC	1,0	1 ~ 230
EHC-160-1,5-1f SI/FC	1,5	1 ~ 230
EHC-160-2,0-1f SI/FC	2,0	1 ~ 230
EHC-200-1,0-1f SI/FC	1,0	1 ~ 230
EHC-200-1,5-1f SI/FC	1,5	1 ~ 230
EHC-200-2,0-1f SI/FC	2,0	1 ~ 230
EHC-250-1,0-1f SI/FC	1,0	1 ~ 230
EHC-250-1,5-1f SI/FC	1,5	1 ~ 230
EHC-250-2,0-1f SI/FC	2,0	1 ~ 230
EHC-250-3,0-1f SI/FC	3,0	1 ~ 230
EHC-315-2,0-1f SI/FC	2,0	1 ~ 230
EHC-315-3,0-1f SI/FC	3,0	1 ~ 230

Accessories for unit outside installation

Air handling units can be installed outside due to thick casing insulation and easy mounting. Protective optional accessories should be used if unit is for outside installation: roof, base frame, legs, grills, supply and exhaust hoods.

Supply and exhaust hoods

Unit size	Type of hood for supply air	Type of hood for exhaust air
R 1000 H R 1300 H R 1500 H	G-600×430	AHIA-315
R 1700 H R 2000 H	G_755_448_00	G_755_448_10
R 3000 H R 4000 H CF 3500 H	G_540_1115_00	G_540_1115_10
R 5000 H	VERSO-30-34-00.000.2	VERSO-30-34-00.000
R 7000 H	V-40-34-00.000.2	V-40-34-00.000
CF 1000 H CF 1300 H CF 1700 H	G-600×430	AHIA-315
CF 2300 H CF 3500 H	G_355_870_00	G_355_870_10

Standard base frame for air handling units

Unit size	Frame type	Dimensions B×H×L, mm
R 400 H	BF_00_000_465x650	465×138×650
R 500 H	BF_00_000_590x930	590×138×930
R 500 V	BF_00_000_590x1070	590×138×1070
R 600 H	BF_00_000_520x1130	520×138×1130
R 700 H	BF_00_000_590x930	590×138×930
R 700 V	BF_00_000_590x1070	590×138×1070
R 1000 H/V R 1300 H/V R 1500 H/V R 1700 H/V R 2000 H/V	BF_00_000_852x1355	852×138×1355
R 3000 H/V R 4000 H/V	BF_00_000_1100x2100	1100×138×2100
CF 1000 H/V CF 1300 H/V CF 1700 H/V	BF_00_000_852x1810	852×138×1810
CF 2300 H/V	BF_00_000_852x2000	852×138×2000
CF 3500 H/V	BF_00_000_1100x2500	1100×138×2500

Base frame – painted RAL7035, with legs. There is a possibility to screw the adjustable legs with rubber sole. They are assembled and ordered separately.

Kitchen hood

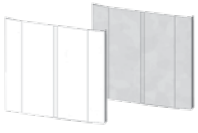
(only for unit Domekt R 200)

- White color painted
- Stainless steel

- White color painted
- The height is only 2,6 cm

Decorative panel

(only for unit Domekt R 200)



- White color painted
- Stainless steel

Air distribution box OSD

(only for unit Domekt R 200 for horizontal connection of ducts)

Type:
OSD-200 VE (100 mm)
OSD2-200 VE (125 mm)

Outdoor grill LD

For supply and exhaust air flows' separation.

Type:
- LD-125
- LD-160
- LD-200

(black or white)

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Remote unit intensity control (OVR)

"OVR" (Eng. "Override" – ignore) function is intended for the remote unit's control with an external accessory device. After this function is activated the current unit's mode becomes omissible and the unit starts working according to the newly set parameters. This function has the highest priority and may operate in every mode, even when the unit is switched off. This function is possible for all units just by connecting one of the sensors listed below.

Type	Parameters
Differential pressure switch DTV500	Pressure range 50 – 500Pa One change-over contact (NO+NC) 250V AC, 1A Protection class IP54
Motion detector PIR180	Detection angle 180° Max. distance 12 m Protection class IP44
Wall mounted temperature sensor RTT	Supply voltage: 24V AC/DC Temperature measuring range 0 – 50°C One change-over contact (NO+NC) 250V AC, 2A Protection class IP30
Wall mounted humidity sensor RTH	Supply voltage: 24V AC/DC Relative humidity measuring range 0 – 100% One change-over contact (NO+NC) 250V AC, 2A Protection class IP30
Duct mounted humidity sensor DTH	Supply voltage: 24V AC/DC Relative humidity measuring range 0 – 100% One change-over contact (NO+NC) 250V AC, 2A Protection class IP54
Wall mounted CO_2 sensor RTC	Supply voltage: 24V AC/DC CO_2 measuring range 0 – 2000 ppm One change-over contact (NO+NC) 250V AC, 2A Protection class IP30
Duct mounted CO_2 sensor DTC	Supply voltage: 24V AC/DC CO_2 measuring range 0 – 2000 ppm One change-over contact (NO+NC) 250V AC, 2A Protection class IP54
Wall mounted air quality sensor RTQ	Supply voltage: 24V AC/DC Air quality measuring range 0 – 2000 ppm One change-over contact (NO+NC) 250V AC, 2A Protection class IP30
Duct mounted air quality sensor DTQ	Supply voltage: 24V AC/DC Air quality measuring range 0 – 2000 ppm One change-over contact (NO+NC) 250V AC, 2A Protection class IP54

Air quality control (AQ)

AQ ventilation intensity control option according to the external sensor signal. Provides ventilation intensity correction, according to the increased CO_2, humidity level, etc. A different AQ function may be set depending on the sensor type, therefore, the intensity of the unit will be regulated accordingly. User can activate this function anytime according to the demand and can also observe the premise's air quality on the panel. This function is possible for all units just by connecting one of the sensors listed below.

Type	Parameters
Wall mounted temperature sensor RST	Supply voltage: 24V AC/DC Temperature measuring range 0 – 50°C Output signal 0...10V DC Protection class IP30
Wall mounted humidity sensor RSH	Supply voltage: 24V AC/DC Relative humidity measuring range 0 – 100% Output signal 0...10V DC Protection class IP30
Duct mounted humidity sensor DSH	Supply voltage: 24V AC/DC Relative humidity measuring range 0 – 100% Output signal 0...10V DC Protection class IP54
Wall mounted CO_2 sensor RSC	Supply voltage: 24V AC/DC CO_2 measuring range 0 – 2000 ppm Output signal 0...10V DC Protection class IP30
Duct mounted CO_2 sensor DSC	Supply voltage: 24V AC/DC CO_2 measuring range 0 – 2000 ppm Output signal 0...10V DC Protection class IP54
Wall mounted air quality sensor RSQ	Supply voltage: 24V AC/DC Air quality measuring range 0 – 2000 ppm Output signal 0...10V DC Protection class IP30
Duct mounted air quality sensor DSQ	Supply voltage: 24V AC/DC Air quality measuring range 0 – 2000 ping Output signal 0...10V DC Protection class IP54

Unit PC control (PING2) for C4 controller

An option to manage and control units by computer, when connected to the PC network or Internet.
Network module PING2 is intended for connection of air handling units KOMFOVENT to the computer network (Ethernet) or another network (RS-485).

Variable air volume control (VAV) (C5 / C6)

Unit supplies and exhausts the air volume correspondingly to the ventilation requirements in different premise. Because of frequently changing ventilation demands such air volume's maintenance mode signally reduces unit's exploitation costs.
VAV function is possible for all units.

Electric wiring of air handling units

When the air handling unit is installed, the user should just connect it to the mains power supply and install one temperature sensor in the supply air duct, and in case of need extend the connecting cable of the control panel. The units with a hot water air heater are provided with extra connecting cables for a heating damper drive, a pump, and an air damper drive. If the air handling unit voltage is ~230 V; 50 Hz it is necessary to install the socket with grounding of corresponding capacity. If the voltage is ~400 V; 50 Hz, the cable of electrical power supply is connected to the main switch, which is located on the unit's outside wall.
The air handling units power supply cable types are specified in the table.

Unit size	Power supply cable
R 200 R 250 R 300 R 400 R 450 R 500 R 600 R 700	3×1,5 mm²
R 1000 E R 1300 E R 1500 E	5×1,5 mm²
R 1700 E R 2000 E R 2500 E R 3000 E	5×2,5 mm²
R 4000 E R 5000 E	5×6 mm²
R 1000 W R 1300 W R 1500 W R 1700 W R 2000 W R 2500 W	3×1,5 mm²
R 3000 W R 4000 W R 5000 W R 7000 W	5×1,5 mm²
RHP 400 RHP 600	3×1,5 mm²
RHP 800 RHP 1300	5×1,5 mm²
RHP 1500	5×2,5 mm²
CF 250 CF 400 CF 500 CF 700	3×1,5 mm²

Unit size	Power supply cable
CF 1000 E CF 1300 E CF 1500 E	5×1,5 mm²
CF 1700 E CF 2300 E	5×2,5 mm²
CF 2500 E	5×4 mm²
CF 1300 W CF 1500 W CF 1700 W CF 2300 W	3×1,5 mm²
CF 3500 W	5×1,5 mm²
S 650 E/3	3×2,5 mm²
S 650 E/6 S 800 E/6	5×1,5 mm²
S 800 E/9 S 1000 E/9 S 1300 E/9	5×2,5 mm²
S 1000 E/15 S 1300 E/15	5×4 mm²
S 2100 E/15	5×6 mm²
S 2100 E/22,5	5×10 mm²
S 800 W S 1000 W S 1300 W S 2100 W	3×1,5 mm²
S 3000 W	5×1,5 mm²

Control panel	Connection cabel for control panel (10 m)
C6.1, C6.2, C5.1, C4.1	4×0,22 mm²

KK-18-03

Unit marking and ordering samples

DOMEKT-R-200-V-L1-F7/M5-C6-L/A

❶ **Series**: DOMEKT
❷ **Type of heat exchanger**: R – rotary; CF – counter flow; S – supply unit
❸ **Unit size**: 200, 250, 300, 400, 450, 500, 600, 650, 700, 800, 1000
❹ **Duct connection**: V – vertical; H – horizontal; F – ceiling
❺ **Inspection side**: R1; R2; L1; L2
❻ **Air filter class**: F7/M5; F7/F7; M5/M5
❼ **Control system**: C6, C4
❽ **Rotary characteristic**: L/A; SL/A; L/AZ; L/AZM; SL/AZM

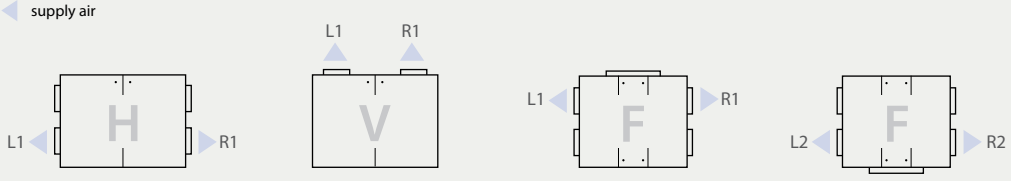
VERSO-R-1300-UH-E-L1-F7/M5-C5.1-SL/A

❶ **Series**: VERSO
❷ **Type of heat exchanger**: R – rotary; CF – counter flow; S – supply unit
❸ **Unit size**: 1000, 1300, 1500, 1700, 2000, 2100, 2300, 2500, 3000, 3500, 4000, 5000, 7000
❹ **Duct connection**: UH – universal/horizontal; UV – universal/vertical; H – horizontal; V – vertical; F – ceiling
❺ **Heater type:** E – electric; W – water; CW – water cooler; DX – freon cooler
❻ **Inspection side**: R1; R2; L1; L2
❼ **Air filter class**: F7/M5; F7/F7; M5/M5
❽ **Control system with panel**: C5.1
❾ **Rotary characteristic**: L/A; SL/A; L/AZ; SL/AZ; L/AZM; SL/AZM

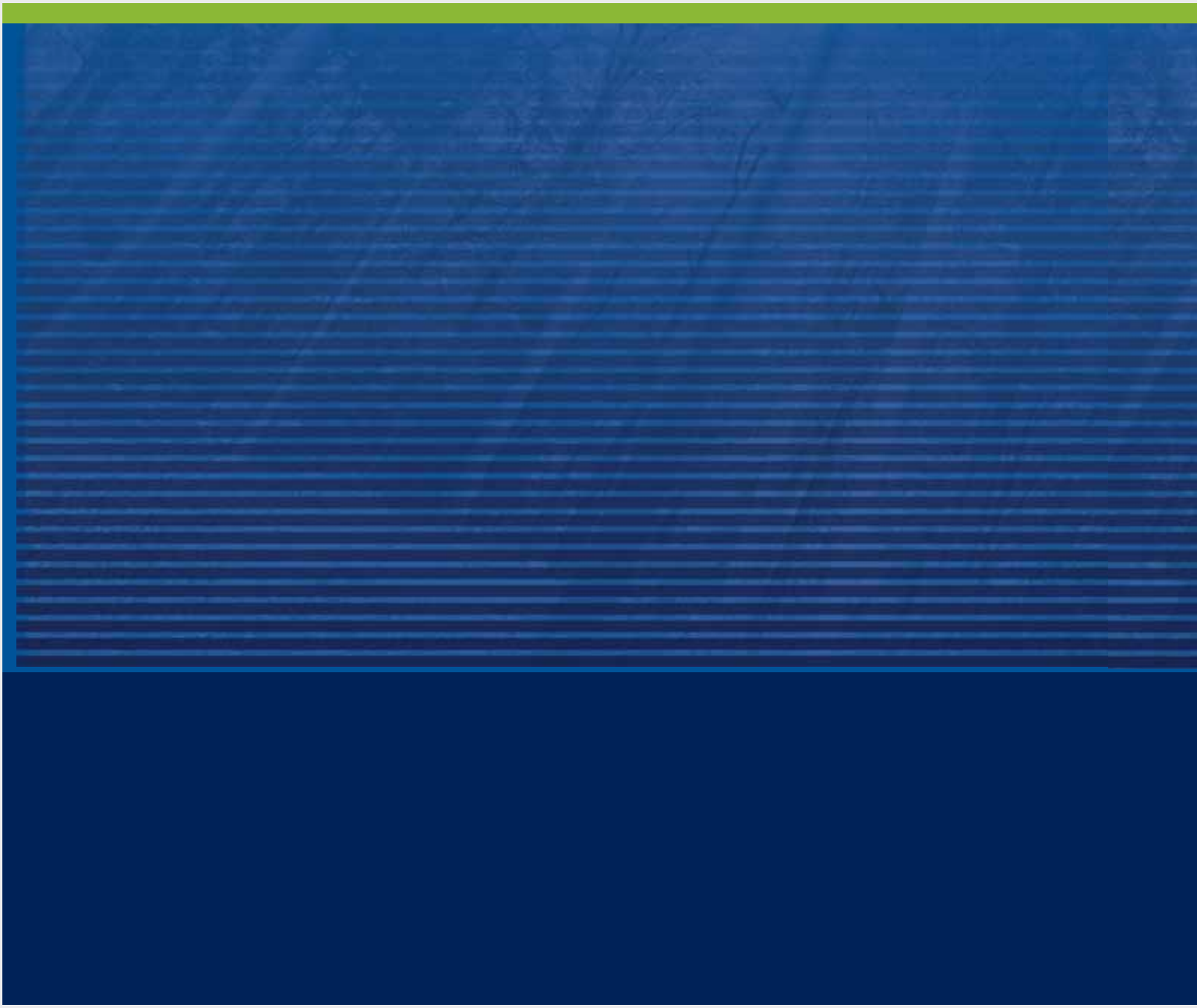
VERSO-RHP-600-3.7/3-UH-L1-F7/M5-C5.1-SL/A

❶ **Series**: VERSO
❷ **Type**: RHP
❸ **Unit size**: 400, 600, 800, 1300, 1500
❹ **Heating / cooling capacity**: 3.7/3
❺ **Duct connection**: UH – universal/horizontal; UV – universal/vertical; V – vertical
❻ **Inspection side**: L1; L2; R1
❼ **Air filter class**: F7/M5; F7/F7; M5/M5
❽ **Control system with panel**: C5.1
❾ **Rotary characteristic**: L/A; XL/A; SL/A

Inspection side:



Inspection side is determined by the supply air direction, looking at the unit from the user's side.



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