VENTUS

COMPACT
2023

VENTUS
COMPACT

SUSPENDED AIR HANDLING UNITS

> with counter-flow heat exchanger (hex)

VVS030s

VVS020s

VVS015s

VVS010s

VVS005s
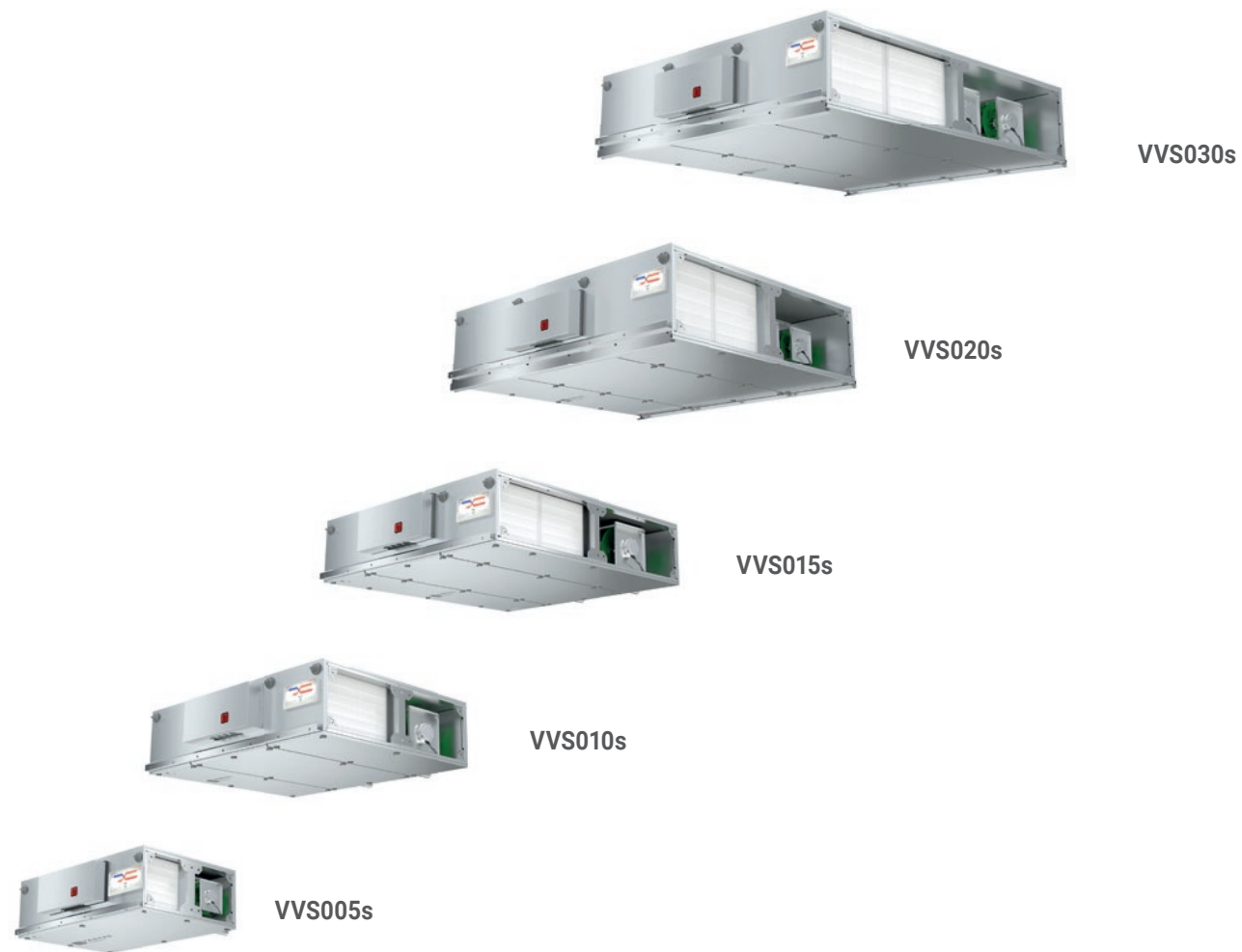
150 m³/h - airflow range - **3300** m³/h

FLOOR MOUNTED AIR HANDLING UNITS

> with rotary heat exchanger
or hex counter-flow heat exchanger

VVS150c

VVS120c

VVS100c

VVS075c

VVS055c

VVS040c

VVS030c

VVS021c

182 cm

840 m³/h - airflow range - **16 500** m³/h

> with rotary heat exchanger
and heat pump

VVS075c

VVS055c

VVS040c

VVS030c

VVS021c

←**1 200** m³/h - airflow range - **7 500** m³/h→

> TOP with counter-flow
heat exchanger (hex)

VVS043c

VVS033c

VVS023c

←**1 250** m³/h - airflow range - **4 000** m³/h→

ADDITIONAL AIR TREATMENT FUNCTIONS

Mini-Pleat air filter	Bag filter	Heater	Cooler	Heater, Cooler	Sound attenuator	Additional empty space

Mini-Pleat air filter	Bag filter	Heater	Cooler	Heater, Cooler	Sound attenuator	Additional empty space

VENTUS COMPACT
SUSPENDED AIR HANDLING UNITS

up to **90%** recovery efficiency

max. 490 mm

MINERAL WOOL INSULATION

HIGHLY EFFICIENT HEX COUNTER-FLOW HEAT RECOVERY

ENERGY SAVING AND SILENT FANS WITH EC MOTORS

PLUG&PLAY PRODUCT

INTEGRATED MULTIFUNCTIONAL CONTROLS

VENTUS COMPACT
FLOOR MOUNTED AIR HANDLING UNITS

up to **90%** recovery efficiency

up to **90%** recovery efficiency

max. 880 mm

max. 2940 mm

VENTUS Compact TOP
with hex counter-flow heat exchanger

VENTUS Compact
with rotary heat exchanger or hex counter-flow heat exchanger

MINERAL WOOL INSULATION

HIGHLY EFFICIENT ROTARY AND HEX COUNTER-FLOW HEAT EXCHANGER

ENERGY SAVING AND SILENT FANS WITH EC MOTORS

PLUG&PLAY PRODUCT

INTEGRATED MULTIFUNCTIONAL CONTROLS

> VENTUS Compact

7 500 m³/h

> Standard Air Handling Units

7 500 m³/h

0,5L

1L
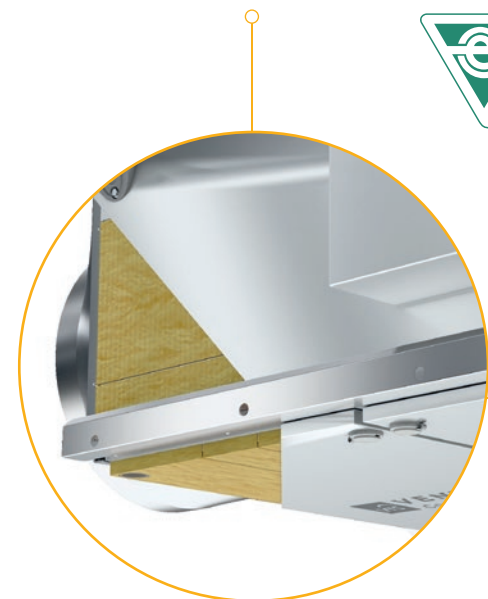
VENTUS COMPACT
SUSPENDED AIR HANDLING UNITS

CASING

» Panels filled with mineral wool, enclosed with steel sheet on both sides.
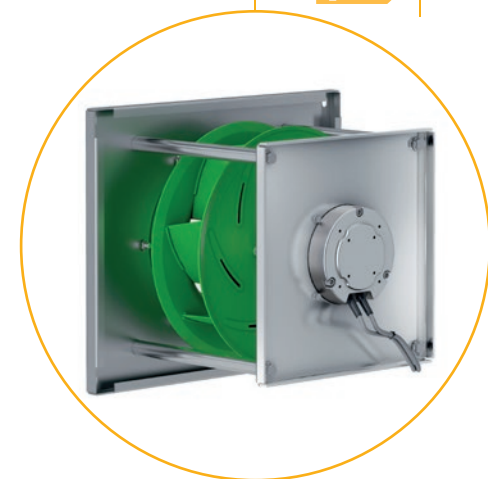» Casing parameters according to EN 1886: T2, TB3, L1, D1, F9.

MINI-PLEAT FILTERS

Air filters with extended high efficiency filtration surface.
» Supply - EU7 (ePM2,5 65%)
» Exhaust - EU5 (ePM10 50%)

EUROVENT CERTIFIED PERFORMANCE
AHU N° 06.06.320
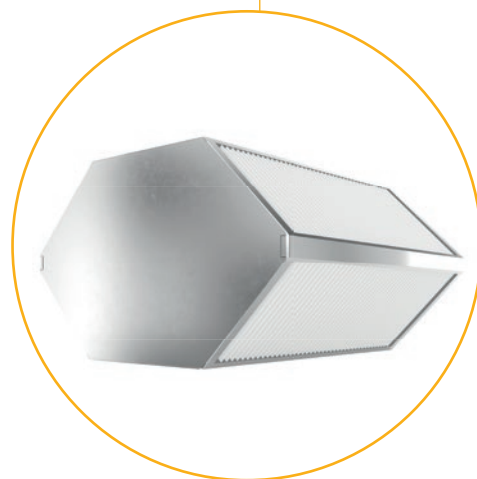Range: VENTUS VVS005 – VVS650
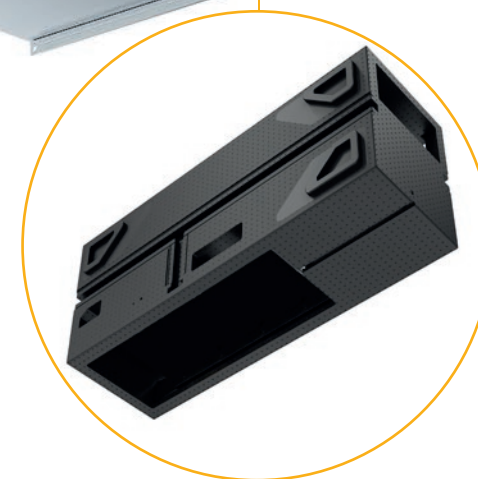www.eurovent-certification.com

up to **93%** drive efficiency

EC MOTORS

» Efficient, silent and low vibrations fan with electronically commutated motor in a IE4 class.

ENERGY RECOVERY

» Highly efficient counterflow hex recovery with by-pass.
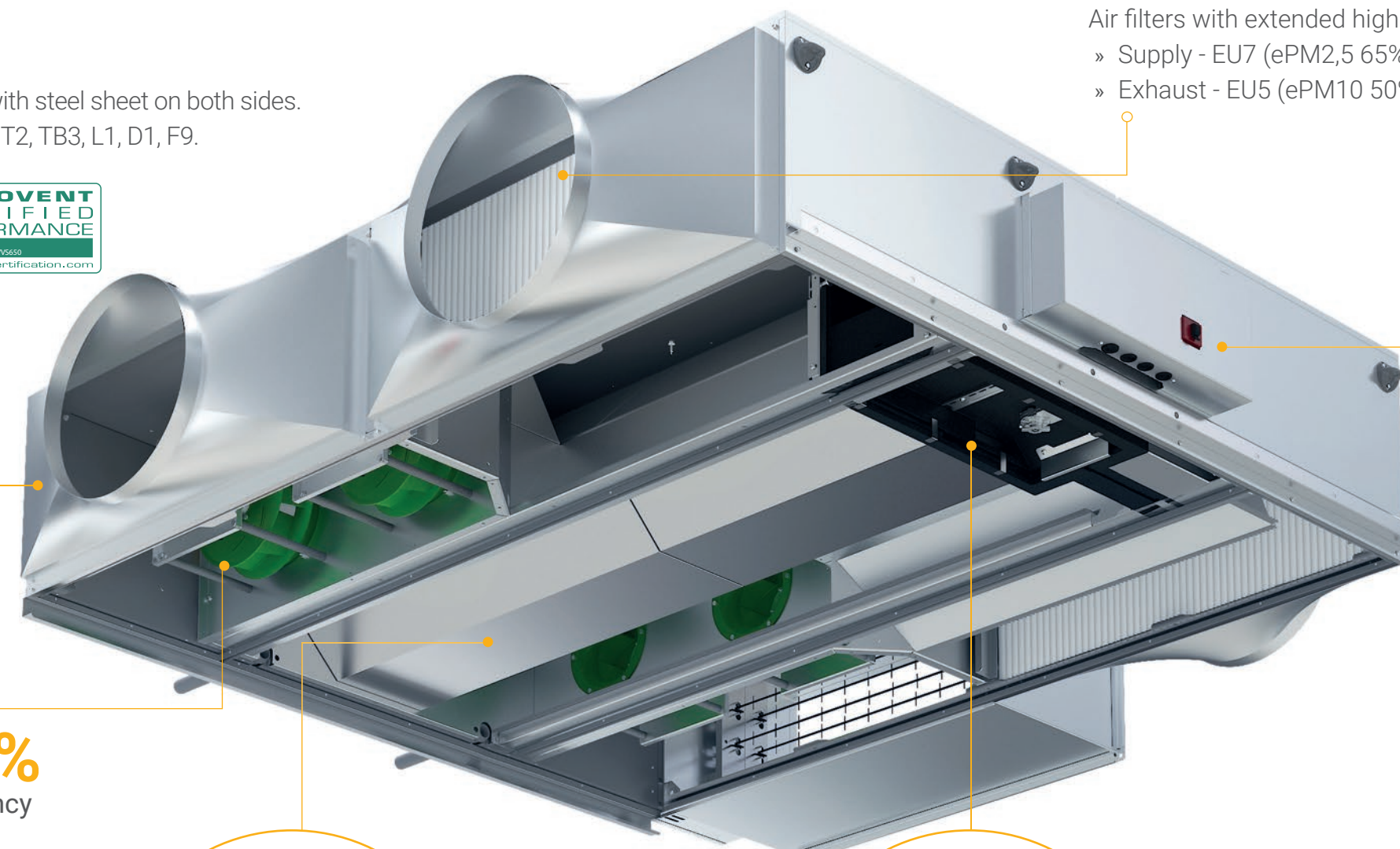» Recovery efficiency reaching 90%.

RECUPERATOR BY-PASS

» Stepless adjustment of heat recovery capacity.
» Passive cooling function.
» Recuperator frost protection.

CONTROLS

» Multifunctional controls, integrated with the unit – fully pre-configured and ready to run.

VENTUS COMPACT TOP
FLOOR-MOUNTED UNITS
WITH VERTICAL DUCT CONNECTION

MINI-PLEAT OR BAG FILTERS

Air filters with extended high efficiency filtration surface.
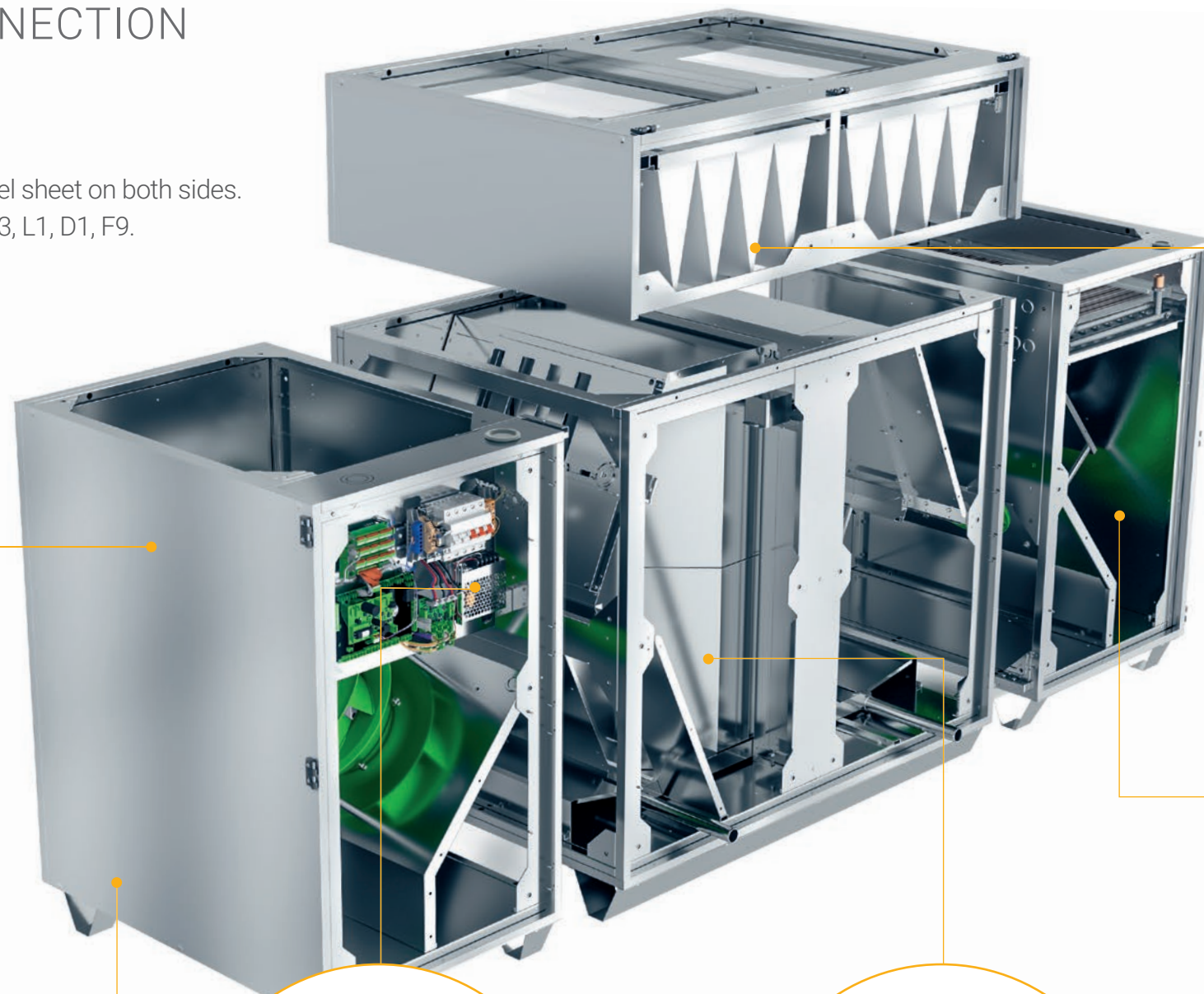- » Supply - EU7
- » Exhaust - EU5

CASING

- » Panels filled with mineral wool, enclosed with steel sheet on both sides.
- » Casing parameters according to EN 1886: T2, TB3, L1, D1, F9.
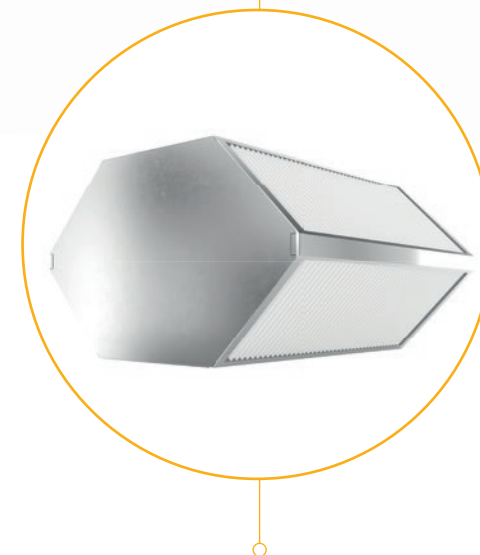- » Fan and filter section panels fitted with hinges.

90 cm

DIMENSIONS

- » Unit width 88 cm - can be transported through the opening of 90 cm without disassembling the device.

CONTROLS

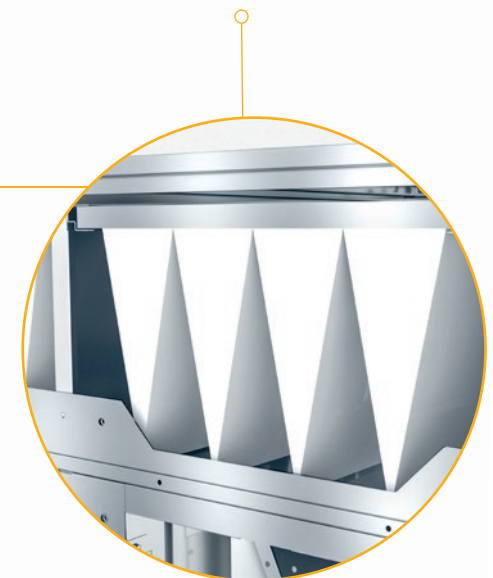- » Multifunctional controls, integrated with the unit – fully pre-configured and ready to run.

ENERGY RECOVERY

- » Highly efficient counterflow hex recovery with by-pass.
- » Recovery efficiency reaching 90%.
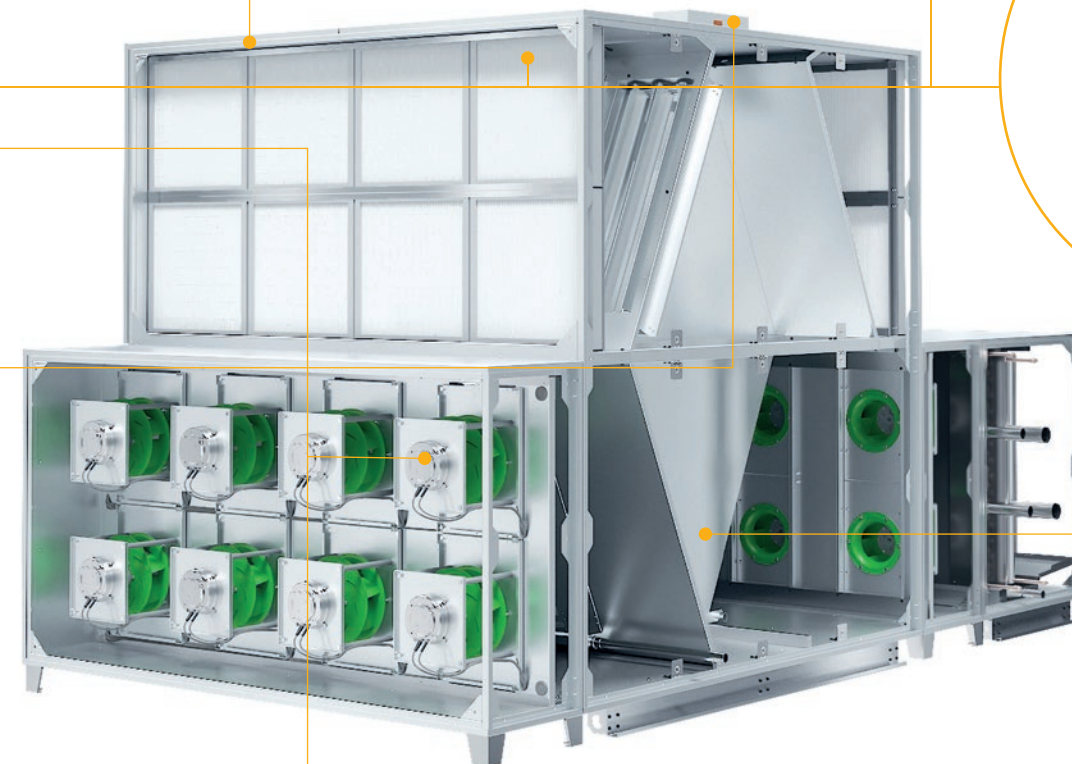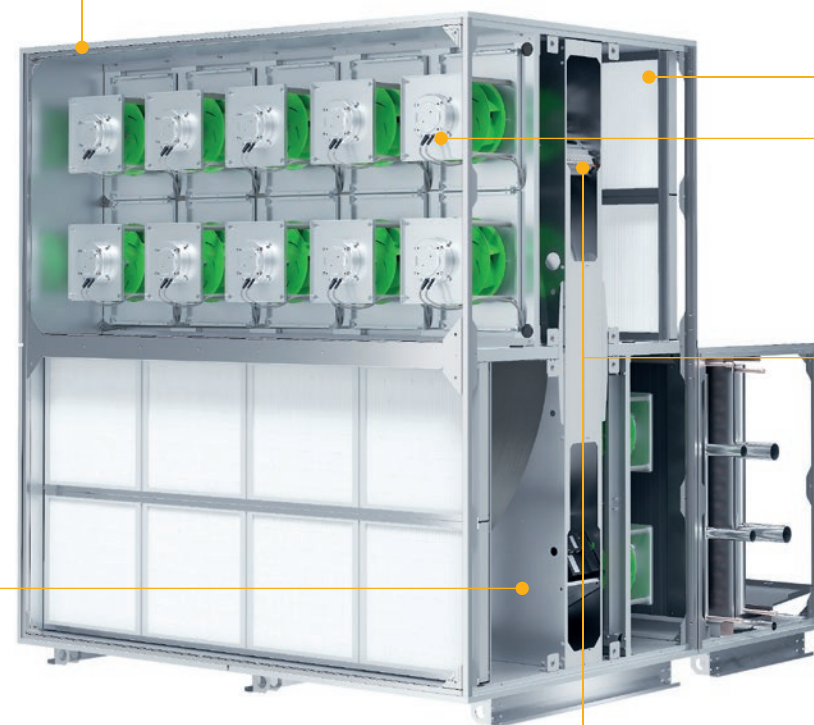
EC MOTORS

- » Efficient, silent and low vibrations fan with electronically commutated motor in a IE4 class.

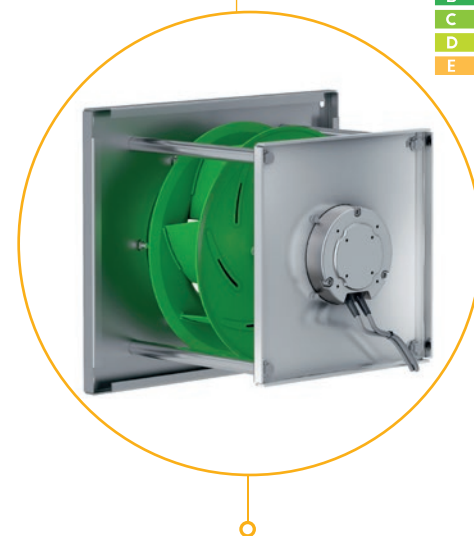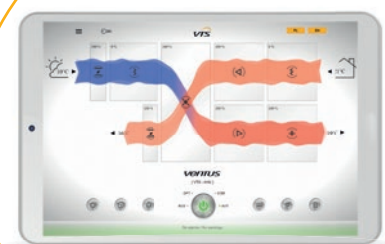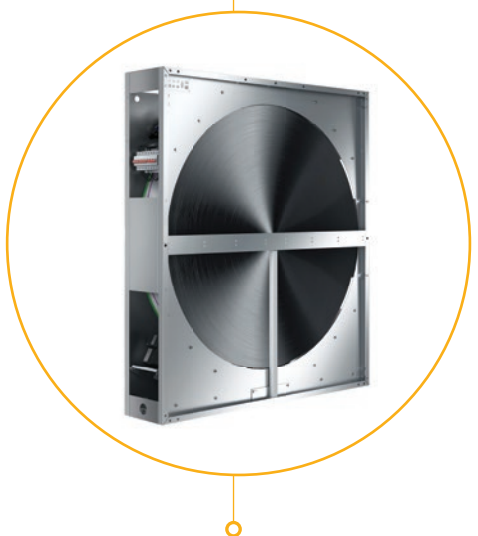# VENTUS COMPACT
FLOOR MOUNTED AIR HANDLING UNITS

CASING

» Panels filled with mineral wool, enclosed with steel sheet on both sides.
» Casing parameters according to EN 1886: T2, TB3, L1, D1, F9.

MINI-PLEAT FILTERS

Air filters with extended high efficiency filtration surface.
» Supply - EU7 (ePM2,5 65%)
» Exhaust - EU5 (ePM10 50%)

EUROVENT CERTIFIED PERFORMANCE
AHU N° 06.06.320
Range: VENTUS VVS005 – VVS650
www.eurovent-certification.com
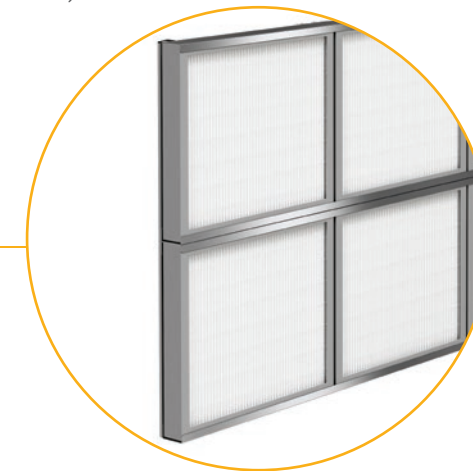
up to **93%** drive efficiency
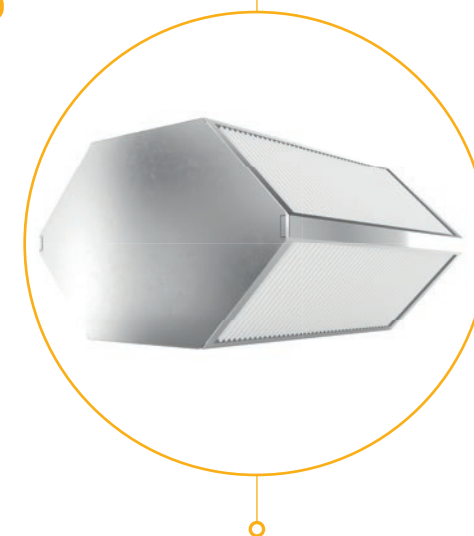
ENERGY RECOVERY

» Highly efficient heat wheel driven by EC motor.
» Recovery efficiency reaching 86%.

CONTROLS

» Multifunctional controls, integrated with the unit – fully pre-configured and ready to run.

EC MOTORS

» Efficient, silent and low vibrations fan with electronically commutated motor in a IE4 class.

ENERGY RECOVERY

» Highly efficient counterflow hex recovery with by-pass
» Recovery efficiency reaching 90%

VENTUS COMPACT
FLOOR MOUNTED UNITS WITH HEAT PUMP

EUROVENT
CERTIFIED
PERFORMANCE
AHU N° 06.06.320
Range: VENTUS VVS005 – VVS650
www.eurovent-certification.com

CONVENIENT TRANSPORT, QUICK INSTALLATION

» The unit is divided into easy to transport and easy to assemble complete functional modules

EASY COMMISSIONING

» Multifunctional factory assembled controls ready to work as soon as the unit is assembled
» Easy commissioning without service

FOR USE IN ANY FACILITY

» No external refrigeration equipment taking up space in your facility
» No external noise sources

COHERENT CONTROL SYSTEM

» Integrated control system for air handling unit and heat pump
» Full monitoring and remote diagnostics of all components

OPTIMUM MATCHING

» Factory fit of heat pump and air handling unit components
» Manufacturer's warranty on the final air handling unit and heat pump product

HIGH ENERGY EFFICIENCY

» High efficiency sorption rotary regenerator for excellent heat and moisture recovery
» Installation of multi-row condensers and evaporators on both sides of the regenerator ensures the most efficient operation of the heat pump

HEAT PUMP FUNCTIONS

» Supply air cooling in summer
» Reduction of supply air heating costs during other periods of the year

VENTUS COMPACT
FLOOR MOUNTED UNITS WITH HEAT PUMP

SMOOTH REGULATION OF HEATING AND COOLING POWER

- » Inverter compressor with DC motor smoothly adjusts cooling and heating power
- » Controller equipped with sensors fully controls cooling parameters of the heat pump system
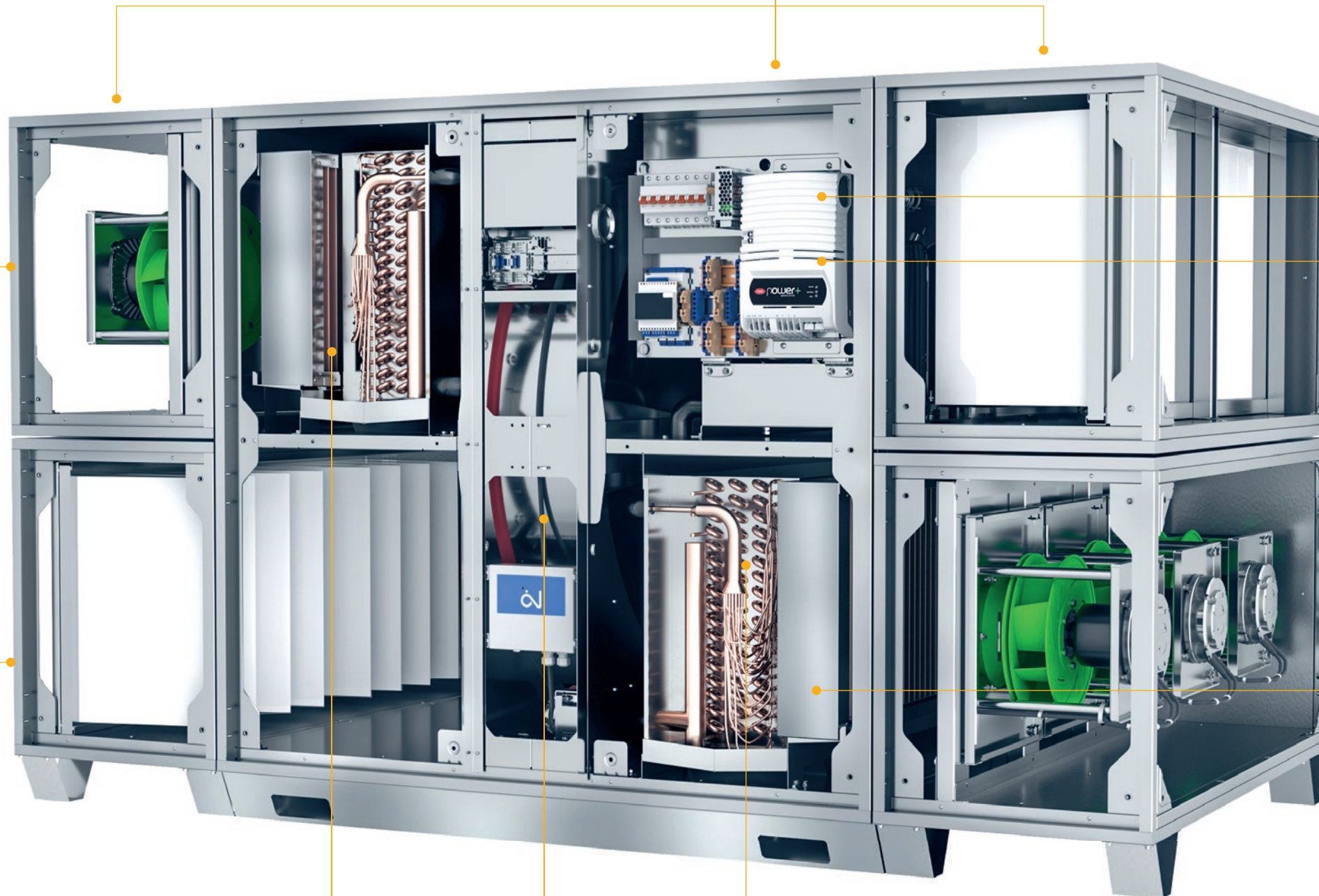
HEATING AND COOLING FUNCTION

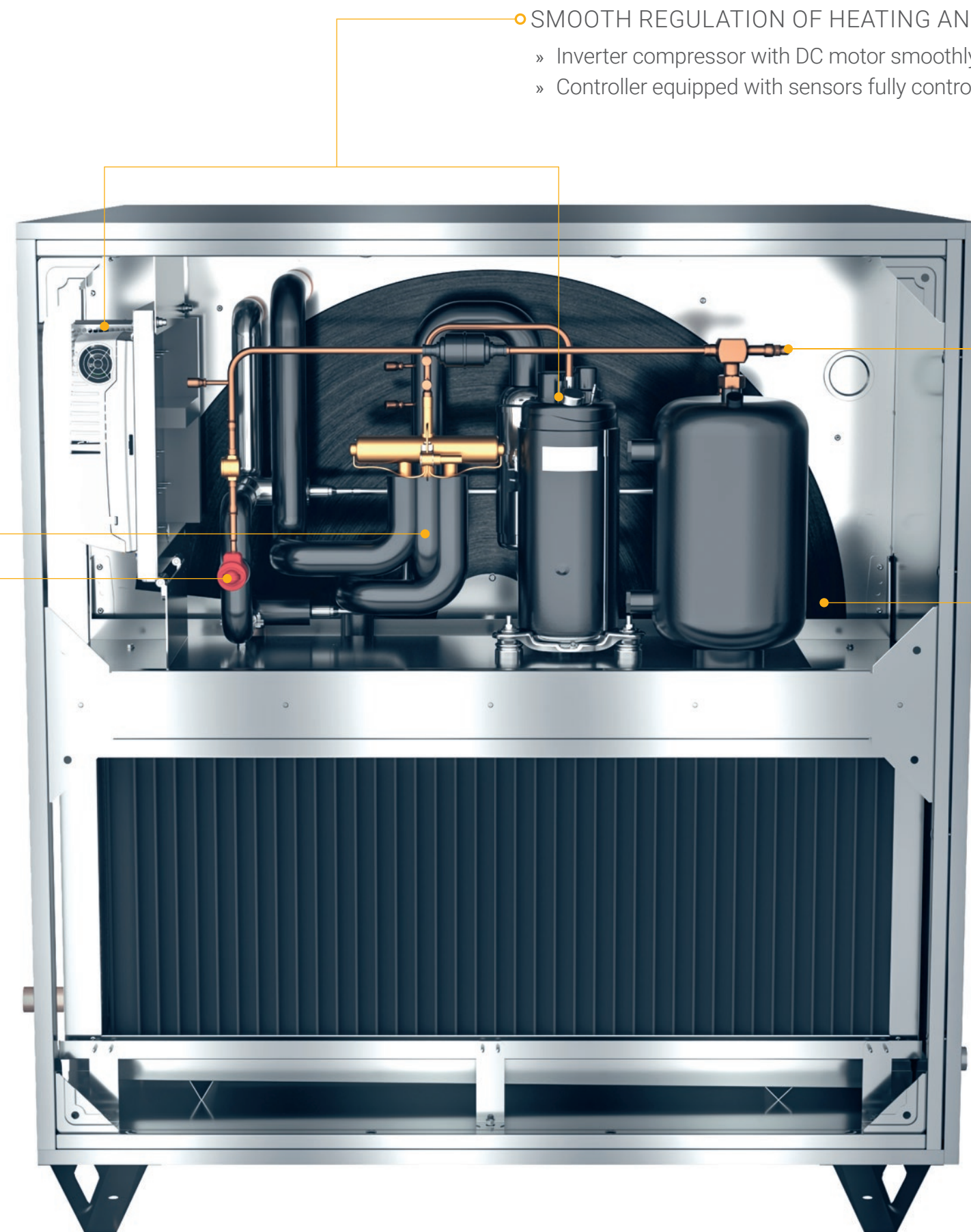- » Four-way valve automatically switches reverse operation modes
- » Automatic defrosting function in winter

MULTI-STAGE HEAT PUMP QUALITY CONTROL

- » Ongoing monitoring of the production process
- » Individual leakage and operational check confirmed by electronic report
- » UDT (Office of Technical Inspection) certificate

OPTIMISATION OF COOLING PARAMETERS

- » Electronic expansion valve dynamically adjusts fluid flow to current air handling unit parameters

SMOOTH REGULATION OF HEAT RECOVERY POWER

- » Electronically controlled stepper motor of the rotary heat exchanger smoothly regulates heat recovery capacity
- » In winter time the automation system ensures three-stage frost protection for the rotary heat exchanger

VENTUS COMPACT
SUSPENDED AIR HANDLING UNITS

Base unit overall data

Unit size	Nominal airflow	Airflow range	Height	Width	Duct connection heigth	Duct connection width
	[m³/h]	[m³/h]	[mm]	[mm]	[mm]	[mm]
VVS005s	500	150 - 650	400	790	318	335
VVS010s	1000	300 - 1100	400	1150	318	515
VVS015s	1500	450 - 1650	400	1550	318	715
VVS020s	2000	600 - 2200	490	1610	408	743
VVS030s	3000	900 - 3300	490	2160	408	1018

Section length

Unit size		F	H	C	HC
	Base unit		Additional air treatment functions		
	[mm]	[mm]	[mm]	[mm]	[mm]
VVS005s	1230	200	200 - 460	370 - 460	460 - 920
VVS010s	1500	200	200 - 460	370 - 460	460 - 920
VVS015s	1500	200	200 - 460	370 - 460	460 - 920
VVS020s	1828	200	200 - 460	370 - 460	460 - 920
VVS030s	1828	200	200 - 460	370 - 460	460 - 920

Duct accessories

Dimmension WxH [mm]	VVS005s	VVS010s	VVS015s	VVS020s	VVS030s
Flexible connection	305x288	485x288	685x288	730x375	1005x375
Air damper	305x288	485x288	685x288	730x375	1005x375
Rectangle spigot	330x310/300x300	510x310/400x350	710x310/400x350	740x400/500x400	1015x400/800x400
Rounded spigot	330x310/355	510x310/355	710x310/355	740x400/450	1015x400/450

VENTUS COMPACT
FLOOR MOUNTED AIR HANDLING UNITS

Base unit overall data

Unit size	Nominal airflow	Airflow range	Height	Width	Duct connection heigth	Duct connection width
	[m³/h]	[m³/h]	[mm]	[mm]	[mm]	[mm]
VVS021c	2100	840 - 2310	991	967	345	860
VVS030c	3000	900 - 3300	1255	967	480	860
VVS040c	4000	1200 - 4400	1255	1174	480	1065
VVS055c	5500	1650 - 6050	1525	1345	615	1235
VVS075c	7500	2250 - 8250	1765	1486	735	1380
VVS100c	10000	3000 - 11000	1965	1666	835	1560
VVS120c	12000	3600 - 13200	2039	1897	870	1790
VVS150c	15000	4500 - 16500	2241	2091	970	1985

Height includes 90 mm base rail

Base unit lengths

Unit size						
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
VVS021c	1240	1080	1080	2 230	2 230	2 500
VVS030c	1240	1080	1080	2 230	2 230	2 500
VVS040c	1240	1080	1080	2 230	2 230	2 500
VVS055c	1240	1080	1080	2 290	2 290	2 560
VVS075c	1240	1080	1080	2 530	2 530	2 800
VVS100c	1300	1300	1080	2 570	2 570	2 800
VVS120c	1300	1300	1080	2 670	2 670	2 900
VVS150c	1300	1300	1080	2 730	2 730	2 940

Additional section length
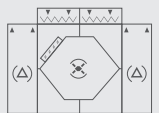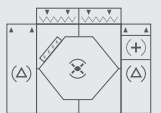
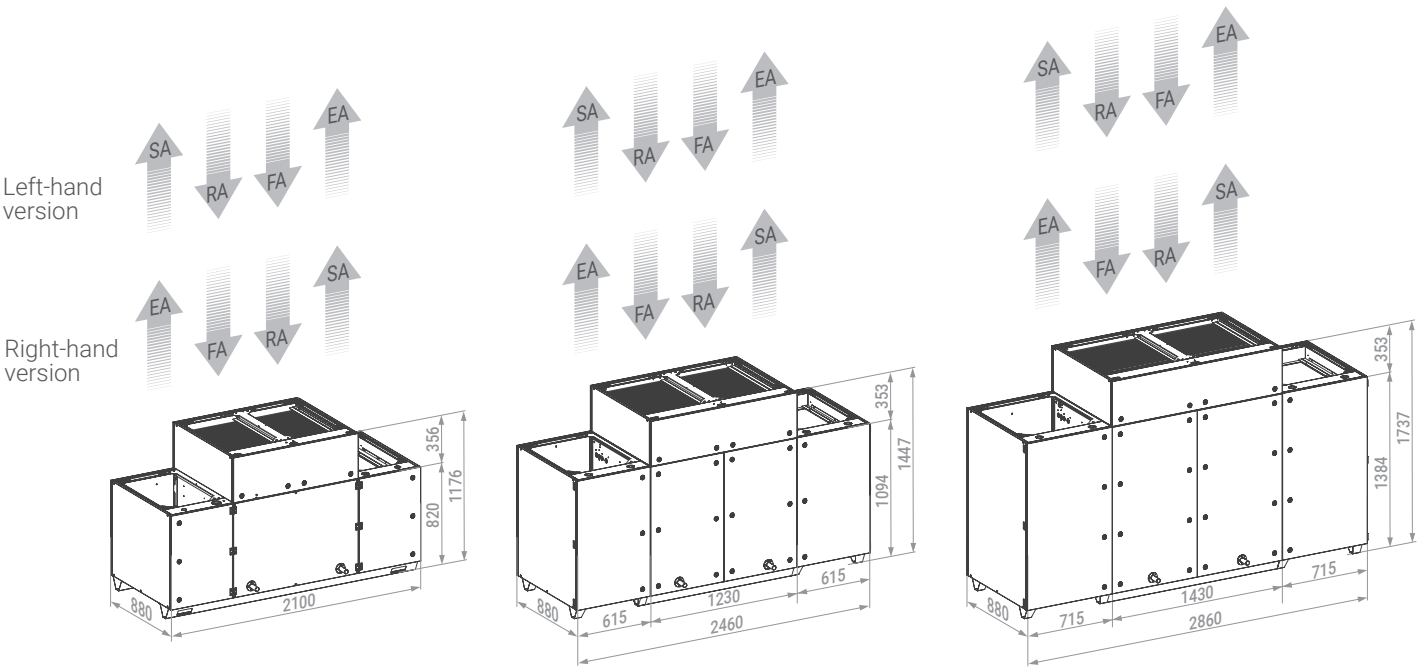| Unit size	F	H	C	HC	S
	[mm]	[mm]	[mm]	[mm]	[mm]
VVS021c	310	310 - 710	370 - 710	710	1080
VVS030c	310	310 - 710	370 - 710	710	1080
VVS040c	310	310 - 710	370 - 710	710	1080
VVS055c	310	310 - 630	450 - 790	790	1080
VVS075c	310	310 - 630	450 - 790	790	1080
VVS100c	310	310 - 630	890	890	1080
VVS120c	310	310 - 630	890	890	1080
VVS150c	310	310 - 630	920	920	1080

VENTUS COMPACT TOP - FLOOR-MOUNTED UNITS WITH VERTICAL DUCT CONNECTION

Base unit overall data

Unit size	Nominal airflow	Airflow range	Height	Width	Duct connection
	[m³/h]	[m³/h]	[mm]	[mm]	[mm]
VVS023c	2100	1250-2100	1176	880	700x445
VVS033c	3000	1800-3000	1447	880	700x513
VVS043c	4000	2400-4000	1737	880	700x613

Base unit lengths

Unit size		
	[mm]	[mm]
VVS023c	2100	2100
VVS033c	2460	2460
VVS043c	2860	2860

Left-hand version

Right-hand version

FA - fresh air intake
SA - fresh air supply to the room
RA - return air intake from the room
EA - exhaust air ejection from the room

VENTUS COMPACT - FLOOR MOUNTED UNITS WITH HEAT PUMP

Base unit overall data

Unit size	Nominal airflow	Airflow range	Height	Width	Duct connection heigth	Duct connection width
	[m³/h]	[m³/h]	[mm]	[mm]	[mm]	[mm]
VVS021c	2100	1200-2100	991	967	345	860
VVS030c	3000	1500-3000	1255	967	480	860
VVS040c	4000	2000-4000	1255	1174	480	1065
VVS055c	5000	2500-5500	1525	1345	615	1235
VVS075c	7500	3750-7500	1765	1486	735	1380

* - the range of the heat pump function depends on the outdoor air parameters

Base unit lengths

Unit size		
	[mm]	[mm]
VVS021c	2140	2140
VVS030c	2140	2140
VVS040c	2140	2140
VVS055c	2140	2140
VVS075c	2140	2140

Heat pump refrigeration system
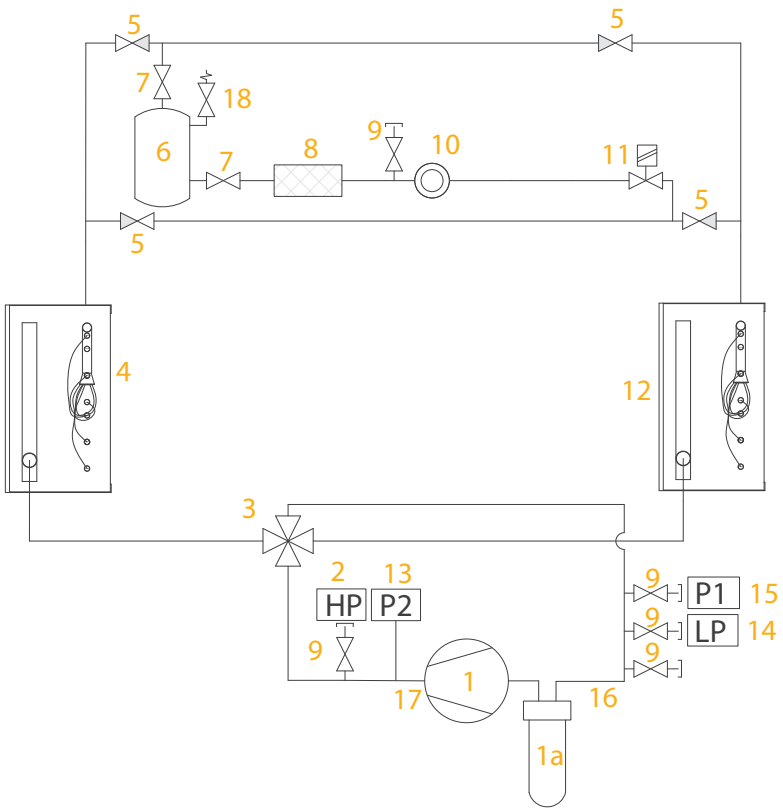
Refrigeration components

1   Compressor
1a Liquid separator
2   High pressure switch
3   4-way valve
4   Evaporator/Condenser
5   Check valve
6   Liquid medium tank
7   Shut-off valve (Rotalock)
8   Filter drier
9   Service valve
10 Sight glass
11 Electronic expansion valve
12 Evaporator/Condenser
13 High-pressure transducer
14 Low-pressure transducer
15 Low-pressure switch
16 Suction temperature sensor
17 Discharge temperature sensor
18 Safety valve

mHMI application

VTS Group provides an mHMI app that enables start-up, monitoring of operation and parameter control of VENTUS compact and modular air handling units. The app can be downloaded from Google Play and App Store.

mHMI application


GET IT ON
Google Play

ORAZ
App Store

The app connects to the unit using Bluetooth technology. All you need to do is launch the app and activate the Bluetooth module, which is located in the automatic control cabinet. The app will automatically detect the unit which you can then connect to.

mHMI enables:
» start up of the unit without the need for a physical HMI
» monitoring the unit's operating parameters
» managing the unit's operation, including changing the operating modes, changing individual parameters, setting the unit's operating schedule, or viewing and clearing alarms.
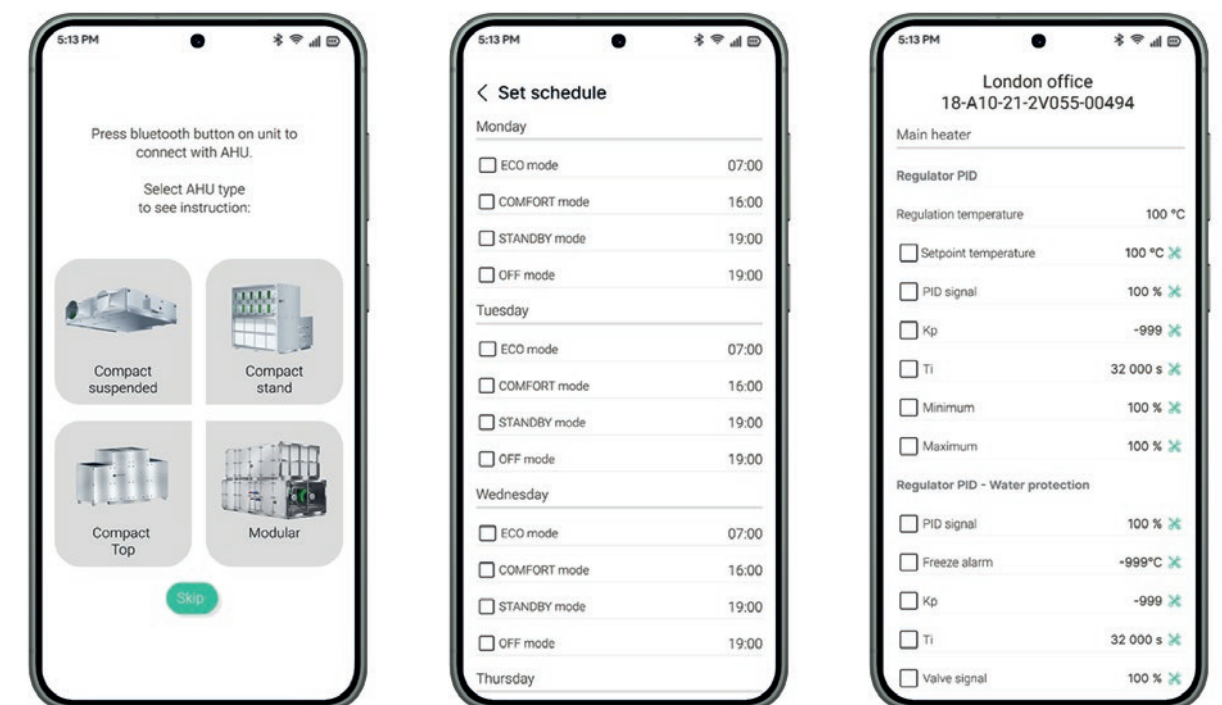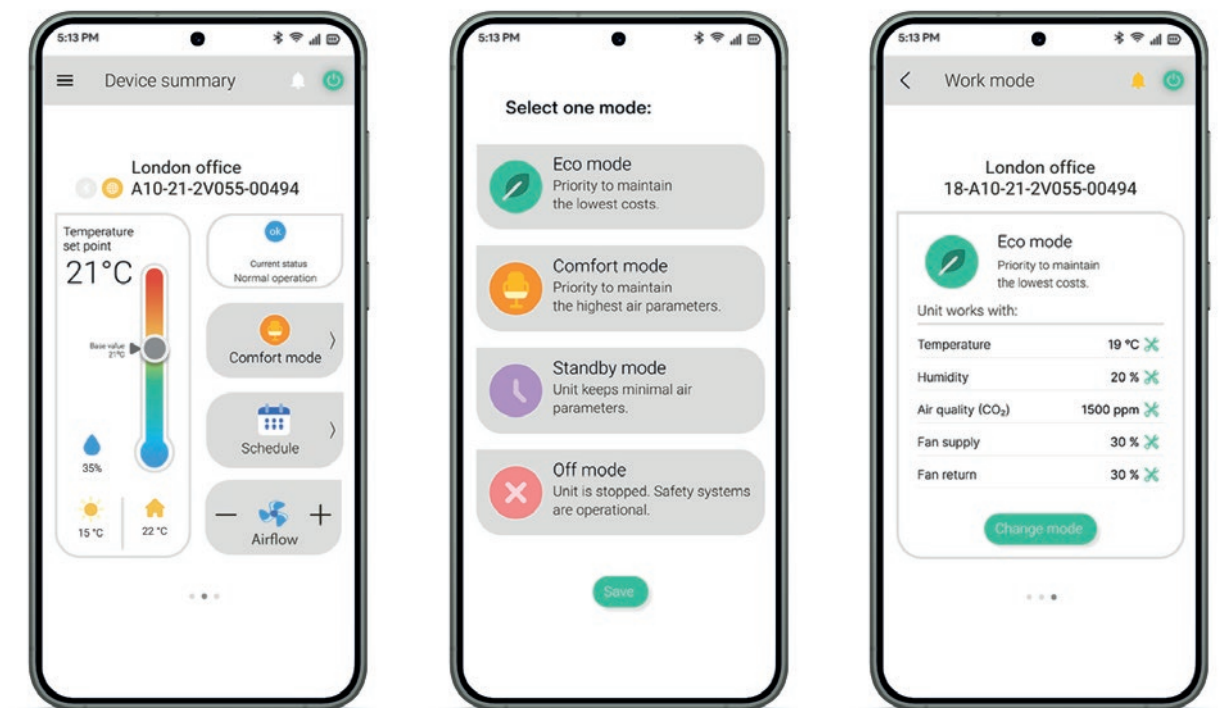
VMS – VENTUS MANAGEMENT SYSTEM

VTS supplies control system with a factory-implemented application for remote monitoring and management of the operating parameters of the units in real time via a web browser on any mobile device.

VENTUS MANAGEMENT SYSTEM:
- » Displaying visualisations on any devices - from PC to mobile devices
- » Monitoring and management of the majority of devices from the open visualisation of a single unit
- » Easy and intuitive change of the operating mode of the unit using a central button
- » Tools for supporting easy and quick setup of the optimal operating schedule of the unit

ModBUS

TCP/IP (LAN)

TCP/IP (LAN)

TCP/IP (LAN)

WiFi

WiFi

TCP/IP (LAN)

BMS

HMI Basic

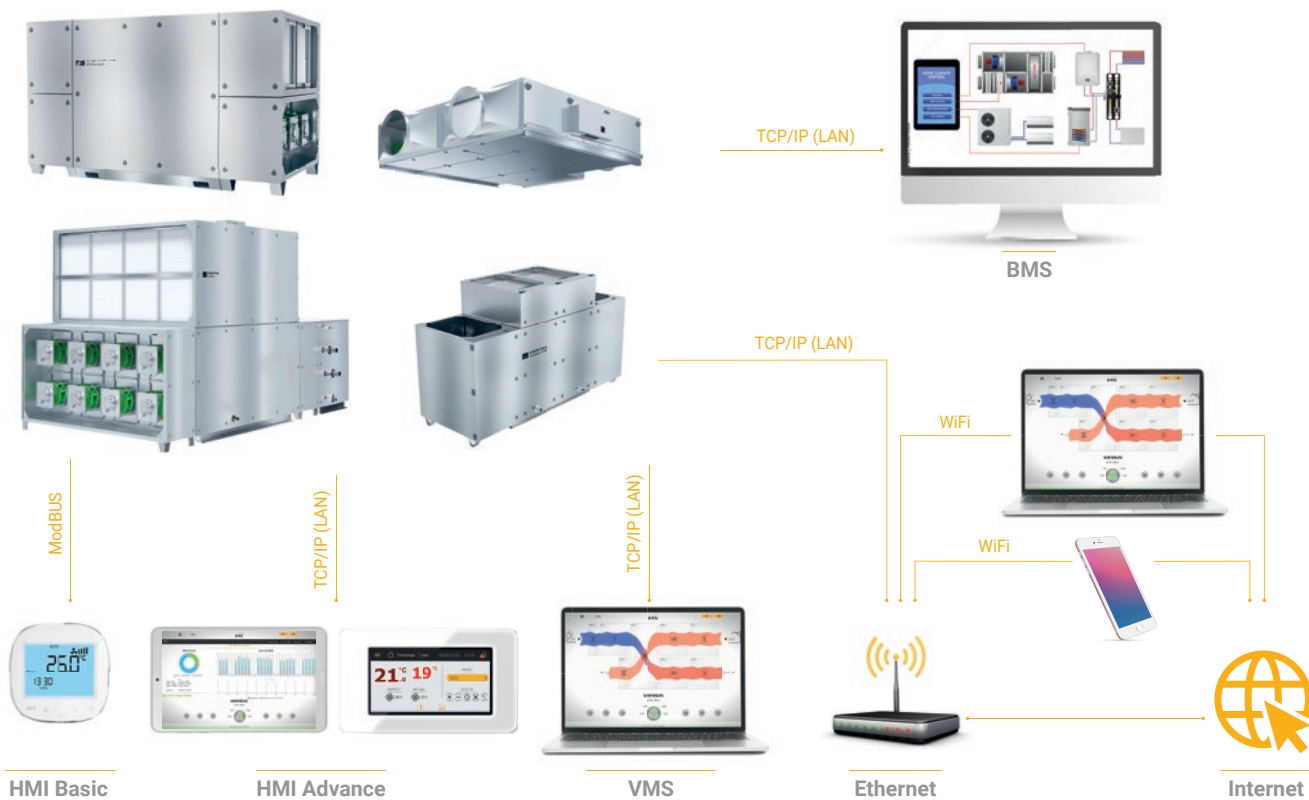HMI Advance

VMS

Ethernet

Internet

Graphical operation calendar:
- » Changing time intervals using sliders

Faults and alarms handling:
- » Clearing alarms
- » Alarm logging

Charts of unit's operation:
- » Two charts – main and secondary
- » Free selection of the set of parameters for monitoring and assigning them to selected ranges

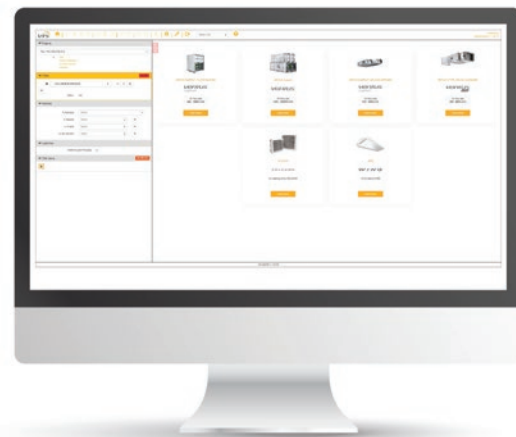Analysis of savings resulting from the operating scenario used:
- » Graphical representation of the use of particular energy media
- » Costs and savings shown in any currency.

CLIMACAD ONLINE 4.0 (CCOL 4)

Customized configuration

Intuitive selection assistant step by step

Integrated savings calculator

Integrated with CRM, ERP, WMA system

CCOL4 IS COMPATIBLE WITH:

» all browsers

» all operating system

» all devices

## DATA EXPORT TO

PDF CAD 2D CAD 3D R SUBMITTAL QUOTATION TECH CARD

VTS BIM - INNOVATIVE APPROACH TO DIGITAL MODELS OF AIR-HANDLING UNITS

VTS has created a possibility of dynamic online generation of digital models of the units VENTUS VVS, VENTUS Compact and American VENTUS AVS. This is possible due to the launch of the new ClimaCAD OnLine 4.0 product selection program that features an .rfa [Revit®] file generator
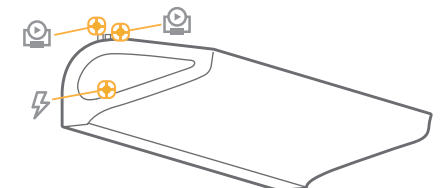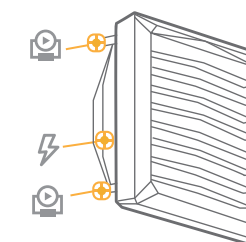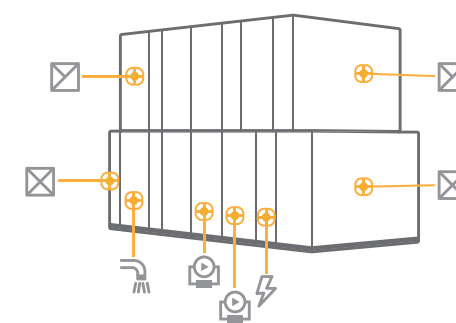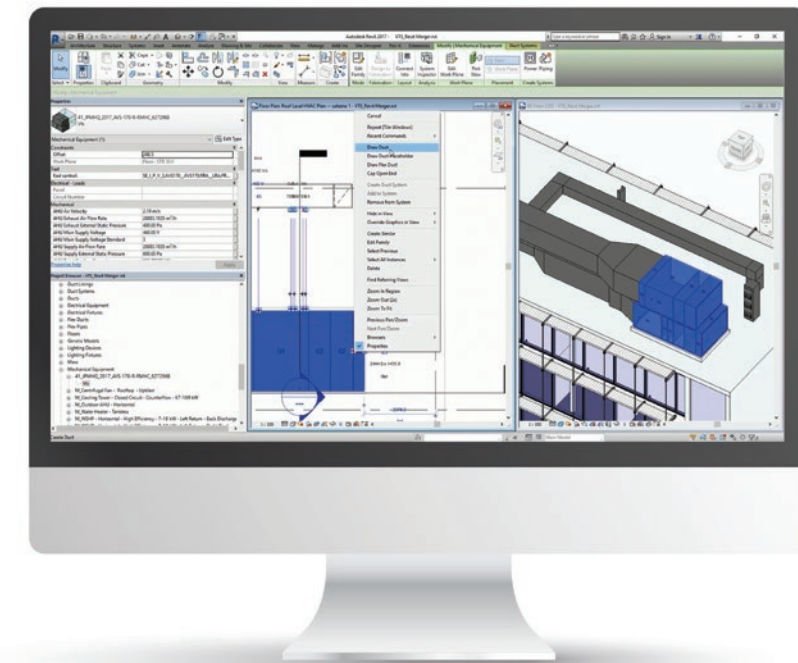
Generated objects contain detailed parameters connectors:

» **air systems**

» **hydraulic systems**

» **sanitary systems**

» **electric systems**

as well as the complete dimensional data, including unit's maintenance and service (repair) zone.

VTS also provides digital models of WING air curtains and VOLCANO air heaters.

The models contain:

» **parametrized electric and hydraulic connectors,**

» **mount options vertically and horizontally,**

» **presentation of the range of air stream,**

» **parameter of any inclination angle of an air heater in relation to the horizontal plane.**

Models can be downloaded from: **https://vtsgroup.com/vts-bim**

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