UNI

Air handling unit
with heat recovery

VENTILATION-SYSTEM.COM

UNI

Centralised ventilation unit for small apartments

Air flow:
up to 160 m³/h

Heat recovery efficiency:
up to 95 %

FEATURES

- Efficient centralised ventilation unit for small apartments.
- Can be installed vertically on the wall, or suspended under the ceilling.
- Concealed installation is possble due to optional revision door.
- Clean air due to the use of an ePM1 70% / F7 filter for supply air filtration.
- Low noise operation from 13 dB(A) at 3 m.
- Simple installation due to variable location of the spigots.

CASING

The casing is made of galvanized sheet metal. The unit is heat- and sound-insulated with a 20 mm layer of foam. The service panel is easy to open for filter maintenance.

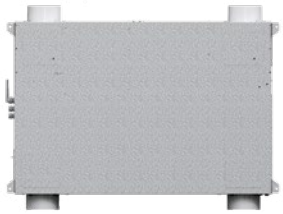
USP

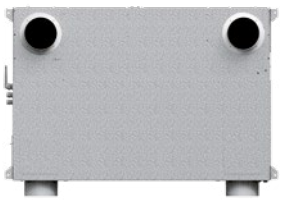
The unit is equipped with four ø125 mm spigots. The position of the spigots can be changed to simplify duct installation.

Flanges can be installed in three different directions providing wide range of installation options.

FANS

The units feature high-performance, electronically commutated (EC) external rotor motors with forward curved blades. These state-of-the-art units offer excellent energy efficiency. In addition to that, EC motors combine high performance and optimum control over the entire speed range. EC motors have an excellent power efficiency (up to 90 %).



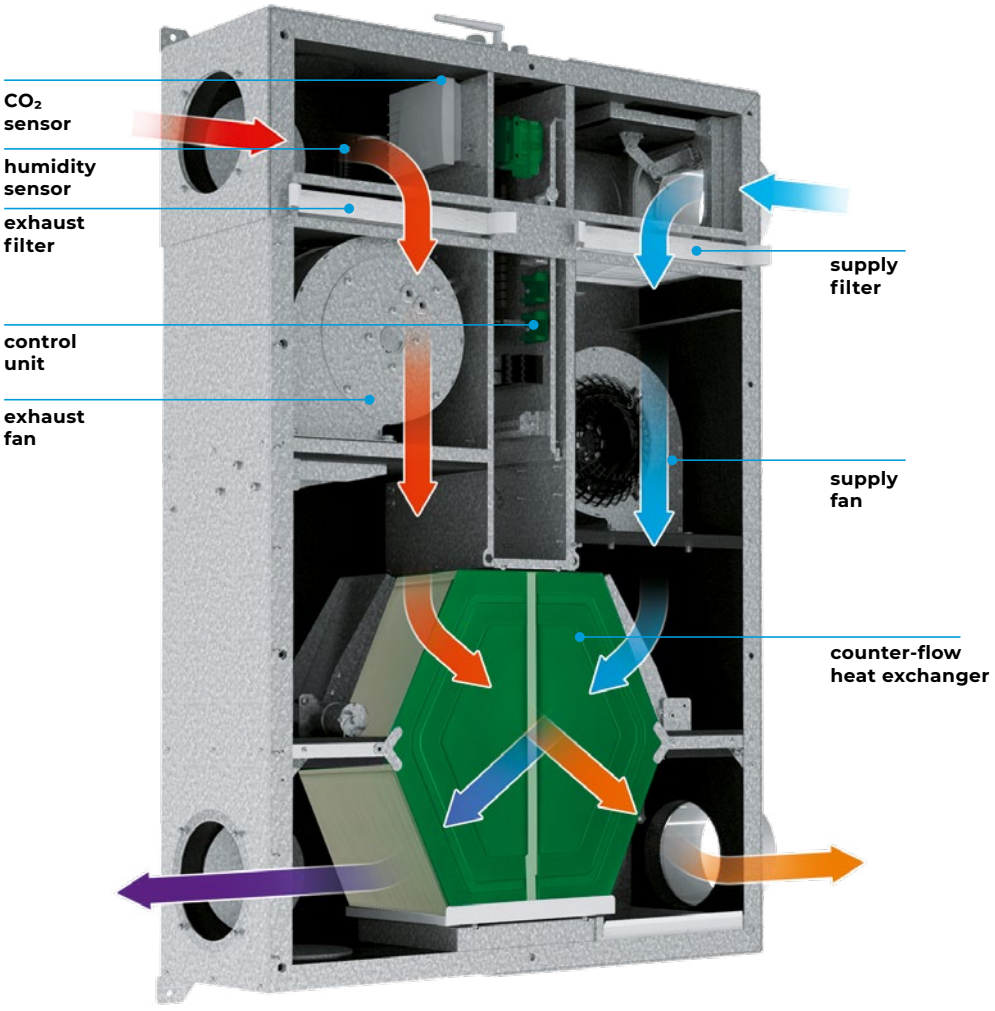


HEAT RECOVERY

The Uni unit is equipped with a plate counter-flow polystyrene heat exchanger for heat recovery. The unit condensate is collected and drained to the drain pan under the heat exchanger. The Uni E unit is equipped with an enthalpy plate counter-flow heat exchanger for heat and humidity recovery.

The air flows are completely separated in the heat exchanger. Thus smells and contaminants are not transferred from the extract air to the supply air.

Heat recovery is based on heat and/or humidity transfer through the heat exchanger plates. In the cold season supply air is heated in the heat exchanger by transferring the heat energy of warm and humid extract air to the cold fresh air. Heat recovery minimizes ventilation heat losses and heating costs respectively. In the warm season the heat exchanger performs reverse and intake air is cooled in the heat exchanger by the cool extract air. That reduces operation load on air conditioners and saves electricity.


CO_2 sensor
humidity sensor
exhaust filter
control unit
exhaust fan
supply filter
supply fan
counter-flow heat exchanger

CONTROL AND AUTOMATION

The Uni A21 units are equipped with an integrated automation system. The remote control panel is not included in the delivery set (sold separately).

The A21 controller allows integrating the unit into the Smart Home system or BMS (Building Management System). Unit control via Wi-Fi using the mobile application Vents AHU.

The Uni A14 units are equipped with an integrated automation system and the A14 wall mounted sensor control panel with LED-indication.

Modbus

Download the Vents AHU app for Android

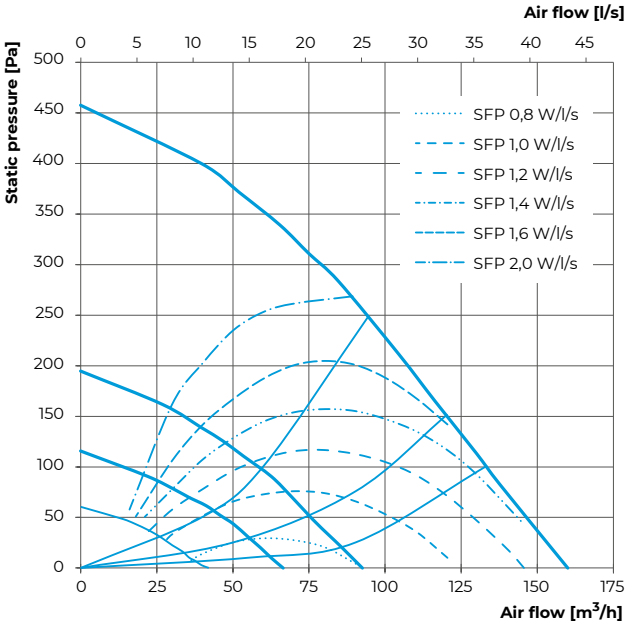
Download the Vents AHU app for iOS

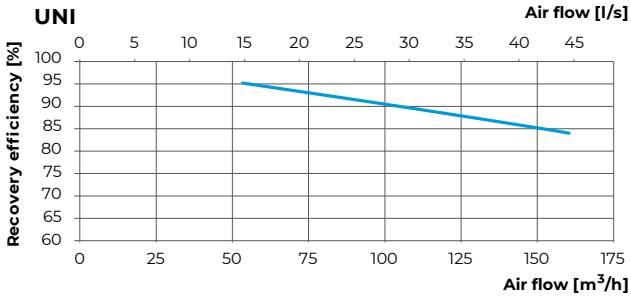
AUTOMATION FUNCTIONS

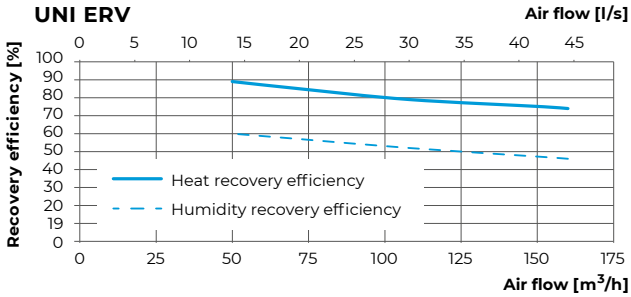
Functions	Uni A21	Uni A14
Unit control via Wi-Fi using a mobile application	+	–
Unit control via a wired remote control panel	 A22 control panel (option)	 A14 control panel
Unit control via a wireless remote control panel	 A22 Wi-Fi control panel (option)	–
Unit control via a remote wired LCD control panel	 A25 control panel (option)	–
BMS (Building Management System)	RS-485	–
	Wi-Fi	–
	Ethernet	–
	MODBUS (RTU, TCP)	–
Speed selection	+	+
Filter replacement indication	by filter timer	by filter timer
Alarm indication	full alarm description in the mobile application	+
Week-scheduled operation	+	–
Bypass	automatic	manual
	manual	–
Timer	+	–
Boost mode	+	–
Fireplace mode	+	–
Freeze protection	through cyclic stops of the supply fan	through cyclic stops of the supply fan
	through preheating (option)	–
Reheater connection	option	–
Cooler connection	option	–
Minimum supply air temperature control	option	–
Humidity control	option	option
CO_2 control	option	option
VOC control	option	option
PM2.5 control	option	option
Fire alarm system connection	option	–

TECHNICAL DATA

Model	Uni			Uni ERV		
Voltage [V / 50/60 Hz]	1~ 230			1~ 230		
Max. unit power without electric heater [W]	58			58		
Max. unit current without electric heater [A]	0.5			0.5		
Max. air flow [m³/h]	160			160		
RPM [min⁻¹]	2800			2800		
Speed [m³/h]	60	90	160	60	90	160
Sound pressure level LpA to environment at 1 m [dBA]	23	34	42	23	34	42
Sound pressure level LpA to environment at 3 m [dBA]	13	26	33	13	26	33
Operating temperature [°C]	–25...+40			–25...+40		
Case material	Aluzinc			Aluzinc		
Insulation [mm]	20			20		
Extract filter	Coarse 90% / G4			Coarse 90% / G4		
Supply filter	ePM1 70% / F7 (G4 option)			ePM1 70% / F7 (G4 option)		
Connected air duct diameter [mm]	125			125		
Weight [kg]	31			31		
Heat recovery efficiency [%]	84–95			74–89		
Humidity recovery efficiency [%]	–			47–60		
Heat exchanger type	Counter-flow			Counter-flow		
Heat exchanger material	Polystyrene			Enthalpic membrane		
SEC class	A+			A		







SOUND POWER LEVEL

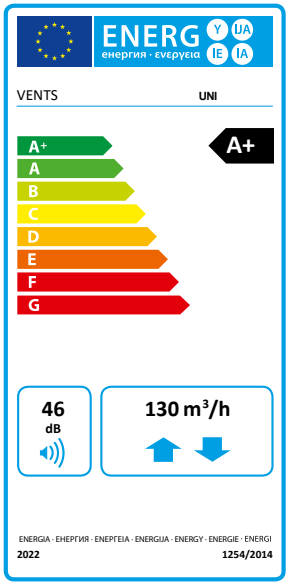
Sound power level, A - weighted	General	Octave frequency band, Hz									LpA, 3m	LpA, 1m
	dB(A)	200	250	315	400	500	630	800	1000	1250	dB(A)	dB(A)
LwA to environment @ 160m3h 0Pa	53	38	36	40	45	50	42	43	41	38	33	42
LwA to environment @ 90m3h 0Pa	45	26	32	38	37	37	35	34	34	31	26	34
LwA to environment @ 60m3h 0Pa	34	22	22	22	25	25	23	22	21	18	13	23
LwA to supply air outlet @ 160m3h 0Pa	48	32	32	38	36	40	30	43	39	30	27	37
LwA to supply air outlet @ 90m3h 0Pa	41	26	28	34	29	29	23	35	32	22	20	30
LwA to supply air outlet @ 60m3h 0Pa	32	20	19	21	18	18	13	24	21	14	12	21
LwA to exhaust air inlet @ 160m3h 0Pa	50	27	24	40	42	46	30	26	29	33	29	39
LwA to exhaust air inlet @ 90m3h 0Pa	47	37	23	44	34	37	27	23	27	29	26	36
LwA to exhaust air inlet @ 60m3h 0Pa	34	23	14	24	24	26	19	15	16	17	14	23

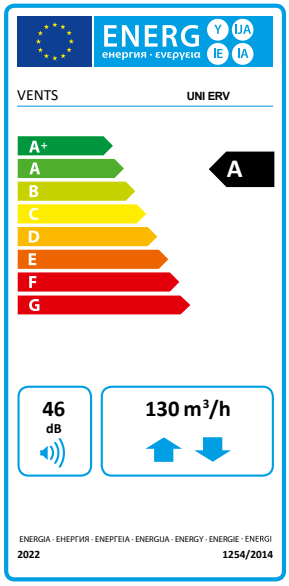
Sound power level, A - weighted	General	Octave frequency band, Hz									LpA, 3m	LpA, 1m
	dB(A)	1600	2000	2500	3150	4000	5000	6300	8000	10000	dB(A)	dB(A)
LwA to environment @ 160m3h 0Pa	53	37	35	33	31	27	23	21	24	25	33	42
LwA to environment @ 90m3h 0Pa	45	30	28	26	24	21	19	20	23	25	26	34
LwA to environment @ 60m3h 0Pa	34	18	17	16	15	15	16	16	20	21	13	23
LwA to supply air outlet @ 160m3h 0Pa	48	34	32	30	28	22	19	19	23	24	27	37
LwA to supply air outlet @ 90m3h 0Pa	41	26	23	23	22	18	18	19	23	24	20	30
LwA to supply air outlet @ 60m3h 0Pa	32	17	16	17	17	17	18	19	23	24	12	21
LwA to exhaust air inlet @ 160m3h 0Pa	50	38	36	38	34	29	26	28	25	24	29	39
LwA to exhaust air inlet @ 90m3h 0Pa	47	33	31	33	30	25	24	21	24	24	26	36
LwA to exhaust air inlet @ 60m3h 0Pa	34	22	20	24	18	17	18	19	23	24	14	23

ENERGY LABELING

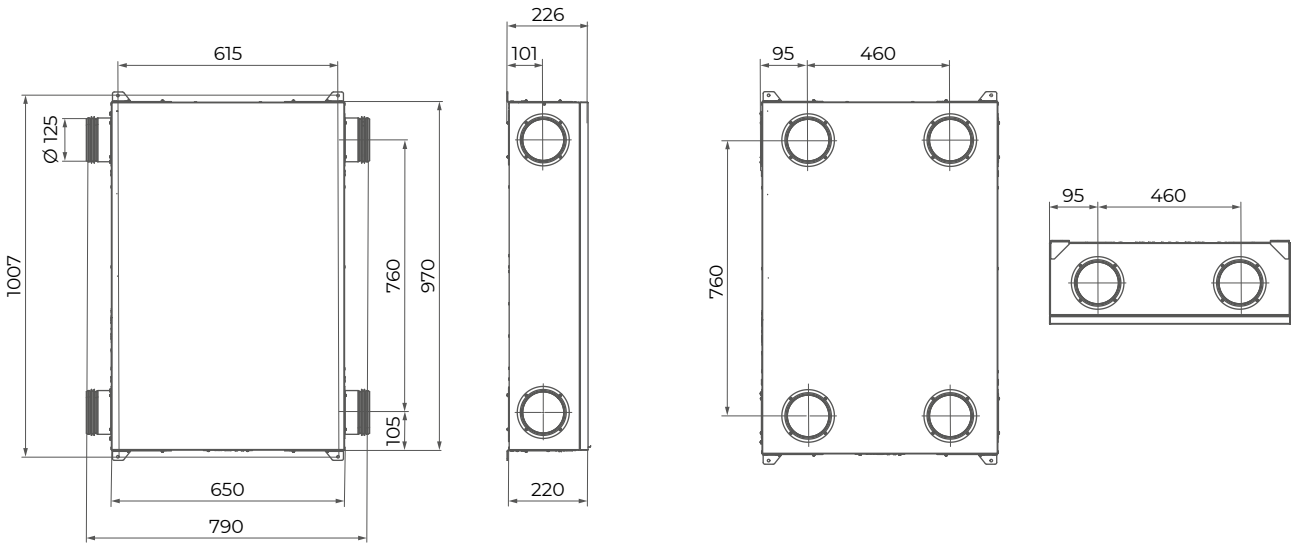
Supplier model identifier and options installed	Uni	Uni ERV
Reference climate	Cold/Average/ Warm	Cold/Average/ Warm
SEC in [kWh/(m²a)] for each type of climate	-82,6/-42,9/-17,5	-79,4/-41,3/-16,8
SEC Class	A+	A
Declared typology	BVU	
Type of drive installed	Variable speed	
Type of heat recovery	Recuperative	
Thermal efficiency*	91	91
Maximum flow rate in [m³/h]	130	130
Maximum electric power in [W]	55	55
Sound power level (LWA) in [dB(A)]	46	46
Reference flow rate [m3/s]	0,025	0,025
Reference pressure difference in [Pa]	50	50
SPI in [W/m³/h]	0,286	0,286
Control factor and typology	Local demand control	
Internet address	http://www.ventilation-system.com/	

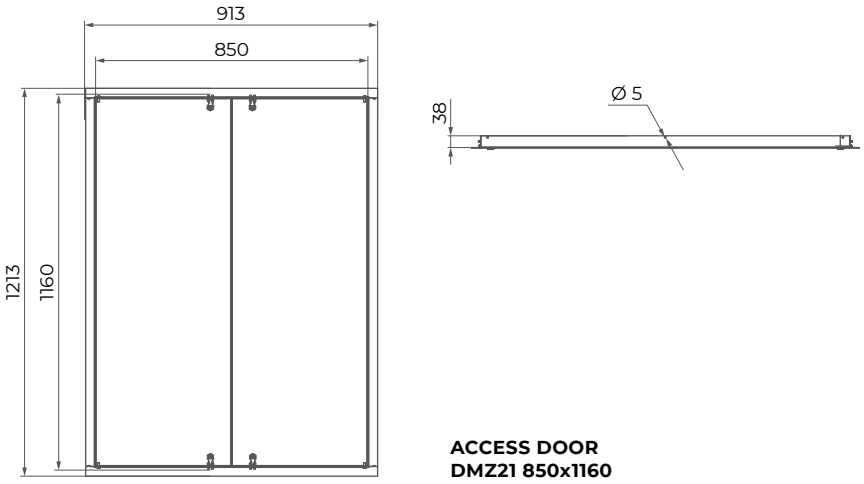
*Efficiency according EN13141-7:2010 at reference flow rate





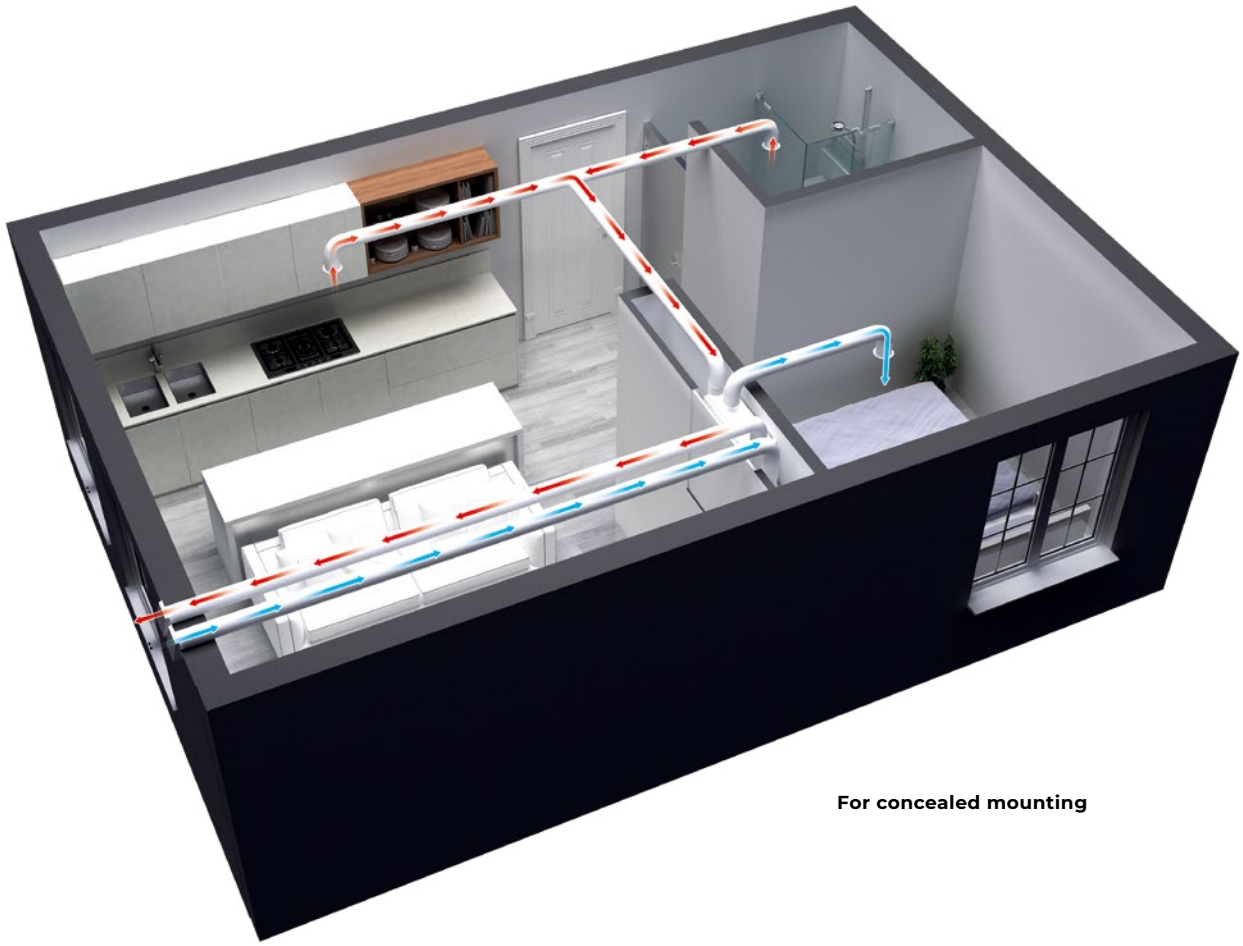
OVERALL DIMENSIONS [mm]





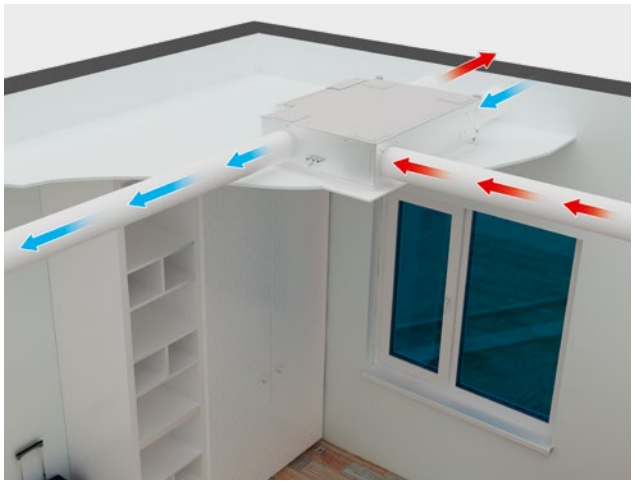
ACCESS DOOR
DMZ21 850x1160

MOUNTING



For concealed mounting

Wall flush mounting



Ceiling flush mounting

ACCESSORIES

		Uni R A14 Uni L A14	Uni ERV R A14 Uni ERV L A14	Uni R A21 Uni L A21	Uni ERV R A21 Uni ERV L A21
Coarse 90% / G4 panel filter		SF 233x175x22 Coarse 90% / G4			
ePM1 70% / F7 panel filter		SF 233x175x22 ePM1 70% / F7			
Control panel		–		A22	
Wireless control panel		–		A22 Wi-Fi	
LCD control panel		–		A25	
Humidity sensor		HV2			
Humidity sensor		HR-S			
CO_2 sensor		CO2-2			
CO_2 sensor with indication		CO2-1			
VOC sensor		–		DPWQ30600	
CO_2 sensor		–		DPWQ40200	
CO_2 sensor		CO2-3			
Humidity sensor		–		DPWC11200	
Outer grille		MVMA 125 bVn Al			
Access doors		DMZ21 850x1160			
Electric reheater		NKD 125 A21 V.2 series			

UNI MAX

Decentralized unit for the small offices, facilities, classrooms and living spaces

Air flow:
up to 160 m³/h

Heat recovery efficiency:
up to 95 %

FEATURES

- Efficient decentralized ventilation unit for small offices or conference rooms.
- Visible ceiling suspended installation.
- A version with electrical preheater is available for cold climate.
- Clean air due to the use of an ePM1 70% / F7 filter for supply air filtration.
- Possibility to connect fresh air inlet and exhaust air ducts at top or back side of the unit.
- Low noise operation from 16 dB(A) at 3m.
- High level of comfort due to builtin bypass and air dampers.

CASING

The casing is made of galvanized sheet metal with white painted decorative cover. The contemporary design of the Uni Max unit will seamlessly blend into any interior. The unit is heat- and sound-insulated with a 20 mm layer of foam. The service panel is easy to open for filter maintenance. The unit is equipped with two Ø125 mm spigots for fresh air intake and stale air exhaust. The position of the spigots can be changed from horizontal to vertical.

AIR DAMPERS

The Uni Max unit is equipped with two automatic air dampers, which close automatically when the unit is off to prevent drafts.

BYPASS

The Uni Max units are equipped with a bypass for summer cooling by the cool air from outside.

FANS

The units feature high-performance, electronically commutated (EC), external rotor motors with forward curved blades. These state-of-the-art units offer excellent energy efficiency. In addition to that, EC motors combine high performance and optimum control over the entire speed range. EC motors have an excellent power efficiency (up to 90 %).

PREHEATING

The Uni Max E S21 units are equipped with an electrical preheater to prevent heat exchanger freezing in the cold climate.

HEAT RECOVERY

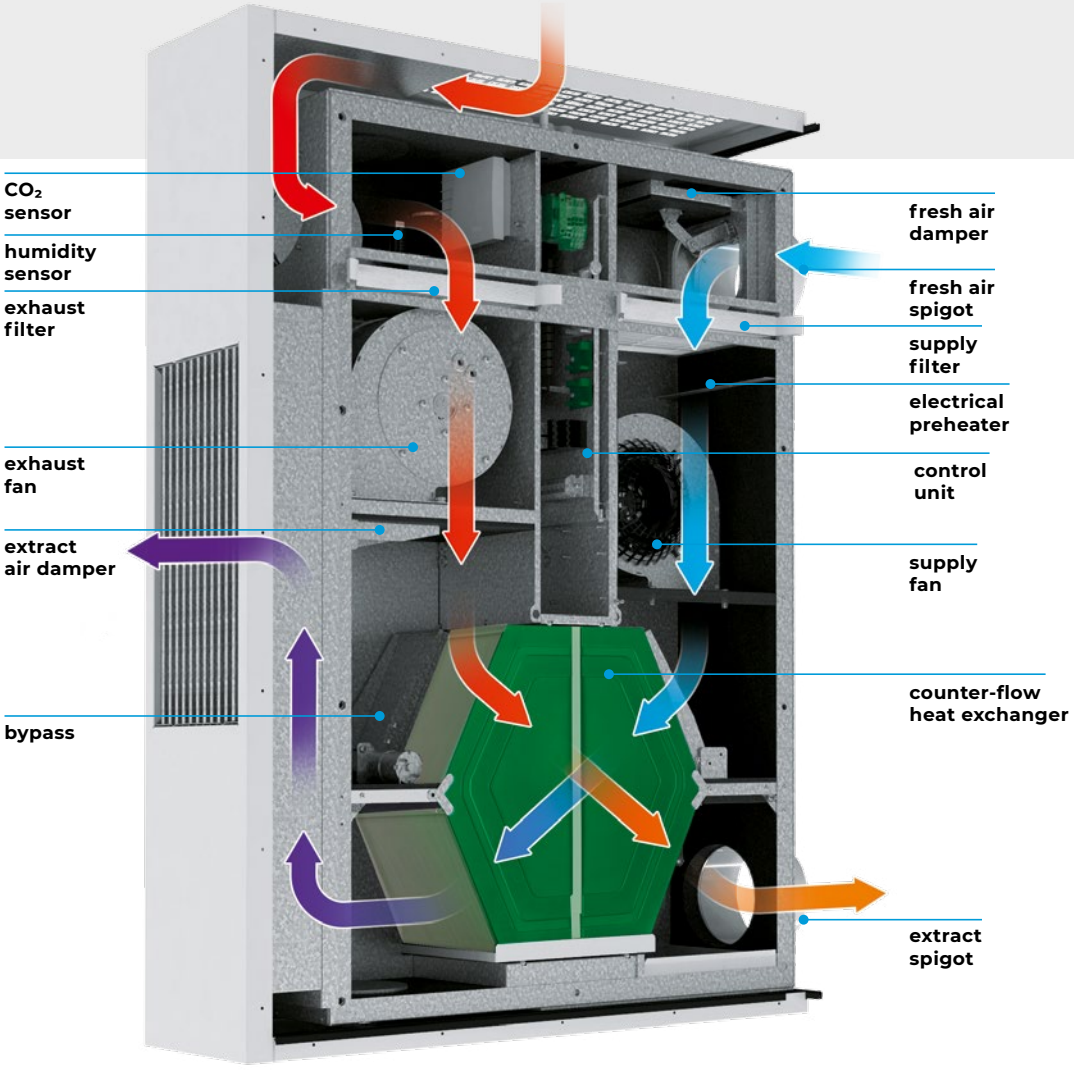
The Uni Max unit is equipped with a plate counter-flow polystyrene heat exchanger for heat recovery. The unit condensate is collected and drained to the drain pan under the heat exchanger.

The Uni Max E unit is equipped with an enthalpy plate counter-flow heat exchanger for energy (heat and humidity) recovery. Due to humidity recovery condensate is not generated in the enthalpy heat exchanger.

The air flows are completely separated in the heat exchanger. Thus smells and contaminants are not transferred from the extract air to the supply air.

Heat recovery is based on heat and/or humidity transfer through the heat exchanger plates. In the cold season supply air is heated in the heat exchanger by transferring the heat energy of warm and humid extract air to the cold fresh air. Heat recovery minimizes ventilation heat losses and heating costs respectively.

In the warm season the heat exchanger performs reverse and intake air is cooled in the heat exchanger by the cool extract air. That reduces operation load on air conditioners and saves electricity.



AIR DISTRIBUTION

CONTROL AND AUTOMATION

The Uni Max A21 units are equipped with an integrated automation system. The remote control panel is not included in the delivery set (sold separately).

The A21 controller allows integrating the unit into the Smart Home system or BMS (Building Management System).

Unit control via Wi-Fi using the mobile application Vents AHU. The Uni Max A14 units are equipped with an integrated automation system and the A14 wall mounted sensor control panel with LED-indication.

Modbus

Download the Vents AHU app for Android

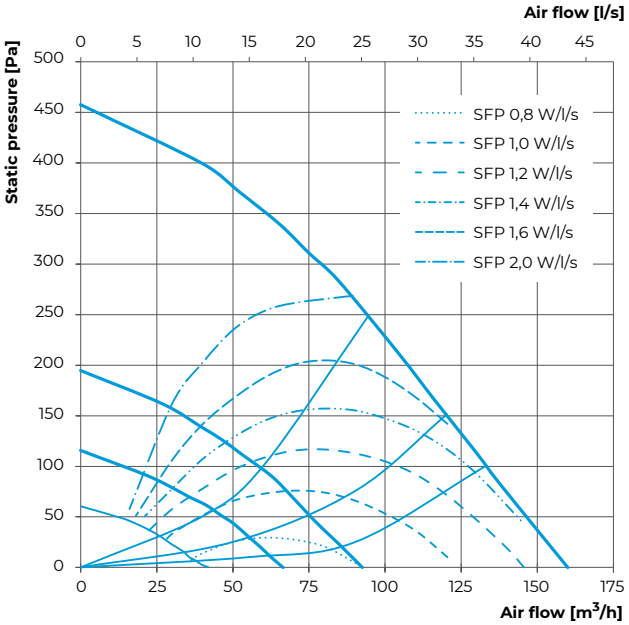
Download the Vents AHU app for iOS

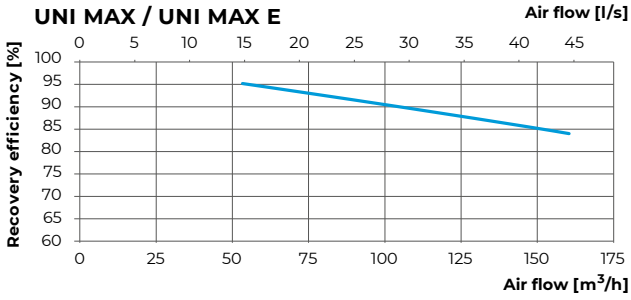
AUTOMATION FUNCTIONS

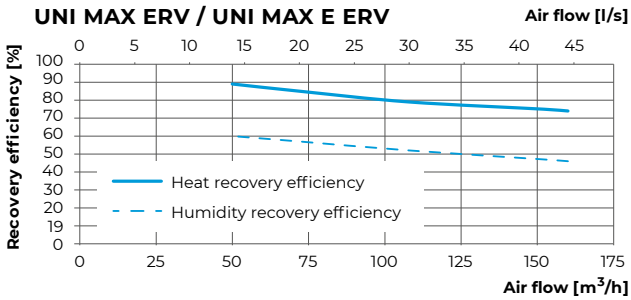
Functions	Uni Max A21	Uni Max A14
Unit control via Wi-Fi using a mobile application	+	–
Unit control via a wired remote control panel	 A22 control panel (option)	 A14 control panel
Unit control via a wireless remote control panel	 A22 Wi-Fi control panel (option)	–
Unit control via a remote wired LCD control panel	 A25 control panel (option)	–
BMS (Building Management System)	RS-485	–
	Wi-Fi	–
	Ethernet	–
	MODBUS (RTU, TCP)	–
Speed selection	+	+
Filter replacement indication	by filter timer	by filter timer
Alarm indication	full alarm description in the mobile application	+
Week-scheduled operation	+	–
Bypass	automatic	manual
	manual	–
Timer	+	–
Boost mode	+	–
Fireplace mode	+	–
Freeze protection	through cyclic stops of the supply fan	through cyclic stops of the supply fan
	through preheating (option)	–
Reheater connection	option	–
Cooler connection	option	–
Minimum supply air temperature control	option	–
Humidity control	option	option
CO_2 control	option	option
VOC control	option	option
PM2.5 control	option	option
Fire alarm system connection	option	–

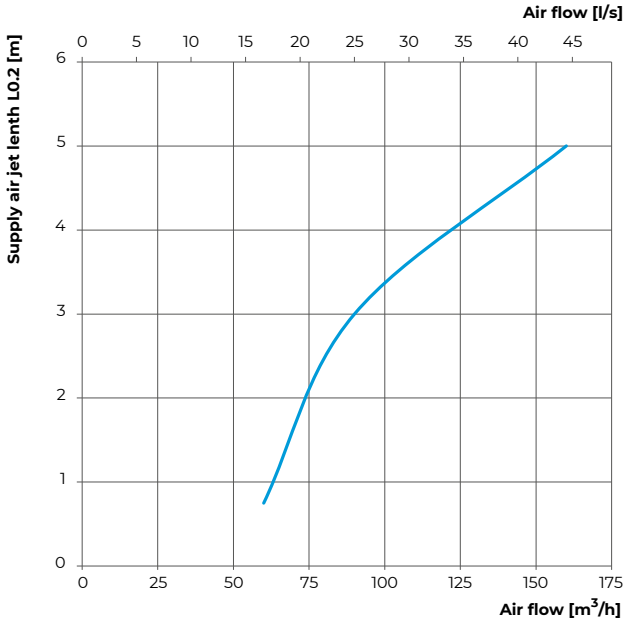
TECHNICAL DATA

Model	Uni			Uni Max E			Uni Max ERV			Uni Max E ERV		
Voltage [V / 50/60 Hz]	1~ 230						1~ 230					
Max. unit power without electric heater [W]	58						58					
Integrated electric preheater power [W]	–			800			–			800		
Max. unit current without electric heater [A]	0.5						0.5					
Max. unit current with electric heater [A]	–			4			–			4		
Max. air flow [m³/h]	160						160					
RPM [min⁻¹]	2800						2800					
Speed [m³/h]	60	90	160	60	90	160	60	90	160	60	90	160
Sound pressure level LpA to environment at 1 m [dBA]	25	35	42	25	35	42	25	35	42	25	35	42
Sound pressure level LpA to environment at 3 m [dBA]	16	26	32	16	26	32	16	26	32	16	26	32
Operating temperature [°C]	–25...+40						–25...+40					
Case material	Aluzinc						Aluzinc					
Insulation [mm]	20						20					
Extract filter	Coarse 90% / G4						Coarse 90% / G4					
Supply filter	ePM1 70% / F7 (G4 option)						ePM1 70% / F7 (G4 option)					
Connected air duct diameter [mm]	125						125					
Weight [kg]	47						47					
Heat recovery efficiency [%]	84–95						74–89					
Humidity recovery efficiency [%]	–						47–60					
Heat exchanger type	Counter-flow						Counter-flow					
Heat exchanger material	Polystyrene						Enthalpic membrane					
SEC class	A+						A					









SOUND POWER LEVEL

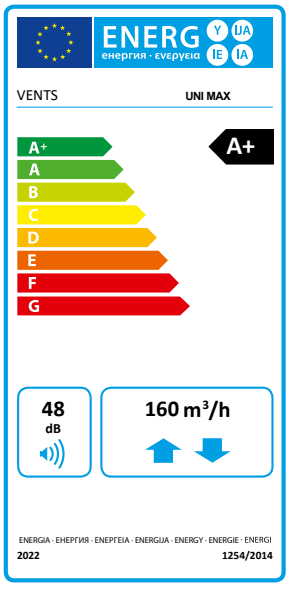
Sound power level, A - weighted	General	Octave frequency band, Hz									LpA, 3m	LpA, 1m
	dB(A)	200	250	315	400	500	630	800	1000	1250	dB(A)	dB(A)
LwA to environment @ 160m3h	53	37	41	41	45	49	40	42	41	38	32	42
LwA to environment @ 90m3h	46	31	37	43	36	35	33	34	33	30	26	35
LwA to environment @ 60m3h	36	32	25	24	25	24	23	23	21	19	16	25

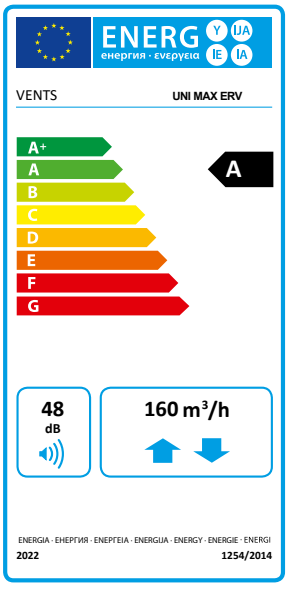
Sound power level, A - weighted	General	Octave frequency band, Hz									LpA, 3m	LpA, 1m
	dB(A)	1600	2000	2500	3150	4000	5000	6300	8000	10000	dB(A)	dB(A)
LwA to environment @ 160m3h	53	37	37	35	31	27	23	21	24	25	32	42
LwA to environment @ 90m3h	46	29	29	27	24	21	19	19	23	24	26	35
LwA to environment @ 60m3h	36	18	18	19	17	17	18	19	23	24	16	25

ENERGY LABELING

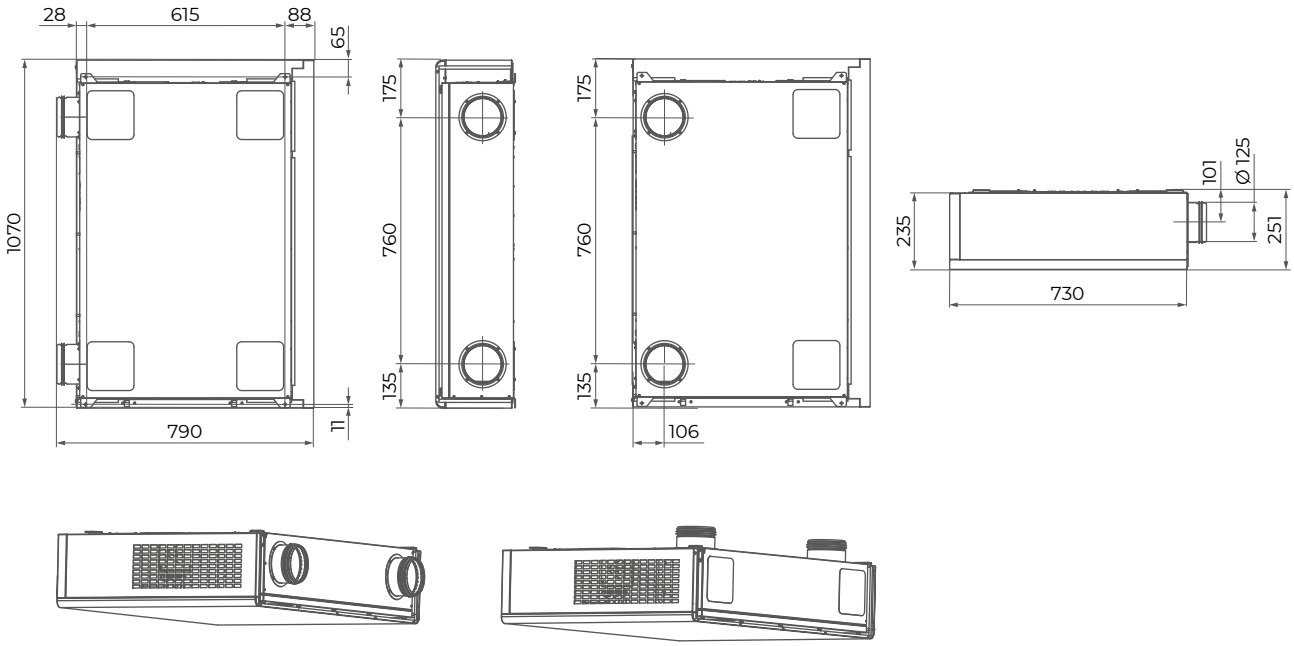
Supplier model identifier and options installed	Uni Max (E)	Uni Max (E)ERV
Reference climate	Cold/Average/ Warm	Cold/Average/ Warm
SEC in [kWh/(m²a)] for each type of climate	-81,3/-42,4/-17,5	-76,9/-40,2/-16,5
SEC Class	A+	A
Declared typology	BVU	
Type of drive installed	Variable speed	
Type of heat recovery	Recuperative	
Thermal efficiency*	88	78
Maximum flow rate in [m³/h]	160	160
Maximum electric power in [W]	58	58
Sound power level (LWA) in [dB(A)]	48	48
Reference flow rate [m3/s]	0,031	0,031
Reference pressure difference in [Pa]	0	0
SPI in [W/m³/h]	0,232	0,232
Control factor and typology	Local demand control	
Internet address	http://www.ventilation-system.com/	

*Efficiency according EN13141-7:2010 at reference flow rate





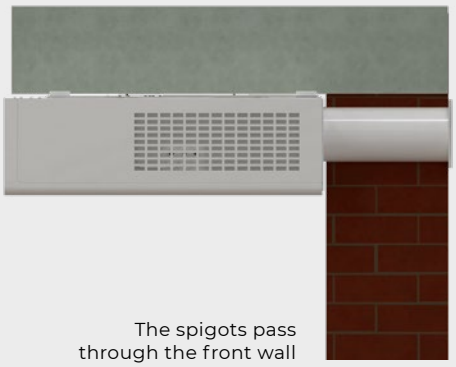
OVERALL DIMENSIONS [mm]



PRODUCT RANGE

	Heat exchanger	Air dampers	Preheater	Bypass
Uni Max S14	HRV	•		•
Uni Max S21		•		•
Uni Max E S21		•	•	•
Uni Max ERV S14	ERV	•		•
Uni Max ERV S21		•		•
Uni Max E ERV S21		•	•	•

MOUNTING



The spigots pass
through the front wall

ACCESSORIES

		Uni Max A14 Uni Max ERV A14	Uni Max A21 Uni Max E A21	Uni Max ERV A21 Uni Max E ERV A21
Coarse 90% / G4 panel filter		SF 233x175x22 Coarse 90% / G4		
ePM1 70% / F7 panel filter		SF 233x175x22 ePM1 70% / F7		
Control panel		–	A22	
Wireless control panel		–	A22 Wi-Fi	
LCD control panel		–	A25	
Humidity sensor		HV2		
Humidity sensor		HR-S		
CO_2 sensor		CO2-2		
CO_2 sensor with indication		CO2-1		
VOC sensor		–	DPWQ30600	
CO_2 sensor		–	DPWQ40200	
CO_2 sensor		CO2-3		
Humidity sensor		–	DPWC11200	
Outer grille		MVMA 125 bVn Al		
Electric reheater		NKD 125 A21 V.2 series		

The brochure information is for reference only.
VENTS reserves the rights to modify any of its products' features, designs, components and specifications at any time and without notice to maintain the development and quality of manufactured goods.

2023-02