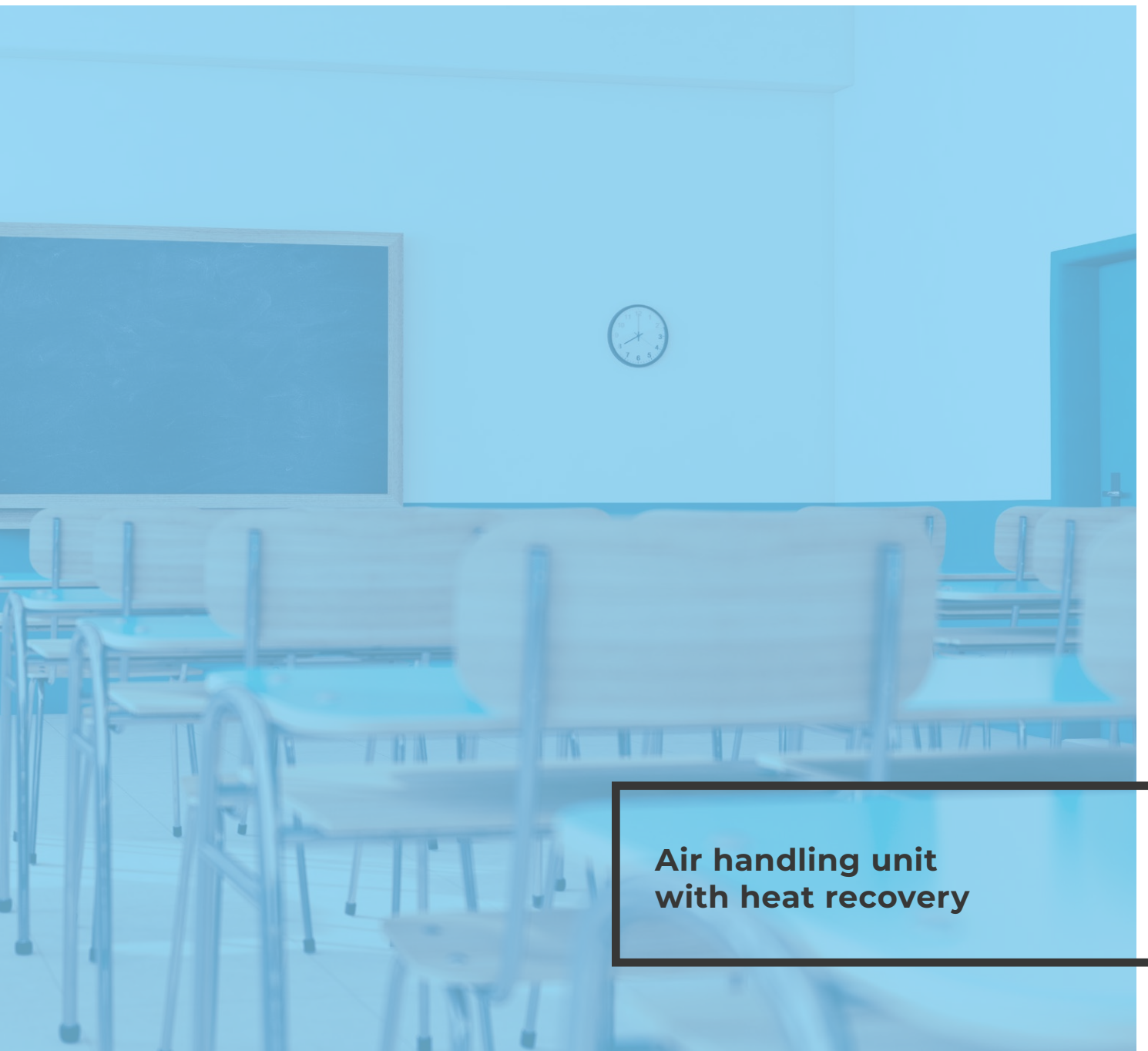


# HYBRID



**Air handling unit  
with heat recovery**

# HYBRID MAX

**DECENTRALIZED UNIT  
FOR THE SMALL OFFICES,  
FACILITIES, CLASSROOMS  
AND LIVING SPACES**



**160 m<sup>3</sup>/h**



**95 %**



**32 dB(A)**



## 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.

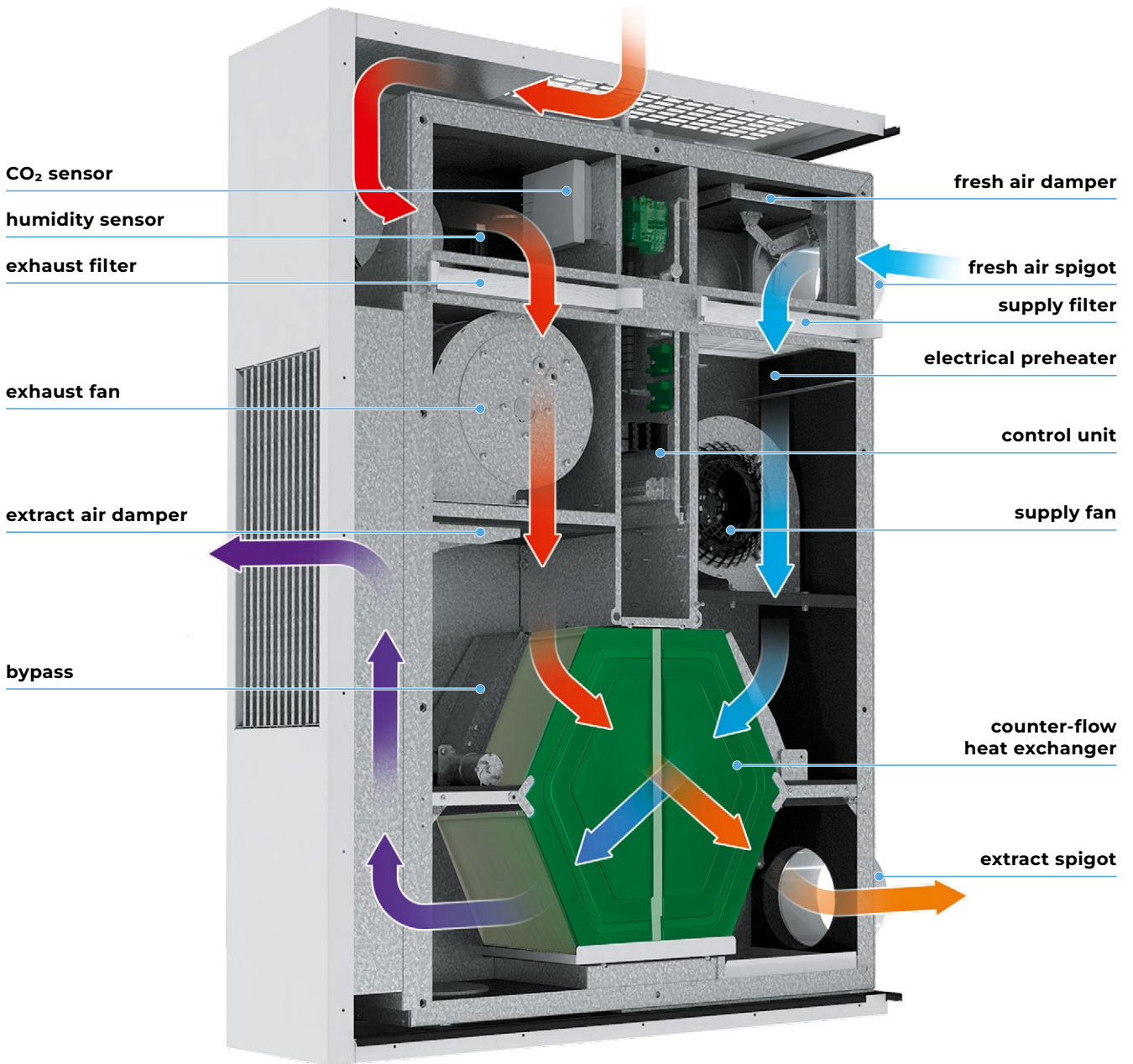
Clean air due to the use of an ePM1 70% / F7 filter for supply air filtration.

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 built-in bypass and air dampers.

## Design



## Air distribution



## Casing

The casing is made of galvanized sheet metal with white painted decorative cover. The contemporary design of the Hybrid 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 **Hybrid Max** unit is equipped with two automatic air dampers, which close automatically when the unit is off to prevent drafts.

## 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 %).

## Control and automation

The **Hybrid Max S21** units are equipped with an integrated automation system. The remote control panel is not included in the delivery set (sold separately).

The S21 controller allows integrating the unit into the Smart Home system or **BMS (Building Management System)**.

Unit control via Wi-Fi using the mobile application **Blauberg AHU**.

 <p>Download the <b>Blauberg Home app</b> for <b>Android</b></p>	 <p>Download the <b>Blauberg Home app</b> for <b>iOS</b></p>	
---	---	---

The **Hybrid Max S14** units are equipped with an integrated automation system and the S14 wall mounted sensor control panel with LED-indication.

## Bypass

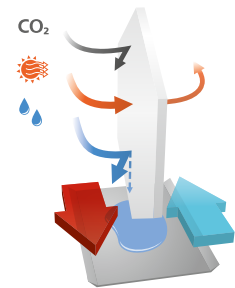
The **Hybrid Max** units are equipped with a bypass for ventilation (air cooling by the cool air from outside).

## Preheating

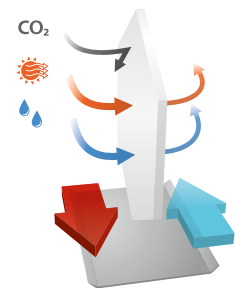
The **Hybrid Max E S21** units are equipped with an electrical preheater to prevent heat exchanger freezing in the cold climate.

## Heat recovery

The **Hybrid 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 **Hybrid 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.

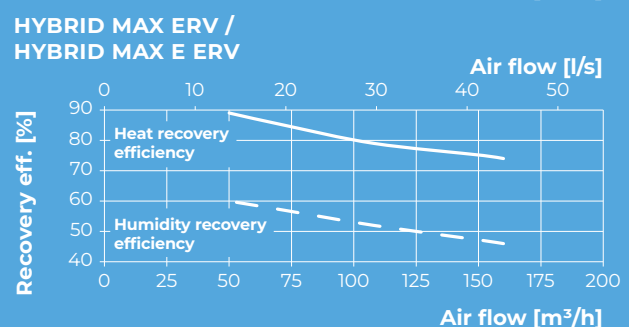
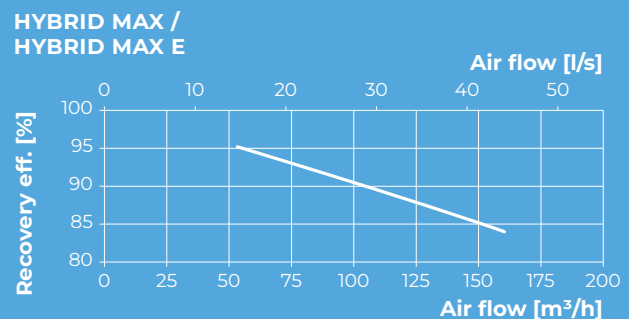
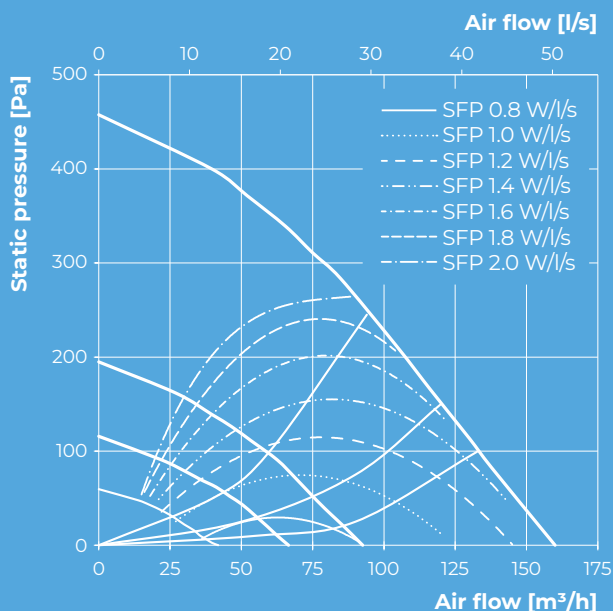
In the warm season the heat exchanger performs reverse and intake air is cooled in the heat exchanger by the cool extract air. That reduces operation load on air conditioners and saves electricity.

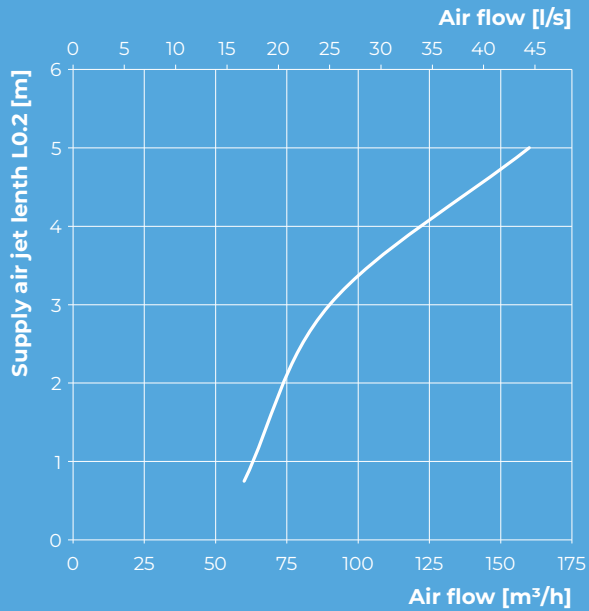
## Automation functions

Functions	Hybrid Max S21	Hybrid Max S14
<b>Unit control via Wi-Fi using a mobile application</b>	+	-
<b>Unit control via a wired remote control panel</b>	 S22 control panel (option)	 S14 control panel
<b>Unit control via a wireless remote control panel</b>	 S22 Wi-Fi control panel (option)	-
<b>Unit control via a remote wired LCD control panel</b>	 S25 control panel (option)	-
<b>BMS (Building Management System)</b>	RS-485	-
	Wi-Fi	-
	Ethernet	-
	MODBUS (RTU, TCP)	-
<b>Speed selection</b>	+	+
<b>Filter replacement indication</b>	by filter timer	by filter timer
<b>Alarm indication</b>	full alarm description in the mobile application	-
<b>Week-scheduled operation</b>	+	-
<b>Bypass</b>	automatic	manual
	manual	-
<b>Timer</b>	+	-
<b>Boost mode</b>	+	-
<b>Fireplace mode</b>	+	-
<b>Freeze protection</b>	through cyclic stops of the supply fan	through cyclic stops of the supply fan
	through preheating (option)	-
<b>Reheater connection</b>	option	-
<b>Cooler connection</b>	option	-
<b>Minimum supply air temperature control</b>	option	-
<b>Humidity control</b>	option	option
<b>CO<sub>2</sub> control</b>	option	option
<b>VOC control</b>	option	option
<b>PM2.5 control</b>	option	option
<b>Fire alarm sensor connection</b>	option	-

## Technical data

Model	Hybrid Max			Hybrid Max E			Hybrid Max ERV			Hybrid 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 [m <sup>3</sup> /h]	160						160					
RPM [min <sup>-1</sup> ]	2800						2800					
Speed [m <sup>3</sup> /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

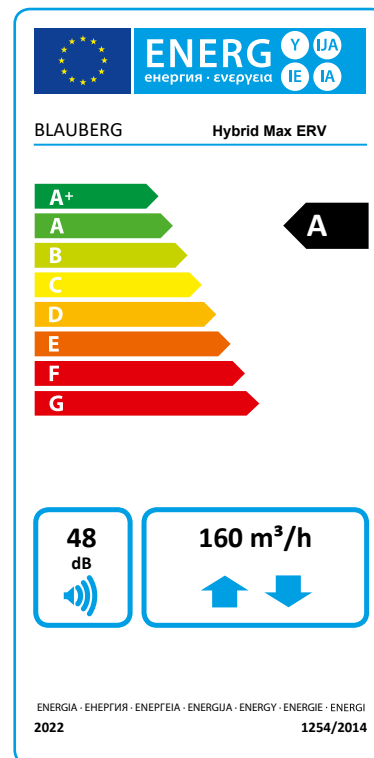
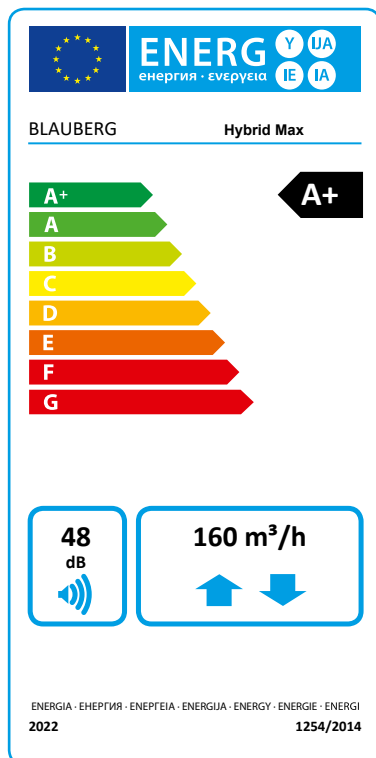
Sound power level, A-weighted	Total	Octave frequency bands [Hz]									LpA 3 m	LpA 1 m
		200	250	315	400	500	630	800	1000	1250		
LWA to environment at 160 m³/h	53	37	41	41	45	49	40	42	41	38	32	42
LWA to environment at 90 m³/h	46	31	37	43	36	35	33	34	33	30	26	35
LWA to environment at 60 m³/h	36	32	25	24	25	24	23	23	21	19	16	25

Sound power level, A-weighted	Total	Octave frequency bands [Hz]									LpA 3 m	LpA 1 m
		1600	2000	2500	3150	4000	5000	6300	8000	10000		
LWA to environment at 160 m³/h	53	37	37	35	31	27	23	21	24	25	32	42
LWA to environment at 90 m³/h	46	29	29	27	24	21	19	19	23	24	26	35
LWA to environment at 60 m³/h	36	18	18	19	17	17	18	19	23	24	16	25

## Energy labeling

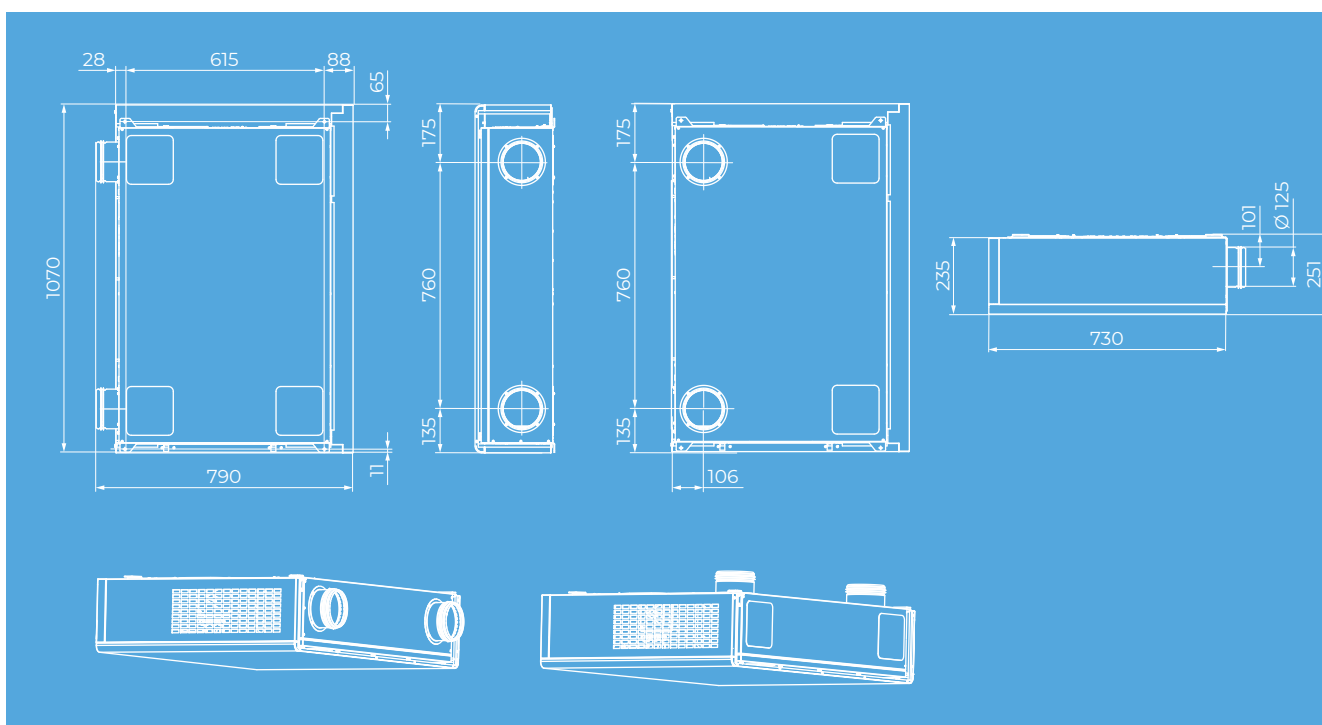
Supplier model identifier and options installed	Hybrid Max (E)	Hybrid Max (E) ERV
Reference climate	Cold/Average/Warm	Cold/Average/Warm
SEC in [kWh/(m <sup>2</sup> a)] for each type of climate	-81.3/-42.4/-17.5	-76.9/-40.2/-16.5
SEC Class	A+	A
Declared Typology	BVU	
Type of drive installed	Variable speed	
Type of heat recovery	Recuperative	
Thermal efficiency*	88	78
Maximum flow rate in [m <sup>3</sup> /h]	160	160
Maximum electric power in [W]	58	58
Sound power level (LWA) in [dB(A)]	48	48
Reference flow rate [m <sup>3</sup> /s]	0.031	0.031
Reference pressure difference in [Pa]	0	0
SPI in [W/m <sup>3</sup> /h]	0.232	0.232
Control factor and typology	Local demand control	
Internet address	<a href="http://www.ventilation-system.com/">http://www.ventilation-system.com/</a>	

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





## Overall dimensions [mm]



## Product range

	Heat exchanger	Air dampers	Preheater	Bypass
<b>Hybrid Max S14</b>	HRV	•		•
<b>Hybrid Max S21</b>		•		•
<b>Hybrid Max E S21</b>		•	•	•
<b>Hybrid Max ERV S14</b>	ERV	•		•
<b>Hybrid Max ERV S21</b>		•		•
<b>Hybrid Max E ERV S21</b>		•	•	•

## Mounting

Mounting to the supporting structure.  
The spigots pass through the front wall



Mounting through  
a suspended ceiling



Mounting to the  
supporting structure



## Accessories

		Hybrid Max S14 Hybrid Max ERV S14	Hybrid Max S21 Hybrid Max E S21	Hybrid Max ERV S21 Hybrid Max E ERV S21
<b>G4 panel filter</b>		FP 233x175x22 G4	FP 233x175x22 G4	FP 233x175x22 G4
<b>F7 panel filter</b>		FP 233x175x22 F7	FP 233x175x22 F7	FP 233x175x22 F7
<b>Control panel</b>		–	S22	S22
<b>Wireless control panel</b>		–	S22 Wi-Fi	S22 Wi-Fi
<b>LCD control panel</b>		–	S25	S25
<b>Humidity sensor</b>		FS2	FS2	FS2
<b>Humidity sensor</b>		HR-S	HR-S	HR-S
<b>Humidity sensor</b>		–	DPWC11200	DPWC11200
<b>CO<sub>2</sub> sensor with indication</b>		CD-1	CD-1	CD-1
<b>CO<sub>2</sub> sensor</b>		CD-2	CD-2	CD-2
<b>CO<sub>2</sub> sensor</b>		CD-3	CD-3	CD-3
<b>CO<sub>2</sub> sensor</b>		–	DPWQ40200	DPWQ40200
<b>VOC sensor</b>		–	DPWQ30600	DPWQ30600
<b>Electric reheater</b>		ENH S21 V.2	ENH S21 V.2	ENH S21 V.2
<b>Outer grille</b>		VDA 125 CFn Al	VDA 125 CFn Al	VDA 125 CFn Al





**blaubergventilatoren.de**

Blauberg Ventilatoren GmbH  
Aidenbachstr. 52  
D-81379 Munich  
info@blaubergventilatoren.de

Technical changes reserved.  
Illustrations and texts are non-binding.

**2|2023**

