Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR

Description

Heat recovery units units of the HRU-FlatAIR series are modern units with a capacity of 150 and 200 m3/h @100 Pa. For heat recovery is responsible for countercurrent exchanger made of plastic (PET) or enthalpic exchanger that recovers moisture. Due to their very compact size, they will find use in apartments and condominiums. The height of the device is only 200mm and the diameter of the connections is 125mm. This allows the entire installation to be built into a suspended ceiling without taking up any usable space. The device has a condensate tray integrated with the heat exchanger, which eliminates the risk of condensate appearing in an undesirable location. This is particularly important with this method of installation. An additional advantage is the design that allows full service of the unit without the need to disassemble the unit.

A built-in electric heater protects the heat exchanger from freezing, and a built-in RH sensor takes care of the optimal humidity level in the house. The recuperator connects to the controller and additional sensors via wireless radio communication. In addition, the HRU-FlatAIR unit can be connected to the Internet and controlled using a mobile app. The recuperator is made of self-supporting EPP construction, which is characterized by strength, lightness as well as very good thermal and acoustic insulation.

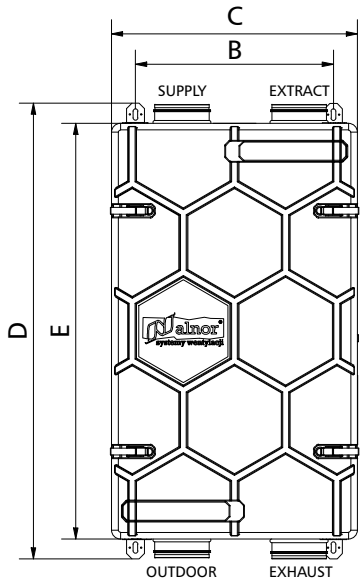
Each unit of the HRU-FlatAIR series can be equipped with a constant airflow module - Constant Flow.

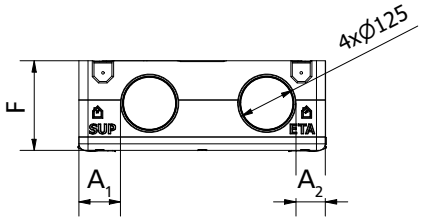
Available versions:

HRU-FlatAIR-150-H HRU-FlatAIR-200-H	- PET counterflow heat exchanger, built-in pre-heater, built-in RH sensor
HRU-FlatAIR-150E-H HRU-FlatAIR-200E-H	- Enthalpy counterflow heat exchanger, built-in pre-heater, built-in RH sensor

HRU-FlatAIR-…-CF - each FlatAIR series air handling unit can be equipped with a Constant Flow module - **ask your sales consultant!**

Dimensions





	A_1 [mm]	A_2 [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
FlatAIR-150	93	66	443	550	1020	930	200
FlatAIR-200	93	66	443	550	1020	930	200

Product code example

Product Code: **HRU-FlatAIR - 150E- H -CF**

type
version
air flow
pre-heater
constant flow

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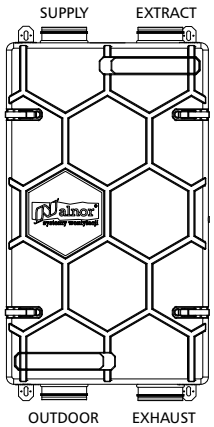
Technical data

	HRU-FlatAIR -150-H/ HRU-FlatAIR-150-H-CF	HRU-FlatAIR-200-H/ HRU-FlatAIR-200-H-CF
Air flow [m^3/h] @ 100 Pa	150	200
Maximal efficiency %[1]	94,0	93,0
Efficiency % (acc. 1254/2014)[2]	88,5	86,1
Maximal moisture efficiency %	-	-
Heat exchanger	counterflow PET	counterflow PET
Voltage [V/Hz]	230 / 50	230 / 50
Maximum power consumption [W]	70	77,9
Sound power level L_{WA}[dB (A)]	49	49
Weight [kg]	20	20
Filters	ISO Coarse 70% / ISO Coarse 70%	
Built-in pre-heater	√	√
Pre-heater power [W]	1000	1000
Built-in RH sensor	√	√

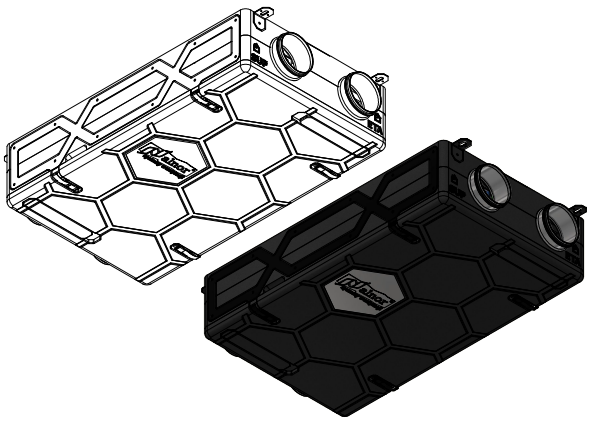
[1] Maximal thermal efficiency acc. to EN13141-7 at minimum air flow
[2] Recovery efficiency at the reference point, that is, about 70% of the maximum flow according to EN 13141-7, according to EU 1253/2014 and EU 1254/2014

Version installation

Vertical
HRU-FlatAIR-150 / HRU-FlatAIR-200



Suspended
HRU-FlatAIR-150 / HRU-FlatAIR-200



Installation / Model	FlatAIR-150-H / FlatAIR-150-H-CF	FlatAIR-200-H / FlatAIR-250-H-CF
Suspended	√	√
Vertical	√	√
Horizontal	X	X

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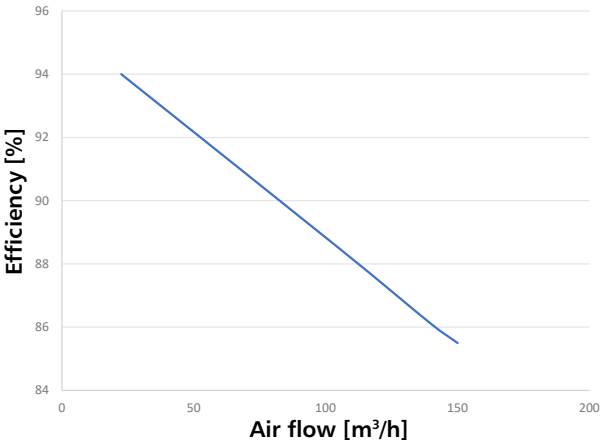
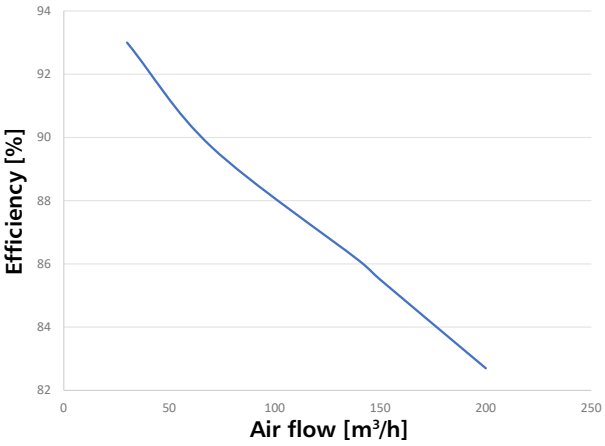
Air flow and efficiency

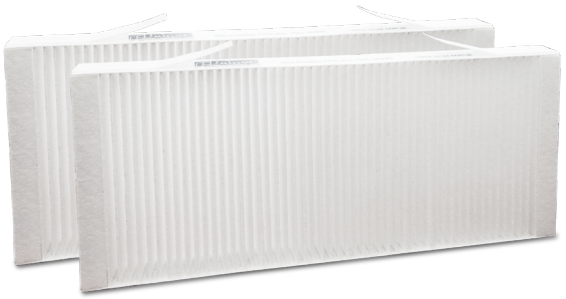
Performance curve (—)
HRU-FlatAIR-150-H



Performance curve (—)
HRU-FlatAIR-200-H



Filtres



ISO coarse 70% filters according to ISO 16890 (former G4) and ISO ePM1 55% according to ISO 16890 (former F7) standard with pleated design, resulting in greater filtration area and low pressure drops.

Code	*Filter class*	*Dimension [mm]*
HRQ-FlatAIR-200-FILT-C70	ISO Coarse 70%	138x217x23
HRQ-FlatAIR-200-FILT-ePM155	ISO ePM_1 55%	138x217x23

Heat recovery ventilation unit with counterflow exchanger

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Product fiche HRU-FlatAIR-150

Commission Regulation (UE) Nr 1253/2014, 1254/2014, Annex IV

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-150-H, HRU-FlatAIR-150-H-CF											
Control	Manual control			Clock control			Central demand control			Local demand control		
Control facotr	1			0,95			0,85			0,65		
Climat	Cold	**Average**	Warm	Cold	**Average**	Warm	Cold	**Average**	Warm	Cold	**Average**	Warm
Specific energy consuption (SEC) [kWh/(m2.a)]	-73,04	**-35,05**	-10,66	-74,35	**-36,19**	-11,70	-76,84	**-38,33**	-13,64	-81,23	**-42,01**	-16,92
SEC class	A+	**A**	E	A+	**A**	E	A+	**A**	E	A+	**A+**	E
The annual electricity consumption (AEC) [kWh/a/100m²]	976	**439**	394	937	**400**	355	866	**329**	284	748	**211**	166
The annual heating saved (AHS) [kWh/a/100m²]	8870	**4534**	2050	8906	**4552**	2059	8977	**4589**	2075	9121	**4662**	2108
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	88,5%											
Maximum flow rate [m³/h][2]	150											
Maxium electric power input [W]	70											
Sound power LWA [dB(A)]	49,0											
Reference flow rate [m³/s][3]	0,029											
Reference pressure difference [Pa][4]	50											
JPM [W/m³/h][5]	0,31											
Declared maxiumum leakages[6]	External: 1,20% Internal: 2,80%											
Position and description of visual filter warning	Visual on status LED light on unit and on status LED light on controller											
Internet address	www.ventilation-alnor.co.uk											

[1] According to EN 13141-7:2010
[2] According to EN 13141-7:2010 at pressure diference 100Pa
[3] According to EN 13141-7:2010 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-7:2010
[5] According to EN 13141-7:2010 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-7:2010

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR

Product fiche HRU-FlatAIR-200

Commission Regulation (UE) Nr 1253/2014, 1254/2014, Annex IV

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-200-H, HRU-FlatAIR-200-H-CF											
Control	Manual control			Clock control			Central demand control			Local demand control		
Control facotr	1			0,95			0,85			0,65		
Climat	Cold	**Average**	Warm	Cold	**Average**	Warm	Cold	**Average**	Warm	Cold	**Average**	Warm
Specific energy consuption (SEC) [kWh/(m2.a)]	-73,73	**-36,48**	-12,51	-74,91	**-37,44**	-13,35	-77,16	**-39,26**	-14,93	-81,18	**-42,44**	-17,63
SEC class	A+	**A**	E	A+	**A**	E	A+	**A**	E	A+	**A+**	E
The annual electricity consumption (AEC) [kWh/a/100m^2]	888	**351**	306	858	**321**	276	803	**266**	221	711	**174**	129
The annual heating saved (AHS) [kWh/a/100m^2]	8720	**4458**	2016	8764	**4480**	2026	8850	**4524**	2046	9024	**4613**	2086
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	86,1%											
Maximum flow rate [m^3/h][2]	200											
Maxium electric power input [W]	77,9											
Sound power LWA [dB(A)]	49,0											
Reference flow rate [m^3/s][3]	0,039											
Reference pressure difference [Pa][4]	50											
JPM [W/m^3/h][5]	0,24											
Declared maxiumum leakages[6]	External: 1,20% Internal: 2,80%											
Position and description of visual filter warning	Visual on status LED light on unit and on status LED light on controller											
Internet address	www.ventilation-alnor.co.uk											

[1] According to EN 13141-7:2010
[2] According to EN 13141-7:2010 at pressure diference 100Pa
[3] According to EN 13141-7:2010 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-7:2010
[5] According to EN 13141-7:2010 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-7:2010