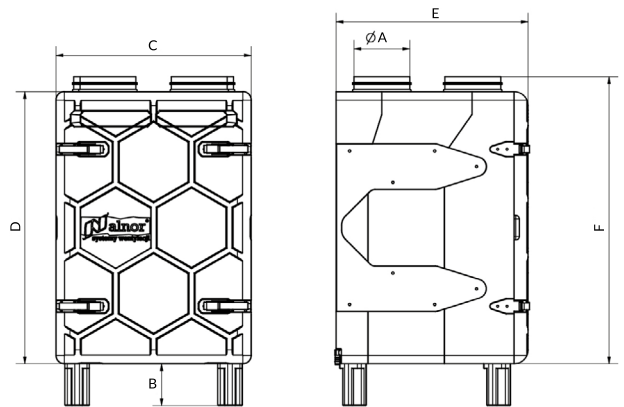


# Heat recovery ventilation unit with counterflow exchanger HRU-MinistAIR



## Dimensions



## Description

HRU-MinistAIR residential heat recovery units are a new version of a well recognized model, based on a completely new design. Airflows of 250 or 325 m<sup>3</sup>/h and self-supporting casing made of EPP, acting as thermal and acoustic insulation at the same time. Counter-flow heat exchangers, made of PET, are responsible for heat recovery and **enthalpic exchangers (E)** recover moisture. In addition, the built-in **RH sensor** will take care of moisture level in the building. **Left and Right version**, together with horizontal installation, will allow you to adapt the unit to almost each project. Moreover, **56 cm** width will allow installation in narrow spaces or wardrobes.

HRU-MinistAIR units can be equipped with a **Constant Flow (CF)** module. Wireless communication is used, likewise other series, both for controllers and **IAQ sensors**. Control is possible also via a **mobile application**.

The electric pre-heater will provide an additional frost protection for the heat exchanger.

### Available versions:

- HRU-MinistAIR-...-250-H - PET counterflow heat exchanger, built-in RH sensor
- HRU-MinistAIR-...-325-H
- HRU-MinistAIR-...-250E-H - enthalpy exchanger, built-in RH sensor
- HRU-MinistAIR-...-325E-H

### Connections:

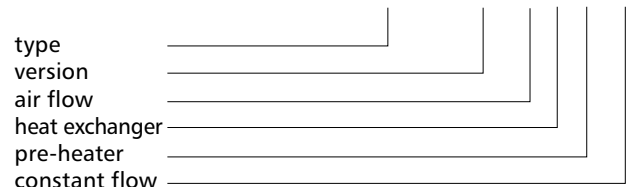
- L - left side
- R - right side
- LS - left side horizontal
- RS - right side horizontal

HRU-MinistAIR-...-all model MinistAIR can be equipped with the Constant Flow system (on request).

	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
MinistAIR-250	160	120	560	780	550	822,5
MinistAIR-325	160	120	560	780	550	822,5

### Product code example

Product code: **HRU-MinistAIR - L - 250E - H - CF**



### Example:

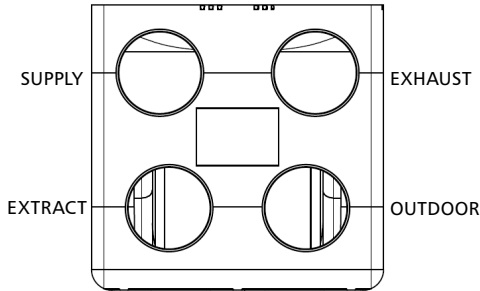
**HRU-MinistAIR-L-250E-H-CF** - floor standing model, with an enthalpy heat exchanger, heater and CF system.

# Heat recovery ventilation unit with counterflow exchanger **HRU-MinistAIR**

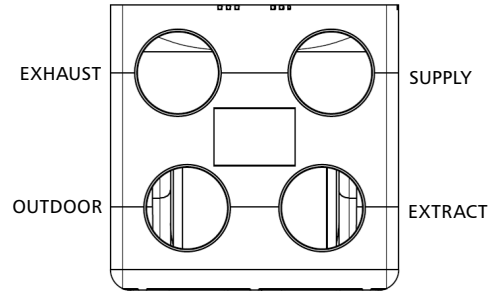
## Versions

### Vertical installation

HRU-MinistAIR-...-L

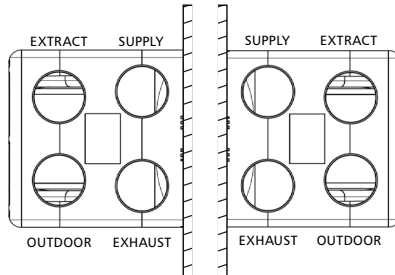
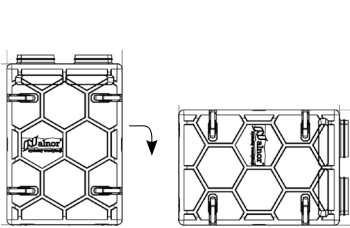


HRU-MinistAIR-...-R

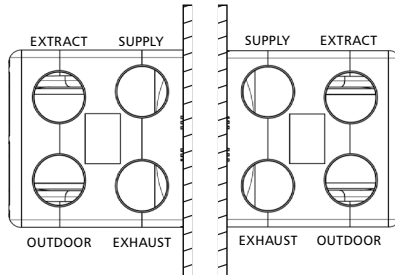
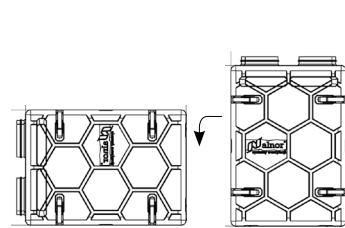


### Horizontal installation

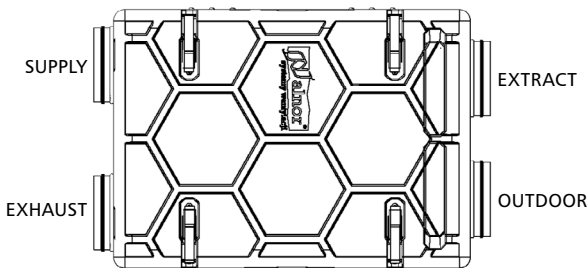
HRU-MinistAIR-L-...



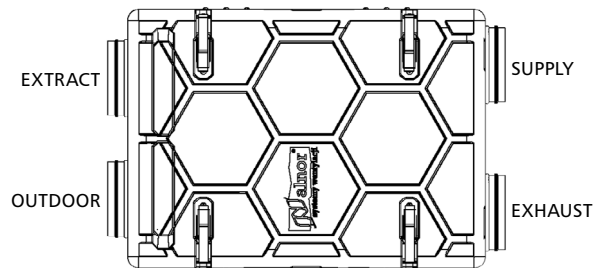
HRU-MinistAIR-R-...



HRU-MinistAIR-LS-...



HRU-MinistAIR-RS-...



Installation / Model	HRU-MinistAIR-L-250-H / HRU-MinistAIR-R-250-H	HRU-MinistAIR-LS-250-H / HRU-MinistAIR-RS-250-H	HRU-MinistAIR-L-325-H / HRU-MinistAIR-R-325-H	HRU-MinistAIR-LS-325-H / HRU-MinistAIR-RS-325-H
Vertical	✓	✗	✓	✗
Horizontal	✓	✓	✓	✓

# Heat recovery ventilation unit with counterflow exchanger

## HRU-MinistAIR

### Technical data

	HRU-MinistAIR -250-H/ HRU-MinistAIR-250-H-CF	HRU-MinistAIR-250E-H/ HRU-MinistAIR-250E-H-CF	HRU-MinistAIR-325-H / HRU-MinistAIR-325-H-CF	HRU-MinistAIR-325E-H / HRU-MinistAIR-325E-H-CF
Air flow [m <sup>3</sup> /h] @ 100 Pa	250	250	325	325
Maximal efficiency % <sup>1</sup>	96,0	92,0	95,5	88,0
Efficiency % (acc. 1254/2014) <sup>2</sup> Efficiency % (acc. 1254/2014) <sup>2</sup>	90,2	82,4	88,1	78,5
Maximal moisture efficiency %	-	77,8	-	74,8
Heat exchanger	counterflow PET	enthalpy	counterflow PET	enthalpy
Voltage [V/Hz]	230 / 50	230 / 50	230 / 50	230 / 50
Maximum power con- sumption [W]	106,0	94,0	145,0	135,0
Sound power level <i>L</i> <sub>WA</sub> [dB (A)]	48	48	49	49
Weight [kg]	25	25	25	25
Filters	ISO Coarse 70% / ISO Coarse 70%			
Built-in pre-heater	✓	✓	✓	✓
Pre-heater	1500	1500	1500	1500
Built-in RH sensor	✓	✓	✓	✓

<sup>1</sup> Maximal thermal efficiency acc. to EN13141-7 at minimum air flow

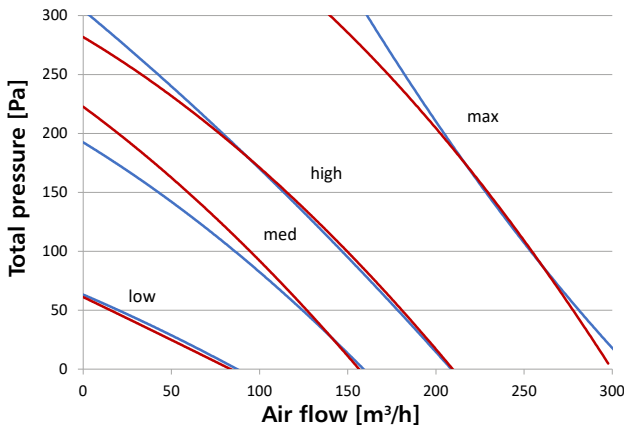
<sup>2</sup> Recovery efficiency at the reference point, that is, about 70% of the maximum flow according to EN 13141-7, according to EU 1253/2014 and EU 1254/2014

# Heat recovery ventilation unit with counterflow exchanger

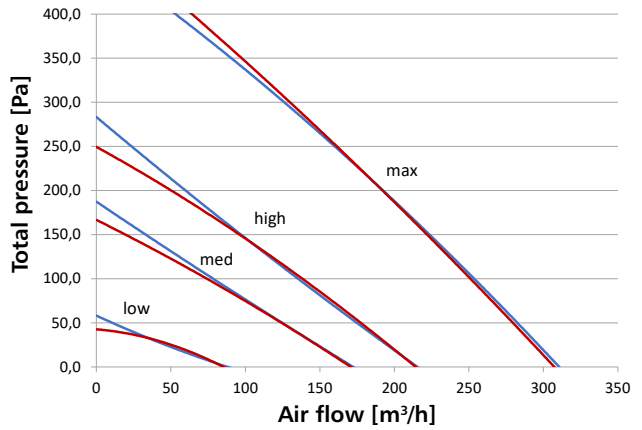
## HRU-MinistAIR

### Air flow and efficiency

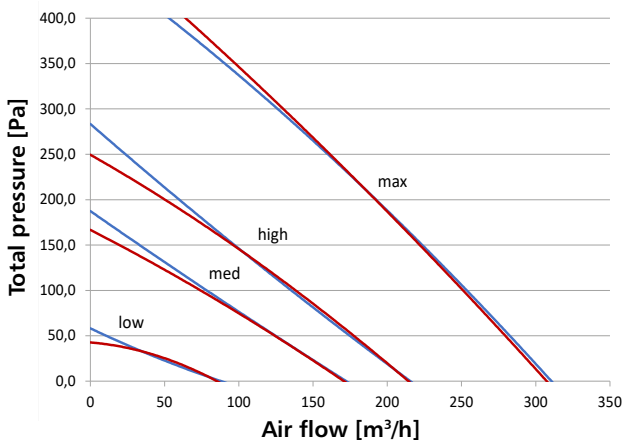
HRU-MinistAIR-250-H — SUPPLY — EXHAUST



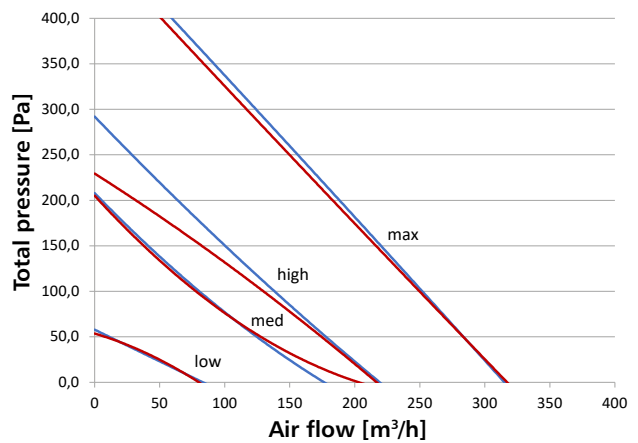
HRU-MinistAIR-L-250E-H — SUPPLY — EXHAUST



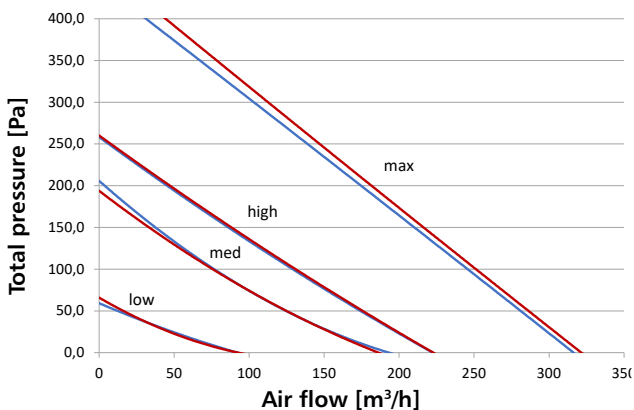
HRU-MinistAIR-L-250E-H — SUPPLY — EXHAUST



HRU-MinistAIR-LS-250-H — SUPPLY — EXHAUST



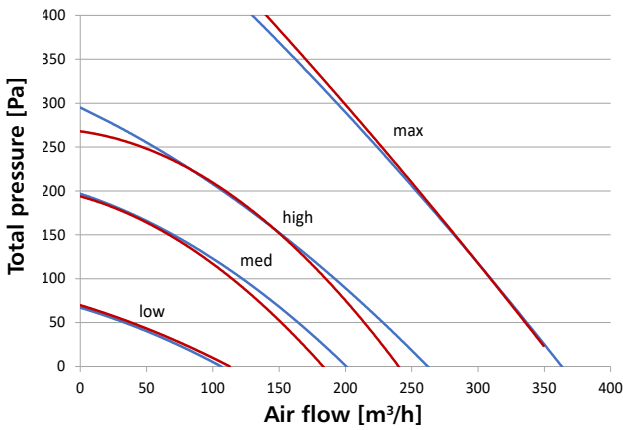
HRU-MinistAIR-LS-250E-H — SUPPLY — EXHAUST



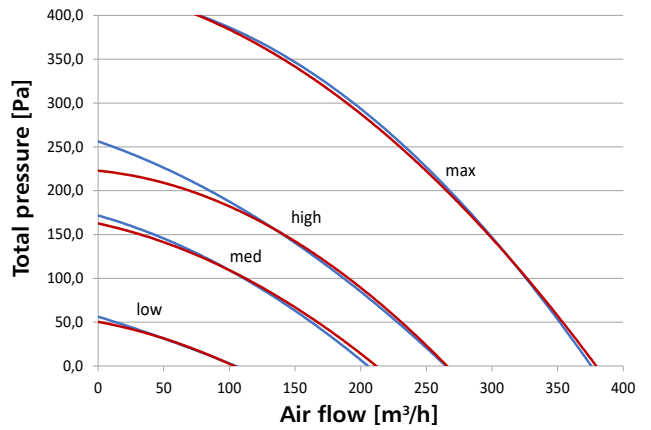
# Heat recovery ventilation unit with counterflow exchanger HRU-MinistAIR

## Air flow and efficiency

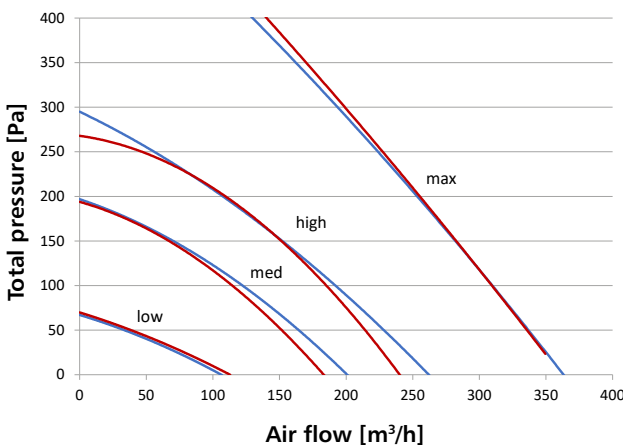
HRU-MinistAIR-325-H    — SUPPLY    — EXHAUST



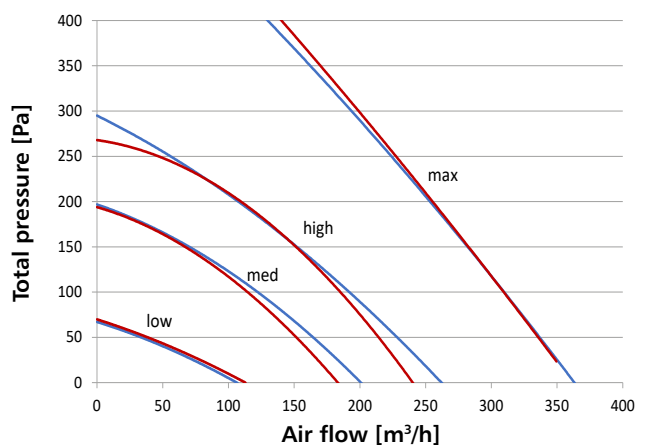
HRU-MinistAIR-L-325E-H    — SUPPLY    — EXHAUST



HRU-MinistAIR-LS-325-H    — SUPPLY    — EXHAUST



HRU-MinistAIR-LS-325E-H    — SUPPLY    — EXHAUST



Heat recovery ventilation unit with counterflow exchanger

# HRU-MinistAIR

## Filtres

*HRQ-MinistAIR-FILT-C70 (standard)*

*HRQ-MinistAIR-MinistAIR-FILTePM155 (option)*



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.

<i>Code</i>	<i>Filter class</i>	<i>Dimension [mm]</i>
<i>HRQ-MinistAIR-FILT-C70</i>	ISO Coarse 70%	280x182x23
<i>HRQ-MinistAIR-FILTePM155</i>	ISO ePM <sub>1</sub> 55%	280x182x23

# Heat recovery ventilation unit with counterflow exchanger **HRU-MinistAIR**

## Smart ventilation system SmartAIR



SmartAIR heat recovery system with zoning is the most intelligent, efficient system on the market. Why is it intelligent? The ventilation system works independently, based on readings from sensors. Besides knowing how many people are in the house, the system also knows where they are. Thus, it provides the right amount of air at the right time and place. A situation like this can be achieved by zoning, i.e. by dividing the house into day and night zones in accordance with the natural cycle of the day of the household members.

[Find out more about the HRQ-2ZONE](#)

## Complete EPP system



Choose thermally insulated EPP ducting. High mechanical strength, pre-insulated, and quick to assemble. You don't need an additional insulation layer. It comes in 15/43mm thicknesses.

EPP manifolds (distribution boxes)

Manifolds FLX-PLO-EPP-R are designed for use in domestic mechanical ventilation systems. They collect 75mm semi-rigid ducting, which is then distributed to the rooms. Typical installations contain from 1 to 2 such manifolds for the supply air and the extract air. Expanded polypropylene (EPP), the material used for the manifolds, is also an insulating material.

Duct and fittings made of EPP in thickness 15 or 43 mm.

[Check the elements of the EPP System?](#)

## Duct-mounted humidifier



The adiabatic humidifier is designed for domestic mechanical ventilation systems with a maximum airflow 600 m<sup>3</sup>/h. Filtered water naturally evaporates on a special matrix, and then the humidified air is distributed to the ventilation duct system and to the connected rooms.

The humidification process is regulated by a wireless room controller and a duct sensor. Built-in PTC heater compensates for temperature losses caused by the evaporation process. The housing is made of EPP, while the matrix is made of fiber glass.

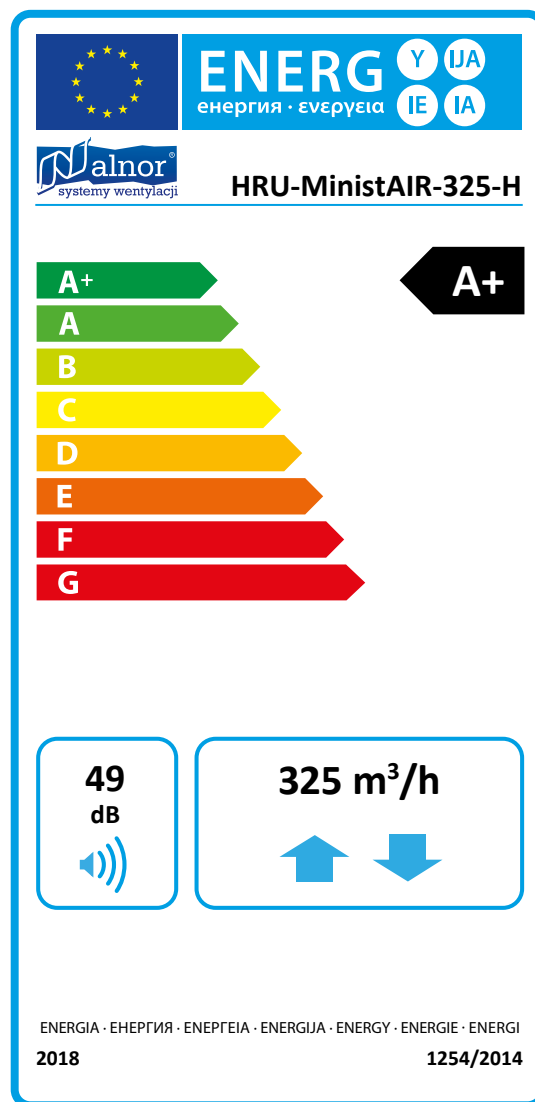
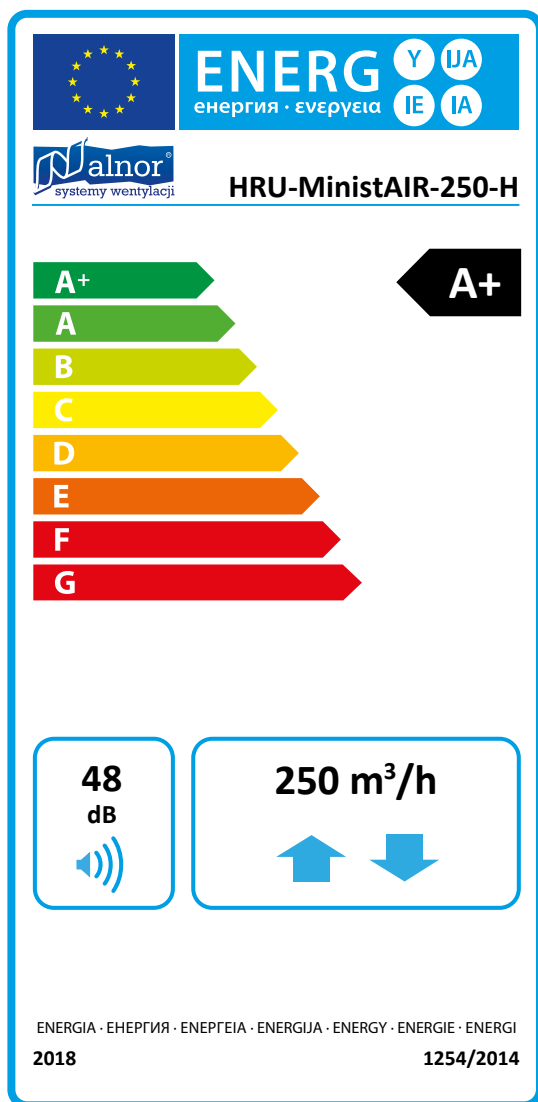
[Find out more about duct humidifier](#)

# Heat recovery ventilation unit with counterflow exchanger

## HRU-MinistAIR

### Energy class

Model	Sound power level $L_{WA}$ dB(A) [dB]	Air flow rate [m <sup>3</sup> /h]	Energy class			
			Manual control	Clock control	Central demand control (1 sensor)	Local demand control (2 sensors)
HRU-MinistAIR-250	48	250	A	A	A	A+
HRU-MinistAIR-325	49	325	A	A	A	A+





# Heat recovery ventilation unit with counterflow exchanger

## HRU-MinistAIR

### Product fiche HRU-MinistAIR-250

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-MinistAIR-L-250-H, HRU-MinistAIR-LS-250-H HRU-MinistAIR-R-250-H, HRU-MinistAIR-RS-250-H HRU-MinistAIR-L-250-H-CF, HRU-MinistAIR-LS-250-H-CF HRU-MinistAIR-R-250-H-CF, HRU-MinistAIR-RS-250-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 consumption (SEC) [kWh/(m <sup>2</sup> .a)]	-76,24	<b>-37,74</b>	-13,05	-77,30	<b>-38,64</b>	-13,87	-79,30	<b>-40,34</b>	-15,40	-82,82	<b>-43,27</b>	-17,99
SEC class	A+	<b>A</b>	E	A+	<b>A</b>	E	A+	<b>A</b>	E	A+	<b>A+</b>	E
The annual electricity consumption (AEC) [kWh/a/100m <sup>2</sup> ]	890	<b>535</b>	308	860	<b>323</b>	278	804	<b>267</b>	222	712	<b>175</b>	130
The annual heating saved (AHS) [kWh/a/100m <sup>2</sup> ]	8976	<b>4588</b>	2075	9006	<b>4604</b>	2882	9067	<b>4635</b>	2096	9190	<b>4698</b>	2124
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency <sup>1</sup>	90,2%											
Maximum flow rate [m <sup>3</sup> /h] <sup>2</sup>	250											
Maxium electric power input [W]	108											
Sound power LWA [dB(A)]	48											
Reference flow rate [m <sup>3</sup> /s] <sup>3</sup>	0,049											
Reference pressure difference [Pa] <sup>4</sup>	50											
JPM [W/m <sup>3</sup> /h] <sup>5</sup>	0,25											
Declared maximum leakages <sup>6</sup>	External: 1,17% Internal: 2,56%											
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											

<sup>1</sup> According to EN 13141-7:2010

<sup>2</sup> According to EN 13141-7:2010 at pressure difference 100Pa

<sup>3</sup> According to EN 13141-7:2010 at 70% of maximum flow at static pressure difference 50Pa

<sup>4</sup> According to EN 13141-7:2010

<sup>5</sup> According to EN 13141-7:2010 at reference point - 70% of maximum air flow

<sup>6</sup> According to EN 13141-7:2010

# Heat recovery ventilation unit with counterflow exchanger

## HRU-MinistAIR

### Product fiche HRU-MinistAIR-250E

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-MinistAIR-L-250E-H, HRU-MinistAIR-LS-250E-H HRU-MinistAIR-R-250E-H, HRU-MinistAIR-RS-250E-H HRU-MinistAIR-L-250E-H-CF, HRU-MinistAIR-LS-250E-H-CF HRU-MinistAIR-R-250E-H-CF, HRU-MinistAIR-RS-250E-H-CF											
Control	Manual control			Clock control			Central demand control			Local demand control		
Control factor	1			0,95			0,85			0,65		
Climat	Cold	Average	Warm	Cold	Average	Warm	Cold	Average	Warm	Cold	Average	Warm
Specific energy consumption (SEC) [kWh/(m <sup>2</sup> .a)]	-71,92	<b>-35,79</b>	-12,47	-73,17	<b>-36,77</b>	-13,29	-75,55	<b>-38,62</b>	-14,83	-79,89	<b>-41,89</b>	-17,49
SEC class	A+	<b>A</b>	E	A+	<b>A</b>	E	A+	<b>A</b>	E	A+	<b>A+</b>	E
The annual electricity consumption (AEC) [kWh/a/100m <sup>2</sup> ]	868,3	<b>331,3</b>	286,3	840,4	<b>303,4</b>	258,4	788,9	<b>251,9</b>	206,9	703,0	<b>166,0</b>	121,0
The annual heating saved (AHS) [kWh/a/100m <sup>2</sup> ]	8490	<b>4340</b>	1962	8545	<b>4368</b>	1975	8654	<b>4424</b>	2000	8874	<b>4536</b>	2051
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency <sup>1</sup>	82,4%											
Maximum flow rate [m <sup>3</sup> /h] <sup>2</sup>	77,8%											
Maximum electric power input [W]	250											
Sound power LWA [dB(A)]	94											
Reference flow rate [m <sup>3</sup> /s] <sup>3</sup>	48											
Reference pressure difference [Pa] <sup>4</sup>	0,049											
JPM [W/m <sup>3</sup> /h] <sup>5</sup>	50											
Declared maximum leakages <sup>6</sup>	0,23											
Position and description of visual filter warning	External: 1,00% Internal: 2,80%											
Internet address	Visual on status LED light on unit and on status LED light on controller											
Adres strony www	www.ventilation-alnor.co.uk											

<sup>1</sup> According to EN 13141-7:2010

<sup>2</sup> According to EN 13141-7:2010 at pressure difference 100Pa

<sup>3</sup> According to EN 13141-7:2010 at 70% of maximum flow at static pressure difference 50Pa

<sup>4</sup> According to EN 13141-7:2010

<sup>5</sup> According to EN 13141-7:2010 at reference point - 70% of maximum air flow

<sup>6</sup> According to EN 13141-7:2010

## Heat recovery ventilation unit with counterflow exchanger

**HRU-MinistAIR****Product fiche HRU-MinistAIR-325****Commission Regulation (UE) Nr 1253/2014, 1254/2014, Annex IV**

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-MinistAIR-L-325-H, HRU-MinistAIR-LS-325-H HRU-MinistAIR-R-325-H, HRU-MinistAIR-RS-325-H HRU-MinistAIR-L-325-H-CF, HRU-MinistAIR-LS-325-H-CF HRU-MinistAIR-R-325-H-CF, HRU-MinistAIR-RS-325-H-CF											
Control	Manual control			Clock control			Central demand control			Local demand control		
Control factor	1			0,95			0,85			0,65		
Climat	Cold	Average	Warm	Cold	Average	Warm	Cold	Average	Warm	Cold	Average	Warm
Specific energy consumption (SEC) [kWh/(m <sup>2</sup> .a)]	-74,25	<b>-36,39</b>	-12,07	-75,44	<b>-37,39</b>	-12,97	-77,69	<b>-39,28</b>	-14,65	-81,69	<b>-42,55</b>	-17,51
SEC class	A+	<b>A</b>	E	A+	<b>A</b>	E	A+	<b>A</b>	E	A+	<b>A+</b>	E
The annual electricity consumption (AEC) [kWh/a/100m <sup>2</sup> ]	917	<b>380</b>	335	885	<b>348</b>	303	824	<b>287</b>	242	724	<b>187</b>	142
The annual heating saved (AHS) [kWh/a/100m <sup>2</sup> ]	8845	<b>4521</b>	2045	8882	<b>4540</b>	2053	8956	<b>4578</b>	2070	9105	<b>4654</b>	2104
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency <sup>1</sup>	88,1%											
Maximum flow rate [m <sup>3</sup> /h] <sup>2</sup>	325											
Maximum electric power input [W]	150											
Sound power LWA [dB(A)]	49											
Reference flow rate [m <sup>3</sup> /s] <sup>3</sup>	0,063											
Reference pressure difference [Pa] <sup>4</sup>	50											
JPM [W/m <sup>3</sup> /h] <sup>5</sup>	0,27											
Declared maximum leakages <sup>6</sup>	External: 0,9% Internal: 1,96%											
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											

<sup>1</sup> According to EN 13141-7:2010<sup>2</sup> According to EN 13141-7:2010 at pressure difference 100Pa<sup>3</sup> According to EN 13141-7:2010 at 70% of maximum flow at static pressure difference 50Pa<sup>4</sup> According to EN 13141-7:2010<sup>5</sup> According to EN 13141-7:2010 at reference point - 70% of maximum air flow<sup>6</sup> According to EN 13141-7:2010

# Heat recovery ventilation unit with counterflow exchanger

## HRU-MinistAIR

### Product fiche HRU-MinistAIR-325E

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-MinistAIR-L-325E-H, HRU-MinistAIR-LS-325E-H HRU-MinistAIR-R-325E-H, HRU-MinistAIR-RS-325E-H HRU-MinistAIR-L-325E-H-CF, HRU-MinistAIR-LS-325E-H-CF HRU-MinistAIR-R-325E-H-CF, HRU-MinistAIR-RS-325E-H-CF											
Control	Manual control			Clock control			Central demand control			Local demand control		
Control factor	1			0,95			0,85			0,65		
Climat	Cold	Average	Warm	Cold	Average	Warm	Cold	Average	Warm	Cold	Average	Warm
Specific energy consumption (SEC) [kWh/(m <sup>2</sup> .a)]	-69,02	<b>-34,08</b>	-11,44	-70,44	<b>-35,17</b>	-12,34	-73,15	<b>-37,23</b>	-14,02	-78,12	<b>-40,88</b>	-16,93
SEC class	A+	<b>A</b>	E	A+	<b>A</b>	E	A+	<b>A</b>	E	A+	<b>A+</b>	E
The annual electricity consumption (AEC) [kWh/a/100m <sup>2</sup> ]	886,9	<b>349,9</b>	304,9	857,2	<b>320,2</b>	275,2	802,3	<b>265,3</b>	220,3	710,8	<b>173,8</b>	128,8
The annual heating saved (AHS) [kWh/a/100m <sup>2</sup> ]	8247	<b>4216</b>	1906	8314	<b>4250</b>	1922	8448	<b>4318</b>	1953	8716	<b>4455</b>	2051
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency <sup>1</sup>	78,5%											
Maximum flow rate [m <sup>3</sup> /h] <sup>2</sup>	74,8%											
Maximum electric power input [W]	325											
Sound power LWA [dB(A)]	135											
Reference flow rate [m <sup>3</sup> /s] <sup>3</sup>	49											
Reference pressure difference [Pa] <sup>4</sup>	0,063											
JPM [W/m <sup>3</sup> /h] <sup>5</sup>	50											
Declared maximum leakages <sup>6</sup>	0,24											
Position and description of visual filter warning	External: 0,8% Internal: 2,1%											
Internet address	Visual on status LED light on unit and on status LED light on controller											
Adres strony www	www.ventilation-alnor.co.uk											

<sup>1</sup> According to EN 13141-7:2010

<sup>2</sup> According to EN 13141-7:2010 at pressure difference 100Pa

<sup>3</sup> According to EN 13141-7:2010 at 70% of maximum flow at static pressure difference 50Pa

<sup>4</sup> According to EN 13141-7:2010

<sup>5</sup> According to EN 13141-7:2010 at reference point - 70% of maximum air flow

<sup>6</sup> According to EN 13141-7:2010