Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

works with Loxone



Description

HRU-FlatAIR-X series heat recovery units are flush-mounted units with a capacity of 80, 100 and 125 m³/h @100 Pa. Heat recovery is provided by a counter-flow exchanger made of plastic (PET) or an enthalpy heat exchanger that recovers moisture.

The unit is designed for studios and smaller apartments, both as a central and decentralized unit.

The built-in electric preheater protects the exchanger from freezing, and the RH sensor ensures an optimal humidity level in the house. Heat recovery unit is equipped with a modulated, automatically controlled by-pass as standard. HRU-FlatAIR-X units can be controlled using a mobile application. The unit is made of a self-supporting housing made of EPP, which is characterized by its durability, light weight, and excellent thermal and acoustic insulation.

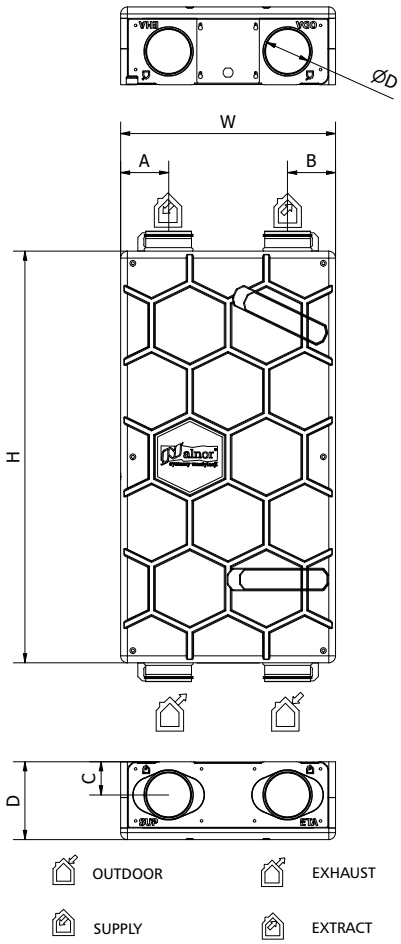
Heat recovery selector

Product code example

Product Code: **HRU-FlatAIR-X-80E-H-CF-P-F75**

- type
- air flow
- enthalpic heat exchanger
- pre-heater
- constant flow
- wired control
- duct connections

Dimensions



	ØD [mm]	W [mm]	H [mm]	D [mm]	A [mm]	B [mm]	C [mm]
FlatAIR-X-80	100	470	900	170	105	105	72,5
FlatAIR-X-100	100	470	900	170	105	105	72,5
FlatAIR-X-125	100	470	900	170	105	105	72,5

The unique design of the interchangeable connectors allows for standard installation with Ø100mm ducts or direct connection of Ø75mm semi-rigid ducts FLX, 4 per supply and exhaust. Thanks to this solution, it is possible to do without manifolds, which saves space and reduces installation costs. What is more, the inlet and outlet ducts can be connected on 3 sides, which creates possibilities for versatile installation, both flush-mounted and surface-mounted.



Standard



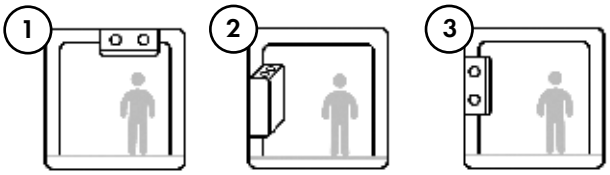
F75

ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

Version installation



Installation / Model	FlatAIR-X-80-H	FlatAIR-X-100-H	FlatAIR-X-125-H
Suspended	√*	√*	√*
Vertical	√	√	√
Horizontal	√	√	√

*versions with enthalpy exchanger only



Technical data

	HRU-FlatAIR-X-80-H	HRU-FlatAIR-X-80E-H	HRU-FlatAIR-X-100-H	HRU-FlatAIR-X-100E-H
Air flow [m³/h] @ 100 Pa	80	80	100	100
Maximal efficiency %[1]	94,6	89,3	94,1	88,6
Efficiency % (acc. 1254/2014)[2]	87,5	85,5	91,6	83,9
Maximal moisture efficiency %	-	76,5	-	74,2
Heat exchanger	Counterflow PET	Enthalpy	Counterflow PET	Enthalpy
Voltage [V/Hz]	230 / 50	230 / 50	230 / 50	230 / 50
Maximum power consumption [W]	29	29	48	48
Sound power level L_{WA}[dB (A)]	46	46	50	50
Weight [kg]	15	15	15	15
Filters	ISO Coarse 70% / ISO Coarse 70%			
Built-in pre-heater	√	√	√	√
Pre-heater power [W]	800	800	800	800
Built-in RH sensor	√	√	√	√
Automatic by-pass modulated	√	√	√	√

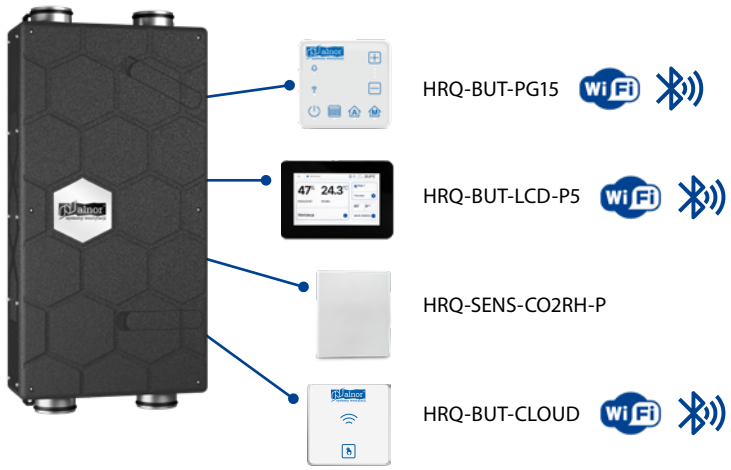
ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

	HRU-FlatAIR-X-125-H	HRU-FlatAIR-X-125E-H
Air flow [m³/h] @ 100 Pa	125	125
Maximal efficiency %[1]	93,4	87,6
Efficiency % (acc. 1254/2014)[2]	76,1	72,8
Maximal moisture efficiency %	-	71,1
Heat exchanger	Counterflow PET	Enthalpy
Voltage [V/Hz]	230 / 50	230 / 50
Maximum power consumption [W]	72	72
Sound power level L_{WA}[dB (A)]	52	52
Weight [kg]	15	15
Filters	ISO Coarse 70% / ISO Coarse 70%	
Built-in pre-heater	√	√
Pre-heater power [W]	800	800
Built-in RH sensor	√	√
Automatic by-pass modulated	√	√

Wired control





Modbus

works with Loxone

LOXONE

SMART HOME

Heat recovery selector

ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

Filtres



Alnor's heat recovery unit code	Filters code	ISO filtration class 16890	Filtration class in accordance with EN 779:2012	Dimensions [mm]
HRU-FlatAIR-X-80/100/125	HRF-FlatAIR-G4-169-130-23	ISO coarse 70%	G4	169x130x23
HRU-FlatAIR-X-80/100/125	HRF-FlatAIR-F7-169-130-23	ISO ePM1 55%	F7	169x130x23

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.

Connecting the ground heat exchanger

Heat recovery unit has a possibility to connect the ground heat exchanger. This function allows you to control a valve that optionally supply air through the ground-to-air heating system. To do this, install a dedicated damper with the actuator (DATVTML).

Cooperation with the kitchen hood

The cooker hood can be connected to the MVHR system via the X25 contact on the main board of the FlatAIR-X heat recovery units. It is a potential-free contact. Short-circuits of contact inputs will result in an exhaust fan stopping completely during the period the contact is closed.

Constant Flow (CF)

FlatAIR air handling units optionally can be equipped with the Constant Flow system, whose task is to maintain a constant air flow in the installation. CF works by reading the difference between the dynamic pressure around the fan and the static pressure in the duct in front of the fan. The CF system constantly monitors the pressure in the ducts and if the resistance increases, it increases the speed of the fans to maintain a constant flow, such as on the first day when the ventilation unit was commissioned. During exploitation, the installation pressure is naturally disrupted (dirty filters, condensation of water in the heat exchanger, temperature difference changing the air mass). CF counteracts to those changes, thanks to which the airflows remain sustainable, and only a sustainable system takes full advantage of the air handling unit's capabilities.

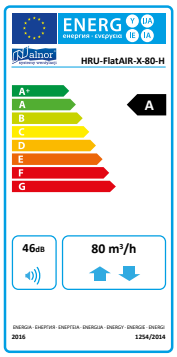
ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

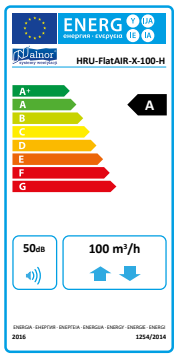
Heat recovery ventilation unit with counterflow exchanger

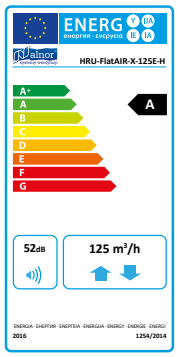
HRU-FlatAIR-X

Energy class

Model	*Sound power level L_{WA} dB(A)* [dB]*	*Air flow rate [m³/h]*	*Energy class*			
			Manual control	*Clock control*	*Central demand control (1 sensor)*	*Local demand control (2 sensors)*
HRU-FlatAIR-X-80-H	48	80	A	A	A	A+
HRU-FlatAIR-X-80-H-CF	48	80	A	A	A	A+
HRU-FlatAIR-X-80E-H	48	80	A	A	A	A+
HRU-FlatAIR-X-80E-H-CF	48	80	A	A	A	A+
HRU-FlatAIR-X-120-H	50	120	A	A	A	A+
HRU-FlatAIR-X-120-H-CF	50	120	A	A	A	A+
HRU-FlatAIR-X-120E-H	50	120	A	A	A	A
HRU-FlatAIR-X-120E-H-CF	50	120	A	A	A	A
HRU-FlatAIR-X-125-H	52	125	A	A	A	A
HRU-FlatAIR-X-125-H-CF	52	125	A	A	A	A
HRU-FlatAIR-X-125E-H	52	125	B	B	A	A
HRU-FlatAIR-X-125E-H-CF	52	125	B	B	A	A







ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

Product fiche HRU-FlatAIR-X-80

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-X-80-H, HRU-FlatAIR-X-80-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)]	-77,22	-39,54	-15,33	-78,10	-40,23	-15,91	-79,79	-41,53	-16,99	-82,86	-43,84	-18,86
SEC class	A+	**A**	E	A+	**A**	E	A+	**A**	E	A+	**A+**	E
The annual electricity consumption (AEC) [kWh/a/100m²]	783	**246**	201	764	**227**	182	727	**190**	145	667	**130**	85
The annual heating saved (AHS) [kWh/a/100m²]	8808	**4502**	2036	8847	**4522**	2045	8924	**4562**	2063	9080	**4642**	2099
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	87,5%											
Maximum flow rate [m³/h][2]	80											
Maxium electric power input [W]	28											
Sound power LWA [dB(A)]	46											
Reference flow rate [m³/s][3]	0,016											
Reference pressure difference [Pa][4]	50											
SPI [W/m³/h][5]	0,16											
Declared maxiumum leakages[6]	External: 1,75% Internal:3,00%											
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 13141-7:2021+A1:2025
[2] According to EN 13141-7:2021+A1:2025 at pressure diference 100Pa
[3] According to EN 13141-7:2021+A1:2025 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-7:2021+A1:2025
[5] According to EN 13141-7:2021+A1:2025 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-7:2021+A1:2025

ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

Product fiche HRU-FlatAIR-X-80E

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-X-80E-H, HRU-FlatAIR-X-80E-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)]	-70,81	-35,99	-13,41	-72,03	-36,88	-14,12	-74,41	-38,58	-15,44	-78,81	-41,66	-17,75
SEC class	A+	A	E	A+	A	E	A+	A	E	A+	A	E
The annual electricity consumption (AEC) [kWh/a/100m^2]	806	269	224	784	247	202	744	207	162	677	140	95
The annual heating saved (AHS) [kWh/a/100m^2]	8222	4203	1900	8290	4238	1916	8427	4307	1948	8700	4447	2011
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	78,1%											
Maximum flow rate [m^3/h][2]	80											
Maxium electric power input [W]	28											
Sound power LWA [dB(A)]	46											
Reference flow rate [m^3/s][3]	0,016											
Reference pressure difference [Pa][4]	50											
SPI [W/m^3/h][5]	0,18											
Declared maxiumum leakages[6]	External: 1,75% Internal: 3,00%											
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 13141-7:2021+A1:2025
[2] According to EN 13141-7:2021+A1:2025 at pressure diference 100Pa
[3] According to EN 13141-7:2021+A1:2025 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-7:2021+A1:2025
[5] According to EN 13141-7:2021+A1:2025 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-7:2021+A1:2025

ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

Product fiche HRU-FlatAIR-X-100

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-X-100-H, HRU-FlatAIR-X-100-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)]	-73,98	-36,84	-12,94	-75,12	-37,77	-13,74	-77,30	-39,51	-15,24	-81,23	-42,57	-17,80
SEC class	A+	A	E	A+	A	E	A+	A	E	A+	A+	E
The annual electricity consumption (AEC) [kWh/a/100m²]	868	331	286	840	303	258	789	252	207	703	166	121
The annual heating saved (AHS) [kWh/a/100m²]	8695	4445	2010	8740	4468	2020	8829	4513	2041	9007	4604	2082
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	85,7%											
Maximum flow rate [m³/h][2]	100											
Maxium electric power input [W]	48											
Sound power LWA [dB(A)]	50											
Reference flow rate [m³/s][3]	0,019											
Reference pressure difference [Pa][4]	50											
SPI [W/m³/h][5]	0,23											
Declared maxiumum leakages[6]	External: 1,40% Internal: 2,40%											
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 13141-7:2021+A1:2025
[2] According to EN 13141-7:2021+A1:2025 at pressure diference 100Pa
[3] According to EN 13141-7:2021+A1:2025 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-7:2021+A1:2025
[5] According to EN 13141-7:2021+A1:2025 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-7:2021+A1:2025

ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

Product fiche HRU-FlatAIR-X-100E

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-X-100E-H, HRU-FlatAIR-X-100E-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)]	-69,20	**-34,84**	-12,53	-70,54	**-35,82**	-13,30	-73,13	**-37,69**	-14,77	-77,92	**-41,06**	-17,32
SEC class	A+	**A**	E	A+	**A**	E	A+	**A**	E	A+	**A**	E
The annual electricity consumption (AEC) [kWh/a/100m²]	833	**296**	251	808	**271**	226	763	**226**	181	688	**151**	106
The annual heating saved (AHS) [kWh/a/100m²]	8128	**4155**	1879	8201	**4192**	1896	8347	**4267**	1929	8639	**4416**	1997
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	76,6%											
Maximum flow rate [m³/h][2]	100											
Maxium electric power input [W]	48											
Sound power LWA [dB(A)]	50											
Reference flow rate [m³/s][3]	0,019											
Reference pressure difference [Pa][4]	50											
SPI [W/m³/h][5]	0,26											
Declared maxiumum leakages[6]	External: 1,40% Internal: 2,40%											
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 13141-7:2021+A1:2025
[2] According to EN 13141-7:2021+A1:2025 at pressure diference 100Pa
[3] According to EN 13141-7:2021+A1:2025 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-7:2021+A1:2025
[5] According to EN 13141-7:2021+A1:2025 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-7:2021+A1:2025

ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

Product fiche HRU-FlatAIR-X-125

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-X-125-H, HRU-FlatAIR-X-125-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)]	-65,85	**-31,64**	-9,41	-67,50	**-32,92**	-10,49	-70,66	**-35,36**	-12,51	-76,43	**-39,67**	-15,99
SEC class	A+	**B**	F	A+	**B**	E	A+	**A**	E	A+	**A**	E
The annual electricity consumption (AEC) [kWh/a/100m²]	954	**417**	372	918	**381**	336	851	**314**	269	739	**202**	157
The annual heating saved (AHS) [kWh/a/100m²]	8097	**4139**	1872	8172	**4177**	1889	8321	**4253**	1923	8619	**4406**	1992
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	76,1%											
Maximum flow rate [m³/h][2]	125											
Maxium electric power input [W]	62											
Sound power LWA [dB(A)]	52											
Reference flow rate [m³/s][3]	0,024											
Reference pressure difference [Pa][4]	50											
SPI [W/m³/h][5]	0,30											
Declared maxiumum leakages[6]	External: 1,12% Internal: 1,92%											
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 13141-7:2021+A1:2025
[2] According to EN 13141-7:2021+A1:2025 at pressure diference 100Pa
[3] According to EN 13141-7:2021+A1:2025 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-7:2021+A1:2025
[5] According to EN 13141-7:2021+A1:2025 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-7:2021+A1:2025

ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-X

Product fiche HRU-FlatAIR-X-125E

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-X-125E-H, HRU-FlatAIR-X-125E-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)]	-63,43	**-30,23**	-8,58	-65,22	**-31,60**	-9,72	-68,66	**-34,21**	-11,85	-74,95	**-38,84**	-15,53
SEC class	A+	**B**	F	A+	**B**	F	A+	**A**	E	A+	**A**	E
The annual electricity consumption (AEC) [kWh/a/100m²]	969	**432**	387	931	**394**	349	861	**324**	279	745	**208**	163
The annual heating saved (AHS) [kWh/a/100m²]	7892	**4034**	1824	7976	**4077**	1844	8146	**4164**	1883	8485	**4337**	1961
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	72,8%											
Maximum flow rate [m³/h][2]	125											
Maxium electric power input [W]	75											
Sound power LWA [dB(A)]	52											
Reference flow rate [m³/s][3]	0,024											
Reference pressure difference [Pa][4]	50											
SPI [W/m³/h][5]	0,31											
Declared maxiumum leakages[6]	External: 1,12% Internal: 1,92%											
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 13141-7:2021+A1:2025
[2] According to EN 13141-7:2021+A1:2025 at pressure diference 100Pa
[3] According to EN 13141-7:2021+A1:2025 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-7:2021+A1:2025
[5] According to EN 13141-7:2021+A1:2025 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-7:2021+A1:2025

ALNOR® ventilation systems
is a legally protected trademark and technical patent. All rights reserved.