Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-Xwall

works with Loxone

Description

HRU-FlatAIR-Xwall is an advanced decentralised heat recovery unit that combines the enthalpy counterflow exchanger technology characteristic of central systems with a compact form and unique design. It has been designed for flats, offices and studio flats where there is no space for traditional ventilation ducts. The HRU-FlatAIR-Xwall recuperator has a galvanised steel casing, powder coated and lined with sound-absorbing foam on the inside, which effectively improves the acoustics of the device, making it almost inaudible. Air supply and extraction can be carried out through the front cover. Thanks to an innovative air flow control system, the supply air is directed through the bottom of the casing and the exhaust air is sucked in through the top, which prevents the two air flows from mixing and ensures proper air circulation. The front cover can be fully customised to match the interior design. The unit has been designed so that it can be installed regardless of the stage of interior finishing. It can be ordered in a central version and connected to semi-flexible FLX ducts to distribute air directly from and to different rooms. The decentralised surface-mounted OW version has a built-in HRQ-BUT-SCP controller. The flush-mounted UW versions come with an HRQ-BUT-PG-15 controller.

Heat recovery selector

Product code example

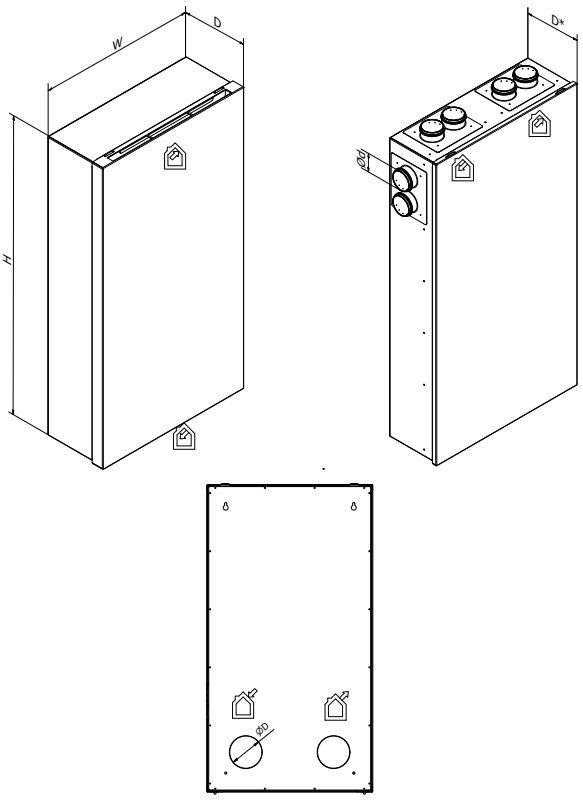
Product Code: **HRU-FlatAIR-Xwall-80E-H-CF-P-UW-F75W-NC**

- type
- air flow
- enthalpic heat exchanger
- pre-heater
- constant flow
- wired control
- mounting type
- duct connections
- no control

Dimensions

decentralised version OW / UW

central version UW-F75

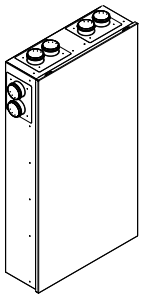


OUTDOOR
EXHAUST
SUPPLY
EXTRACT

	ØD [mm]	Ød [mm]	W [mm]	H [mm]	D [mm]	D* [mm]
FlatAIR-Xwall-80	100	75	500	950	205	175
FlatAIR-Xwall-100	100	75	500	950	205	175
FlatAIR-Xwall-125	100	75	500	950	205	175

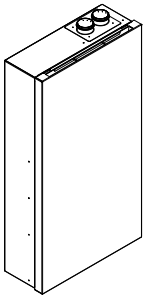
*central version only available with thin cover

Supply FLX
Extract FLX



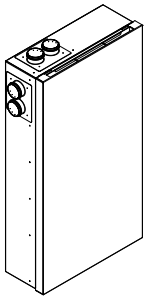
UW-F75

Supply cover
Extract FLX



UW-F75W

Wyciąg cover
Extract FLX

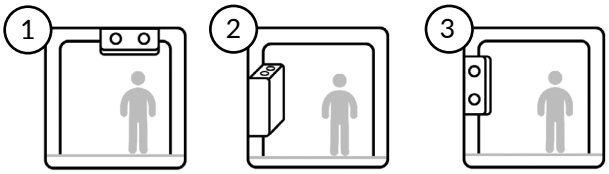


UW-F75N

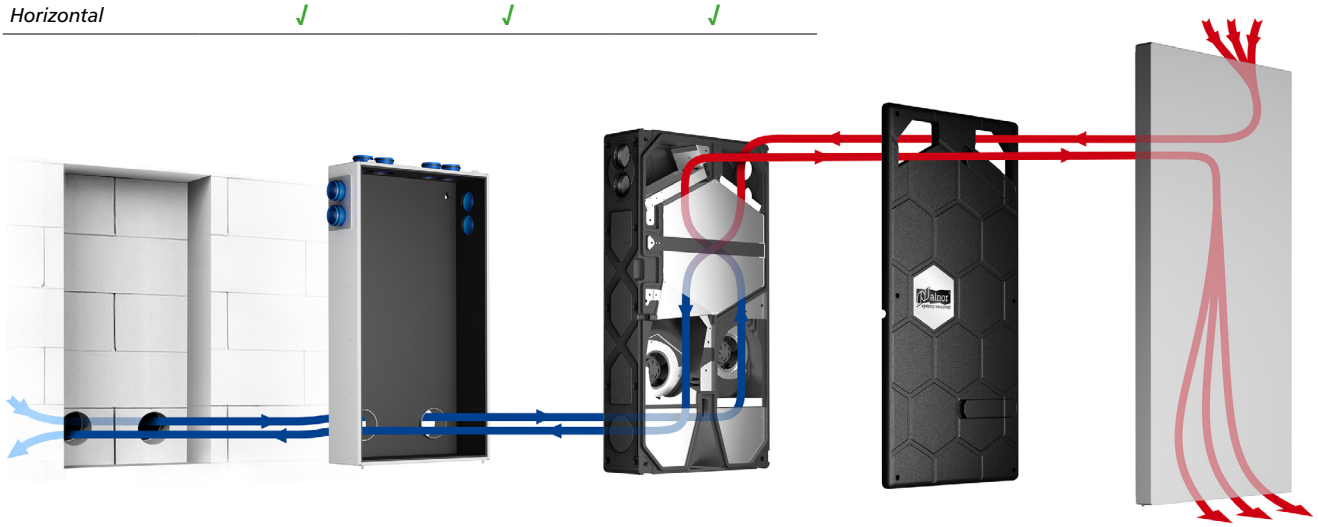
Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-Xwall

Version installation



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



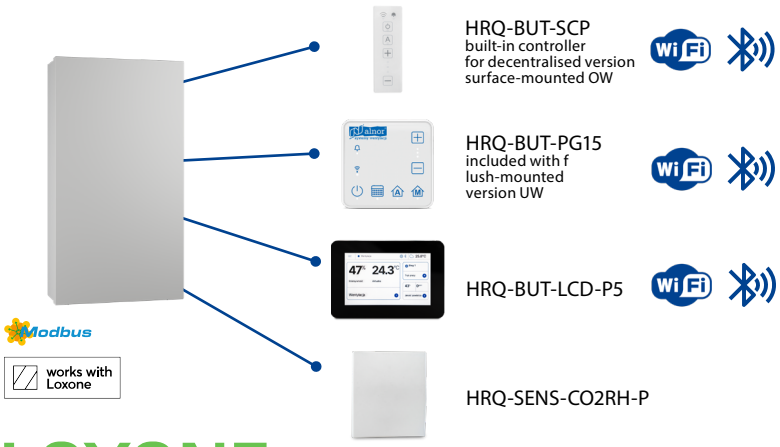
Technical data

	HRU-FlatAIR-Xwall-80E-H	HRU-FlatAIR-Xwall-100E-H	HRU-FlatAIR-Xwall-125E-H
Air flow [m³/h] @ 100 Pa	80	100	125
Maximal efficiency %[1]	87,0	85,2	83,3
Efficiency % (acc. 1254/2014)[2]	82,0	80,3	77,5
Maximal moisture efficiency %	85,8	83,5	81,7
Heat exchanger	Enthalpy	Enthalpy	Enthalpy
Voltage [V/Hz]	230 / 50	230 / 50	230 / 50
Maximum power consumption [W]	20	30	40
Sound power level L_{WA}[dB (A)]	36	39	42
Weight [kg]	30	30	30
Filters	ISO Coarse 70% / ISO Coarse 70%		
Built-in pre-heater	√	√	√
Pre-heater power [W]	800	800	800
Built-in RH sensor	√	√	√
Automatic by-pass modulated	√	√	√

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-Xwall

Wired control



Heat recovery selector

Filters

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

ISO coarse 70% filters according to ISO 16890 (formerly G4) and ISO ePM1 55% filters according to ISO 16890 (formerly F7) have a pleated design, which provides a larger filtration area and low pressure drops.

Constant Flow (CF)

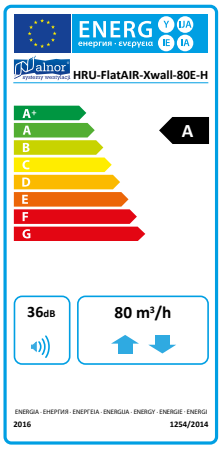
FlatAIRR-Xwall air handling units optionally can be equipped with the Constant Flow system, whose task is to maintain a constant air flow in the installation. CF works by reading the difference between the dynamic pressure around the fan and the static pressure in the duct in front of the fan. The CF 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.

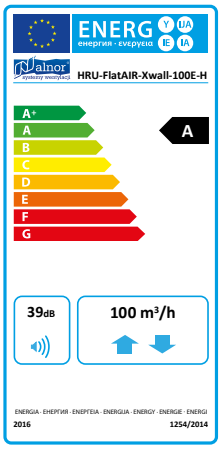
Heat recovery ventilation unit with counterflow exchanger

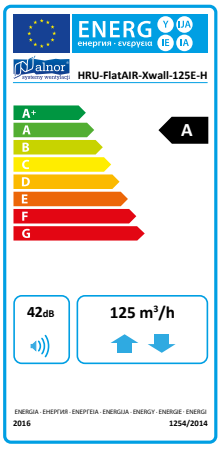
HRU-FlatAIR-Xwall

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-Xwall-80E-H-P	36	80	A	A	A	A
HRU-FlatAIR-Xwall-80E-H-CF-P	36	80	A	A	A	A
HRU-FlatAIR-Xwall-100E-H-P	40	100	A	A	A	A
HRU-FlatAIR-Xwall-100E-H-CF-P	40	100	A	A	A	A
HRU-FlatAIR-Xwall-125E-H-P	43	125	B	B	A	A
HRU-FlatAIR-Xwall-125E-H-CF-P	43	125	B	B	A	A







Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-Xwall

Product fiche HRU-FlatAIR-Xwall-80E

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-Xwall-80E-H, HRU-FlatAIR-Xwall-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)]	-71,56	-36,10	-13,16	-72,77	-37,01	-13,90	-75,11	-38,75	-15,29	-79,43	-41,86	-17,71
SEC class	A+	**A**	E	A+	**A**	E	A+	**A**	E	A+	**A**	E
The annual electricity consumption (AEC) [kWh/a/100m^2]	828	**291**	246	804	**267**	222	760	**223**	178	686	**149**	104
The annual heating saved (AHS) [kWh/a/100m^2]	8353	**4270**	1931	8414	**4301**	1945	8538	**4364**	1974	8785	**4490**	2031
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	82,0%											
Maximum flow rate [m^3/h][2]	80											
Maxium electric power input [W]	20											
Sound power LWA [dB(A)]	36											
Reference flow rate [m^3/s][3]	0,016											
Reference pressure difference [Pa][4]	0											
SPI [W/m^3/h][5]	0,18											
Declared maxiumum leakages[6]	External: 3,00% 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 13141-8:2023
[2] According to EN 13141-8:2023 at pressure diference 100Pa
[3] According to EN 13141-8:2023 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-8:2023
[5] According to EN 13141-8:2023 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-8:2023

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-Xwall

Product fiche HRU-FlatAIR-Xwall-100E

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-Xwall-100E-H, HRU-FlatAIR-Xwall-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)]	-69,65	-34,76	-12,15	-71,00	-35,78	-12,98	-73,59	-37,71	-14,53	-78,36	-41,16	-17,22
SEC class	A+	A	E	A+	A	E	A+	A	E	A+	A	E
The annual electricity consumption (AEC) [kWh/a/100m²]	858	321	276	831	294	249	781	244	199	698	161	116
The annual heating saved (AHS) [kWh/a/100m²]	8236	4210	1904	8304	4245	1919	8439	4314	1951	8709	4452	2013
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	80,3%											
Maximum flow rate [m³/h][2]	100											
Maxium electric power input [W]	30											
Sound power LWA [dB(A)]	40											
Reference flow rate [m³/s][3]	0,019											
Reference pressure difference [Pa][4]	0											
SPI [W/m³/h][5]	0,20											
Declared maxiumum leakages[6]	External: 3,00% 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 13141-8:2023
[2] According to EN 13141-8:2023 at pressure diference 100Pa
[3] According to EN 13141-8:2023 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-8:2023
[5] According to EN 13141-8:2023 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-8:2023

Heat recovery ventilation unit with counterflow exchanger

HRU-FlatAIR-Xwall

Product fiche HRU-FlatAIR-Xwall-125E

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

Supplier's name or trade mark	ALNOR Ventilation Systems											
Model identifier	HRU-FlatAIR-Xwall-125E-H, HRU-FlatAIR-Xwall-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)]	-63,99	-30,04	-7,96	-65,80	-31,47	-9,18	-69,26	-34,17	-11,45	-75,53	-38,94	-15,35
SEC class	A+	B	F	A+	B	F	A+	A	E	A+	A	E
The annual electricity consumption (AEC) [kWh/a/100m²]	1007	470	425	966	429	384	889	352	307	762	225	180
The annual heating saved (AHS) [kWh/a/100m²]	8044	4112	1859	8121	4151	1877	8276	4230	1913	8584	4388	1984
Declared typology	Bidirectional											
Type of drive	Variable											
Type of heat recovery system	Recuperative											
Thermal efficiency[1]	77,5%											
Maximum flow rate [m³/h][2]	125											
Maxium electric power input [W]	40											
Sound power LWA [dB(A)]	43											
Reference flow rate [m³/s][3]	0,024											
Reference pressure difference [Pa][4]	0											
SPI [W/m³/h][5]	0,31											
Declared maxiumum leakages[6]	External: 3,00% 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 13141-8:2023
[2] According to EN 13141-8:2023 at pressure diference 100Pa
[3] According to EN 13141-8:2023 at 70% of maximum flow at static pressure diference 50Pa
[4] According to EN 13141-8:2023
[5] According to EN 13141-8:2023 at reference point - 70% of maxiumum air flow
[6] According to EN 13141-8:2023