Flexair

Air cooled and water cooled rooftop units

R410A

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

AIR COOLED

- **85** - **217** kW
- **79** - **222** kW
- **15000** - **39000** m³/h

WATER COOLED

- **85** - **170** kW
- **112** - **127** kW
- **15000** - **30000** m³/h

LENNOX participates in the ECP programme for RT.
Check ongoing validity of certificate : www.eurovent-certification.com

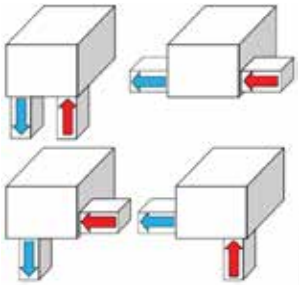
Installation and replacement made easy thanks to the unit's **compact nature with the same footprint** and **weight** as previous models.
Optimised design and integration of highly efficient components enabling **energy savings**.
Flexibility in capacity and airflow rates, ventilation options, energy sources and design (configurations and roof curbs) in order to best fit your application's needs.
Low noise level thanks to availability of several sound attenuation options.

CASING & DESIGN

Pre-coated aluminum panels painted in RAL 9003 colour, specially designed for corrosion resistance and to ensure long operation lifetime.
Condensing section mounted in a rigid base frame to ensure good support for compressors and giving rigidity to the complete structure.
Same footprint as previous models for plug & play replacement.
Double skin panels are available as an option.
Inclined removable drain pan in aluminum for easy disinfecting.

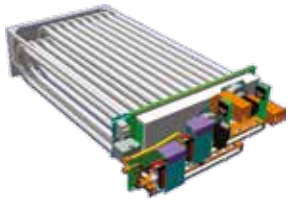
AIRFLOW

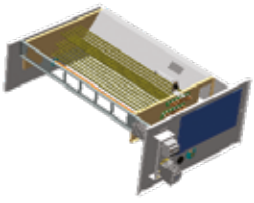
Several available airflow configurations: top, bottom or horizontal, to fit each building's need.
Adaptable roof curb to fit the buidling's architecture:
- Adjustable roof curb.
- Multidirectional roof curb.
- Vertical exhaust roof curb.
- Non adjustable, non assembled (only available outside the EU).



AUXILIARY HEATING DEVICES

Different options depending on the energy source available on site:
- Hot water coil.
- Condensing gas burner.
- Electric heater.





Photos and illustrations are not contractual.

REMOTE MONITORING

Connectivity through **LennoxCloud** (LENNOX WEB PORTAL for Multi sites / Multi units).
BMS through: **e-savvy**

CONTROL

Climatic60 electronic controller and intelligent control parameters optimising part-load efficiency.
Integrated communication solutions offering flexibility (master/slave, Modbus, BACnet).
Several display solutions for different access levels.

eCLIMATIC

DS
Service display

DM
Multi-Rooftop display

DC
Comfort display

THERMODYNAMIC SYSTEM

Tandem scroll compressors allowing capacity modulation.
Variable refrigerant control with electronic expansion valve.
Easy access to compressors enabling faster maintenance operations.
Variable speed EC axial fans with swept blades for improved efficiency.

AIR TREATMENT

EC motor fans ensuring a precise temperature for better comfort and energy savings.
Analogue filter detection to inform when the filters must be changed.
IAQ kits for improved indoor air quality within the building:
  - G4 (standard)
  - G4+F7 (ePM1 85%)
  - G4+F7+F9 (ePM1 95%)
  - UV-C lamps.
  - Ionization.

HEAT RECOVERY

Heat recovery wheel, with both fresh and return air sections protected by G4 filters.
eRecovery, to recover free heat produced by food refrigeration systems.

R410A

FA(A) C(B) 100(C) D(D) N(E) M(F) 2(G) M(H)

(A) **FA** = Flexair
(B) **C** = Cooling only unit - **H** = Heat pump unit
(C) Cooling capacity in kW
(D) **S** = 1 circuit - **D** = 2 circuits - **T** = 3 circuits - **F** = 4 circuits
(E) **H** = High heat - **S** = Standard heat - **N** = No heat
(F) **M** = R410A - **H** = HFO - **N** = No refrigerant
(G) Revision number
(H) **M** = 400V/3/50Hz - **T** = 230V/1/50Hz

Air cooled version

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Cooling only units

Flexair		090	100	120	150	170	200	230
Nominal thermal performances - Cooling mode								
Cooling capacity (1)	kW	84,7	105,3	117,0	131,4	153,9	178,3	216,1
Total Power Input	kW	23,36	32,13	37,52	48,04	57,29	59,50	76,02
EER net (1)		3,62	3,28	3,12	2,73	2,69	3,00	2,84
Nominal thermal performances - Heating mode								
Heating capacity (2)	kW	-	-	-	-	-	-	-
Total Power Input	kW	-	-	-	-	-	-	-
COP net (2)		-	-	-	-	-	-	-
Seasonal efficiencies - Cooling mode								
Seasonal Energy Efficiency Ratio - **SEER** (3)		4,11	3,95	3,64	4,17	4,02	4,02	4,01
Seasonal energy efficiency - **ηs,c** (4)	%	161	155	143	164	158	158	158
Eurovent energy efficiency class - Part load operation		B	B	B	B	B	B	B
Seasonal efficiencies - Heating mode								
Seasonal Coefficient of Performance - **SCOP** (5)		-	-	-	-	-	-	-
Seasonal energy efficiency - **ηs,h** (6)	%	-	-	-	-	-	-	-
Eurovent energy efficiency class - Part load operation		-	-	-	-	-	-	-
Auxiliary heating								
Gas heating capacity - Standard / High	kW	60 / 120	60 / 120	60 / 120	120 / 180	120 / 180	180 / 240	180 / 240
Electric heater capacity - Standard / High	kW	30 / 72	30 / 72	30 / 72	45 / 108	45 / 108	72 / 162	72 / 162
Electric pre-heater capacity - Standard / High	kW	-	-	-	-	-	-	-
Hot water coil capacity Air inlet 20°C/Water	kW	114 / 177	126 / 201	133 / 212	145 / 254	156 / 275	177 / 295	186 / 313
Ventilation data								
Minimum airflow rate	m³/h	12000	14800	15000	18000	21000	24000	24000
Nominal airflow rate	m³/h	15000	18500	22000	26500	28000	33000	35000
Maximum airflow rate	m³/h	23000	23000	23000	35000	35000	43000	43000
Acoustic data - Standard unit								
Outdoor sound power	dB(A)	83,0	88,4	91,7	86,4	87,6	86,2	89,8
Indoor blower outlet sound power	dB(A)	85,9	91,0	95,3	91,4	91,7	88,5	89,8
Electrical data								
Maximum power	kW	44,7	52,3	56,7	64,6	78,8	88,7	102,8
Maximum current	A	159,3	170,9	194,0	204,6	249,0	296,0	313,6
Starting current	A	75,5	86,9	98,9	106,2	133,0	152,0	169,6
Short circuit current	kA	10						
Refrigeration circuit								
Number of circuits		2						
Number of compressors		2			4			
Refrigerant load	kg	8,2 / 8,2	8,5 / 9,5	9,5 / 9,5	14,5 / 14,8	13,75/13,25	18,5 / 18,5	19,8 / 19,8

(1) **Cooling mode :** According to EN14511 nominal conditions - Outdoor temperature 35°C DB - Indoor temperature 27°C DB / 19°C WB
(2) **Heating mode :** According to EN14511 nominal conditions - Outdoor temperature 7°C DB / 6°C WB - Indoor temperature 20°C DB
(3) SEER in accordance with standard EN14825.
(4) Space cooling energy efficiency following Ecodesign regulation EU 2016/2281
(5) SCOP in accordance with standard EN 14825 (average climate conditions).
(6) Space heating energy efficiency following Ecodesign regulation EU 2016/2281.

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Air cooled version

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Heat pump units

Flexair		090	100	120	150	170	200	230
Nominal thermal performances - Cooling mode								
Cooling capacity (1)	kW	85,4	103,9	115,3	129,6	152,8	175,2	203,6
Total Power Input	kW	26,05	33,74	39,18	47,61	57,35	59,39	72,20
EER net (1)		3,28	3,08	2,94	2,72	2,66	2,95	2,82
Nominal thermal performances - Heating mode								
Heating capacity (2)	kW	81,1	100,5	112,9	129,7	150,4	180,0	211,8
Total Power Input	kW	21,94	29,24	34,19	37,38	46,51	51,94	65,90
COP net (2)		3,70	3,44	3,30	3,47	3,23	3,47	3,21
Seasonal efficiencies - Cooling mode								
Seasonal Energy Efficiency Ratio - **SEER** (3)		4,48	4,43	4,20	4,20	4,06	4,20	3,86
Seasonal energy efficiency - **ηs,c** (4)	%	176	174	165	165	160	165	151
Eurovent energy efficiency class - Part load operation		B	B	B	B	B	B	B
Seasonal efficiencies - Heating mode								
Seasonal Coefficient of Performance - **SCOP** (5)		3,36	3,30	3,21	3,42	3,20	3,26	3,21
Seasonal energy efficiency - **ηs,h** (6)	%	132	129	125	134	125	128	125
Eurovent energy efficiency class - Part load operation		B	B	B	B	B	B	B
Auxiliary heating								
Gas heating capacity - Standard / High	kW	60 / 120	60 / 120	60 / 120	120 / 180	120 / 180	180 / 240	180 / 240
Electric heater capacity - Standard / High	kW	30 / 72	30 / 72	30 / 72	45 / 108	45 / 108	72 / 162	72 / 162
Electric pre-heater capacity - Standard / High	kW	-	-	-	-	-	-	-
Hot water coil capacity Air inlet 20°C/Water	kW	114 / 177	126 / 201	133 / 212	145 / 254	156 / 275	177 / 295	186 / 313
Ventilation data								
Minimum airflow rate	m^3/h	12000	14800	15000	18000	21000	24000	24000
Nominal airflow rate	m^3/h	15000	18500	22000	26500	28000	33000	35000
Maximum airflow rate	m^3/h	23000	23000	23000	35000	35000	43000	43000
Acoustic data - Standard unit								
Outdoor sound power	dB(A)	82,7	86,8	90,3	86,4	87,6	86,2	89,8
Indoor blower outlet sound power	dB(A)	85,9	91,0	95,3	91,4	91,7	88,5	89,8
Electrical data								
Maximum power	kW	44,7	52,3	56,7	64,6	78,8	88,7	102,8
Maximum current	A	162,2	174,0	197,2	204,6	249,0	296,0	313,6
Starting current	A	75,5	86,9	98,9	106,2	133,0	152,0	169,6
Short circuit current	kA	10						
Refrigeration circuit								
Number of circuits		2						
Number of compressors		4						
Refrigerant load	kg	8,2 / 8,2	8,5 / 9	9 / 9	14,5 / 14,5	13,75/13,25	18 / 18	19,3 / 19,3

(1) **Cooling mode :** According to EN14511 nominal conditions - Outdoor temperature 35°C DB - Indoor temperature 27°C DB / 19°C WB
(2) **Heating mode :** According to EN14511 nominal conditions - Outdoor temperature 7°C DB / 6°C WB - Indoor temperature 20°C DB
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Water cooled version

Heat pump units

Flexair		085	100	120	150	170
Nominal thermal performances - Cooling mode						
Cooling capacity (1)	kW	90,2	114,4	125,9	159,8	175,2
Total Power Input	kW	19,36	24,66	28,88	31,83	39,11
EER net (1)		4,66	4,64	4,36	5,02	4,48
Nominal thermal performances - Heating mode						
Heating capacity (2)	kW	111,9	131,5	153,2	191,6	226,9
Total Power Input	kW	23,61	29,35	34,74	38,55	51,45
COP net (2)		4,74	4,48	4,41	4,97	4,41
Seasonal efficiencies - Cooling mode						
Seasonal Energy Efficiency Ratio - **SEER** (3)		5,16	5,11	4,65	5,73	5,44
Seasonal energy efficiency - **ηs,c** (4)	%	201	199	181	224	212
Eurovent energy efficiency class - Part load operation		-	-	-	-	-
Seasonal efficiencies - Heating mode						
Seasonal Coefficient of Performance - **SCOP** (5)		3,53	3,69	3,12	4,21	4,27
Seasonal energy efficiency - **ηs,h** (6)	%	136	143	120	163	166
Eurovent energy efficiency class - Part load operation		-	-	-	-	-
Auxiliary heating						
Gas heating capacity - Standard / High	kW	60 / 120	60 / 120	60 / 120	120 / 180	120 / 180
Electric heater capacity - Standard / High	kW	30 / 72	30 / 72	30 / 72	45 / 108	45 / 108
Electric pre-heater capacity - Standard / High	kW	-	-	-	-	-
Hot water coil capacity Air inlet 20°C/Water	kW	114 / 177	126 / 201	133 / 212	145 / 254	156 / 275
Ventilation data						
Minimum airflow rate	m^3/h	12000	14800	15000	18000	21000
Nominal airflow rate	m^3/h	15000	18500	22000	26500	28000
Maximum airflow rate	m^3/h	23000	23000	23000	35000	35000
Acoustic data - Standard unit						
Outdoor sound power	dB(A)	82,2	84,7	87,4	86,2	87,5
Indoor blower outlet sound power	dB(A)	87,8	89,4	93,3	92,7	95,5
Electrical data						
Maximum power	kW	39,5	45,1	56,6	62,7	79,8
Maximum current	A	211,0	262,0	279,4	252,8	278,5
Starting current	A	67,0	73,5	90,9	108,8	134,5
Short circuit current	kA	10				
Refrigeration circuit						
Number of circuits		2				
Number of compressors		2			3	4
Refrigerant load	kg	10,6 / 10,6	12,3 / 12,3	12,4 / 12,4	15,9 / 15,9	16 / 16

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Air cooled version

Flexair		090	100	120	150	170	200	230
A	mm	2245	2245	2245	2245	2245	2260	2260
B		3315	3315	3315	4360	4360	5166	5166
C		1750	1750	1750	1885	1885	2235	2235
D		360	360	360	456	456	620	620
Weight of standard units								
Basic unit	kg	966	1055	1054	1454	1550	2027	2143

Water cooled version

Flexair		085	100	120	150	170
A	mm	2290	2290	2290	2290	2290
B		3348	3348	3348	4385	4385
C		1510	1510	1510	1830	1830
D		415	415	415	415	415
Weight of standard units						
Basic unit	kg	790	874	955	1237	1300