

redge[®] FORMERLY
LENNOX

eComfort MC

Air source chillers



AIR SOURCE R32

 220 - 700 kW



- # **Fast and easy installation and commissioning** thanks to the integration of a complete hydraulic module with buffer tanks.
- # **Total system modulation** granted by EC motor fans and inverter technology on compressors and pumps.
- # **Excellent seasonal energy efficiencies** (SEER and SEPR) that exceed the European EcoDesign 2021 requirements.
- # **Precise water temperature control** in heating and cooling mode thanks to highly efficient components.

CONTROL

- # eClimatic electronic controller and intelligent control parameters optimising part-load efficiency.
- # Integrated communication solutions offering flexibility (master/slave, Modbus, BACnet).
- # DC Advanced display, equipped with a graphic screen providing access to the main user parameters, with two optional displays:
 - Remote Display
 - Service Display

eCLIMATIC



DC Advanced



eDRIVE

Variable speed drive pump option, which modulates the water flow through the plate heat exchanger and reduces energy costs:

- # Saves energy consumption especially at part-load conditions and during off period, reaching up to 75% reduction of the pump consumption.
- # Savings on the initial system cost, due to fewer pumps and piping connections than primary-secondary systems.
- # Flexibility and accuracy of the pump operation control: smooth start and stop, gradual change of speed, accuracy and stability of control.
- # Reduction of the repeated stress on the pump and piping resulting in longer equipment lifetime.
- # Elimination of the start-up current thanks to variable frequency drive that controls a gradual pump motor supply.



REMOTE MONITORING

- # Connectivity through **RedgeCloud** (REDGE WEB PORTAL for Multi sites / units).
- # BMS through: **e-savvy**



ACOUSTIC COMFORT

Three different noise level configurations available:

- # **Quiet operation** (standard), achieved with compact design, silent compressors and pumps, and with high-performance propeller fans, all installed in a closed box.
- # **Low noise level option**: High performance acoustic compressor casing can halve the noise produced by the unit.
- # **Active Acoustic Attenuation System** with variable fan speed allows progressive adaptation of the unit to the building load while respecting the noise level constraints and the operating limits (as an option).

CASING & DESIGN

- # Casing made of white painted galvanised steel.
- # Compact design, granted by the V-shaped coils.
- # All thermodynamic and hydraulic components installed below the coils.



THERMODYNAMIC SYSTEM

- # Multi-scroll compressors, mounted in tandem or trio, to provide the best seasonal efficiencies.
- # Aluminium microchannel condenser coil on cooling only units.
- # High performance propeller fans with profiled blades to improve efficiency and reduce noise level (EC version available as an option).
- # Thermally insulated and frost-protected water heat exchangers made from stainless steel plates with copper brazing.
- # One or two independent circuits, each equipped with electronic expansion valves.
- # Desuperheater (as an option): additional plate heat exchanger on each circuit to recover the rejected heat and provide free hot water for sanitary or industrial purposes.



G_(A) **A**_(B) **C**_(C) **220**_(D) **D**_(E) **P**_(F) **2**_(G) **M**_(H)(A) **G** = eComfort(B) **A** = Standard Air source unit - **B** = Advanced Air source unit(C) **C** = Cooling only unit - **H** = Heat pump unit(D) **220** = Approximate power in kW(E) **D** = Dual circuit(F) **P** = Refrigerant R32(G) **2** = Revision number(H) **M** = 400V/3/50Hz**Air source version****Cooling only units**

			F BOX			G BOX			
eCOMFORT - GAC			220D	250D	300D	330D	370D	400D	
Nominal thermal performances - Cooling mode									
Cooling capacity ⁽¹⁾		kW	213,8	250,0	292,5	326,8	362,2	405,6	
Total absorbed power ⁽¹⁾		kW	67,8	79,0	97,9	105,6	118,7	135,2	
EER ⁽¹⁾			3,2	3,2	3,0	3,1	3,1	3,0	
Comfort Application	Standard Fans	Seasonal Energy Efficiency Ratio ⁽²⁾ SEER		5.25	5.05	4.85	4.93	4.95	5.1
		Seasonal energy efficiency ⁽³⁾ ηs,c	%	207	199	191	194	195	201
Process Application		Seasonal Energy Performance Ratio ⁽⁴⁾ SEPR - High temperature (7°C)		6.75	6.73	6.44	6.7	6.66	6.37
Nominal thermal performances - Heating mode									
Heating capacity ⁽¹⁾		kW	-	-	-	-	-	-	
Total absorbed power ⁽¹⁾		kW	-	-	-	-	-	-	
COP ⁽¹⁾			-	-	-	-	-	-	
Eurovent energy class ⁽¹⁾ - Full load operation			-	-	-	-	-	-	
Comfort Application	Standard Fans	Seasonal Coefficient of Performance ⁽⁶⁾ SCOP		-	-	-	-	-	-
		Seasonal energy efficiency ⁽⁷⁾ ηs,h	%	-	-	-	-	-	-
		Seasonal efficiency class ⁽⁸⁾		-	-	-	-	-	-
Acoustic data									
Global sound power level - Standard unit		dB(A)	90,6	92,3	92,3	92,1	92,1	94,6	
Electrical data									
Maximum power		kW	93.7	108.1	128.9	143.2	158.8	180.5	
Maximum current		A	155.7	175	210	232.6	258.8	295.1	
Starting current		A	320.4	325.6	391.8	414.5	440.8	605	
Short circuit current		kA	50						
Refrigeration circuit									
Number of circuits			2	2	2	2	2	2	
Number of compressors			2+2	2+2	2+2	2+3	2+3	2+3	
Total refrigerant load - R32		kg	20,2	22,4	23,8	31,0	33,5	34,0	
Evaporator			Brazed plate heat exchanger						
Nominal water flow rate		m³/h	36,9	43,1	50,5	56,4	62,5	70,0	
Nominal pressure drop		kPa	30,0	30,4	39,3	48,6	54,8	65,9	
Hydraulic connection									
Type			Victaulic						
Diameter			4"						

(1) EUROVENT certified data, in accordance with standard EN 14511.

Cooling mode: Evaporator water temperature = 12/7°C | Outdoor air temperature = 35°C / **Heating mode:** Condenser water temperature = 40/45°C | Outdoor air temperature = 7°C

(2) SEER in accordance with standard EN 14825. | (3) Following ecodesign regulation EU 2016/2281 on space cooling, normalized leaving water temperature at 7°C, in accordance with standard EN 14825. | (4) Following ecodesign regulation EU 2016/2281 on process cooling units, normalized leaving water temperature at 7°C, in accordance with standard EN 14825. |

(5) Following ecodesign regulation EU 2015/1095 on process cooling chillers, normalized leaving water temperature at -8°C, in accordance with standard EN 14825. |

(6) SCOP in accordance with standard EN 14825. Heating mode performance is defined for average climate conditions. | (7) Following ecodesign regulation EU 813/2013 on space heaters, normalized leaving water temperature at 7°C, in accordance with standard EN 14825, average climate conditions. | (8) Following energy labelling regulation EU 811/2013 on space heaters.

G_(A) A_(B) C_(C) 220_(D) D_(E) P_(F) 2_(G) M_(H)

(A) **G** = eComfort

(B) **A** = Standard Air source unit - **B** = Advanced Air source unit

(C) **C** = Cooling only unit - **H** = Heat pump unit

(D) **220** = Approximate power in kW

(E) **D** = Dual circuit

(F) **P** = Refrigerant R32

(G) **2** = Revision number

(H) **M** = 400V/3/50Hz



Air source version

Cooling only units

			H BOX			I BOX				
eCOMFORT - GAC			450D	480D	500D	550D	600D	660D	700D	
Nominal thermal performances - Cooling mode										
Cooling capacity ⁽¹⁾		kW	437,8	478,6	531,1	573,7	615,7	659,5	694,9	
Total absorbed power ⁽¹⁾		kW	138,9	155,2	171,7	181,5	197,8	214,8	231,4	
EER ⁽¹⁾			3,2	3,1	3,1	3,2	3,1	3,1	3,0	
Comfort Application	Standard Fans	Seasonal Energy Efficiency Ratio ⁽²⁾ SEER		5.35	5.3	5.1	5.1	5.2	5.23	5.15
		Seasonal energy efficiency ⁽³⁾ ηs,c	%	211	209	201	201	205	206	203
Process Application		Seasonal Energy Performance Ratio ⁽⁴⁾ SEPR - High temperature (7°C)		6.9	6.66	6.61	6.7	6.67	6.64	6.47
Nominal thermal performances - Heating mode										
Heating capacity ⁽¹⁾		kW	-	-	-	-	-	-	-	
Total absorbed power ⁽¹⁾		kW	-	-	-	-	-	-	-	
COP ⁽¹⁾			-	-	-	-	-	-	-	
Eurovent energy class ⁽¹⁾ - Full load operation			-	-	-	-	-	-	-	
Comfort Application	Standard Fans	Seasonal Coefficient of Performance ⁽⁶⁾ SCOP		-	-	-	-	-	-	
		Seasonal energy efficiency ⁽⁷⁾ ηs,h	%	-	-	-	-	-	-	
		Seasonal efficiency class ⁽⁸⁾		-	-	-	-	-	-	
Acoustic data										
Global sound power level - Standard unit		dB(A)	91,8	94,5	96,2	96,1	97,6	98,0	98,4	
Electrical data										
Maximum power		kW	188.7	210.4	232	247.3	271	288.6	306.2	
Maximum current		A	307.8	344	380.3	407.1	446.5	476.6	506.7	
Starting current		A	489.6	653.9	690.1	716.9	756.3	786.4	816.5	
Short circuit current		kA	50							
Refrigeration circuit										
Number of circuits			2	2	2	2	2	2	2	
Number of compressors			3+3	3+3	3+3	3+3	3+3	3+3	3+3	
Total refrigerant load - R32		kg	43,3	48,5	49,3	55,8	60,5	61,0	61,5	
Evaporator			Brazed plate heat exchanger							
Nominal water flow rate		m³/h	75,5	82,6	91,6	99,0	106,2	113,8	119,9	
Nominal pressure drop		kPa	38,1	45,2	46,2	53,4	61,0	60,3	66,7	
Hydraulic connection										
Type			Victaulic							
Diameter			5"							

(1) EUROVENT certified data, in accordance with standard EN 14511.

Cooling mode: Evaporator water temperature = 12/7°C | Outdoor air temperature = 35°C / **Heating mode:** Condenser water temperature = 40/45°C | Outdoor air temperature = 7°C

(2) SEER in accordance with standard EN 14825. | (3) Following ecodesign regulation EU 2016/2281 on space cooling, normalized leaving water temperature at 7°C, in accordance with standard EN 14825. | (4) Following ecodesign regulation EU 2016/2281 on process cooling units, normalized leaving water temperature at 7°C, in accordance with standard EN 14825. |

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(6) SCOP in accordance with standard EN 14825. Heating mode performance is defined for average climate conditions. | (7) Following ecodesign regulation EU 813/2013 on space heaters, normalized leaving water temperature at 7°C, in accordance with standard EN 14825, average climate conditions. | (8) Following energy labelling regulation EU 811/2013 on space heaters.

G_(A) **B**_(B) **C**_(C) **220**_(D) **D**_(E) **P**_(F) **2**_(G) **M**_(H)

(A) **G** = eComfort

(B) **A** = Standard Air source unit - **B** = Advanced Air source unit

(C) **C** = Cooling only unit - **H** = Heat pump unit

(D) **220** = Approximate power in kW

(E) **D** = Dual circuit

(F) **P** = Refrigerant R32

(G) **2** = Revision number

(H) **M** = 400V/3/50Hz



Air source version - Advanced

Cooling only units

			F BOX		G BOX		
eCOMFORT - GBC			220D	250D	300D	330D	
Nominal thermal performances - Cooling mode							
Cooling capacity ⁽¹⁾		kW	240,1	262,4	297,2	332,5	
Total absorbed power ⁽¹⁾		kW	76,1	85,7	93,2	106,3	
EER ⁽¹⁾			3,2	3,1	3,2	3,1	
Comfort Application	EC Fans	Seasonal Energy Efficiency Ratio ⁽²⁾ SEER		5.25	5.13	5.15	5.1
		Seasonal energy efficiency ⁽³⁾ ηs,c	%	207	202	203	201
Process Application		Seasonal Energy Performance Ratio ⁽⁴⁾ SEPR - High temperature (7°C)		6.33	6.28	6.45	6.45
		Seasonal Energy Performance Ratio ⁽⁵⁾ SEPR - Medium temperature (-8°C)		3.84	3.9	3.69	3.75
Nominal thermal performances - Heating mode							
Heating capacity ⁽¹⁾		kW					
Total absorbed power ⁽¹⁾		kW					
COP ⁽¹⁾							
Comfort Application	EC Fans	Seasonal Coefficient of Performance ⁽⁶⁾ SCOP					
		Seasonal energy efficiency ⁽⁷⁾ ηs,h	%				
		Seasonal efficiency class ⁽⁸⁾					
Acoustic data							
Global sound power level - Standard unit		dB(A)	92,9	92,9	92,7	92,7	
Electrical data							
Maximum power		kW	108.5	119	133.2	148.9	
Maximum current		A	176.6	194	216.7	243	
Starting current		A	418.4	435.9	458.6	484.8	
Short circuit current		kA	50,0	50,0	50,0	50,0	
Refrigeration circuit							
Number of circuits			2	2	2	2	
Number of compressors			2+2	2+2	2+2	2+3	
Total refrigerant load - R32		kg	20	22	28	30	
Evaporator							
Nominal water flow rate		m³/h	41,4	45,3	51,3	57,4	
Nominal pressure drop		kPa	28,2	31,9	40,5	46,4	
Hydraulic connection							
Type			Victaulic				
Diameter			4"				

(1) EUROVENT certified data, in accordance with standard EN 14511.

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Air source version

Cooling only units

eCOMFORT - GAC		220D	250D	300D	330D	370D	400D
A	mm	2772			4044		
B		2264			2264		
C		2421			2421		
Weight of standard units							
Basic unit	kg	1588	1690	1728	2243	2263	2334



Air source version

Cooling only units

eCOMFORT - GAC		450D	480D	500D	550D	600D	660D	700D
A	mm	5326			6588			
B		2264			2264			
C		2421			2421			
Weight of standard units								
Basic unit	kg	2884	2915	3020	3465	3531	3622	3683



Air source version - Advanced

Cooling only units

eCOMFORT - GBC		220D	250D	300D	330D
A	mm	2772		4044	
B		2264		2264	
C		2421		2421	
Weight of standard units					
Basic unit	kg	1618	1633	2073	2092

