

eComfort MC

New!

Air cooled chillers / Heat pumps



R32



AIR COOLED

❄️ 220 - 400 kW

🔥 220 - 450 kW

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

- # **Fast and easy installation and commissioning** thanks to the integration of a complete hydraulic module with buffer tank and immersed heating rods.
- # **Excellent seasonal energy efficiencies** (SEER) that exceed the European EcoDesign 2021 requirements. And SCOP that exceed the European EcoDesign 2017.
- # **Precise water temperature control** in cooling and heating 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 **LennoxHydrocontrol**, a user-friendly interface for local supervision of the entire hydraulic system.
- # Connectivity through **LennoxCloud** (LENNOX 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 jacket 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.
- # Large surface exchangers built with copper tubing and aluminium fins on heat-pump 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
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- (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 cooled version - Standard version

Cooling only units

eCOMFORT - GAC		F BOX			G BOX				
		220D	250D	300D	330D	370D	400D		
Nominal thermal performances - Cooling mode									
Cooling capacity ⁽¹⁾		kW	213,8	250	292,5	326,8	362,2	405,6	
Total absorbed power ⁽¹⁾		kW	67,8	79	97,9	105,6	118,7	135,2	
EER ⁽¹⁾			3,15	3,16	2,99	3,09	3,05	3	
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⁾ η_{s,c}	%	207	199	191	194	195	201
Process Application	Standard Fans	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⁾ η_{s,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	97,8	110,2	131	150,2	165,9	183,5	
Maximum current		A	329,1	331,2	397,4	428,3	454,6	612,6	
Starting current		A	164,4	180,6	215,6	246,4	272,6	302,7	
Short circuit current		kA	50	50	50	50	50	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	19	20	22	28	30	34	
Evaporator									
Braze plate heat exchanger									
Nominal water flow rate		m ³ /h	36,88	43,12	50,45	56,36	62,48	69,96	
Nominal pressure drop		kPa	29,97	30,44	39,31	48,63	54,77	65,93	
Hydraulic connection									
Type			Victaulic						
Diameter			4"	4"	4"	4"	4"	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. | (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.

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Air cooled version - Standard version

Heat pumps units

eCOMFORT - GAH		220D	250D	280D	300D	350D	370D	400D	450D		
Nominal thermal performances - Cooling mode											
Cooling capacity ⁽¹⁾		kW	211,9	248,9	274,2	303,7	342,2	366	404,7	441	
Total absorbed power ⁽¹⁾		kW	69,7	81,7	86,3	99,3	112,6	117	130,1	143	
EER ⁽¹⁾			3,04	3,05	3,18	3,06	3,04	3,13	3,11	3,08	
Comfort Application	EC Fans	Seasonal Energy Efficiency Ratio ⁽²⁾ SEER		199	193	195	196	195	211	210	204
		Seasonal energy efficiency ⁽³⁾ η_{s,c}	%	3,99	4,09	4,11	4,02	4,05	4,07	4,08	4,08
Process Application	EC Fans	Seasonal Energy Performance Ratio ⁽⁴⁾ SEPR - High temperature (7°C)		6,56	6,68	6,59	6,77	6,62	7	6,85	6,68
Nominal thermal performances - Heating mode											
Heating capacity ⁽¹⁾		kW	210,8	242,6	270,3	299,3	341,8	350,1	392,5	434,3	
Total absorbed power ⁽¹⁾		kW	68,6	79,2	85,6	97,2	112,3	112,7	127,2	142	
COP ⁽¹⁾			3,07	3,06	3,16	3,08	3,04	3,11	3,08	3,06	
Eurovent energy class ⁽¹⁾ - Full load operation			B	B	B	B	B	A	B	B	
Comfort Application	EC Fans	Seasonal Coefficient of Performance ⁽⁶⁾ SCOP		3,55	3,58	3,65	3,6	3,68	3,85	3,83	3,65
		Seasonal energy efficiency ⁽⁷⁾ η_{s,h}	%	139	140	143	141	144	151	150	143
		Seasonal efficiency class ⁽⁸⁾			A+	A+	A+	A+	A+	A+	A+
Acoustic data											
Global sound power level - Standard unit		dB(A)	91,8	92,3	91,5	92,0	93,7	91,8	93,5	94,7	
Electrical data											
Maximum power		kW	96,00	108,4	118,5	133	152,7	157,7	177,4	197,1	
Maximum current		A	325,1	327,2	375,8	367,4	431,1	407,6	471,2	503,7	
Starting current		A	160,4	176,6	193,9	216,8	249,2	256,9	289,3	321,8	
Short circuit current		kA	50								
Refrigeration circuit											
Number of circuits			2	2	2	2	2	2	2	2	
Number of compressors			2+2	2+2	2+2	2+3	2+3	3+3	3+3	3+3	
Total refrigerant load - R32		kg	45	46	60	60	63	74	79,5	85	
Evaporator											
Nominal water flow rate		m ³ /h	36,56	42,93	47,3	52,38	59,03	63,12	69,81	76,07	
Nominal pressure drop		kPa	29,47	28,83	34,72	42,25	49,07	29,69	32,80	38,65	
Hydraulic connection											
Type			Vitaulic								
Diameter			4"	4"	4"	4"	4"	5"	5"	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. | (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.

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Air cooled version - Fixed speed AC Fan (SFAC)

Heat pumps units

eCOMFORT - GAH		220D	250D	280D	300D	350D	370D	400D	450D		
Nominal thermal performances - Cooling mode											
Cooling capacity ⁽¹⁾		kW	213,5	247,8	275,7	302,4	341,8	364,2	403,7	440,9	
Total absorbed power ⁽¹⁾		kW	70,2	82,3	86,6	100,4	113,4	118,7	131,4	144	
EER ⁽¹⁾			3,04	3,01	3,18	3,01	3,02	3,07	3,07	3,06	
Eurovent energy class ⁽¹⁾ - Full load operation			5,05	4,9	4,95	4,98	4,95	5,35	5,33	5,18	
Comfort Application	AC Fans	Seasonal Energy Efficiency Ratio ⁽²⁾ SEER		199	193	195	196	195	211	210	204
		Seasonal energy efficiency ⁽³⁾ η_{s,c}	%	6,56	6,68	6,59	6,77	6,62	7	6,85	6,68
Process Application	AC Fans	Seasonal Energy Performance Ratio ⁽⁴⁾ SEPR - High temperature (7°C)		3,99	4,09	4,11	4,02	4,05	4,07	4,08	4,08
Nominal thermal performances - Heating mode											
Heating capacity ⁽¹⁾		kW	212,7	240,9	268,6	296,1	338,7	340,4	385,3	430	
Total absorbed power ⁽¹⁾		kW	70,8	79,1	86,4	97,6	112,5	112,7	127,5	142,8	
COP ⁽¹⁾			3	3,04	3,11	3,03	3,01	3,02	3,02	3,01	
Eurovent energy class ⁽¹⁾ - Full load operation			B	B	B	B	B	B	B	B	
Comfort Application	AC Fans	Seasonal Coefficient of Performance ⁽⁶⁾ SCOP		3,55	3,58	3,65	3,6	3,68	3,85	3,83	3,65
		Seasonal energy efficiency ⁽⁷⁾ η_{s,h}	%	139	140	143	141	144	151	150	143
Seasonal efficiency class ⁽⁸⁾			A+	A+	A+	A+	A+	A+	A+	A+	
Acoustic data											
Global sound power level - Standard unit		dB(A)	90,7	91,3	90,7	91,3	92,7	91,4	92,6	93,6	
Electrical data											
Maximum power		kW	96	108,4	118,5	133	152,7	157,7	177,4	197,1	
Maximum current		A	328,3	330,4	380	371,6	435,9	412,8	477	510,1	
Starting current		A	163,6	179,8	198,1	221	254	262,1	295,1	328,2	
Short circuit current		kA	50								
Refrigeration circuit											
Number of circuits			2	2	2	2	2	2	2	2	
Number of compressors			2+2	2+2	2+2	2+3	2+3	3+3	3+3	3+3	
Total refrigerant load - R32		kg	45	46	60	60	63	74	79,5	85	
Evaporator											
Nominal water flow rate		m ³ /h	36,82	42,74	47,56	52,16	58,95	62,82	69,63	76,06	
Nominal pressure drop		kPa	29,87	28,59	35,09	41,90	48,94	29,42	32,64	38,64	
Hydraulic connection											
Type			Victaulic								
Diameter			4"	4"	4"	4"	4"	5"	5"	5"	

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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
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Air cooled 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 cooled version

Heat pumps units

eCOMFORT - GAH		220D	250D	280D	300D	350D	370D	400D	450D
A	mm	2250			2250			2250	
B		2704			3976			5248	
C		2401			2401			2401	
Weight of standard units									
Basic unit	kg	1883	2004	2474	2614	2695	3203	3291	3338

