

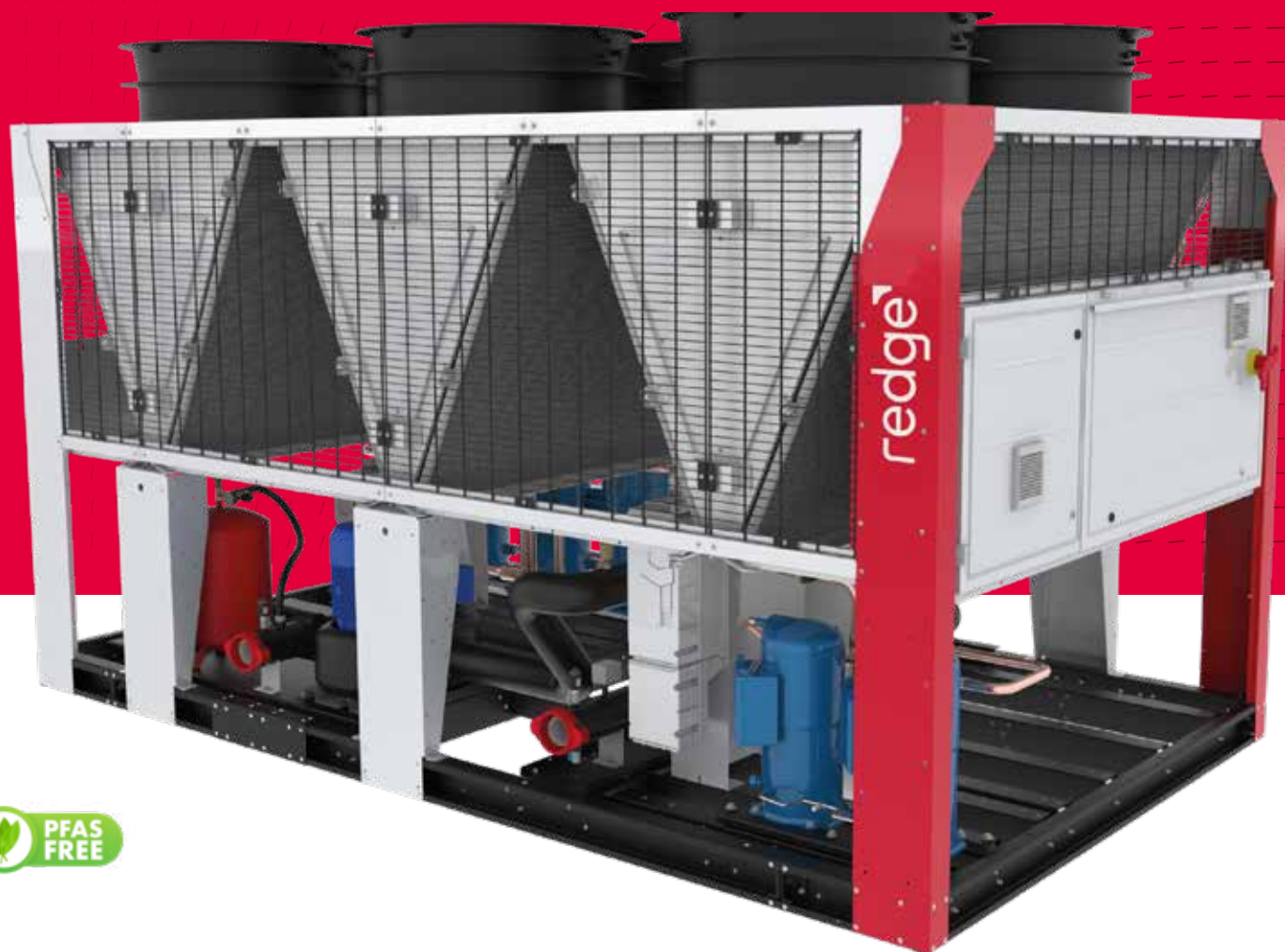
redge[®]

New !

eComfort Therma

Greater performance
with our latest heating-optimized heat pump

For commercial applications



AIR SOURCE R32

❄ 220 - 500 kW



- # **Fast and easy installation and commissioning** thanks to the integration of a complete hydraulic module with buffer tanks.
- # **Heating Optimized** for greater comfort, even in the coldest seasons
- # **Outstanding seasonal SCOP efficiencies**, exceeding the European EcoDesign 2017 requirements for heating applications
- # **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

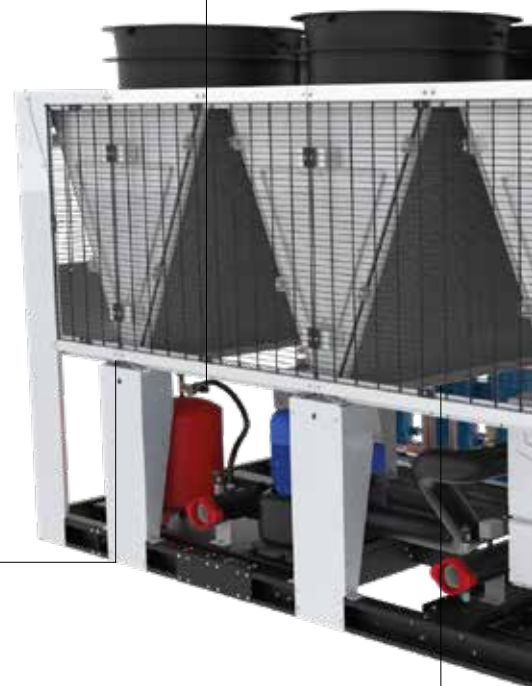
Variable speed drive pump option, which modulates the water flow through the plate heat exchanger and reduces energy costs:

- # 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).



THERMODYNAMIC SYSTEM

- # Multi-scroll compressors, mounted in tandem or trio, to provide the best seasonal efficiencies.
- # Large surface exchangers built with copper tubing and aluminium fins.
- # High performance propeller fans with profiled blades to improve efficiency and reduce noise level.
- # 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.



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.

G_(A) **H**_(B) **S**_(C) **220**_(D) **D**_(E) **P**_(F) **1**_(G) **M**_(H)

- (A) **G** = eComfort
 (B) **H** = Heating optimized
 (C) **S** = Standard compressor
 (D) **220** = Approximate power in kW
 (E) **D** = Dual circuit
 (F) **P** = Refrigerant R32
 (G) **1** = Revision number
 (H) **M** = 400V/3/50Hz



Air source version

Heat pumps units

eCOMFORT THERMA - GHS			220D	250D	280D	320D	360D	
Nominal thermal performances - Heating mode								
Heating capacity ⁽¹⁾		kW	217,0	251,8	272,9	313,8	354,3	
Total absorbed power ⁽¹⁾		kW	69,7	82,8	90,0	99,3	118,1	
COP ⁽¹⁾			3,11	3,04	3,03	3,16	3,00	
Comfort Application	Standard Fans	Seasonal Coefficient of Performance ⁽⁶⁾ SCOP		3.875	3.85	3.8	3.9	3.875
		Seasonal energy efficiency ⁽⁷⁾ η_{s,h}	%	152	151	149	153	152
Nominal thermal performances - Cooling mode								
Cooling capacity ⁽¹⁾		kW	201,0	237,7	255,7	287,7	328,0	
Total absorbed power ⁽¹⁾		kW	74,2	86,9	97,1	105,0	119,9	
EER ⁽¹⁾			2,71	2,74	2,63	2,74	2,74	
Comfort Application	Standard Fans	Seasonal Energy Efficiency Ratio ⁽²⁾ SEER		4.625	4.3	4.225	4.475	4.4
		Seasonal energy efficiency ⁽³⁾ η_{s,c}	%	182	169	166	176	173
Process Application	Standard Fans	Seasonal Energy Performance Ratio ⁽⁴⁾ SEPR - High temperature (7°C)		6.12	6.07	5.84	6.36	6.05
		Seasonal Energy Performance Ratio ⁽⁵⁾ SEPR - Medium temperature (-8°C)		3.76	3.78	3.72	3.82	3.76
Acoustic data								
Global sound power level - Standard unit		dB(A)	91,1	93,0	93,0	92,4	94,5	
Sound power level - Standard unit + LNCJ option + QUIET setting		dB(A)	90,6	92,3	92,3	92,1	94,6	
Heating capacity HM2 40/45°C LNCJ option + QUIET setting		kW	204,0	238,0	257,0	295,0	334,0	
Electrical data								
Maximum power		kW	95.6	111.9	122.3	134.6	158.1	
Maximum current		A	158.9	181.4	198.9	218.4	257.2	
Starting current		A	323.6	332	380.8	369	439.1	
Short circuit current		kA	50,0	50,0	50,0	50,0	50,0	
Refrigeration circuit								
Number of circuits			2	2	2	2	2	
Number of compressors			scroll/2+2	scroll/2+2	scroll/2+2	scroll/2+3	scroll/2+3	
Total refrigerant load - R32		kg	41,0	42,0	44,0	57,0	58,0	
Evaporator								
Nominal water flow rate		m³/h	37,4	43,4	47,1	54,1	61,1	
Nominal pressure drop		kPa	30,8	29,5	34,4	45,0	52,5	
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) **H**_(B) **S**_(C) **220**_(D) **D**_(E) **P**_(F) **1**_(G) **M**_(H)

- (A) **G** = eComfort
(B) **H** = Heating optimized
(C) **S** = Standard compressor
(D) **220** = Approximate power in kW
(E) **D** = Dual circuit
(F) **P** = Refrigerant R32
(G) **1** = Revision number
(H) **M** = 400V/3/50Hz



Air source version

Heat pumps units

eCOMFORT THERMA - GHS			370D	380D	410D	450D	500D	
Nominal thermal performances - Heating mode								
Heating capacity ⁽¹⁾		kW	364,9	380,6	412,5	451,7	484,0	
Total absorbed power ⁽¹⁾		kW	121,7	125,6	130,9	149,9	158,3	
COP ⁽¹⁾			3,00	3,03	3,15	3,01	3,06	
Comfort Application	Standard Fans	Seasonal Coefficient of Performance ⁽⁶⁾ SCOP		3.85	3.85	4.025	3.8	3.875
		Seasonal energy efficiency ⁽⁷⁾ ηs,h	%	151	151	158	149	152
Nominal thermal performances - Cooling mode								
Cooling capacity ⁽¹⁾		kW	336,9	352,3	385,0	423,0	455,3	
Total absorbed power ⁽¹⁾		kW	125,0	130,9	138,1	152,7	164,4	
EER ⁽¹⁾			2,69	2,69	2,79	2,77	2,77	
Comfort Application	Standard Fans	Seasonal Energy Efficiency Ratio ⁽²⁾ SEER		4.375	4.275	4.975	4.75	4.35
		Seasonal energy efficiency ⁽³⁾ ηs,c	%	172	168	196	187	171
Process Application	Standard Fans	Seasonal Energy Performance Ratio ⁽⁴⁾ SEPR - High temperature (7°C)		5.99	5.82	6.28	6	5.94
		Seasonal Energy Performance Ratio ⁽⁵⁾ SEPR - Medium temperature (-8°C)		3.74	3.68	3.79	3.72	3.68
Acoustic data								
Global sound power level - Standard unit		dB(A)	94,5	95,8	94,1	95,6	97,4	
Sound power level - Standard unit + LNCJ option + QUIET setting		dB(A)	86,9	88,1	86,4	87,9	89,8	
Heating capacity HM2 40/45°C LNCJ option + QUIET setting		kW	344,0	359,0	388,0	426,0	457,0	
Electrical data								
Maximum power		kW	163.3	168.4	180.9	204.4	214.4	
Maximum current		A	265.9	277	294.1	333	355.1	
Starting current		A	447.8	586.8	476	514.8	664.9	
Short circuit current		kA	50,0	50,0	50,0	50,0	50,0	
Refrigeration circuit								
Number of circuits			2	2	2	2	2	
Number of compressors			scroll/2+3	scroll/2+2	scroll/3+3	scroll/3+3	scroll/2+2	
Total refrigerant load - R32		kg	59,0	60,0	79,0	80,0	82,0	
Evaporator								
Nominal water flow rate		m³/h	62,9	65,6	71,2	77,9	83,5	
Nominal pressure drop		kPa	55,6	58,2	34,0	40,5	38,8	
Hydraulic connection								
Type			Victaulic					
Diameter			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.

G_(A) H_(B) S_(C) 220_(D) D_(E) P_(F) 1_(G) M_(H)

- (A) G = eComfort
- (B) H = Heating optimized
- (C) S = Standard compressor
- (D) 220 = Approximate power in kW
- (E) D = Dual circuit
- (F) P = Refrigerant R32
- (G) 1 = Revision number
- (H) M = 400V/3/50Hz



Air source version

Heat pumps units

eCOMFORT - GHS		220D	250D	280D	320D	360D	370D	380D	410D	450D	500D
A	mm	2765			4044				5316		
B		2264			2264				2264		
C		2402			2402				2402		
Weight of standard units											
Basic unit	kg	1950	2080	2090	2720	2746	2765	2796	3412	3498	3529

