



Installation, operating and maintenance manual

**ECOLEAN
R410A**

EAC - EAR

Air cooled chillers
Heat pumps

20 → 200 kW



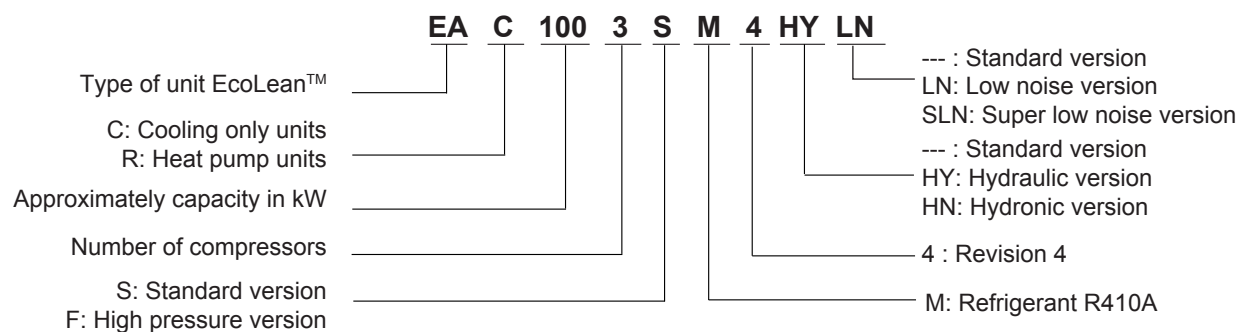
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Translation of original manual

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1.- GENERAL CHARACTERISTICS

1.1.- TECHNICAL DATA



COOLING ONLY

EAC MODELS		0251SM	0291SM	0351SM	0431SM	0472SM	0552SM	0672SM	0812SM	
Cooling capacity (*)	kW	22,1	25,9	32,0	37,6	44,1	50,7	63,4	75,4	
Compressor	Nr/type	1 / scroll				2 / scroll				
Hydraulic connections		1 1/2"G				2"G				
Min. water rate	m³/h	3,16	3,72	4,4	5,3	6,05	7,07	8,6	10,39	
Net weight	Standard	238	246	263	292	470	482	518	562	
	High pressure	253	261	278	298	500	512	548	592	
Refrigerant	kg	5,5	6,1	7,6	9	11	12,2	15,5	19,5	
EAC MODELS		1003SM	1103SM	1203SM	1303SM	1403SM	1604SM	1804SM	2104SM	
Cooling capacity (*)	kW	88,2	102	112	126	139	149	174	199	
Compressor	Nr/type	3 / scroll					4 / scroll			
Hydraulic connections		2 1/2"G					DN80			
Min. water rate	m³/h	12,38	13,9	15,76	17,48	18,86	21,06	24,77	28,3	
Net weight	Standard	640	809	938	990	1019	1328	1683	1703	
	High pressure	680	849	978	1030	1059	1368	1763	1783	
Refrigerant	kg	23,5	26	27	30	33,7	36,2	45	47	

HEAT PUMP

EAR MODELS		0251SM	0291SM	0351SM	0431SM	0472SM	0552SM	0672SM	0812SM	
Cooling capacity (*)	kW	22,1	25,9	32,0	37,6	44,1	50,7	63,4	75,4	
Heating capacity (**)	Nr/type	23,6	27,6	33,6	37,8	47,8	54,7	68,0	75,7	
Compressor	Nr/type	1 / scroll				2 / scroll				
Hydraulic connections		1 1/2"G				2"G				
Min. water rate	m³/h	3,16	3,72	4,4	5,3	6,05	7,07	8,6	10,39	
Net weight	Standard	243	251	271	300	480	492	534	578	
	High pressure	258	266	286	305	510	522	564	608	
Refrigerant	kg	5,8	6,5	8	9,5	12,5	13,5	16	19,3	
EAR MODELS		1003SM	1103SM	1203SM	1303SM	1403SM	1604SM	1804SM	2104SM	
Cooling capacity (*)	kW	88,2	102	112	126	139	149	174	199	
Heating capacity (**)	Nr/type	95,0	108	118	130	143	159	180	205	
Compressor	Nr/type	3 / scroll					4 / scroll			
Hydraulic connections		2 1/2"G					DN80			
Min. water rate	m³/h	12,38	13,9	15,76	17,48	18,86	21,06	24,77	28,3	
Net weight	Standard	663	831	964	1016	1045	1347	1703	1723	
	High pressure	703	871	1004	1056	1085	1387	1783	1803	
Refrigerant	kg	23,3	28	29,5	32,2	35,5	40	52	54	

(*) Cooling capacity: Outside temperature: 35°C / Inlet/outlet water temperature: 12/7°C

(**) Heating capacity: Outside temperature: 7°C DB / 6°C WB / Inlet/water outlet temperature: 40/45°C

1.- GENERAL CHARACTERISTICS

1.1.- TECHNICAL DATA

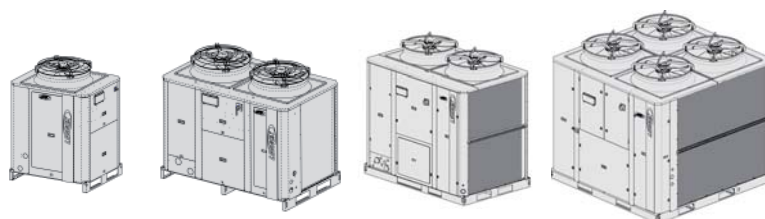
HYDRAULIC VERSION / HYDRONIC VERSION

MODELS	0251SM	0291SM	0351SM	0431SM	0472SM	0552SM	0672SM	0812SM
Pump type	Horizontal multistage centrifugal pump							
Expansion vessel								
Capacity (l)	12				18			
Set pressure								
Security valves (bar)	3				3			
Expansion vessel (bar)	4				4			
Buffer tank (***)								
Capacity (l)	75				100			

MODELS	1003SM	1103SM	1203SM	1303SM	1403SM	1604SM	1804SM	2104SM
Pump type	Horizontal multistage centrifugal pump							
Expansion vessel								
Capacity (l)	35				50			
Set pressure								
Security valves (bar)	3				3			
Expansion vessel (bar)	4				4			
Buffer tank (***)								
Capacity (l)	240				350			

(***) Only in units with Hydronic module

STANDARD FAN UNITS



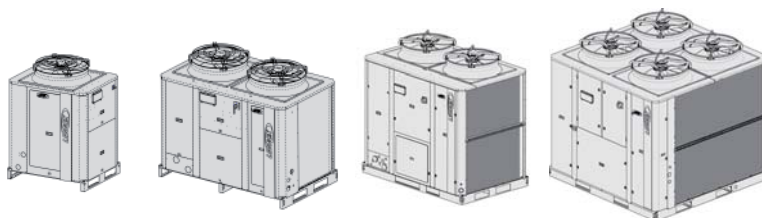
MODELS	0251SM	0291SM	0351SM	0431SM	0472SM	0552SM	0672SM	0812SM		
Fan type	Axial - Direct coupling				3-400V					
Fan number	1				2					
Air flow rate	m ³ /h	High	9950	12900	12500	12250	9950+9950	12900+12900	12500+12500	12250+12250
		Low	8250	10500	10250	10000	8250+8250	10500+10500	10250+10250	10000+10000
Power input	kW	High	0,49	0,69	0,69	0,7	0,49+0,49	0,69+0,69	0,69+0,69	0,7+0,7
		Low	0,37	0,51	0,52	0,53	0,37+0,37	0,51+0,51	0,52+0,52	0,53+0,53
Fan speed	rpm	High	930	927	925	920	930/930	927/927	925/925	920/920
		Low	786	773	768	762	786/786	773/773	768/768	762/762

MODELS	1003SM	1103SM	1203SM	1303SM	1403SM	1604SM	1804SM	2104SM			
Fan type	Axial - Direct coupling				3-400V						
Fan number	2						4				
Air flow rate	m ³ /h	High	17000+17000	22500+17000	22500+17000	22500+22500	22500+22000	23000+23000	26000+26000	36000+36000	
		Low	13500+13500	17500+13500	17500+13500	17500+17500	17500+17200	18500+18500	19000+19000	27200+27200	
Power input	kW	High	1,05+1,05	2+1,05	2+1,05	2+2	2+2	2+2	2+2	2,1+2,1	4+4
		Low	0,77+0,77	1,25+0,77	1,25+0,77	1,25+1,25	1,25+1,25	1,25+1,25	1,54+1,54	2,5+2,5	
Fan speed	rpm	High	683/683	910/683	910/683	910/910	9910/908	920/920	675/675/675/675	925/925/925/925	
		Low	545/545	730/545	730/545	730/730	730/750	740/740	518/518/518/518	700+700+700+700	

1.- GENERAL CHARACTERISTICS

1.2.- ELECTRICAL DATA

STANDARD FAN UNITS

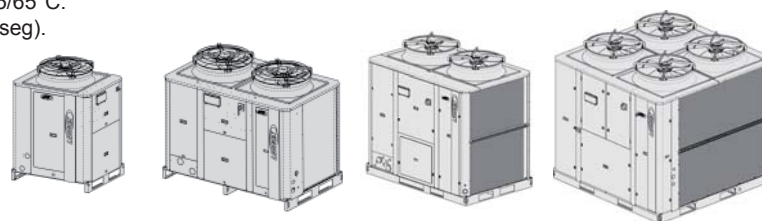


MODELS		0251SM	0291SM	0351SM	0431SM	0472SM	0552SM	0672SM	0812SM
Maximum power (kW)	High	10,6	12,5	16,3	17,6	21,2	25,0	32,5	35,2
	Low	10,5	12,3	16,1	17,4	21,0	24,6	32,1	34,9
Maximum Current (A)	3~400V High	22,3	23,8	27,4	32,8	44,5	47,5	54,7	65,5
	Low	21,7	23,1	26,7	32,1	43,5	46,2	53,4	64,2
LRC (A)	3~400V High	112,3	119,8	159,8	175,8	134,5	143,5	187,1	208,5
	Low	111,7	119,1	159,1	175,1	133,5	142,2	185,8	207,2
Starting current (A) (*)	3~400V High	95,6	102,1	136,1	149,7	117,9	125,8	163,4	182,4
	Low	95,1	101,4	135,4	149,0	116,8	124,5	162,1	181,1
MODELS		1003SM	1103SM	1203SM	1303SM	1403SM	1604SM	1804SM	2104SM
Maximum power (kW)	High	42,6	51,1	56,7	62,3	65	71,6	83,0	96,2
	Low	42,0	50,0	55,6	60,8	63,5	70,1	81,9	93,6
Maximum Current (A)	3~400V High	79,8	88,6	97,6	107,7	118,5	132,0	151,6	175
	Low	78,0	86,0	95,0	104,3	115,1	128,6	148,0	168,2
LRC (A)	3~400V High	222,8	231,6	282,6	331,2	342,0	275,0	336,6	398,5
	Low	221,0	229,0	280,0	327,8	338,6	271,6	333,0	391,7
Starting current (A) (*)	3~400V High	196,7	205,5	248,8	290,4	301,2	248,9	302,9	357,7
	Low	194,9	202,9	246,3	287,0	297,8	245,5	299,3	350,9

Maximum power calculated for compressor operation at +12,5/65°C.

(*) Starting current 2 cycles later from compressor starts (4 mseg).

HIGH STATIC FAN PRESSURE UNITS



LOW SPEED

MODELS		0251FM	0291FM	0351FM	0431FM	0472FM	0552FM	0672FM	0812FM
Maximum power (kW)	3~400V	11,6	13,3	17,2	18,5	23,3	26,7	34,3	37,0
Maximum Current (A)	3~400V	23,7	24,7	28,3	33,7	47,4	49,4	56,6	67,4
LRC (A)	3~400V	113,7	120,7	160,7	176,7	137,4	145,4	189,0	210,4
Starting current (A) (*)	3~400V	97,1	103,0	137,0	150,6	120,8	127,7	165,3	184,3
MODELS		1003FM	1103FM	1203FM	1303FM	1403FM	1604FM	1804FM	2104FM
Maximum power (kW)	3~400V	46,8	54,3	59,9	64,6	67,3	73,9	91,5	100,9
Maximum Current (A)	3~400V	85,0	92,2	101,2	107,7	120,5	134,0	162,0	179,0
LRC (A)	3~400V	228,0	235,2	286,2	333,2	344,0	277,0	347,0	402,5
Starting current (A) (*)	3~400V	201,9	209,1	252,5	292,4	303,2	250,9	313,3	361,7

HIGH SPEED

MODELS		0251FM	0291FM	0351FM	0431FM	0472FM	0552FM	0672FM	0812FM
Maximum power (kW)	3~400V	12,7	14,4	18,2	19,5	24,8	28,2	35,7	38,3
Maximum Current (A)	3~400V	25,8	26,8	30,4	35,8	51,6	53,6	60,8	71,6
LRC (A)	3~400V	115,8	122,8	162,8	178,8	141,6	149,6	193,2	214,6
Starting current (A) (*)	3~400V	99,2	105,1	139,1	152,7	125,0	131,9	169,5	188,5
MODELS		1003FM	1103FM	1203FM	1303FM	1403FM	1604FM	1804FM	2104FM
Maximum power (kW)	3~400V	50,9	58,4	64,0	68,7	71,4	78,0	100,2	109,6
Maximum Current (A)	3~400V	92,2	99,4	108,4	116,9	127,7	141,2	177,0	194,0
LRC (A)	3~400V	235,2	242,4	293,4	340,4	351,2	284,2	362,0	417,5
Starting current (A) (*)	3~400V	209,1	216,3	259,7	299,6	310,4	258,1	328,3	376,7

Maximum power calculated for compressor operation at +12,5/65°C.

(*) Starting current 2 cycles later from compressor starts (4 mseg).

HYDRAULIC / HYDRONIC VERSION (STANDAR / HIGH PRESSURE)

MODELS EAC / EAR HY - HN		0251	0291	0351	0431	0472	1552	0672	0812
Absorbed power (kW)		0,65	0,65	1,20	1,20	1,20	1,20	1,20	1,20
Maximum current (A)	3~400V	1,76	1,76	3,10	3,10	3,10	3,10	3,10	3,10
MODELS EAC / EAR HY - HN		1003	1103	1203	1303	1403	1604	1804	2104
Absorbed power (kW)		2,45	2,45	2,45	2,45	2,93	2,93	3,70	4,00
Maximum current (A)	3~400V	4,95	4,95	4,95	4,95	4,80	4,80	6,80	9,20



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