

High efficiency chiller, air source for outdoor installation
220-1324 kW



Outdoor unit for the production of chilled water featuring oil-free centrifugal compressor, with R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube flooded evaporator and electronic regulation valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hitherto impossible.

Controls

Electronic control W3000 TE

The brand new W3000TE controller offers advanced functions and algorithms. The large format keyboard and the wide LCD display favour an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of the circuits, as well as of the fans and of the water pumps (if present). An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements.

The diagnostics comprises a complete alarm management system, with "black box" (via PC) and alarm log functions (via display or also PC) for a better analysis of the unit performance.

For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices.

Consumption metering and performance measurement are possible as well. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet-over-IP, Echelon LonWorks, Bacnet MS/TP protocols.

Compatibility with the remote keyboard managing up to 8 units.

The presence of the programmable timer allows the creation of an operating profile containing up to 4 typical days and 10 time bands.

The control is characterized by the continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Version

SL-CA	Super Low noise version, Class A of efficiency
XL-CA	eXtra Low noise version, Class A of efficiency
SL-CA-E	Super Low noise version, Premium efficiency, Class A enhanced

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

VERY HIGH EFFICIENCY

Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

VERSION 'CA-E' AVAILABLE

The version 'CA-E' is characterized by efficiency beyond the 'Class A' for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION

As result of a systematic design oriented to minimize the noise level, XL version's units give the best compromise between silence and efficiency on the market.

LOW INRUSH CURRENTS

Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessory

- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Hydronic group
- EC fans with electronic DC brushless motor
- Set-up for remote connectivity with ModBus/Echelon protocol cards





TECS2 / SL-CA		0211	0251	0351	0452	0512	0552	0652
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1) kW	233	258	346	442	509	574	650
Total power input	(1) kW	70,5	81,1	110	138	161	174	208
EER	(1) kW/kW	3,30	3,18	3,13	3,20	3,16	3,30	3,13
ESEER	(1) kW/kW	4,77	4,87	4,72	5,07	5,17	5,09	5,04
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	232	257	345	441	507	572	648
EER	(1)(2) kW/kW	3,25	3,14	3,10	3,16	3,13	3,26	3,11
ESEER	(1)(2) kW/kW	4,61	4,73	4,57	4,88	4,97	4,87	4,89
Cooling energy class		A	A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7) kW	232	257	345	441	507	572	648
SEER	(7)(8)	4,82	4,93	4,88	5,08	5,21	5,07	5,14
Performance ηs	(7)(9) %	190	194	192	200	205	200	203
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) l/s	11,13	12,33	16,53	21,15	24,32	27,43	31,07
Pressure drop	(1) kPa	36,4	27,4	28,5	27,6	27,7	35,2	21,1
REFRIGERANT CIRCUIT								
Compressors nr.	N°	1	1	1	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1
Refrigerant charge	kg	100	100	120	210	180	210	240
NOISE LEVEL								
Sound Pressure	(3) dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5) dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT								
A	(6) mm	3100	3100	4000	4900	4900	5800	7000
B	(6) mm	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6) kg	2320	2370	3050	4000	4240	4530	5800

TECS2 / SL-CA		0712	0853	0913	1013	1054	1154
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1) kW	742	848	903	977	1065	1183
Total power input	(1) kW	225	269	286	310	336	374
EER	(1) kW/kW	3,30	3,15	3,15	3,15	3,17	3,17
ESEER	(1) kW/kW	5,16	5,12	5,13	5,09	5,06	5,14
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2) kW	740	846	901	975	1062	1180
EER	(1)(2) kW/kW	3,26	3,12	3,12	3,12	3,13	3,13
ESEER	(1)(2) kW/kW	4,97	4,92	4,90	4,90	4,85	4,92
Cooling energy class		A	A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7) kW	740	846	901	975	1062	1180
SEER	(7)(8)	5,21	5,11	5,11	5,15	5,10	5,14
Performance ηs	(7)(9) %	205	202	201	203	201	203
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1) l/s	35,49	40,56	43,20	46,74	50,93	56,59
Pressure drop	(1) kPa	27,6	31,8	36,0	29,7	35,3	37,3
REFRIGERANT CIRCUIT							
Compressors nr.	N°	2	3	3	3	4	4
No. Circuits	N°	1	2	2	2	2	2
Refrigerant charge	kg	280	340	430	490	480	520
NOISE LEVEL							
Sound Pressure	(3) dB(A)	59	60	60	60	61	61
Sound power level in cooling	(4)(5) dB(A)	92	93	93	93	94	94
SIZE AND WEIGHT							
A	(6) mm	7000	8500	9700	10600	11200	11500
B	(6) mm	2260	2260	2260	2260	2260	2260
H	(6) mm	2430	2430	2430	2430	2430	2430
Operating weight	(6) kg	6150	6940	7370	8150	8700	9020

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.

2 Values in compliance with EN14511-3:2013.

3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

4 Sound power on the basis of measurements made in compliance with ISO 9614.

5 Sound power level in cooling, outdoors.

6 Unit in standard configuration/execution, without optional accessories.

7 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]

8 Seasonal space heating energy index

9 Seasonal energy efficiency of the space cooling

The units highlighted in this publication contain HFC R134a [GWP₁₀₀ 1430] fluorinated greenhouse gases.

Certified data in EUROVENT

TECS2 / XL-CA			0211	0251	0351	0452	0512	0552	0652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	220	254	341	435	525	579	640
Total power input	(1)	kW	68,5	79,8	109	137	166	171	206
EER	(1)	kW/kW	3,21	3,19	3,12	3,19	3,17	3,38	3,11
ESEER	(1)	kW/kW	4,75	4,99	4,84	5,19	5,23	5,17	5,19
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	219	254	340	434	524	578	639
EER	(1)(2)	kW/kW	3,17	3,15	3,08	3,16	3,14	3,34	3,08
ESEER	(1)(2)	kW/kW	4,61	4,84	4,69	5,02	5,03	4,94	5,03
Cooling energy class			A	A	B	A	A	A	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	219	254	340	434	524	578	639
SEER	(7)(8)		4,82	5,00	4,98	5,19	5,20	5,11	5,27
Performance ηs	(7)(9)	%	190	197	196	205	205	201	208
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,53	12,16	16,31	20,82	25,13	27,71	30,62
Pressure drop	(1)	kPa	32,6	26,7	27,7	26,7	29,5	35,9	20,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	50	51	51	52	52	52
Sound power level in cooling	(4)(5)	dB(A)	82	82	83	83	84	85	85
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	5800	7000	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2370	2420	3200	4240	4690	5350	6150

TECS2 / XL-CA			0712	0853	0913	1013	1054	1154
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	739	874	900	972	1049	1174
Total power input	(1)	kW	226	279	290	312	331	377
EER	(1)	kW/kW	3,27	3,13	3,11	3,12	3,17	3,11
ESEER	(1)	kW/kW	5,24	5,24	5,30	5,24	5,19	5,23
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	737	872	897	970	1046	1171
EER	(1)(2)	kW/kW	3,24	3,10	3,07	3,09	3,13	3,08
ESEER	(1)(2)	kW/kW	5,05	5,03	5,06	5,04	4,96	5,01
Cooling energy class			A	A	B	B	A	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	737	872	897	970	1046	1171
SEER	(7)(8)		5,24	5,20	5,23	5,27	5,20	5,22
Performance ηs	(7)(9)	%	207	205	206	208	205	206
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	35,33	41,78	43,03	46,47	50,15	56,14
Pressure drop	(1)	kPa	27,3	33,7	35,7	29,4	34,2	36,8
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	53	53	53	54	54	55
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87	88
SIZE AND WEIGHT								
A	(6)	mm	7900	9400	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6650	7520	7770	8650	9150	9960

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.

2 Values in compliance with EN14511-3:2013.

3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

4 Sound power on the basis of measurements made in compliance with ISO 9614.

5 Sound power level in cooling, outdoors.

6 Unit in standard configuration/execution, without optional accessories.

7 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]

8 Seasonal space heating energy index

9 Seasonal energy efficiency of the space cooling

The units highlighted in this publication contain HFC R134a [GWP₁₀₀ 1430] fluorinated greenhouse gases.

Certified data in EUROVENT

TECS2 / SL-CA-E			0211	0251	0351	0452	0512	0552	0652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	229	285	385	455	527	590	703
Total power input	(1)	kW	67,1	81,3	113	134	154	168	204
EER	(1)	kW/kW	3,41	3,50	3,40	3,41	3,41	3,50	3,45
ESEER	(1)	kW/kW	5,29	5,52	5,43	5,79	5,71	5,64	5,77
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	228	284	383	454	526	588	701
EER	(1)(2)	kW/kW	3,36	3,45	3,35	3,37	3,38	3,46	3,42
ESEER	(1)(2)	kW/kW	5,09	5,31	5,19	5,55	5,46	5,34	5,57
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	228	284	383	454	526	588	701
SEER	(7)(8)		5,39	5,50	5,52	5,82	5,76	5,60	5,84
Performance ηs	(7)(9)	%	213	217	218	230	227	221	231
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,93	13,62	18,39	21,76	25,19	28,21	33,61
Pressure drop	(1)	kPa	35,2	33,5	35,2	29,2	29,7	37,2	24,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2270	2350	3130	4070	4230	4570	6040

TECS2 / SL-CA-E			0712	0853	0913	1013	1054	1154
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	796	902	969	1086	1177	1324
Total power input	(1)	kW	233	263	279	317	336	383
EER	(1)	kW/kW	3,41	3,43	3,48	3,42	3,50	3,46
ESEER	(1)	kW/kW	5,77	5,62	5,79	5,71	5,87	5,75
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	794	900	966	1083	1173	1320
EER	(1)(2)	kW/kW	3,37	3,39	3,43	3,38	3,45	3,41
ESEER	(1)(2)	kW/kW	5,51	5,37	5,48	5,44	5,55	5,42
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	794	900	966	1083	1173	1320
SEER	(7)(8)		5,76	5,66	5,73	5,75	5,79	5,70
Performance ηs	(7)(9)	%	227	223	226	227	229	225
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	38,05	43,14	46,35	51,91	56,30	63,34
Pressure drop	(1)	kPa	31,7	35,9	41,5	36,7	43,1	46,8
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	95
SIZE AND WEIGHT								
A	(6)	mm	7900	8500	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6450	7020	7610	8510	8660	9720

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.

2 Values in compliance with EN14511-3:2013.

3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

4 Sound power on the basis of measurements made in compliance with ISO 9614.

5 Sound power level in cooling, outdoors.

6 Unit in standard configuration/execution, without optional accessories.

7 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]

8 Seasonal space heating energy index

9 Seasonal energy efficiency of the space cooling

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