

# Commercial and industrial chillers

## TECS2 0211-1154



### 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

##### W3000SE Large

The controller W3000 large offers the latest control and functions specially developed for these units. The keypad is generously sized with full operating status display. The controls and detailed LCD make access to machine settings easy and safe. These resources permit to directly act on the unit settings through a multilevel menu, available in several languages. The diagnostics includes full management of alarms with black-box functions and alarm record for better analysis of unit performance.

For multi-units plants a special device to coordinate and manage all the resources is available as an option; energy metering device is even possible as an option. Supervision is easy through Climaveneta devices or with various options for interfacing to ModBus, Bacnet, Echelon LonTalk protocols.

Compatibility with remote keyboard (management up to 10 units).

Clock available with programming of operation (standard 4 days and 10 time bands).

Temperature regulation features the continuous capacity modulation, based on PID algorithms referring to water leaving temperature. This is combined with the compressors' on/off management with a proportional logic on the return water temperature.

As option is possible to choose the VPF system control integrated on-board to the units.



#### 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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
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)		3,30	3,18	3,13	3,20	3,16	3,30	3,13
ESEER	(1)		4,77	4,87	4,72	5,07	5,17	5,09	5,04
<b>COOLING ONLY (EN14511 VALUE)</b>									
Cooling capacity	(1)(2) kW		232	257	345	441	507	572	648
EER	(1)(2)		3,25	3,14	3,10	3,16	3,13	3,26	3,11
ESEER	(1)(2)		4,61	4,73	4,57	4,88	4,97	4,87	4,89
Cooling energy class			A	A	A	A	A	A	A
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
Water flow	(1) m <sup>3</sup> /h		40,1	44,4	59,5	76,1	87,6	98,8	112
Pressure drop	(1) kPa		36,4	27,4	28,5	27,6	27,7	35,2	21,1
<b>COMPRESSORS</b>									
Compressors nr.	N°		1	1	1	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1
<b>NOISE LEVEL</b>									
Noise Pressure	(3) dB(A)		56	56	58	58	58	59	59
Noise Power	(4) dB(A)		88	88	90	90	90	91	92
<b>SIZE AND WEIGHT</b>									
A	(5) mm		3100	3100	4000	4900	4900	5800	7000
B	(5) mm		2260	2260	2260	2260	2260	2260	2260
H	(5) mm		2430	2430	2430	2430	2430	2430	2430
Operating weight	(5) 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
<b>PERFORMANCE</b>								
<b>COOLING ONLY (GROSS VALUE)</b>								
Cooling capacity	(1) kW		742	848	903	977	1065	1183
Total power input	(1) kW		225	269	286	310	336	374
EER	(1)		3,30	3,15	3,15	3,15	3,17	3,17
ESEER	(1)		5,16	5,12	5,13	5,09	5,06	5,14
<b>COOLING ONLY (EN14511 VALUE)</b>								
Cooling capacity	(1)(2) kW		740	846	901	975	1062	1180
EER	(1)(2)		3,26	3,12	3,12	3,12	3,13	3,13
ESEER	(1)(2)		4,97	4,92	4,90	4,90	4,85	4,92
Cooling energy class			A	A	A	A	A	A
<b>EXCHANGERS</b>								
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>								
Water flow	(1) m <sup>3</sup> /h		128	146	156	168	183	204
Pressure drop	(1) kPa		27,6	31,8	36,0	29,7	35,3	37,3
<b>COMPRESSORS</b>								
Compressors nr.	N°		2	3	3	3	4	4
No. Circuits	N°		1	2	2	2	2	2
<b>NOISE LEVEL</b>								
Noise Pressure	(3) dB(A)		59	60	60	60	61	61
Noise Power	(4) dB(A)		92	93	93	93	94	94
<b>SIZE AND WEIGHT</b>								
A	(5) mm		7000	8500	9700	10600	11200	11500
B	(5) mm		2260	2260	2260	2260	2260	2260
H	(5) mm		2430	2430	2430	2430	2430	2430
Operating weight	(5) 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 EN14511-3:2011

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 Unit in standard configuration/execution, without optional accessories

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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
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)		3,21	3,19	3,12	3,19	3,17	3,38	3,11
ESEER	(1)		4,75	4,99	4,84	5,19	5,23	5,17	5,19
<b>COOLING ONLY (EN14511 VALUE)</b>									
Cooling capacity	(1)(2) kW		219	254	340	434	524	578	639
EER	(1)(2)		3,17	3,15	3,08	3,16	3,14	3,34	3,08
ESEER	(1)(2)		4,61	4,84	4,69	5,02	5,03	4,94	5,03
Cooling energy class			A	A	B	A	A	A	B
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
Water flow	(1) m <sup>3</sup> /h		37,9	43,8	58,7	74,9	90,5	99,7	110
Pressure drop	(1) kPa		32,6	26,7	27,7	26,7	29,5	35,9	20,5
<b>COMPRESSORS</b>									
Compressors nr.	N°		1	1	1	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1
<b>NOISE LEVEL</b>									
Noise Pressure	(3) dB(A)		50	50	51	51	52	52	52
Noise Power	(4) dB(A)		82	82	83	83	84	85	85
<b>SIZE AND WEIGHT</b>									
A	(5) mm		3100	3100	4000	4900	5800	7000	7000
B	(5) mm		2260	2260	2260	2260	2260	2260	2260
H	(5) mm		2430	2430	2430	2430	2430	2430	2430
Operating weight	(5) 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
<b>PERFORMANCE</b>								
<b>COOLING ONLY (GROSS VALUE)</b>								
Cooling capacity	(1) kW		739	874	900	972	1049	1174
Total power input	(1) kW		226	279	290	312	331	377
EER	(1)		3,27	3,13	3,11	3,12	3,17	3,11
ESEER	(1)		5,24	5,24	5,30	5,24	5,19	5,23
<b>COOLING ONLY (EN14511 VALUE)</b>								
Cooling capacity	(1)(2) kW		737	872	897	970	1046	1171
EER	(1)(2)		3,24	3,10	3,07	3,09	3,13	3,08
ESEER	(1)(2)		5,05	5,03	5,06	5,04	4,96	5,01
Cooling energy class			A	A	B	B	A	B
<b>EXCHANGERS</b>								
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>								
Water flow	(1) m <sup>3</sup> /h		127	150	155	167	181	202
Pressure drop	(1) kPa		27,3	33,7	35,7	29,4	34,2	36,8
<b>COMPRESSORS</b>								
Compressors nr.	N°		2	3	3	3	4	4
No. Circuits	N°		1	2	2	2	2	2
<b>NOISE LEVEL</b>								
Noise Pressure	(3) dB(A)		53	53	53	54	54	55
Noise Power	(4) dB(A)		86	86	86	87	87	88
<b>SIZE AND WEIGHT</b>								
A	(5) mm		7900	9400	9700	10600	11200	12400
B	(5) mm		2260	2260	2260	2260	2260	2260
H	(5) mm		2430	2430	2430	2430	2430	2430
Operating weight	(5) 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 EN14511-3:2011

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 Unit in standard configuration/execution, without optional accessories

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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
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)		3,41	3,50	3,40	3,41	3,41	3,50	3,45
ESEER	(1)		5,29	5,52	5,43	5,79	5,71	5,64	5,77
<b>COOLING ONLY (EN14511 VALUE)</b>									
Cooling capacity	(1)(2) kW		228	284	383	454	526	588	701
EER	(1)(2)		3,36	3,45	3,35	3,37	3,38	3,46	3,42
ESEER	(1)(2)		5,09	5,31	5,19	5,55	5,46	5,34	5,57
Cooling energy class			A	A	A	A	A	A	A
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
Water flow	(1) m <sup>3</sup> /h		39,4	49,0	66,2	78,3	90,7	102	121
Pressure drop	(1) kPa		35,2	33,5	35,2	29,2	29,7	37,2	24,7
<b>COMPRESSORS</b>									
Compressors nr.	N°		1	1	1	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1
<b>NOISE LEVEL</b>									
Noise Pressure	(3) dB(A)		56	56	58	58	58	59	59
Noise Power	(4) dB(A)		88	88	90	90	90	91	92
<b>SIZE AND WEIGHT</b>									
A	(5) mm		3100	3100	4000	4900	4900	5800	7000
B	(5) mm		2260	2260	2260	2260	2260	2260	2260
H	(5) mm		2430	2430	2430	2430	2430	2430	2430
Operating weight	(5) 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
<b>PERFORMANCE</b>								
<b>COOLING ONLY (GROSS VALUE)</b>								
Cooling capacity	(1) kW		796	902	969	1086	1177	1324
Total power input	(1) kW		233	263	279	317	336	383
EER	(1)		3,41	3,43	3,48	3,42	3,50	3,46
ESEER	(1)		5,77	5,62	5,79	5,71	5,87	5,75
<b>COOLING ONLY (EN14511 VALUE)</b>								
Cooling capacity	(1)(2) kW		794	900	966	1083	1173	1320
EER	(1)(2)		3,37	3,39	3,43	3,38	3,45	3,41
ESEER	(1)(2)		5,51	5,37	5,48	5,44	5,55	5,42
Cooling energy class			A	A	A	A	A	A
<b>EXCHANGERS</b>								
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>								
Water flow	(1) m <sup>3</sup> /h		137	155	167	187	203	228
Pressure drop	(1) kPa		31,7	35,9	41,5	36,7	43,1	46,8
<b>COMPRESSORS</b>								
Compressors nr.	N°		2	3	3	3	4	4
No. Circuits	N°		1	2	2	2	2	2
<b>NOISE LEVEL</b>								
Noise Pressure	(3) dB(A)		59	60	60	60	61	62
Noise Power	(4) dB(A)		92	93	93	93	94	95
<b>SIZE AND WEIGHT</b>								
A	(5) mm		7900	8500	9700	10600	11200	12400
B	(5) mm		2260	2260	2260	2260	2260	2260
H	(5) mm		2430	2430	2430	2430	2430	2430
Operating weight	(5) 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 EN14511-3:2011

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.

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