



Commercial and industrial chillers

NX 0152P - 0812P
NX 0614P - 1214P
NECS 0202T - 0612T
NX 0614T - 1214T
NECS 1314 - 3218
FOCS 0751 - 2632
FOCS 1542 - 2642
FOCS2/K 1502 - 8404
FOCS2/CA 1502 - 6603
i-FX (1+i) 2602 - 5403
TECS2 0211-1154
TECS2 HFO 0351 - 1053
NECS-FC 0152 - 1604
FX-FC 1502 - 6002
TECS-FC 0211 - 1204
FX-EFC 1502 - 6002
TECS-EFC 0211 - 1204
NECS-C 0152 - 1204
NECS-W 0152 - 1204
FOCS-W 0401 - 1902
FOCS2-W 1301 - 9604
FOCS3-W 0551 - 4752
i-FX-W (1+i) 1402 - 4652
TECS2-W 0251 - 1954
TECS2-W HFO 0351 - 1414
TX-W 1A00 - 6D00
NECS-ME 0152 - 1604
FOCS-ME 0401 - 1902
FOCS-ME 1001 - 9604

Commercial and industrial chillers

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NX 0152P - 0812P

Chiller, air source for outdoor installation 39,2-227 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, plate heat exchanger, micro-channel full-aluminum air coils and thermostatic or electronic expansion valve, according to the model. The range is composed by units equipped with two compressors in a single-circuit configuration.

Version

K	Standard efficiency, compact version
LN-K	Key efficiency, compact and low-noise version
SL-K	Key efficiency, compact and super low-noise version
CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features**ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD**

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficiency CA version, optional for the compact K versions.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

This new range of chiller uses aluminium micro-channel condensers that ensure a premium level of efficiency. This solution also allows to reduce the refrigerant charge with respect to traditional copper/aluminium coils, assuring the minimum allowable ratio between the refrigerant volume and the power capacity thus making this product range unique in the market, also improving the resistance against corrosion in saline or corrosive atmospheres.

CLASS A EFFICIENCY

The full range is also available with the Class A efficiency rating. NX/CA guarantees within all the noise configurations premium levels of efficiency thanks to the generous sizing of the refrigerant-exchange surface areas and to an accurate control of the fans.

INTEGRATED HYDRONIC MODULE

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

EXTENSIVE RANGE OF OPERATION

Extensive range of operation: full load is granted up to 46°C and in partialization even over 50°C of external air temperature.

Controls**W3000 Base – W3000SE Compact**

The controller in two different versions according to the unit's type:

W3000 Base: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a menu up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)

W3000SE Compact: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-language menu, with selectable language setting on site. This controller also includes an internal clock.

All the W3000 electronic controllers offer advanced functions and algorithms.

The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed.

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, Bacnet-over-IP, Echelon LonWorks.

Compatibility with the remote keyboard managing up to 10 units.

The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters.

This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.





NX / K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply	V/ph/Hz		400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	39,2	44,3	51,9	58,9	65,0	77,6	88,5
Total power input	(1)	kW	13,5	15,6	18,1	20,5	23,5	26,8	31,3
EER	(1)	kW/kW	2,90	2,84	2,87	2,87	2,77	2,90	2,83
ESEER	(1)	kW/kW	4,41	4,37	4,41	4,39	4,33	4,23	4,41
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,0	44,0	51,6	58,6	64,7	77,2	87,9
EER	(1)(2)	kW/kW	2,83	2,78	2,80	2,82	2,71	2,84	2,76
ESEER	(1)(2)	kW/kW	4,19	4,15	4,20	4,20	4,17	4,06	4,16
Cooling energy class			C	C	C	C	C	C	C
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	6,76	7,62	8,94	10,1	11,2	13,4	15,2
Pressure drop	(1)	kPa	36,3	34,1	36,3	33,4	33,2	33,9	54,1
COMPRESSORS									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	51	51	52	52	52	53	54
Sound power level in cooling	(4)(5)	dB(A)	83	83	84	84	84	85	86
SIZE AND WEIGHT									
A	(6)	mm	1825	1825	1825	2395	2395	2395	2395
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1865	1865	1865	1865
Operating weight	(6)	kg	470	480	490	540	550	570	660

NX / K			0402P	0452P	0502P	0552P	0602P	0702P	0802P
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	102	114	127	144	166	189	207
Total power input	(1)	kW	35,4	40,1	44,9	52,3	57,7	67,9	77,9
EER	(1)	kW/kW	2,88	2,86	2,84	2,76	2,87	2,79	2,65
ESEER	(1)	kW/kW	4,04	4,13	4,13	4,24	4,08	4,15	3,89
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	101	114	127	144	165	189	206
EER	(1)(2)	kW/kW	2,82	2,79	2,78	2,70	2,82	2,74	2,60
ESEER	(1)(2)	kW/kW	3,86	3,96	3,95	4,04	3,92	3,99	3,74
Cooling energy class			C	C	C	C	C	C	D
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	17,6	19,7	21,9	24,8	28,5	32,6	35,6
Pressure drop	(1)	kPa	49,9	51,3	49,1	52,1	49,3	49,8	59,2
COMPRESSORS									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	56	56	56	57	58	58	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	88	89	90	90	91
SIZE AND WEIGHT									
A	(6)	mm	2825	2825	2825	3360	3980	3980	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	830	870	900	980	1130	1110	1140

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.

Certified data in EUROVENT

NX / LN-K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	39,3	44,3	51,7	58,8	65,5	74,7	89,9
Total power input	(1)	kW	13,6	15,8	18,5	20,4	23,2	28,3	31,1
EER	(1)	kW/kW	2,89	2,80	2,79	2,88	2,82	2,64	2,89
ESEER	(1)	kW/kW	4,50	4,44	4,41	4,38	4,39	4,22	4,26
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,1	44,0	51,4	58,5	65,2	74,4	89,3
EER	(1)(2)	kW/kW	2,82	2,74	2,73	2,83	2,77	2,60	2,82
ESEER	(1)(2)	kW/kW	4,28	4,22	4,20	4,19	4,21	4,08	4,01
Cooling energy class			C	C	C	C	C	D	C
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	6,76	7,64	8,90	10,1	11,3	12,9	15,5
Pressure drop	(1)	kPa	36,3	34,2	36,0	33,3	33,7	31,4	55,9
COMPRESSORS									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	47	47	47	48	48	48	51
Sound power level in cooling	(4)(5)	dB(A)	79	79	79	80	80	80	83
SIZE AND WEIGHT									
A	(6)	mm	1825	1825	2395	2395	2395	2395	2825
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1865	1865	1865	1980
Operating weight	(6)	kg	480	500	540	570	570	580	780

NX / LN-K			0402P	0452P	0502P	0552P	0602P	0702P	0802P
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	99,4	113	125	140	163	179	194
Total power input	(1)	kW	35,9	39,3	44,2	52,9	58,1	70,3	81,9
EER	(1)	kW/kW	2,77	2,87	2,83	2,64	2,80	2,55	2,37
ESEER	(1)	kW/kW	4,11	4,29	4,33	4,36	4,20	4,10	3,83
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	98,8	112	124	139	162	179	193
EER	(1)(2)	kW/kW	2,71	2,81	2,78	2,60	2,75	2,51	2,33
ESEER	(1)(2)	kW/kW	3,92	4,11	4,14	4,17	4,04	3,95	3,70
Cooling energy class			C	C	C	D	C	D	E
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	17,1	19,4	21,6	24,1	28,0	30,9	33,4
Pressure drop	(1)	kPa	47,4	49,8	47,4	49,0	47,6	44,7	52,3
COMPRESSORS									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	51	52	52	52	53	53	53
Sound power level in cooling	(4)(5)	dB(A)	83	84	84	84	85	85	85
SIZE AND WEIGHT									
A	(6)	mm	2825	3360	3360	3360	3980	3980	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	880	1000	1030	1060	1180	1150	1180

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.

Certified data in EUROVENT

NX / SL-K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply	V/ph/Hz		400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	39,4	44,6	52,3	58,9	65,9	77,7	88,5
Total power input	(1)	kW	13,9	16,1	18,2	20,3	22,9	27,4	30,5
EER	(1)	kW/kW	2,83	2,77	2,87	2,90	2,88	2,84	2,90
ESEER	(1)	kW/kW	4,28	4,25	4,49	4,15	4,22	4,30	4,40
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,2	44,3	52,0	58,6	65,6	77,3	87,9
EER	(1)(2)	kW/kW	2,77	2,71	2,81	2,84	2,82	2,78	2,83
ESEER	(1)(2)	kW/kW	4,07	4,05	4,27	3,99	4,05	4,12	4,14
Cooling energy class			C	C	C	C	C	C	C
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	6,78	7,68	9,00	10,1	11,3	13,4	15,2
Pressure drop	(1)	kPa	36,6	34,6	36,8	33,4	34,1	34,0	54,1
COMPRESSORS									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	44	45	45	46	46	46	47
Sound power level in cooling	(4)(5)	dB(A)	76	77	77	78	78	78	79
SIZE AND WEIGHT									
A	(6)	mm	2395	2395	2395	2825	2825	2825	3360
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1980	1980	1980	1980
Operating weight	(6)	kg	540	550	560	670	680	680	860

NX / SL-K			0402P	0452P	0502P	0552P	0602P	0702P
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	100	113	124	140	153	175
Total power input	(1)	kW	35,1	39,3	44,8	52,5	61,7	72,1
EER	(1)	kW/kW	2,85	2,89	2,77	2,68	2,48	2,43
ESEER	(1)	kW/kW	4,40	4,38	4,32	4,29	4,08	3,96
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	99,4	113	124	140	152	175
EER	(1)(2)	kW/kW	2,79	2,82	2,72	2,63	2,44	2,40
ESEER	(1)(2)	kW/kW	4,19	4,18	4,15	4,12	3,95	3,81
Cooling energy class			C	C	C	D	E	E
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	17,2	19,5	21,4	24,2	26,3	30,2
Pressure drop	(1)	kPa	48,0	50,3	46,7	49,4	42,0	42,7
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	48	49	49	50	50	51
Sound power level in cooling	(4)(5)	dB(A)	80	81	81	82	82	83
SIZE AND WEIGHT								
A	(6)	mm	3360	3980	3980	3980	3980	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	960	1070	1080	1110	1180	1150

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.

Certified data in EUROVENT

NX / CA		0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply	V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1) kW	41,7	47,4	55,0	62,5	69,6	85,0	96,6
Total power input	(1) kW	12,8	14,5	16,7	19,3	21,8	26,5	30,2
EER	(1) kW/kW	3,26	3,27	3,29	3,24	3,19	3,21	3,20
ESEER	(1) kW/kW	4,56	4,65	4,45	4,45	4,49	4,28	4,41
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	41,4	47,1	54,7	62,2	69,2	84,5	95,9
EER	(1)(2) kW/kW	3,17	3,18	3,21	3,16	3,12	3,14	3,11
ESEER	(1)(2) kW/kW	4,30	4,41	4,23	4,26	4,28	4,07	4,13
Cooling energy class		A	A	A	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	7,18	8,17	9,47	10,8	12,0	14,6	16,6
Pressure drop	(1) kPa	40,9	39,1	40,7	37,6	38,0	40,7	64,4
COMPRESSORS								
Compressors nr.	N°	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3) dB(A)	52	52	53	53	54	56	56
Sound power level in cooling	(4)(5) dB(A)	84	84	85	85	86	88	88
SIZE AND WEIGHT								
A	(6) mm	1825	2395	2395	2395	2395	2825	3360
B	(6) mm	1195	1195	1195	1195	1195	1195	1195
H	(6) mm	1865	1865	1865	1865	1865	1980	1980
Operating weight	(6) kg	480	540	550	560	570	680	830

NX / CA		0402P	0452P	0502P	0562P	0612P	0712P	0812P
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	108	122	138	160	178	201	227
Total power input	(1) kW	33,6	38,3	42,6	48,9	55,4	63,5	70,5
EER	(1) kW/kW	3,21	3,18	3,23	3,28	3,22	3,17	3,22
ESEER	(1) kW/kW	4,43	4,54	4,34	4,32	4,31	4,38	4,17
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	107	121	137	159	178	200	226
EER	(1)(2) kW/kW	3,13	3,10	3,16	3,20	3,15	3,10	3,14
ESEER	(1)(2) kW/kW	4,19	4,30	4,13	4,08	4,13	4,18	3,96
Cooling energy class		A	A	A	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	18,6	21,0	23,7	27,6	30,7	34,6	39,1
Pressure drop	(1) kPa	56,0	58,2	57,4	64,4	57,2	56,2	71,5
COMPRESSORS								
Compressors nr.	N°	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3) dB(A)	58	58	58	59	59	60	61
Sound power level in cooling	(4)(5) dB(A)	90	90	90	91	91	92	93
SIZE AND WEIGHT								
A	(6) mm	3360	3360	3980	3160	3160	3160	4335
B	(6) mm	1195	1195	1195	2250	2250	2250	2250
H	(6) mm	1980	1980	1980	2170	2170	2170	2170
Operating weight	(6) kg	960	1000	1080	1510	1550	1570	1810

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.

Certified data in EUROVENT

NX / LN-CA		0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply	V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1) kW	41,5	47,0	55,0	63,5	70,7	82,7	94,4
Total power input	(1) kW	12,6	14,4	17,2	19,5	21,9	26,0	29,3
EER	(1) kW/kW	3,29	3,26	3,20	3,26	3,23	3,18	3,22
ESEER	(1) kW/kW	4,56	4,62	4,71	4,31	4,34	4,37	4,52
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	41,2	46,7	54,7	63,1	70,3	82,3	93,8
EER	(1)(2) kW/kW	3,20	3,18	3,12	3,18	3,15	3,11	3,13
ESEER	(1)(2) kW/kW	4,29	4,38	4,46	4,11	4,15	4,20	4,25
Cooling energy class		A	A	A	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	7,14	8,09	9,47	10,9	12,2	14,2	16,3
Pressure drop	(1) kPa	40,5	38,4	40,7	38,8	39,2	38,5	61,6
COMPRESSORS								
Compressors nr.	N°	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3) dB(A)	48	48	48	49	49	50	52
Sound power level in cooling	(4)(5) dB(A)	80	80	80	81	81	82	84
SIZE AND WEIGHT								
A	(6) mm	2395	2395	2395	2825	2825	3360	3360
B	(6) mm	1195	1195	1195	1195	1195	1195	1195
H	(6) mm	1865	1865	1865	1980	1980	1980	1980
Operating weight	(6) kg	550	560	560	670	680	750	870

NX / LN-CA		0402P	0452P	0502P	0562P	0612P	0712P	0812P
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	107	121	134	154	173	198	221
Total power input	(1) kW	33,3	37,9	42,2	47,1	54,4	60,8	67,5
EER	(1) kW/kW	3,23	3,18	3,18	3,27	3,18	3,26	3,28
ESEER	(1) kW/kW	4,32	4,41	4,36	4,67	4,48	4,65	4,38
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	107	120	133	153	172	197	220
EER	(1)(2) kW/kW	3,14	3,10	3,11	3,19	3,11	3,20	3,20
ESEER	(1)(2) kW/kW	4,10	4,19	4,15	4,40	4,29	4,43	4,16
Cooling energy class		A	A	A	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	18,5	20,8	23,1	26,5	29,7	34,1	38,1
Pressure drop	(1) kPa	55,4	56,9	54,4	59,3	53,6	54,6	67,9
COMPRESSORS								
Compressors nr.	N°	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3) dB(A)	52	52	53	54	54	55	56
Sound power level in cooling	(4)(5) dB(A)	84	84	85	86	86	87	88
SIZE AND WEIGHT								
A	(6) mm	3980	3980	3980	3160	3160	4335	4335
B	(6) mm	1195	1195	1195	2250	2250	2250	2250
H	(6) mm	1980	1980	1980	2170	2170	2170	2170
Operating weight	(6) kg	1050	1080	1090	1510	1550	1810	1870

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.

Certified data in EUROVENT

NX / SL-CA		0152P	0182P	0202P	0252P	0262P	0302P	0352P
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	41,9	47,5	55,3	62,2	69,2	81,9	94,5
Total power input	(1) kW	12,8	14,5	17,1	19,0	21,4	25,5	29,6
EER	(1) kW/kW	3,27	3,28	3,23	3,27	3,23	3,21	3,19
ESEER	(1) kW/kW	4,26	4,39	4,52	4,44	4,46	4,57	4,52
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	41,6	47,2	55,0	61,9	68,8	81,5	93,9
EER	(1)(2) kW/kW	3,18	3,19	3,15	3,20	3,16	3,14	3,10
ESEER	(1)(2) kW/kW	4,02	4,16	4,30	4,24	4,26	4,38	4,27
Cooling energy class		A	A	A	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	7,21	8,18	9,52	10,7	11,9	14,1	16,3
Pressure drop	(1) kPa	41,3	39,3	41,2	37,3	37,6	37,8	61,7
COMPRESSORS								
Compressors nr.	N°	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3) dB(A)	45	46	46	47	47	47	48
Sound power level in cooling	(4)(5) dB(A)	77	78	78	79	79	79	80
SIZE AND WEIGHT								
A	(6) mm	2825	2825	2825	3360	3360	3360	3980
B	(6) mm	1195	1195	1195	1195	1195	1195	1195
H	(6) mm	1980	1980	1980	1980	1980	1980	1980
Operating weight	(6) kg	650	660	670	760	770	780	940

NX / SL-CA		0412P	0462P	0512P	0562P	0612P	0712P	0812P
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	106	119	133	152	172	195	218
Total power input	(1) kW	32,4	36,9	41,9	47,3	52,8	61,6	68,2
EER	(1) kW/kW	3,27	3,22	3,17	3,21	3,26	3,16	3,19
ESEER	(1) kW/kW	4,56	4,64	4,67	4,70	4,63	4,72	4,46
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	105	118	132	151	171	194	216
EER	(1)(2) kW/kW	3,19	3,14	3,10	3,13	3,19	3,10	3,12
ESEER	(1)(2) kW/kW	4,35	4,39	4,46	4,47	4,42	4,51	4,26
Cooling energy class		A	A	A	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	18,3	20,4	22,9	26,1	29,7	33,5	37,5
Pressure drop	(1) kPa	54,0	55,1	53,5	57,6	53,3	52,7	65,7
COMPRESSORS								
Compressors nr.	N°	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3) dB(A)	49	50	50	51	52	53	54
Sound power level in cooling	(4)(5) dB(A)	81	82	82	83	84	85	86
SIZE AND WEIGHT								
A	(6) mm	3160	3160	3160	4335	4335	4335	5510
B	(6) mm	2250	2250	2250	2250	2250	2250	2250
H	(6) mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6) kg	1410	1450	1480	1740	1820	1850	2130

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.

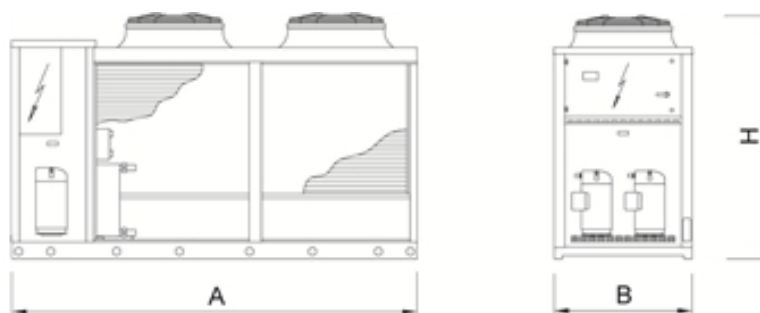
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



Commercial and industrial chillers

NX 0614P - 1214P

Chiller, air source for outdoor installation 159-327 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, braze-welded plate-type heat exchanger, micro-channel full-aluminum air coils and thermostatic expansion valve. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigeration circuits.

Version

K	Standard efficiency, compact version
LN-K	Key efficiency, compact and low-noise version
SL-K	Key efficiency, compact and super low-noise version

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features**REFRIGERANT GAS R410A**

The use of R410A allowed to achieve better energy efficiencies with environment full respect (ODP = 0)

MAXIMUM COMPACTNESS

This new range is available in the new K version, that integrates the maximum compactness with a qualifying unit's efficiency. This allow to achieve a very high flexibility in the design process as well as during the on-site installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

This new range of chiller uses aluminium micro-channel condensers that ensure a premium level of efficiency. This solution also allows to reduce the refrigerant charge with respect to traditional copper/aluminium coils, assuring the minimum allowable ratio between the refrigerant volume and the power capacity thus making this product range unique in the market, also improving the resistance against corrosion in saline or corrosive atmospheres.

INTEGRATED HYDRONIC MODULE

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

EXTENSIVE RANGE OF OPERATION

Extensive range of operation: full load is granted up to 46°C and in partialization even over 50°C of external air temperature.

Controls**W3000SE Compact**

The W3000SE Compact controller offers advanced functions and algorithms.

The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units.

Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.





NX / K		0614P	0714P	0814P	0914P	1014P	1114P	1214P
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	165	194	218	248	289	308	327
Total power input	(1) kW	58,3	66,7	78,9	88,6	99,0	108	118
EER	(1) kW/kW	2,83	2,91	2,76	2,80	2,92	2,85	2,76
ESEER	(1) kW/kW	4,06	4,39	4,30	4,41	4,26	4,27	4,18
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	164	193	217	247	288	307	325
EER	(1)(2) kW/kW	2,78	2,86	2,72	2,76	2,87	2,80	2,72
ESEER	(1)(2) kW/kW	3,85	4,16	4,08	4,18	4,05	4,08	3,99
Cooling energy class		C	C	C	C	C	C	C
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	28,3	33,4	37,5	42,7	49,8	53,1	56,2
Pressure drop	(1) kPa	45,0	47,1	47,8	50,4	54,8	46,8	52,5
COMPRESSORS								
Compressors nr.	N°	4	4	4	4	4	4	4
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	60	60	61	62	63	63	63
Sound power level in cooling	(4)(5) dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT								
A	(6) mm	3160	3160	3160	3160	4335	4335	4335
B	(6) mm	2250	2250	2250	2250	2250	2250	2250
H	(6) mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6) kg	1510	1680	1690	1830	2250	2300	2330

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.

Certified data in EUROVENT

NX / LN-K		0614P	0714P	0814P	0914P	1014P	1114P	1214P
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	160	185	208	235	274	290	320
Total power input	(1) kW	58,1	68,6	79,6	92,2	101	112	118
EER	(1) kW/kW	2,75	2,70	2,62	2,55	2,71	2,60	2,70
ESEER	(1) kW/kW	4,13	4,42	4,37	4,41	4,25	4,25	4,37
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	159	185	207	234	273	289	319
EER	(1)(2) kW/kW	2,70	2,66	2,58	2,51	2,67	2,57	2,66
ESEER	(1)(2) kW/kW	3,94	4,19	4,16	4,19	4,05	4,06	4,16
Cooling energy class		C	D	D	D	D	D	D
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	27,5	31,9	35,9	40,4	47,2	50,0	55,1
Pressure drop	(1) kPa	42,4	43,0	43,7	45,2	49,2	41,5	50,5
COMPRESSORS								
Compressors nr.	N°	4	4	4	4	4	4	4
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	54	54	55	56	57	57	58
Sound power level in cooling	(4)(5) dB(A)	86	86	87	88	89	89	90
SIZE AND WEIGHT								
A	(6) mm	3160	3160	3160	3160	4335	4335	4335
B	(6) mm	2250	2250	2250	2250	2250	2250	2250
H	(6) mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6) kg	1550	1730	1740	1870	2300	2350	2370

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.

Certified data in EUROVENT

NX / SL-K			0614P	0714P	0814P	0914P	1014P	1114P	1214P
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	159	180	214	241	264	296	312
Total power input	(1)	kW	56,3	70,7	77,8	89,3	104	109	120
EER	(1)	kW/kW	2,82	2,54	2,75	2,70	2,55	2,71	2,61
ESEER	(1)	kW/kW	4,34	4,41	4,40	4,41	4,28	4,34	4,26
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	158	179	213	240	263	295	311
EER	(1)(2)	kW/kW	2,78	2,51	2,71	2,66	2,51	2,68	2,57
ESEER	(1)(2)	kW/kW	4,13	4,21	4,19	4,20	4,09	4,15	4,07
Cooling energy class			C	D	C	D	D	D	D
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	27,4	31,0	36,9	41,5	45,5	51,0	53,8
Pressure drop	(1)	kPa	41,9	40,5	46,3	47,6	45,7	43,1	48,0
COMPRESSORS									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	50	51	51	52	52	54	54
Sound power level in cooling	(4)(5)	dB(A)	82	83	83	84	84	86	86
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	4335	4335	4335	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1550	1730	2030	2170	2300	2700	2730

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.

Certified data in EUROVENT



Commercial and industrial chillers

NECS 0202T - 0612T

Chiller, air source for outdoor installation 47,8-159 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, axialflow fans, shell and tubes exchanger and thermostatic expansion valve. External panels in Peraluman and structure in aluminium sections. The range is equipped with two compressors on two independent refrigerant circuits.

Version

B	Basic
HT	High efficiency, high outdoor temperature version
LN	Low noise
SL	Super-low noise version

Features**REFRIGERANT GAS R410A**

The use of R410A allowed to achieve better energy efficiencies with environment full respect (ODP = 0)

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the units installation, keeping the efficiency at the maximum level. For this reason, NECS represents the best choice for all the hydronic application on the residential, commercial and industrial markets.

INTEGRATED HYDRONIC MODULE

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

MAXIMUM RELIABILITY

Unit with dual-circuit refrigerant section designed to ensure maximum efficiency at full load, ensuring continuity without interruption of operation in the event of temporary stop of one of the 2 circuits.

Accessory

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- LCD display keyboard type W3000Compact with multilanguage user interface
- Soft starters
- Rubber anti-vibration mounting kit

Controls**W3000 Base – W3000SE Compact**

The controller in two different versions according to the unit's type:

W3000 Base: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a menu up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)

W3000SE Compact: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-language menu, with selectable language setting on site. This controller also includes an internal clock.

All the W3000 electronic controllers offer advanced functions and algorithms.

The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed.

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, Bacnet-over-IP, Echelon LonWorks.

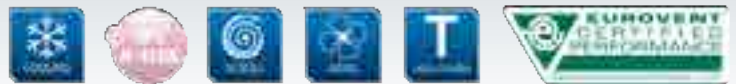
Compatibility with the remote keyboard managing up to 10 units.

The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters.

This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.





NECS / B			0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
Power supply			V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	53,0	58,1	76,0	86,8	96,9	112	127	145	159
Total power input	(1)	kW	18,3	21,5	27,8	31,9	36,3	39,7	43,7	50,2	58,6
EER	(1)	kW/kW	2,90	2,70	2,73	2,72	2,67	2,83	2,90	2,89	2,71
ESEER	(1)	kW/kW	3,72	3,47	3,52	3,49	3,41	3,59	3,65	3,66	3,44
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	52,9	58,0	75,8	86,5	96,7	112	126	144	158
EER	(1)(2)	kW/kW	2,88	2,68	2,71	2,69	2,65	2,80	2,87	2,85	2,67
ESEER	(1)(2)	kW/kW	3,68	3,41	3,45	3,40	3,36	3,51	3,59	3,58	3,37
Cooling energy class			C	D	C	D	D	C	C	C	D
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	9,13	10,0	13,1	14,9	16,7	19,3	21,8	24,9	27,3
Pressure drop	(1)	kPa	6,25	7,64	13,1	17,2	12,8	17,2	15,7	21,7	25,9
COMPRESSORS											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
NOISE LEVEL											
Noise Pressure	(3)	dB(A)	53	53	53	54	54	54	55	55	55
Sound power level in cooling	(4)(5)	dB(A)	85	85	85	86	86	86	87	87	87
SIZE AND WEIGHT											
A	(6)	mm	2195	2195	2195	2195	2745	2745	3245	3245	3245
B	(6)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H	(6)	mm	1465	1465	1465	1465	1465	1465	1665	1665	1665
Operating weight	(6)	kg	625	625	665	765	920	990	1135	1180	1155

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.

Certified data in EUROVENT

NECS / HT			0202T	0252T	0302T	0352T	0412T	0452T	0512T
Power supply			V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	55,0	61,6	80,6	91,4	104	116	130
Total power input	(1)	kW	17,3	20,3	25,9	30,5	33,7	38,6	42,2
EER	(1)	kW/kW	3,18	3,03	3,11	3,00	3,09	3,00	3,08
ESEER	(1)	kW/kW	4,07	3,81	3,93	3,76	3,87	3,76	3,86
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	54,9	61,5	80,4	91,1	104	115	130
EER	(1)(2)	kW/kW	3,16	3,01	3,08	2,96	3,06	2,96	3,05
ESEER	(1)(2)	kW/kW	3,99	3,75	3,85	3,67	3,78	3,69	3,79
Cooling energy class			A	B	B	B	B	B	B
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	9,46	10,6	13,9	15,7	18,0	19,9	22,4
Pressure drop	(1)	kPa	6,72	8,58	14,7	19,1	14,9	18,3	16,5
COMPRESSORS									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	53	54	54	55	55	55	55
Sound power level in cooling	(4)(5)	dB(A)	85	86	86	87	87	87	87
SIZE AND WEIGHT									
A	(6)	mm	2195	2745	2745	3245	3245	3245	3245
B	(6)	mm	1120	1120	1120	1120	1120	1120	1120
H	(6)	mm	1465	1465	1465	1665	1665	1665	1665
Operating weight	(6)	kg	650	700	750	915	1050	1075	1115

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.

Certified data in EUROVENT

NECS / LN		0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
Power supply	V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1) kW	50,7	57,6	74,2	84,4	96,4	109	122	139	151
Total power input	(1) kW	18,9	21,2	28,6	33,7	37,1	41,4	45,9	53,1	62,4
EER	(1) kW/kW	2,68	2,72	2,59	2,50	2,60	2,63	2,66	2,61	2,42
ESEER	(1) kW/kW	3,50	3,51	3,37	3,22	3,33	3,36	3,38	3,34	3,11
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2) kW	50,6	57,5	74,0	84,2	96,2	108	122	138	150
EER	(1)(2) kW/kW	2,67	2,70	2,57	2,48	2,58	2,60	2,64	2,59	2,39
ESEER	(1)(2) kW/kW	3,46	3,46	3,30	3,17	3,27	3,30	3,32	3,28	3,04
Cooling energy class		D	C	D	E	D	D	D	D	E
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) m³/h	8,72	9,92	12,8	14,5	16,6	18,7	21,0	23,9	26,0
Pressure drop	(1) kPa	5,70	7,50	12,5	16,3	12,7	16,2	14,6	19,9	23,5
COMPRESSORS										
Compressors nr.	N°	2	2	2	2	2	2	2	2	2
No. Circuits	N°	2	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(3) dB(A)	48	48	49	51	51	51	52	52	52
Sound power level in cooling	(4)(5) dB(A)	80	80	81	83	83	83	84	84	84
SIZE AND WEIGHT										
A	(6) mm	2195	2195	2745	2745	2745	2745	3245	3245	3245
B	(6) mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H	(6) mm	1465	1465	1465	1665	1665	1665	1665	1665	1665
Operating weight	(6) kg	625	650	715	840	965	1025	1135	1180	1155

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.

Certified data in EUROVENT

NECS / SL		0202T	0252T	0302T	0352T	0412T	0452T	0512T
Power supply	V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1) kW	47,8	55,5	69,9	85,4	96,8	106	117
Total power input	(1) kW	20,3	22,6	30,9	33,6	37,3	43,2	48,1
EER	(1) kW/kW	2,35	2,46	2,26	2,54	2,60	2,46	2,44
ESEER	(1) kW/kW	3,13	3,19	3,00	3,25	3,30	3,14	3,14
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	47,7	55,4	69,7	85,2	96,6	106	117
EER	(1)(2) kW/kW	2,34	2,44	2,25	2,52	2,57	2,43	2,42
ESEER	(1)(2) kW/kW	3,09	3,14	2,93	3,19	3,25	3,09	3,09
Cooling energy class		E	E	F	D	D	E	E
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	8,23	9,55	12,0	14,7	16,7	18,3	20,2
Pressure drop	(1) kPa	5,08	6,95	11,1	16,7	12,8	15,4	13,5
COMPRESSORS								
Compressors nr.	N°	2	2	2	2	2	2	2
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	45	46	46	49	49	49	50
Sound power level in cooling	(4)(5) dB(A)	77	78	78	81	81	81	82
SIZE AND WEIGHT								
A	(6) mm	2195	2745	2745	3245	3245	3245	3245
B	(6) mm	1100	1100	1100	1100	1100	1100	1100
H	(6) mm	1465	1465	1465	1665	1665	1665	1665
Operating weight	(6) kg	650	700	750	915	1050	1075	1115

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.

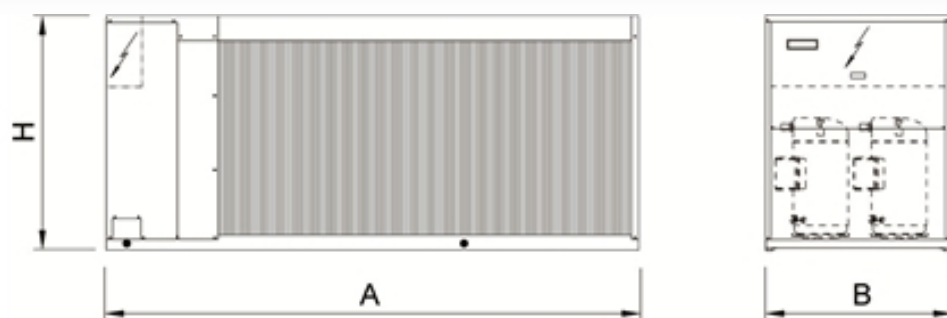
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



Commercial and industrial chillers

NX 0614T - 1214T

Chiller, air source for outdoor installation 159-352 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, shell and tubes heat exchanger, micro-channel full-aluminum air coils and thermostatic or electronic expansion valve, according to the model. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigeration circuits.

Version

K	Standard efficiency, compact version
LN-K	Key efficiency, compact and low-noise version
SL-K	Key efficiency, compact and super low-noise version
CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features**ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD**

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficiency CA version, optional for the compact K versions.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

This new range of chiller uses aluminium micro-channel condensers that ensure a premium level of efficiency. This solution also allows to reduce the refrigerant charge with respect to traditional copper/aluminium coils, assuring the minimum allowable ratio between the refrigerant volume and the power capacity thus making this product range unique in the market, also improving the resistance against corrosion in saline or corrosive atmospheres.

CLASS A EFFICIENCY

The full range is also available with the Class A efficiency rating. NX/CA guarantees within all the noise configurations premium levels of efficiency thanks to the generous sizing of the refrigerant-exchange surface areas and to an accurate control of the fans.

INTEGRATED HYDRONIC MODULE

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the unit's installation, keeping on the hydronic side the pressure drops at the minimum level, thus representing the best choice for all the hydronic applications on the residential, commercial and industrial markets.

EXTENSIVE RANGE OF OPERATION

Extensive range of operation: full load is granted up to 46°C and in partialization even over 50°C of external air temperature.

Controls**W3000SE Compact**

The W3000SE Compact controller offers advanced functions and algorithms.

The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units.

Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.





NX / K		0614T	0714T	0814T	0914T	1014T	1114T	1214T
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	165	194	218	248	289	308	327
Total power input	(1) kW	58,3	66,7	78,9	88,6	99,0	108	118
EER	(1) kW/kW	2,83	2,91	2,76	2,80	2,92	2,85	2,76
ESEER	(1) kW/kW	4,06	4,39	4,30	4,41	4,26	4,27	4,18
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	164	193	217	247	288	307	326
EER	(1)(2) kW/kW	2,79	2,87	2,71	2,76	2,86	2,81	2,73
ESEER	(1)(2) kW/kW	3,92	4,21	4,08	4,20	4,02	4,11	4,02
Cooling energy class		C	C	C	C	C	C	C
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	28,3	33,4	37,5	42,7	49,8	53,1	56,2
Pressure drop	(1) kPa	23,3	32,4	50,9	45,5	61,7	38,0	42,7
COMPRESSORS								
Compressors nr.	N°	4	4	4	4	4	4	4
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	60	60	61	62	63	63	63
Sound power level in cooling	(4)(5) dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT								
A	(6) mm	3160	3160	3160	3160	4335	4335	4335
B	(6) mm	2250	2250	2250	2250	2250	2250	2250
H	(6) mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6) kg	1650	1810	1820	1950	2340	2530	2550

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.

Certified data in EUROVENT

NX / LN-K		0614T	0714T	0814T	0914T	1014T	1114T	1214T
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	160	185	208	235	274	290	320
Total power input	(1) kW	58,1	68,6	79,6	92,2	101	112	118
EER	(1) kW/kW	2,75	2,70	2,62	2,55	2,71	2,60	2,70
ESEER	(1) kW/kW	4,13	4,42	4,37	4,41	4,25	4,25	4,37
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	159	185	207	234	273	290	319
EER	(1)(2) kW/kW	2,72	2,67	2,57	2,51	2,67	2,57	2,67
ESEER	(1)(2) kW/kW	3,99	4,25	4,16	4,21	4,04	4,10	4,21
Cooling energy class		C	D	D	D	D	D	D
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	27,5	31,9	35,9	40,4	47,2	50,0	55,1
Pressure drop	(1) kPa	21,9	29,6	46,5	40,7	55,4	33,7	41,0
COMPRESSORS								
Compressors nr.	N°	4	4	4	4	4	4	4
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	54	54	55	56	57	57	58
Sound power level in cooling	(4)(5) dB(A)	86	86	87	88	89	89	90
SIZE AND WEIGHT								
A	(6) mm	3160	3160	3160	3160	4335	4335	4335
B	(6) mm	2250	2250	2250	2250	2250	2250	2250
H	(6) mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6) kg	1700	1860	1870	1990	2380	2580	2600

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.

Certified data in EUROVENT

NX / SL-K		0614T	0714T	0814T	0914T	1014T	1114T	1214T
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	159	180	214	241	264	296	312
Total power input	(1) kW	56,3	70,7	77,8	89,3	104	109	120
EER	(1) kW/kW	2,82	2,54	2,75	2,70	2,55	2,71	2,61
ESEER	(1) kW/kW	4,34	4,41	4,40	4,41	4,28	4,34	4,26
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	158	179	213	240	263	295	311
EER	(1)(2) kW/kW	2,79	2,52	2,71	2,66	2,51	2,68	2,58
ESEER	(1)(2) kW/kW	4,18	4,24	4,19	4,20	4,07	4,17	4,10
Cooling energy class		C	D	C	D	D	D	D
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	27,4	31,0	36,9	41,5	45,5	51,0	53,8
Pressure drop	(1) kPa	21,7	27,8	49,3	43,0	51,4	35,1	39,0
COMPRESSORS								
Compressors nr.	N°	4	4	4	4	4	4	4
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	50	51	51	52	52	54	54
Sound power level in cooling	(4)(5) dB(A)	82	83	83	84	84	86	86
SIZE AND WEIGHT								
A	(6) mm	3160	3160	4335	4335	4335	5510	5510
B	(6) mm	2250	2250	2250	2250	2250	2250	2250
H	(6) mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6) kg	1700	1860	2160	2290	2380	2930	2950

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.

Certified data in EUROVENT

NX / CA		0614T	0714T	0814T	0914T	1014T	1114T	1214T
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	174	205	235	266	302	330	352
Total power input	(1) kW	54,4	65,0	72,9	84,1	95,8	103	111
EER	(1) kW/kW	3,20	3,16	3,23	3,17	3,15	3,21	3,17
ESEER	(1) kW/kW	4,31	4,26	4,45	4,49	4,43	4,35	4,37
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	174	204	234	265	301	329	351
EER	(1)(2) kW/kW	3,16	3,11	3,16	3,11	3,11	3,16	3,12
ESEER	(1)(2) kW/kW	4,17	4,06	4,20	4,24	4,26	4,17	4,18
Cooling energy class		A	A	A	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	30,0	35,3	40,5	45,9	52,0	56,8	60,6
Pressure drop	(1) kPa	26,1	36,2	59,5	52,4	36,5	43,6	49,6
COMPRESSORS								
Compressors nr.	N°	4	4	4	4	4	4	4
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	60	61	62	63	63	64	65
Sound power level in cooling	(4)(5) dB(A)	92	93	94	95	95	96	97
SIZE AND WEIGHT								
A	(6) mm	3160	4335	4335	4335	4335	5510	5510
B	(6) mm	2250	2250	2250	2250	2250	2250	2250
H	(6) mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6) kg	1700	2150	2160	2290	2550	2930	2950

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.

Certified data in EUROVENT

NX / LN-CA		0614T	0714T	0814T	0914T	1014T	1114T	1214T
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	168	198	227	262	295	318	344
Total power input	(1) kW	52,8	61,6	70,5	82,8	93,2	99,6	109
EER	(1) kW/kW	3,17	3,22	3,23	3,17	3,16	3,19	3,17
ESEER	(1) kW/kW	4,56	4,61	4,70	4,71	4,55	4,63	4,70
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	167	198	226	261	294	317	343
EER	(1)(2) kW/kW	3,13	3,17	3,16	3,11	3,12	3,15	3,12
ESEER	(1)(2) kW/kW	4,40	4,40	4,44	4,47	4,39	4,43	4,48
Cooling energy class		A	A	A	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	28,8	34,2	39,1	45,1	50,7	54,8	59,3
Pressure drop	(1) kPa	24,1	33,8	55,5	50,7	34,7	40,5	47,5
COMPRESSORS								
Compressors nr.	N°	4	4	4	4	4	4	4
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	54	55	56	57	58	59	59
Sound power level in cooling	(4)(5) dB(A)	86	87	88	89	90	91	91
SIZE AND WEIGHT								
A	(6) mm	3160	4335	4335	4335	5510	5510	5510
B	(6) mm	2250	2250	2250	2250	2250	2250	2250
H	(6) mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6) kg	1700	2150	2160	2290	2880	2900	2930

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.

Certified data in EUROVENT

NX / SL-CA		0614T	0714T	0814T	0914T	1014T	1114T	1214T
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	167	195	224	259	292	317	344
Total power input	(1) kW	52,3	61,0	69,9	82,0	92,6	99,6	109
EER	(1) kW/kW	3,20	3,20	3,21	3,16	3,15	3,18	3,16
ESEER	(1) kW/kW	4,69	4,70	4,68	4,72	4,72	4,68	4,70
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	167	194	223	258	291	316	342
EER	(1)(2) kW/kW	3,16	3,15	3,14	3,11	3,11	3,13	3,11
ESEER	(1)(2) kW/kW	4,52	4,49	4,42	4,47	4,55	4,49	4,47
Cooling energy class		A	A	A	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	28,8	33,6	38,6	44,6	50,2	54,5	59,2
Pressure drop	(1) kPa	24,1	32,7	53,9	49,6	34,1	40,1	47,2
COMPRESSORS								
Compressors nr.	N°	4	4	4	4	4	4	4
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	51	51	52	53	54	55	55
Sound power level in cooling	(4)(5) dB(A)	83	83	84	85	86	87	87
SIZE AND WEIGHT								
A	(6) mm	4335	4335	5510	5510	5510	5510	5510
B	(6) mm	2250	2250	2250	2250	2250	2250	2250
H	(6) mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6) kg	1980	2150	2490	2610	2880	2900	2930

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.

Certified data in EUROVENT



Commercial and industrial chillers

NECS 1314 - 3218

Chiller, air source for outdoor installation 334-885 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, shell and tubes exchanger and electronic expansion valve. The range is composed by units equipped with four, six and eight compressors in multi-circuit configuration.

Version

B	Basic
SL	Super-low noise version
CA	Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features**REFRIGERANT GAS R410A**

The use of R410A allowed to achieve better energy efficiencies with environment full respect (ODP = 0)

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

This new range of chiller uses aluminum micro-channel condensers that ensure a premium level of efficiency. This solution also allows to reduce the refrigerant charge with respect to traditional copper/aluminum coils, assuring the minimum allowable ratio between the refrigerant volume and the power capacity thus making this product range unique in the market, also improving the resistance against corrosion in saline or corrosive atmospheres.

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the units installation, keeping the efficiency at the maximum level. For this reason, NECS represents the best choice for all the hydronic application on the residential, commercial and industrial markets.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

INTEGRATED HYDRONIC MODULE

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessory

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters

Controls**W3000SE Compact**

The controller W3000SE Compact is characterized by proprietary advanced functions and settings. The keyboard commands and a fully functional LCD display, which allows for consultation and intervention unit by means of a multi-layer menu with a choice of the language setting. The temperature control algorithm is based on the exclusive QuickMind with self-adaptive logic, useful in systems with reduced water content. Alternatively, controls may be set proportional or proportional-integral. The diagnostic includes a comprehensive alarm management, with the black box functions (PC) and alarm (via display or PC) for a better analysis of the unit. For systems consisting of multiple units you can control the resource owners through optional devices. It can also be implemented in the accounts of consumption and performance. Supervision is provided via several options, with proprietary devices or integrated into third party systems using the ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks. Compatibility with remote keyboard (management up to 10 units). The presence of programmable timer allows the creation of a profile containing the operation up to 4 days and 10 bands. To defrost logic is employed owner of an auto-adaptive, characterized by monitoring multiple operating parameters and environmental conditions. This reduces the number and duration of the defrost for the benefit of the overall energy efficiency.





NECS / B			1314	1414	1614	1715	1816	2015	2116
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	354	379	413	458	501	526	569
Total power input	(1)	kW	124	130	148	160	172	184	195
EER	(1)	kW/kW	2,85	2,91	2,80	2,86	2,92	2,86	2,91
ESEER	(1)	kW/kW	4,16	4,24	4,04	4,19	4,21	4,07	4,18
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	353	377	412	456	499	524	567
EER	(1)(2)	kW/kW	2,80	2,87	2,75	2,81	2,87	2,82	2,87
ESEER	(1)(2)	kW/kW	3,95	4,06	3,86	3,99	3,99	3,91	4,00
Cooling energy class			C	C	C	C	C	C	C
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	61,0	65,2	71,2	78,9	86,3	90,5	98,0
Pressure drop	(1)	kPa	54,0	43,8	52,2	48,5	58,1	39,3	46,1
COMPRESSORS									
Compressors nr.		N°	4	4	4	5	6	5	6
No. Circuits		N°	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	64	64	64	64	65	65	64
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	97	97	97
SIZE AND WEIGHT									
A	(6)	mm	3905	3905	3905	5080	5080	5080	6255
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	2730	2770	2800	3400	3650	3690	4200

NECS / B			2316	2416	2418	2618	2818	3018	3218
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	604	635	665	708	759	793	827
Total power input	(1)	kW	214	219	234	249	261	279	296
EER	(1)	kW/kW	2,82	2,90	2,85	2,85	2,92	2,84	2,80
ESEER	(1)	kW/kW	4,11	4,08	4,12	4,18	4,27	4,20	4,07
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	602	632	663	705	757	791	824
EER	(1)(2)	kW/kW	2,78	2,86	2,81	2,80	2,88	2,81	2,76
ESEER	(1)(2)	kW/kW	3,94	3,90	3,94	3,98	4,10	4,03	3,90
Cooling energy class			C	C	C	C	C	C	C
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	104	109	115	122	131	137	142
Pressure drop	(1)	kPa	44,3	49,0	48,5	54,9	42,7	46,7	50,6
COMPRESSORS									
Compressors nr.		N°	6	6	8	8	8	8	8
No. Circuits		N°	3	2	4	4	4	4	4
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	64	65	65	65	66	66	66
Sound power level in cooling	(4)(5)	dB(A)	97	98	98	98	99	99	99
SIZE AND WEIGHT									
A	(6)	mm	6255	6255	7430	7430	7430	7430	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	4220	4350	5260	5300	5370	5400	5430

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.

Certified data in EUROVENT

NECS / SL		1314	1414	1614	1715	1816	2015	2116
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	334	358	397	431	465	498	532
Total power input	(1) kW	129	137	153	168	183	192	206
EER	(1) kW/kW	2,58	2,61	2,60	2,57	2,55	2,60	2,58
ESEER	(1) kW/kW	4,29	4,31	4,21	4,33	4,36	4,26	4,37
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	332	357	396	430	463	496	531
EER	(1)(2) kW/kW	2,55	2,58	2,56	2,53	2,51	2,57	2,55
ESEER	(1)(2) kW/kW	4,10	4,15	4,03	4,14	4,15	4,12	4,19
Cooling energy class		D	D	D	D	D	D	D
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	57,4	61,7	68,4	74,3	80,1	85,7	91,6
Pressure drop	(1) kPa	47,8	39,2	48,2	43,0	50,0	35,2	40,3
COMPRESSORS								
Compressors nr.	N°	4	4	4	5	6	5	6
No. Circuits	N°	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3) dB(A)	54	54	54	54	54	54	54
Sound power level in cooling	(4)(5) dB(A)	86	86	86	87	87	87	87
SIZE AND WEIGHT								
A	(6) mm	5080	5080	5080	6255	6255	6255	7430
B	(6) mm	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6) kg	3060	3160	3200	3900	4110	4190	4640

NECS / SL		2316	2416	2418	2618	2818	3018	3218
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	579	596	616	666	718	758	795
Total power input	(1) kW	220	230	245	258	275	288	306
EER	(1) kW/kW	2,63	2,59	2,52	2,58	2,61	2,63	2,60
ESEER	(1) kW/kW	4,38	4,29	4,32	4,39	4,36	4,39	4,27
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	577	594	614	664	716	755	792
EER	(1)(2) kW/kW	2,60	2,56	2,49	2,55	2,58	2,60	2,56
ESEER	(1)(2) kW/kW	4,20	4,12	4,15	4,19	4,19	4,21	4,09
Cooling energy class		D	D	E	D	D	D	D
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	99,7	103	106	115	124	130	137
Pressure drop	(1) kPa	40,8	43,1	41,6	48,7	38,2	42,6	46,8
COMPRESSORS								
Compressors nr.	N°	6	6	8	8	8	8	8
No. Circuits	N°	3	2	4	4	4	4	4
NOISE LEVEL								
Noise Pressure	(3) dB(A)	55	55	55	56	57	57	57
Sound power level in cooling	(4)(5) dB(A)	88	88	88	89	90	90	90
SIZE AND WEIGHT								
A	(6) mm	7430	7430	7430	8605	9780	9780	9780
B	(6) mm	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6) kg	4730	4790	5410	5810	6160	6200	6250

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.

Certified data in EUROVENT

NECS / CA			1314	1414	1614	1715	1816	2015	2116
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	370	391	438	481	518	549	591
Total power input	(1)	kW	120	125	142	154	166	177	189
EER	(1)	kW/kW	3,10	3,13	3,10	3,12	3,11	3,10	3,12
ESEER	(1)	kW/kW	4,45	4,48	4,39	4,54	4,50	4,42	4,48
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	369	390	436	479	515	547	589
EER	(1)(2)	kW/kW	3,04	3,08	3,04	3,07	3,05	3,06	3,07
ESEER	(1)(2)	kW/kW	4,22	4,28	4,17	4,30	4,24	4,23	4,28
Cooling energy class			B	B	B	B	B	B	B
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	63,8	67,4	75,5	82,8	89,1	94,5	102
Pressure drop	(1)	kPa	59,0	46,8	58,7	53,5	61,9	42,9	49,8
COMPRESSORS									
Compressors nr.		N°	4	4	4	5	6	5	6
No. Circuits		N°	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	65	65	65	64	65	65	65
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	98	98	98
SIZE AND WEIGHT									
A	(6)	mm	5080	5080	5080	6255	6255	6255	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3060	3100	3130	3800	4050	4090	4540

NECS / CA			2316	2416	2418	2618	2818	3018	3218
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	633	657	701	740	785	831	885
Total power input	(1)	kW	204	212	225	239	250	266	283
EER	(1)	kW/kW	3,10	3,10	3,11	3,10	3,13	3,12	3,13
ESEER	(1)	kW/kW	4,48	4,37	4,44	4,46	4,50	4,49	4,45
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	630	655	699	737	782	828	881
EER	(1)(2)	kW/kW	3,06	3,05	3,06	3,04	3,09	3,07	3,07
ESEER	(1)(2)	kW/kW	4,27	4,16	4,22	4,22	4,30	4,28	4,22
Cooling energy class			B	B	B	B	B	B	B
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	109	113	121	127	135	143	152
Pressure drop	(1)	kPa	48,6	52,5	54,0	60,0	45,6	51,1	58,0
COMPRESSORS									
Compressors nr.		N°	6	6	8	8	8	8	8
No. Circuits		N°	3	2	4	4	4	4	4
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	66	66	66	66	67	67	67
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	99	100	100	100
SIZE AND WEIGHT									
A	(6)	mm	7430	7430	9780	9780	9780	9780	9780
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	4630	4690	5930	5970	6040	6070	6110

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.

Certified data in EUROVENT

NECS / SL-CA			1314	1414	1614	1715	1816	2015	2116	2316	2416	2418
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	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	370	394	440	481	522	550	592	638	662	695
Total power input	(1)	kW	119	126	142	154	167	177	189	204	213	223
EER	(1)	kW/kW	3,11	3,12	3,11	3,12	3,12	3,11	3,13	3,12	3,11	3,12
ESEER	(1)	kW/kW	4,57	4,56	4,44	4,54	4,58	4,52	4,60	4,59	4,53	4,58
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	369	393	438	480	520	549	590	636	660	693
EER	(1)(2)	kW/kW	3,07	3,08	3,06	3,08	3,08	3,08	3,08	3,08	3,06	3,09
ESEER	(1)(2)	kW/kW	4,38	4,39	4,27	4,39	4,40	4,35	4,40	4,39	4,33	4,43
Cooling energy class			B	B	B	B	B	B	B	B	B	B
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	63,8	67,9	75,8	82,8	89,8	94,7	102	110	114	120
Pressure drop	(1)	kPa	41,9	35,9	44,8	32,9	38,7	36,8	42,5	44,7	48,1	35,8
COMPRESSORS												
Compressors nr.	N°		4	4	4	5	6	5	6	6	6	8
No. Circuits	N°		2	2	2	2	2	2	2	3	2	4
NOISE LEVEL												
Noise Pressure	(3)	dB(A)	53	53	53	54	54	54	54	55	55	55
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87	87	87	88	88	88
SIZE AND WEIGHT												
A	(6)	mm	6255	6255	6255	7430	7430	7430	8605	8605	8605	9780
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3490	3700	3730	4400	4650	4510	4990	5360	5360	6100

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.

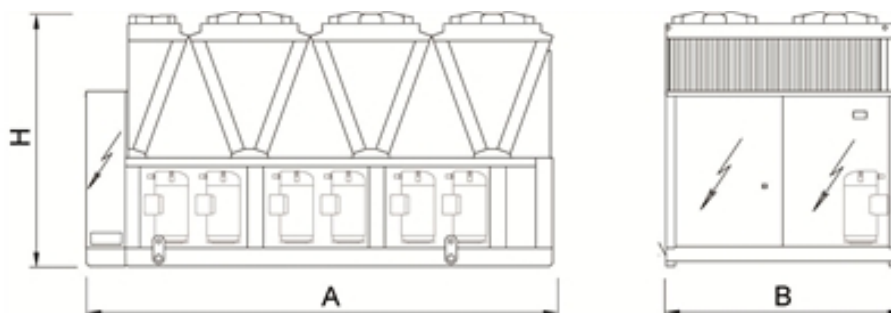
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



Commercial and industrial chillers

FOCS 0751 - 2632

Chiller, air source for outdoor installation 134-516 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, plate evaporator and thermostatic expansion valve.

Frame with base in polyester-painted thick hot-galvanised sheet steel and external panels in peraluman.

Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Controls

W3000SE Large

The W3000 SE Large controller offers advanced functions and algorithms.

The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units.

Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).

The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic.

Version

B	Basic
LN	Low noise
SL	Super-low noise version

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

FLEXIBILITY

Flexibility in applications thanks to the many available functions and versions

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

EXTENSIVE RANGE OF OPERATION

Extensive range of operation with external air temperature up to 46°C at full load; with total heat recovery, hot water can be produced up to a temperature of 55°C.

INTEGRATED HYDRONIC MODULE

Optional pump unit also with storage tank, consisting of 1 or 2 pumps, 2 or 4-pole motor, with three head options to satisfy different industrial applications and demands for comfort

Accessory

- Soft start
- Compressor power factor device
- Electronic expansion valve
- Variable speed condensation control (standard on /LN, /SL)
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Hydronic group with possible storage tank





FOCS / B			0751	0851	0951	0961	1021	1301
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	144	162	182	201	234	266
Total power input	(1)	kW	51,5	60,9	68,7	75,1	85,3	93,5
EER	(1)	kW/kW	2,81	2,67	2,66	2,68	2,75	2,85
ESEER	(1)	kW/kW	3,50	3,42	3,52	3,63	3,49	3,54
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	144	162	182	201	234	265
EER	(1)(2)	kW/kW	2,77	2,63	2,62	2,65	2,71	2,81
ESEER	(1)(2)	kW/kW	3,42	3,35	3,44	3,56	3,42	3,47
Cooling energy class			C	D	D	D	C	C
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	24,9	28,0	31,4	34,7	40,3	45,8
Pressure drop	(1)	kPa	31,9	29,7	29,6	28,9	32,4	31,9
COMPRESSORS								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	62	62	62	62	64	64
Sound power level in cooling	(4)(5)	dB(A)	94	94	94	94	96	96
SIZE AND WEIGHT								
A	(6)	mm	3110	3110	3110	3110	4610	4610
B	(6)	mm	2222	2222	2222	2222	2222	2222
H	(6)	mm	2150	2150	2150	2150	2150	2150
Operating weight	(6)	kg	1680	1710	1780	1860	2590	2720

FOCS / B			1532	1732	1932	1952	2432	2632
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	277	329	366	398	466	516
Total power input	(1)	kW	104	121	139	154	179	193
EER	(1)	kW/kW	2,67	2,71	2,64	2,58	2,61	2,67
ESEER	(1)	kW/kW	3,64	3,57	3,56	3,58	3,61	3,49
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	278	330	368	400	468	518
EER	(1)(2)	kW/kW	2,65	2,68	2,61	2,56	2,58	2,64
ESEER	(1)(2)	kW/kW	3,58	3,49	3,48	3,48	3,82	3,37
Cooling energy class			D	D	D	D	D	D
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	47,7	56,6	63,1	68,5	80,2	88,8
Pressure drop	(1)	kPa	41,8	47,1	49,3	50,7	63,5	67,6
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	65	65	65	65	67	67
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	99	99
SIZE AND WEIGHT								
A	(6)	mm	4610	4610	4610	4610	5610	5610
B	(6)	mm	2222	2222	2222	2222	2222	2222
H	(6)	mm	2150	2420	2420	2420	2430	2430
Operating weight	(6)	kg	3130	3340	3490	3530	4590	4820

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.

Certified data in EUROVENT

FOCS / SL			0751	0851	0951	0961	1021	1301
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	134	151	166	197	223	238
Total power input	(1)	kW	53,3	62,7	73,5	76,2	90,3	101
EER	(1)	kW/kW	2,52	2,41	2,26	2,59	2,47	2,35
ESEER	(1)	kW/kW	3,54	3,41	3,40	3,69	3,58	3,32
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	134	150	165	197	222	238
EER	(1)(2)	kW/kW	2,49	2,38	2,23	2,56	2,44	2,33
ESEER	(1)(2)	kW/kW	3,45	3,34	3,33	3,61	3,51	3,26
Cooling energy class			E	E	F	D	E	E
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	23,1	26,0	28,5	34,0	38,4	41,0
Pressure drop	(1)	kPa	27,6	25,6	24,4	27,8	29,3	25,6
COMPRESSORS								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	52	52	52	52	54	54
Sound power level in cooling	(4)(5)	dB(A)	84	84	84	84	86	86
SIZE AND WEIGHT								
A	(6)	mm	3110	3110	3110	4110	4610	4610
B	(6)	mm	2222	2222	2222	2222	2222	2222
H	(6)	mm	2150	2150	2150	2150	2150	2150
Operating weight	(6)	kg	1680	1770	1840	1980	2670	2720

FOCS / SL			1532	1732	1932	1952	2432	2632
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	252	296	334	377	442	484
Total power input	(1)	kW	112	128	149	164	183	199
EER	(1)	kW/kW	2,26	2,31	2,24	2,29	2,41	2,43
ESEER	(1)	kW/kW	3,50	3,47	3,46	3,62	3,69	3,52
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	254	297	335	379	444	487
EER	(1)(2)	kW/kW	2,26	2,30	2,23	2,28	2,39	2,40
ESEER	(1)(2)	kW/kW	3,46	3,43	3,42	3,54	3,96	3,41
Cooling energy class			F	E	F	F	E	E
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	43,4	50,9	57,4	64,8	76,2	83,4
Pressure drop	(1)	kPa	34,7	38,1	40,9	45,4	57,3	59,6
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	54	55	55	55	56	56
Sound power level in cooling	(4)(5)	dB(A)	86	87	87	87	89	89
SIZE AND WEIGHT								
A	(6)	mm	4610	4610	5610	5610	6610	6610
B	(6)	mm	2222	2222	2222	2222	2222	2222
H	(6)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(6)	kg	3220	3450	3640	3840	5180	5450

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.

Certified data in EUROVENT

FOCS / LN			0751	0851	0951	0961	1021	1301
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	141	157	175	195	229	256
Total power input	(1)	kW	51,0	61,0	69,9	77,4	86,5	94,6
EER	(1)	kW/kW	2,75	2,57	2,50	2,52	2,64	2,70
ESEER	(1)	kW/kW	3,69	3,51	3,57	3,69	3,65	3,59
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	140	156	174	194	228	255
EER	(1)(2)	kW/kW	2,72	2,54	2,47	2,49	2,61	2,67
ESEER	(1)(2)	kW/kW	3,60	3,43	3,48	3,60	3,58	3,51
Cooling energy class			C	D	E	E	D	D
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	24,2	27,0	30,1	33,5	39,4	44,0
Pressure drop	(1)	kPa	30,2	27,6	27,1	27,1	30,8	29,4
COMPRESSORS								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	56	56	56	56	58	58
Sound power level in cooling	(4)(5)	dB(A)	88	88	88	88	90	90
SIZE AND WEIGHT								
A	(6)	mm	3110	3110	3110	3110	4610	4610
B	(6)	mm	2222	2222	2222	2222	2222	2222
H	(6)	mm	2150	2150	2150	2150	2150	2150
Operating weight	(6)	kg	1680	1710	1780	1860	2590	2720

FOCS / LN			1532	1732	1932	1952	2432	2632
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	265	310	345	376	440	483
Total power input	(1)	kW	106	124	144	165	186	201
EER	(1)	kW/kW	2,51	2,50	2,40	2,29	2,37	2,40
ESEER	(1)	kW/kW	3,68	3,58	3,61	3,61	3,62	3,48
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	267	311	346	379	442	486
EER	(1)(2)	kW/kW	2,50	2,49	2,38	2,28	2,35	2,38
ESEER	(1)(2)	kW/kW	3,63	3,52	3,55	3,53	3,88	3,37
Cooling energy class			D	E	E	F	E	E
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	45,7	53,4	59,3	64,8	75,7	83,1
Pressure drop	(1)	kPa	38,4	41,8	43,6	45,4	56,5	59,2
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	59	59	59	59	61	61
Sound power level in cooling	(4)(5)	dB(A)	91	91	91	91	93	93
SIZE AND WEIGHT								
A	(6)	mm	4610	4610	4610	4610	5610	5610
B	(6)	mm	2222	2222	2222	2222	2222	2222
H	(6)	mm	2150	2420	2420	2420	2430	2430
Operating weight	(6)	kg	3130	3340	3490	3530	4590	4820

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.

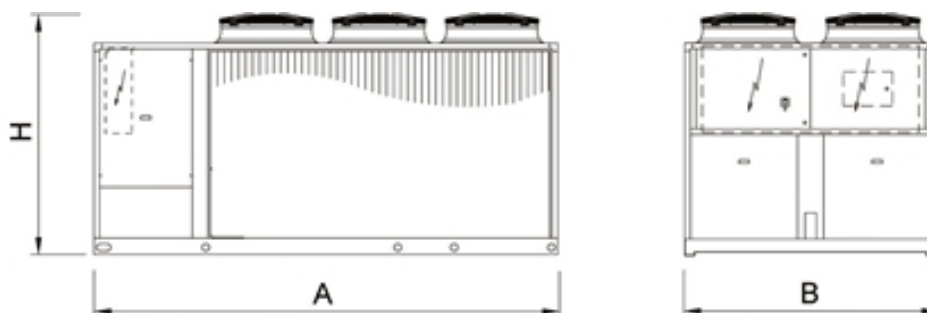
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



Commercial and industrial chillers

FOCS 1542 - 2642

Chiller, air source for outdoor installation 252-516 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tubes evaporator designed by Climaveneta and thermostatic expansion valve.

Frame with base in polyester-painted thick hot-galvanised sheet steel and external panels in peraluman.

Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Controls

W3000SE Large

The W3000 SE Large controller offers advanced functions and algorithms.

The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks.

Compatibility with the remote keyboard managing up to 10 units.

Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).

The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic.



Version

B	Basic
LN	Low noise
SL	Super-low noise version

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

FLEXIBILITY

Flexibility in applications thanks to the many available functions and versions

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

EXTENSIVE RANGE OF OPERATION

Extensive range of operation with external air temperature up to 46°C at full load; with total heat recovery, hot water can be produced up to a temperature of 55°C.

Accessory

- Soft start
- Compressor power factor device
- Electronic expansion valve
- Variable speed condensation control (standard on /LN, /SL)
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board



FOCS / B			1542	1742	1942	1962	2442	2642
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	277	329	366	398	466	516
Total power input	(1)	kW	104	121	139	154	179	193
EER	(1)	kW/kW	2,67	2,71	2,64	2,58	2,61	2,67
ESEER	(1)	kW/kW	3,64	3,57	3,56	3,58	3,61	3,49
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	276	327	365	397	465	514
EER	(1)(2)	kW/kW	2,63	2,66	2,60	2,56	2,58	2,64
ESEER	(1)(2)	kW/kW	3,52	3,43	3,43	3,49	3,52	3,39
Cooling energy class			D	D	D	D	D	D
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	47,7	56,6	63,1	68,5	80,2	88,8
Pressure drop	(1)	kPa	39,8	56,1	48,1	31,9	32,2	42,6
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	65	67	65	65	67	67
Sound power level in cooling	(4)(5)	dB(A)	97	99	97	97	99	99
SIZE AND WEIGHT								
A	(6)	mm	4610	4610	4610	4610	5610	5610
B	(6)	mm	2222	2222	2222	2222	2222	2222
H	(6)	mm	2150	2420	2420	2420	2430	2430
Operating weight	(6)	kg	3490	3680	3810	4100	5140	5340

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.

Certified data in EUROVENT

FOCS / LN			1542	1742	1942	1962	2442	2642
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	265	310	345	376	440	483
Total power input	(1)	kW	106	124	144	165	186	201
EER	(1)	kW/kW	2,51	2,50	2,40	2,29	2,37	2,40
ESEER	(1)	kW/kW	3,68	3,58	3,61	3,61	3,62	3,48
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	265	309	343	375	438	481
EER	(1)(2)	kW/kW	2,48	2,47	2,37	2,27	2,35	2,38
ESEER	(1)(2)	kW/kW	3,57	3,46	3,50	3,52	3,54	3,39
Cooling energy class			E	E	E	F	E	E
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	45,7	53,4	59,3	64,8	75,7	83,1
Pressure drop	(1)	kPa	36,6	49,8	42,6	28,6	28,6	37,3
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	59	59	59	59	61	61
Sound power level in cooling	(4)(5)	dB(A)	91	91	91	91	93	93
SIZE AND WEIGHT								
A	(6)	mm	4610	4610	4610	4610	5610	5610
B	(6)	mm	2222	2222	2222	2222	2222	2222
H	(6)	mm	2150	2420	2420	2420	2430	2430
Operating weight	(6)	kg	3490	3680	3810	4100	5140	5340

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.

Certified data in EUROVENT

FOCS / SL			1542	1742	1942	1962	2442	2642
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	252	296	334	377	442	484
Total power input	(1)	kW	112	128	149	164	183	199
EER	(1)	kW/kW	2,26	2,31	2,24	2,29	2,41	2,43
ESEER	(1)	kW/kW	3,50	3,47	3,46	3,62	3,69	3,52
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	251	294	332	376	441	483
EER	(1)(2)	kW/kW	2,24	2,28	2,22	2,27	2,39	2,40
ESEER	(1)(2)	kW/kW	3,40	3,35	3,36	3,53	3,60	3,43
Cooling energy class			F	F	F	F	E	E
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	43,4	50,9	57,4	64,8	76,2	83,4
Pressure drop	(1)	kPa	33,0	45,3	39,9	28,6	29,0	37,5
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	54	55	55	55	56	56
Sound power level in cooling	(4)(5)	dB(A)	86	87	87	87	89	89
SIZE AND WEIGHT								
A	(6)	mm	4610	4610	5610	5610	6610	6610
B	(6)	mm	2222	2222	2222	2222	2222	2222
H	(6)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(6)	kg	3580	3790	3960	4410	5730	5970

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.

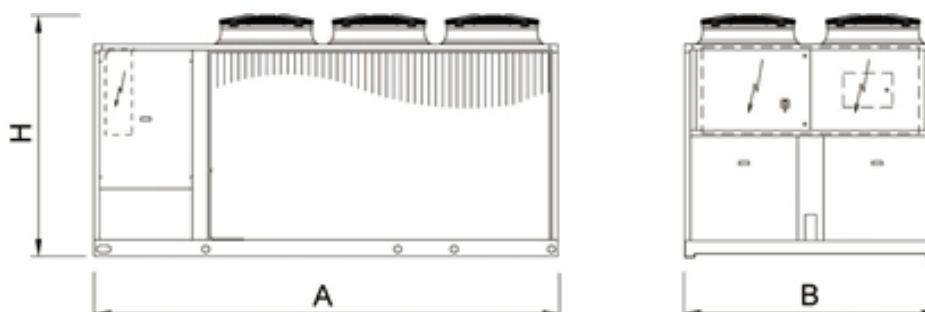
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



Commercial and industrial chillers

FOCS2/K 1502 - 8404

Chiller, air source for outdoor installation 295-1818 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, single step shell and tubes evaporator and thermostatic expansion 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. This unit has been designed to optimize the costs - performances ratio.

Controls

W3000SE Large

The W3000 SE Large controller offers advanced functions and algorithms. The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. It's available as option the touch screen interface: WVGA 7" colour display with LED adjustable back lighting. The touch screen technology allows an intuitive navigation, ensure a safety data access through 3 different password levels and permits to visualize in diagrams some monitored quantities trend. The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation. For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts). The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic. As option (VPF package), the modulation of capacity is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.



Version

K	Standard efficiency, compact version
SL-K	Key efficiency, compact and super low-noise version

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

THE BEST COMPROMISE PRICE - PERFORMANCE

This line has been conceived to optimize costs maintaining the units in class B or C as per Eurovent.

FLEXIBILITY

Flexibility in applications thanks to the many available functions and versions

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

LEED RELEVANT PRODUCT

These units are compliant with the performance standard contained in the protocol of sustainability LEED

EXTENSIVE RANGE OF OPERATION

Extensive range of operation with external air temperature up to 46°C at full load; with total heat recovery, hot water can be produced up to a temperature of 55°C.

Accessory

- Soft start
- NOISE REDUCER (only on no silenced versions)
- Compressor power factor device
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Hydronic group
- Variable speed condensation control (standard on silenced versions)
- Compressor enclosure (standard on silenced versions)
- KIT HT to increase the unit operating conditions range
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)



FOCS/K Vision 2.0 / K			1502	1702	1902	1922	2202	2652	2702	2722
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	308	343	385	434	495	563	599	666
Total power input	(1)	kW	102	113	131	147	173	202	212	235
EER	(1)	kW/kW	3,02	3,03	2,93	2,94	2,85	2,78	2,83	2,83
ESEER	(1)	kW/kW	3,84	4,13	4,14	4,12	3,80	3,96	4,04	4,19
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	307	342	384	432	493	561	597	664
EER	(1)(2)	kW/kW	2,99	2,99	2,89	2,90	2,82	2,75	2,80	2,79
ESEER	(1)(2)	kW/kW	3,74	4,02	4,01	3,95	3,70	3,85	3,91	4,05
Cooling energy class			B	B	C	B	C	C	C	C
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	53,0	59,0	66,2	74,7	85,2	96,9	103	115
Pressure drop	(1)	kPa	24,1	29,9	37,6	47,8	34,3	35,4	40,1	39,4
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	67	67	67	68	68	68	68	70
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	100	100	100	100	102
SIZE AND WEIGHT										
A	(6)	mm	4000	4000	4000	4000	4900	4900	4900	5800
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3480	3500	3510	3630	4730	4870	4960	5680

FOCS/K Vision 2.0 / K			3152	3602	3902	4202	4502	4802	4822	5412
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	736	794	848	917	989	1051	1134	1213
Total power input	(1)	kW	255	280	303	324	344	357	399	418
EER	(1)	kW/kW	2,89	2,84	2,80	2,83	2,87	2,94	2,84	2,90
ESEER	(1)	kW/kW	4,00	3,85	3,85	3,99	3,97	4,08	4,14	4,11
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	733	792	846	914	986	1047	1130	1210
EER	(1)(2)	kW/kW	2,85	2,81	2,76	2,80	2,84	2,90	2,80	2,87
ESEER	(1)(2)	kW/kW	3,86	3,74	3,72	3,86	3,85	3,94	3,98	4,00
Cooling energy class			C	C	C	C	C	B	C	C
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	127	137	146	158	170	181	195	209
Pressure drop	(1)	kPa	48,1	40,0	45,6	47,1	42,4	47,8	52,2	37,5
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	70	70	70	70	71	71	71	73
Sound power level in cooling	(4)(5)	dB(A)	102	102	103	103	104	104	104	106
SIZE AND WEIGHT										
A	(6)	mm	5800	5800	7000	7000	7600	7600	7600	9400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6170	6560	7010	7220	7860	8030	8090	9290

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.

Certified data in EUROVENT

FOCS/K Vision 2.0 / K		6002	6022	6303	6903	7203	7213	7223	8404
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	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1) kW	1244	1328	1398	1495	1616	1681	1741	1818
Total power input	(1) kW	444	465	478	532	542	580	604	672
EER	(1) kW/kW	2,80	2,85	2,92	2,81	2,98	2,90	2,88	2,70
ESEER	(1) kW/kW	4,03	4,22	3,98	3,94	4,14	4,15	4,20	3,98
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2) kW	1241	1324	1394	1490	1611	1675	1734	1812
EER	(1)(2) kW/kW	2,78	2,82	2,89	2,77	2,95	2,86	2,84	2,67
ESEER	(1)(2) kW/kW	3,92	4,08	3,86	3,81	4,01	4,01	4,03	3,85
Cooling energy class		C	C	C	C				
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1) m³/h	214	229	241	257	278	289	300	313
Pressure drop	(1) kPa	39,4	45,0	45,2	51,7	46,5	50,3	58,4	49,9
COMPRESSORS									
Compressors nr.	N°	2	2	3	3	3	3	3	4
No. Circuits	N°	2	2	3	3	3	3	3	4
NOISE LEVEL									
Noise Pressure	(3) dB(A)	73	73	73	73	73	73	73	73
Sound power level in cooling	(4)(5) dB(A)	106	106	106	106	106	106	106	106
SIZE AND WEIGHT									
A	(6) mm	9400	11200	11200	11200	11200	11200	11200	12400
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	9380	10040	11440	11780	12350	12420	12480	13650

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.

Certified data in EUROVENT

FOCS/K Vision 2.0 / SL-K		1502	1702	1902	1922	2202	2652	2702	2722
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	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1) kW	295	325	378	425	486	558	592	662
Total power input	(1) kW	98,3	116	131	147	169	198	208	231
EER	(1) kW/kW	3,00	2,82	2,88	2,89	2,88	2,82	2,85	2,86
ESEER	(1) kW/kW	4,08	4,10	4,12	4,30	3,99	4,09	4,14	4,32
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2) kW	294	325	376	424	484	557	591	660
EER	(1)(2) kW/kW	2,97	2,79	2,84	2,85	2,85	2,79	2,81	2,83
ESEER	(1)(2) kW/kW	3,98	3,99	3,98	4,12	3,88	3,97	4,01	4,18
Cooling energy class		B	C	C	C	C	C	C	C
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1) m³/h	50,8	56,0	65,0	73,2	83,6	96,1	102	114
Pressure drop	(1) kPa	22,1	26,9	36,2	45,9	33,0	34,8	39,2	39,0
COMPRESSORS									
Compressors nr.	N°	2	2	2	2	2	2	2	2
No. Circuits	N°	2	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	(3) dB(A)	55	55	56	56	57	57	58	57
Sound power level in cooling	(4)(5) dB(A)	87	87	88	88	89	89	90	90
SIZE AND WEIGHT									
A	(6) mm	4000	4000	4000	4000	4900	5800	5800	7000
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	3870	3890	3970	4230	5340	5700	5810	6520

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.

Certified data in EUROVENT

FOCS/K Vision 2.0 / SL-K		3152	3602	3902	4202	4502	4802	4822	5412
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	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1) kW	727	782	847	906	992	1033	1140	1176
Total power input	(1) kW	251	276	290	318	336	361	392	420
EER	(1) kW/kW	2,90	2,83	2,92	2,85	2,96	2,86	2,91	2,80
ESEER	(1) kW/kW	4,09	3,87	4,00	4,04	4,12	4,05	4,26	4,16
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2) kW	724	780	844	902	989	1030	1136	1173
EER	(1)(2) kW/kW	2,86	2,80	2,88	2,81	2,92	2,82	2,87	2,77
ESEER	(1)(2) kW/kW	3,95	3,76	3,87	3,91	3,99	3,91	4,09	4,06
Cooling energy class		C	C	C	C	B	C	C	C
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1) m³/h	125	135	146	156	171	178	196	202
Pressure drop	(1) kPa	46,9	38,8	45,5	45,9	42,6	46,1	52,8	35,2
COMPRESSORS									
Compressors nr.	N°	2	2	2	2	2	2	2	2
No. Circuits	N°	2	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	(3) dB(A)	58	58	59	59	60	60	61	61
Sound power level in cooling	(4)(5) dB(A)	91	91	92	92	93	93	94	94
SIZE AND WEIGHT									
A	(6) mm	7000	7000	7600	7600	9400	9400	11200	11200
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	7190	7590	7950	8370	9530	9550	10120	10590

FOCS/K Vision 2.0 / SL-K		6002	6022	6303	6903	7203	7213	7223	8404
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	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1) kW	1231	1293	1359	1461	1531	1598	1654	1762
Total power input	(1) kW	436	472	476	528	561	608	637	682
EER	(1) kW/kW	2,82	2,74	2,86	2,77	2,73	2,63	2,59	2,58
ESEER	(1) kW/kW	4,11	4,19	4,05	4,02	4,01	4,03	4,07	3,92
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2) kW	1228	1289	1355	1456	1527	1593	1648	1757
EER	(1)(2) kW/kW	2,79	2,71	2,83	2,73	2,70	2,60	2,56	2,55
ESEER	(1)(2) kW/kW	4,00	4,05	3,93	3,88	3,89	3,89	3,91	3,77
Cooling energy class		C	C	C	C				
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1) m³/h	212	223	234	251	264	275	285	303
Pressure drop	(1) kPa	38,6	42,6	42,7	49,3	41,7	45,4	52,7	46,9
COMPRESSORS									
Compressors nr.	N°	2	2	3	3	3	3	3	4
No. Circuits	N°	2	2	3	3	3	3	3	4
NOISE LEVEL									
Noise Pressure	(3) dB(A)	61	61	61	61	61	61	62	63
Sound power level in cooling	(4)(5) dB(A)	94	94	94	94	94	94	95	96
SIZE AND WEIGHT									
A	(6) mm	11200	11200	11200	11200	11200	11200	11200	13600
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	10830	10990	12830	12880	13390	13430	13470	15230

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.

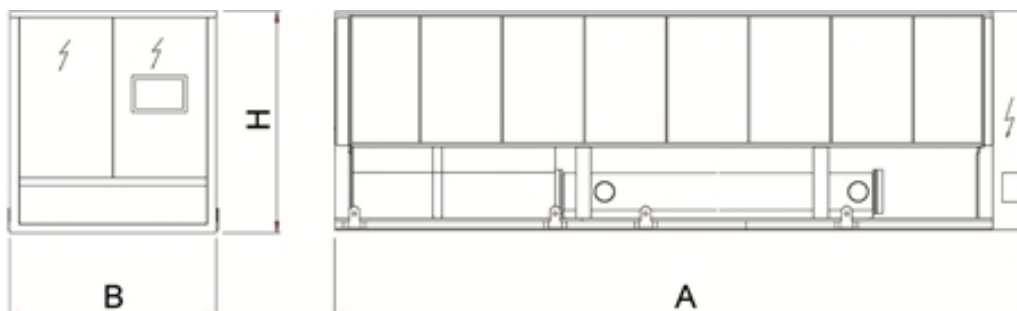
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



Commercial and industrial chillers

FOCS2/CA 1502 - 6603

High efficiency chiller, air source for outdoor installation 307-1543 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, single step shell and tubes evaporator designed by Climaveneta and electronic expansion 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. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Version

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

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features**HIGH EFFICIENCY**

Unit in Class A as per Eurovent. High efficiency for low energy consumption during the operating hours

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 sistematic design oriented to minimize the noise level, the silenced version units give the best compromise between silence and efficiency on the market.

FLEXIBILITY

Flexibility in applications thanks to the many available configurations and versions

LEED RELEVANT PRODUCT

These units are compliant with the performance standard contained in the protocol of sustainability LEED

EXTENSIVE RANGE OF OPERATION

Extensive range of operation with external air temperature up to 46°C at full load; with total heat recovery, hot water can be produced up to a temperature of 55°C

Accessory

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- NOISE REDUCER (only on no silenced versions)
- Compressor power factor device
- Soft start
- EC fans with electronic DC brushless motor
- Compressor enclosure (standard on silenced versions)
- KIT HT to increase the unit operating conditions range
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)

Controls**W3000SE Large**

The W3000 SE Large controller offers advanced functions and algorithms. The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. It's available as option the touch screen interface: WVGA 7" colour display with LED adjustable back lighting. The touch screen technology allows an intuitive navigation, ensure a safety data access through 3 different password levels and permits to visualize in diagrams some monitored quantities trend. The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation. For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts). The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic. As option (VPF package), the modulation of capacity is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.





FOCS/CA Vision 2.0 / CA		1502	1702	1902	1922	2202	2602	2652	2702	2722	3152
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	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1) kW	311	356	406	455	512	558	597	634	704	775
Total power input	(1) kW	97,8	113	127	145	163	178	189	199	223	245
EER	(1) kW/kW	3,18	3,16	3,19	3,15	3,15	3,14	3,16	3,18	3,15	3,17
ESEER	(1) kW/kW	4,06	4,13	4,22	4,35	4,05	4,18	4,17	4,23	4,18	4,08
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2) kW	310	355	405	454	511	557	595	632	701	772
EER	(1)(2) kW/kW	3,15	3,12	3,14	3,11	3,11	3,10	3,12	3,14	3,11	3,12
ESEER	(1)(2) kW/kW	3,95	4,00	4,06	4,23	3,92	4,05	4,03	4,07	4,04	3,92
Cooling energy class		A	A	A	A	A	A	A	A	A	A
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1) m³/h	53,5	61,3	69,9	78,4	88,2	96,1	103	109	121	133
Pressure drop	(1) kPa	24,6	32,2	41,9	29,0	36,7	34,8	39,8	44,9	44,0	53,4
COMPRESSORS											
Compressors nr.	N°	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°	2	2	2	2	2	2	2	2	2	2
NOISE LEVEL											
Noise Pressure	(3) dB(A)	66	66	67	67	68	68	69	68	68	68
Sound power level in cooling	(4)(5) dB(A)	98	98	99	99	100	100	101	101	101	101
SIZE AND WEIGHT											
A	(6) mm	4000	4000	4000	4900	4900	5800	5800	7000	7600	7600
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	3530	3650	3780	4260	4920	5370	5460	5920	6660	7070

FOCS/CA Vision 2.0 / CA		3602	3902	4202	4502	4802	4822	5412	5703	6303	6603
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	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1) kW	851	906	978	1050	1103	1203	1255	1363	1469	1543
Total power input	(1) kW	269	286	307	327	346	377	400	433	468	491
EER	(1) kW/kW	3,17	3,16	3,18	3,21	3,19	3,19	3,14	3,15	3,14	3,14
ESEER	(1) kW/kW	3,94	4,01	4,10	4,16	4,17	4,22	4,20	4,01	4,16	4,19
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2) kW	848	902	974	1046	1099	1198	1251	1361	1466	1540
EER	(1)(2) kW/kW	3,13	3,12	3,13	3,17	3,14	3,14	3,10	3,13	3,12	3,11
ESEER	(1)(2) kW/kW	3,81	3,86	3,94	4,01	4,01	4,04	4,07	3,94	4,07	4,10
Cooling energy class		A	A	A	A	A	A	A	A	A	
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1) m³/h	147	156	168	181	190	207	216	235	253	266
Pressure drop	(1) kPa	45,9	52,1	53,5	47,7	52,7	58,7	40,1	22,0	25,6	28,2
COMPRESSORS											
Compressors nr.	N°	2	2	2	2	2	2	2	3	3	3
No. Circuits	N°	2	2	2	2	2	2	2	3	3	3
NOISE LEVEL											
Noise Pressure	(3) dB(A)	69	69	70	70	70	70	71	71	71	71
Sound power level in cooling	(4)(5) dB(A)	102	102	103	103	103	103	104	104	104	104
SIZE AND WEIGHT											
A	(6) mm	7600	8500	9400	10300	11200	11200	11200	11200	11200	11200
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	7460	8220	8800	9340	9570	9820	10150	12270	12720	12830

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.

Certified data in EUROVENT

FOCS/CA Vision 2.0 / SL-CA		1502	1702	1902	1922	2202	2602	2652	2702	2722
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	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1) kW	307	348	399	448	508	550	591	617	694
Total power input	(1) kW	96,4	109	125	142	161	174	186	195	218
EER	(1) kW/kW	3,18	3,19	3,18	3,15	3,16	3,16	3,17	3,17	3,18
ESEER	(1) kW/kW	4,04	4,27	4,22	4,38	4,08	4,21	4,22	4,30	4,32
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2) kW	306	347	398	447	506	549	589	615	691
EER	(1)(2) kW/kW	3,15	3,16	3,14	3,12	3,12	3,12	3,13	3,13	3,14
ESEER	(1)(2) kW/kW	3,93	4,13	4,07	4,26	3,96	4,09	4,08	4,15	4,16
Cooling energy class		A	A	A	A	A	A	A	A	A
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) m³/h	52,8	60,0	68,7	77,2	87,4	94,7	102	106	119
Pressure drop	(1) kPa	23,9	30,8	40,5	28,1	36,1	33,8	39,0	42,6	42,8
COMPRESSORS										
Compressors nr.	N°	2	2	2	2	2	2	2	2	2
No. Circuits	N°	2	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(3) dB(A)	55	56	56	57	57	57	58	58	59
Sound power level in cooling	(4)(5) dB(A)	87	88	88	89	89	90	91	91	92
SIZE AND WEIGHT										
A	(6) mm	4000	4000	4900	4900	5800	7000	7000	7000	7600
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	3940	4110	4460	4690	5700	6130	6300	6460	7360

FOCS/CA Vision 2.0 / SL-CA		3152	3602	3902	4202	4502	4802	4822	5412	5703
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	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1) kW	760	829	883	954	1024	1078	1172	1244	1324
Total power input	(1) kW	238	263	280	300	323	341	372	392	423
EER	(1) kW/kW	3,19	3,16	3,15	3,18	3,17	3,16	3,15	3,17	3,13
ESEER	(1) kW/kW	4,21	4,03	4,11	4,21	4,20	4,19	4,33	4,29	4,14
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2) kW	757	826	880	950	1021	1074	1168	1241	1322
EER	(1)(2) kW/kW	3,14	3,11	3,10	3,13	3,13	3,12	3,10	3,13	3,11
ESEER	(1)(2) kW/kW	4,04	3,91	3,97	4,05	4,06	4,04	4,15	4,16	4,08
Cooling energy class		A	A	A	A	A	A	A	A	A
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) m³/h	131	143	152	164	176	186	202	214	228
Pressure drop	(1) kPa	51,3	43,6	49,4	50,9	45,3	50,3	55,7	39,5	20,8
COMPRESSORS										
Compressors nr.	N°	2	2	2	2	2	2	2	2	3
No. Circuits	N°	2	2	2	2	2	2	2	2	3
NOISE LEVEL										
Noise Pressure	(3) dB(A)	59	59	59	60	60	60	60	62	62
Sound power level in cooling	(4)(5) dB(A)	92	92	92	93	93	93	93	95	95
SIZE AND WEIGHT										
A	(6) mm	7600	7600	9400	11200	11200	11200	12400	13600	11200
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	7860	8260	9270	9950	10260	10380	10940	11680	13510

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.

Certified data in EUROVENT

FOCS/CA Vision 2.0 / CA-E			1502	1702	1902	1922	2202	2602	2652	2702
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	328	368	420	461	542	577	620	655
Total power input	(1)	kW	98,5	111	129	141	163	174	188	199
EER	(1)	kW/kW	3,33	3,32	3,27	3,28	3,31	3,32	3,30	3,29
ESEER	(1)	kW/kW	4,14	4,35	4,25	4,43	4,15	4,29	4,26	4,25
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	327	367	419	460	540	575	618	653
EER	(1)(2)	kW/kW	3,29	3,28	3,24	3,25	3,28	3,28	3,26	3,25
ESEER	(1)(2)	kW/kW	4,02	4,21	4,14	4,30	4,03	4,16	4,14	4,11
Cooling energy class			A	A	A	A	A	A	A	A
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	56,4	63,4	72,3	79,4	93,3	99,3	107	113
Pressure drop	(1)	kPa	27,3	34,4	24,7	29,8	32,8	37,2	34,2	38,2
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	66	66	67	67	68	67	68	68
Sound power level in cooling	(4)(5)	dB(A)	98	98	99	99	100	100	101	101
SIZE AND WEIGHT										
A	(6)	mm	4000	4000	4900	5800	5800	7000	7000	7600
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3630	3760	4520	5030	5410	5900	6290	6580

FOCS/CA Vision 2.0 / CA-E			2722	3152	3602	3902	4202	4502	4802	4822
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	712	806	877	959	1017	1085	1144	1233
Total power input	(1)	kW	216	240	262	284	304	326	347	375
EER	(1)	kW/kW	3,30	3,35	3,34	3,37	3,35	3,33	3,30	3,29
ESEER	(1)	kW/kW	4,41	4,33	4,14	4,26	4,31	4,28	4,22	4,37
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	710	804	875	956	1014	1081	1140	1230
EER	(1)(2)	kW/kW	3,27	3,31	3,30	3,33	3,30	3,28	3,25	3,25
ESEER	(1)(2)	kW/kW	4,29	4,20	4,01	4,14	4,17	4,12	4,06	4,24
Cooling energy class			A	A	A	A	A	A	A	A
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	123	139	151	165	175	187	197	212
Pressure drop	(1)	kPa	32,2	36,4	43,1	37,3	42,0	47,8	53,1	38,7
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	68	68	69	69	70	70	70	70
Sound power level in cooling	(4)(5)	dB(A)	101	101	102	102	103	103	103	103
SIZE AND WEIGHT										
A	(6)	mm	7600	8500	9400	10300	11200	11200	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6960	7750	8460	9140	9500	9560	9710	10560

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.

Certified data in EUROVENT

FOCS/CA Vision 2.0 / SL-CA-E			1502	1702	1902	1922	2202	2602	2652	2702
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	316	363	410	455	529	563	604	643
Total power input	(1)	kW	96,4	108	123	138	158	171	182	190
EER	(1)	kW/kW	3,27	3,36	3,33	3,29	3,35	3,30	3,32	3,38
ESEER	(1)	kW/kW	4,15	4,32	4,36	4,38	4,25	4,26	4,28	4,36
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	315	362	410	454	528	562	602	641
EER	(1)(2)	kW/kW	3,24	3,32	3,29	3,26	3,31	3,26	3,28	3,34
ESEER	(1)(2)	kW/kW	4,04	4,17	4,25	4,26	4,13	4,13	4,16	4,22
Cooling energy class			A	A	A	A	A	A	A	A
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	54,3	62,5	70,7	78,4	91,1	97,0	104	111
Pressure drop	(1)	kPa	25,3	33,4	23,6	29,0	31,3	35,5	32,4	36,8
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	55	56	56	57	56	57	58	58
Sound power level in cooling	(4)(5)	dB(A)	87	88	88	89	89	90	91	91
SIZE AND WEIGHT										
A	(6)	mm	4000	4900	5800	5800	7000	7000	7600	7600
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3970	4440	5210	5470	6080	6360	6910	7250

FOCS/CA Vision 2.0 / SL-CA-E			2722	3152	3602	3902	4202	4502	4802	4822
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	710	794	859	938	996	1061	1109	1217
Total power input	(1)	kW	212	236	259	281	300	319	341	368
EER	(1)	kW/kW	3,35	3,36	3,32	3,34	3,32	3,33	3,25	3,31
ESEER	(1)	kW/kW	4,34	4,29	4,12	4,24	4,28	4,32	4,27	4,39
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	709	792	857	936	993	1058	1105	1214
EER	(1)(2)	kW/kW	3,32	3,32	3,27	3,30	3,28	3,28	3,20	3,27
ESEER	(1)(2)	kW/kW	4,22	4,16	3,99	4,12	4,14	4,17	4,11	4,26
Cooling energy class			A	A	A	A	A	A	A	A
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	122	137	148	161	171	183	191	209
Pressure drop	(1)	kPa	32,0	35,3	41,4	35,7	40,3	45,7	49,9	37,7
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	59	59	59	59	60	60	60	61
Sound power level in cooling	(4)(5)	dB(A)	92	92	92	92	93	93	93	94
SIZE AND WEIGHT										
A	(6)	mm	9400	9400	9400	10300	11200	12400	12400	13600
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8390	8810	9240	9930	10300	10710	10800	11660

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.

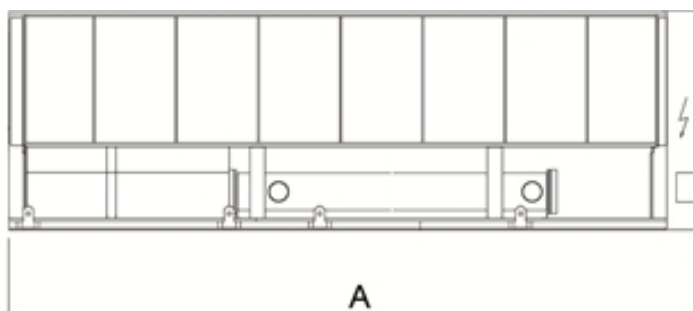
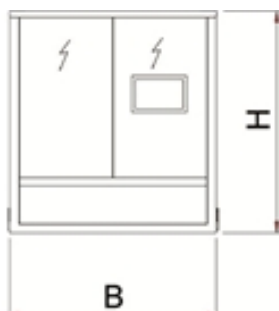
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



Commercial and industrial chillers

i-FX (1+i) 2602 - 5403



High efficiency chiller, air source for outdoor installation 567-1273 kW

Outdoor unit for the production of chilled water with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube single pass evaporator designed by Climaveneta and electronic expansion valve.

Eurovent certification for all the sizes.

Base and supporting structure and panels are of galvanized epoxy powder coated steel.

Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both full and partial load, is achieved thanks to the accurate unit's design and to the use of fixed speed motor together with variable speed (inverter) motor.

Controls

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

CA	Class A of efficiency
SL	Super-low noise version

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

WIDE RANGE

Extended capacity range.

HIGH EFFICIENCY

Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

EXTREMELY SILENT OPERATION

Extremely silent operation together with high efficiency, tank to dedicated acoustic devices and a precise design for the choice of the components.

GREEN RELEVANT PRODUCT

These units comply with the minimum efficiency requirements of air cooled chillers defined in ASHRAE 90.1-2013 "Energy Standard for buildings except LowRise Residential Building", included the higher values required from January 2015.

Accessory

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- NOISE REDUCER (only on no silenced versions)
- EC fans with electronic DC brushless motor
- Axial fans with External Static Pressure (ESP) up to 130 Pa.
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards





i-FX (1+i) /CA		2602	2662	2722	3152	3602	3902	4212	4513	4953	5403
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	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1) kW	567	631	700	785	858	951	1045	1127	1196	1273
Total power input	(1) kW	181	201	224	249	273	302	333	359	380	405
EER	(1) kW/kW	3,13	3,14	3,13	3,15	3,14	3,15	3,14	3,14	3,15	3,14
ESEER	(1) kW/kW	4,81	4,81	4,78	4,79	4,84	4,79	4,82	4,84	4,79	4,82
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2) kW	566	629	698	783	855	949	1042	1123	1192	1269
EER	(1)(2) kW/kW	3,10	3,10	3,10	3,12	3,10	3,11	3,10	3,10	3,11	3,10
ESEER	(1)(2) kW/kW	4,62	4,62	4,62	4,61	4,63	4,61	4,61	4,60	4,60	4,60
Cooling energy class		A	A	A	A	A	A	A	A	A	A
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1) m³/h	97,7	109	121	135	148	164	180	194	206	219
Pressure drop	(1) kPa	36,0	35,4	31,1	34,5	41,2	36,7	44,3	51,6	43,6	49,5
COMPRESSORS											
Compressors nr.	N°	2	2	2	2	2	2	2	3	3	3
No. Circuits	N°	2	2	2	2	2	2	2	3	3	3
NOISE LEVEL											
Noise Pressure	(3) dB(A)	67	68	68	68	69	70	71	72	72	72
Sound power level in cooling	(4)(5) dB(A)	100	101	101	101	102	103	104	105	105	105
SIZE AND WEIGHT											
A	(6) mm	7000	7900	7900	7900	9860	10790	11720	12630	12630	12630
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
Operating weight	(6) kg	6130	7170	7460	7970	9110	10080	10140	11640	12570	12950

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.

Certified data in EUROVENT

i-FX (1+i) /SL		2602	2662	2722	3152	3903	3953	4013	4063	4953	5403
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	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1) kW	544	611	679	752	805	880	946	1018	1143	1209
Total power input	(1) kW	181	201	222	249	268	295	311	335	380	411
EER	(1) kW/kW	3,01	3,04	3,06	3,03	3,01	2,98	3,04	3,04	3,01	2,94
ESEER	(1) kW/kW	4,91	4,90	4,87	4,92	4,87	4,86	4,89	4,91	4,90	4,91
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2) kW	542	610	677	750	802	878	944	1015	1140	1205
EER	(1)(2) kW/kW	2,98	3,01	3,03	3,00	2,97	2,95	3,01	3,00	2,97	2,90
ESEER	(1)(2) kW/kW	4,72	4,72	4,71	4,74	4,68	4,69	4,70	4,70	4,71	4,69
Cooling energy class		B	B	B	B	B	B	B	B	B	B
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1) m³/h	93,6	105	117	130	139	152	163	175	197	208
Pressure drop	(1) kPa	33,0	33,2	29,2	31,7	36,3	31,5	36,4	42,1	39,9	44,6
COMPRESSORS											
Compressors nr.	N°	2	2	2	2	3	3	3	3	3	3
No. Circuits	N°	2	2	2	2	3	3	3	3	3	3
NOISE LEVEL											
Noise Pressure	(3) dB(A)	58	59	60	60	60	60	60	61	61	64
Sound power level in cooling	(4)(5) dB(A)	91	92	93	93	93	93	93	94	94	97
SIZE AND WEIGHT											
A	(6) mm	7000	7900	7900	7900	9900	10800	10800	11700	11700	12630
B	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
Operating weight	(6) kg	6410	7400	7690	8370	9570	10080	10650	11090	12600	13530

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.

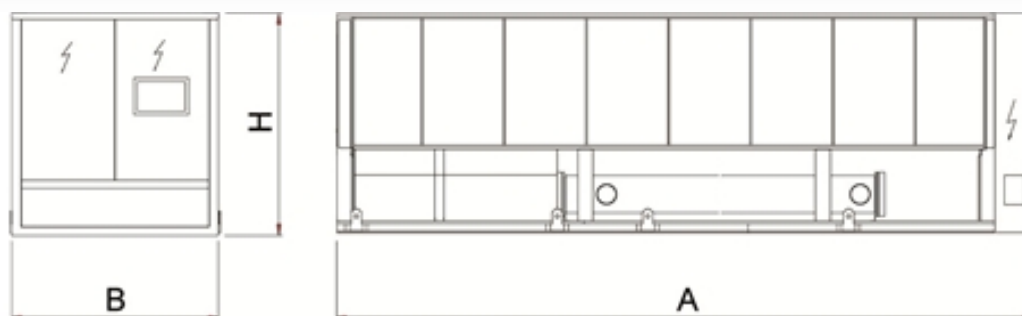
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



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
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
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/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
COMPRESSORS									
Compressors nr.	N°		1	1	1	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1
NOISE LEVEL									
Noise 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
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	128	146	156	168	183	204
Pressure drop	(1)	kPa	27,6	31,8	36,0	29,7	35,3	37,3
COMPRESSORS								
Compressors nr.	N°		2	3	3	3	4	4
No. Circuits	N°		1	2	2	2	2	2
NOISE LEVEL								
Noise 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.

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
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/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
COMPRESSORS								
Compressors nr.	N°	1	1	1	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1
NOISE LEVEL								
Noise 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
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1) m³/h	127	150	155	167	181	202
Pressure drop	(1) kPa	27,3	33,7	35,7	29,4	34,2	36,8
COMPRESSORS							
Compressors nr.	N°	2	3	3	3	4	4
No. Circuits	N°	1	2	2	2	2	2
NOISE LEVEL							
Noise 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.

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
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/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
COMPRESSORS									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
NOISE LEVEL									
Noise 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
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	137	155	167	187	203	228
Pressure drop	(1)	kPa	31,7	35,9	41,5	36,7	43,1	46,8
COMPRESSORS								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
NOISE LEVEL								
Noise 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.

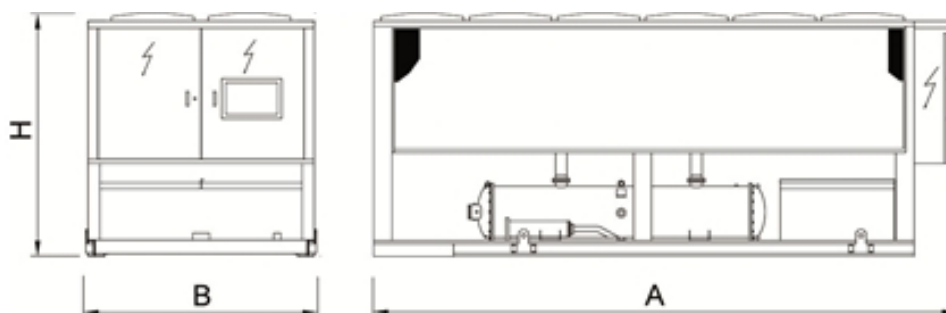
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



Commercial and industrial chillers

TECS2 HFO 0351 - 1053



High efficiency chiller, air source for outdoor installation 339-1017 kW

Outdoor unit for the production of chilled water featuring oil-free centrifugal compressor, with refrigerant HFO (1234-ze), 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

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-E Super Low noise version, Premium efficiency, Class A enhanced (based on Eurovent classification)

Configurations

- Basic function

Features

HFO REFRIGERANT

4th generation refrigerant HFO 1234ze, with zero impact on the ozone layer and negligible greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of HFO 1234ze =7, GWP of R134a =1430).

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.

EXTREMELY SILENT OPERATION

The best compromise between silence and efficiency, as result of a systematic design oriented to minimize the noise level.

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
- Set-up for remote connectivity with ModBus/Echelon protocol cards





TECS2 HFO / SL-CA-E			0351	0702	1053
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50
PERFORMANCE					
COOLING ONLY (GROSS VALUE)					
Cooling capacity	(1)	kW	339	679	1017
Total power input	(1)	kW	96,3	192	282
EER	(1)	kW/kW	3,52	3,53	3,60
ESEER	(1)	kW/kW	5,56	5,96	6,00
COOLING ONLY (EN14511 VALUE)					
Cooling capacity	(1)(2)	kW	338	677	1014
EER	(1)(2)	kW/kW	3,48	3,50	3,55
ESEER	(1)(2)	kW/kW	5,36	5,75	5,64
Cooling energy class			A	A	A
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	m³/h	58,4	117	175
Pressure drop	(1)	kPa	27,4	23,1	45,7
COMPRESSORS					
Compressors nr.		N°	1	2	3
No. Circuits		N°	1	1	2
NOISE LEVEL					
Noise Pressure	(3)	dB(A)	58	59	60
Sound power level in cooling	(4)(5)	dB(A)	90	92	93
SIZE AND WEIGHT					
A	(6)	mm	4000	7900	9700
B	(6)	mm	2260	2260	2260
H	(6)	mm	2430	2430	2430
Operating weight	(6)	kg	3130	6450	7610

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.

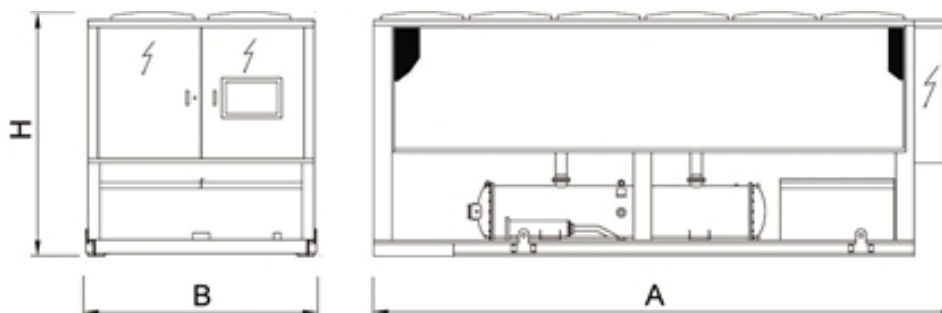
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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.

Certified data in EUROVENT



Commercial and industrial chillers

NECS-FC 0152 - 1604



Air cooled chiller with free-cooling 41,5-477 kW

Outdoor unit for the production of chilled water, equipped with hermetic scroll compressors, R410A refrigerant, axial-fans, condensing coil with copper tubes and aluminum fins, braze-welded plate evaporator and thermostatic expansion valve. External panels are of peraluman, base of galvanized epoxy powder coated steel. The unit is supplied with anti-freeze oil and refrigerant and has been factory tested. On-site installation therefore just involves making connections to the mains power and water supplies.

These chillers, fitted with free-cooling coils, are used in IT-cooling, industrial and civil applications, when the cooling load is constant all-year-round or the outdoor air temperature is lower than the temperature of the liquid return line. In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero.

The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Controls

W3000SE Large

The W3000 SE Large controller offers advanced functions and algorithms.

The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units.

Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).

The regulation features a step-wise regulation, referred to the return water temperature with selectable proportional- or proportional-integral logic.

Version

B	Basic
SL	Super-low noise version

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

ELEVATED ENERGY EFFICIENCY

Thanks to the dedicated coils for Free-Cooling, the R-410A optimised scroll compressors and the R-410A refrigerant, the NECS FC units allow an average power saving of 30% compared with standard European consumption.

MAXIMUM FLEXIBILITY

Flexibility is achieved by the continuous modulation of the capacity provided by the compressors. The three-way modulating valve (optional) on the water side offers improved leaving water temperature control also at low outdoor temperatures.

OUTSTANDING VERSATILITY

The NECS FC units are available in two separate versions: B (basic), SL (super low noise) in order to fully satisfy special requirements and cope with the most complex installation solutions in both the Industrial Process and the Comfort sectors.

CUSTOMISED CONTROL

Customised adjustment constantly guarantees the required temperature of the chilled water whilst fully exploiting all the available resources (compressors, fans and water coils) in relation to the temperature of the external air. This makes it possible to fully use the free-cooling system even when external air temperatures are close to zero.

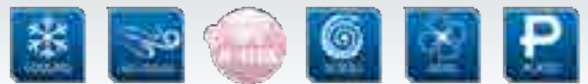
INTEGRATED HYDRONIC MODULE

It consists of 1 or 2 pumps with 2 or 4-pole motor, with three head options to satisfy different industrial applications and demands for comfort

Accessory

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- Automatic circuit breakers on loads
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)





NECS-FC /B			0152	0182	0202	0252	0302	0352	0412	0452	0512	0552
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	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	43,6	51,0	61,9	68,0	88,5	104	115	131	149	166
Total power input	(1)	kW	14,1	15,4	19,4	22,4	28,1	30,7	35,7	41,0	43,6	51,2
EER	(1)	kW/kW	3,09	3,31	3,19	3,04	3,15	3,39	3,22	3,20	3,42	3,25
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	43,0	50,4	61,1	67,2	87,4	103	114	130	147	165
EER	(1)(2)	kW/kW	2,93	3,15	3,03	2,89	2,99	3,22	3,10	3,05	3,22	3,11
FREE-COOLING TOTALE (GROSS VALUE)												
Cooling capacity	(3)	kW	43,6	51,0	61,9	68,0	88,5	104	115	131	149	166
EER	(3)	kW/kW	29,1	34,0	14,7	16,2	21,1	24,8	27,4	20,8	23,7	26,4
Total free-cooling temperature	(3)	°C	1,4	1,1	0,8	0,0	-0,8	0,4	-0,7	-0,4	0,2	-1,1
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	8,32	9,74	11,8	13,0	16,9	19,9	21,9	25,0	28,4	31,7
Pressure drop	(1)	kPa	105	95,1	110	113	135	130	96,6	126	157	123
COMPRESSORS												
Compressors nr.		N°	2	2	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL												
Noise Pressure	(4)	dB(A)	55	55	58	58	59	59	60	60	61	61
Sound power level in cooling	(5)(6)	dB(A)	87	87	90	90	91	91	92	92	93	93
SIZE AND WEIGHT												
A	(7)	mm	2200	2200	2602	2602	2602	3602	3602	3602	4602	4602
B	(7)	mm	920	920	1104	1104	1104	1104	1104	1104	1104	1104
H	(7)	mm	1780	1780	2175	2175	2175	2175	2175	2175	2175	2205
Operating weight	(7)	kg	670	710	870	880	1060	1310	1340	1410	1650	1680

NECS-FC /B			0612	0604	0704	0804	0904	1004	1104	1204	1404	1604
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	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	187	177	207	234	268	293	336	377	430	477
Total power input	(1)	kW	59,5	56,1	62,2	73,5	79,6	89,2	101	118	130	148
EER	(1)	kW/kW	3,14	3,16	3,32	3,19	3,36	3,29	3,33	3,21	3,32	3,22
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	185	175	204	230	264	290	332	372	425	471
EER	(1)(2)	kW/kW	3,00	3,00	3,12	2,97	3,19	3,12	3,15	3,02	3,16	3,05
FREE-COOLING TOTALE (GROSS VALUE)												
Cooling capacity	(3)	kW	187	177	207	234	268	293	336	377	430	477
EER	(3)	kW/kW	22,2	21,1	24,6	18,6	21,2	23,3	26,7	22,4	25,6	22,7
Total free-cooling temperature	(3)	°C	-1,1	1,6	-0,1	0,3	1,4	0,6	0,6	0,4	0,7	0,5
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	35,6	33,8	39,4	44,7	51,1	55,9	64,1	71,9	82,0	91,0
Pressure drop	(1)	kPa	131	154	192	222	151	159	174	195	156	172
COMPRESSORS												
Compressors nr.		N°	2	4	4	4	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2	2	2	2
NOISE LEVEL												
Noise Pressure	(4)	dB(A)	62	61	61	62	62	62	63	64	63	64
Sound power level in cooling	(5)(6)	dB(A)	94	93	93	94	94	94	95	96	96	97
SIZE AND WEIGHT												
A	(7)	mm	4602	4110	4110	4110	5110	5110	5110	5110	6110	6110
B	(7)	mm	1104	2220	2220	2220	2220	2220	2220	2220	2220	2220
H	(7)	mm	2205	2150	2150	2150	2150	2150	2480	2480	2480	2480
Operating weight	(7)	kg	1740	2200	2330	2510	2880	2940	3260	3400	3810	3970

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

NECS-FC /SL			0152	0182	0202	0252	0302	0352	0412	0452	0512	0552
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	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	41,5	49,8	56,9	63,8	84,2	97,9	112	122	137	156
Total power input	(1)	kW	14,2	16,1	19,0	21,7	27,8	32,2	35,5	41,1	45,5	53,0
EER	(1)	kW/kW	2,92	3,09	2,99	2,94	3,03	3,04	3,15	2,98	3,02	2,94
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	41,0	49,2	56,2	63,0	83,1	96,8	111	121	136	154
EER	(1)(2)	kW/kW	2,78	2,95	2,85	2,80	2,88	2,91	3,02	2,85	2,88	2,80
FREE-COOLING TOTALE (GROSS VALUE)												
Cooling capacity	(3)	kW	41,5	49,8	56,9	63,8	84,2	97,9	112	122	137	156
EER	(3)	kW/kW	66,9	33,2	37,9	37,1	49,0	37,9	43,3	47,4	39,9	45,2
Total free-cooling temperature	(3)	°C	-1,2	-1,5	-1,1	-1,3	-1,3	-1,3	-0,7	-1,5	-1,6	-1,7
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	7,91	9,50	10,9	12,2	16,1	18,7	21,3	23,3	26,2	29,7
Pressure drop	(1)	kPa	95,1	87,3	106	116	134	114	100,0	120	133	136
COMPRESSORS												
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1
NOISE LEVEL												
Noise Pressure	(4)	dB(A)	45	46	46	47	48	49	49	50	51	52
Sound power level in cooling	(5)(6)	dB(A)	77	78	78	79	80	81	81	82	83	84
SIZE AND WEIGHT												
A	(7)	mm	2200	2602	2602	2602	3602	3602	4602	4602	4602	4602
B	(7)	mm	920	1104	1104	1104	1104	1104	1104	1104	1104	1277
H	(7)	mm	1780	2175	2175	2175	2175	2175	2205	2175	2205	2350
Operating weight	(7)	kg	680	860	920	940	1240	1350	1590	1610	1690	1920

NECS-FC /SL			0612	0604	0704	0804	0904	1004	1104	1204	1404	1604
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	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	179	166	193	216	243	274	313	351	402	445
Total power input	(1)	kW	58,9	56,9	65,9	74,9	83,2	89,9	103	119	132	150
EER	(1)	kW/kW	3,04	2,92	2,92	2,88	2,92	3,05	3,02	2,95	3,04	2,96
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	177	164	190	212	240	271	309	346	398	440
EER	(1)(2)	kW/kW	2,89	2,79	2,77	2,72	2,80	2,91	2,89	2,81	2,92	2,83
FREE-COOLING TOTALE (GROSS VALUE)												
Cooling capacity	(3)	kW	179	166	193	216	243	274	313	351	402	445
EER	(3)	kW/kW	40,7	48,3	37,3	41,8	47,1	53,1	60,7	51,0	58,4	51,8
Total free-cooling temperature	(3)	°C	-2,8	-1,6	-1,7	-3,3	-1,6	-2,8	-3,0	-2,9	-2,8	-2,9
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	34,2	31,7	36,7	41,1	46,3	52,2	59,7	66,9	76,7	84,9
Pressure drop	(1)	kPa	155	135	167	188	124	139	151	169	136	149
COMPRESSORS												
Compressors nr.	N°		2	4	4	4	4	4	4	4	4	4
No. Circuits	N°		1	2	2	2	2	2	2	2	2	2
NOISE LEVEL												
Noise Pressure	(4)	dB(A)	53	50	51	51	52	52	53	54	53	54
Sound power level in cooling	(5)(6)	dB(A)	85	82	83	83	84	84	85	86	86	87
SIZE AND WEIGHT												
A	(7)	mm	4602	4110	4110	4110	5110	5110	5110	5110	6110	6110
B	(7)	mm	1277	2220	2220	2220	2220	2220	2220	2220	2220	2220
H	(7)	mm	2350	2150	2150	2150	2150	2150	2480	2480	2480	2480
Operating weight	(7)	kg	2000	2280	2410	2580	2880	3040	3380	3520	3960	4120

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

NECS-FC /NG /B			0152	0182	0202	0252	0302	0352	0412	0452	0512	0552
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	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	44,8	52,4	63,6	69,8	90,9	107	118	135	153	171
Total power input	(1)	kW	14,1	15,5	19,5	22,5	28,3	30,9	35,8	41,1	43,8	51,5
EER	(1)	kW/kW	3,18	3,38	3,26	3,10	3,21	3,46	3,30	3,28	3,49	3,32
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	44,3	51,8	62,9	69,1	90,0	106	117	134	152	170
EER	(1)(2)	kW/kW	3,02	3,22	3,12	2,98	3,08	3,33	3,19	3,16	3,37	3,21
FREE-COOLING TOTALE (GROSS VALUE)												
Cooling capacity	(3)	kW	44,8	52,4	63,6	69,8	90,9	107	118	135	153	171
EER	(3)	kW/kW	29,9	34,9	15,1	16,6	21,6	25,5	28,1	21,4	24,3	27,1
Total free-cooling temperature	(3)	°C	-1,1	-1,5	-1,7	-2,5	-3,3	-2,1	-3,2	-2,9	-2,3	-3,6
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	7,72	9,03	11,0	12,0	15,7	18,4	20,3	23,2	26,4	29,4
Pressure drop	(1)	kPa	102	94,5	97,0	91,6	108	91,5	83,9	96,9	95,9	94,5
COMPRESSORS												
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1
NOISE LEVEL												
Noise Pressure	(4)	dB(A)	55	55	58	58	59	59	60	60	61	61
Sound power level in cooling	(5)(6)	dB(A)	87	87	90	90	91	91	92	92	93	93
SIZE AND WEIGHT												
A	(7)	mm	2200	2200	2602	2602	2602	3602	3602	3602	4602	4602
B	(7)	mm	920	920	1104	1104	1104	1104	1104	1104	1104	1104
H	(7)	mm	1780	1780	2175	2175	2175	2175	2175	2175	2175	2205
Operating weight	(7)	kg	710	760	920	940	1130	1410	1450	1530	1780	1810

NECS-FC /NG /B			0612	0604	0704	0804	0904	1004	1104	1204	1404	1604
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	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	192	182	212	241	275	301	345	387	442	490
Total power input	(1)	kW	59,8	56,4	62,5	73,8	79,9	89,6	102	118	130	149
EER	(1)	kW/kW	3,21	3,23	3,40	3,26	3,44	3,36	3,40	3,28	3,40	3,29
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	190	180	210	238	272	298	342	383	438	486
EER	(1)(2)	kW/kW	3,11	3,11	3,26	3,13	3,30	3,23	3,26	3,15	3,26	3,16
FREE-COOLING TOTALE (GROSS VALUE)												
Cooling capacity	(3)	kW	192	182	212	241	275	301	345	387	442	490
EER	(3)	kW/kW	22,8	21,7	25,3	19,1	21,8	23,9	27,4	23,0	26,3	23,3
Total free-cooling temperature	(3)	°C	-3,6	-1,0	-2,6	-2,2	-1,2	-1,9	-2,0	-2,2	-1,9	-2,1
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	33,0	31,4	36,6	41,4	47,4	51,9	59,5	66,7	76,1	84,4
Pressure drop	(1)	kPa	86,3	112	125	131	125	124	131	137	131	134
COMPRESSORS												
Compressors nr.	N°		2	4	4	4	4	4	4	4	4	4
No. Circuits	N°		1	2	2	2	2	2	2	2	2	2
NOISE LEVEL												
Noise Pressure	(4)	dB(A)	62	61	61	62	62	62	63	64	63	64
Sound power level in cooling	(5)(6)	dB(A)	94	93	93	94	94	94	95	96	96	97
SIZE AND WEIGHT												
A	(7)	mm	4602	4110	4110	4110	5110	5110	5110	5110	6110	6110
B	(7)	mm	1104	2220	2220	2220	2220	2220	2220	2220	2220	2220
H	(7)	mm	2205	2150	2150	2150	2150	2150	2480	2480	2480	2480
Operating weight	(7)	kg	1890	2510	2650	2840	3250	3320	3700	3850	4290	4480

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

NECS-FC /NG /SL			0152	0182	0202	0252	0302	0352	0412	0452	0512	0552
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	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	42,6	51,2	58,4	65,6	86,5	100	115	126	141	160
Total power input	(1)	kW	14,3	16,1	19,1	21,8	28,0	32,3	35,7	41,3	45,8	53,2
EER	(1)	kW/kW	2,98	3,18	3,06	3,01	3,09	3,11	3,22	3,04	3,08	3,00
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	42,1	50,7	57,8	65,0	85,7	99,7	114	125	140	159
EER	(1)(2)	kW/kW	2,85	3,04	2,94	2,90	2,97	3,01	3,12	2,95	2,99	2,92
FREE-COOLING TOTALE (GROSS VALUE)												
Cooling capacity	(3)	kW	42,6	51,2	58,4	65,6	86,5	100	115	126	141	160
EER	(3)	kW/kW	68,7	34,1	38,9	38,1	50,3	39,0	44,5	48,7	41,0	46,5
Total free-cooling temperature	(3)	°C	-3,7	-4,0	-3,6	-3,8	-3,8	-3,7	-3,2	-4,0	-4,1	-4,2
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	7,34	8,81	10,1	11,3	14,9	17,3	19,8	21,6	24,3	27,5
Pressure drop	(1)	kPa	91,8	90,0	82,0	80,8	97,9	80,6	79,3	84,3	81,6	82,6
COMPRESSORS												
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1
NOISE LEVEL												
Noise Pressure	(4)	dB(A)	46	47	47	48	49	50	50	51	52	53
Sound power level in cooling	(5)(6)	dB(A)	78	79	79	80	81	82	82	83	84	85
SIZE AND WEIGHT												
A	(7)	mm	2200	2602	2602	2602	3602	3602	4602	4602	4602	4602
B	(7)	mm	920	1104	1104	1104	1104	1104	1104	1104	1104	1277
H	(7)	mm	1780	2175	2175	2175	2175	2175	2205	2175	2205	2350
Operating weight	(7)	kg	730	910	970	990	1300	1450	1690	1730	1810	2060

NECS-FC /NG /SL			0612	0604	0704	0804	0904	1004	1104	1204	1404	1604
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	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	184	171	198	221	249	281	322	360	413	457
Total power input	(1)	kW	59,2	57,1	66,2	75,3	83,6	90,3	104	120	133	151
EER	(1)	kW/kW	3,11	2,99	2,99	2,94	2,98	3,12	3,09	3,01	3,11	3,03
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	183	169	196	220	247	279	319	357	410	454
EER	(1)(2)	kW/kW	3,02	2,89	2,89	2,84	2,89	3,01	2,98	2,91	3,01	2,93
FREE-COOLING TOTALE (GROSS VALUE)												
Cooling capacity	(3)	kW	184	171	198	221	249	281	322	360	413	457
EER	(3)	kW/kW	41,8	49,6	38,4	42,9	48,3	54,5	62,3	52,4	60,0	53,2
Total free-cooling temperature	(3)	°C	-5,2	-4,1	-4,2	-5,7	-4,1	-5,3	-5,4	-5,3	-5,3	-5,3
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	31,7	29,4	34,1	38,1	43,0	48,5	55,4	62,1	71,1	78,8
Pressure drop	(1)	kPa	79,3	98,7	109	111	103	108	114	118	114	117
COMPRESSORS												
Compressors nr.	N°		2	4	4	4	4	4	4	4	4	4
No. Circuits	N°		1	2	2	2	2	2	2	2	2	2
NOISE LEVEL												
Noise Pressure	(4)	dB(A)	54	50	51	51	52	52	53	54	53	54
Sound power level in cooling	(5)(6)	dB(A)	86	82	83	83	84	84	85	86	86	87
SIZE AND WEIGHT												
A	(7)	mm	4602	4110	4110	4110	5110	5110	5110	5110	6110	6110
B	(7)	mm	1277	2220	2220	2220	2220	2220	2220	2220	2220	2220
H	(7)	mm	2350	2150	2150	2150	2150	2150	2480	2480	2480	2480
Operating weight	(7)	kg	2150	2590	2730	2910	3250	3420	3820	3970	4440	4630

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

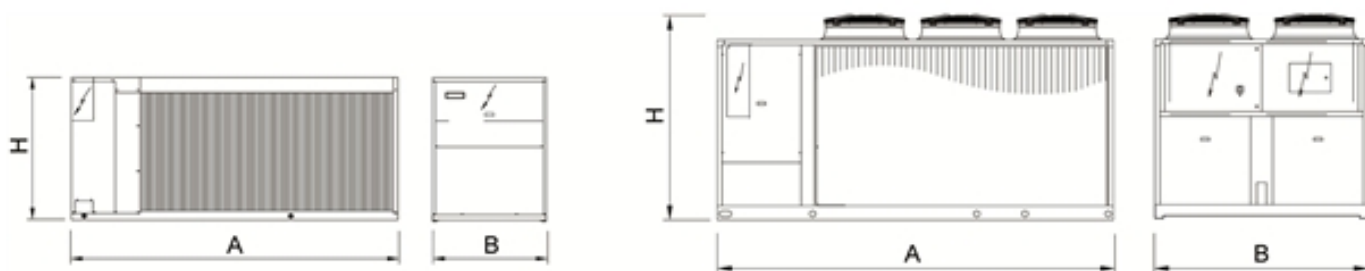
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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



Commercial and industrial chillers

FX-FC 1502 - 6002**Air cooled chiller with free-cooling
332-1450 kW**

Outdoor unit for the production of chilled water, equipped with semi-hermetic screw compressors, R134a refrigerant, axial-fans, condensing coil with copper tubes and aluminum fins, shell and tube evaporator single pass and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with anti-freeze oil and refrigerant and has been factory tested. On-site installation therefore just involves making connections to the mains power and water supplies.

The booster, a patent pending solution, allows to achieve high mechanical cooling efficiency.

These chillers, fitted with free-cooling coils, are used in IT-cooling, industrial and civil applications, when the cooling load is constant all-year-round or the outdoor air temperature is lower than the temperature of the liquid return line. In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero; this occurs already at positive outdoor temperature (T+ versions and SL-T+).

The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Version

T+	Version with positive free-cooling temperature 100%
SL-T+	Super low noise version with positive free-cooling temperature 100%

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features**ENERGY SAVING**

Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

POSITIVE TEMPERATURE OF TOTAL FREE-COOLING

Big heat exchangers surfaces: 100% free-cooling cooling load satisfied at positive environment temperature

WIDE RANGE

Extended capacity range.

UNIQUE PROPOSAL - PATENT PENDING

Booster function to increase chiller efficiency

INTEGRATED HYDRONIC MODULE

It consists of 2 pumps, 2 or 4-pole motor, fixed or variable speed, with high or low head options to satisfy different industrial applications and demands for comfort.

Accessory

- EC fans with electronic DC brushless motor
- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Compressor power factor device
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)
- NOISE REDUCER (only on no silenced versions)

Controls**W3000SE Large**

The W3000 SE Large controller offers advanced functions and algorithms. The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. It's available as option the touch screen interface: WVGA 7" colour display with LED adjustable back lighting. The touch screen technology allows an intuitive navigation, ensure a safety data access through 3 different password levels and permits to visualize in diagrams some monitored quantities trend. The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation. For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts). The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic. As option (VPF package), the modulation of capacity is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.





FX-FC /T+			1502	1702	1902	2002	2202	2602	2702	3002	3202
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	336	372	432	481	530	619	665	695	753
Total power input	(1)	kW	88,9	103	115	133	141	172	185	199	211
EER	(1)	kW/kW	3,77	3,63	3,77	3,62	3,77	3,59	3,60	3,49	3,57
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	334	370	430	478	528	615	662	691	750
EER	(1)(2)	kW/kW	3,67	3,52	3,66	3,50	3,68	3,50	3,52	3,41	3,49
FREE-COOLING TOTALE (GROSS VALUE)											
Cooling capacity	(3)	kW	336	372	432	481	530	619	665	695	753
EER	(3)	kW/kW	28,0	23,3	27,0	24,0	26,5	25,8	27,7	29,0	26,9
Total free-cooling temperature	(3)	°C	1,2	1,4	1,4	1,4	1,5	1,8	1,8	1,4	1,8
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	64,0	71,0	82,5	91,7	101	118	127	133	144
Pressure drop	(1)	kPa	68,7	84,7	78,3	86,3	63,2	77,5	65,2	71,1	62,4
COMPRESSORS											
Compressors nr.	N°		2	2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	67	68	68	68	69	70	69	69	69
Sound power level in cooling	(5)(6)	dB(A)	99	100	100	100	101	102	102	102	102
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	4900	5800	5800	6400	6400	7000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4880	4990	5520	5700	7000	7410	8270	8310	8750

FX-FC /T+			3402	3602	3902	4202	4502	4802	5402	6002
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	826	881	944	1013	1093	1189	1325	1412
Total power input	(1)	kW	224	245	266	277	306	318	371	416
EER	(1)	kW/kW	3,69	3,59	3,55	3,65	3,57	3,74	3,57	3,40
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	822	876	938	1006	1086	1181	1317	1402
EER	(1)(2)	kW/kW	3,60	3,50	3,45	3,54	3,48	3,62	3,47	3,29
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	826	881	944	1013	1093	1189	1325	1412
EER	(3)	kW/kW	25,8	27,5	29,5	31,7	27,3	24,8	27,6	29,4
Total free-cooling temperature	(3)	°C	1,2	1,6	1,1	1,1	1,3	1,2	1,3	1,3
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	158	168	180	193	208	227	253	269
Pressure drop	(1)	kPa	75,1	77,0	95,0	98,1	83,3	98,5	89,7	102
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	69	70	70	70	72	73	73	73
Sound power level in cooling	(5)(6)	dB(A)	102	103	103	103	105	106	106	106
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	7900	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	9600	10470	10570	12680	13180	13710	14930	15810

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

FX-FC /SL-T+			1502	1702	1902	2002	2202	2602	2702	3002
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	332	372	426	476	522	625	656	712
Total power input	(1)	kW	89,8	98,8	116	130	142	167	186	193
EER	(1)	kW/kW	3,69	3,77	3,69	3,66	3,66	3,75	3,53	3,70
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	330	370	424	473	519	621	653	708
EER	(1)(2)	kW/kW	3,59	3,64	3,58	3,55	3,58	3,64	3,45	3,60
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	332	372	426	476	522	625	656	712
EER	(3)	kW/kW	34,6	38,8	35,5	39,7	36,2	37,2	39,1	37,1
Total free-cooling temperature	(3)	°C	0,6	0,7	0,6	0,6	0,7	0,5	0,9	0,7
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	63,3	71,0	81,3	90,8	99,5	119	125	136
Pressure drop	(1)	kPa	67,2	84,5	76,1	84,6	61,2	79,0	63,4	74,6
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	57	57	57	58	59	58	58	59
Sound power level in cooling	(5)(6)	dB(A)	89	89	89	90	91	91	91	92
SIZE AND WEIGHT										
A	(7)	mm	4000	4900	4900	5800	5800	7000	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5380	5950	6040	6600	7500	8250	9070	9550

FX-FC /SL-T+			3202	3402	3602	3902	4202	4502	4802	5402
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	745	787	878	938	984	1097	1139	1288
Total power input	(1)	kW	210	232	245	266	285	301	328	377
EER	(1)	kW/kW	3,54	3,39	3,59	3,52	3,46	3,65	3,48	3,41
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	741	783	873	932	977	1090	1132	1280
EER	(1)(2)	kW/kW	3,46	3,31	3,50	3,43	3,36	3,55	3,38	3,32
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	745	787	878	938	984	1097	1139	1288
EER	(3)	kW/kW	38,8	41,0	36,6	39,1	41,0	38,1	39,5	44,7
Total free-cooling temperature	(3)	°C	0,9	0,6	0,9	0,5	0,1	0,8	0,5	0,0
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	142	150	167	179	188	209	217	246
Pressure drop	(1)	kPa	61,0	68,2	69,8	86,2	92,6	83,8	90,4	84,8
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	59	59	59	59	59	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	92	92	92	92	94	94	95
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	10000	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10040	10590	13020	13060	13560	14970	15060	16360

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

FX-FC /NG /T+			1502	1702	1902	2002	2202	2602	2702	3002	3202
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	344	383	444	494	545	636	683	714	774
Total power input	(1)	kW	89,5	103	115	134	142	173	185	200	212
EER	(1)	kW/kW	3,85	3,71	3,86	3,70	3,85	3,67	3,68	3,57	3,65
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	342	379	441	490	540	631	678	708	767
EER	(1)(2)	kW/kW	3,71	3,57	3,71	3,56	3,70	3,54	3,56	3,44	3,52
FREE-COOLING TOTALE (GROSS VALUE)											
Cooling capacity	(3)	kW	344	383	444	494	545	636	683	714	774
EER	(3)	kW/kW	23,0	16,3	20,7	18,0	19,8	18,2	19,5	20,4	18,0
Total free-cooling temperature	(3)	°C	-1,4	-1,2	-1,3	-1,2	-1,1	-0,8	-0,9	-1,2	-0,9
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	59,4	65,9	76,5	85,1	93,8	110	118	123	133
Pressure drop	(1)	kPa	100	123	113	121	117	118	107	116	123
COMPRESSORS											
Compressors nr.	N°		2	2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	67	68	68	68	69	70	69	69	69
Sound power level in cooling	(5)(6)	dB(A)	99	100	100	100	101	102	102	102	102
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	4900	5800	5800	6400	6400	7000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5270	5470	6020	6250	7520	8000	9020	9060	9420

FX-FC /NG /T+			3402	3602	3902	4202	4502	4802	5402	6002
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	849	905	970	1040	1123	1221	1361	1450
Total power input	(1)	kW	225	246	267	279	308	319	373	418
EER	(1)	kW/kW	3,78	3,67	3,63	3,73	3,65	3,82	3,65	3,47
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	843	898	962	1030	1114	1210	1348	1434
EER	(1)(2)	kW/kW	3,65	3,55	3,49	3,57	3,52	3,66	3,49	3,31
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	849	905	970	1040	1123	1221	1361	1450
EER	(3)	kW/kW	18,1	19,3	20,6	20,6	18,1	18,4	19,4	20,7
Total free-cooling temperature	(3)	°C	-1,4	-1,0	-1,6	-1,6	-1,3	-1,4	-1,3	-1,3
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	146	156	167	179	193	210	234	250
Pressure drop	(1)	kPa	107	114	137	157	131	155	165	187
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	69	70	70	70	72	73	73	73
Sound power level in cooling	(5)(6)	dB(A)	102	103	103	103	105	106	106	106
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	7900	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10300	11280	11370	13070	13570	14490	15760	16680

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

FX-FC /NG /SL-T+			1502	1702	1902	2002	2202	2602	2702	3002
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	341	382	438	489	536	642	674	731
Total power input	(1)	kW	90,2	99,2	116	131	143	168	187	193
EER	(1)	kW/kW	3,78	3,85	3,77	3,74	3,74	3,82	3,61	3,78
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	338	379	434	485	532	637	669	725
EER	(1)(2)	kW/kW	3,65	3,69	3,63	3,60	3,61	3,68	3,50	3,64
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	341	382	438	489	536	642	674	731
EER	(3)	kW/kW	27,0	28,1	25,0	27,9	24,5	23,1	24,2	24,2
Total free-cooling temperature	(3)	°C	-2,0	-1,9	-2,0	-2,1	-2,0	-2,1	-1,7	-2,1
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	58,7	65,8	75,4	84,2	92,3	111	116	126
Pressure drop	(1)	kPa	97,8	123	110	118	113	120	104	122
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	57	57	57	58	59	58	58	59
Sound power level in cooling	(5)(6)	dB(A)	89	89	89	90	91	91	91	92
SIZE AND WEIGHT										
A	(7)	mm	4000	4900	4900	5800	5800	7000	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5770	6360	6520	7160	8020	8890	9590	10070

FX-FC /NG /SL-T+			3202	3402	3602	3902	4202	4502	4802	5402
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	765	808	902	964	1010	1126	1169	1323
Total power input	(1)	kW	212	234	246	267	286	302	329	380
EER	(1)	kW/kW	3,61	3,46	3,67	3,61	3,54	3,73	3,55	3,48
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	759	803	895	956	1001	1117	1159	1311
EER	(1)(2)	kW/kW	3,49	3,36	3,54	3,47	3,40	3,59	3,41	3,34
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	765	808	902	964	1010	1126	1169	1323
EER	(3)	kW/kW	25,3	23,6	23,1	24,7	23,8	23,8	24,7	26,0
Total free-cooling temperature	(3)	°C	-1,7	-2,0	-1,7	-2,2	-2,5	-1,8	-2,1	-2,6
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	132	139	155	166	174	194	201	228
Pressure drop	(1)	kPa	120	97,0	113	135	148	132	142	156
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	59	59	59	59	59	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	92	92	92	92	94	94	95
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	10000	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10570	11290	13810	13850	13970	15590	15680	17220

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

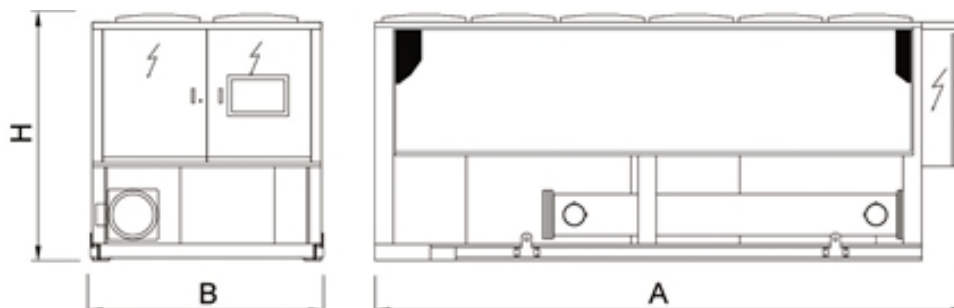
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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



Commercial and industrial chillers

TECS-FC 0211 - 1204

High efficiency air cooled chiller with free-cooling 302-1693 kW

Outdoor unit for the production of chilled water, equipped with oil-free centrifugal compressors, R134a refrigerant, axial EC fans, condensing coil with copper tubes and aluminum fins, shell and tube flooded evaporator and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with refrigerant and has been factory tested. On-site installation therefore just involves making connections to the mains power and water supplies.

The rotor speed digital control allows an accurate and efficient thermoregulation in every operating condition. The economizer improves the refrigerant circuit efficiency (not present in sizes 0211 and 0452).

These chillers, fitted with free-cooling coils, are used in IT-cooling, industrial and civil applications, when the cooling load is constant all-year-round or the outdoor air temperature is lower than the temperature of the liquid return line. In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero.

The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

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

K	Standard efficiency, compact version
CA	High energy efficiency units

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

ENERGY SAVING

Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

VERY HIGH EFFICIENCY

Top-level seasonal efficiency thanks to technological solutions at the forefront: magnetic levitation centrifugal compressors, flooded evaporator, EC fans and advanced control algorithms.

WIDE RANGE

Extended capacity range.

LOW INRUSH CURRENTS

Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION

Extremely silent operation in line with the best on the market, and highly reduced vibrations

INTEGRATED HYDRONIC MODULE

It consists of 2 pumps with 4-pole motor, fixed or variable speed, with high or low head options to satisfy different industrial or IT-cooling applications and demands for comfort.

Accessory

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Compressor power factor device
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)





TECS-FC /K			0211	0351	0452	0552	0652	0712	0903	0953	1003	1164	1204
Power supply			V/ph/Hz 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50										
PERFORMANCE													
COOLING ONLY (GROSS VALUE)													
Cooling capacity	(1)	kW	302	483	594	689	943	980	1185	1253	1421	1578	1649
Total power input	(1)	kW	87,1	141	179	181	285	275	320	373	425	455	461
EER	(1)	kW/kW	3,47	3,43	3,33	3,81	3,31	3,56	3,70	3,36	3,35	3,47	3,58
COOLING ONLY (EN14511 VALUE)													
Cooling capacity	(1)(2)	kW	300	479	590	684	936	973	1177	1246	1411	1567	1637
EER	(1)(2)	kW/kW	3,36	3,31	3,23	3,67	3,21	3,44	3,59	3,28	3,25	3,36	3,46
FREE-COOLING TOTALE (GROSS VALUE)													
Cooling capacity	(3)	kW	302	483	594	689	943	980	1185	1253	1421	1578	1649
EER	(3)	kW/kW	59,3	50,3	49,5	67,5	56,2	51,1	49,4	52,2	53,8	50,6	52,9
Total free-cooling temperature	(3)	°C	-1,9	-2,5	-1,9	-1,4	-2,7	-1,4	-1,2	-2,7	-2,5	-1,6	-1,8
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
Water flow	(1)	m³/h	57,6	92,1	113	131	180	187	226	239	271	301	314
Pressure drop	(1)	kPa	86,0	98,6	89,3	104	104	107	91,8	80,2	103	106	115
COMPRESSORS													
Compressors nr.	N°		1	1	2	2	2	2	3	3	3	4	4
No. Circuits	N°		1	1	1	1	1	1	2	2	2	2	2
NOISE LEVEL													
Noise Pressure	(4)	dB(A)	56	61	62	58	63	63	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96	97	97	98	98	98
SIZE AND WEIGHT													
A	(7)	mm	4000	4000	4900	6400	7000	7900	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3430	3850	5080	5820	6340	6900	9750	10260	10530	12290	12350

Notes:

- 1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
- 2 Values in compliance with EN14511-3:2013.
- 3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
- 4 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.
- 5 Sound power on the basis of measurements made in compliance with ISO 9614.
- 6 Sound power level in cooling, outdoors.
- 7 Unit in standard configuration/execution, without optional accessories.

TECS-FC /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
Power supply			V/ph/Hz 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50								
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	310	354	496	616	714	990	1068	1209	1446
Total power input	(1)	kW	85,4	89,8	134	173	177	268	267	308	412
EER	(1)	kW/kW	3,63	3,94	3,69	3,56	4,03	3,69	4,00	3,92	3,51
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	307	351	492	611	708	983	1062	1201	1436
EER	(1)(2)	kW/kW	3,50	3,79	3,56	3,44	3,87	3,56	3,90	3,80	3,40
FREE-COOLING TOTALE (GROSS VALUE)											
Cooling capacity	(3)	kW	310	354	496	616	714	990	1068	1209	1446
EER	(3)	kW/kW	60,7	52,0	58,4	60,4	52,5	58,3	52,4	54,7	65,4
Total free-cooling temperature	(3)	°C	-0,1	-0,2	-1,0	-0,5	0,4	-0,9	0,2	0,0	-1,6
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	59,0	67,5	94,6	117	136	189	204	231	276
Pressure drop	(1)	kPa	90,3	96,3	104	95,9	111	109	74,6	95,6	107
COMPRESSORS											
Compressors nr.	N°		1	1	1	2	2	2	3	3	3
No. Circuits	N°		1	1	1	1	1	1	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3660	3790	4380	5720	6770	8870	10530	11370	11730

Notes:

- 1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
- 2 Values in compliance with EN14511-3:2013.
- 3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
- 4 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.
- 5 Sound power on the basis of measurements made in compliance with ISO 9614.
- 6 Sound power level in cooling, outdoors.
- 7 Unit in standard configuration/execution, without optional accessories.

TECS-FC /NG /K			0211	0351	0452	0552	0652	0712	0903	0953	1003	1164	1204
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	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE													
COOLING ONLY (GROSS VALUE)													
Cooling capacity	(1)	kW	310	496	610	708	969	1007	1217	1287	1460	1621	1693
Total power input	(1)	kW	87,6	142	180	182	287	277	322	375	427	457	463
EER	(1)	kW/kW	3,54	3,50	3,40	3,89	3,38	3,64	3,78	3,43	3,42	3,55	3,66
COOLING ONLY (EN14511 VALUE)													
Cooling capacity	(1)(2)	kW	308	491	606	701	961	999	1208	1278	1448	1606	1677
EER	(1)(2)	kW/kW	3,43	3,37	3,29	3,73	3,26	3,51	3,66	3,33	3,30	3,41	3,50
FREE-COOLING TOTALE (GROSS VALUE)													
Cooling capacity	(3)	kW	310	496	610	708	969	1007	1217	1287	1460	1621	1693
EER	(3)	kW/kW	38,3	32,8	31,3	40,0	30,5	29,4	31,2	30,3	30,2	26,5	27,7
Total free-cooling temperature	(3)	°C	-4,9	-5,5	-5,0	-4,5	-5,8	-4,5	-4,3	-5,7	-5,6	-4,7	-4,9
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
Water flow	(1)	m³/h	53,5	85,4	105	122	167	173	210	222	251	279	292
Pressure drop	(1)	kPa	98,1	128	112	137	135	130	113	110	140	154	169
COMPRESSORS													
Compressors nr.	N°		1	1	2	2	2	2	3	3	3	4	4
No. Circuits	N°		1	1	1	1	1	1	2	2	2	2	2
NOISE LEVEL													
Noise Pressure	(4)	dB(A)	56	61	62	58	63	63	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96	97	97	98	98	98
SIZE AND WEIGHT													
A	(7)	mm	4000	4000	4900	6400	7000	7900	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4120	4620	6100	6990	7610	8280	11700	12320	12640	14750	14820

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

TECS-FC /NG /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	318	364	510	632	733	1017	1097	1242	1485
Total power input	(1)	kW	85,9	90,3	135	174	178	270	268	310	414
EER	(1)	kW/kW	3,70	4,03	3,78	3,63	4,12	3,77	4,09	4,01	3,58
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	316	360	505	627	726	1009	1090	1233	1472
EER	(1)(2)	kW/kW	3,57	3,86	3,62	3,50	3,93	3,63	3,97	3,87	3,45
FREE-COOLING TOTALE (GROSS VALUE)											
Cooling capacity	(3)	kW	318	364	510	632	733	1017	1097	1242	1485
EER	(3)	kW/kW	39,3	29,6	36,4	40,3	29,8	31,8	31,0	30,6	33,7
Total free-cooling temperature	(3)	°C	-3,2	-3,2	-4,1	-3,6	-2,7	-4,0	-2,9	-3,1	-4,7
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	54,8	62,6	87,8	109	126	175	189	214	256
Pressure drop	(1)	kPa	103	120	131	120	147	133	92,2	117	145
COMPRESSORS											
Compressors nr.	N°		1	1	1	2	2	2	3	3	3
No. Circuits	N°		1	1	1	1	1	1	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4400	4550	5260	6870	8130	10650	12640	13650	14080

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

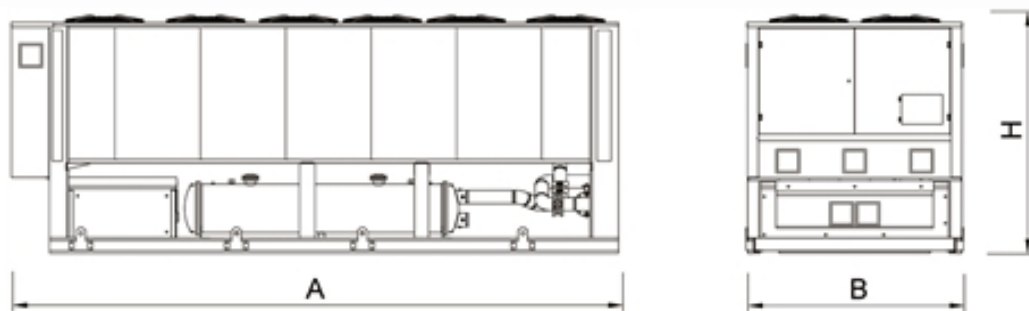
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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



Commercial and industrial chillers

FX-EFC 1502 - 6002

Air cooled chiller with evaporative free-cooling 329-1441 kW

Outdoor unit for the production of chilled water, equipped with semi-hermetic screw compressors, R134a refrigerant, axial-fans, condensing coil with copper tubes and aluminum fins, shell and tube evaporator single pass and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with anti-freeze oil and refrigerant and has been factory tested. On-site installation therefore just involves making connections to the mains power and water supplies.

The booster, a patent pending solution, allows to achieve high mechanical cooling efficiency.

These chillers, fitted with free-cooling coils and evaporative cooling system, are used in IT-cooling, industrial and civil applications, when the cooling load is constant all-year-round.

In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero. The evaporative cooling system is made of treated cellulose pads and a water circulator that keeps the pads wet. It lowers the air temperature before it reaches unit's coils, thus increasing mechanical cooling efficiency and allowing free-cooling benefits to begin at higher outdoor temperatures.

The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Controls

W3000SE Large

The W3000 SE Large controller offers advanced functions and algorithms. The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. It's available as option the touch screen interface: WVGA 7" colour display with LED adjustable back lighting. The touch screen technology allows an intuitive navigation, ensure a safety data access through 3 different password levels and permits to visualize in diagrams some monitored quantities trend. The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation. For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts). The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic. As option (VPF package), the modulation of capacity is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.



Version

-	Basic
SL	Super-low noise version

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

EXTENSION OF FREE-COOLING TEMPERATURE RANGE

Thanks to the evaporative cooling system that decreases the outdoor air temperature, the unit can take full advantage of the free-cooling benefit also in climatic conditions that normally don't permit it.

ENERGY SAVING

Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

WIDE RANGE

Extended capacity range.

UNIQUE PROPOSAL - PATENT PENDING

Booster function to increase chiller efficiency

INTEGRATED HYDRONIC MODULE

It consists of 2 pumps, 2 or 4-pole motor, fixed or variable speed, with high or low head options to satisfy different industrial applications and demands for comfort.

Accessory

- EC fans with electronic DC brushless motor
- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Compressor power factor device
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)
- NOISE REDUCER (only on no silenced versions)



FX-EFC			1502	1702	1902	2002	2202	2602	2702	3002	3202
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	333	370	430	478	527	615	661	691	749
EER	(1)	kW/kW	4,28	4,21	4,31	4,13	4,30	4,19	4,17	4,07	4,14
EER (evaporative system OFF)	(1)	kW/kW	3,72	3,58	3,72	3,57	3,72	3,54	3,55	3,44	3,52
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	331	368	427	475	525	612	658	687	745
EER	(1)(2)	kW/kW	4,16	3,97	4,17	4,00	4,19	4,06	4,06	3,96	4,03
EER (evaporative system OFF)	(1)(2)	kW/kW	3,62	3,47	3,61	3,46	3,63	3,45	3,47	3,36	3,45
FREE-COOLING TOTALE (GROSS VALUE)											
Cooling capacity	(3)	kW	333	370	430	478	527	615	661	691	749
EER	(3)	kW/kW	27,8	23,1	26,9	23,9	26,4	25,6	27,5	28,8	26,8
Total free-cooling temperature	(3)	°C	0,8	1,0	0,9	1,0	1,0	1,4	1,3	1,0	1,3
COOLING ONLY - maximum cooling capacity (GROSS VALUE)											
Cooling capacity	(1)	kW	356	393	456	507	559	656	704	737	797
EER	(1)	kW/kW	4,28	4,10	4,27	4,10	4,28	4,11	4,13	4,01	4,09
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	354	390	453	504	556	652	700	732	793
EER	(1)(2)	kW/kW	4,14	3,95	4,12	3,95	4,16	3,98	4,02	3,89	3,98
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	63,6	70,7	82,0	91,2	101	117	126	132	143
Pressure drop	(1)	kPa	67,9	83,8	77,5	85,4	62,5	76,6	64,4	70,3	61,7
COMPRESSORS											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	67	68	68	68	69	70	69	69	69
Sound power level in cooling	(5)(6)	dB(A)	99	100	100	100	101	102	102	102	102
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	4900	5800	5800	6400	6400	7000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5170	5280	5880	6060	7430	7840	8740	8780	9270

FX-EFC			3402	3602	3902	4202	4502	4802	5402	6002
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	822	876	938	1006	1087	1183	1318	1403
EER	(1)	kW/kW	4,25	4,15	4,11	4,18	4,11	4,27	4,12	3,91
EER (evaporative system OFF)	(1)	kW/kW	3,64	3,54	3,51	3,60	3,52	3,69	3,52	3,35
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	817	871	932	999	1081	1175	1310	1393
EER	(1)(2)	kW/kW	4,12	4,03	3,97	4,04	3,99	4,12	4,00	3,78
EER (evaporative system OFF)	(1)(2)	kW/kW	3,55	3,45	3,40	3,49	3,43	3,58	3,43	3,25
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	822	876	938	1006	1087	1183	1318	1403
EER	(3)	kW/kW	25,7	27,4	29,3	31,4	27,2	24,6	27,5	29,2
Total free-cooling temperature	(3)	°C	0,8	1,2	0,6	0,6	0,9	0,8	0,9	0,9
COOLING ONLY - maximum cooling capacity (GROSS VALUE)										
Cooling capacity	(1)	kW	874	935	1003	1074	1157	1251	1399	1493
EER	(1)	kW/kW	4,21	4,11	4,07	4,15	4,06	4,24	4,07	3,85
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	868	929	996	1066	1149	1242	1389	1482
EER	(1)(2)	kW/kW	4,08	3,98	3,92	3,99	3,93	4,07	3,94	3,72
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	157	167	179	192	207	226	251	268
Pressure drop	(1)	kPa	74,2	76,1	93,8	96,9	82,3	97,5	88,7	101
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	69	70	70	70	72	73	73	73
Sound power level in cooling	(5)(6)	dB(A)	102	103	103	103	105	106	106	106
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	7900	10000	10000	11800	11800	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10190	11060	11160	13430	13930	14600	15820	16800

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

FX-EFC /SL			1502	1702	1902	2002	2202	2602	2702	3002
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	329	370	424	473	519	621	652	708
EER	(1)	kW/kW	4,25	4,27	4,29	4,27	4,24	4,39	4,14	4,31
EER (evaporative system OFF)	(1)	kW/kW	3,64	3,71	3,63	3,61	3,61	3,69	3,47	3,64
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	328	367	421	470	516	617	649	704
EER	(1)(2)	kW/kW	4,13	4,11	4,15	4,12	4,14	4,26	4,04	4,18
EER (evaporative system OFF)	(1)(2)	kW/kW	3,55	3,60	3,53	3,50	3,53	3,59	3,40	3,55
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	329	370	424	473	519	621	652	708
EER	(3)	kW/kW	34,3	38,5	35,3	39,4	36,0	37,0	38,8	36,9
Total free-cooling temperature	(3)	°C	0,1	0,2	0,2	0,1	0,2	0,1	0,5	0,2
COOLING ONLY - maximum cooling capacity (GROSS VALUE)										
Cooling capacity	(1)	kW	353	393	452	504	552	663	697	754
EER	(1)	kW/kW	4,23	4,29	4,21	4,19	4,20	4,31	4,06	4,24
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	351	390	449	501	549	659	693	750
EER	(1)(2)	kW/kW	4,09	4,13	4,07	4,04	4,09	4,16	3,96	4,11
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	62,8	70,6	80,8	90,2	98,9	118	124	135
Pressure drop	(1)	kPa	66,3	83,6	75,2	83,6	60,5	78,0	62,6	73,8
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	57	57	57	58	59	58	58	59
Sound power level in cooling	(5)(6)	dB(A)	89	89	89	90	91	91	91	92
SIZE AND WEIGHT										
A	(7)	mm	4000	4900	4900	5800	5800	7000	7000	7900
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5670	6310	6400	7030	7930	8770	9590	10140

FX-EFC /SL			3202	3402	3602	3902	4202	4502	4802	5402
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	740	782	872	932	977	1090	1132	1280
EER	(1)	kW/kW	4,19	4,02	4,16	4,12	4,04	4,25	4,08	4,04
EER (evaporative system OFF)	(1)	kW/kW	3,49	3,34	3,53	3,47	3,41	3,60	3,43	3,36
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	737	778	868	926	970	1084	1125	1272
EER	(1)(2)	kW/kW	4,07	3,92	4,08	4,00	3,91	4,12	3,95	3,92
EER (evaporative system OFF)	(1)(2)	kW/kW	3,41	3,27	3,45	3,38	3,31	3,50	3,33	3,28
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	740	782	872	932	977	1090	1132	1280
EER	(3)	kW/kW	38,5	40,7	36,3	38,8	40,7	37,8	39,3	44,4
Total free-cooling temperature	(3)	°C	0,5	0,1	0,5	0,0	-0,3	0,4	0,1	-0,5
COOLING ONLY - maximum cooling capacity (GROSS VALUE)										
Cooling capacity	(1)	kW	791	838	933	1000	1051	1163	1206	1367
EER	(1)	kW/kW	4,09	3,93	4,13	4,05	3,97	4,18	3,99	3,93
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	787	833	928	993	1043	1155	1198	1358
EER	(1)(2)	kW/kW	3,98	3,81	4,01	3,91	3,83	4,04	3,86	3,80
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	141	149	166	178	186	208	216	244
Pressure drop	(1)	kPa	60,3	67,3	68,9	85,0	91,3	82,8	89,3	83,8
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	59	59	59	59	59	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	92	92	92	92	94	94	95
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	10000	10000	10000	11800	11800	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10630	11180	13770	13810	14310	15860	15950	17350

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

FX-EFC /NG			1502	1702	1902	2002	2202	2602	2702	3002	3202
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	342	380	442	491	542	632	679	710	769
EER	(1)	kW/kW	4,38	4,21	4,41	4,23	4,40	4,29	4,26	4,16	4,22
EER (evaporative system OFF)	(1)	kW/kW	3,80	3,67	3,81	3,65	3,79	3,62	3,63	3,51	3,60
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	340	377	438	487	537	627	674	704	763
EER	(1)(2)	kW/kW	4,22	4,03	4,23	4,06	4,22	4,12	4,11	4,00	4,06
EER (evaporative system OFF)	(1)(2)	kW/kW	3,67	3,52	3,67	3,51	3,65	3,49	3,52	3,40	3,47
FREE-COOLING TOTALE (GROSS VALUE)											
Cooling capacity	(3)	kW	342	380	442	491	542	632	679	710	769
EER	(3)	kW/kW	22,8	16,2	20,6	17,9	19,7	18,1	19,4	20,3	17,9
Total free-cooling temperature	(3)	°C	-1,9	-1,6	-1,7	-1,7	-1,6	-1,3	-1,3	-1,7	-1,3
COOLING ONLY - maximum cooling capacity (GROSS VALUE)											
Cooling capacity	(1)	kW	366	403	469	521	574	674	723	757	819
EER	(1)	kW/kW	4,37	4,20	4,37	4,20	4,37	4,20	4,22	4,10	4,18
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	363	399	464	516	569	668	718	750	812
EER	(1)(2)	kW/kW	4,18	3,99	4,17	4,00	4,17	4,02	4,05	3,93	3,99
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	59,0	65,5	76,1	84,6	93,3	109	117	122	132
Pressure drop	(1)	kPa	98,8	122	112	120	116	116	105	115	121
COMPRESSORS											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	67	68	68	68	69	70	69	69	69
Sound power level in cooling	(5)(6)	dB(A)	99	100	100	100	101	102	102	102	102
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	4900	5800	5800	6400	6400	7000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5560	5760	6380	6610	7950	8430	9490	9530	9940

FX-EFC /NG			3402	3602	3902	4202	4502	4802	5402	6002
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	844	900	964	1034	1116	1214	1353	1441
EER	(1)	kW/kW	4,35	4,25	4,21	4,28	4,21	4,37	4,22	4,00
EER (evaporative system OFF)	(1)	kW/kW	3,72	3,62	3,58	3,68	3,60	3,77	3,60	3,42
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	838	893	956	1024	1107	1203	1340	1426
EER	(1)(2)	kW/kW	4,19	4,09	4,03	4,08	4,04	4,16	4,02	3,79
EER (evaporative system OFF)	(1)(2)	kW/kW	3,61	3,50	3,45	3,52	3,47	3,61	3,44	3,26
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	844	900	964	1034	1116	1214	1353	1441
EER	(3)	kW/kW	18,0	19,1	20,5	20,5	18,0	18,3	19,3	20,6
Total free-cooling temperature	(3)	°C	-1,9	-1,5	-2,0	-2,0	-1,8	-1,8	-1,7	-1,8
COOLING ONLY - maximum cooling capacity (GROSS VALUE)										
Cooling capacity	(1)	kW	897	960	1030	1103	1188	1285	1437	1533
EER	(1)	kW/kW	4,31	4,20	4,15	4,25	4,15	4,34	4,16	3,93
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	890	952	1020	1091	1177	1272	1422	1515
EER	(1)(2)	kW/kW	4,14	4,03	3,96	4,02	3,97	4,11	3,94	3,72
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	145	155	166	178	192	209	233	248
Pressure drop	(1)	kPa	106	113	135	155	129	153	163	185
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	69	70	70	70	72	73	73	73
Sound power level in cooling	(5)(6)	dB(A)	102	103	103	103	105	106	106	106
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	7900	10000	10000	11800	11800	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10890	11870	11960	13820	14320	15380	16650	17670

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

FX-EFC /NG /SL			1502	1702	1902	2002	2202	2602	2702	3002
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	338	380	435	486	533	638	670	727
EER	(1)	kW/kW	4,35	4,37	4,39	4,38	4,35	4,49	4,25	4,42
EER (evaporative system OFF)	(1)	kW/kW	3,72	3,80	3,71	3,69	3,69	3,77	3,56	3,72
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	336	377	432	482	529	633	665	721
EER	(1)(2)	kW/kW	4,19	4,17	4,21	4,19	4,18	4,31	4,10	4,23
EER (evaporative system OFF)	(1)(2)	kW/kW	3,60	3,64	3,58	3,55	3,56	3,63	3,45	3,59
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	338	380	435	486	533	638	670	727
EER	(3)	kW/kW	26,8	27,9	24,9	27,8	24,3	22,9	24,1	24,1
Total free-cooling temperature	(3)	°C	-2,5	-2,4	-2,5	-2,5	-2,4	-2,5	-2,2	-2,5
COOLING ONLY - maximum cooling capacity (GROSS VALUE)										
Cooling capacity	(1)	kW	363	404	464	518	567	681	716	775
EER	(1)	kW/kW	4,32	4,39	4,31	4,29	4,30	4,39	4,16	4,34
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	360	400	460	513	562	675	710	768
EER	(1)(2)	kW/kW	4,14	4,18	4,12	4,10	4,11	4,19	4,01	4,15
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	58,3	65,5	75,0	83,7	91,8	110	115	125
Pressure drop	(1)	kPa	96,5	122	109	117	112	118	103	121
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	57	57	57	58	59	58	58	59
Sound power level in cooling	(5)(6)	dB(A)	89	89	89	90	91	91	91	92
SIZE AND WEIGHT										
A	(7)	mm	4000	4900	4900	5800	5800	7000	7000	7900
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	6060	6720	6880	7590	8450	9410	10110	10660

FX-EFC /NG /SL			3202	3402	3602	3902	4202	4502	4802	5402
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	760	803	896	957	1003	1119	1163	1315
EER	(1)	kW/kW	4,26	4,11	4,29	4,23	4,15	4,36	4,18	4,13
EER (evaporative system OFF)	(1)	kW/kW	3,56	3,41	3,61	3,56	3,49	3,68	3,50	3,43
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	754	798	890	949	994	1110	1153	1303
EER	(1)(2)	kW/kW	4,10	3,98	4,13	4,06	3,96	4,17	3,99	3,94
EER (evaporative system OFF)	(1)(2)	kW/kW	3,44	3,31	3,49	3,42	3,35	3,54	3,37	3,30
FREE-COOLING TOTALE (GROSS VALUE)										
Cooling capacity	(3)	kW	760	803	896	957	1003	1119	1163	1315
EER	(3)	kW/kW	25,2	23,5	23,0	24,5	23,6	23,7	24,6	25,9
Total free-cooling temperature	(3)	°C	-2,2	-2,5	-2,2	-2,6	-3,0	-2,3	-2,5	-3,1
COOLING ONLY - maximum cooling capacity (GROSS VALUE)										
Cooling capacity	(1)	kW	812	861	959	1027	1079	1194	1238	1404
EER	(1)	kW/kW	4,17	4,01	4,22	4,15	4,06	4,27	4,07	4,01
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	805	855	951	1017	1068	1183	1226	1390
EER	(1)(2)	kW/kW	3,99	3,86	4,05	3,96	3,86	4,07	3,89	3,81
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	131	138	154	165	173	193	200	227
Pressure drop	(1)	kPa	118	95,7	112	133	146	130	140	154
COMPRESSORS										
Compressors nr.	N°		2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	59	59	59	59	59	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	92	92	92	92	94	94	95
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	10000	10000	10000	11800	11800	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	11160	11880	14560	14600	14720	16480	16570	18210

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

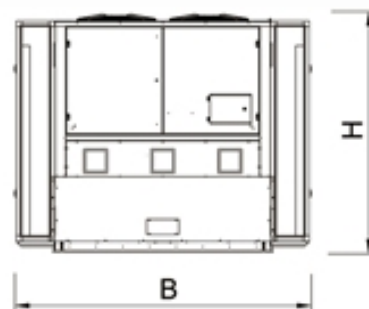
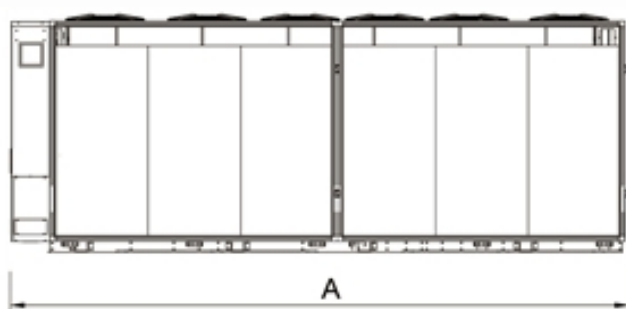
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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



Commercial and industrial chillers

TECS-EFC 0211 - 1204

High efficiency air cooled chiller with evaporative free-cooling 300-1682 kW

Outdoor unit for the production of chilled water, equipped with oil-free centrifugal compressors, R134a refrigerant, axial EC fans, condensing coil with copper tubes and aluminum fins, shell and tube flooded evaporator and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with refrigerant and has been factory tested. On-site installation therefore just involves making connections to the mains power and water supplies.

The rotor speed digital control allows an accurate and efficient thermoregulation in every operating condition. The economizer improves the refrigerant circuit efficiency (not present in sizes 0211 and 0452).

These chillers, fitted with free-cooling coils and evaporative cooling system, are used in IT-cooling, industrial and civil applications, when the cooling load is constant all-year-round. In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero. The evaporative cooling system is made of treated cellulose pads and a water circulator that keeps the pads wet. It lowers the air temperature before it reaches unit's coils, thus increasing mechanical cooling efficiency and allowing free-cooling benefits to begin at higher outdoor temperatures.

The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

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

K	Standard efficiency, compact version
CA	High energy efficiency units

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

EXTENSION OF FREE-COOLING TEMPERATURE RANGE

Thanks to the evaporative cooling system that decreases the outdoor air temperature, the unit can take full advantage of the free-cooling benefit also in climatic conditions that normally don't permit it.

ENERGY SAVING

Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

VERY HIGH EFFICIENCY

Top-level seasonal efficiency thanks to technological solutions at the forefront: magnetic levitation centrifugal compressors, flooded evaporator, EC fans and advanced control algorithms.

WIDE RANGE

Extended capacity range.

LOW INRUSH CURRENTS

Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION

Extremely silent operation in line with the best on the market, and highly reduced vibrations

INTEGRATED HYDRONIC MODULE

It consists of 2 pumps with 4-pole motor, fixed or variable speed, with high or low head options to satisfy different industrial or IT-cooling applications and demands for comfort.

Accessory

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Compressor power factor device
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)





TECS-EFC /K			0211	0351	0452	0552	0652	0712	0903	0953	1003	1164	1204
Power supply			V/ph/Hz										
PERFORMANCE													
COOLING ONLY (GROSS VALUE)													
Cooling capacity	(1)	kW	300	479	589	685	935	974	1179	1243	1409	1567	1638
EER	(1)	kW/kW	4,05	4,22	3,98	4,33	4,24	4,28	4,26	4,18	4,23	4,16	4,24
EER (evaporative system OFF)	(1)	kW/kW	3,43	3,37	3,29	3,77	3,25	3,51	3,66	3,31	3,29	3,42	3,53
COOLING ONLY (EN14511 VALUE)													
Cooling capacity	(1)(2)	kW	298	476	586	680	928	967	1171	1236	1399	1556	1626
EER	(1)(2)	kW/kW	3,91	4,06	3,84	4,16	4,08	4,12	4,12	4,05	4,09	4,02	4,07
EER (evaporative system OFF)	(1)(2)	kW/kW	3,32	3,26	3,20	3,64	3,16	3,39	3,56	3,23	3,20	3,32	3,42
FREE-COOLING TOTALE (GROSS VALUE)													
Cooling capacity	(3)	kW	300	479	589	685	935	974	1179	1243	1409	1567	1638
EER	(3)	kW/kW	58,8	49,9	49,1	67,2	55,7	50,7	49,1	51,8	53,4	50,2	52,5
Total free-cooling temperature	(3)	°C	-2,3	-2,8	-2,3	-1,8	-3,1	-1,9	-1,7	-3,0	-2,9	-2,1	-2,2
COOLING ONLY - maximum cooling capacity (GROSS VALUE)													
Cooling capacity	(1)	kW	317	507	631	718	1004	1016	1225	1328	1505	1653	1721
EER	(1)	kW/kW	3,81	3,95	3,68	4,16	3,85	4,10	4,11	3,85	3,89	3,93	4,04
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)													
Cooling capacity	(1)(2)	kW	315	503	627	712	997	1009	1218	1321	1495	1642	1709
EER	(1)(2)	kW/kW	3,70	3,82	3,57	4,02	3,73	3,96	3,99	3,75	3,77	3,81	3,90
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
Water flow	(1)	m³/h	57,3	91,4	112	131	178	186	225	237	269	299	312
Pressure drop	(1)	kPa	84,9	97,1	87,9	102	102	106	90,8	78,9	102	104	114
COMPRESSORS													
Compressors nr.	N°		1	1	2	2	2	2	3	3	3	4	4
No. Circuits	N°		1	1	1	1	1	1	2	2	2	2	2
NOISE LEVEL													
Noise Pressure	(4)	dB(A)	56	61	62	58	63	63	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96	97	97	98	98	98
SIZE AND WEIGHT													
A	(7)	mm	4000	4000	4900	6400	7000	7900	10600	11200	11200	13000	13600
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3720	4140	5440	6290	6860	7490	10550	11110	11380	13280	13380

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

TECS-EFC /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	308	353	493	612	712	985	1065	1205	1436
EER	(1)	kW/kW	4,15	4,35	4,37	4,14	4,43	4,37	4,41	4,41	4,32
EER (evaporative system OFF)	(1)	kW/kW	3,59	3,90	3,64	3,52	3,99	3,64	3,97	3,88	3,45
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	306	350	490	608	706	978	1059	1197	1426
EER	(1)(2)	kW/kW	4,00	4,16	4,19	3,99	4,24	4,20	4,29	4,25	4,16
EER (evaporative system OFF)	(1)(2)	kW/kW	3,47	3,76	3,51	3,41	3,84	3,51	3,86	3,76	3,35
FREE-COOLING TOTALE (GROSS VALUE)											
Cooling capacity	(3)	kW	308	353	493	612	712	985	1065	1205	1436
EER	(3)	kW/kW	60,4	51,9	58,0	60,0	52,4	57,9	52,2	54,5	65,0
Total free-cooling temperature	(3)	°C	-0,6	-0,6	-1,4	-0,9	-0,1	-1,3	-0,2	-0,5	-2,0
COOLING ONLY - maximum cooling capacity (GROSS VALUE)											
Cooling capacity	(1)	kW	321	360	510	642	721	1018	1081	1227	1513
EER	(1)	kW/kW	3,99	4,28	4,23	3,94	4,39	4,22	4,36	4,34	4,05
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	319	358	506	638	716	1011	1076	1220	1503
EER	(1)(2)	kW/kW	3,85	4,12	4,08	3,81	4,22	4,09	4,26	4,21	3,92
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	58,7	67,2	94,1	117	136	188	203	230	274
Pressure drop	(1)	kPa	89,3	95,5	103	94,8	111	108	74,2	94,9	105
COMPRESSORS											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3950	4080	4740	6190	7360	9620	11450	12360	12720

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

TECS-EFC /NG /K			0211	0351	0452	0552	0652	0712	0903	0953	1003	1164	1204
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	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE													
COOLING ONLY (GROSS VALUE)													
Cooling capacity	(1)	kW	308	492	605	703	960	1001	1210	1276	1448	1610	1682
EER	(1)	kW/kW	4,14	4,32	4,06	4,42	4,34	4,38	4,36	4,27	4,32	4,25	4,33
EER (evaporative system OFF)	(1)	kW/kW	3,51	3,45	3,36	3,86	3,32	3,59	3,74	3,38	3,37	3,50	3,61
COOLING ONLY (EN14511 VALUE)													
Cooling capacity	(1)(2)	kW	306	488	601	697	952	993	1202	1267	1436	1596	1666
EER	(1)(2)	kW/kW	3,99	4,12	3,91	4,22	4,15	4,19	4,20	4,12	4,14	4,06	4,12
EER (evaporative system OFF)	(1)(2)	kW/kW	3,39	3,32	3,26	3,70	3,21	3,46	3,62	3,28	3,25	3,36	3,46
FREE-COOLING TOTALE (GROSS VALUE)													
Cooling capacity	(3)	kW	308	492	605	703	960	1001	1210	1276	1448	1610	1682
EER	(3)	kW/kW	38,0	32,6	31,0	39,7	30,2	29,3	31,0	30,0	29,9	26,3	27,5
Total free-cooling temperature	(3)	°C	-5,3	-5,9	-5,4	-4,9	-6,2	-4,9	-4,7	-6,1	-6,0	-5,1	-5,3
COOLING ONLY - maximum cooling capacity (GROSS VALUE)													
Cooling capacity	(1)	kW	326	520	648	737	1031	1044	1258	1364	1545	1698	1768
EER	(1)	kW/kW	3,90	4,04	3,77	4,25	3,94	4,18	4,21	3,93	3,97	4,02	4,13
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)													
Cooling capacity	(1)(2)	kW	323	516	643	730	1021	1035	1249	1354	1531	1682	1750
EER	(1)(2)	kW/kW	3,75	3,85	3,62	4,05	3,76	4,01	4,05	3,79	3,80	3,83	3,91
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
Water flow	(1)	m³/h	53,1	84,8	104	121	165	172	209	220	249	277	290
Pressure drop	(1)	kPa	96,8	126	111	136	133	128	112	108	138	152	167
COMPRESSORS													
Compressors nr.		N°	1	1	2	2	2	2	3	3	3	4	4
No. Circuits		N°	1	1	1	1	1	1	2	2	2	2	2
NOISE LEVEL													
Noise Pressure	(4)	dB(A)	56	61	62	58	63	63	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96	97	97	98	98	98
SIZE AND WEIGHT													
A	(7)	mm	4000	4000	4900	6400	7000	7900	10600	11200	11200	13000	13600
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4410	4910	6460	7460	8130	8870	12500	13170	13490	15740	15850

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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

TECS-EFC /NG /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	316	362	507	629	731	1012	1094	1237	1474
EER	(1)	kW/kW	4,24	4,43	4,47	4,23	4,53	4,46	4,51	4,51	4,42
EER (evaporative system OFF)	(1)	kW/kW	3,67	3,99	3,72	3,59	4,08	3,72	4,06	3,96	3,53
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	314	359	502	624	724	1004	1088	1228	1461
EER	(1)(2)	kW/kW	4,09	4,24	4,26	4,06	4,30	4,27	4,36	4,33	4,22
EER (evaporative system OFF)	(1)(2)	kW/kW	3,54	3,83	3,57	3,47	3,89	3,58	3,94	3,82	3,39
FREE-COOLING TOTALE (GROSS VALUE)											
Cooling capacity	(3)	kW	316	362	507	629	731	1012	1094	1237	1474
EER	(3)	kW/kW	39,0	29,4	36,2	40,1	29,7	31,6	30,9	30,5	33,4
Total free-cooling temperature	(3)	°C	-3,7	-3,7	-4,5	-4,1	-3,2	-4,4	-3,3	-3,6	-5,1
COOLING ONLY - maximum cooling capacity (GROSS VALUE)											
Cooling capacity	(1)	kW	329	370	523	660	740	1045	1110	1260	1554
EER	(1)	kW/kW	4,07	4,37	4,32	4,03	4,49	4,32	4,46	4,44	4,14
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	327	367	519	654	733	1036	1103	1251	1540
EER	(1)(2)	kW/kW	3,91	4,17	4,12	3,86	4,26	4,13	4,32	4,26	3,95
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	54,5	62,4	87,3	108	126	174	188	213	254
Pressure drop	(1)	kPa	102	119	130	119	146	131	91,6	116	143
COMPRESSORS											
Compressors nr.	N°		1	1	1	2	2	2	3	3	3
No. Circuits	N°		1	1	1	1	1	1	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4690	4840	5620	7340	8720	11400	13560	14640	15070

Notes:

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 0%.

2 Values in compliance with EN14511-3:2013.

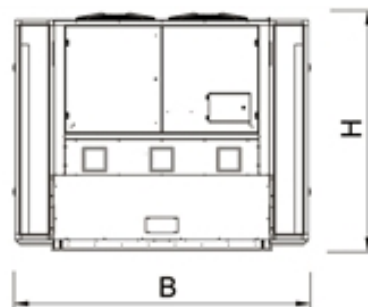
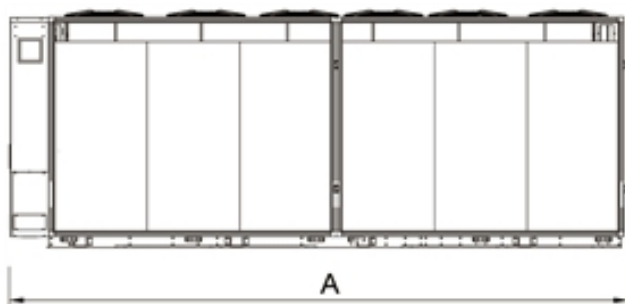
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.

4 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.

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

6 Sound power level in cooling, outdoors.

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



Commercial and industrial chillers

NECS-C 0152 - 1204

Chiller, air source for indoor installation 35,8-325 kW

Indoor unit for the production of chilled water with hermetic rotary Scroll compressors, centrifugal fans, braze-welded plate-type exchanger and thermal expansion valve. External panels in pre-clad sheet steel (simil Pereluman) and base in galvanised steel with paint finish. The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Controls

W3000 Base – W3000SE Compact

The controller in two different versions according to the unit's type:

W3000 Base: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a menu up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)

W3000SE Compact: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-language menu, with selectable language setting on site. This controller also includes an internal clock.

All the W3000 electronic controllers offer advanced functions and algorithms.

The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed.

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, Bacnet-over-IP, Echelon LonWorks.

Compatibility with the remote keyboard managing up to 10 units.

The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters.

This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Version

B	Basic
HT	High efficiency, high outdoor temperature version

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achieve better energy efficiencies with environment full respect (ODP = 0)

TOTAL VERSATILITY

The NECS-CN units are available with both vertical and horizontal air outflow. The horizontal outflow version is particularly effective in installations where the height of the technical compartment does not allow the traditional vertical outflow

HIGH PERFORMANCE CENTRIFUGAL FANS

The units are fitted with statically and dynamically balanced double-inlet centrifugal fans coupled by belt and pulleys. Useful static pressure up to 180 Pa.

CLASS A EFFICIENCY

The full range is also available with the Class A efficiency rating (in high outdoor temperature version).

INTEGRATED HYDRONIC MODULE

The built-in hydronic module includes the main water circuit components; it is available in various configurations with one or two pumps with high or low head.

Accessory

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Rubber anti-vibration mounting kit
- Horizontal or vertical air outflow





NECS-C / B			0152	0182	0202	0252	0302	0352	0412	0452	0512
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	35,8	41,6	48,9	55,2	72,4	83,6	94,8	105	116
Total power input	(1)	kW	15,7	18,3	20,6	23,2	30,4	36,8	40,7	46,8	51,5
EER	(1)	kW/kW	2,28	2,27	2,37	2,38	2,38	2,27	2,33	2,25	2,26
ESEER	(1)	kW/kW	3,44	3,23	3,47	3,49	3,48	3,02	3,16	3,06	3,16
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	35,6	41,3	48,6	54,8	71,9	83,2	94,3	105	116
EER	(1)(2)	kW/kW	2,42	2,39	2,48	2,47	2,45	2,39	2,43	2,34	2,34
ESEER	(1)(2)	kW/kW	4,01	3,64	3,89	3,84	3,73	3,41	3,45	3,35	3,40
Cooling energy class			C	C	C	C	C	C	C	C	C
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	6,16	7,16	8,42	9,50	12,5	14,4	16,3	18,1	20,1
Pressure drop	(1)	kPa	39,3	53,2	47,1	43,4	55,9	31,9	41,0	35,5	43,4
COMPRESSORS											
Compressors nr.	N°		2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1
FANS											
Air flow		m³/s	4,44	5,00	5,00	5,00	5,56	8,89	8,89	9,44	9,44
Available static pressure		Pa	120	120	120	120	120	120	120	120	120
NOISE LEVEL											
Sound power level in cooling	(3)(4)	dB(A)	82	85	85	85	87	92	93	93	93
SIZE AND WEIGHT											
A	(5)	mm	2200	2200	2200	2200	2200	2602	2602	2602	2602
B	(5)	mm	920	920	920	920	920	1104	1104	1104	1104
H	(5)	mm	1642	1642	1642	1642	1642	1927	1927	1927	1927
Operating weight	(5)	kg	670	670	700	720	880	1120	1170	1210	1260

NECS-C / B			0552	0612	0604	0704	0804	0904	1004	1104	1204
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	132	153	146	166	188	215	236	271	301
Total power input	(1)	kW	58,3	67,2	62,5	73,1	83,5	89,6	102	115	133
EER	(1)	kW/kW	2,27	2,28	2,34	2,27	2,25	2,40	2,32	2,36	2,26
ESEER	(1)	kW/kW	3,33	3,08	3,01	2,94	2,80	3,12	3,03	3,17	3,03
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	132	153	146	165	187	214	235	270	300
EER	(1)(2)	kW/kW	2,33	2,38	2,44	2,35	2,35	2,49	2,41	2,43	2,34
ESEER	(1)(2)	kW/kW	3,56	3,36	3,36	3,26	3,15	3,48	3,34	3,46	3,33
Cooling energy class			C	C	C	C	C	C	C	C	C
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	22,8	26,4	25,2	28,5	32,3	37,0	40,6	46,7	51,9
Pressure drop	(1)	kPa	42,0	44,0	39,9	42,7	45,0	46,6	45,7	46,3	45,5
COMPRESSORS											
Compressors nr.	N°		2	2	4	4	4	4	4	4	4
No. Circuits	N°		1	1	2	2	2	2	2	2	2
FANS											
Air flow		m³/s	9,44	14,2	13,3	14,2	18,9	17,8	18,9	18,9	23,6
Available static pressure		Pa	120	120	120	120	120	120	120	120	120
NOISE LEVEL											
Sound power level in cooling	(3)(4)	dB(A)	93	94	95	95	96	96	97	96	97
SIZE AND WEIGHT											
A	(5)	mm	3602	3602	3602	3602	4602	4602	4602	4602	5602
B	(5)	mm	1104	1104	1277	1277	1277	1277	1277	1277	1277
H	(5)	mm	1927	1927	1900	1900	2235	2235	2235	2235	2235
Operating weight	(5)	kg	1450	1550	1845	1940	2310	2445	2515	2695	2885

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 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of 120 Pa on the delivery side.

4 Sound power level in cooling, outdoors.

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

Certified data in EUROVENT

NECS-C / HT		0152	0182	0202	0252	0302	0352	0412	0452	0512
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	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1) kW	37,7	44,0	51,0	57,5	77,4	85,8	99,6	109	126
Total power input	(1) kW	14,9	17,4	20,0	22,4	30,6	34,6	39,8	44,1	50,8
EER	(1) kW/kW	2,53	2,53	2,55	2,57	2,53	2,48	2,50	2,48	2,47
ESEER	(1) kW/kW	3,53	3,30	3,49	3,52	3,06	3,10	3,11	3,25	2,98
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2) kW	37,4	43,6	50,6	57,1	76,8	85,4	99,1	109	125
EER	(1)(2) kW/kW	2,69	2,67	2,68	2,68	2,66	2,61	2,61	2,58	2,61
ESEER	(1)(2) kW/kW	4,08	3,73	3,89	3,88	3,40	3,48	3,40	3,54	3,32
Cooling energy class		B	B	B	B	B	B	B	B	B
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) m³/h	6,48	7,57	8,77	9,89	13,3	14,8	17,1	18,8	21,6
Pressure drop	(1) kPa	43,6	59,4	51,1	47,1	63,9	33,6	45,3	38,3	50,5
COMPRESSORS										
Compressors nr.	N°	2	2	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1	1	1
FANS										
Air flow	m³/s	4,44	5,28	5,28	5,28	8,89	8,89	9,44	9,44	14,2
Available static pressure	Pa	120	120	120	120	120	120	120	120	120
NOISE LEVEL										
Sound power level in cooling	(3)(4) dB(A)	82	86	86	86	92	92	92	93	95
SIZE AND WEIGHT										
A	(5) mm	2200	2200	2200	2200	2602	2602	2602	3602	3602
B	(5) mm	920	920	920	920	1104	1104	1104	1104	1104
H	(5) mm	1642	1642	1642	1642	1927	1927	1927	1927	1927
Operating weight	(5) kg	690	710	730	760	1090	1120	1230	1400	1490

NECS-C / HT		0552	0612	0604	0704	0804	0904	1004	1104	1204
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	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1) kW	142	160	153	177	196	220	248	286	314
Total power input	(1) kW	57,8	64,6	61,2	69,0	79,9	89,1	99,3	112	128
EER	(1) kW/kW	2,46	2,48	2,50	2,56	2,45	2,46	2,50	2,55	2,45
ESEER	(1) kW/kW	3,04	3,16	2,90	2,99	2,90	3,00	2,94	3,06	3,11
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2) kW	142	159	152	176	195	219	247	284	312
EER	(1)(2) kW/kW	2,58	2,58	2,61	2,69	2,57	2,57	2,62	2,65	2,53
ESEER	(1)(2) kW/kW	3,36	3,44	3,24	3,40	3,25	3,34	3,29	3,40	3,40
Cooling energy class		B	B	B	B	B	B	B	B	B
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) m³/h	24,5	27,6	26,3	30,4	33,7	37,8	42,7	49,2	54,0
Pressure drop	(1) kPa	48,6	47,8	43,6	50,1	48,9	48,7	50,4	51,2	49,2
COMPRESSORS										
Compressors nr.	N°	2	2	4	4	4	4	4	4	4
No. Circuits	N°	1	1	2	2	2	2	2	2	2
FANS										
Air flow	m³/s	14,2	14,2	14,2	17,8	18,9	18,9	23,6	23,6	23,6
Available static pressure	Pa	120	120	120	120	120	120	120	120	120
NOISE LEVEL										
Sound power level in cooling	(3)(4) dB(A)	95	95	95	95	96	95	96	97	97
SIZE AND WEIGHT										
A	(5) mm	3602	3602	3602	4602	4602	4602	5602	5602	5602
B	(5) mm	1104	1104	1277	1277	1277	1277	1277	1277	1277
H	(5) mm	1927	1927	1900	2235	2235	2235	2235	2235	2235
Operating weight	(5) kg	1560	1630	1920	2320	2380	2580	2845	3055	3115

Notes:

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

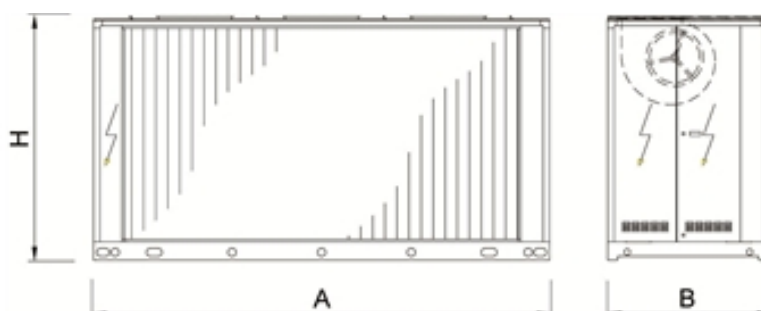
2 Values in compliance with EN14511-3:2013.

3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of 120 Pa on the delivery side.

4 Sound power level in cooling, outdoors.

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

Certified data in EUROVENT



Commercial and industrial chillers

NECS-W 0152 - 1204



Water cooled chiller 43,4-371 kW

Water to water indoor unit for the production of chilled/hot water with hermetic rotary Scroll compressors, braze-welded plate-type exchanger and thermal expansion valve. External panels in pre-clad sheet steel (simil-Peraluman) and structure in galvanised steel with paint finish. The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Controls

W3000 Base – W3000SE Compact

The controller in two different versions according to the unit's type:

W3000 Base: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a menu up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)

W3000SE Compact: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-language menu, with selectable language setting on site. This controller also includes an internal clock.

All the W3000 electronic controllers offer advanced functions and algorithms.

The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed.

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, Bacnet-over-IP, Echelon LonWorks.

Compatibility with the remote keyboard managing up to 10 units.

The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters.

This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Version

B Basic

Configurations

- Basic function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achieve better energy efficiencies with environment full respect (ODP = 0)

TOTAL VERSATILITY

Climaveneta has designed the NECS-W units with a range of integral accessories in mind for operation with total water loss (well, water bed, etc.), dry cooler or cooling tower so as to satisfy all service system and installation requirements.

INTEGRATED HYDRONIC MODULE ON COOLER/CONDENSER SIDE

The built-in hydronic module includes the main water circuit components; it is available in various configurations with one or two pumps with high or low head both on the evaporator and the condenser side.

INTEGRATED CONDENSATION'S CONTROL

The electronics of the units manages the most suitable condensing control for each type of application: pressure-controlled valve, two or three-way modulating valve and inverter control for the pumps

Accessory

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Condensing control device: two or three-way modulating pressure-controlled valve and inverter on pumps
- Water connections directed upwards (for 2 compressors units only)
- Acoustical enclosure to reduce the noise emissions.
- Rubber anti-vibration mounting kit. Spring anti-vibration mounting kit (4 compressors models only)





NECS-W / B		0152	0182	0202	0252	0262	0302	0352	0412	0452	0512
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	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1) kW	43,4	50,1	58,9	66,4	72,6	86,7	101	115	129	144
Total power input	(1) kW	10,00	11,3	13,0	15,2	16,6	19,5	22,7	25,9	28,9	32,2
EER	(1) kW/kW	4,34	4,43	4,53	4,37	4,37	4,45	4,46	4,43	4,45	4,46
ESEER	(1) kW/kW	5,81	5,98	6,01	5,69	5,59	5,66	5,80	5,71	5,79	5,78
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2) kW	43,0	49,7	58,5	66,0	72,1	86,3	101	114	128	143
EER	(1)(2) kW/kW	4,04	4,15	4,24	4,10	4,08	4,23	4,26	4,22	4,25	4,27
ESEER	(1)(2) kW/kW	4,98	5,17	5,22	5,02	4,88	5,13	5,23	5,19	5,24	5,29
Cooling energy class		D	D	D	D	D	D	C	D	C	C
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1) m³/h	7,46	8,62	10,1	11,4	12,5	14,9	17,4	19,7	22,1	24,7
Pressure drop	(1) kPa	57,8	49,4	49,5	47,0	56,2	34,3	32,8	42,1	39,7	38,5
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1) m³/h	9,14	10,5	12,3	14,0	15,3	18,2	21,2	24,1	27,0	30,1
Pressure drop	(1) kPa	35,9	37,5	42,0	44,1	52,8	36,7	36,0	36,0	36,4	33,5
COMPRESSORS											
Compressors nr.	N°	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL											
Noise Pressure	(3) dB(A)	58	59	59	59	60	60	61	61	62	62
Sound power level in cooling	(4)(5) dB(A)	73	74	74	74	75	76	77	77	78	78
SIZE AND WEIGHT											
A	(6) mm	1055	1055	1055	1055	1055	1222	1222	1222	1222	1222
B	(6) mm	649	649	649	649	649	873	873	873	873	873
H	(6) mm	1255	1255	1255	1255	1255	1496	1496	1496	1496	1496
Operating weight	(6) kg	285	300	310	320	325	570	610	640	680	725

NECS-W / B		0552	0612	0604	0704	0804	0904	1004	1104	1204
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	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1) kW	165	186	174	203	228	258	288	329	371
Total power input	(1) kW	36,9	41,6	38,9	45,2	51,6	58,0	64,0	74,0	83,5
EER	(1) kW/kW	4,47	4,48	4,47	4,48	4,42	4,45	4,50	4,44	4,44
ESEER	(1) kW/kW	5,93	5,80	5,79	5,92	5,82	5,93	5,93	5,99	5,89
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2) kW	164	186	173	202	227	257	287	328	370
EER	(1)(2) kW/kW	4,29	4,29	4,29	4,32	4,25	4,29	4,35	4,30	4,28
ESEER	(1)(2) kW/kW	5,40	5,30	5,20	5,33	5,27	5,34	5,40	5,47	5,33
Cooling energy class		C	C	C	C	C	C	C	C	C
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) m³/h	28,4	32,1	29,9	34,9	39,2	44,4	49,6	56,6	63,9
Pressure drop	(1) kPa	34,6	44,2	35,0	32,9	41,6	39,4	39,4	35,2	44,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1) m³/h	34,6	39,0	36,5	42,5	47,9	54,1	60,3	68,9	77,9
Pressure drop	(1) kPa	35,8	38,1	37,0	36,1	35,5	36,6	33,7	35,6	37,9
COMPRESSORS										
Compressors nr.	N°	2	2	4	4	4	4	4	4	4
No. Circuits	N°	1	1	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(3) dB(A)	63	63	69	70	71	72	73	74	74
Sound power level in cooling	(4)(5) dB(A)	79	79	86	87	88	89	90	91	91
SIZE AND WEIGHT										
A	(6) mm	1222	1222	2227	2227	2227	2227	2227	2227	2227
B	(6) mm	873	873	877	877	877	877	877	877	877
H	(6) mm	1496	1496	1780	1780	1780	1780	1780	1780	1780
Operating weight	(6) kg	770	800	1050	1125	1190	1270	1355	1445	1510

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

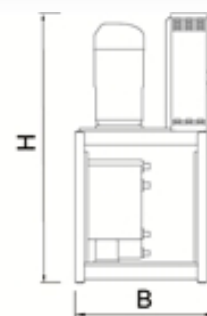
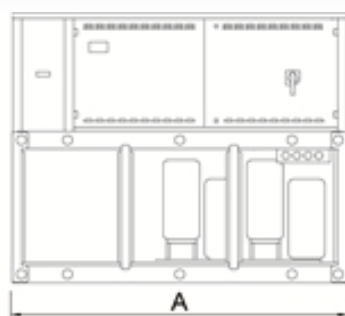
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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

5 Sound power level in cooling, indoors.

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

Certified data in EUROVENT



Commercial and industrial chillers

FOCS-W 0401 - 1902**Version**

B Basic

Configurations

- Basic function
 D Partial condensing heat recovery function
 R Total condensing heat recovery function

Features**FLEXIBILITY**

Flexibility in applications thanks to the many available functions and versions

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

Accessory

- Compressor power factor device
- Electronic expansion valve
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board

Water cooled chiller

87,0-447 kW

Indoor unit for the production of chilled water with semi-hermetic screw compressors optimized for R134a, thermostatic expansion valve, shell and tube condenser and evaporator.

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.

The high performance's level is achieved thanks to the accurate sizing of all internal components.

Controls**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.





FOCS-W / B			0401	0501	0551	0651	0751	0802	0851
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	87,0	107	130	147	165	178	198
Total power input	(1)	kW	19,6	24,5	28,1	32,7	36,9	39,3	42,7
EER	(1)	kW/kW	4,44	4,35	4,63	4,51	4,46	4,52	4,63
ESEER	(1)	kW/kW	5,15	5,32	5,25	5,29	5,40	5,39	5,54
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	86,7	106	130	147	164	177	197
EER	(1)(2)	kW/kW	4,27	4,17	4,46	4,34	4,29	4,35	4,45
ESEER	(1)(2)	kW/kW	4,82	4,92	4,93	4,94	5,04	4,93	5,17
Cooling energy class			C	D	C	C	C	C	C
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	15,0	18,4	22,4	25,4	28,3	30,6	34,0
Pressure drop	(1)	kPa	17,7	17,5	14,1	18,1	22,6	17,6	21,8
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	18,2	22,5	27,1	30,8	34,5	37,1	41,2
Pressure drop	(1)	kPa	32,6	52,5	43,1	44,0	44,7	51,8	52,5
COMPRESSORS									
Compressors nr.	N°		1	1	1	1	1	2	1
No. Circuits	N°		1	1	1	1	1	2	1
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	74	75	77	77	77	76	76
Sound power level in cooling	(4)(5)	dB(A)	91	92	94	94	94	94	94
SIZE AND WEIGHT									
A	(6)	mm	2300	2500	2500	2500	2500	3200	3200
B	(6)	mm	1000	1000	1000	1000	1000	1200	1000
H	(6)	mm	1500	1500	1500	1500	1500	1500	1500
Operating weight	(6)	kg	800	840	1160	1180	1190	1470	1270

FOCS-W / B			0951	1002	1102	1302	1502	1702	1902
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	221	217	251	298	340	393	447
Total power input	(1)	kW	49,6	49,2	55,8	65,6	74,5	85,4	99,5
EER	(1)	kW/kW	4,46	4,41	4,49	4,54	4,57	4,60	4,49
ESEER	(1)	kW/kW	5,42	5,52	5,24	5,49	5,67	5,70	5,61
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	220	216	250	297	339	391	446
EER	(1)(2)	kW/kW	4,28	4,22	4,30	4,35	4,38	4,39	4,36
ESEER	(1)(2)	kW/kW	5,04	4,93	4,75	4,98	4,93	5,00	5,19
Cooling energy class			C	D	C	C	C	C	C
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	38,1	37,4	43,2	51,3	58,6	67,6	77,0
Pressure drop	(1)	kPa	41,3	39,8	53,1	46,0	41,5	55,4	29,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	46,4	45,6	52,5	62,3	71,0	82,0	93,6
Pressure drop	(1)	kPa	38,7	54,1	40,5	45,0	47,3	51,9	39,4
COMPRESSORS									
Compressors nr.	N°		1	2	2	2	2	2	2
No. Circuits	N°		1	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	76	77	79	79	79	79	79
Sound power level in cooling	(4)(5)	dB(A)	94	95	97	97	97	97	97
SIZE AND WEIGHT									
A	(6)	mm	3200	3200	3200	3500	3500	3500	3500
B	(6)	mm	1000	1200	1200	1200	1200	1200	1200
H	(6)	mm	1500	1500	1500	1800	1800	1800	1800
Operating weight	(6)	kg	1350	1490	1930	2220	2260	2320	2720

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

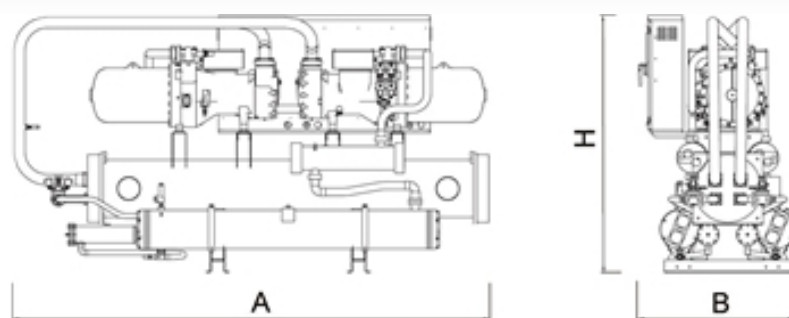
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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

5 Sound power level in cooling, indoors.

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

Certified data in EUROVENT



Commercial and industrial chillers

FOCS2-W 1301 - 9604**High efficiency water cooled chiller
306-2416 kW**

Unit for indoor installation for chilled water production. Semihermetic screw compressors optimized to operate with low compression ratio and R134a; shell and tubes condenser and direct expansion evaporator; electronic expansion valve. Frame in polyester-painted galvanized steel. High efficiency unit: the innovative optimized compressors and the high performing heat exchangers enhance EER values up to 5,1 (CA version) and even up to 5,6 (CA-E version) at Eurovent standards conditions.

Controls**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

CA	High efficiency version
CA-E	Premium efficiency version: Class A enhanced

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features**HIGH EFFICIENCY**

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.

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessory

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards





FOCS2-W /CA		1301	1401	1601	1801	2101	2401	2701	2802
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	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1) kW	306	348	422	477	538	607	675	694
Total power input	(1) kW	60,5	68,7	83,4	94,4	106	120	133	137
EER	(1) kW/kW	5,06	5,07	5,06	5,06	5,07	5,07	5,06	5,05
ESEER	(1) kW/kW	5,94	5,95	5,73	5,84	5,94	5,92	5,79	5,94
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2) kW	305	347	420	476	536	604	673	692
EER	(1)(2) kW/kW	4,86	4,87	4,85	4,87	4,89	4,86	4,88	4,87
ESEER	(1)(2) kW/kW	5,45	5,45	5,25	5,41	5,50	5,42	5,38	5,44
Cooling energy class		B	B	B	B	B	B	B	B
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1) m³/h	52,7	60,0	72,6	82,2	92,6	104	116	119
Pressure drop	(1) kPa	41,9	45,0	52,7	41,7	44,2	56,3	44,1	47,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1) m³/h	62,9	71,5	86,6	98,0	110	125	139	143
Pressure drop	(1) kPa	35,9	35,0	34,8	34,6	34,5	36,2	34,8	34,8
COMPRESSORS									
Compressors nr.	N°	1	1	1	1	1	1	1	2
No. Circuits	N°	1	1	1	1	1	1	1	2
NOISE LEVEL									
Noise Pressure	(3) dB(A)	79	79	79	79	79	79	81	80
Sound power level in cooling	(4)(5) dB(A)	97	97	97	97	97	97	99	99
SIZE AND WEIGHT									
A	(6) mm	3830	3830	3860	3860	3860	3860	3930	4200
B	(6) mm	900	900	900	900	900	900	900	1150
H	(6) mm	1700	1700	1840	1840	1840	1840	1990	2050
Operating weight	(6) kg	2050	2110	2590	2810	2910	2970	3510	4120

FOCS2-W /CA		3001	3202	3602	4202	4502	4802	5402	6002
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	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1) kW	746	844	957	1071	1145	1213	1348	1490
Total power input	(1) kW	148	167	189	212	226	240	267	295
EER	(1) kW/kW	5,06	5,06	5,07	5,06	5,06	5,06	5,05	5,05
ESEER	(1) kW/kW	5,91	5,87	6,14	6,08	6,23	6,17	6,00	6,09
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2) kW	743	841	954	1069	1142	1210	1344	1485
EER	(1)(2) kW/kW	4,86	4,89	4,90	4,92	4,91	4,90	4,88	4,87
ESEER	(1)(2) kW/kW	5,43	5,41	5,63	5,67	5,78	5,70	5,54	5,57
Cooling energy class		B	B	B	B	B	B	B	B
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1) m³/h	129	145	165	184	197	209	232	257
Pressure drop	(1) kPa	54,7	45,4	46,4	30,6	34,2	38,4	47,4	54,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1) m³/h	153	173	197	220	235	249	277	306
Pressure drop	(1) kPa	36,2	34,8	34,8	34,4	35,4	36,0	34,5	36,6
COMPRESSORS									
Compressors nr.	N°	1	2	2	2	2	2	2	2
No. Circuits	N°	1	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	(3) dB(A)	81	80	80	80	80	80	82	82
Sound power level in cooling	(4)(5) dB(A)	99	99	99	99	99	99	101	101
SIZE AND WEIGHT									
A	(6) mm	3930	4750	4750	4750	4750	4750	4850	4850
B	(6) mm	900	1150	1150	1150	1150	1150	1150	1150
H	(6) mm	1990	2050	2050	2200	2200	2200	2200	2200
Operating weight	(6) kg	3600	5110	5400	6070	6120	6180	6950	7090

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

3 Average sound pressure level at 1m 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, indoors.

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

Certified data in EUROVENT

FOCS2-W /CA		6303	6603	7203	7803	8103	9003	9004	9604
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	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1) kW	1604	1677	1815	1967	2024	2236	2278	2416
Total power input	(1) kW	317	331	359	389	400	442	451	478
EER	(1) kW/kW	5,05	5,06	5,05	5,06	5,05	5,06	5,05	5,05
ESEER	(1) kW/kW	6,14	6,24	6,18	6,11	6,09	6,14	6,23	6,17
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2) kW	1600	1672	1809	1962	2018	2228	2273	2410
EER	(1)(2) kW/kW	4,91	4,90	4,88	4,91	4,90	4,89	4,92	4,91
ESEER	(1)(2) kW/kW	5,67	5,73	5,63	5,63	5,61	5,60	5,80	5,71
Cooling energy class		B	B	B	B	B	B	B	B
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1) m³/h	276	289	312	339	349	385	392	416
Pressure drop	(1) kPa	38,1	45,0	52,7	41,3	43,7	53,3	32,3	36,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1) m³/h	329	344	373	404	416	459	468	496
Pressure drop	(1) kPa	33,6	34,4	36,1	35,9	34,6	35,8	35,0	37,0
COMPRESSORS									
Compressors nr.	N°	3	3	3	3	3	3	4	4
No. Circuits	N°	3	3	3	3	3	3	4	4
NOISE LEVEL									
Noise Pressure	(3) dB(A)	82	82	82	82	82	82	82	82
Sound power level in cooling	(4)(5) dB(A)	102	102	102	102	102	102	102	102
SIZE AND WEIGHT									
A	(6) mm	4950	4950	4950	4950	4950	4950	4650	4650
B	(6) mm	1700	1700	1700	1700	1700	1700	2250	2250
H	(6) mm	2150	2150	2150	2150	2150	2150	2230	2230
Operating weight	(6) kg	8980	9050	9120	9950	10170	10350	14330	14390

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

3 Average sound pressure level at 1m 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, indoors.

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

Certified data in EUROVENT

FOCS2-W / CA-E		1301	1401	1601	1801	2101	2401	2802	3202	3602	4202	4802
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	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1) kW	321	365	442	506	574	649	729	884	1012	1147	1299
Total power input	(1) kW	57,3	65,1	79,1	90,3	103	116	130	158	180	205	232
EER	(1) kW/kW	5,60	5,60	5,59	5,61	5,59	5,59	5,60	5,59	5,61	5,59	5,59
ESEER	(1) kW/kW	6,49	6,50	6,30	6,40	6,37	6,40	6,66	6,57	6,73	6,64	6,66
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2) kW	320	363	440	504	571	646	727	880	1009	1143	1293
EER	(1)(2) kW/kW	5,32	5,33	5,30	5,32	5,31	5,30	5,34	5,32	5,37	5,33	5,31
ESEER	(1)(2) kW/kW	5,83	5,83	5,65	5,72	5,72	5,70	5,96	5,84	6,06	5,91	5,87
Cooling energy class		A	A	A	A	A	A	A	A	A	A	A
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1) m³/h	55,2	62,8	76,1	87,2	98,8	112	126	152	174	197	224
Pressure drop	(1) kPa	45,7	47,7	53,5	53,4	52,8	60,2	51,9	58,6	41,3	55,0	65,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION												
Water flow	(1) m³/h	64,9	73,8	89,4	102	116	131	148	179	205	232	263
Pressure drop	(1) kPa	48,4	46,6	51,6	52,6	54,3	56,3	46,6	51,5	52,8	54,4	56,6
COMPRESSORS												
Compressors nr.	N°	1	1	1	1	1	1	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	2	2	2	2	2
NOISE LEVEL												
Noise Pressure	(3) dB(A)	79	78	78	78	78	78	80	80	80	79	79
Sound power level in cooling	(4)(5) dB(A)	97	97	97	97	97	97	99	99	99	99	99
SIZE AND WEIGHT												
A	(6) mm	4250	4250	4150	4150	4130	4350	4550	4950	5170	4920	4920
B	(6) mm	900	900	900	900	900	900	1150	1150	1150	1150	1285
H	(6) mm	1815	1910	1990	1990	1990	2090	2050	2200	2200	2350	2430
Operating weight	(6) kg	2470	2770	3570	3750	3790	4230	5390	6460	6920	7900	8560

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

3 Average sound pressure level at 1m 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, indoors.

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

Certified data in EUROVENT

FOCS2-W / CA-E			2701	3001	5402	6002	6004	6404	6804	7204	7804	8404
Power supply			V/ph/Hz 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50									
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	707	781	1411	1551	1610	1768	1897	2025	2157	2294
Total power input	(1)	kW	128	141	256	282	289	316	338	361	386	410
EER	(1)	kW/kW	5,53	5,55	5,52	5,51	5,58	5,59	5,61	5,61	5,60	5,59
ESEER	(1)	kW/kW	6,38	6,41	6,66	6,55	6,65	6,57	6,72	6,75	6,64	6,65
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	704	779	1407	1545	1604	1761	1891	2019	2149	2286
EER	(1)(2)	kW/kW	5,27	5,30	5,29	5,27	5,34	5,34	5,38	5,40	5,35	5,35
ESEER	(1)(2)	kW/kW	5,76	5,81	6,00	5,88	5,98	5,89	6,08	6,13	5,94	5,97
Cooling energy class			A	A	A	A	A	A	A	A	A	A
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	122	135	243	267	277	304	327	349	371	395
Pressure drop	(1)	kPa	51,5	47,2	46,0	55,6	56,9	58,4	45,9	41,3	59,3	54,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	143	158	286	314	326	358	384	409	436	464
Pressure drop	(1)	kPa	51,7	49,3	51,5	48,4	48,9	51,2	51,5	52,0	53,3	53,8
COMPRESSORS												
Compressors nr.	N°		1	1	2	2	4	4	4	4	4	4
No. Circuits	N°		1	1	2	2	4	4	4	4	4	4
NOISE LEVEL												
Noise Pressure	(3)	dB(A)	80	80	81	81	82	82	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	99	99	101	101	102	102	102	102	102	102
SIZE AND WEIGHT												
A	(6)	mm	4350	4350	5200	5200	4900	4900	5220	5220	4900	4900
B	(6)	mm	900	900	1285	1285	2250	2250	2250	2250	2250	2250
H	(6)	mm	2180	2180	2440	2440	2305	2305	2305	2305	2455	2455
Operating weight	(6)	kg	4760	4870	8850	8960	12200	13140	13710	13720	15850	16100

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

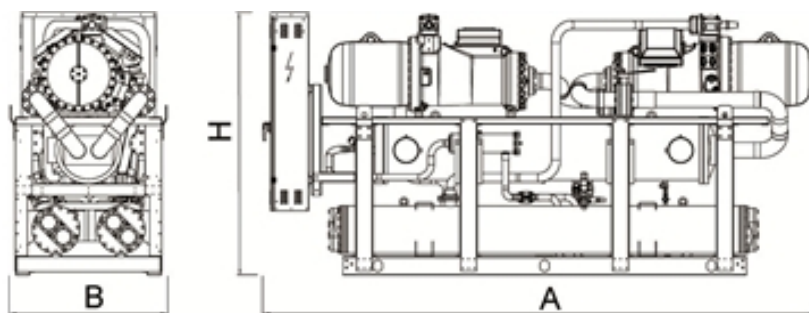
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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

5 Sound power level in cooling, indoors.

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

Certified data in EUROVENT



Commercial and industrial chillers

FOCS3-W 0551 - 4752**Version**

CA High energy efficiency units

Features**HIGH EFFICIENCY**

Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions. These units assure the minimization of operating costs and therefore a quick payback time.

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

MAXIMUM COMPACTNESS

Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

**Water cooled chiller
188-1693 kW**

High efficiency unit for indoor installation for chilled water production. Semihermetic screw compressors optimized to operate with low compression ratio and R134a; shell and tubes condenser, flooded evaporator and electronic expansion valve. High efficiency unit thanks to the innovative optimized compressors and the high performing heat exchangers.

Controls**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.





FOCS3-W			0551	0701	0851	0951	1101	1301	1401	1651	1901	2101	2501
Power supply			V/ph/Hz 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50										
PERFORMANCE													
COOLING ONLY (GROSS VALUE)													
Cooling capacity	(1)	kW	188	250	306	338	384	460	524	592	682	741	837
Total power input	(1)	kW	34,9	45,9	56,1	61,2	69,8	82,5	93,0	104	122	133	149
EER	(1)	kW/kW	5,39	5,45	5,45	5,52	5,49	5,57	5,63	5,70	5,59	5,57	5,61
ESEER	(1)	kW/kW	6,84	7,09	6,55	6,85	6,80	6,73	6,90	7,00	6,90	6,89	6,94
COOLING ONLY (EN14511 VALUE)													
Cooling capacity	(1)(2)	kW	187	249	305	336	382	458	522	590	679	739	834
EER	(1)(2)	kW/kW	5,09	5,15	5,16	5,21	5,20	5,30	5,40	5,41	5,33	5,34	5,37
ESEER	(1)(2)	kW/kW	6,14	6,31	5,94	6,16	6,14	6,15	6,09	6,35	6,10	6,19	6,23
Cooling energy class			A	A	A	A	A	A	A	A	A	A	A
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
Water flow	(1)	m³/h	32,4	43,0	52,7	58,1	66,0	79,2	90,2	102	117	128	144
Pressure drop	(1)	kPa	42,0	48,7	49,1	52,4	52,8	47,5	39,9	50,9	42,0	42,7	42,8
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION													
Water flow	(1)	m³/h	38,3	50,8	62,1	68,4	77,8	93,1	106	119	138	150	169
Pressure drop	(1)	kPa	56,7	57,2	56,0	58,6	57,4	54,5	44,3	55,2	59,7	45,3	47,6
COMPRESSORS													
Compressors nr.		N°	1	1	1	1	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL													
Noise Pressure	(3)	dB(A)	77	77	80	80	80	80	80	80	80	82	82
Sound power level in cooling	(4)(5)	dB(A)	95	95	98	98	98	98	98	98	98	100	100
SIZE AND WEIGHT													
A	(6)	mm	2920	2920	2920	2920	2920	2900	2900	2900	2930	2980	2990
B	(6)	mm	1180	1180	1180	1180	1180	1180	1180	1180	1180	1190	1280
H	(6)	mm	1870	1870	1870	1870	1870	1960	1970	1960	2050	2100	2200
Operating weight	(6)	kg	1900	1960	2320	2350	2450	3080	3250	3280	3400	3650	3980

FOCS3-W			2602	3002	3152	3502	3652	4002	4102	4502	4602	4752
Power supply			V/ph/Hz 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50									
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	916	1062	1140	1218	1303	1382	1450	1522	1614	1693
Total power input	(1)	kW	164	187	196	214	225	242	253	268	284	292
EER	(1)	kW/kW	5,58	5,68	5,82	5,69	5,80	5,72	5,74	5,68	5,68	5,80
ESEER	(1)	kW/kW	7,35	7,43	7,46	7,24	7,32	7,28	7,27	7,12	7,39	7,39
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	913	1058	1137	1214	1299	1377	1445	1517	1609	1688
EER	(1)(2)	kW/kW	5,37	5,42	5,62	5,43	5,60	5,46	5,50	5,42	5,45	5,54
ESEER	(1)(2)	kW/kW	6,44	6,56	6,80	6,41	6,67	6,47	6,49	6,36	6,58	6,58
Cooling energy class			A	A	A	A	A	A	A			
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	158	183	196	210	224	238	250	262	278	291
Pressure drop	(1)	kPa	40,0	51,5	37,4	51,4	39,8	50,4	46,7	51,5	42,5	46,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	185	214	229	246	262	279	292	307	326	341
Pressure drop	(1)	kPa	44,0	53,8	31,6	56,2	33,7	52,9	49,5	54,7	53,1	58,0
COMPRESSORS												
Compressors nr.		N°	2	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2	2
NOISE LEVEL												
Noise Pressure	(3)	dB(A)	81	81	81	81	81	81	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	100	100	100	100	100	100	101	102	102	102
SIZE AND WEIGHT												
A	(6)	mm	4430	4430	4440	4470	4470	4470	4565	4650	5270	5270
B	(6)	mm	1270	1270	1270	1270	1320	1270	1320	1320	1320	1320
H	(6)	mm	2210	2210	2280	2250	2330	2280	2380	2380	2380	2380
Operating weight	(6)	kg	6150	6500	7100	7070	7500	7300	7760	7820	8360	8360

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

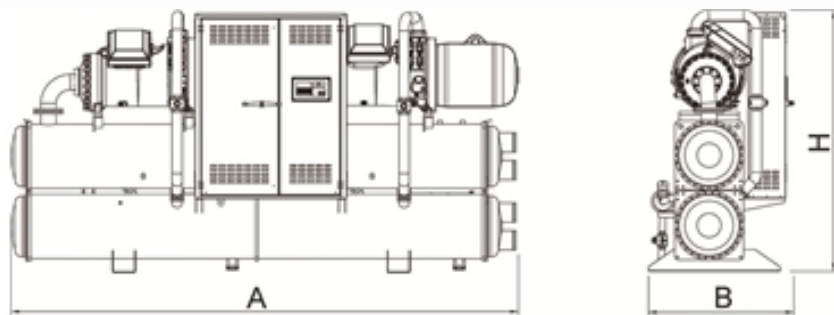
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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

5 Sound power level in cooling, indoors.

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

Certified data in EUROVENT



Commercial and industrial chillers

i-FX-W (1+i) 1402 - 4652**High efficiency water cooled chiller
488-1637 kW**

Single circuit indoor unit for the production of chilled water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R134a, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Climaveneta. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions. The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

Controls**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

CA High energy efficiency units

Features**HIGH EFFICIENCY**

Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

FLEXIBILITY

Unit featured by remarkable application flexibility thanks to the inverter technology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performances and maximum efficiency.

TOTAL VERSATILITY

Unit designed gathering in a single circuit a compressor with step regulation and one working with inverter, in order to guarantee the best answer to plant necessities both at full and at part loads.

MAXIMUM COMPACTNESS

Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

Accessory

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation's control





i-FX-W (1+i)			1402	1752	1902	2152	2602	3002	3402	3852	4252	4652
Power supply			V/ph/Hz									
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	(1)	kW	488	610	661	752	917	1049	1189	1351	1486	1637
Total power input	(1)	kW	87,6	107	116	132	161	184	206	233	260	289
EER	(1)	kW/kW	5,57	5,70	5,69	5,68	5,68	5,71	5,76	5,79	5,71	5,66
ESEER	(1)	kW/kW	8,52	8,57	8,47	8,62	8,63	8,55	8,56	8,60	8,44	8,39
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	487	608	659	750	914	1046	1186	1348	1482	1632
EER	(1)(2)	kW/kW	5,37	5,49	5,48	5,47	5,48	5,52	5,58	5,62	5,52	5,47
ESEER	(1)(2)	kW/kW	7,46	7,51	7,40	7,53	7,53	7,59	7,65	7,74	7,49	7,44
Cooling energy class												
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	84,0	105	114	129	158	181	205	233	256	282
Pressure drop	(1)	kPa	30,5	34,7	33,8	33,2	37,1	37,5	31,9	30,9	37,3	45,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	98,8	123	133	152	185	212	240	272	300	331
Pressure drop	(1)	kPa	37,4	35,4	41,7	41,5	38,7	30,0	33,3	29,6	35,9	29,5
COMPRESSORS												
Compressors nr.		N°	2	2	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL												
Noise Pressure	(3)	dB(A)	80	79	79	81	81	81	80	80	82	82
Sound power level in cooling	(4)(5)	dB(A)	98	98	98	100	100	100	100	100	102	102
SIZE AND WEIGHT												
A	(6)	mm	2950	3350	3350	3350	4500	4500	4600	4650	4650	4650
B	(6)	mm	1380	1450	1450	1480	1420	1420	1450	1510	1510	1510
H	(6)	mm	2000	2270	2270	2270	2270	2270	2350	2500	2500	2500
Operating weight	(6)	kg	3340	4190	4280	4680	6420	7260	7960	8490	8580	8970

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

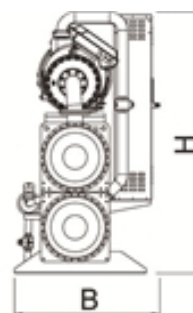
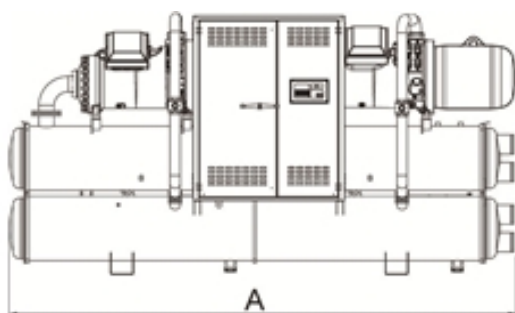
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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

5 Sound power level in cooling, indoors.

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

Certified data in EUROVENT



Commercial and industrial chillers

TECS2-W 0251 - 1954



High efficiency water cooled chiller 241-1949 kW

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with R134a, electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator.

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

HC	High Condensing
LC	Low Condensing

Configurations

-	Basic function
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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.

DEDICATED VERSIONS

Dedicated versions for different applications: version HC, High Condensing, for dry-cooler, and version LC, Low Condensing, for cooling tower or ground source applications.

EXTREMELY SILENT OPERATION

Extremely silent operation in line with the best on the market, and highly reduced vibrations

LOW INRUSH CURRENTS

Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessory

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Leak detector
- Set-up for remote connectivity with ModBus/Echelon protocol cards





TECS2-W / HC			0251	0311	0351	0411	0512	0612	0712
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	241	293	359	405	497	588	716
Total power input	(1)	kW	46,0	57,0	69,2	78,9	94,8	114	139
EER	(1)	kW/kW	5,24	5,15	5,19	5,13	5,24	5,16	5,14
ESEER	(1)	kW/kW	8,70	8,83	8,84	8,95	9,08	9,16	9,04
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	240	292	358	404	496	586	714
EER	(1)(2)	kW/kW	5,05	4,94	4,97	4,96	5,08	4,97	4,96
ESEER	(1)(2)	kW/kW	7,72	7,64	7,59	7,82	7,94	7,80	7,75
Cooling energy class			A	B	B	B	A	B	B
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	41,5	50,5	61,8	69,7	85,6	101	123
Pressure drop	(1)	kPa	35,7	38,6	36,7	28,6	38,0	42,8	32,5
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	49,2	60,1	73,4	83,0	102	120	147
Pressure drop	(1)	kPa	25,4	38,5	46,0	37,1	24,2	38,0	45,0
COMPRESSORS									
Compressors nr.	N°		1	1	1	1	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	73	75	74	76	76	77	76
Sound power level in cooling	(4)(5)	dB(A)	91	93	92	94	94	95	94
SIZE AND WEIGHT									
A	(6)	mm	2990	2990	2990	2990	3490	3490	3490
B	(6)	mm	950	950	950	950	1300	1300	1300
H	(6)	mm	1900	1900	1900	1900	1800	1800	1800
Operating weight	(6)	kg	1450	1450	1570	1740	2640	2620	3010

TECS2-W / HC			0812	0913	1053	1213	1414	1614
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	811	881	1045	1213	1405	1618
Total power input	(1)	kW	158	171	203	237	269	316
EER	(1)	kW/kW	5,14	5,15	5,15	5,12	5,23	5,13
ESEER	(1)	kW/kW	9,21	9,13	8,96	9,12	9,16	9,20
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	809	879	1042	1210	1402	1615
EER	(1)(2)	kW/kW	4,98	5,02	5,00	5,01	5,09	5,01
ESEER	(1)(2)	kW/kW	8,04	8,12	7,88	8,22	8,18	8,32
Cooling energy class			B	B	B	B	A	B
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	140	152	180	209	242	279
Pressure drop	(1)	kPa	28,6	36,6	33,0	27,9	35,1	27,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	166	180	214	249	287	332
Pressure drop	(1)	kPa	39,2	21,5	34,4	23,5	24,7	24,2
COMPRESSORS								
Compressors nr.	N°		2	3	3	3	4	4
No. Circuits	N°		1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3)	dB(A)	78	77	77	78	78	79
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	97	97	98
SIZE AND WEIGHT								
A	(6)	mm	3490	4990	4990	4990	5450	5450
B	(6)	mm	1300	1300	1300	1300	1300	1300
H	(6)	mm	1800	1800	1800	1800	1990	1990
Operating weight	(6)	kg	3160	3720	4380	4790	5240	5970

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

3 Average sound pressure level at 1m 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, indoors.

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

Certified data in EUROVENT

TECS2-W / LC		0511	0912	1012	1353	1453	1854	1954
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	488	879	978	1359	1461	1809	1949
Total power input	(1) kW	93,2	172	186	258	280	344	373
EER	(1) kW/kW	5,24	5,12	5,24	5,27	5,22	5,26	5,23
ESEER	(1) kW/kW	9,37	9,19	9,45	9,43	9,41	9,52	9,42
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	487	876	975	1356	1457	1802	1944
EER	(1)(2) kW/kW	5,01	4,91	5,03	5,07	5,06	5,08	5,07
ESEER	(1)(2) kW/kW	7,85	7,66	7,87	7,97	8,16	8,13	8,21
Cooling energy class		B	B	B	A	A	A	A
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	84,1	151	168	234	252	311	336
Pressure drop	(1) kPa	41,6	49,0	41,7	35,0	40,5	58,2	39,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1) m³/h	99,8	180	200	277	299	369	398
Pressure drop	(1) kPa	53,6	47,1	56,6	57,7	33,9	30,0	34,9
COMPRESSORS								
Compressors nr.	N°	1	2	2	3	3	4	4
No. Circuits	N°	1	1	1	1	1	1	1
NOISE LEVEL								
Noise Pressure	(3) dB(A)	77	78	79	78	79	80	80
Sound power level in cooling	(4)(5) dB(A)	95	96	97	97	98	99	99
SIZE AND WEIGHT								
A	(6) mm	2990	3490	3490	4990	4990	5450	5450
B	(6) mm	950	1300	1300	1300	1300	1300	1300
H	(6) mm	1900	1800	1800	1800	1800	1990	1990
Operating weight	(6) kg	1740	3100	3160	4620	4790	5430	5970

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

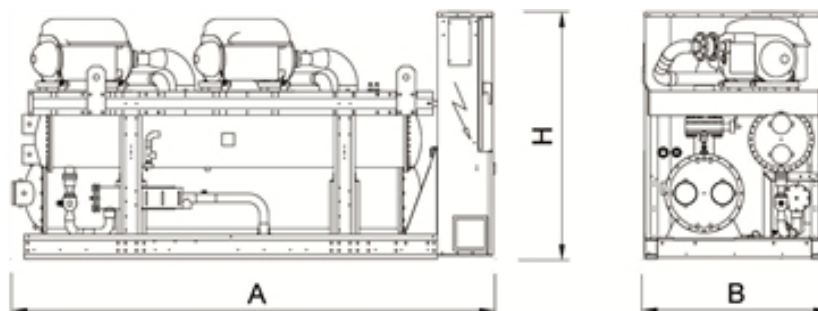
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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

5 Sound power level in cooling, indoors.

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

Certified data in EUROVENT



Commercial and industrial chillers

TECS2-W HFO 0351 - 1414**High efficiency water cooled chiller
340-1364 kW**

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with refrigerant HFO (1234-ze), electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator.

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**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

HC High Condensing

Configurations

- Basic function

H Function with heat pump, reversible on hydraulic side

Features**HFO REFRIGERANT**

4th generation refrigerant HFO 1234ze, with zero impact on the ozone layer and negligible greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of HFO 1234ze =7, GWP of R134a =1430).

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.

HEAT PUMP FUNCTION

Heat pump function water circuit side reversal

EXTREMELY SILENT OPERATION

Extremely silent operation in line with the best on the market, and highly reduced vibrations

LOW INRUSH CURRENTS

Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessory

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Several devices for condensation's control
- Leak detector
- Set-up for remote connectivity with ModBus/Echelon protocol cards



TECS2-W HFO / HC			0351	0712	1053	1414
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE						
COOLING ONLY (GROSS VALUE)						
Cooling capacity	(1)	kW	340	676	1015	1364
Total power input	(1)	kW	63,0	127	190	251
EER	(1)	kW/kW	5,39	5,34	5,35	5,43
ESEER	(1)	kW/kW	9,01	9,40	9,32	9,51
COOLING ONLY (EN14511 VALUE)						
Cooling capacity	(1)(2)	kW	339	674	1013	1361
EER	(1)(2)	kW/kW	5,18	5,17	5,19	5,29
ESEER	(1)(2)	kW/kW	7,83	8,12	8,22	8,50
Cooling energy class			A	A	A	A
EXCHANGERS						
HEAT EXCHANGER USER SIDE IN REFRIGERATION						
Water flow	(1)	m³/h	58,5	116	175	235
Pressure drop	(1)	kPa	32,9	29,0	31,1	33,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION						
Water flow	(1)	m³/h	69,1	138	207	277
Pressure drop	(1)	kPa	40,8	39,6	32,0	23,0
COMPRESSORS						
Compressors nr.	N°		1	2	3	4
No. Circuits	N°		1	1	1	1
NOISE LEVEL						
Noise Pressure	(3)	dB(A)	74	76	77	78
Sound power level in cooling	(4)(5)	dB(A)	92	94	96	97
SIZE AND WEIGHT						
A	(6)	mm	2990	3490	4990	5450
B	(6)	mm	950	1300	1300	1300
H	(6)	mm	1900	1800	1800	1990
Operating weight	(6)	kg	1570	3010	4380	5240

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2013.

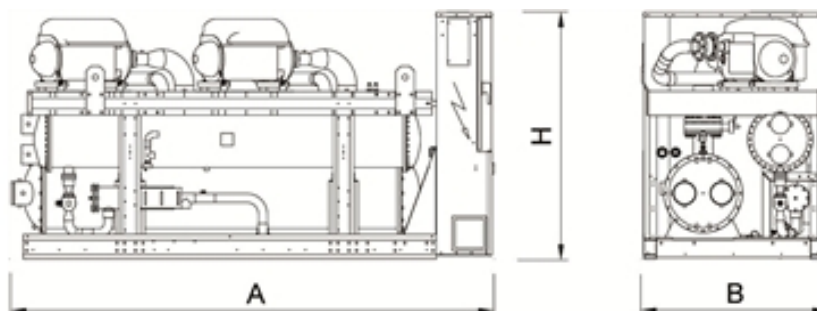
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

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

5 Sound power level in cooling, indoors.

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

Certified data in EUROVENT



Commercial and industrial chillers

TX-W 1A00 - 6D00



High efficiency water cooled chiller 246-4191 kW

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with R134a, electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator.

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

CX4

The brandnew CX4 controller offers advanced functions and algorithms..

When units are supplied with digital interface on the machine, it comes with a large touchscreen display 13 "colour.

The screens are developed with graphics created exclusively for the family TX-W. The home page allows the immediate visualization of the status of the unit and its main operating parameters, while more specific screens allow a closer view of all the variables related to the compressors, the heat exchangers and the refrigerant circuit. It is possible the analysis in graphical form of the monitored and measured variables.

Secure access to data is guaranteed by three different password levels (user, service, manufacturer).

The controller allows easy assessment and operation on the unit by a multi-level menu, with selectable user's language.

The temperature control is characterized by the continuous capacity modulation, based on PID algorithms and related to the leaving water temperature, with adjustment on the neutral areas.

The diagnostics includes a complete alarm management, with the "black box" (via PC) and registration of alarms (via display or PC) for a better analysis of the unit performance.

Supervision is achievable through various options, with proprietary devices or with the integration in third party systems by means of the most common communication protocols (ModBus, BACnet-over-IP, Echelon LonWorks, BACnet MS / TP...). Connection with remote touchscreen is available.

The presence of programmable timer allows the creation of an operating profile containing up to 7 days and 6 type bands, with automatic transmission from summer time to winter time.

For systems consisting of multiple units, the management of the resources is possible via optional proprietary devices.

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

Configurations

- Basic function

Features

NO COMPROMISE

Large availability in the combinations of the compressors (up to 6 compressors on the same unit), plus the flexibility in the choice of the heat exchangers can satisfy each specific installation and design requirements: the highest full load efficiency, the best initial investment, an unrivaled seasonal efficiency, an operating range suitable for applications in systems operating at high or low condensation (dry coolers or cooling towers)

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.

FLEXIBLE COMPOSITION

Choice between horizontal or diagonal arrangement of the heat exchangers, with dimensions that favor the compact overall dimensions in height or plant, water connections to the evaporator and condenser that can be deployed on the right or left, to fit for all applications

ADAPTABILITY

Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

LOW INRUSH CURRENTS

Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION

Extremely silent operation in line with the best on the market, and highly reduced vibrations

Accessory

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation's control
- Fast restart
- filters kit for conformity to EN 61000-6-3 (residential ambients)



**NEW!**

TX-W			1A00	1B00	1B1A	1B2A	1B3A	1C00	1C1A	1C1B
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity range	(1)	kW	246÷352	343÷490	589÷841	830÷1185	1084÷1549	407÷582	651÷930	749÷1070
EER (up to)	(1)	kW/kW	6,23	6,30	6,24	6,07	6,26	9,44	6,33	6,35
ESEER (up to)	(1)	kW/kW	9,70	9,49	9,91	9,55	9,86	9,91	10,00	9,99
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	246	367	586	827	1157	464	649	746
EER	(1)(2)	kW/kW	6,05	6,06	6,07	5,93	6,02	6,14	6,16	6,18
ESEER	(1)(2)	kW/kW	8,77	8,46	8,83	8,66	8,69	8,90	8,86	8,87
Cooling energy class			A	A	A	A	A	A	A	A
COMPRESSORS										
Compressors nr.	N°		1	1	2	3	4	1	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	75	76	78	79	79	77	78	79
Sound power level in cooling	(4)(5)	dB(A)	93	94	97	98	99	95	97	98
SIZE AND WEIGHT										
A	(6)(7)	mm	2990	2990	3090	3640	4640	2990	3090	3090
B	(6)(7)	mm	950	950	1700	1700	1700	950	1700	1700
H	(6)(7)	mm	1990	1990	2240	2260	2260	1990	2240	2240
Operating weight	(6)(7)	kg	3060	3220	5160	7240	9200	3320	5270	5400

TX-W			1C3B	1D00	1D1A	1D1B	1D1C	1D2C	1D3C	1D4C
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity range	(1)	kW	1436÷2051	468÷669	711÷1015	809÷1155	871÷1244	1290÷1843	1696÷2423	2118÷3025
EER (up to)	(1)	kW/kW	6,36	6,25	6,26	6,27	6,34	6,39	6,44	6,58
ESEER (up to)	(1)	kW/kW	9,80	9,41	9,88	9,86	10,10	10,10	10,00	10,30
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	-	667	758	864	1077	1285	-	-
EER	(1)(2)	kW/kW	-	5,97	5,97	6,04	6,04	6,20	-	-
ESEER	(1)(2)	kW/kW	-	8,10	8,55	8,68	8,67	8,86	-	-
Cooling energy class			-	A	A	A	A	A	-	-
COMPRESSORS										
Compressors nr.	N°		4	1	2	2	2	3	4	5
No. Circuits	N°		1	1	1	1	1	1	1	1
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	80	78	79	79	80	80	81	81
Sound power level in cooling	(4)(5)	dB(A)	100	96	98	98	99	100	101	102
SIZE AND WEIGHT										
A	(6)(7)	mm	4710	2990	3090	3090	3090	4640	4710	5700
B	(6)(7)	mm	1930	950	1700	1700	1700	1700	1930	2250
H	(6)(7)	mm	2400	1990	2240	2240	2240	2260	2400	2400
Operating weight	(6)(7)	kg	11030	3410	5370	5390	5480	9090	11380	15330

TX-W			1D5C	2A00	2B00	2B1A	2B2A	2B3A	2C00	2C1A
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity range	(1)	kW	2535÷3621	491÷702	687÷981	925÷1321	1179÷1684	1424÷2034	811÷1159	1065÷1521
EER (up to)	(1)	kW/kW	6,65	6,18	6,28	6,12	6,30	6,34	6,42	6,43
ESEER (up to)	(1)	kW/kW	10,20	9,98	9,90	9,51	9,74	10,00	10,20	10,10
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	-	526	685	987	1257	-	925	1135
EER	(1)(2)	kW/kW	-	5,94	6,10	5,90	6,03	-	6,09	6,17
ESEER	(1)(2)	kW/kW	-	8,82	8,80	8,61	8,51	-	8,95	8,72
Cooling energy class			-	A	A	A	A	-	A	A
COMPRESSORS										
Compressors nr.	N°		6	2	2	3	4	5	2	3
No. Circuits	N°		1	1	1	1	1	1	1	1
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	82	78	78	79	80	79	79	79
Sound power level in cooling	(4)(5)	dB(A)	103	96	97	98	100	100	98	99
SIZE AND WEIGHT										
A	(6)(7)	mm	6750	2990	3090	3640	4710	5700	3090	4640
B	(6)(7)	mm	2300	950	1700	1700	1930	2250	1700	1700
H	(6)(7)	mm	2450	1990	2240	2260	2400	2400	2240	2260
Operating weight	(6)(7)	kg	20580	3850	5320	7410	10700	13850	5390	8770

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2011.

3 Average sound pressure level at 1m 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, indoors.

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

7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.

Certified data in EUROVENT

TX-W			2C1B	2D00	2D1B	2D1C	2D2B	2D2C	2D3C	2D4C
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity range	(1)	kW	1161+1658	930+1329	1287+1838	1352+1932	1629+2327	1760+2514	2190+3128	2615+3735
EER (up to)	(1)	kW/kW	6,44	6,30	6,35	6,39	6,34	6,40	6,53	6,63
ESEER (up to)	(1)	kW/kW	10,00	10,10	9,88	10,00	9,81	9,99	10,20	10,10
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	1237	993	1464	-	-	-	-	-
EER	(1)(2)	kW/kW	6,20	5,88	6,09	-	-	-	-	-
ESEER	(1)(2)	kW/kW	8,78	8,82	8,39	-	-	-	-	-
Cooling energy class			A	A	A	-	-	-	-	-
COMPRESSORS										
Compressors nr.	N°		3	2	3	3	4	4	5	6
No. Circuits	N°		1	1	1	1	1	1	1	1
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	79	80	80	80	81	82	81	82
Sound power level in cooling	(4)(5)	dB(A)	99	99	100	100	101	102	102	103
SIZE AND WEIGHT										
A	(6)(7)	mm	4640	3090	4640	4640	4710	4710	5700	6750
B	(6)(7)	mm	1700	1700	1700	1700	1930	1930	2250	2300
H	(6)(7)	mm	2260	2240	2260	2260	2400	2400	2400	2450
Operating weight	(6)(7)	kg	8990	5460	9090	9170	11310	11520	15420	20750

TX-W			3A00	3B00	3B1A	3B2A	3B3A	3C00	3C1A	3C1B
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity range	(1)	kW	734+1049	1020+1457	1274+1820	1519+2170	1774+2534	1226+1752	1471+2102	1567+2239
EER (up to)	(1)	kW/kW	6,05	6,14	6,32	6,37	6,43	6,48	6,42	6,44
ESEER (up to)	(1)	kW/kW	9,64	9,59	9,66	9,97	9,94	10,20	10,10	10,00
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	732	1091	1359	-	-	1310	-	-
EER	(1)(2)	kW/kW	5,91	5,92	6,06	-	-	6,23	-	-
ESEER	(1)(2)	kW/kW	8,75	8,68	8,50	-	-	8,92	-	-
Cooling energy class			A	A	A	-	-	A	-	-
COMPRESSORS										
Compressors nr.	N°		3	3	4	5	6	3	4	4
No. Circuits	N°		1	1	1	1	1	1	1	1
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	79	80	80	80	80	80	81	81
Sound power level in cooling	(4)(5)	dB(A)	98	99	100	101	101	100	101	101
SIZE AND WEIGHT										
A	(6)(7)	mm	3640	3640	4710	5700	6750	4640	4710	4710
B	(6)(7)	mm	1700	1700	1930	2250	2300	1700	1930	1930
H	(6)(7)	mm	2260	2260	2400	2400	2450	2260	2400	2400
Operating weight	(6)(7)	kg	7170	7520	10770	14050	18670	8990	11030	11260

TX-W			3C2B	3D00	3D1A	3D1C	3D2C	3D3C	4B00	4B1A
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity range	(1)	kW	1911+2730	1416+2023	1662+2374	1824+2605	2261+3230	2694+3849	1370+1957	1614+2306
EER (up to)	(1)	kW/kW	6,52	6,36	6,33	6,37	6,50	6,62	6,34	6,40
ESEER (up to)	(1)	kW/kW	10,10	10,10	9,79	9,91	10,20	10,20	9,69	9,89
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	-	-	-	-	-	-	1462	-
EER	(1)(2)	kW/kW	-	-	-	-	-	-	6,09	-
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	8,57	-
Cooling energy class			-	-	-	-	-	-	A	-
COMPRESSORS										
Compressors nr.	N°		5	3	4	4	5	6	4	5
No. Circuits	N°		1	1	1	1	1	1	1	1
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	81	81	81	82	82	82	80	80
Sound power level in cooling	(4)(5)	dB(A)	102	101	101	102	103	103	100	101
SIZE AND WEIGHT										
A	(6)(7)	mm	5700	4640	4710	4710	5700	6750	4710	5700
B	(6)(7)	mm	2250	1700	1930	1930	2250	2300	1930	2250
H	(6)(7)	mm	2400	2260	2400	2400	2400	2450	2400	2400
Operating weight	(6)(7)	kg	14910	9310	11310	11650	15500	21010	10940	14300

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2011.

3 Average sound pressure level at 1m 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, indoors.

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

7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.

Certified data in EUROVENT

TX-W			4B2A	4C00	4C1B	4D00	4D1C	4D2C	5B00	5B1A
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity range	(1)	kW	1869+2670	1633+2333	1979+2827	1885+2693	2334+3334	2774+3963	1708+2440	1964+2806
EER (up to)	(1)	kW/kW	6,46	6,48	6,55	6,34	6,49	6,60	6,42	6,48
ESEER (up to)	(1)	kW/kW	9,91	10,20	10,10	9,92	9,97	10,10	9,92	9,83
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	-	-	-	-	-	-	-	-
EER	(1)(2)	kW/kW	-	-	-	-	-	-	-	-
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-	-
Cooling energy class			-	-	-	-	-	-	-	-
COMPRESSORS										
Compressors nr.		N°	6	4	5	4	5	6	5	6
No. Circuits		N°	1	1	1	1	1	1	1	1
NOISE LEVEL										
Noise Pressure	(3)	dB(A)	80	81	81	82	82	82	80	81
Sound power level in cooling	(4)(5)	dB(A)	101	101	102	102	103	103	101	102
SIZE AND WEIGHT										
A	(6)(7)	mm	6750	4710	5700	4710	5700	6750	5700	6750
B	(6)(7)	mm	2300	1930	2250	1930	2250	2300	2250	2300
H	(6)(7)	mm	2450	2400	2400	2400	2400	2450	2400	2450
Operating weight	(6)(7)	kg	18880	11310	15000	11650	15730	21180	14550	19150

TX-W			5C00	5C1B	5D00	5D1C	6B00	6C00	6D00
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 range	(1)	kW	2045+2922	2389+3413	2406+3437	2854+4077	2060+2943	2455+3507	2934+4191
EER (up to)	(1)	kW/kW	6,58	6,65	6,47	6,59	6,50	6,67	6,58
ESEER (up to)	(1)	kW/kW	10,30	10,20	10,10	9,99	9,89	10,40	10,00
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	-	-	-	-	-	-	-
EER	(1)(2)	kW/kW	-	-	-	-	-	-	-
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-
Cooling energy class			-	-	-	-	-	-	-
COMPRESSORS									
Compressors nr.		N°	5	6	5	6	6	6	6
No. Circuits		N°	1	1	1	1	1	1	1
NOISE LEVEL									
Noise Pressure	(3)	dB(A)	81	82	82	83	81	82	83
Sound power level in cooling	(4)(5)	dB(A)	102	103	103	104	102	103	104
SIZE AND WEIGHT									
A	(6)(7)	mm	5700	6750	5700	6750	6750	6750	6750
B	(6)(7)	mm	2250	2300	2250	2300	2300	2300	2300
H	(6)(7)	mm	2400	2450	2400	2450	2450	2450	2450
Operating weight	(6)(7)	kg	15180	20240	15890	21350	19400	20410	21560

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C.

2 Values in compliance with EN14511-3:2011.

3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

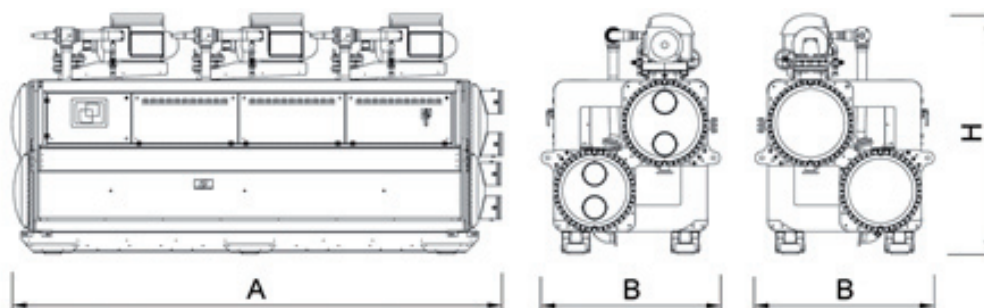
4 Sound power on the basis of measurements made in compliance with ISO 9614.

5 Sound power level in cooling, indoors.

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

7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.

Certified data in EUROVENT



Commercial and industrial chillers

NECS-ME 0152 - 1604



Version

B Basic

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achieve better energy efficiencies with environment full respect (ODP = 0)

UNIT DESIGNED FOR COMBINATION WITH REMOTE CONDENSER

Compact units, designed for residential- and commercial air-conditioning systems

INTEGRAL CONTROL AND ADJUSTMENT

The condenserless unit comes complete with built-in microprocessor control with possible connection to the condenser.

INTEGRATED HYDRONIC MODULE

The built-in hydronic module already contains the main water circuit components; it is available with single or double pump configuration, with low or high head.

Accessory

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Acoustical enclosure to reduce the noise emissions.
- Rubber anti-vibration mounting kit

Condenserless unit 39,5-432 kW

Indoor unit for the production of chilled water that may be connected to a remote condenser with hermetic rotary scroll compressors working with R410A, braze-welded plate-type exchanger and thermal expansion valve. Panels and base in hot-dip galvanised sheet steel with paint finish.

Controls

W3000 Base – W3000SE Compact

The controller in two different versions according to the unit's type:

W3000 Base: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a menu up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)

W3000SE Compact: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-language menu, with selectable language setting on site. This controller also includes an internal clock.

All the W3000 electronic controllers offer advanced functions and algorithms.

The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed.

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, Bacnet-over-IP, Echelon LonWorks.

Compatibility with the remote keyboard managing up to 10 units.

The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters.

This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.





NECS-ME / B			0152	0182	0202	0252	0262	0302	0352	0412	0452	0512	0552
Power supply			V/ph/Hz 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50										
PERFORMANCE													
COOLING													
Cooling capacity	(1)	kW	39,5	45,8	53,6	60,5	67,4	80,2	92,8	105	117	131	151
Total power input	(1)	kW	12,0	13,5	15,7	18,1	20,0	23,4	26,9	30,3	33,9	37,6	43,3
EER	(1)	kW/kW	3,29	3,39	3,41	3,34	3,37	3,43	3,45	3,45	3,46	3,49	3,48
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
Water flow	(1)	m³/h	6,80	7,89	9,23	10,4	11,6	13,8	16,0	18,0	20,2	22,6	25,9
Pressure drop	(1)	kPa	48,0	41,3	41,0	39,1	48,4	29,4	27,6	35,0	33,1	32,2	28,9
COMPRESSORS													
Compressors nr.		N°	2	2	2	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL													
Noise Pressure	(2)	dB(A)	42	43	43	43	44	44	45	45	46	46	47
Sound power level in cooling	(3)(4)	dB(A)	73	74	74	74	75	76	77	77	78	78	79
SIZE AND WEIGHT													
A	(5)	mm	1130	1130	1130	1130	1130	1310	1310	1310	1310	1310	1310
B	(5)	mm	669	669	669	669	669	893	893	893	893	893	893
H	(5)	mm	1255	1255	1255	1255	1255	1496	1496	1496	1496	1496	1496
Operating weight	(5)	kg	270	280	290	295	300	410	500	585	615	645	680

NECS-ME / B			0612	0604	0704	0804	0904	1004	1104	1204	1404	1604
Power supply			V/ph/Hz 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50									
PERFORMANCE												
COOLING												
Cooling capacity	(1)	kW	170	161	186	207	235	263	301	339	387	432
Total power input	(1)	kW	48,9	46,9	53,7	60,6	67,9	75,2	86,5	97,8	111	124
EER	(1)	kW/kW	3,47	3,43	3,46	3,42	3,47	3,50	3,47	3,47	3,49	3,48
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	(1)	m³/h	29,3	27,7	31,9	35,7	40,5	45,3	51,7	58,4	66,5	74,3
Pressure drop	(1)	kPa	36,8	32,5	31,0	38,8	38,9	39,4	36,7	46,7	49,6	54,7
COMPRESSORS												
Compressors nr.		N°	2	4	4	4	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2	2	2	2
NOISE LEVEL												
Noise Pressure	(2)	dB(A)	47	54	55	56	57	58	59	59	59	59
Sound power level in cooling	(3)(4)	dB(A)	79	86	87	88	89	90	91	91	91	91
SIZE AND WEIGHT												
A	(5)	mm	1310	2227	2227	2227	2227	2227	2227	2227	2227	2227
B	(5)	mm	893	1020	1020	1020	1020	1020	1020	1020	1020	1020
H	(5)	mm	1496	1780	1780	1780	1780	1780	1780	1780	1780	1780
Operating weight	(5)	kg	700	755	950	1125	1185	1250	1330	1370	1430	1480

Notes:

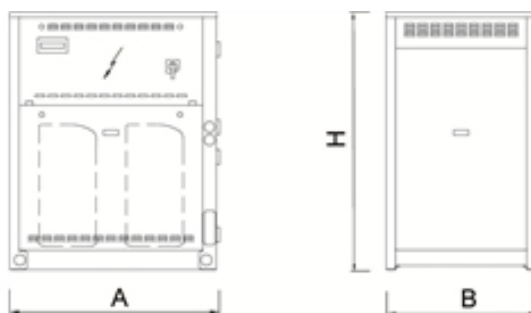
1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Condensation temperature = 47°C.

2 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.

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

4 Sound power level in cooling, indoors.

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



Commercial and industrial chillers

FOCS-ME 0401 - 1902



Condenserless unit 79,2-410 kW

Indoor unit for the production of chilled water combined with a remote condenser, with semi-hermetic screw compressors optimized for R134a, shell and tube evaporator designed by Climaveneta and thermostatic expansion 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.

The high performance's level is achieved thanks to the accurate sizing of all internal components.

Controls

W3000SE Large

The W3000 SE Large controller offers advanced functions and algorithms.

The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units.

Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).

The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic.



Version

B Basic

Features

COMPACTNESS

Compactness in terms of overall size and weight, helping installation and working on site

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

EXTENSIVE RANGE OF OPERATION

Extensive range of operation with remote condenser operating up to 46°C air temperature

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessory

- Soft start
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Trend, Bacnet protocol board.
- Remote control keyboard (distance to 200m and to 500m)
- Electronic expansion valve
- Integral acoustical enclosure (type base or plus)



FOCS-ME / B		0401	0501	0551	0651	0751	0802	0851
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								
Cooling capacity	(1) kW	79,2	98,2	119	135	151	162	181
Total power input	(1) kW	22,7	27,9	32,5	37,6	42,3	45,6	48,9
EER	(1) kW/kW	3,49	3,52	3,67	3,59	3,57	3,55	3,71
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	13,6	16,9	20,5	23,3	26,0	27,8	31,2
Pressure drop	(1) kPa	14,7	14,9	11,9	15,2	19,0	14,6	18,3
COMPRESSORS								
Compressors nr.	N°	1	1	1	1	1	2	1
No. Circuits	N°	1	1	1	1	1	2	1
NOISE LEVEL								
Noise Pressure	(2) dB(A)	59	60	62	62	62	62	62
Sound power level in cooling	(3)(4) dB(A)	91	92	94	94	94	94	94
SIZE AND WEIGHT								
A	(5) mm	2024	2330	2400	2400	2400	2890	2947
B	(5) mm	880	880	880	880	880	1081	880
H	(5) mm	1300	1300	1490	1490	1490	1430	1490
Operating weight	(5) kg	720	750	1040	1060	1060	1280	1130

FOCS-ME / B		0951	1002	1102	1302	1502	1702	1902
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								
Cooling capacity	(1) kW	203	200	230	273	312	360	410
Total power input	(1) kW	56,5	56,0	64,6	75,3	85,0	97,7	113
EER	(1) kW/kW	3,59	3,57	3,56	3,63	3,67	3,69	3,63
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1) m³/h	35,0	34,4	39,6	47,0	53,7	62,0	70,7
Pressure drop	(1) kPa	34,8	33,7	44,6	38,7	35,0	46,5	25,0
COMPRESSORS								
Compressors nr.	N°	1	2	2	2	2	2	2
No. Circuits	N°	1	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(2) dB(A)	62	63	65	65	65	65	65
Sound power level in cooling	(3)(4) dB(A)	94	95	97	97	97	97	97
SIZE AND WEIGHT								
A	(5) mm	2947	2890	3016	3277	3277	3292	3362
B	(5) mm	880	1081	1081	1081	1081	1081	1081
H	(5) mm	1500	1430	1480	1580	1580	1590	1700
Operating weight	(5) kg	1150	1290	1680	1970	1990	2010	2300

Notes:

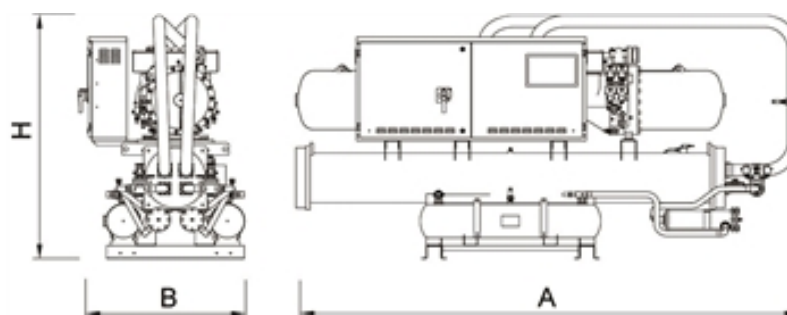
1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Condensation temperature = 47°C.

2 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.

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

4 Sound power level in cooling, indoors.

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



Commercial and industrial chillers

FOCS-ME 1001 - 9604

**Version**

B	Basic
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Features**COMPACTNESS**

Compactness in terms of overall size and weight, helping installation and working on site

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

EXTENSIVE RANGE OF OPERATION

Extensive range of operation with remote condenser operating up to 46°C air temperature

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessory

- Integral acoustical enclosure (type base or plus)
- Electronic expansion valve
- Soft start
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Trend, Bacnet protocol board.
- Remote control keyboard (distance to 200m and to 500m)

Condenserless unit 219-2240 kW

Indoor unit for the production of chilled water combined with a remote condenser, with semi-hermetic screw compressors optimized for R134a, shell and tube evaporator designed by Climaveneta and thermostatic expansion 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. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Controls**W3000SE Large**

The W3000 SE Large controller offers advanced functions and algorithms.

The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units.

Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).

The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic.





FOCS-ME / B		1001	1201	1301	1351	1601	1801	2002	2402	2602
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	400/3/50	400/3/50
PERFORMANCE										
COOLING										
Cooling capacity	(1) kW	219	262	295	333	389	445	419	516	591
Total power input	(1) kW	59,7	69,7	77,5	85,4	101	118	114	139	155
EER	(1) kW/kW	3,67	3,75	3,81	3,90	3,83	3,77	3,68	3,71	3,81
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) m³/h	37,7	45,1	50,9	57,3	67,0	76,6	72,0	88,9	102
Pressure drop	(1) kPa	37,3	35,5	31,3	39,8	22,4	29,3	23,9	36,4	25,9
COMPRESSORS										
Compressors nr.	N°	1	1	1	1	1	1	2	2	2
No. Circuits	N°	1	1	1	1	1	1	2	2	2
NOISE LEVEL										
Noise Pressure	(2) dB(A)	62	65	65	65	65	65	65	65	67
Sound power level in cooling	(3)(4) dB(A)	94	97	97	97	97	97	97	97	99
SIZE AND WEIGHT										
A	(5) mm	2835	3120	3120	3120	3530	3530	3730	3730	4500
B	(5) mm	900	900	900	900	900	900	1150	1150	1150
H	(5) mm	1800	1800	1800	1800	1950	1950	2000	2000	2000
Operating weight	(5) kg	1380	1870	1910	1920	2640	2650	2750	3420	3710

FOCS-ME / B		2702	3202	3602	4202	4502	4802	5003	5203	5403
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	400/3/50	400/3/50
PERFORMANCE										
COOLING										
Cooling capacity	(1) kW	674	759	885	1000	1061	1120	1184	1251	1304
Total power input	(1) kW	171	202	236	265	277	290	320	337	353
EER	(1) kW/kW	3,94	3,75	3,75	3,78	3,82	3,86	3,70	3,72	3,69
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) m³/h	116	131	152	172	183	193	204	215	225
Pressure drop	(1) kPa	36,3	46,1	45,9	40,0	45,0	50,2	56,0	44,1	47,9
COMPRESSORS										
Compressors nr.	N°	2	2	2	2	2	2	3	3	3
No. Circuits	N°	2	2	2	2	2	2	3	3	3
NOISE LEVEL										
Noise Pressure	(2) dB(A)	67	67	67	67	67	67	69	69	69
Sound power level in cooling	(3)(4) dB(A)	99	99	99	99	99	99	101	101	101
SIZE AND WEIGHT										
A	(5) mm	4500	4500	4500	4500	4500	4500	4425	4425	4425
B	(5) mm	1150	1150	1150	1150	1150	1150	1700	1700	1700
H	(5) mm	2000	2000	2000	2000	2000	2000	1900	1900	1900
Operating weight	(5) kg	3730	4600	5050	5220	5250	5280	6810	6840	6850

FOCS-ME / B		5414	5904	6404	6804	7204	7804	8404	9004	9604
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	400/3/50	400/3/50
PERFORMANCE										
COOLING										
Cooling capacity	(1) kW	1348	1433	1548	1660	1769	1886	2001	2121	2240
Total power input	(1) kW	342	373	406	439	472	501	530	555	580
EER	(1) kW/kW	3,94	3,84	3,82	3,78	3,75	3,77	3,78	3,82	3,86
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) m³/h	232	247	267	286	305	325	344	365	386
Pressure drop	(1) kPa	36,3	41,1	35,2	40,4	45,9	52,7	40,1	45,1	50,3
COMPRESSORS										
Compressors nr.	N°	4	4	4	4	4	4	4	4	4
No. Circuits	N°	4	4	4	4	4	4	4	4	4
NOISE LEVEL										
Noise Pressure	(2) dB(A)	70	70	70	70	70	70	70	70	70
Sound power level in cooling	(3)(4) dB(A)	102	102	102	102	102	102	102	102	102
SIZE AND WEIGHT										
A	(5) mm	4500	4500	4500	4500	4500	4500	4500	4500	4500
B	(5) mm	2250	2250	2250	2250	2250	2250	2250	2250	2250
H	(5) mm	2000	2000	2000	2000	2000	2000	2000	2000	2000
Operating weight	(5) kg	7560	8400	9980	10010	10020	10190	10350	10420	10480

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Condensation temperature = 47°C.

2 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.

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

4 Sound power level in cooling, indoors.

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

