

CHILLER

hydronic - chiller

NECS 0152÷1204



Chiller, air source for outdoor installation

33,8 - 341 kW

Unit Description

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors dedicated for the use of R410A, axial-flow fans, braze-welded plate-type exchanger and thermal expansion valve. External panels in Peraluman and structure in aluminium sections. The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Commands

W3000 Base / W3000SE Compact

The controller can be chosen as: - W3000 Base: keypad and LED display - W3000SE Compact: 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 diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation. 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). Common features: 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. 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.

Versions

B	base version
HL	low noise, high efficiency, high outdoor temperature version
HT	high efficiency, high outdoor temperature version
LN	low noise version
SL	super-low noise version

Configurations

-	base function
D	partial condensing heat recovery function
R	total condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A has resulted in units offering better energy efficiency in full respect for the environment (ODP = 0)

TOTAL VERSATILITY

Climaveneta is the only company to offer units with Scroll compressors in 5 versions and 3 different configurations designed to satisfy all service system and application requirements

STANDARD SUPPLY WITH WATER FILTER ALREADY INSTALLED

The water filter is already installed as standard supply on all units, including those without hydronic kit. This simplifies installation procedures, while ensuring maximum working reliability

INTEGRATED HYDRONIC MODULE

The incorporated hydronic unit already contains the main water circuit components; it is available in various configurations with one or two pumps with high or low head and the buffer tank

Main accessories

- Set-up for remote connectivity with ModBus/Echelon/Bacnet protocol cards
- Remote keyboard (distance to 200m and to 500m)
- Soft starters
- Electronic expansion valve
- Rubber anti-vibration mounting kit. Spring anti-vibration mounting kit (4 compressors models only)





NECS / B

Models		0152	0182	0202	0252	0302	0352	0412	0452	0512	0552
COOLING											
Cooling capacity (1)	kW	38,1	45,1	50,5	57	76	86,8	96,9	112	127	145
Total power input (1)	kW	14,4	15,6	19,1	21,5	27,8	31,9	36,3	39,6	43,8	50,5
EER		2,65	2,89	2,64	2,65	2,73	2,72	2,67	2,83	2,90	2,87
ESEER		4,05	4,29	4,22	4,15	4,15	4,27	4,17	4,30	4,25	4,40
COOLING WITH PARTIAL RECOVERY											
Cooling capacity (2)	kW	39,5	46,8	52,4	59,2	78,9	90,1	101	117	131	150
Total power input (2)	kW	12,9	14,1	17,4	19,8	25,4	29,3	33,6	36,4	39,8	46
Desuperheater heating capacity (2)	kW	11,9	13	16,1	18,3	23,5	27,1	31,1	33,6	36,8	42,6
COOLING WITH TOTAL RECOVERY											
Cooling capacity (3)	kW										
Total power input (3)	kW										
Heat recovery capacity (3)	kW										
COMPRESSORS											
No. Compressors/No. Circuits	N.	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
NOISE LEVELS											
Sound power (4)	dB(A)	84	84	84	84	85	86	86	86	87	87
Sound pressure (5)	dB(A)	52	52	52	52	53	54	54	54	55	55
SIZE											
A (6)	mm	1695	1695	1695	1695	2195	2195	2745	2745	3245	3245
B (6)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120
H (6)	mm	1420	1420	1420	1420	1420	1420	1420	1420	1620	1620
Operating weight (6)	kg	380	410	420	430	630	660	740	800	950	970

Models		0612	0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING											
Cooling capacity (1)	kW	159	113	136	154	177	200	223	255	293	325
Total power input (1)	kW	58,7	45,6	53,8	59,7	67,8	74,9	84,2	94,1	106	121
EER		2,71	2,48	2,53	2,58	2,61	2,67	2,65	2,71	2,76	2,68
ESEER		4,20	4,10	3,60	3,79	3,91	4,08	4,15	3,96	4,10	4,16
COOLING WITH PARTIAL RECOVERY											
Cooling capacity (2)	kW	165	118	141	160	183	207	232	265	304	337
Total power input (2)	kW	54,2	40	43,8	49,6	57,2	64,2	73,3	78,7	90,4	105
Desuperheater heating capacity (2)	kW	50,1	37	40,5	45,9	53	59,4	67,8	72,8	83,6	97
COOLING WITH TOTAL RECOVERY											
Cooling capacity (3)	kW		118	138	158	181	204	231	258	295	333
Total power input (3)	kW		38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW		155	179	204	234	264	299	333	382	431
COMPRESSORS											
No. Compressors/No. Circuits	N.	2 / 1	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
NOISE LEVELS											
Sound power (4)	dB(A)	87	91	92	92	92	92	93	94	95	95
Sound pressure (5)	dB(A)	55	59	60	60	60	60	61	62	63	63
SIZE											
A (6)	mm	3245	3110	3110	3110	3110	3110	4110	4110	4110	4110
B (6)	mm	1120	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1620	1700	1700	1700	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	980	1230	1450	1620	1780	1890	2070	2220	2380	2530

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

6 Unit in standard configuration/execution, without optional accessories

NECS / HL

Models		0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	118	136	151	172	201	222	249	290	326
Total power input (1)	kW	43,7	49,8	58,1	66,7	72,8	83,8	91,9	102	117
EER		2,70	2,73	2,60	2,58	2,76	2,65	2,71	2,83	2,77
ESEER		3,93	4,04	4,02	4,15	4,02	4,04	4,14	4,37	4,16
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	123	141	157	178	209	231	258	301	338
Total power input (2)	kW	42,4	48,4	56,2	64,4	70,7	81,1	88,8	99,1	104
Desuperheater heating capacity (2)	kW	34,8	40,4	47,5	55,1	58,7	68,3	75,5	85,1	96,5
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW	118	138	158	181	204	231	258	295	333
Total power input (3)	kW	38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW	155	179	204	234	264	299	333	382	431
COMPRESSORS										
No. Compressors/No. Circuits	N.	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
NOISE LEVELS										
Sound power (4)	dB(A)	86	86	86	86	88	88	88	90	91
Sound pressure (5)	dB(A)	54	54	54	54	56	56	56	58	59
SIZE										
A (6)	mm	3110	3110	3110	3110	4110	4110	4110	5110	5110
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1700	2150	2150	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	1360	1570	1710	1860	2120	2180	2320	2630	2770

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

NECS / HT

Models		0152	0182	0202	0252	0302	0352	0412	0452	0512
COOLING										
Cooling capacity (1)	kW	39,7	46,7	55	61,6	80,6	91,4	104	116	130
Total power input (1)	kW	13,5	15,2	17,3	20,3	25,9	30,5	33,7	38,7	42,2
EER		2,94	3,07	3,18	3,03	3,11	3	3,09	3	3,08
ESEER		4,28	4,18	4,41	4,09	4,27	4,18	4,28	4,31	4,39
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	41,2	48,5	57	63,9	83,6	94,9	108	120	135
Total power input (2)	kW	12,1	13,3	15,3	17,7	23,1	27,1	30,1	34,8	38,3
Desuperheater heating capacity (2)	kW	11,2	12,3	14,1	16,3	21,3	25	27,8	32,2	35,5
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW									
Total power input (3)	kW									
Heat recovery capacity (3)	kW									
COMPRESSORS										
No. Compressors/No. Circuits	N.	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
NOISE LEVELS										
Sound power (4)	dB(A)	84	85	85	86	86	87	87	87	87
Sound pressure (5)	dB(A)	52	53	53	54	54	55	55	55	55
SIZE										
A (6)	mm	1695	2195	2195	2745	2745	3245	3245	3245	3245
B (6)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H (6)	mm	1420	1420	1420	1420	1420	1620	1620	1620	1620
Operating weight (6)	kg	400	460	490	550	710	800	880	930	960

Models		0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	123	142	159	182	210	233	262	303	341
Total power input (1)	kW	45,4	50,5	57,8	65	74,5	84,1	90,7	101	117
EER		2,71	2,81	2,75	2,80	2,82	2,77	2,89	2,99	2,91
ESEER		3,63	3,76	3,90	4,02	3,82	3,86	4,08	4,25	4,08
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	127	147	165	189	218	242	272	315	354
Total power input (2)	kW	44	49,2	55,9	63	72,2	81,5	88,1	98,4	114
Desuperheater heating capacity (2)	kW	32,9	37,7	43,9	50,5	55,1	63,8	69,8	85,8	97,1
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW	118	138	158	181	204	231	258	295	333
Total power input (3)	kW	38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW	155	179	204	234	264	299	333	382	431
COMPRESSORS										
No. Compressors/No. Circuits	N.	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
NOISE LEVELS										
Sound power (4)	dB(A)	92	92	92	92	94	94	94	96	97
Sound pressure (5)	dB(A)	60	60	60	60	62	62	62	64	65
SIZE										
A (6)	mm	3110	3110	3110	3110	4110	4110	4110	5110	5110
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1700	2150	2150	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	1360	1570	1710	1860	2120	2180	2320	2630	2770

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

6 Unit in standard configuration/execution, without optional accessories

NECS / LN

Models		0152	0182	0202	0252	0302	0352	0412	0452	0512	0552
COOLING											
Cooling capacity (1)	kW	36,1	42,8	50,7	57,6	74,2	84,4	96,4	109	122	139
Total power input (1)	kW	15	16,4	19	21,3	28,7	33,8	37,1	41,4	45,9	53,3
EER		2,41	2,61	2,67	2,70	2,59	2,50	2,60	2,63	2,66	2,61
ESEER		4,03	4,20	4,25	4,22	4,11	3,99	4,02	4,15	4,06	4,19

COOLING WITH PARTIAL RECOVERY

Cooling capacity (2)	kW	37,5	44,4	52,6	59,8	77	87,6	100	113	127	144
Total power input (2)	kW	13,9	15,3	17,3	19,6	26,4	30,5	33,8	38	41,9	48,8
Desuperheater heating capacity (2)	kW	12,9	14,1	16	18,1	24,4	28,3	31,3	35,2	38,7	45,2

COOLING WITH TOTAL RECOVERY

Cooling capacity (3)	kW										
Total power input (3)	kW										
Heat recovery capacity (3)	kW										

COMPRESSORS

No. Compressors/No. Circuits	N.	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
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NOISE LEVELS

Sound power (4)	dB(A)	79	79	80	80	81	83	83	83	84	84
Sound pressure (5)	dB(A)	47	47	48	48	49	51	51	51	52	52

SIZE

A (6)	mm	1695	1695	2195	2195	2745	2745	2745	2745	3245	3245
B (6)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120
H (6)	mm	1420	1420	1420	1420	1420	1620	1620	1620	1620	1620
Operating weight (6)	kg	380	410	470	510	680	730	800	840	950	970

Models		0612	0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING											
Cooling capacity (1)	kW	151	104	129	147	167	187	208	242	275	306
Total power input (1)	kW	62,4	47,9	53,5	60	69,6	77,6	87,8	95,3	109	125
EER		2,42	2,17	2,41	2,45	2,40	2,41	2,37	2,54	2,52	2,44
ESEER		3,96	3,93	3,84	3,91	4,01	3,99	4,07	4,01	4,15	4,06

COOLING WITH PARTIAL RECOVERY

Cooling capacity (2)	kW	157	108	134	153	173	194	216	251	286	317
Total power input (2)	kW	57,8	46,6	51,8	58,2	67,1	75,3	85,2	92	106	121
Desuperheater heating capacity (2)	kW	53,5	40,9	43,5	49,3	57,6	65,2	74,4	78,4	91,3	105

COOLING WITH TOTAL RECOVERY

Cooling capacity (3)	kW		118	138	158	181	204	231	258	295	333
Total power input (3)	kW		38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW		155	179	204	234	264	299	333	382	431

COMPRESSORS

No. Compressors/No. Circuits	N.	2 / 1	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
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NOISE LEVELS

Sound power (4)	dB(A)	84	85	86	86	86	86	87	88	89	89
Sound pressure (5)	dB(A)	52	53	54	54	54	54	55	56	57	57

SIZE

A (6)	mm	3245	3110	3110	3110	3110	3110	4110	4110	4110	4110
B (6)	mm	1120	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1620	1700	1700	1700	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	980	1230	1450	1620	1780	1890	2070	2220	2380	2530

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

6 Unit in standard configuration/execution, without optional accessories

NECS / SL

Models		0152	0182	0202	0252	0302	0352	0412	0452	0512
COOLING										
Cooling capacity (1)	kW	33,8	42,3	47,8	55,5	69,9	85,4	96,8	106	118
Total power input (1)	kW	16,3	17,1	20,4	22,6	30,9	33,6	37,2	43,1	48,4
EER		2,07	2,47	2,34	2,46	2,26	2,54	2,60	2,46	2,44
ESEER		3,77	3,93	4,01	3,89	3,86	3,87	3,91	3,91	3,90
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	35	43,9	49,6	57,5	72,6	88,6	101	110	122
Total power input (2)	kW	15,1	15,5	18,7	20,6	28,6	30	33,6	39,3	44
Desuperheater heating capacity (2)	kW	14	14,3	17,3	19	26,4	27,8	31,1	36,3	40,7
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW									
Total power input (3)	kW									
Heat recovery capacity (3)	kW									
COMPRESSORS										
No. Compressors/No. Circuits	N.	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
NOISE LEVELS										
Sound power (4)	dB(A)	76	77	77	78	78	81	81	81	82
Sound pressure (5)	dB(A)	44	45	45	46	46	49	49	49	50
SIZE										
A (6)	mm	1695	2195	2195	2745	2745	3245	3245	3245	3245
B (6)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H (6)	mm	1420	1420	1420	1420	1420	1620	1620	1620	1620
Operating weight (6)	kg	400	460	490	550	710	800	880	930	960

Models		0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	113	130	147	161	193	211	235	278	313
Total power input (1)	kW	45,2	51,8	58,8	70,6	75,4	87,2	96,7	106	121
EER		2,50	2,51	2,50	2,28	2,56	2,42	2,43	2,61	2,58
ESEER		4,02	4,14	4,14	4,13	4,08	4,08	4,10	4,39	4,19
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	117	135	152	167	200	219	243	288	325
Total power input (2)	kW	43,7	50,2	56,9	68,4	72,8	84,3	93,2	103	117
Desuperheater heating capacity (2)	kW	37,2	43,2	49,5	60,1	62,6	73,2	81,5	90,2	102
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW	118	138	158	181	204	231	258	295	325
Total power input (3)	kW	38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW	155	179	204	234	264	298	333	382	431
COMPRESSORS										
No. Compressors/No. Circuits	N.	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
NOISE LEVELS										
Sound power (4)	dB(A)	82	82	82	82	83	83	83	85	86
Sound pressure (5)	dB(A)	50	50	50	50	51	51	51	53	54
SIZE										
A (6)	mm	3110	3110	3110	3110	4110	4110	4110	5110	5110
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1700	2150	2150	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	1360	1570	1770	1860	2120	2180	2320	2630	2770

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

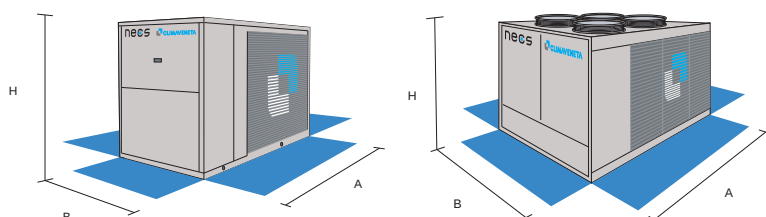
4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

6 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0152-0512	0504-1204
Switchboard side	mm	600	1100
Switchboard opposite side	mm	600	1100
Condensation coil side	mm	1000	2000



NECS 0202T÷0612T



Versions

B	base version
HT	high efficiency, high outdoor temperature version
LN	low noise version
SL	super-low noise version

Features

REFRIGERANT GAS R410A

The use of R410A has resulted in units offering better energy efficiency in full respect for the environment (ODP = 0)

SHELL AND TUBES 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 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.

Chiller, air source for outdoor installation

53,0 - 159 kW

Unit Description

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, axial-flow 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.

Commands

W3000 Base / W3000SE Compact

The controller can be chosen as: - W3000 Base: keypad and LED display - W3000SE Compact: 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 diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation. 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). Common features: 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. 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. 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.

Main accessories

- Set-up for remote connectivity with ModBus/Echelon/Bacnet protocol cards
- Remote keyboard (distance to 200m and to 500m)
- LCD display keyboard type W3000Compact with multi-language user interface (refers to the shown picture)
- Soft starters
- Rubber anti-vibration mounting kit



NEW!



NECS / B

Models		0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
COOLING										
Cooling capacity (1)	kW	53	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		2,90	2,70	2,73	2,72	2,67	2,67	2,90	2,89	2,71
ESEER		3,72	3,47	3,52	3,49	3,41	3,59	3,65	3,66	3,44
COMPRESSORS										
No. Compressors/No. Circuits	N.	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02
NOISE LEVELS										
Sound power (2)	dB(A)	85	85	85	86	86	86	87	87	87
Sound pressure (3)	dB(A)	53	53	53	54	54	54	55	55	55
SIZE										
A (4)	mm	1695	1695	2195	2195	2745	2745	3245	3245	3245
B (4)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H (4)	mm	1420	1420	1420	1420	1420	1420	1620	1620	1620
Operating weight (4)	kg	625	625	665	765	920	990	1135	1180	1155

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 3 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 4 Unit in standard configuration/execution, without optional accessories

NECS / HT

Models		0202T	0252T	0302T	0352T	0412T	0452T	0512T	
COOLING									
Cooling capacity (1)	kW	55	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		3,18	3,03	3,11	3	3,09	3	3,08	
ESEER		4,07	3,91	3,93	3,76	3,87	3,76	3,86	
COMPRESSORS									
No. Compressors/No. Circuits	N.	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	
NOISE LEVELS									
Sound power (2)	dB(A)	85	86	86	87	87	87	87	
Sound pressure (3)	dB(A)	53	54	54	55	55	55	55	
SIZE									
A (4)	mm	2195	2745	2745	3245	3245	3245	3245	
B (4)	mm	1120	1120	1120	1120	1120	1120	1120	
H (4)	mm	1420	1420	1420	1620	1620	1620	1620	
Operating weight (4)	kg	650	700	750	915	1050	1075	1115	

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 3 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 4 Unit in standard configuration/execution, without optional accessories

NECS / LN

Models		0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
COOLING										
Cooling capacity (1)	kW	50,7	57,6	74,2	84,4	96,4	109	122	0	0
Total power input (1)	kW	18,9	21,2	28,6	33,7	37,1	41,4	45,9	53,1	62,4
EER		2,68	2,72	2,59	2,50	2,60	2,63	2,66	0	0
ESEER		3,50	3,51	3,37	3,22	3,33	3,36	3,38	3,34	3,11
COMPRESSORS										
No. Compressors/No. Circuits	N.	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02
NOISE LEVELS										
Sound power (2)	dB(A)	80	80	81	83	83	83	84	84	84
Sound pressure (3)	dB(A)	48	48	49	51	51	51	52	52	52
SIZE										
A (4)	mm	2195	2195	2745	2745	2745	2745	3245	3245	3245
B (4)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H (4)	mm	1420	1420	1420	1620	1620	1620	1620	1620	1620
Operating weight (4)	kg	625	650	715	840	965	1025	1135	1180	1155

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 3 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 4 Unit in standard configuration/execution, without optional accessories

NECS / SL

Models		0202T	0252T	0302T	0352T	0412T	0452T	0512T
COOLING								
Cooling capacity (1)	kW	47,8	55,5	69,9	85,4	96,8	106	118
Total power input (1)	kW	20,3	22,6	30,9	33,6	37,3	43,2	48,1
EER		2,35	2,46	2,26	2,54	2,60	2,46	2,44
ESEER								
COMPRESSORS								
No. Compressors/No. Circuits	N.	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02	02 / 02
NOISE LEVELS								
Sound power (2)	dB(A)	77	78	78	81	81	81	82
Sound pressure (3)	dB(A)	45	46	46	49	49	49	50
SIZE								
A (4)	mm	2195	2745	2745	3245	3245	3245	3245
B (4)	mm	1120	1120	1120	1120	1120	1120	1120
H (4)	mm	1420	1420	1420	1620	1620	1620	1620
Operating weight (4)	kg	650	700	750	915	1050	1075	1115

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

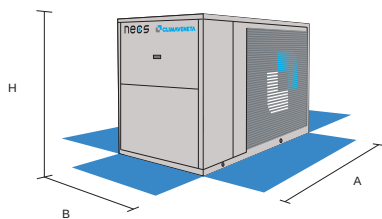
2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

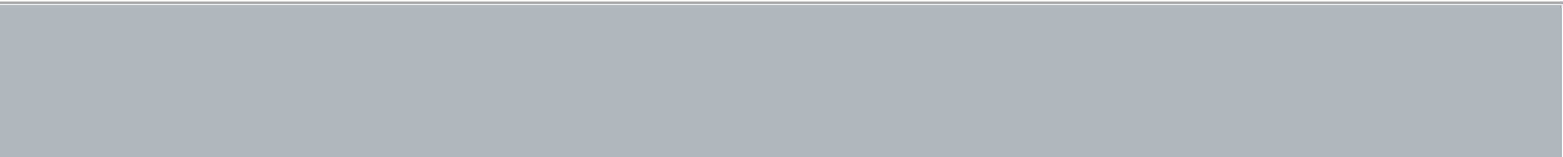
3 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.

4 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0202T-0512T
Switchboard side	mm	600
Switchboard opposite side	mm	600
Condensation coil side	mm	1000





NECS 1314÷3218



Chiller, air source for outdoor installation

354 - 885 kW

Unit Description

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.

Commands

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.

Versions

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

Configurazioni

-	funzione base
D	partial condensing heat recovery function
R	total condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A has resulted in units offering better energy efficiency in full respect for the environment (ODP = 0)

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

The new NECS 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 as well as improving the resistance against corrosion in saline or corrosive atmospheres.

SHELL AND TUBES 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

CLASS A EFFICIENCY

The full range is also available with the Class A efficiency rating. NECS/CA guarantees 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 incorporated hydronic unit already contains the main water circuit components; it is available in various configurations with one or two pumps with high or low head and the buffer tank

Main accessories

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



NEW!

NECS / B

Models		1314	1414	1614	1715	2015	1816	2116
COOLING								
Cooling capacity (1)	kW	354	379	413	458	526	501	569
Total power input (1)	kW	124	130	148	160	184	172	195
EER		2,85	2,91	2,80	2,86	2,86	2,92	2,91
ESEER		*	*	*	*	*	*	*
COMPRESSORS								
No. Compressors/No. Circuits	N.	4 / 2	4 / 2	4 / 2	5 / 2	5 / 2	6 / 2	6 / 2
NOISE LEVELS								
Sound power (2)	dB(A)	96	96	96	96	97	97	97
Sound pressure (3)	dB(A)	64	64	64	64	65	65	65
SIZE								
A (4)	mm	3905	3905	3905	5080	5080	5080	6255
B (4)	mm	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight (4)	kg	*	*	*	*	*	*	*

Models		2316	2416	2418	2618	2818	3018	3218
COOLING								
Cooling capacity (1)	kW	604	635	665	708	759	794	827
Total power input (1)	kW	214	219	234	249	261	279	296
EER		2,82	2,90	2,85	2,85	2,92	2,84	2,80
ESEER		*	*	*	*	*	*	*
COMPRESSORS								
No. Compressors/No. Circuits	N.	6 / 3	6 / 2	8 / 4	8 / 4	8 / 4	8 / 4	8 / 4
NOISE LEVELS								
Sound power (2)	dB(A)	97	98	98	98	99	99	99
Sound pressure (3)	dB(A)	65	66	65	65	66	66	66
SIZE								
A (4)	mm	6255	6255	7430	7430	7430	7430	7430
B (4)	mm	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight (4)	kg	*	*	*	*	*	*	*

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

NECS / SL

Models		1314	1414	1614	1715	2015	1816	2116
COOLING								
Cooling capacity (1)	kW	334	358	397	432	498	465	532
Total power input (1)	kW	129	137	153	168	192	183	206
EER		2,58	2,61	2,60	2,57	2,60	2,55	2,58
ESEER		*	*	*	*	*	*	*
COMPRESSORS								
No. Compressors/No. Circuits	N.	4 / 2	4 / 2	4 / 2	5 / 2	5 / 2	6 / 2	6 / 2
NOISE LEVELS								
Sound power (2)	dB(A)	88	88	88	88	90	89	90
Sound pressure (3)	dB(A)	56	56	56	56	58	57	57
SIZE								
A (4)	mm	5080	5080	5080	6255	6255	6255	7430
B (4)	mm	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight (4)	kg	*	*	*	*	*	*	*

Models		2316	2416	2418	2618	2818	3018	3218
COOLING								
Cooling capacity (1)	kW	579	596	616	666	718	758	795
Total power input (1)	kW	220	230	245	258	275	288	306
EER		2,63	2,59	2,52	2,58	2,61	2,63	2,60
ESEER		*	*	*	*	*	*	*
COMPRESSORS								
No. Compressors/No. Circuits	N.	6 / 3	6 / 2	8 / 4	8 / 4	8 / 4	8 / 4	8 / 4
NOISE LEVELS								
Sound power (2)	dB(A)	91	91	91	91	92	92	92
Sound pressure (3)	dB(A)	58	58	58	58	59	59	59
SIZE								
A (4)	mm	7430	7430	7430	8605	9780	9780	9780
B (4)	mm	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight (4)	kg	*	*	*	*	*	*	*

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

NECS / CA

Models		1314	1414	1614	1715	2015	1816	2116
COOLING								
Cooling capacity (1)	kW	370	391	438	481	549	518	591
Total power input (1)	kW	120	125	142	154	177	166	189
EER		3,10	3,13	3,10	3,12	3,10	3,11	3,12
ESEER		*	*	*	*	*	*	*
COMPRESSORS								
No. Compressors/No. Circuits	N.	4 / 2	4 / 2	4 / 2	5 / 2	5 / 2	6 / 2	6 / 2
NOISE LEVELS								
Sound power (2)	dB(A)	97	97	97	97	98	98	98
Sound pressure (3)	dB(A)	65	65	65	65	66	66	65
SIZE								
A (4)	mm	5080	5080	5080	6255	6255	6255	7430
B (4)	mm	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight (4)	kg	*	*	*	*	*	*	*

Models		2316	2416	2418	2618	2818	3018	3218
COOLING								
Cooling capacity (1)	kW	633	657	702	740	785	831	885
Total power input (1)	kW	204	212	225	239	250	267	283
EER		3,10	3,10	3,11	3,10	3,13	3,12	3,13
ESEER		*	*	*	*	*	*	*
COMPRESSORS								
No. Compressors/No. Circuits	N.	6 / 3	6 / 2	8 / 4	8 / 4	8 / 4	8 / 4	8 / 4
NOISE LEVELS								
Sound power (2)	dB(A)	99	99	99	99	100	100	100
Sound pressure (3)	dB(A)	66	66	66	66	67	67	67
SIZE								
A (4)	mm	7430	7430	9780	9780	9780	9780	9780
B (4)	mm	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight (4)	kg	*	*	*	*	*	*	*

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		1314-3218
Switchboard side	mm	1500
Switchboard opposite side	mm	1500
Plant exchangers opposite side	mm	1500
Plant exchangers side	mm	2000

NECS / SL-CA

Models		1314	1414	1614	1715	2015	1816	2116	2316	2416	2418
COOLING											
Cooling capacity (1)	kW	371	394	440	481	550	522	592	638	663	695
Total power input (1)	kW	119	126	142	154	177	167	189	204	213	223
EER		3,11	3,12	3,11	3,12	3,11	3,12	3,13	3,12	3,11	3,12
ESEER		4,57	4,56	4,44	4,54	4,52	4,58	4,60	4,59	4,53	4,58
COMPRESSORS											
No. Compressors/No. Circuits	N.	4 / 2	4 / 2	4 / 2	5 / 2	5 / 2	6 / 2	6 / 2	6 / 3	6 / 2	8 / 4
NOISE LEVELS											
Sound power (2)	dB(A)	86	86	86	87	87	87	87	88	88	88
Sound pressure (3)	dB(A)	53	53	53	54	54	54	54	55	55	55
SIZE											
A (4)	mm	6255	6255	6255	7430	7430	7430	8605	8605	8605	9780
B (4)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
Operating weight (4)	kg	3490	3700	3730	4400	4510	4650	4990	5360	5360	6100

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

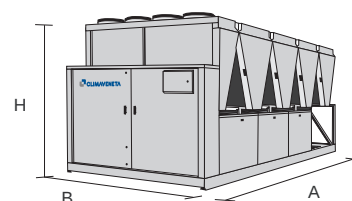
2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		1314-2418
Switchboard side	mm	1500
Switchboard opposite side	mm	1500
Plant exchangers opposite side	mm	1500
Plant exchangers side	mm	2000



NECS-ST 0504÷1204



Chiller, air source for outdoor installation

104 - 341 kW

Unit Description

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

Commands

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). All /R units adopt the W3000 SE Large controller.

Versions

B	base version
HL	low noise, high efficiency, high outdoor temperature version
HT	high efficiency, high outdoor temperature version
LN	low noise version
SL	super-low noise version

Configurations

-	base function
D	partial condensing heat recovery function
R	total condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A has resulted in units offering better energy efficiency in full respect for the environment (ODP = 0)

TOTAL VERSATILITY

Climaveneta is the only company to offer units with Scroll compressors in 5 versions and 3 different configurations designed to satisfy all service system and application requirements

SHELL AND TUBES 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 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.

Main accessories

- Set-up for remote connectivity with ModBus/Echelon/Bacnet protocol cards
- Remote keyboard (distance to 200m and to 500m)
- Soft starters
- Electronic expansion valve
- Rubber anti-vibration mounting kit. Spring anti-vibration mounting kit





NECS-ST / B

Models		0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	113	136	154	177	200	223	255	293	325
Total power input (1)	kW	45,6	53,8	59,7	67,8	74,9	84,2	94,1	106	121
EER		2,48	2,53	2,58	2,61	2,67	2,65	2,71	2,76	2,68
ESEER		4,10	3,60	3,79	3,91	4,08	4,15	3,96	4,10	4,16
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	118	141	160	183	207	232	265	304	337
Total power input (2)	kW	40	43,8	49,6	57,2	64,2	73,3	78,7	90,4	105
Desuperheater heating capacity (2)	kW	37	40,5	45,9	53	59,4	67,8	72,8	83,6	97
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW	118	138	158	181	204	231	258	295	333
Total power input (3)	kW	38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW	155	179	204	234	264	299	333	382	431
COMPRESSORS										
No. Compressors/No. Circuits	N.	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (4)	dB(A)	91	92	92	92	92	93	94	95	95
Sound pressure (5)	dB(A)	59	60	60	60	60	61	62	63	63
SIZE										
A (6)	mm	3110	3110	3110	3110	3110	4110	4110	4110	4110
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1700	1700	1700	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	1230	1450	1620	1780	1890	2070	2220	2380	2530

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

NECS-ST / HL

Models		0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	118	136	151	172	201	222	249	290	326
Total power input (1)	kW	43,7	49,8	58,1	66,7	72,8	83,8	91,9	102	117
EER		2,70	2,73	2,60	2,58	2,76	2,65	2,71	2,83	2,77
ESEER		3,93	4,04	4,02	4,15	4,02	4,04	4,14	4,37	4,16
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	123	141	157	178	209	231	258	301	338
Total power input (2)	kW	42,4	48,4	56,2	64,4	70,7	81,1	88,8	99,1	104
Desuperheater heating capacity (2)	kW	34,8	40,4	47,5	55,1	58,7	68,3	75,5	85,1	96,5
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW	118	138	158	181	204	231	258	295	333
Total power input (3)	kW	38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW	155	179	204	234	264	299	333	382	431
COMPRESSORS										
No. Compressors/No. Circuits	N.	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (4)	dB(A)	86	86	86	86	88	88	88	90	91
Sound pressure (5)	dB(A)	54	54	54	54	56	56	56	58	59
SIZE										
A (6)	mm	3110	3110	3110	3110	4110	4110	4110	5110	5110
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1700	2150	2150	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	1360	1570	1710	1860	2120	2180	2320	2630	2770

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

NECS-ST / HT

Models		0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	123	142	159	182	210	233	262	303	341
Total power input (1)	kW	45,4	50,5	57,8	65	74,5	84,1	90,7	101	117
EER		2,71	2,81	2,75	2,80	2,82	2,77	2,89	2,99	2,91
ESEER		3,63	3,76	3,90	4,02	3,82	3,86	4,08	4,25	4,08
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	127	147	165	189	218	242	272	315	354
Total power input (2)	kW	44	49,2	55,9	63	72,2	81,5	88,1	98,4	114
Desuperheater heating capacity (2)	kW	32,9	37,7	43,9	50,5	55,1	63,8	69,8	85,8	97,1
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW	118	138	158	181	204	231	258	295	333
Total power input (3)	kW	38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW	155	179	204	234	264	299	333	382	431
COMPRESSORS										
No. Compressors/No. Circuits	N.	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (4)	dB(A)	92	92	92	92	94	94	94	96	97
Sound pressure (5)	dB(A)	60	60	60	60	62	62	62	64	65
SIZE										
A (6)	mm	3110	3110	3110	3110	4110	4110	4110	5110	5110
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1700	2150	2150	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	1360	1570	1710	1860	2120	2180	2320	2630	2770

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

NECS-ST / LN

Models		0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	104	129	147	167	187	208	242	275	306
Total power input (1)	kW	47,9	53,5	60	69,6	77,6	87,8	95,3	109	125
EER		2,17	2,41	2,45	2,40	2,41	2,37	2,54	2,52	2,44
ESEER		3,93	3,84	3,91	4,01	3,99	4,07	4,01	4,15	4,06
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	108	134	153	173	194	216	251	286	317
Total power input (2)	kW	46,6	51,8	58,2	67,1	75,3	85,2	92	106	121
Desuperheater heating capacity (2)	kW	40,9	43,5	49,3	57,6	65,2	74,4	78,4	91,3	105
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW	118	138	158	181	204	231	258	295	333
Total power input (3)	kW	38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW	155	179	204	234	264	299	333	382	431
COMPRESSORS										
No. Compressors/No. Circuits	N.	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (4)	dB(A)	85	86	86	86	86	87	88	89	89
Sound pressure (5)	dB(A)	53	54	54	54	54	55	56	57	57
SIZE										
A (6)	mm	3110	3110	3110	3110	3110	4110	4110	4110	4110
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1700	1700	1700	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	1230	1450	1620	1780	1890	2070	2220	2380	2530

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

NECS-ST / SL

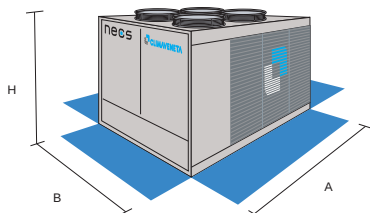
Models		0504	0524	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	113	130	147	161	193	211	235	278	313
Total power input (1)	kW	45,2	51,8	58,8	70,6	75,4	87,2	96,7	106	121
EER		2,50	2,51	2,50	2,28	2,56	2,42	2,43	2,61	2,58
ESEER		4,02	4,14	4,14	4,13	4,08	4,08	4,10	4,39	4,19
COOLING WITH PARTIAL RECOVERY										
Cooling capacity (2)	kW	117	135	152	167	200	219	243	288	325
Total power input (2)	kW	43,7	50,2	56,9	68,4	72,8	84,3	93,2	103	117
Desuperheater heating capacity (2)	kW	37,2	43,2	49,5	60,1	62,6	73,2	81,5	90,2	102
COOLING WITH TOTAL RECOVERY										
Cooling capacity (3)	kW	118	138	158	181	204	231	258	295	325
Total power input (3)	kW	38,7	44,1	49,4	56,9	64,5	72,1	79,8	92,8	105
Heat recovery capacity (3)	kW	155	179	204	234	264	298	333	382	431
COMPRESSORS										
No. Compressors/No. Circuits	N.	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (4)	dB(A)	82	82	82	82	83	83	83	85	86
Sound pressure (5)	dB(A)	50	50	50	50	51	51	51	53	54
SIZE										
A (6)	mm	3110	3110	3110	3110	4110	4110	4110	5110	5110
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	1700	2150	2150	2150	2150	2150	2150	2150	2150
Operating weight (6)	kg	1360	1570	1770	1860	2120	2180	2320	2630	2770

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0504-1204
Switchboard side	mm	1100
Switchboard opposite side	mm	1100
Condensation coil side	mm	2000



FOCS 0751÷2632



Chiller, air source for outdoor installation

145 - 516 kW

Unit Description

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 performances level is achieved thanks to the accurate sizing of all internal components.

Commands

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 units 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.

Versions

B	base version
LN	low noise version
SL	super-low noise version

Configurations

-	base 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 buildings cooling request thanks to the continuous capacity regulation, assured by sophisticated controls 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

Main accessories

- Soft start
- Compressor power factor device
- Electronic expansion valve
- Variable speed condensation control (standard on /LN, /SL)
- Remote 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

Models		0751	0851	0951	0961	1021	1301	1532	1732	1932	1952	2432	2632
COOLING													
Cooling capacity (1)	kW	145	163	182	201	234	266	277	329	366	398	466	516
Total power input (1)	kW	51,6	61,1	68,4	75	85,1	93,3	103	121	138	154	178	193
EER		2,81	2,67	2,66	2,68	2,75	2,85	2,67	2,71	2,64	2,58	2,61	2,67
ESEER		3,50	3,42	3,52	3,63	3,49	3,54	3,64	3,57	3,56	3,58	3,61	3,49
COOLING WITH PARTIAL RECOVERY													
Cooling capacity (2)	kW	150	169	189	209	243	276						
Total power input (2)	kW	49,9	59	66,5	72,7	82,7	90,5						
Desuperheater heating capacity (2)	kW	40,8	49,2	56,2	61,8	68,4	75,7						
COOLING WITH TOTAL RECOVERY													
Cooling capacity (3)	kW	148	171	190	211	241	275						
Total power input (3)	kW	43,8	51	59,3	61,6	70,1	80,4						
Heat recovery capacity (3)	kW	190	220	246	269	307	351						
COMPRESSORS													
No. Compressors/No. Circuits	N.	1/1	1/1	1/1	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS													
Sound power (4)	dB(A)	94	94	94	94	96	96	97	97	97	97	99	99
Sound pressure (5)	dB(A)	62	62	62	62	64	64	65	65	65	65	67	67
SIZE													
A (6)	mm	3110	3110	3110	3110	4610	4610	4610	4610	4610	4610	5610	5610
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	2150	2150	2150	2150	2150	2150	2150	2420	2420	2420	2430	2430
Operating weight (6)	kg	1680	1710	1780	1860	2590	2720	2970	3160	3300	3320	4400	4620

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

FOCS / LN

Models		0751	0851	0951	0961	1021	1301	1532	1732	1932	1952	2432	2632
COOLING													
Cooling capacity (1)	kW	141	157	175	195	229	256	266	310	345	376	440	483
Total power input (1)	kW	51,3	61,1	70	77,4	86,7	94,8	105	124	143	164	185	201
EER		2,75	2,57	2,50	2,52	2,64	2,70	2,51	2,50	2,40	2,29	2,37	2,40
ESEER		3,69	3,51	3,57	3,69	3,65	3,59	3,68	3,58	3,61	3,61	3,62	3,48
COOLING WITH PARTIAL RECOVERY													
Cooling capacity (2)	kW	146	162	181	202	237	265						
Total power input (2)	kW	49,3	59	67,6	74,8	83,7	91,4						
Desuperheater heating capacity (2)	kW	42,5	51,4	59,4	66,1	72,7	79,9						
COOLING WITH TOTAL RECOVERY													
Cooling capacity (3)	kW	139	157	172	205	231	247						
Total power input (3)	kW	51,5	60,6	71	73,7	87,3	98						
Heat recovery capacity (3)	kW	45,1	53,5	63,2	64,3	76,9	86,9						
COMPRESSORS													
No. Compressors/No. Circuits	N.	1/1	1/1	1/1	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS													
Sound power (4)	dB(A)	88	88	88	88	90	90	91	91	91	91	93	93
Sound pressure (5)	dB(A)	56	56	56	56	58	58	59	59	59	59	61	61
SIZE													
A (6)	mm	3110	3110	3110	3110	4610	4610	4610	4610	4610	4610	5610	5610
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	2150	2150	2150	2150	2150	2150	2150	2420	2420	2420	2430	2430
Operating weight (6)	kg	1680	1710	1780	1860	2590	2720	2970	3160	3300	3320	4400	4620

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

FOCS / SL

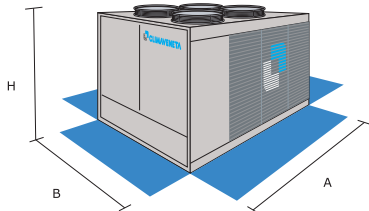
Models		0751	0851	0951	0961	1021	1301	1532	1732	1932	1952	2432	2632
COOLING													
Cooling capacity (1)	kW	134	151	166	197	223	238	252	296	334	377	443	484
Total power input (1)	kW	53,2	62,7	73,8	76,1	90,3	101	111	128	149	164	183	199
EER		2,52	2,41	2,25	2,59	2,47	2,35	2,26	2,31	2,24	2,29	2,41	2,43
ESEER		3,54	3,41	3,40	3,69	3,58	3,32	3,50	3,47	3,46	3,62	3,69	3,52
COOLING WITH PARTIAL RECOVERY													
Cooling capacity (2)	kW	148	172	190	211	241	275						
Total power input (2)	kW	43,8	51	59,3	61,6	70,1	80,4						
Desuperheater heating capacity (2)	kW	190	220	246	269	307	351						
COOLING WITH TOTAL RECOVERY													
Cooling capacity (3)	kW	148	172	190	211	241	275						
Total power input (3)	kW	43,8	51	59,3	61,6	70,1	80,4						
Heat recovery capacity (3)	kW	190	220	246	269	307	351						
COMPRESSORS													
No. Compressors/No. Circuits	N.	1/1	1/1	1/1	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS													
Sound power (4)	dB(A)	84	84	84	84	86	86	86	87	87	87	89	89
Sound pressure (5)	dB(A)	52	52	52	52	54	54	54	55	55	55	56	56
SIZE													
A (6)	mm	3110	3110	3110	4110	4610	4610	4610	4610	5610	5610	6610	6610
B (6)	mm	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220
H (6)	mm	2150	2150	2150	2150	2150	2150	2150	2420	2430	2430	2430	2430
Operating weight (6)	kg	1680	1770	1840	1980	2670	2720	3060	3270	3460	3640	4990	5250

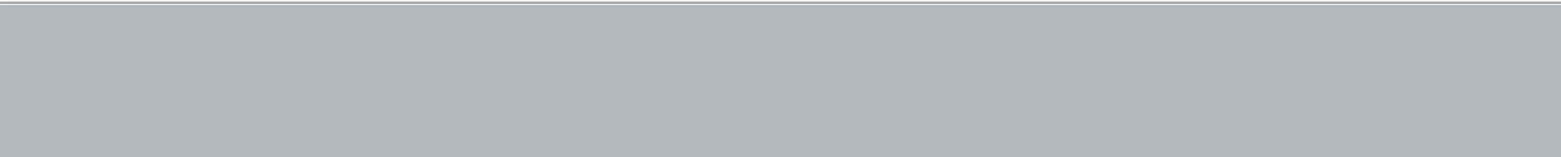
Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0751-1952	2432-2632
Switchboard side	mm	1500	2000
Switchboard opposite side	mm	1500	1800
Condensation coil side	mm	2000	3000





FOCS 1542÷2642



Chiller, air source for outdoor installation

277 - 516 kW

Unit Description

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 performances level is achieved thanks to the accurate sizing of all internal components.

Commands

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 units 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.

Versions

B	base version
LN	low noise version
SL	super-low noise version

Configurations

-	base 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 buildings cooling request thanks to the continuous capacity regulation, assured by sophisticated controls 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.

Main accessories

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





FOCS / B

Models		1542	1742	1942	1962	2442	2642
COOLING							
Cooling capacity (1)	kW	277	329	366	398	466	516
Total power input (1)	kW	103	121	138	154	178	193
EER		2,67	2,71	2,64	2,58	2,61	2,67
ESEER		3,64	3,57	3,56	3,58	3,61	3,49
COMPRESSORS							
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS							
Sound power (2)	dB(A)	97	97	97	97	99	99
Sound pressure (3)	dB(A)	65	65	65	65	67	67
SIZE							
A (4)	mm	4610	4610	4610	4610	4610	4610
B (4)	mm	2220	2220	2220	2220	2220	2220
H (4)	mm	2150	2150	2150	2150	2150	2150
Operating weight (4)	kg	3490	3680	3810	4100	5140	5340

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 3 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 4 Unit in standard configuration/execution, without optional accessories

FOCS / LN

Models		1542	1742	1942	1962	2442	2642
COOLING							
Cooling capacity (1)	kW	266	310	345	376	440	483
Total power input (1)	kW	105	124	143	164	185	201
EER		2,51	2,50	2,40	2,29	2,37	2,40
ESEER		3,68	3,58	3,61	3,61	3,62	3,48
COMPRESSORS							
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS							
Sound power (2)	dB(A)	91	91	91	91	93	93
Sound pressure (3)	dB(A)	59	59	59	59	61	61
SIZE							
A (4)	mm	4610	4610	4610	4610	5610	5610
B (4)	mm	2220	2220	2220	2220	2220	2220
H (4)	mm	2150	2420	2420	2420	2430	2430
Operating weight (4)	kg	3490	3680	3810	4100	5140	5340

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 3 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 4 Unit in standard configuration/execution, without optional accessories

FOCS / SL

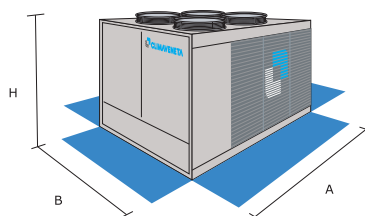
Models		1542	1742	1942	1962	2442	2642
COOLING							
Cooling capacity (1)	kW	252	296	334	377	443	484
Total power input (1)	kW	111	128	149	164	183	199
EER		2,26	2,31	2,24	2,29	2,41	2,43
ESEER		3,50	3,47	3,46	3,62	3,69	3,52
COMPRESSORS							
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS							
Sound power (2)	dB(A)	86	87	87	87	89	89
Sound pressure (3)	dB(A)	54	55	55	55	56	56
SIZE							
A (4)	mm	4610	4610	5610	5610	6610	6610
B (4)	mm	2220	2220	2220	2220	2220	2220
H (4)	mm	2150	2420	2430	2430	2430	2430
Operating weight (4)	kg	3580	3790	3960	4410	5730	5970

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 3 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 4 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		1542-2642
Switchboard side	mm	1500
Switchboard opposite side	mm	1500
Condensation coil side	mm	2000



FOCS 1502÷8404



Versions

B	base version
LN	low noise version
SL	super-low noise version

Configurations

-	base 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 buildings cooling request thanks to the continuous capacity regulation, assured by sophisticated controls 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

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.

Chiller, air source for outdoor installation

294 - 1744 kW

Unit Description

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. 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 performances level is achieved thanks to the accurate sizing of all internal components.

Commands

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 units 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. 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.

Main accessories

- Soft start
- Compressor power factor device
- Electronic expansion valve
- Variable speed condensation control (standard on /LN, /SL)
- Remote keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation





FOCS / B

Models		1502	1702	1902	1922	1972	2022	2602	2652	2702	2712	2722	3152	3602
COOLING														
Cooling capacity (1)	kW	294	328	364	414	439	480	529	562	598	625	681	730	785
Total power input (1)	kW	101	120	133	146	156	160	184	195	207	217	221	259	289
EER		2,91	2,73	2,72	2,82	2,80	3	2,86	2,88	2,88	2,88	3,08	2,82	2,72
ESEER		3,86	3,75	3,74	3,85	3,84	3,88	3,76	3,88	3,98	3,89	4,07	3,94	3,94
COOLING WITH PARTIAL RECOVERY														
Cooling capacity (2)	kW	305	340	378	429	456	498	549	583	621	648	707	757	814
Total power input (2)	kW	98	116	129	143	151	155	179	189	201	210	215	252	280
Desuperheater heating capacity (2)	kW	82	99	109	121	129	130	152	161	172	178	182	217	243
COOLING WITH TOTAL RECOVERY														
Cooling capacity (3)	kW	301	349	381	425	450	481	547	581	625	651	703	767	826
Total power input (3)	kW	89	102	118	127	135	136	162	171	180	182	186	219	252
Heat recovery capacity (3)	kW	385	445	492	545	577	609	699	741	793	823	878	973	1063
COMPRESSORS														
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS														
Sound power (4)	dB(A)	98	98	99	99	99	99	99	99	99	101	101	101	101
Sound pressure (5)	dB(A)	66	66	67	67	67	67	67	67	67	69	69	69	69
SIZE														
A (6)	mm	4000	4000	4000	4900	4900	4900	4900	4900	4900	5800	5800	5800	5800
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	3760	3790	3880	4360	5050	5560	5560	5660	5770	5940	6270	7360	8040

Models		3902	4202	4212	4222	4822	5702	6002	6022	6903	7203	7223	8404
COOLING													
Cooling capacity (1)	kW	831	900	972	1039	1156	1213	1251	1338	1433	1485	1608	1744
Total power input (1)	kW	302	321	334	346	384	423	441	473	519	536	593	643
EER		2,75	2,80	2,91	3	3,01	2,87	2,83	2,83	2,76	2,77	2,71	2,71
ESEER		3,78	3,79	3,78	3,90	4,14	3,99	3,85	3,99	3,68	3,82	3,79	3,66
COOLING WITH PARTIAL RECOVERY													
Cooling capacity (2)	kW	862	934	1008	1078	1200	1259	1298	1388	1487	1541	1669	1809
Total power input (2)	kW	292	311	323	335	372	409	427	458	504	519	574	622
Desuperheater heating capacity (2)	kW	251	269	272	283	317	351	368	391	419	433	484	529
COOLING WITH TOTAL RECOVERY													
Cooling capacity (3)	kW	868	948	993	1056	1179	1267	1320	1382	1490	1544	1659	1861
Total power input (3)	kW	262	279	283	295	334	368	379	408	439	453	493	556
Heat recovery capacity (3)	kW	1115	1211	1260	1333	1494	1613	1676	1766	1903	1970	2123	2383
COMPRESSORS													
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	3/3	3/3	3/3	4/4
NOISE LEVELS													
Sound power (4)	dB(A)	102	102	103	103	104	105	105	105	105	105	105	105
Sound pressure (5)	dB(A)	69	69	70	70	71	72	72	72	72	72	72	72
SIZE													
A (6)	mm	7000	7000	9400	9400	9400	9400	9400	11200	11200	11200	11200	11200
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	8470	8610	9430	9690	10110	*	*	*	12390	12530	12670	16360

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

6 Unit in standard configuration/execution, without optional accessories

FOCS / LN

Models		1502	1702	1902	1922	1972	2022	2602	2652	2702	2712	2722	3152	3602
COOLING														
Cooling capacity (1)	kW	287	318	354	405	430	470	512	546	582	611	664	706	769
Total power input (1)	kW	101	120	134	14	159	163	186	197	210	219	228	268	291
EER		2,84	2,65	2,64	28,9	2,70	2,88	2,75	2,77	2,77	2,79	2,91	2,63	2,64
ESEER		4,02	3,81	3,87	4	3,96	4,03	3,81	3,95	4,04	4,02	4,17	3,96	4,01
COOLING WITH PARTIAL RECOVERY														
Cooling capacity (2)	kW	298	330	367	420	446	488	531	566	604	634	689	733	798
Total power input (2)	kW	97,2	111	122	137	154	157	172	190	203	212	220	259	281
Desuperheater heating capacity (2)	kW	85,2	116	129	144	136	138	180	168	180	187	194	230	250
COOLING WITH TOTAL RECOVERY														
Cooling capacity (3)	kW	301	349	381	425	450	481	547	581	625	651	703	767	826
Total power input (3)	kW	89,1	102	118	127	135	136	162	171	180	183	186	219	252
Heat recovery capacity (3)	kW	384	445	492	545	577	609	699	742	793	823	878	973	1063
COMPRESSORS														
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS														
Sound power (4)	dB(A)	92	92	93	93	93	93	93	93	93	95	95	95	95
Sound pressure (5)	dB(A)	60	60	61	61	61	61	61	61	61	63	63	63	63
SIZE														
A (6)	mm	4000	4000	4000	4900	4900	4900	4900	4900	4900	5800	5800	5800	5800
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	3800	3830	3920	4410	5090	5630	5630	5730	5840	6010	6340	7330	7900

Models		3902	4202	4212	4222	4822	5702	6002	6022	6903	7203	7223	8404
COOLING													
Cooling capacity (1)	kW	808	872	950	1014	1130	1177	1212	1302	1367	1421	1568	1679
Total power input (1)	kW	305	325	334	352	393	427	448	481	532	549	608	650
EER		2,65	2,68	2,84	2,88	2,88	2,75	2,71	2,71	2,57	2,59	2,58	2,58
ESEER		3,83	3,81	3,91	4	4,27	3,99	3,91	4,11	3,74	3,90	3,93	3,69
COOLING WITH PARTIAL RECOVERY													
Cooling capacity (2)	kW	838	904	986	1052	1173	1221	1258	1351	1419	1475	1627	1742
Total power input (2)	kW	295	314	323	340	380	413	432	465	515	530	588	628
Desuperheater heating capacity (2)	kW	262	280	283	299	336	366	384	411	449	464	517	554
COOLING WITH TOTAL RECOVERY													
Cooling capacity (3)	kW	868	949	993	1056	1180	1267	1320	1382	1490	1544	1659	1861
Total power input (3)	kW	262	279	284	295	334	368	379	408	440	453	493	556
Heat recovery capacity (3)	kW	1114	1211	1260	1334	1494	1613	1676	1766	1903	1970	2123	2383
COMPRESSORS													
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	3/3	3/3	3/3	4/4
NOISE LEVELS													
Sound power (4)	dB(A)	96	96	97	97	98	99	99	99	99	99	99	99
Sound pressure (5)	dB(A)	63	63	64	64	65	66	66	66	66	66	66	66
SIZE													
A (6)	mm	7000	7000	9400	9400	9400	9400	9400	11200	11200	11200	11200	11200
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	8550	8700	9530	9800	10210	*	*	*	12560	12690	12830	16110

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

6 Unit in standard configuration/execution, without optional accessories

FOCS / SL

Models		1502	1702	1902	1922	1972	2022	2602	2652	2702	2712	2722	3152	3602
COOLING														
Cooling capacity (1)	kW	275	300	337	389	413	454	486	520	554	586	638	669	726
Total power input (1)	kW	105	127	140	159	171	174	197	208	223	234	247	290	312
EER		2,62	2,36	2,41	2,45	2,42	2,61	2,47	2,50	2,48	2,50	2,58	2,31	2,33
ESEER		3,85	3,58	3,70	3,83	3,78	3,87	3,60	3,75	3,82	3,84	3,96	3,70	3,73
COOLING WITH PARTIAL RECOVERY														
Cooling capacity (2)	kW	285	311	349	404	429	471	504	539	575	608	662	694	753
Total power input (2)	kW	102	122	136	153	165	168	190	201	216	226	239	280	301
Desuperheater heating capacity (2)	kW	90,1	109	120	137	148	149	169	180	193	202	213	251	271
COOLING WITH TOTAL RECOVERY														
Cooling capacity (3)	kW	301	349	381	425	450	481	547	581	625	651	703	767	826
Total power input (3)	kW	89,1	102	118	127	135	136	162	171	180	183	186	219	252
Heat recovery capacity (3)	kW	385	445	492	545	577	609	699	742	793	823	878	973	1063
COMPRESSORS														
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS														
Sound power (4)	dB(A)	87	87	88	88	88	89	89	89	89	90	90	90	90
Sound pressure (5)	dB(A)	55	55	56	56	56	57	57	57	57	58	58	58	58
SIZE														
A (6)	mm	4000	4000	4000	4900	4900	4900	4900	4900	4900	5800	5800	5800	5800
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	3850	3880	3970	4460	5170	5700	5700	5800	5920	6080	6410	7410	8000

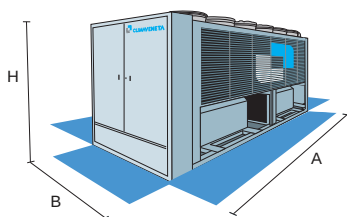
Models		3902	4202	4212	4222	4822	5702	6002	6022	6903	7203	7223	8404
COOLING													
Cooling capacity (1)	kW	768	822	909	975	1088	1150	1185	1279	1307	1358	1512	1590
Total power input (1)	kW	323	346	354	376	426	439	460	491	557	577	653	682
EER		2,38	2,38	2,57	2,59	2,55	2,62	2,57	2,61	2,35	2,35	2,32	2,33
ESEER		3,61	3,56	3,73	3,81	4,08	3,69	3,63	3,88	3,61	3,76	3,80	3,51
COOLING WITH PARTIAL RECOVERY													
Cooling capacity (2)	kW	797	852	943	1011	1129	1194	1229	1327	1357	1410	1569	1650
Total power input (2)	kW	312	334	342	363	411	424	445	475	538	558	631	659
Desuperheater heating capacity (2)	kW	280	300	303	323	368	377	369	424	478	496	564	590
COOLING WITH TOTAL RECOVERY													
Cooling capacity (3)	kW	868	949	993	1056	1180	1267	1320	1382	1490	1544	1659	1861
Total power input (3)	kW	262	279	284	295	334	368	379	408	440	453	493	556
Heat recovery capacity (3)	kW	1115	1211	1260	1334	1494	1613	1676	1766	1903	266	286	320
COMPRESSORS													
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	3/3	3/3	3/3	4/4
NOISE LEVELS													
Sound power (4)	dB(A)	91	91	92	92	93	94	94	94	94	94	94	95
Sound pressure (5)	dB(A)	58	58	59	59	60	61	61	61	61	61	61	62
SIZE													
A (6)	mm	7000	7000	9400	9400	9400	11200	11200	11200	11200	11200	11200	11200
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	8640	8790	9620	9890	10300	*	*	*	12690	12830	12970	16290

Note:

- 1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.
- 2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 5 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 6 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		1502-8404
Switchboard side	mm	1800
Switchboard opposite side	mm	1500
Condensation coil side	mm	2000



FOCS-XL 1502÷6002



Chiller, air source for outdoor installation

272 - 1180 kW

Unit Description

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. 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 performances level is achieved thanks to the accurate sizing of all internal components.

Commands

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 units 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. 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.

Versions

XL extremely low noise version

Features

EXTREMELY SILENT OPERATION

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

ADAPTABILITY

Adaptability at the buildings cooling request thanks to the continuous capacity regulation, assured by sophisticated controls logic

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.

INTEGRATED HYDRONIC MODULE

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

Main accessories

- Electronic expansion valve
- Soft start
- Remote keyboard
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Trend, Bacnet protocol board.
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation





FOCS-XL / XL

Models		1502	1702	1902	2002	2402	2602	2702	3202	3602	4202	4802	5402	6002
COOLING														
Cooling capacity (1)	kW	272	310	348	391	456	488	550	645	737	861	952	1079	1180
Total power input (1)	kW	105	123	137	143	169	192	227	254	313	332	363	411	471
EER		2,59	2,52	2,53	2,74	2,69	2,54	2,43	2,54	2,36	2,59	2,63	2,63	2,51
ESEER		4,15	3,94	4,11	4,19	4,21	3,92	3,89	3,98	4,07	3,94	4,24	3,76	3,56
COMPRESSORS														
No. Compressors/No. Circuits	N.	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
NOISE LEVELS														
Sound power (2)	dB(A)	82	82	83	84	85	85	85	85	85	86	87	90	91
Sound pressure (3)	dB(A)	50	50	51	52	53	53	53	52	52	53	54	57	58
SIZE														
A (4)	mm	4900	4900	4900	5800	5800	5800	5800	7000	7000	9900	11700	11700	11700
B (4)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight (4)	kg	4420	4450	4540	6020	6170	6230	6350	8000	8640	9710	10460	10720	10730

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

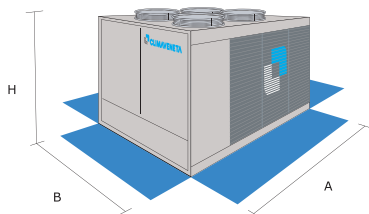
2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		1502-6002
Switchboard side	mm	1800
Switchboard opposite side	mm	1500
Condensation coil side	mm	2000



FOCS-CA 1502÷5424



High efficiency chiller, air source for outdoor installation

310 - 1381 kW

Unit Description

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. 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 performances level is achieved thanks to the accurate sizing of all internal components.

Commands

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 units 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. 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.

Versions

B	base version
LN	low noise version
SL	super-low noise version

Configurations

-	base function
D	partial condensing heat recovery function
R	total condensing heat recovery function

Features

FLEXIBILITY

Flexibility in applications thanks to the many available configurations and versions

ADAPTABILITY

Adaptability at the buildings cooling request thanks to the continuous capacity regulation, assured by sophisticated controls logic

HIGH EFFICIENCY

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

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

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.

Main accessories

- Soft start
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Compressor power factor device
- Electronic expansion valve
- Variable speed condensation control (standard on /LN, /SL)
- Remote keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Hydronic group





FOCS-CA / B

Models		1502	1702	1902	1922	1972	2022	2602	2652	2702	2712	2722
COOLING												
Cooling capacity (1)	kW	310	358	406	441	468	493	558	593	641	666	691
Total power input (1)	kW	95,4	110	128	140	147	156	176	187	202	208	215
EER		3,25	3,23	3,15	3,15	3,18	3,16	3,17	3,17	3,17	3,20	3,21
ESEER		4,15	4,07	3,95	4	4,02	4,02	4,02	4,04	4,17	4,18	4,18
COOLING WITH PARTIAL RECOVERY												
Cooling capacity (2)	kW	321	372	421	458	485	511	579	616	665	691	716
Total power input (2)	kW	92,3	107	125	135	143	151	170	181	195	201	208
Desuperheater heating capacity (2)	kW	77,4	88,3	103	112	119	127	144	152	164	170	176
COOLING WITH TOTAL RECOVERY												
Cooling capacity (3)	kW	303	349	396	436	463	489	554	589	647	676	703
Total power input (3)	kW	86,6	99	115	124	132	136	158	166	176	178	181
Heat recovery capacity (3)	kW	385	442	504	552	586	617	702	745	813	844	873
COMPRESSORS												
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS												
Sound power (4)	dB(A)	97	97	98	98	98	98	98	99	99	99	99
Sound pressure (5)	dB(A)	65	65	66	66	66	66	66	67	67	67	67
SIZE												
A (6)	mm	4900	4900	4900	4900	4900	4900	5800	5800	5800	5800	5800
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	4170	4250	4590	4670	5340	5750	6060	6140	6340	6400	6430

Models		3152	3602	3902	4202	4212	4802	4822	5403	5414	5424
COOLING											
Cooling capacity (1)	kW	780	849	924	963	1037	1088	1187	1261	1332	1381
Total power input (1)	kW	245	272	288	302	314	338	365	405	416	428
EER		3,18	3,12	3,20	3,18	3,30	3,21	3,25	3,11	3,20	3,22
ESEER		4,21	4,15	4,04	3,97	4,01	4,20	4,19	4,21	4,18	4,18
COOLING WITH PARTIAL RECOVERY											
Cooling capacity (2)	kW	809	881	959	999	1076	1130	1232	1309	1382	1433
Total power input (2)	kW	237	263	280	294	304	329	353	389	402	415
Desuperheater heating capacity (2)	kW	200	225	232	245	249	272	295	327	340	352
COOLING WITH TOTAL RECOVERY											
Cooling capacity (3)	kW	786	849	911	948	1008	1086	1179	1256	1353	1407
Total power input (3)	kW	213	246	257	271	284	305	334	368	357	361
Heat recovery capacity (3)	kW	987	1080	1152	1203	1275	1373	1494	1602	1688	1746
COMPRESSORS											
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	3/3	4/4	4/4
NOISE LEVELS											
Sound power (4)	dB(A)	100	100	102	102	102	102	102	103	103	103
Sound pressure (5)	dB(A)	67	67	69	69	69	69	69	70	70	70
SIZE											
A (6)	mm	7000	7000	9400	9400	11200	11200	11200	11200	11200	11200
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	7860	8660	9690	9920	10440	10280	10710	12180	12790	12860

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

6 Unit in standard configuration/execution, without optional accessories

FOCS-CA / LN

Models		1502	1702	1902	1922	1972	2022	2602	2652	2702	2712	2722
COOLING												
Cooling capacity (1)	kW	304	351	397	433	460	484	545	579	625	651	676
Total power input (1)	kW	94,1	109	126	138	146	157	175	186	202	210	218
EER		3,23	3,22	3,13	3,12	3,13	3,08	3,11	3,10	3,09	3,10	3,10
ESEER		4,35	4,28	4,19	4,24	4,24	4,19	4,15	4,20	4,32	4,32	4,32
COOLING WITH PARTIAL RECOVERY												
Cooling capacity (2)	kW	315	364	412	449	477	502	566	601	648	675	702
Total power input (2)	kW	91,1	105	123	135	142	152	170	180	196	203	211
Desuperheater heating capacity (2)	kW	79,6	90,8	106	117	124	133	149	157	171	178	186
COOLING WITH TOTAL RECOVERY												
Cooling capacity (3)	kW	303	349	396	436	463	489	554	589	647	677	703
Total power input (3)	kW	86,6	99	115	124	132	139	158	166	176	178	181
Heat recovery capacity (3)	kW	385	442	504	553	586	620	702	745	813	844	873
COMPRESSORS												
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS												
Sound power (4)	dB(A)	91	91	92	92	92	92	92	93	93	93	93
Sound pressure (5)	dB(A)	59	59	60	60	60	60	60	61	61	61	61
SIZE												
A (6)	mm	4900	4900	4900	4900	4900	4900	5800	5800	5800	5800	5800
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	4200	4290	4670	4740	5410	5820	6130	6210	6420	6470	6500

Models		3152	3602	3902	4202	4212	4802	4822	5403	5414	5424
COOLING											
Cooling capacity (1)	kW	764	825	904	941	1019	1061	1167	1240	1302	1353
Total power input (1)	kW	245	275	286	300	308	337	366	401	420	436
EER		3,11	3	3,16	3,13	3,30	3,14	3,18	3,09	3,10	3,10
ESEER		4,36	4,33	4,24	4,12	4,24	4,41	4,42	4,41	4,32	4,31
COOLING WITH PARTIAL RECOVERY											
Cooling capacity (2)	kW	793	856	938	976	1055	1102	1211	1287	1350	1404
Total power input (2)	kW	238	266	276	291	311	327	355	388	406	422
Desuperheater heating capacity (2)	kW	209	235	240	253	269	284	309	340	357	371
COOLING WITH TOTAL RECOVERY											
Cooling capacity (3)	kW	786	849	911	949	1007	1086	1180	1256	1353	1407
Total power input (3)	kW	214	246	257	271	306	305	334	368	357	361
Heat recovery capacity (3)	kW	987	1080	1152	1203	1294	1373	1494	1602	1688	1746
COMPRESSORS											
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	3/3	4/4	4/4
NOISE LEVELS											
Sound power (4)	dB(A)	94	94	96	96	96	96	96	97	97	97
Sound pressure (5)	dB(A)	61	61	63	63	63	63	63	64	64	64
SIZE											
A (6)	mm	7000	7000	9790	9790	11200	11200	11200	11200	11200	11200
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	7940	8740	9790	10020	10580	10420	10850	12330	12930	13000

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

6 Unit in standard configuration/execution, without optional accessories

FOCS-CA / SL

Models		1502	1702	1902	1922	1972	2022	2602	2652	2702	2712	2722
COOLING												
Cooling capacity (1)	kW	294	340	383	420	447	470	523	557	599	626	653
Total power input (1)	kW	97,7	111	131	145	155	167	184	194	213	222	234
EER		3,01	3,04	2,92	2,88	2,88	2,80	2,84	2,86	2,81	2,81	2,78
ESEER		4,23	4,17	4,10	4,14	4,14	4,05	3,97	4,05	4,14	4,14	4,13
COOLING WITH PARTIAL RECOVERY												
Cooling capacity (2)	kW	305	352	397	436	464	488	542	578	621	649	678
Total power input (2)	kW	94,3	108	127	141	150	162	177	188	206	216	227
Desuperheater heating capacity (2)	kW	83,4	95	111	124	132	143	158	167	183	192	202
COOLING WITH TOTAL RECOVERY												
Cooling capacity (3)	kW	303	349	396	436	463	489	554	589	647	677	703
Total power input (3)	kW	86,6	99	115	124	132	139	158	166	176	178	181
Heat recovery capacity (3)	kW	385	442	504	553	586	620	702	745	813	844	873
COMPRESSORS												
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS												
Sound power (4)	dB(A)	87	87	88	88	88	89	89	89	89	90	90
Sound pressure (5)	dB(A)	55	55	56	56	56	57	57	57	57	58	58
SIZE												
A (6)	mm	4900	4900	4900	4900	4900	4900	5800	5800	5800	5800	5800
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	4250	4350	4720	4790	5480	5900	6200	6280	6490	6540	6570

Models		3152	3602	3902	4202	4212	4802	4822	5403	5414	5424
COOLING											
Cooling capacity (1)	kW	735	791	873	905	990	1022	1133	1192	1252	1306
Total power input (1)	kW	260	290	296	312	320	353	390	422	447	469
EER		2,82	2,72	2,94	2,90	3,09	2,89	2,90	2,82	2,80	2,78
ESEER		4,17	4,12	4,11	3,98	4,15	4,28	4,30	4,23	4,14	4,13
COOLING WITH PARTIAL RECOVERY											
Cooling capacity (2)	kW	763	820	905	939	1023	1060	1176	1236	1299	1355
Total power input (2)	kW	252	281	287	302	326	342	377	408	432	454
Desuperheater heating capacity (2)	kW	224	251	253	267	286	301	334	362	384	404
COOLING WITH TOTAL RECOVERY											
Cooling capacity (3)	kW	786	849	911	949	1007	1086	1180	1256	1353	1407
Total power input (3)	kW	214	246	257	271	306	305	334	368	357	361
Heat recovery capacity (3)	kW	987	1080	1152	1203	1294	1373	1494	1602	1688	1746
COMPRESSORS											
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	3/3	4/4	4/4
NOISE LEVELS											
Sound power (4)	dB(A)	90	90	91	91	92	93	93	94	94	94
Sound pressure (5)	dB(A)	57	57	58	58	59	60	60	61	61	61
SIZE											
A (6)	mm	7000	7000	9400	9400	11200	11200	11200	11200	11200	11200
B (6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (6)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (6)	kg	8020	8830	9880	10110	10670	10510	10940	12460	13070	13140

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C; Desuperheater water (in/out) = 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

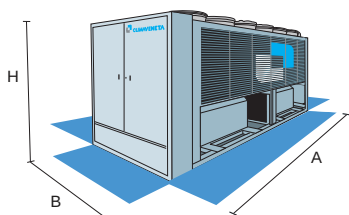
4 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

6 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		1502-5424
Switchboard side	mm	1800
Switchboard opposite side	mm	1500
Condensation coil side	mm	2000



i-FOCS 0052÷0082



High efficiency chiller, air source for outdoor installation

511 - 842 kW

Unit Description

Outdoor unit for the production of chilled water with inverter driven screw compressors optimized for R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube 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 together with the use of inverter technology. The high performances level, especially at partial load, is achieved thanks to the accurate units design and to the use of innovative inverter motors in all key components of the unit (compressors, fans and pumps).

Commands

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 units 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 by adjustment of the compressor speed. The modulation is based on PID algorithms and referring to the leaving water temperature. This is combined with the management of the compressors status, with two selectable logics (proportional referred to the return temperature or dead band referred to the leaving temperature). 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.

Versions

E	high efficiency version
SL-E	super-low noise, high efficiency version

Features

SYSTEM EFFICIENCY

The unit is designed as a system: all components, with very high operating efficiency, are synergically regulated using proprietary controls logic, and the unit-system is perfectly integrated with all other Climaveneta units

VERY HIGH EFFICIENCY AT PARTIAL LOAD

Very high efficiency at partial load thanks to the inverter technology applied on screw compressors. Therefore, operating costs are reduced to a minimum

TRUE SILENCE

Silence optimized for the most frequent operational conditions, thanks to the accurate structures design, to the use of EC fans (DC brushless) and to the adoption of variable-speed driven compressors

HARMONY BETWEEN UNIT AND PLANT

Low inrush current and cos(phi) higher than 0.9, permit an easy electrical installation which is not stressed during start-up and with no need of extra devices for power factor correction. The use of inverter allows the unit partialize down to 15%, with consequent lower fluctuations of leaving water temperature

Main accessories

- Set-up for remote connectivity with ModBus, Echelon LonTalk, Trend, Bacnet protocol board.
- Remote keyboard (distance to 200m and to 500m)
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation





i-FOCS / E

Models		0052	0062	0072	0082
COOLING					
Cooling capacity (1)	kW	511	670	737	842
Total power input (1)	kW	203	263	294	335
EER		*	*	*	*
ESEER		4,69	4,70	4,74	4,71
COMPRESSORS					
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2
NOISE LEVELS					
Sound power (2)	dB(A)	97	98	98	99
Sound pressure (3)	dB(A)	65	66	65	66
SIZE					
A (4)	mm	4900	5800	7000	7000
B (4)	mm	2260	2260	2260	2260
H (4)	mm	2430	2430	2430	2430
Operating weight (4)	kg	5980	7190	8090	8580

Note:

1 Evaporator water (in/out): 15/7°C; Condenser Air (in): 35°C°

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

i-FOCS / SL-E

Models		0052	0062	0072	0082
COOLING					
Cooling capacity (1)	kW	492	644	712	808
Total power input (1)	kW	204	267	298	343
EER		*	*	*	*
ESEER		4,70	4,71	4,76	4,72
COMPRESSORS					
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2
NOISE LEVELS					
Sound power (2)	dB(A)	91	92	92	93
Sound pressure (3)	dB(A)	59	60	59	60
SIZE					
A (4)	mm	4900	5800	7000	7000
B (4)	mm	2260	2260	2260	2260
H (4)	mm	2430	2430	2430	2430
Operating weight (4)	kg	6090	7290	8200	8690

Note:

1 Evaporator water (in/out): 15/7°C; Condenser Air (in): 35°C°

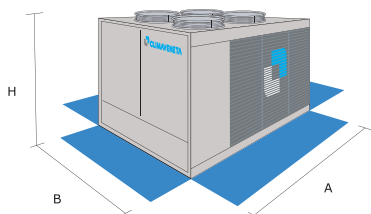
2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0052-0082
Switchboard side	mm	1800
Switchboard opposite side	mm	1500
Condensation coil side	mm	2000



TECS2 Vision 2.0 0211÷1154



High efficiency chiller, air source for outdoor installation

220 - 1325 kW

Unit Description

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.

Commands

W3000 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.

Versions

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, very high efficiency, Class A enhanced

Configurations

-	base 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

Main accessories

- 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/Bacnet protocol cards





TECS2 Vision 2.0 / SL-CA

Models		0211	0351	0521	0452	0512	0552	0652	0712	0853	0913	1013	1054	1154
COOLING														
Cooling capacity (1)	kW	233	346	258	442	509	574	650	742	848	904	977	1065	1183
Total power input (1)	kW	70,2	110	81,1	138	161	174	208	225	269	286	310	336	374
EER		3,31	3,13	3,18	3,20	3,16	3,30	3,13	3,30	3,15	3,15	3,15	3,17	3,17
ESEER		4,77	4,72	4,87	5,07	5,17	5,09	5,04	5,16	5,12	5,13	5,09	5,06	5,14
COMPRESSORS														
No. Compressors/No. Circuits	N.	1 / 1	1 / 1	1 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	3 / 2	3 / 2	3 / 2	4 / 2	4 / 2
NOISE LEVELS														
Sound power (2)	dB(A)	88	90	88	90	90	91	92	92	93	93	93	94	94
Sound pressure (3)	dB(A)	56	58	56	58	58	59	60	60	61	61	61	62	62
SIZE														
A (4)	mm	3100	4000	3100	4900	4900	5800	7000	7000	8500	9700	10600	11200	11500
B (4)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (4)	kg	*	*	*	*	*	*	*	*	*	*	*	*	*

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

TECS2 Vision 2.0 / XL-CA

Models		0211	0351	0521	0452	0512	0552	0652	0712	0853	0913	1013	1054	1154
COOLING														
Cooling capacity (1)	kW	220	341	254	435	526	579	640	739	874	900	972	1049	1174
Total power input (1)	kW	68,5	109	79,8	136	166	173	206	226	279	290	312	331	377
EER		3,21	3,12	3,19	3,19	3,17	3,35	3,11	3,27	3,13	3,11	3,12	3,17	3,11
ESEER		4,75	4,84	4,99	5,19	5,23	5,17	5,19	5,24	5,24	5,30	5,24	5,19	5,23
COMPRESSORS														
No. Compressors/No. Circuits	N.	1 / 1	1 / 1	1 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	3 / 2	3 / 2	3 / 2	4 / 2	4 / 2
NOISE LEVELS														
Sound power (2)	dB(A)	82	83	82	83	84	85	85	86	86	86	87	87	88
Sound pressure (3)	dB(A)	50	51	50	51	52	53	53	54	54	54	55	55	56
SIZE														
A (4)	mm	3100	4000	3100	4900	5800	7000	7000	7900	9400	9700	10600	11200	12400
B (4)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (4)	kg	*	*	*	*	*	*	*	*	*	*	*	*	*

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

TECS2 Vision 2.0 / SL-CA-E

Models		0211	0351	0521	0452	0512	0552	0652	0712	0853	0913	1013	1054	1154
COOLING														
Cooling capacity (1)	kW	229	384	285	455	527	590	703	796	902	969	1086	1177	1324
Total power input (1)	kW	67,1	113	81,4	134	154	169	204	233	269	278	317	336	383
EER		3,41	3,40	3,50	3,41	3,41	3,50	3,45	3,41	3,35	3,48	3,42	3,50	3,46
ESEER		5,29	5,43	5,52	5,79	5,71	5,64	5,77	5,77	5,62	5,79	5,71	5,87	5,75
COMPRESSORS														
No. Compressors/No. Circuits	N.	1 / 1	1 / 1	1 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	3 / 2	3 / 2	3 / 2	4 / 2	4 / 2
NOISE LEVELS														
Sound power (2)	dB(A)	88	90	88	90	90	91	92	92	93	93	93	94	95
Sound pressure (3)	dB(A)	56	58	56	58	58	59	60	60	61	61	61	62	63
SIZE														
A (4)	mm	3100	4000	3100	4900	4900	5800	7000	7900	8500	9700	10600	11200	12400
B (4)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (4)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Operating weight (4)	kg	*	*	*	*	*	*	*	*	*	*	*	*	*

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

4 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0211-1154
Switchboard side	mm	1800
Switchboard opposite side	mm	1500
Condensation coil side	mm	2000

NECS-FC 0152÷1204



Chiller, air source with free-cooling

41,5 - 377 kW

Unit Description

External units for the production of chilled water, with Free-Cooling function, fitted with hermetic Scroll compressors, axial fans, braze-welded plate exchanger and thermostat expansion valve in R410A. External panelling in peraluman and base in painted galvanised steel. NECS Free-Cooling, a must when demand is high throughout the year, also during the cold season, therefore. In fact, the greater the difference between the temperature of the chilled water and the temperature of the external air, the greater the advantage of free-cooling.

Commands

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 units 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.

Versions

B	base version
SL	super-low noise version

Configurations

-	base function
NG	function for free-cooling without use of glycole

Features

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.

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.

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

Main accessories

- Remote keyboard (distance to 200m and to 500m)
- Coils with FIN GUARD SILVER treatment
- Automatic circuit breakers on loads
- Modulating valve for water temperature control in Free-Cooling mode





NECS-FC / B

Models		0152	0182	0202	0252	0302	0352	0412	0452	0512
NECS-FC										
FREE-COOLING OFF										
Cooling capacity (1)	kW	43,6	51	61,9	68	88,5	104	115	131	149
Total power input (1)	kW	14,1	15,5	19,5	22,5	28,3	30,9	35,8	41,1	43,8
EER		3,09	3,29	3,17	3,02	3,13	3,37	3,21	3,19	3,40
FREE-COOLING ON 100%										
Cooling capacity (2)	kW	43,3	51	61,9	68	88,5	104	115	131	149
Total power input (2)	kW	1,50	1,50	4,20	4,20	4,20	4,20	4,20	6,30	6,30
Total Free-Cooling temperature (2)	°C	1,40	1,10	0,80	0	-0,80	0,40	-0,70	-0,40	0,20
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
NOISE LEVELS										
Sound power (3)	dB(A)	87	87	90	90	91	91	92	92	93
Sound pressure (4)	dB(A)	55	55	58	58	59	59	60	60	61
SIZE										
A (5)	mm	2200	2200	2602	2602	2602	3602	3602	3602	4602
B (5)	mm	920	920	1104	1104	1104	1104	1104	1104	1104
H (5)	mm	1780	1780	2175	2175	2175	2175	2175	2175	2205
Operating weight (5)	kg	670	710	870	880	1060	1310	1340	1410	1650
NECS-FC-NG										
FREE-COOLING OFF										
Cooling capacity (1)	kW	44,8	52,4	63,6	69,8	90,9	107	118	135	153
Total power input (1)	kW	14,1	15,5	19,5	22,5	28,3	30,9	35,8	41,1	43,8
EER		3,18	3,38	3,26	3,10	3,21	3,46	3,30	3,28	3,49
FREE-COOLING ON 100%										
Cooling capacity (2)	kW	44,8	54,4	63,6	69,8	90,9	107	118	135	153
Total power input (2)	kW	1,50	1,50	4,20	4,20	4,20	4,20	4,20	6,30	6,30
Total Free-Cooling temperature (2)	°C	-1,60	-1,90	-2,20	-3	-3,80	-2,60	-3,70	-3,40	-2,80
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
NOISE LEVELS										
Sound power (3)	dB(A)	87	87	90	90	91	91	92	92	93
Sound pressure (4)	dB(A)	55	55	58	58	59	59	60	60	61
SIZE										
A (5)	mm	2200	2200	2602	2602	2602	3602	3602	3602	4602
B (5)	mm	920	920	1104	1104	1104	1104	1104	1104	1104
H (5)	mm	1780	1780	2175	2175	2175	2175	2175	2175	2205
Operating weight (5)	kg	710	760	920	940	1130	1410	1450	1530	1780

Note:

- 1 Evaporator water (in/out): 15/10°C; Condenser air (in): 30°C; Ethylene glycol: 30% (not applicable to NG configurations).
- 2 Evaporator water (in/out): 15/10°C; Ethylene glycol: 30 % (not applicable to NG configurations).
- 3 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 4 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 5 Unit in standard configuration/execution, without optional accessories

Models		0552	0612	0604	0704	0804	0904	1004	1104	1204
NECS-FC										
FREE-COOLING OFF										
Cooling capacity (1)	kW	166	187	177	207	234	268	293	336	377
Total power input (1)	kW	51,5	59,8	56,4	62,5	73,8	79,9	89,6	102	118
EER		3,23	3,12	3,14	3,31	3,17	3,35	3,27	3,31	3,19
FREE-COOLING ON 100%										
Cooling capacity (2)	kW	166	187	177	207	234	268	293	336	377
Total power input (2)	kW	6,30	8,40	8,40	8,40	12,6	12,6	12,6	12,6	16,8
Total Free-Cooling temperature (2)	°C	-1,10	-1,10	1,60	-0,10	0,30	1,40	0,60	0,50	0,40
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (3)	dB(A)	93	94	93	93	94	94	94	95	96
Sound pressure (4)	dB(A)	61	62	61	61	62	62	62	63	64
SIZE										
A (5)	mm	4602	4602	4110	4110	4110	5110	5110	5110	5110
B (5)	mm	1104	1104	2220	2220	2220	2220	2220	2220	2220
H (5)	mm	2205	2205	2150	2150	2150	2150	2150	2430	2430
Operating weight (5)	kg	1680	1740	2200	2330	2510	2880	2940	3260	3400
NECS-FC-NG										
FREE-COOLING OFF										
Cooling capacity (1)	kW	171	192	182	212	241	275	301	345	387
Total power input (1)	kW	51,5	59,8	56,4	62,5	73,8	79,9	89,6	102	118
EER		3,32	3,21	3,23	3,40	3,26	3,44	3,36	3,40	3,28
FREE-COOLING ON 100%										
Cooling capacity (2)	kW	171	192	182	212	241	279	301	345	387
Total power input (2)	kW	6,30	8,40	8,40	8,40	12,6	12,6	12,6	12,6	16,8
Total Free-Cooling temperature (2)	°C	-4,10	-4,10	-1,40	-3,10	-2,70	-1,30	-2,40	-2,50	-2,60
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (3)	dB(A)	93	94	93	93	94	94	94	95	96
Sound pressure (4)	dB(A)	61	62	61	61	62	62	62	63	64
SIZE										
A (5)	mm	4602	4602	4110	4110	4110	5110	5110	5110	5110
B (5)	mm	1104	1104	2220	2220	2220	2220	2220	2220	2220
H (5)	mm	2205	2205	2150	2150	2150	2150	2150	2430	2430
Operating weight (5)	kg	1810	1890	2510	2650	2840	3250	3320	3700	3850

Note:

- 1 Evaporator water (in/out): 15/10°C; Condenser air (in): 30°C; Ethylene glycol: 30% (not applicable to NG configurations).
- 2 Evaporator water (in/out): 15/10°C; Ethylene glycol: 30 % (not applicable to NG configurations).
- 3 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 4 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 5 Unit in standard configuration/execution, without optional accessories

NECS-FC / SL

Models		0152	0182	0202	0252	0302	0352	0412	0452	0512
NECS-FC										
FREE-COOLING OFF										
Cooling capacity (1)	kW	41,5	49,8	56,9	63,8	82,4	97,9	112	122	137
Total power input (1)	kW	14,3	16,1	19,1	21,8	28	32,3	35,7	41,3	45,8
EER		2,90	3,09	2,98	2,93	2,94	3,03	3,13	2,96	3
FREE-COOLING ON 100%										
Cooling capacity (2)	kW	41,5	49,8	56,9	63,8	82,4	97,9	112	122	137
Total power input (2)	kW	0,60	1,50	1,50	1,70	1,70	2,60	2,60	2,60	3,50
Total Free-Cooling temperature (2)	°C	-1,20	-1,50	-1,10	-1,30	-1,30	-1,20	-0,70	-1,50	-1,60
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
NOISE LEVELS										
Sound power (3)	dB(A)	77	78	78	79	80	81	81	82	83
Sound pressure (4)	dB(A)	45	46	46	47	48	49	49	50	51
SIZE										
A (5)	mm	2200	2602	2602	2602	3602	3602	4602	4602	4602
B (5)	mm	920	1104	1104	1104	1104	1104	1104	1104	1104
H (5)	mm	1780	2175	2175	2175	2175	2175	2205	2205	2205
Operating weight (5)	kg	680	860	920	940	1240	1350	1590	1610	1690
NECS-FC-NG										
FREE-COOLING OFF										
Cooling capacity (1)	kW	42,6	51,2	58,4	65,6	86,5	101	115	126	141
Total power input (1)	kW	14,3	16,1	19,1	21,8	28	32,3	35,7	41,3	45,8
EER		2,98	3,18	3,06	3,01	3,09	3,11	3,22	3,04	3,08
FREE-COOLING ON 100%										
Cooling capacity (2)	kW	42,6	51,2	58,4	65,6	86,5	101	115	126	141
Total power input (2)	kW	0,60	1,50	1,50	1,70	1,70	2,60	2,60	2,60	3,40
Total Free-Cooling temperature (2)	°C	-4,20	-4,50	-4,10	-4,30	-4,30	-4,20	-3,70	-4,50	-4,60
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
NOISE LEVELS										
Sound power (3)	dB(A)	77	78	78	79	80	81	81	82	83
Sound pressure (4)	dB(A)	46	47	47	48	49	50	50	51	52
SIZE										
A (5)	mm	2200	2602	2602	2602	3602	3602	4602	4602	4602
B (5)	mm	920	1104	1104	1104	1104	1104	1104	1104	1104
H (5)	mm	1780	2175	2175	2175	2175	2175	2205	2205	2205
Operating weight (5)	kg	730	910	970	990	1300	1450	1690	1730	1810

Note:

- 1 Evaporator water (in/out): 15/10°C; Condenser air (in): 30°C; Ethylene glycol: 30% (not applicable to NG configurations).
- 2 Evaporator water (in/out): 15/10°C; Ethylene glycol: 30 % (not applicable to NG configurations).
- 3 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 4 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 5 Unit in standard configuration/execution, without optional accessories

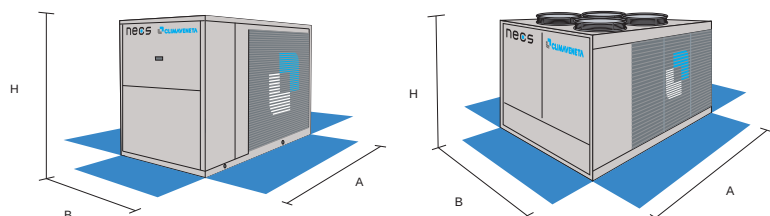
Models		0552	0612	0604	0704	0804	0904	1004	1104	1204
NECS-FC										
FREE-COOLING OFF										
Cooling capacity (1)	kW	156	179	166	193	216	243	274	313	351
Total power input (1)	kW	53,3	59,2	57,2	66,2	75,2	83,5	90,3	104	120
EER		2,92	3,03	2,91	2,91	2,87	2,91	3,03	3,01	2,93
FREE-COOLING ON 100%										
Cooling capacity (2)	kW	156	179	166	193	216	243	274	313	351
Total power input (2)	kW	3,50	4,40	3,50	5,20	5,20	5,20	5,20	5,20	6,90
Total Free-Cooling temperature (2)	°C	-1,70	-2,80	-1,60	-1,70	-3,30	-1,60	-2,80	-3	-2,90
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (3)	dB(A)	84	85	82	83	83	84	84	85	86
Sound pressure (4)	dB(A)	52	53	50	51	51	52	52	53	54
SIZE										
A (5)	mm	4602	4602	4110	4110	4110	5110	5110	5110	5110
B (5)	mm	1277	1277	2220	2220	2220	2220	2220	2220	2220
H (5)	mm	2350	2350	2150	2150	2150	2150	2150	2430	2430
Operating weight (5)	kg	1920	2000	2280	2410	2580	2880	3040	3380	3520
NECS-FC-NG										
FREE-COOLING OFF										
Cooling capacity (1)	kW	160	184	171	198	221	249	281	322	361
Total power input (1)	kW	53,3	59,2	57,1	66,2	75,2	83,5	90,3	104	120
EER		3	3,11	2,99	2,99	2,94	2,99	3,12	3,09	3,01
FREE-COOLING ON 100%										
Cooling capacity (2)	kW	160	184	178	198	221	249	281	322	361
Total power input (2)	kW	3,50	4,40	3,50	5,20	4,80	5,10	5,20	5,10	6,90
Total Free-Cooling temperature (2)	°C	-4,70	-5,80	-4,60	-4,70	-6,30	-4,60	-5,80	-6	-5,90
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (3)	dB(A)	84	85	82	83	83	84	84	85	86
Sound pressure (4)	dB(A)	53	54	50	51	51	52	52	53	54
SIZE										
A (5)	mm	4602	4602	4110	4110	4110	5110	5110	5110	5110
B (5)	mm	1277	1277	2200	2200	2200	2200	2200	2200	2200
H (5)	mm	2350	2350	2150	2150	2150	2150	2150	2430	2430
Operating weight (5)	kg	2060	2150	2590	2730	2910	3250	3420	3820	3970

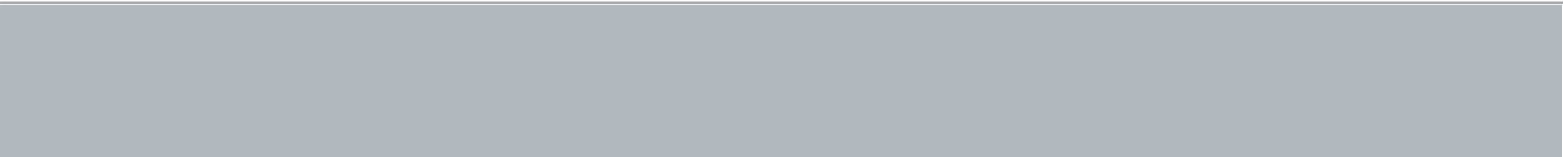
Note:

- 1 Evaporator water (in/out): 15/10°C; Condenser air (in): 30°C; Ethylene glycol: 30% (not applicable to NG configurations).
- 2 Evaporator water (in/out): 15/10°C; Ethylene glycol: 30 % (not applicable to NG configurations).
- 3 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 4 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 5 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0152-0612	0604-1204
Switchboard side	mm	800	1100
Switchboard opposite side	mm	800	1100
Condensation coil side	mm	1500	2000
Opposite side of cond. coil	mm	800	2000





FOCS-FC 1502÷4822



Chiller, air source with free-cooling

329 - 1229 kW

Unit Description

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 tube evaporator design by Climaveneta and thermostatic expansion valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. This air-cooled range, fitted with FREE-COOLING coils, is for use in civil and industrial installations whenever the need for cooling continues throughout the cold months, or when the external air temperature is lower than the temperature of the liquid returning from the installation. During freecooling operation the fluid is cooled by means of the external air, thus reducing the load on the compressors or even completely substituting them. The necessary cooling capacity is therefore obtained with almost zero energy expenditure (FREECOOLING 100 % = EER 25). Further more the NG configuration complies with applications where the use of ethylene glycol is not desired or permitted.

Commands

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 units 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.

Versions

B	base version
SL	super-low noise version

Configurations

-	base function
NG	function for free-cooling without use of glycole

Features

RANGE

Extended capacity range

ENERGY SAVING

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

INTEGRATED HYDRONIC MODULE

It consists of 1 or 2 pumps, 2 or 4-pole motor, with high or low head options to satisfy different applications

Main accessories

- EC fans with electronic DC brushless motor
- Compressor power factor device
- Electronic expansion valve
- Remote keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon/Bacnet protocol cards
- Hydronic group





FOCS-FC / B

Models		1502	1702	1902	1922	2022	2602	2702	2722	3602	4202	4212	4222	4822
FOCS-FC														
FREE-COOLING OFF														
Cooling capacity (1)	kW	329	369	417	454	502	579	636	711	858	994	1076	1126	1229
Total power input (1)	kW	96,4	114	136	147	168	191	221	221	298	333	336	355	395
EER		3,41	3,24	3,07	3,09	2,99	3,03	2,88	3,22	2,88	2,98	3,20	3,17	3,11
FREE-COOLING ON 100%														
Cooling capacity (2)	kW	329	369	417	454	502	579	636	711	858	994	1076	1126	1229
Total power input (2)	kW	9,60	9,60	21	21	21	25,2	25,2	29,4	33,6	42	50,4	50,4	50,4
Total Free-Cooling temperature (2)	°C	1,70	0,70	1,80	1,10	0,10	0,60	-0,50	0,60	0	0,10	1,30	0,90	0
COMPRESSORS														
No. Compressors/No. Circuits	N.	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
NOISE LEVELS														
Sound power (3)	dB(A)	99	99	99	99	99	101	101	102	102	103	105	105	105
Sound pressure (4)	dB(A)	67	67	67	67	67	69	69	69	69	70	72	72	72
SIZE														
A (5)	mm	4000	4000	4900	4900	4900	5800	5800	7000	7900	10000	11800	11800	11800
B (5)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
H (5)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
Operating weight (5)	kg	4810	4810	5310	5630	6590	7170	7190	7940	9670	11500	12530	12600	12660
FOCS-FC/NG														
FREE-COOLING OFF														
Cooling capacity (1)	kW	338	379	428	466	516	595	653	730	881	1021	1105	1157	1262
Total power input (1)	kW	104	122	136	148	169	192	222	222	299	335	338	356	397
EER		3,25	3,11	3,15	3,15	3,05	3,10	2,94	3,29	2,95	3,05	3,27	3,25	3,18
FREE-COOLING ON 100%														
Cooling capacity (2)	kW	338	379	428	466	516	595	653	730	881	1021	1105	1157	1262
Total power input (2)	kW	16,8	16,8	21	21	21	25,2	25,2	29,4	33,6	42	50,4	50,4	50,4
Total Free-Cooling temperature (2)	°C	-1,30	-2,30	-1,20	-1,90	-2,90	-2,40	-3,40	-2,40	-3	-2,80	-1,70	-2,10	-3
COMPRESSORS														
No. Compressors/No. Circuits	N.	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
NOISE LEVELS														
Sound power (3)	dB(A)	99	99	99	99	99	101	101	102	102	103	105	105	105
Sound pressure (4)	dB(A)	67	67	67	67	67	69	69	69	69	70	72	72	72
SIZE														
A (5)	mm	4000	4000	4900	4900	4900	5800	5800	7000	7900	10000	11800	11800	11800
B (5)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (5)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight (5)	kg	5130	5130	5710	6030	6970	7630	7700	8440	10410	12130	13330	13580	13640

Note:

1 Evaporator water (in/out): 15/10°C; Condenser air (in): 30°C; Ethylene glycol: 30% (not applicable to NG configurations).

2 Evaporator water (in/out): 15/10°C; Ethylene glycol: 30 % (not applicable to NG configurations).

3 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

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

5 Unit in standard configuration/execution, without optional accessories

FOCS-FC / SL

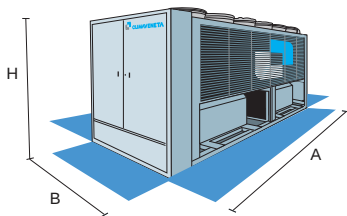
Models		1502	1702	1902	1922	2022	2602	2702	2722	3602	4202	4212	4222	4822
FOCS-FC														
FREE-COOLING OFF														
Cooling capacity (1)	kW	315	348	398	435	503	548	597	683	808	936	1030	1080	1171
Total power input (1)	kW	102	122	135	150	161	194	229	229	309	339	338	362	413
EER		3,09	3,25	3,35	3,30	3,12	3,22	3,01	3,38	3,01	3,16	3,05	3,38	3,24
FREE-COOLING ON 100%														
Cooling capacity (2)	kW	315	348	398	435	503	548	597	683	808	936	1030	1080	1171
Total power input (2)	kW	9,60	9,60	12	12	14,4	14,4	14,4	16,8	19,2	24	28,8	28,8	28,8
Total Free-Cooling temperature (2)	°C	0,40	-0,50	0,50	-0,30	0,20	-0,70	-1,60	-0,80	-1,20	-1,10	-0,10	-0,50	-1,40
COMPRESSORS														
No. Compressors/No. Circuits	N.	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
NOISE LEVELS														
Sound power (3)	dB(A)	92	92	92	92	94	94	94	95	95	95	97	97	97
Sound pressure (4)	dB(A)	60	60	60	60	62	62	62	62	62	62	64	64	64
SIZE														
A (5)	mm	4000	4000	4900	4900	5800	5800	5800	7000	7900	10000	11800	11800	11800
B (5)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
H (5)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
Operating weight (5)	kg	4900	4900	5390	5710	7240	7260	7280	8050	9790	11660	12710	12780	12840
FOCS-FC/NG														
FREE-COOLING OFF														
Cooling capacity (1)	kW	323	357	409	447	516	562	613	702	830	961	1058	1109	1203
Total power input (1)	kW	93	103	123	151	162	195	231	230	310	341	340	364	415
EER		3,15	2,91	3,02	2,96	3,18	2,89	2,70	3,05	2,68	2,82	3,11	3,05	2,90
FREE-COOLING ON 100%														
Cooling capacity (2)	kW	323	357	409	447	516	562	613	702	830	961	1058	1109	1203
Total power input (2)	kW	9,60	9,60	12	12	14,4	14,4	14,4	16,8	19,2	24	28,8	28,8	28,8
Total Free-Cooling temperature (2)	°C	-2,65	-3,51	-2,47	-3,29	-2,77	-3,68	-4,61	-3,80	-4,18	-4,12	-3,12	-3,53	-4,38
COMPRESSORS														
No. Compressors/No. Circuits	N.	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
NOISE LEVELS														
Sound power (3)	dB(A)	92	92	92	92	94	94	94	95	95	95	97	97	97
Sound pressure (4)	dB(A)	60	60	60	60	62	62	62	62	62	62	64	64	64
SIZE														
A (5)	mm	4000	4000	4900	4900	5800	5800	5800	7000	7900	10000	11800	11800	11800
B (5)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H (5)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight (5)	kg	5210	5210	5790	6110	7600	7720	7790	8550	10530	12290	13510	13760	13820

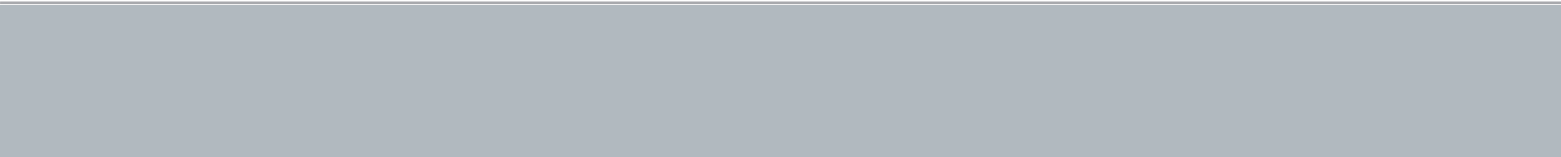
Note:

- 1 Evaporator water (in/out): 15/10°C; Condenser air (in): 30°C; Ethylene glycol: 30% (not applicable to NG configurations).
- 2 Evaporator water (in/out): 15/10°C; Ethylene glycol: 30 % (not applicable to NG configurations).
- 3 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 4 Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
- 5 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		1502-4822
Switchboard side	mm	1800
Switchboard opposite side	mm	1500
Condensation coil side	mm	2000





NECS-C 0152÷1204



Chiller, air source for indoor installation

37,1 - 325 kW

Unit Description

Indoor unit for the production of chilled water with hermetic rotary scroll compressors dedicated to the use of R410A, centrifugal fans, braze-welded plate-type exchanger and thermal expansion valve. External panels in pre-clad sheet steel (simil Peraluman) and base in galvanised steel with paint finish. The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Commands

W3000 Base / W3000SE Compact

The controller can be chosen as: - W3000 Base: keypad and LED display - W3000SE Compact: 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 diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation. 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). Common features: 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. 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.

Versions

B	base version
HT	high efficiency, high outdoor temperature version

Configurations

-	base function
D	partial condensing heat recovery function
R	total condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A has resulted in units offering better energy efficiency in full respect for the environment (ODP = 0)

TOTAL VERSATILITY

The NECS-C 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.

INTEGRATED HYDRONIC MODULE

The incorporated hydronic unit already contains the main water circuit components; it is available in various configurations with one or two pumps with high or low head

Main accessories

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





NECS-C / B

Models		0152	0182	0202	0252	0302	0352	0412	0452	0512
COOLING										
Cooling capacity (1)	kW	37,1	43	50,5	57	74,8	86,4	97,9	109	121
Total power input (1)	kW	15,7	18,3	20,6	23,2	30,4	36,8	40,7	46,8	51,5
EER		2,67	2,64	2,72	2,69	2,65	2,60	2,64	2,53	2,54
ESEER		4,61	4,30	4,46	4,35	4,18	3,86	3,88	3,73	3,74
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
FANS										
Fan air flow	m ³ /h	15984	18000	18000	18000	20016	32004	32004	33984	33984
Max AESP (2)	Pa	120	120	120	120	120	120	120	120	120
NOISE LEVELS										
Sound power (3)	dB(A)	82	85	85	85	87	92	92	93	93
SIZE										
A (4)	mm	2200	2200	2200	2200	2200	2602	2602	2602	2602
B (4)	mm	920	920	920	920	920	1104	1104	1104	1104
H (4)	mm	1642	1642	1642	1642	1642	1927	1927	1927	1927
Operating weight (4)	kg	670	670	700	720	880	1120	1170	1210	1260

Models		0552	0612	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	138	159	152	172	195	222	244	281	312
Total power input (1)	kW	58,3	67,2	62,5	73,1	83,5	89,6	102	115	133
EER		2,53	2,59	2,66	2,55	2,57	2,69	2,60	2,62	2,52
ESEER		4,17	3,94	3,86	3,72	3,61	3,97	3,77	3,88	3,74
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2
FANS										
Fan air flow	m ³ /h	33984	51012	47988	51012	68004	64008	68004	68004	84996
Max AESP (2)	Pa	120	120	120	120	120	120	120	120	120
NOISE LEVELS										
Sound power (3)	dB(A)	93	95	94	95	96	95	96	96	97
SIZE										
A (4)	mm	3602	3602	3602	3602	4602	4602	4602	4602	5602
B (4)	mm	1104	1104	1277	1277	1277	1277	1277	1277	1277
H (4)	mm	1927	1927	1900	1900	2235	2235	2235	2235	2235
Operating weight (4)	kg	1450	1550	1845	1940	2310	2445	2515	2695	2885

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

2 Useful pressure to be specified at the time of placing the order.

3 Total sound power of the fans as declared by the manufacturer referred to nominal speed of rotation and useful static head of 120 Pa on delivery side.

4 Unit in standard configuration/execution, without optional accessories

NECS-C / HT

Models		0152	0182	0202	0252	0302	0352	0412	0452	0512
COOLING										
Cooling capacity (1)	kW	39	45,5	52,7	59,4	80	91,5	103	114	130
Total power input (1)	kW	14,9	17,4	20	22,4	30,6	34,6	39,8	44,1	50,8
EER		2,98	2,97	2,94	2,93	2,96	2,95	2,86	2,83	2,88
ESEER		4,83	4,48	4,51	4,42	3,93	4,01	3,81	4,03	3,78
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
FANS										
Fan air flow	m ³ /h	15984	19008	19008	19008	32004	32004	33984	33984	51012
Max AESP (2)	Pa									
NOISE LEVELS										
Sound power (3)	dB(A)	82	86	86	86	92	92	93	93	95
SIZE										
A (4)	mm	2200	2200	2200	2200	2602	2602	2602	3602	3602
B (4)	mm	920	920	920	920	1104	1104	1104	1104	1104
H (4)	mm	1642	1642	1642	1642	1927	1927	1927	1927	1927
Operating weight (4)	kg	690	710	730	760	1090	1170	1230	1400	1490

Models		0552	0612	0604	0704	0804	0904	1004	1104	1204
COOLING										
Cooling capacity (1)	kW	148	165	158	183	203	228	257	296	325
Total power input (1)	kW	57,8	64,6	61,2	69	79,9	89,1	99,3	112	128
EER		2,98	2,80	2,85	2,96	2,81	2,80	2,86	2,88	2,74
ESEER		3,97	3,94	3,54	3,94	3,67	3,77	3,71	3,84	3,75
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2
FANS										
Fan air flow	m ³ /h	51012	51012	51012	64008	68004	68004	84996	84996	84996
Max AESP (2)	Pa									
NOISE LEVELS										
Sound power (3)	dB(A)	95	95	95	95	96	96	97	97	97
SIZE										
A (4)	mm	3602	3602	3602	4602	4602	4602	5602	5602	5602
B (4)	mm	1104	1104	1277	1277	1277	1277	1277	1277	1277
H (4)	mm	1927	1927	1900	2235	2235	2235	2235	2235	2235
Operating weight (4)	kg	1560	1630	1920	2320	2380	2580	2845	3055	3115

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser air (in) = 35°C.

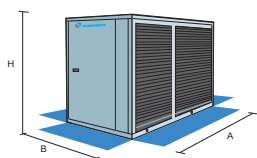
2 Useful pressure to be specified at the time of placing the order.

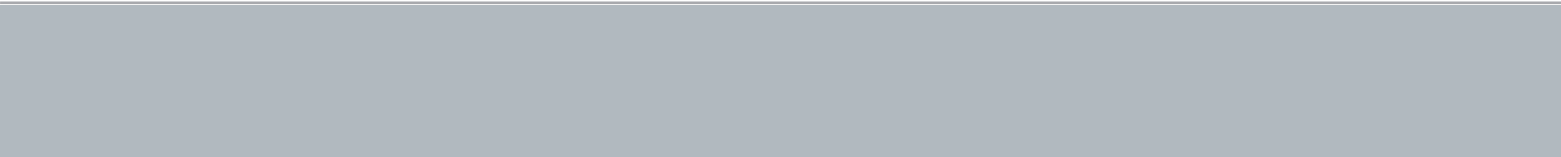
3 Total sound power of the fans as declared by the manufacturer referred to nominal speed of rotation and useful static head of 120 Pa on delivery side.

4 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0152-1204
Switchboard side	mm	1000
Switchboard opposite side	mm	1000
Opposite side of cond. coil	mm	1000
Condensation coil side	mm	2000





NECS-W 0152÷1204



Chiller, water source

43,4 - 371 kW

Unit Description

Water-cooled indoor unit for the production of chilled 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.

Commands

W3000 Base / W3000SE Compact

The controller can be chosen as: - W3000 Base: keypad and LED display - W3000SE Compact: 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 diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation. 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). Common features: 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. 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.

Versions

B base version

Configurations

- base function
H function with heat pump, reversible on hydraulic side

Features

REFRIGERANT GAS R410A

The use of R410A has resulted in units offering better energy efficiency in full respect for the environment (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

Main accessories

- Set-up for remote connectivity with ModBus/Echelon/ Bacnet 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

Models		0152	0182	0202	0252	0262	0302	0352	0412	0452	0512
COOLING ONLY											
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	10,0	11,3	13,0	15,2	16,6	19,5	22,7	25,9	28,9	32,2
Condenser heating capacity (1)		52,8	60,7	71,2	80,7	88,2	105	123	139	156	174
EER		4,34	4,43	4,53	4,37	4,37	4,45	4,46	4,43	4,45	4,46
ESEER		5,80	6,00	6,00	5,70	5,60	5,70	5,80	5,70	5,80	5,80
HEATING ONLY (only -H)											
Heating capacity (2)	kW	50,5	58,2	68,0	77,0	85,0	101	117	132	148	165
Total power input (2)	kW	12,9	14,3	16,7	19,2	21,1	24,7	28,7	32,2	36,0	40,0
COP		3,91	4,07	4,07	4,01	4,03	4,09	4,07	4,10	4,12	4,14
COMPRESSORS											
No. Compressors/No. Circuits	N.	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
NOISE LEVELS											
Sound power (3)	dB(A)	73	74	74	74	75	76	77	77	78	78
Sound pressure (4)	dB(A)										
SIZE											
A (5)	mm	1055	1055	1055	1055	1055	1222	1222	1222	1222	1222
B (5)	mm	469	469	469	469	469	873	873	873	873	873
H (5)	mm	1255	1255	1255	1255	1255	1496	1496	1496	1496	1496
Operating weight (5)	kg	290	305	315	325	330	585	605	660	685	740

Models		0552	0612	0604	0704	0804	0904	1004	1104	1204
COOLING ONLY										
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
Condenser heating capacity (1)		200	225	211	245	276	312	348	398	450
EER		4,47	4,48	4,47	4,48	4,42	4,45	4,50	4,44	4,44
ESEER		5,90	5,80	5,80	5,90	5,80	5,90	5,90	6,00	5,90
HEATING ONLY (only -H)										
Heating capacity (2)	kW	190	215	202	234	263	297	332	379	428
Total power input (2)	kW	45,9	51,8	49,2	56,6	64,1	72,1	79,5	91,9	104
COP		4,14	4,14	4,11	4,13	4,10	4,12	4,17	4,13	4,12
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2
NOISE LEVELS										
Sound power (3)	dB(A)	79	79	86	87	88	89	90	91	91
Sound pressure (4)	dB(A)									
SIZE										
A (5)	mm	1222	1222	2227	2227	2227	2227	2227	2227	2227
B (5)	mm	873	873	887	887	887	887	887	887	887
H (5)	mm	1496	1496	1780	1780	1780	1780	1780	1780	1780
Operating weight (5)	kg	790	830	1090	1165	1245	1290	1395	1500	1585

Note:

1 Evaporator water (in/out) = 12/7°C, condenser water (in/out) = 30/35°C, based on Eurovent Standard

2 Evaporator water (in/out) = 12/7°C; Condenser water (in/out) = 40/45°C.

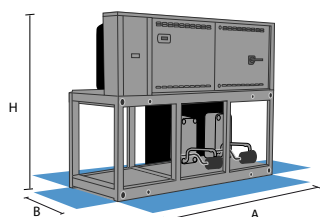
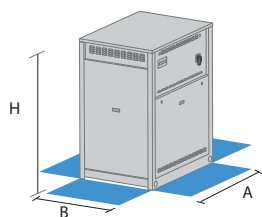
3 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

4 Sound pressure in open field conditions on reflecting surface (directivity factor Q=2), average value on longest side, at 1 m from the outer surface and at 1 m height in relation to the unit supporting base.

5 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0152-0612	0604-1204
Switchboard side	mm	800	1000
Switchboard opposite side	mm	600	1000
Unit's side	mm	600	1000



FOCS-W 0401÷1902



Versions

B base version

Configurations

- base function
D partial condensing heat recovery function
H function with heat pump, reversible on hydraulic side
R total condensing heat recovery function

Features

FLEXIBILITY

Flexibility in applications thanks to the many available functions and versions

ADAPTABILITY

Adaptability at the buildings cooling request thanks to the continuous capacity regulation, assured by sophisticated controls logic

HEAT PUMP OPTION

Heat pump function water circuit side reversal

Chiller, water source

87,0 - 447 kW

Unit Description

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 performances level is achieved thanks to the accurate sizing of all internal components.

Commands

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 units 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.

Main accessories

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





FOCS-W / B

Models		0401	0501	0551	0651	0751	0851	0951
COOLING ONLY								
Cooling capacity (1)	kW	87	107	130	147	165	198	221
Total power input (1)	kW	19,6	24,6	28,1	32,6	37	42,8	49,6
Condenser heating capacity (1)		107	132	158	180	202	241	271
EER		4,44	4,35	4,63	4,51	4,46	4,63	4,46
ESEER		5,15	5,32	5,25	5,29	5,40	5,54	5,42
COOLING WITH PARTIAL RECOVERY (only -D)								
Cooling capacity (2)	kW	90,2	111	135	153	171	205	221
Total power input (2)	kW	18,9	23,6	27,1	31,6	35,6	41,2	49,6
Desuperheater heating capacity (2)	kW	8,50	10,6	12,1	14,1	15,9	18,5	21,4
COOLING WITH TOTAL RECOVERY (only -R)								
Cooling capacity (3)	kW	77,4	95,2	116	131	147	175	197
Total power input (3)	kW	23,5	29,2	34,2	39,2	44	51,2	59,1
Heat recovery capacity (3)	kW	99,5	123	148	168	188	202	252
HEATING ONLY (only -H)								
Heating capacity (4)	kW	95,7	118	142	162	181	215	243
Total power input (4)	kW	23,2	28,9	33,8	38,9	43,4	50,7	58,4
COP		4,13	4,09	4,20	4,16	4,17	4,24	4,16
COMPRESSORS								
No. Compressors/No. Circuits	N.	1/1	1/1	1/1	1/1	1/1	1/1	1/1
NOISE LEVELS								
Sound power (5)	dB(A)	91	92	94	94	94	94	94
Sound pressure (6)	dB(A)	*	*	*	*	*	*	*
SIZE								
A (7)	mm	2300	2500	2500	2500	2500	3200	3200
B (7)	mm	1000	1000	1000	1000	1000	1500	1500
H (7)	mm	1500	1500	1500	1500	1500	1200	1200
Operating weight (7)	kg	800	840	1160	1180	1190	1270	1350

Models		0802	1002	1102	1302	1502	1702	1902
COOLING ONLY								
Cooling capacity (1)	kW	178	217	251	298	340	393	447
Total power input (1)	kW	39,4	49,2	55,9	65,6	74,4	85,4	99,6
Condenser heating capacity (1)		217	266	307	364	414	478	547
EER		4,52	4,41	4,49	4,54	4,57	4,60	4,49
ESEER		5,39	5,52	5,24	5,49	5,67	5,70	5,61
COOLING WITH PARTIAL RECOVERY (only -D)								
Cooling capacity (2)	kW	184	217	251	298	340	393	447
Total power input (2)	kW	38	49,2	55,8	65,6	74,5	85,4	99,5
Desuperheater heating capacity (2)	kW	17	21,3	24,1	28,3	32,2	36,9	43
COOLING WITH TOTAL RECOVERY (only -R)								
Cooling capacity (3)	kW	158	194	223	265	304	348	397
Total power input (3)	kW	47,1	58,7	67,9	78,6	88,6	102	118
Heat recovery capacity (3)	kW	189	249	287	339	387	445	509
HEATING ONLY (only -H)								
Heating capacity (4)	kW	194	239	276	326	372	428	489
Total power input (4)	kW	46,6	58	67,2	77,8	87,5	101	116
COP		4,16	4,12	4,11	4,19	4,25	4,23	4,18
COMPRESSORS								
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS								
Sound power (5)	dB(A)	94	95	97	97	97	97	97
Sound pressure (6)	dB(A)	*	*	*	*	*	*	*
SIZE								
A (7)	mm	3200	3200	3200	3500	3500	3500	3500
B (7)	mm	1500	1500	1500	1200	1200	1200	1200
H (7)	mm	1200	1200	1200	1800	1800	1800	1800
Operating weight (7)	kg	1470	1490	1930	2220	2260	2320	2720

Note:

1 Evaporator water (in/out) = 12/7°C; Condenser water (in/out) = 30/35°C, based on Eurovent Standard

2 Evaporator water (in/out): 12/7°C; Condenser water (in/out): 30/35°C; Desuperheater water (in/out): 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

4 Evaporator water (in/out) = 12/7°C; Condenser water (in/out) = 40/45°C.

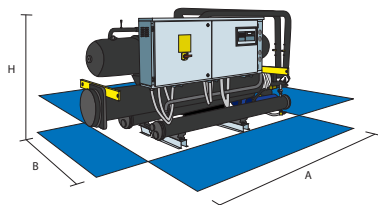
5 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

6 Sound pressure in open field conditions on reflecting surface (directivity factor Q=2), average value on longest side, at 1 m from the outer surface and at 1 m height in relation to the unit supporting base.

7 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0401-1902
Switchboard side	mm	650
Cooler water connections side (minimum)	mm	450
Condenser water connections side	mm	900
Condenser water fittings opposite side (minimum)	mm	600



FOCS2-W 1301÷9604



High efficiency chiller, water source

306 - 2416 kW

Unit Description

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.

Commands

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 units 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. 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.

Versions

CA	Class A of efficiency
CA-E	Very high efficiency version: Class A enhanced

Configurations

-	base function
D	partial condensing heat recovery function
H	function with heat pump, reversible on hydraulic side
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 buildings cooling request thanks to the continuous capacity regulation, assured by sophisticated controls logic

HEAT PUMP FUNCTION

Heat pump function water circuit side reversal

SILENT OPERATION

Silent operation thanks to the accurate units design.

Optional integral acoustic enclosure, further reduces the sound level beyond the best on market

Main accessories

- Kit HWT, High Water Temperature, to produce hot water up to 60°C
- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon/Bacnet protocol cards



NEW!

FOCS2-W / CA

Models		1301	1401	1601	1801	2101	2401	2701	3001	2802	3202	3602	4202
COOLING ONLY													
Cooling capacity (1)	kW	306	348	422	477	538	607	689	735	694	844	957	1071
Total power input (1)	kW	60,5	68,7	83,4	94,4	106	120	136	145	137	167	189	212
Condenser heating capacity (1)		-	-	-	-	-	-	-	-	-	-	-	-
EER		5,06	5,07	5,06	5,06	5,07	5,07	5,06	5,06	5,05	5,06	5,07	5,06
ESEER													
COOLING WITH PARTIAL RECOVERY (only -D)													
Cooling capacity (2)	kW	318	361	438	495	558	630	715	762	720	876	993	1112
Total power input (2)	kW	58,4	66,3	80,5	91,1	102	116	131	140	133	161	182	204
Desuperheater heating capacity (2)	kW	26,3	29,8	36,2	41	46	52	59,1	63,1	59,7	72,4	82	91,9
COOLING WITH TOTAL RECOVERY (only -R)													
Cooling capacity (3)	kW	276	314	376	425	483	546	603	667	625	752	853	964
Total power input (3)	kW	76,8	87,3	104	118	133	150	166	183	175	209	236	265
Heat recovery capacity (3)	kW	348	396	474	536	608	687	759	839	790	948	105	1214
HEATING ONLY (only -H)													
Heating capacity (4)	kW	348	396	474	536	608	687	759	839	790	948	1075	1214
Total power input (4)	kW	76,8	87,3	104	118	133	150	166	183	175	209	236	265
COP		4,53	4,54	4,54	4,54	4,58	4,59	4,58	4,59	4,52	4,54	4,55	4,58
COMPRESSORS													
No. Compressors/No. Circuits	N.	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	2/2	2/2	2/2	2/2
NOISE LEVELS													
Sound power (5)	dB(A)	97	97	97	97	97	97	99	99	99	99	99	99
Sound pressure (6)	dB(A)	75	75	75	75	75	75	77	77	77	77	77	77
SIZE													
A (7)	mm	3930	3930	3930	3930	3930	3930	3980	3980	4250	4750	4750	4750
B (7)	mm	900	900	900	900	900	900	900	900	1150	1150	1150	1150
H (7)	mm	1850	1850	1900	1950	1950	1950	1990	1990	2160	2156	2156	2226
Operating weight (7)	kg	*	*	*	*	*	*	*	*	*	*	*	*

Models		4502	4802	5402	6002	6303	6603	7203	7803	8103	9003	9004	9604
COOLING ONLY													
Cooling capacity (1)	kW	1145	1213	1376	1467	1604	1677	1815	1977	2069	2201	2278	2416
Total power input (1)	kW	226	240	272	290	317	331	359	391	409	435	451	478
Condenser heating capacity (1)		-	-	-	-	-	-	-	-	-	-	-	-
EER		5,06	5,06	5,05	5,05	5,05	5,06	5,05	5,06	5,06	5,06	5,05	5,05
ESEER													
COOLING WITH PARTIAL RECOVERY (only -D)													
Cooling capacity (2)	kW	1188	1259	1428	1522	1664	1740	1883	2051	2146	2283	2363	2507
Total power input (2)	kW	218	231	263	280	306	320	346	377	394	420	435	462
Desuperheater heating capacity (2)	kW	98,2	104	118	126	138	144	156	170	178	189	196	208
COOLING WITH TOTAL RECOVERY (only -R)													
Cooling capacity (3)	kW	1029	1091	1205	1333								
Total power input (3)	kW	283	300	331	366								
Heat recovery capacity (3)	kW	1295	1374	1516	1676								
HEATING ONLY (only -H)													
Heating capacity (4)	kW	1295	1374	1516	1676	1817	1898	2056	2215	2276	2515	2582	2739
Total power input (4)	kW	283	300	331	366	398	415	449	484	497	548	564	599
COP		4,58	4,58	4,58	4,58	4,57	4,58	4,58	4,58	4,58	4,59	4,58	4,58
COMPRESSORS													
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	3/3	3/3	3/3	3/3	3/3	3/3	4/4	4/4
NOISE LEVELS													
Sound power (5)	dB(A)	99	99	101	101	102	102	102	102	102	102	102	102
Sound pressure (6)	dB(A)	77	77	79	79	80	80	80	80	80	80	80	80
SIZE													
A (7)	mm	4750	4750	4850	4850	4950	4950	4950	4950	4950	4950	4650	4650
B (7)	mm	1150	1150	1150	1150	1700	1700	1700	1700	1700	1700	2250	2250
H (7)	mm	2226	2226	2226	2226	2150	2150	2150	2150	2150	2150	2180	2180
Operating weight (7)	kg	*	*	*	*	*	*	*	*	*	*	*	*

Note:

1 Evaporator water (in/out) = 12/7°C, condenser water (in/out) = 30/35°C, based on Eurovent Standard

2 Evaporator water (in/out): 12/7°C; Condenser water (in/out): 30/35°C; Desuperheater water (in/out): 40/45°C.

3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C

4 Evaporator water (in/out) = 12/7°C; Condenser water (in/out) = 40/45°C.

5 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

6 Sound pressure in open field conditions on reflecting surface (directivity factor Q=2), average value on longest side, at 1 m from the outer surface and at 1 m height in relation to the unit supporting base.

7 Unit in standard configuration/execution, without optional accessories

FOCS2-W / CA-E

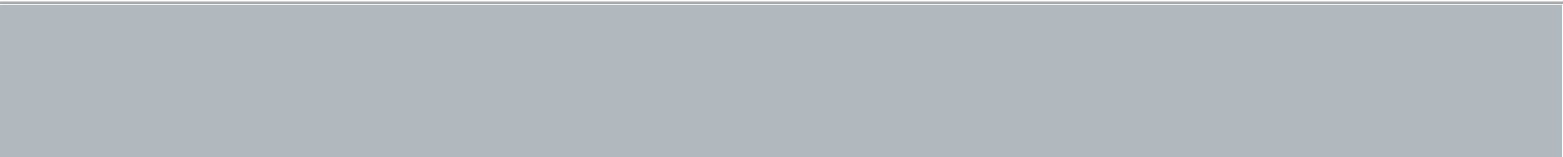
Models		1301	1401	1601	1801	2101	2401	2802	3202	3602	4202	4802
COOLING ONLY												
Cooling capacity (1)	kW	321	365	442	506	574	649	729	884	1012	1147	1298
Total power input (1)	kW	57,3	65,1	79,1	90,3	103	116	130	158	180	205	232
Condenser heating capacity (1)		-	-	-	-	-	-	-	-	-	-	-
EER		5,60	5,60	5,59	5,61	5,59	5,59	5,60	5,59	5,61	5,59	5,59
ESEER		6,49	6,50	6,30	6,40	6,37	6,40	6,66	6,57	6,73	6,64	6,66
COOLING WITH PARTIAL RECOVERY (only -D)												
Cooling capacity (2)	kW	322	367	444	509	577	653	733	889	1017	1153	1305
Total power input (2)	kW	57,2	65,0	78,9	90,1	102	116	130	158	180	205	232
Desuperheater heating capacity (2)	kW	25,7	29,2	35,5	40,5	46,1	52,2	58,5	71,0	81,0	92,1	104
COOLING WITH TOTAL RECOVERY (only -R)												
Cooling capacity (3)	kW	289	328	395	452			657	790	904		
Total power input (3)	kW	73,1	83,1	99,5	114			166	199	227		
Heat recovery capacity (3)	kW	357	407	488	559			813	977	1118		
HEATING ONLY (only -H)												
Heating capacity (4)	kW	357	407	488	559	638	722	813	977	1118	1275	1443
Total power input (4)	kW	73,1	83,1	99,5	114	129	146	166	199	227	258	292
COP		4,89	4,89	4,91	4,92	4,94	4,94	4,89	4,91	4,92	4,94	4,94
COMPRESSORS												
No. Compressors/No. Circuits	N.	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
NOISE LEVELS												
Sound power (5)	dB(A)	97	97	97	97	97	97	99	99	99	99	99
Sound pressure (6)	dB(A)	75	75	75	75	75	75	77	77	77	77	77
SIZE												
A (7)	mm	4300	4300	4000	4000	4000	4300	4600	4950	5220	4950	4950
B (7)	mm	990	990	990	990	990	990	1240	1240	1240	1240	1375
H (7)	mm	1900	1900	2000	2000	2000	2100	2195	2195	2195	2350	2430
Operating weight (7)	kg	*	*	*	*	*	*	*	*	*	*	*

Note:

- 1 Evaporator water (in/out) = 12/7°C, condenser water (in/out) = 30/35°C, based on Eurovent Standard
- 2 Evaporator water (in/out): 12/7°C; Condenser water (in/out): 30/35°C; Desuperheater water (in/out): 40/45°C.
- 3 Evaporator water (in/out) = 12/7°C; Recovery unit water (in/out) = 40/45°C
- 4 Evaporator water (in/out) = 12/7°C; Condenser water (in/out) = 40/45°C.
- 5 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
- 6 Sound pressure in open field conditions on reflecting surface (directivity factor Q=2), average value on longest side, at 1 m from the outer surface and at 1 m height in relation to the unit supporting base.
- 7 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		1301-9604
Switchboard side	mm	1500
Cooler water connections side (minimum)	mm	900
Condenser water connections side	mm	3000
Condenser water fittings opposite side (minimum)	mm	1500



TECS2-W Vision 2.0 0251÷1954



High efficiency chiller, water source

241 - 1949 kW

Unit Description

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.

Commands

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 units 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 by adjustment of the compressor speed. The modulation is based on PID algorithms and referring to the leaving water temperature. This is combined with the management of the compressors status, based on a proportional logic referred to the return temperature. 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.

Versions

HC	High Condensing
LC	Low Condensing

Configurations

-	base function
H	function with heat pump, reversible on hydraulic side

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 or heat pump systems and version LC, Low Condensing, for cooling tower or ground source applications.

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

Main accessories

- 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/Bacnet protocol cards





TECS2-W Vision 2.0 / HC

Models		0251	0311	0351	0411	0512	0612	0712	0812	0913	1053	1213	1414	1614
COOLING ONLY														
Cooling capacity (1)	kW	241	294	359	405	497	588	716	811	881	1045	1213	1405	1618
Total power input (1)	kW	46	57	69,2	78,9	94,8	114	139	156	171	203	237	269	316
Condenser heating capacity (1)		-	-	-	-	-	-	-	-	-	-	-	-	-
EER		5,24	5,15	5,19	5,13	5,24	5,16	5,14	5,14	5,15	5,15	5,12	5,23	5,13
ESEER		8,70	8,83	8,84	8,95	9,08	9,16	9,04	9,21	9,13	8,96	9,12	9,16	9,20
HEATING ONLY (only -H)														
Heating capacity (2)	kW	287	351	439	500	592	703	877	1000	1053	1279	1496	1718	1995
Total power input (2)	kW	57	70	89	101	118	140	178	203	210	261	304	346	405
COP		5,00	5,01	4,95	4,93	5,01	5,02	4,92	4,94	5,02	4,91	4,92	4,96	4,92
COMPRESSORS														
No. Compressors/No. Circuits	N.	1 / 1	1 / 1	1 / 1	1 / 1	2 / 1	2 / 1	2 / 1	2 / 1	3 / 1	3 / 1	3 / 1	4 / 1	4 / 1
NOISE LEVELS														
Sound power (3)	dB(A)	91	93	92	94	94	95	94	96	96	96	97	97	98
Sound pressure (4)	dB(A)	59	61	60	62	62	63	62	64	64	64	65	65	66
SIZE														
A (5)	mm	2990	2990	2990	2990	3490	3490	3490	3490	4990	4990	4990	5450	5450
B (5)	mm	950	950	950	950	1300	1300	1300	1300	1300	1300	1300	1300	1300
H (5)	mm	1900	1900	1900	1900	1800	1800	1800	1800	1800	1800	1800	1990	1990
Operating weight (5)	kg	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:

1 Evaporator water (in/out) = 12/7°C, condenser water (in/out) = 30/35°C, based on Eurovent Standard

2 Evaporator water (in/out) = 12/7°C; Condenser water (in/out) = 40/45°C.

3 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

4 Sound pressure in open field conditions on reflecting surface (directivity factor Q=2), average value on longest side, at 1 m from the outer surface and at 1 m height in relation to the unit supporting base.

5 Unit in standard configuration/execution, without optional accessories

TECS2-W Vision 2.0 / LC

Models		0511	0912	1012	1353	1453	1854	1954
COOLING ONLY								
Cooling capacity (1)	kW	488	879	978	1359	1461	1809	1949
Total power input (1)	kW	93,2	172	186	258	280	344	373
Condenser heating capacity (1)		-	-	-	-	-	-	-
EER		5,24	5,12	5,24	5,27	5,22	5,26	5,23
ESEER		9,37	9,19	9,45	9,43	9,41	9,52	9,42
COMPRESSORS								
No. Compressors/No. Circuits	N.	1 / 1	2 / 1	2 / 1	3 / 1	3 / 1	4 / 1	4 / 1
NOISE LEVELS								
Sound power (2)	dB(A)	95	96	97	97	98	99	99
Sound pressure (3)	dB(A)	63	64	65	65	66	67	67
SIZE								
A (4)	mm	2990	3490	3490	4990	4990	5450	5450
B (4)	mm	950	1300	1300	1300	1300	1300	1300
H (4)	mm	1900	1800	1800	1800	1800	1990	1990
Operating weight (4)	kg	-	-	-	-	-	-	-

Note:

1 Evaporator water (in/out) = 12/7°C, condenser water (in/out) = 30/35°C, based on Eurovent Standard

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

3 Sound pressure in open field conditions on reflecting surface (directivity factor Q=2), average value on longest side, at 1 m from the outer surface and at 1 m height in relation to the unit supporting base.

4 Unit in standard configuration/execution, without optional accessories

Minimum clearance required

		0251-0411	0512-0612	0712-1213	1414-1614
Switchboard side	mm	1000	1000	1000	1000
Cooler water connections side (minimum)	mm	2500	3000	4000	4500
Condenser water connections side	mm	2500	3000	4000	4500
Raising points side	mm	900	900	900	900

NECS-ME 0152÷1604



Condenserless chiller

39,5 - 432 kW

Unit Description

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.

Commands

W3000 Base / W3000SE Compact

The controller can be chosen as: - W3000 Base: keypad and LED display - W3000SE Compact: 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 diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation. 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). Common features: 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. 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.

Versions

B base version

Features

REFRIGERANT GAS R410A

The use of R410A has resulted in units offering better energy efficiency in full respect for the environment (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.

Main accessories

- Remote 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



NEW!



NECS-ME / B

Models		0152	0182	0202	0252	0262	0302	0352	0412	0452	0512	0552
COOLING												
Cooling capacity (1)	kW	39,5	45,8	53,6	60,5	67,4	80,2	92,8	105	117	131	151
Compressors power input (1)	kW	12	13,5	15,7	18,1	20	23,4	26,9	30,3	33,9	37,6	43,3
Remote condenser capacity (1)	kW	3,29	3,39	3,41	3,34	3,37	3,43	3,45	3,45	3,46	3,49	3,48
COMPRESSORS												
No. Compressors/No. Circuits	N.	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
NOISE LEVELS												
Sound power (2)	dB(A)	73	74	74	74	75	76	77	77	77	78	79
Sound pressure (3)	dB(A)	41	42	42	42	43	44	45	45	45	46	47
SIZE												
A	mm	1130	1130	1130	1130	1130	1310	1310	1310	1310	1310	1310
B	mm	669	669	669	669	669	893	893	893	893	893	893
H	mm	1255	1255	1255	1255	1255	1496	1496	1496	1496	1496	1496
Operating weight	kg	270	280	290	295	300	410	500	585	615	645	680

Models		0612	0604	0704	0804	0904	1004	1104	1204	1404	1604
COOLING											
Cooling capacity (1)	kW	170	161	186	207	235	263	301	339	387	432
Compressors power input (1)	kW	48,9	46,9	53,7	60,6	67,9	75,2	86,5	97,8	111	124
Remote condenser capacity (1)	kW	3,47	3,43	3,46	3,42	3,47	3,50	3,47	3,47	3,49	3,48
COMPRESSORS											
No. Compressors/No. Circuits	N.	2 / 1	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
NOISE LEVELS											
Sound power (2)	dB(A)	79	86	87	88	89	90	91	91	91	91
Sound pressure (3)	dB(A)	47	54	55	56	57	58	59	59	59	59
SIZE											
A	mm	1310	2227	2227	2227	2227	2227	2227	2227	2227	2227
B	mm	893	1020	1020	1020	1020	1020	1020	1020	1020	1020
H	mm	1496	1780	1780	1780	1780	1780	1780	1780	1780	1780
Operating weight	kg	755	700	950	1125	1185	1250	1330	1370	1430	1480

Note:

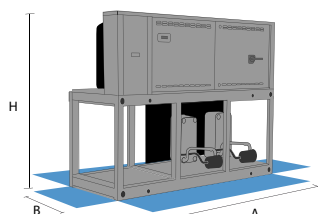
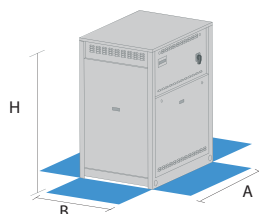
1 Evaporator water (in/out) = 12/7°C; Condensation temperature = 47°C.

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

3 Sound pressure in open field conditions on reflecting surface. Condensing coil side average value at 1 metre from the surface and at 1 m height in relation to the unit supporting base.

Minimum clearance required

		0152-0612	0604-1604
Switchboard side	mm	800	1000
Cooler water connections side (minimum)	mm	600	1000
Unit's side	mm	600	800
Switchboard opposite side	mm	600	1000



FOCS-ME 0401÷1902



Condenserless chiller

79,2 - 410 kW

Unit Description

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 performances level is achieved thanks to the accurate sizing of all internal components.

Commands

W3000SE Compact

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 units 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.

Versions

B base version

Features

COMPACTNESS

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

ADAPTABILITY

Adaptability at the buildings cooling request thanks to the continuous capacity regulation, assured by sophisticated controls logic

EXTENSIVE RANGE OF OPERATION

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

SILENT OPERATION

Silent operation thanks to the accurate units design. Optional integral acoustic enclosure, further reduces the sound level beyond the best on market

Main accessories

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





FOCS-ME / B

Models		0401	0501	0551	0651	0751	0851	0951
COOLING								
Cooling capacity (1)	kW	79,2	98,2	119	135	151	181	203
Compressors power input (1)	kW	22,7	27,9	32,5	37,6	42,3	48,9	56,5
Remote condenser capacity (1)	kW	102	126	152	173	193	230	260
COMPRESSORS								
No. Compressors/No. Circuits	N.	1/1	1/1	1/1	1/1	1/1	1/1	1/1
NOISE LEVELS								
Sound power (2)	dB(A)	91	92	94	94	94	94	94
Sound pressure (3)	dB(A)							
SIZE								
A	mm	2024	2330	2400	2400	2400	2947	2947
B	mm	880	880	880	880	880	880	880
H	mm	1300	1300	1490	1490	1490	1490	1500
Operating weight	kg	720	750	1040	1060	1060	1130	1150

Models		0802	1002	1102	1302	1502	1702	1902
COOLING								
Cooling capacity (1)	kW	162	200	230	273	312	360	410
Compressors power input (1)	kW	45,6	56,0	64,6	75,3	85,0	97,7	113
Remote condenser capacity (1)	kW	208	256	295	348	397	458	523
COMPRESSORS								
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	2/2
NOISE LEVELS								
Sound power (2)	dB(A)	94	95	97	97	97	97	97
Sound pressure (3)	dB(A)							
SIZE								
A	mm	2890	2890	3016	3277	3277	3292	3362
B	mm	1081	1081	1081	1081	1081	1081	1081
H	mm	1430	1430	1480	1580	1580	1590	1700
Operating weight	kg	1280	1290	1680	1970	1990	2010	2300

Note:

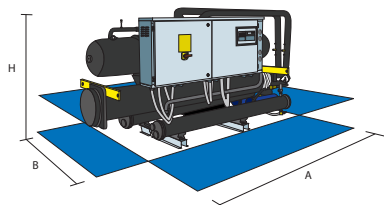
1 Evaporator water (in/out) = 12/7°C; Condensation temperature = 47°C.

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

3 Sound pressure in open field conditions on reflecting surface (directivity factor Q=2), average value on longest side, at 1 m from the outer surface and at 1 m height in relation to the unit supporting base.

Minimum clearance required

		0401-1902
Switchboard side	mm	1000
Cooler water connections side (minimum)	mm	620
Compressor outlet connection side	mm	500
Compressor outlet connection opposite side	mm	500



FOCS-ME 1001÷9604



Versions

B base version

Features

COMPACTNESS

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

ADAPTABILITY

Adaptability at the buildings cooling request thanks to the continuous capacity regulation, assured by sophisticated controls logic

EXTENSIVE RANGE OF OPERATION

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

SILENT OPERATION

Silent operation thanks to the accurate units design. Optional integral acoustic enclosure, further reduces the sound level beyond the best on market

Main accessories

- 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 keyboard (distance to 200m and to 500m)

Condenserless chiller

219 - 2240 kW

Unit Description

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 performances level is achieved thanks to the accurate sizing of all internal components.

Commands

W3000SE Compact

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 units 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

Models		1001	1201	1301	1351	1601	1801	2002	2402	2602
COOLING										
Cooling capacity (1)	kW	219	262	295	333	389	445	419	516	591
Compressors power input (1)	kW	59,7	69,7	77,5	85,4	101	118	114	139	155
Remote condenser capacity (1)	kW	279	332	373	418	490	563	533	655	746
COMPRESSORS										
No. Compressors/No. Circuits	N.	1/1	1/1	1/1	1/1	1/1	1/1	2/2	2/2	2/2
NOISE LEVELS										
Sound power (2)	dB(A)	94	97	97	97	97	97	97	99	99
Sound pressure (3)	dB(A)									
SIZE										
A	mm	2835	3120	3120	3120	3530	3530	3730	3730	4500
B	mm	900	900	900	900	900	900	1150	1150	1150
H	mm	1800	1800	1800	1800	1950	1950	2000	2000	2000
Operating weight	kg	1380	1870	1910	1920	2640	2650	2750	3420	3710

Models		2702	3202	3602	4202	4502	4802	5003	5203	5403
COOLING										
Cooling capacity (1)	kW	674	759	885	1000	1061	1120	1184	1251	1304
Compressors power input (1)	kW	171	202	236	265	277	290	320	337	353
Remote condenser capacity (1)	kW	845	916	1121	1265	1338	1410	1504	1588	1657
COMPRESSORS										
No. Compressors/No. Circuits	N.	2/2	2/2	2/2	2/2	2/2	2/2	3/3	3/3	3/3
NOISE LEVELS										
Sound power (2)	dB(A)	99	99	99	99	99	99	101	101	101
Sound pressure (3)	dB(A)									
SIZE										
A	mm	4500	4500	4500	4500	4500	4500	4425	4425	4425
B	mm	1150	1150	1150	1150	1150	1150	1700	1700	1700
H	mm	2000	2000	2000	2000	2000	2000	1900	1900	1900
Operating weight	kg	3730	4600	5050	5220	5250	5280	6810	6840	6850

Models		5414	5904	6404	6804	7204	7804	8404	9004	9604
COOLING										
Cooling capacity (1)	kW	1348	1434	1548	1660	1769	1886	2001	2121	2240
Compressors power input (1)	kW	342	373	406	439	472	501	530	555	580
Remote condenser capacity (1)	kW	1690	1807	1954	2099	2241	2387	2531	2676	2820
COMPRESSORS										
No. Compressors/No. Circuits	N.	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
NOISE LEVELS										
Sound power (2)	dB(A)	102	102	102	102	102	102	102	102	102
Sound pressure (3)	dB(A)									
SIZE										
A	mm	4500	4500	4500	4500	4500	4500	4500	4500	4500
B	mm	2250	2250	2250	2250	2250	2250	2250	2250	2250
H	mm	2000	2000	2000	2000	2000	2000	2000	2000	2000
Operating weight	kg	7560	8400	9980	10010	10020	10190	10350	10420	10480

Note:

1 Evaporator water (in/out) = 12/7°C; Condensation temperature = 47°C.

2 Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

3 Sound pressure in open field conditions on reflecting surface (directivity factor Q=2), average value on longest side, at 1 m from the outer surface and at 1 m height in relation to the unit supporting base.

Minimum clearance required

		1001-9604
Switchboard side	mm	1000
Cooler water connections side (minimum)	mm	620
Compressor outlet connection side	mm	500
Compressor outlet connection opposite side	mm	500

