



Units for simultaneous and independent production of heat and cold water

Units for simultaneous and independent production of heat and cold water

NECS-Q 0152 - 1204



INTEGRA unit for 4-pipe systems, air source for outdoor installation 33,3-311 kW

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. This unit is equipped with hermetic rotary Scroll compressors, with R410A, axial fans, braze-welded plate-type exchanger and thermal expansion valve. External panels in Peraluman and base in galvanised sheet steel with paint finish. The range includes two-compressor and four-compressor versions, both with two independent refrigerant circuits.

Commands

W3000SE Large

The W3000SE Large 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 operates on both water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. This allows to satisfy simultaneously the different requests of both cooling and heating, with no need of mode 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 defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Version

B	Basic
LN	Low noise
SL	super-low noise version

Features

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

TOTAL VERSATILITY

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

CUTTING-EDGE ELECTRONICS

The Energy Raiser units are fitted with an evolved electronic unit that allows fully automatic management of the best type of operation to meet the load requirements

VENTILATION CONTROL FOR LOW-TEMPERATURE OPERATION

The standard units come fitted with pressure-operated control of ventilation, which allows the unit to produce cold water with an external air temperature down to -10°C

INTEGRATED HYDRONIC MODULE

The built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line pump, for achieving both low or high head, available for both plant and recovery circuits (up to 4 pumps).

Accessory

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



NECS-Q / B			0152	0182	0202	0252	0262	0302	0412	0512
Power supply			V/ph/Hz 400/3/50+N 400/3/50+N 400/3/50+N 400/3/50+N 400/3/50+N 400/3/50+N 400/3/50+N 400/3/50+N							
PERFORMANCE										
COOLING										
Cooling capacity	(1)	kW	36,6	43,2	48,5	55,8	61,2	73,3	94,8	120
Total power input	(1)	kW	14,2	15,4	18,8	21,3	24,2	27,6	35,5	44,0
EER	(1)		2,58	2,81	2,58	2,62	2,53	2,66	2,67	2,73
HEATING ONLY										
Total heating capacity	(2)	kW	41,1	48,9	55,3	62,5	68,1	83,1	107	136
Total power input	(2)	kW	14,2	15,6	18,1	21,1	22,8	26,3	34,0	42,3
COP	(2)		2,89	3,13	3,06	2,96	2,99	3,16	3,16	3,21
COOLING WITH TOTAL HEAT RECOVERY										
Cooling capacity with total heat recovery	(3)	kW	37,2	43,6	50,6	57,2	64,1	76,3	97,7	123
Total power input	(3)	kW	12,8	14,2	16,6	18,9	21,0	24,5	31,9	39,6
Recovery heat exchanger capacity	(3)	kW	49,2	56,9	66,2	75,0	83,8	99,3	128	161
TER			6,75	7,08	7,04	6,99	7,04	7,16	7,07	7,18
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	6,29	7,44	8,35	9,61	10,5	12,6	16,3	20,7
Pressure drop	(1)	kPa	41,7	58,2	42,2	55,9	44,5	45,0	44,3	46,6
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(2)	m³/h	7,14	8,50	9,61	10,9	11,8	14,4	18,7	23,6
Pressure drop	(2)	kPa	53,6	75,9	55,9	71,3	56,1	59,1	57,9	60,6
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	52	52	52	52	52	53	54	55
Noise Power	(5)	dB(A)	84	84	84	84	84	85	86	87
SIZE AND WEIGHT										
A	(6)	mm	2038	2038	2038	2538	2538	2538	3088	3588
B	(6)	mm	1304	1304	1304	1304	1304	1304	1304	1304
H	(6)	mm	1650	1650	1650	1650	1650	1650	1650	1650
Operating weight	(6)	kg	585	615	635	700	720	770	1110	1270

NECS-Q / B			0612	0604	0704	0804	0904	1004	1104	1204
Power supply			V/ph/Hz 400/3/50+N 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50 400/3/50							
PERFORMANCE										
COOLING										
Cooling capacity	(1)	kW	151	150	166	189	211	240	277	311
Total power input	(1)	kW	58,9	58,9	69,0	75,8	85,2	95,6	107	120
EER	(1)		2,56	2,54	2,41	2,49	2,48	2,51	2,58	2,58
HEATING ONLY										
Total heating capacity	(2)	kW	173	167	185	209	234	266	306	344
Total power input	(2)	kW	54,4	58,0	64,9	72,1	79,8	92,0	104	116
COP	(2)		3,17	2,88	2,86	2,90	2,93	2,90	2,94	2,96
COOLING WITH TOTAL HEAT RECOVERY										
Cooling capacity with total heat recovery	(3)	kW	160	151	173	194	220	246	280	317
Total power input	(3)	kW	51,3	49,8	57,1	64,5	72,1	79,8	92,8	105
Recovery heat exchanger capacity	(3)	kW	208	198	226	255	288	321	368	415
TER			7,19	7,00	6,99	6,96	7,04	7,10	6,98	6,99
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	25,9	25,8	28,6	32,5	36,3	41,3	47,7	53,5
Pressure drop	(1)	kPa	47,7	41,9	43,0	43,7	42,8	44,4	47,3	47,2
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(2)	m³/h	30,0	29,1	32,2	36,4	40,7	46,3	53,2	59,8
Pressure drop	(2)	kPa	63,8	53,1	54,5	54,8	53,7	55,8	58,9	58,9
COMPRESSORS										
Compressors nr.		N°	2	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	55	60	60	60	61	62	63	63
Noise Power	(5)	dB(A)	87	92	92	92	93	94	95	95
SIZE AND WEIGHT										
A	(6)	mm	3588	3110	3110	3110	4110	4110	4110	4110
B	(6)	mm	1304	2220	2220	2220	2220	2220	2220	2220
H	(6)	mm	1650	2150	2150	2150	2150	2150	2150	2150
Operating weight	(6)	kg	1390	1600	1840	2120	2320	2480	2680	2860

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

NECS-Q / LN			0604	0704	0804	0904	1004	1104	1204
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	143	157	177	199	227	261	291
Total power input	(1)	kW	58,8	70,2	78,4	87,8	96,5	110	125
EER	(1)		2,43	2,24	2,26	2,27	2,36	2,37	2,32
HEATING ONLY									
Total heating capacity	(2)	kW	160	176	198	225	254	290	324
Total power input	(2)	kW	54,0	60,8	67,9	75,7	85,8	97,9	110
COP	(2)		2,95	2,89	2,92	2,98	2,95	2,96	2,94
COOLING WITH TOTAL HEAT RECOVERY									
Cooling capacity with total heat recovery	(3)	kW	151	173	194	220	246	280	317
Total power input	(3)	kW	49,8	57,1	64,5	72,1	79,8	92,8	105
Recovery heat exchanger capacity	(3)	kW	198	226	255	288	321	368	415
TER			7,00	6,99	6,96	7,04	7,10	6,98	6,99
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	24,6	27,0	30,5	34,3	39,1	44,9	50,0
Pressure drop	(1)	kPa	38,2	38,4	38,5	38,1	39,8	41,9	41,3
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(2)	m³/h	27,7	30,6	34,4	39,2	44,1	50,4	56,3
Pressure drop	(2)	kPa	48,3	49,1	49,0	49,7	50,5	52,9	52,3
COMPRESSORS									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	(4)	dB(A)	54	54	54	55	56	57	57
Noise Power	(5)	dB(A)	86	86	86	87	88	89	89
SIZE AND WEIGHT									
A	(6)	mm	3110	3110	3110	4110	4110	4110	4110
B	(6)	mm	2220	2220	2220	2220	2220	2220	2220
H	(6)	mm	2150	2150	2150	2150	2150	2150	2150
Operating weight	(6)	kg	1600	1840	2120	2320	2480	2680	2860

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

NECS-Q / SL			0152	0182	0202	0252	0262	0302	0412	0512
Power supply	V/ph/Hz		400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N
PERFORMANCE										
COOLING										
Cooling capacity	(1)	kW	33,3	39,6	47,0	50,9	58,3	69,1	93,9	119
Total power input	(1)	kW	15,6	17,1	19,6	23,2	25,2	29,5	36,0	44,6
EER	(1)		2,13	2,32	2,40	2,19	2,31	2,34	2,61	2,67
HEATING ONLY										
Total heating capacity	(2)	kW	40,0	47,4	55,1	60,9	70,5	80,9	109	137
Total power input	(2)	kW	13,8	15,2	18,1	20,6	22,4	26,0	34,1	42,4
COP	(2)		2,90	3,12	3,04	2,96	3,15	3,11	3,19	3,24
COOLING WITH TOTAL HEAT RECOVERY										
Cooling capacity with total heat recovery	(3)	kW	37,2	43,6	50,6	57,2	64,1	76,3	97,7	123
Total power input	(3)	kW	12,8	14,2	16,6	18,9	21,0	24,5	31,9	39,6
Recovery heat exchanger capacity	(3)	kW	49,2	56,9	66,2	75,0	83,8	99,3	128	161
TER			6,75	7,08	7,04	6,99	7,04	7,16	7,07	7,18
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	5,74	6,82	8,09	8,77	10,0	11,9	16,2	20,5
Pressure drop	(1)	kPa	34,7	48,9	39,6	46,5	40,3	40,1	43,4	45,7
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(2)	m³/h	6,96	8,23	9,57	10,6	12,3	14,1	18,9	23,9
Pressure drop	(2)	kPa	50,9	71,2	55,4	67,7	60,2	55,9	59,5	62,2
COMPRESSORS										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	46	46	47	47	47	48	50	51
Noise Power	(5)	dB(A)	78	78	79	79	79	80	82	83
SIZE AND WEIGHT										
A	(6)	mm	2038	2038	2538	2538	2538	3088	3088	3588
B	(6)	mm	1304	1304	1304	1304	1304	1304	1304	1304
H	(6)	mm	1650	1650	1650	1650	1650	1650	1650	1650
Operating weight	(6)	kg	585	615	695	700	750	845	1145	1325

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

NECS-Q / SL			0612	0604	0704	0804	0904	1004	1104	1204
Power supply	V/ph/Hz		400/3/50+N	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING										
Cooling capacity	(1)	kW	143	142	160	183	201	225	261	294
Total power input	(1)	kW	62,7	58,0	67,4	75,4	87,3	95,5	108	123
EER	(1)		2,28	2,45	2,37	2,43	2,30	2,36	2,41	2,38
HEATING ONLY										
Total heating capacity	(2)	kW	169	159	178	205	226	253	295	330
Total power input	(2)	kW	54,3	52,6	59,5	68,7	76,1	83,8	96,1	110
COP	(2)		3,12	3,02	2,99	2,99	2,97	3,02	3,06	3,00
COOLING WITH TOTAL HEAT RECOVERY										
Cooling capacity with total heat recovery	(3)	kW	160	151	173	194	220	246	280	317
Total power input	(3)	kW	51,3	49,8	57,1	64,5	72,1	79,8	92,8	105
Recovery heat exchanger capacity	(3)	kW	208	198	226	255	288	321	368	415
TER			7,19	7,00	6,99	6,96	7,04	7,10	6,98	6,99
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	m³/h	24,6	24,4	27,5	31,6	34,6	38,8	44,9	50,6
Pressure drop	(1)	kPa	43,1	37,6	39,7	41,3	38,7	39,1	41,9	42,2
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(2)	m³/h	29,4	27,6	30,9	35,7	39,3	43,9	51,2	57,3
Pressure drop	(2)	kPa	61,5	48,0	50,2	52,7	50,1	50,2	54,5	54,2
COMPRESSORS										
Compressors nr.		N°	2	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2	2
NOISE LEVEL										
Noise Pressure	(4)	dB(A)	51	50	50	51	51	51	53	54
Noise Power	(5)	dB(A)	83	82	82	83	83	83	85	86
SIZE AND WEIGHT										
A	(6)	mm	3588	3110	3110	4110	4110	4110	5110	5110
B	(6)	mm	1304	2220	2220	2220	2220	2220	2220	2220
H	(6)	mm	1650	2150	2150	2150	2150	2150	2150	2150
Operating weight	(6)	kg	1390	1700	1960	2350	2420	2590	2950	3100

Notes:

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

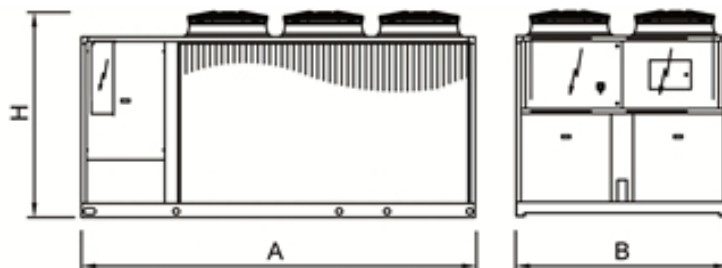
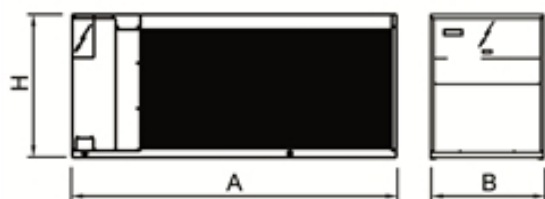
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.



Units for simultaneous and independent production of heat and cold water

NECS-Q 1314 - 3218



INTEGRA unit for 4-pipe systems, air source for outdoor installation 332-850 kW

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. This unit is equipped with hermetic rotary Scroll compressors, with R410A, axial fans, shell and tube heat exchangers and electronic expansion valve. The range is composed by units equipped with four, six and eight compressors in multi-circuit configuration.

Commands

W3000SE Large

The W3000SE Large 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 operates on both water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. This allows to satisfy simultaneously the different requests of both cooling and heating, with no need of mode 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 defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Version

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

Features

REFRIGERANT GAS R410A

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

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

CLASS A EFFICIENCY

The full range is also available with the Class A efficiency rating (in heating). NECS-Q/CA and NECS-Q/SL-CA guaranty premium levels of efficiency thanks to the generous sizing of the refrigerant-exchange surface areas and to an accurate control of the fans, available on both standard and low-noise versions.

INTEGRATED HYDRONIC MODULE

The built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line pump, for achieving low or high head, available for both hot and cold water distribution systems (up to 4 pumps).

Accessory

- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- LT kit for extending the operating limits in heat pump mode down to -10°C (/SL-CA versions) and -12°C (/CA versions)





NECS-Q / B			1314	1414	1614	1716	1816	2016	2116
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	353	377	412	452	496	546	567
Total power input	(1)	kW	125	131	150	163	176	189	196
EER	(1)		2,81	2,89	2,75	2,77	2,82	2,89	2,89
HEATING ONLY									
Total heating capacity	(2)	kW	380	408	447	485	528	587	612
Total power input	(2)	kW	121	129	141	156	169	186	192
COP	(2)		3,13	3,18	3,16	3,11	3,12	3,16	3,18
COOLING WITH TOTAL HEAT RECOVERY									
Cooling capacity with total heat recovery	(3)	kW	355	379	423	460	500	547	568
Total power input	(3)	kW	107	113	126	139	150	163	170
Recovery heat exchanger capacity	(3)	kW	455	485	542	590	640	700	728
TER			7,55	7,66	7,64	7,55	7,63	7,67	7,64
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	60,7	65,0	70,9	77,8	85,4	94,0	97,7
Pressure drop	(1)	kPa	53,4	46,9	55,8	38,1	46,0	42,4	45,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(2)	m³/h	66,1	70,9	77,6	84,2	91,7	102	106
Pressure drop	(2)	kPa	63,4	55,8	66,9	44,7	52,9	49,9	54,3
COMPRESSORS									
Compressors nr.		N°	4	4	4	6	6	6	6
No. Circuits		N°	2	2	2	3	3	3	3
NOISE LEVEL									
Noise Pressure	(4)	dB(A)	64	64	64	64	65	65	65
Noise Power	(5)	dB(A)	96	96	96	96	97	97	97
SIZE AND WEIGHT									
A	(6)	mm	3905	3905	3905	4515	5690	5690	5690
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3530	3620	3650	4850	5240	5370	5430

NECS-Q / B			2416	2418	2618	2818	3018	3218
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	617	662	704	757	790	823
Total power input	(1)	kW	225	235	250	262	281	300
EER	(1)		2,74	2,82	2,81	2,89	2,82	2,74
HEATING ONLY								
Total heating capacity	(2)	kW	670	703	761	816	855	893
Total power input	(2)	kW	212	225	243	256	270	283
COP	(2)		3,16	3,12	3,13	3,18	3,17	3,16
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	636	667	711	758	802	848
Total power input	(3)	kW	189	200	213	226	240	252
Recovery heat exchanger capacity	(3)	kW	814	854	911	971	1027	1085
TER			7,68	7,62	7,61	7,63	7,63	7,67
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	106	114	121	130	136	142
Pressure drop	(1)	kPa	46,3	48,1	54,4	42,4	46,3	50,2
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(2)	m³/h	116	122	132	142	149	155
Pressure drop	(2)	kPa	55,6	55,3	64,6	50,3	55,2	60,2
COMPRESSORS								
Compressors nr.		N°	6	8	8	8	8	8
No. Circuits		N°	3	4	4	4	4	4
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	66	65	65	66	66	66
Noise Power	(5)	dB(A)	98	98	98	99	99	99
SIZE AND WEIGHT								
A	(6)	mm	5690	7430	7430	7430	7430	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	5480	6700	6830	7000	7030	7060

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

NECS-Q / CA			1314	1414	1614	1716	1816	2016	2116
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	362	387	425	471	524	559	581
Total power input	(1)	kW	122	128	145	157	173	185	192
EER	(1)		2,96	3,03	2,94	3,01	3,04	3,03	3,03
HEATING ONLY									
Total heating capacity	(2)	kW	394	420	462	507	546	603	630
Total power input	(2)	kW	120	127	140	155	166	183	189
COP	(2)		3,30	3,31	3,30	3,28	3,29	3,30	3,32
COOLING WITH TOTAL HEAT RECOVERY									
Cooling capacity with total heat recovery	(3)	kW	355	379	423	460	500	547	568
Total power input	(3)	kW	107	113	126	139	150	163	170
Recovery heat exchanger capacity	(3)	kW	455	485	542	590	640	700	728
TER			7,55	7,66	7,64	7,55	7,63	7,67	7,64
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	62,4	66,6	73,2	81,1	90,2	96,3	100
Pressure drop	(1)	kPa	56,4	49,2	59,4	41,5	51,3	44,5	48,1
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(2)	m³/h	68,5	73,0	80,3	88,1	95,0	105	109
Pressure drop	(2)	kPa	68,0	59,1	71,5	48,9	56,8	52,7	57,5
COMPRESSORS									
Compressors nr.		N°	4	4	4	6	6	6	6
No. Circuits		N°	2	2	2	3	3	3	3
NOISE LEVEL									
Noise Pressure	(4)	dB(A)	65	65	65	64	65	65	65
Noise Power	(5)	dB(A)	97	97	97	97	98	98	98
SIZE AND WEIGHT									
A	(6)	mm	5080	5080	5080	6255	7430	7430	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3850	3950	3980	5460	5740	5890	5970

NECS-Q / CA			2416	2418	2618	2818	3018	3218
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	637	680	724	775	813	850
Total power input	(1)	kW	217	230	244	256	272	289
EER	(1)		2,94	2,95	2,96	3,03	2,99	2,94
HEATING ONLY								
Total heating capacity	(2)	kW	693	729	788	840	882	924
Total power input	(2)	kW	210	221	239	253	266	280
COP	(2)		3,30	3,29	3,29	3,33	3,31	3,30
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	636	667	711	758	802	848
Total power input	(3)	kW	189	200	213	226	240	252
Recovery heat exchanger capacity	(3)	kW	814	854	911	971	1027	1085
TER			7,68	7,62	7,61	7,63	7,63	7,67
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	110	117	125	133	140	146
Pressure drop	(1)	kPa	49,3	50,7	57,4	44,5	48,9	53,5
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(2)	m³/h	120	127	137	146	153	161
Pressure drop	(2)	kPa	59,4	59,3	69,4	53,3	58,7	64,4
COMPRESSORS								
Compressors nr.		N°	6	8	8	8	8	8
No. Circuits		N°	3	4	4	4	4	4
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	66	66	66	67	67	67
Noise Power	(5)	dB(A)	99	99	99	100	100	100
SIZE AND WEIGHT								
A	(6)	mm	7430	9780	9780	9780	9780	9780
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	6020	7350	7500	7700	7740	7770

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

NECS-Q / SL-CA			1314	1414	1614	1716	1816	2016	2116
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	332	357	398	429	462	512	536
Total power input	(1)	kW	130	137	153	169	183	198	205
EER	(1)		2,56	2,61	2,60	2,54	2,52	2,59	2,61
HEATING ONLY									
Total heating capacity	(2)	kW	378	400	453	486	526	578	601
Total power input	(2)	kW	116	124	138	151	163	178	186
COP	(2)		3,25	3,23	3,29	3,22	3,23	3,25	3,23
COOLING WITH TOTAL HEAT RECOVERY									
Cooling capacity with total heat recovery	(3)	kW	355	379	423	460	500	547	568
Total power input	(3)	kW	107	113	126	139	150	163	170
Recovery heat exchanger capacity	(3)	kW	455	485	542	590	640	700	728
TER			7,55	7,66	7,64	7,55	7,63	7,67	7,64
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	m³/h	57,2	61,4	68,5	73,8	79,5	88,2	92,2
Pressure drop	(1)	kPa	47,4	41,8	52,0	34,3	39,8	37,3	40,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(2)	m³/h	65,6	69,6	78,7	84,5	91,3	100	104
Pressure drop	(2)	kPa	62,4	53,7	68,8	45,0	52,6	48,5	52,3
COMPRESSORS									
Compressors nr.		N°	4	4	4	6	6	6	6
No. Circuits		N°	2	2	2	3	3	3	3
NOISE LEVEL									
Noise Pressure	(4)	dB(A)	56	56	56	57	57	57	57
Noise Power	(5)	dB(A)	88	88	88	89	89	90	90
SIZE AND WEIGHT									
A	(6)	mm	4515	5080	5080	5690	5690	6865	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3760	3900	4050	5350	5490	5780	5890

NECS-Q / SL-CA			2416	2418	2618	2818	3018	3218
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	596	616	663	714	754	795
Total power input	(1)	kW	229	244	260	274	290	306
EER	(1)		2,60	2,52	2,55	2,61	2,60	2,60
HEATING ONLY								
Total heating capacity	(2)	kW	679	701	755	801	859	906
Total power input	(2)	kW	207	217	233	248	262	276
COP	(2)		3,28	3,23	3,24	3,23	3,28	3,28
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	636	667	711	758	802	848
Total power input	(3)	kW	189	200	213	226	240	252
Recovery heat exchanger capacity	(3)	kW	814	854	911	971	1027	1085
TER			7,68	7,62	7,61	7,63	7,63	7,67
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	103	106	114	123	130	137
Pressure drop	(1)	kPa	43,2	41,7	48,3	37,8	42,2	46,8
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(2)	m³/h	118	122	131	139	149	157
Pressure drop	(2)	kPa	57,2	54,9	63,7	48,4	55,7	62,0
COMPRESSORS								
Compressors nr.		N°	6	8	8	8	8	8
No. Circuits		N°	3	4	4	4	4	4
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	58	58	58	59	59	59
Noise Power	(5)	dB(A)	91	91	91	92	92	92
SIZE AND WEIGHT								
A	(6)	mm	7430	7430	8605	9780	9780	9780
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	6130	7020	7330	7600	7750	7910

Notes:

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

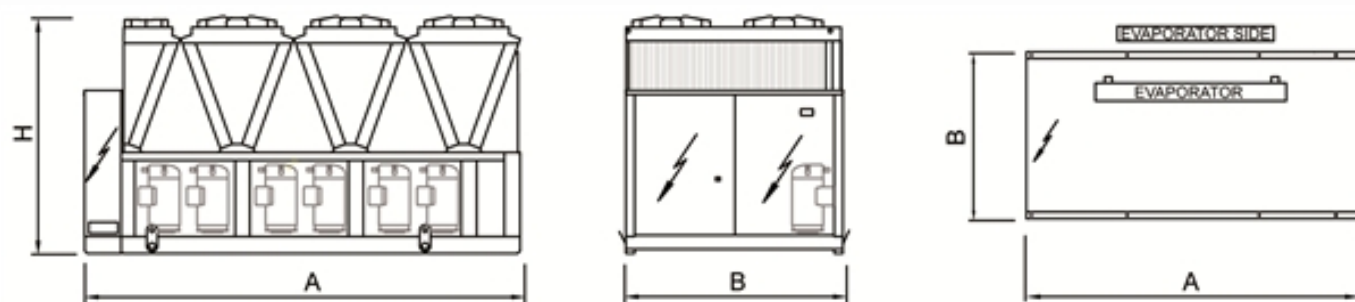
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.



Units for simultaneous and independent production of heat and cold water

ERACS2-Q 1062 - 3222



INTEGRA unit for 4-pipe systems, air source for outdoor installation 199-826 kW

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits.

These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. Each circuit works with a semi-hermetic screw compressor using R134a, two shell and tubes heat exchangers shared by both circuits, a cold heat exchanger on plant's side that acts as an evaporator in the production of cold water, a heat exchanger on plant's side that works as a condenser in the production of hot water, and a source side coil heat exchanger that works as either condenser or evaporator as required by the loads.

Commands

W3000SE Large

The controller W3000 large offers the latest control and functions specially developed for these units.

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

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

Compatibility with remote keyboard (management up to 10 units). Clock available with programming of operation (standard 4 days and 10 time bands).

Temperature regulation managed on the two water circuits, with a proportional logic referred to the return water temperatures. This allows to satisfy simultaneously the different heating- and cooling requests, with no need of mode changeover.

Exclusive self-adaptive defrost logic, monitoring multiple operational- and ambient parameters, which allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Version

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

Features

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

EXTENSIVE RANGE OF OPERATION

Unit's operation guaranteed with external air temperature down to -10°C during winter and up to 46°C during summer.

VERSION 'XL-CA-E' AVAILABLE

Exclusive Premium version. Together for the first time, the lowest noise level on the market and the maximum efficiency in each operating mode.

HOT WATER SUPPLY

Supply of hot water in use up to 55°C, offering maximum versatility with respect to different plant engineering solutions

Accessory

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Electronic expansion valve
- Set-up for remote connectivity with ModBus/Echelon protocol cards





ERACS2-Q / CA			1062	1162	1362	1562	1762	1962
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	210	248	302	329	380	425
Total power input	(1)	kW	72,1	84,8	101	109	129	144
EER	(1)		2,91	2,93	2,98	3,01	2,95	2,95
HEATING ONLY								
Total heating capacity	(2)	kW	218	258	308	339	396	434
Total power input	(2)	kW	67,0	80,7	92,2	101	122	131
COP	(2)		3,25	3,20	3,35	3,35	3,25	3,32
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	209	248	305	329	381	428
Total power input	(3)	kW	60,6	72,2	87,1	92,5	111	122
Recovery heat exchanger capacity	(3)	kW	266	316	386	416	486	542
TER			7,83	7,81	7,93	8,06	7,80	7,97
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	36,2	42,8	52,1	56,7	65,5	73,2
Pressure drop	(1)	kPa	28,8	40,2	36,6	43,4	40,3	27,9
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(2)	m³/h	37,8	44,9	53,6	58,9	68,7	75,4
Pressure drop	(2)	kPa	31,5	44,3	38,8	46,9	44,4	29,6
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	65	65	65	66	66	66
Noise Power	(5)	dB(A)	97	97	97	98	99	99
SIZE AND WEIGHT								
A	(6)	mm	4610	4610	5610	5610	6610	6610
B	(6)	mm	2220	2220	2220	2220	2220	2220
H	(6)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(6)	kg	3600	3870	4620	5040	5520	5670

ERACS2-Q / CA			2022	2222	2422	2622	2722	3222
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	483	525	554	624	701	826
Total power input	(1)	kW	156	167	176	201	222	264
EER	(1)		3,10	3,14	3,16	3,10	3,15	3,13
HEATING ONLY								
Total heating capacity	(2)	kW	492	541	571	615	711	826
Total power input	(2)	kW	149	159	169	178	207	240
COP	(2)		3,31	3,41	3,38	3,46	3,43	3,44
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	484	522	550	631	701	826
Total power input	(3)	kW	134	145	153	170	193	228
Recovery heat exchanger capacity	(3)	kW	609	658	694	791	883	1041
TER			8,18	8,14	8,12	8,35	8,19	8,17
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	83,1	90,4	95,3	107	121	142
Pressure drop	(1)	kPa	26,7	29,0	32,3	23,1	30,5	30,9
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(2)	m³/h	85,5	94,1	99,2	107	124	143
Pressure drop	(2)	kPa	28,2	31,4	34,9	22,8	31,9	31,5
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	66	68	68	68	68	69
Noise Power	(5)	dB(A)	99	101	101	101	101	102
SIZE AND WEIGHT								
A	(6)	mm	6300	7200	7200	7200	8400	9700
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(6)	kg	7580	8060	8160	8600	9160	11380

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

ERACS2-Q / LN-CA			1062	1162	1362	1562	1762	1962
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	205	241	294	322	369	414
Total power input	(1)	kW	70,8	84,6	103	109	130	144
EER	(1)		2,89	2,85	2,86	2,96	2,83	2,87
HEATING ONLY								
Total heating capacity	(2)	kW	218	258	308	339	396	434
Total power input	(2)	kW	67,0	80,7	92,2	101	122	131
COP	(2)		3,25	3,20	3,35	3,35	3,25	3,32
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	209	248	305	329	381	428
Total power input	(3)	kW	60,6	72,2	87,1	92,5	111	122
Recovery heat exchanger capacity	(3)	kW	266	316	386	416	486	542
TER			7,83	7,81	7,93	8,06	7,80	7,97
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	35,3	41,5	50,6	55,4	63,6	71,2
Pressure drop	(1)	kPa	27,4	37,9	34,5	41,4	38,0	26,4
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(2)	m³/h	37,8	44,9	53,6	58,9	68,7	75,4
Pressure drop	(2)	kPa	31,5	44,3	38,8	46,9	44,4	29,6
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	58	59	59	60	59	59
Noise Power	(5)	dB(A)	90	91	91	92	92	92
SIZE AND WEIGHT								
A	(6)	mm	4610	4610	5610	5610	6610	6610
B	(6)	mm	2220	2220	2220	2220	2220	2220
H	(6)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(6)	kg	3600	3870	4620	5040	5520	5670

ERACS2-Q / LN-CA			2022	2222	2422	2622	2722	3222
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	469	513	541	604	684	799
Total power input	(1)	kW	163	168	177	206	225	274
EER	(1)		2,88	3,06	3,05	2,93	3,03	2,91
HEATING ONLY								
Total heating capacity	(2)	kW	492	541	571	615	711	826
Total power input	(2)	kW	149	159	169	178	207	240
COP	(2)		3,31	3,41	3,38	3,46	3,43	3,44
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	484	522	550	631	701	826
Total power input	(3)	kW	134	145	153	170	193	228
Recovery heat exchanger capacity	(3)	kW	609	658	694	791	883	1041
TER			8,18	8,14	8,12	8,35	8,19	8,17
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	80,7	88,4	93,2	104	118	138
Pressure drop	(1)	kPa	25,1	27,7	30,8	21,6	29,0	29,0
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(2)	m³/h	85,5	94,1	99,2	107	124	143
Pressure drop	(2)	kPa	28,2	31,4	34,9	22,8	31,9	31,5
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	60	62	62	62	62	63
Noise Power	(5)	dB(A)	93	95	95	95	95	96
SIZE AND WEIGHT								
A	(6)	mm	6300	7200	7200	7200	8400	9700
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(6)	kg	7580	8060	8160	8600	9160	11380

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

ERACS2-Q / SL-CA			1062	1162	1362	1562	1762	1962
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	199	233	283	314	356	401
Total power input	(1)	kW	72,7	87,6	109	113	137	149
EER	(1)		2,74	2,66	2,61	2,78	2,59	2,69
HEATING ONLY								
Total heating capacity	(2)	kW	211	251	301	330	385	422
Total power input	(2)	kW	64,8	78,4	89,9	98,4	119	127
COP	(2)		3,26	3,20	3,35	3,35	3,25	3,33
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	209	248	305	329	381	428
Total power input	(3)	kW	60,6	72,2	87,1	92,5	111	122
Recovery heat exchanger capacity	(3)	kW	266	316	386	416	486	542
TER			7,83	7,81	7,93	8,06	7,80	7,97
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	34,3	40,1	48,8	54,0	61,3	69,1
Pressure drop	(1)	kPa	26,0	35,4	32,1	39,4	35,3	24,8
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(2)	m³/h	36,7	43,6	52,3	57,4	66,9	73,3
Pressure drop	(2)	kPa	29,6	41,9	36,9	44,4	42,1	27,9
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	54	55	55	56	55	55
Noise Power	(5)	dB(A)	86	87	87	88	88	88
SIZE AND WEIGHT								
A	(6)	mm	4610	4610	5610	5610	6610	6610
B	(6)	mm	2220	2220	2220	2220	2220	2220
H	(6)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(6)	kg	3600	3870	4620	5040	5520	5670

ERACS2-Q / SL-CA			2022	2222	2422	2622	2722	3222
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	464	509	537	597	678	790
Total power input	(1)	kW	166	170	180	210	229	281
EER	(1)		2,80	2,99	2,98	2,85	2,96	2,81
HEATING ONLY								
Total heating capacity	(2)	kW	486	536	564	607	703	815
Total power input	(2)	kW	147	158	167	176	205	238
COP	(2)		3,30	3,40	3,38	3,45	3,42	3,43
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	484	522	550	631	701	826
Total power input	(3)	kW	134	145	153	170	193	228
Recovery heat exchanger capacity	(3)	kW	609	658	694	791	883	1041
TER			8,18	8,14	8,12	8,35	8,19	8,17
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	79,9	87,6	92,5	103	117	136
Pressure drop	(1)	kPa	24,6	27,3	30,3	21,1	28,5	28,3
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(2)	m³/h	84,4	93,1	98,0	105	122	142
Pressure drop	(2)	kPa	27,5	30,8	34,1	22,2	31,2	30,7
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	56	58	58	58	58	59
Noise Power	(5)	dB(A)	89	91	91	91	91	92
SIZE AND WEIGHT								
A	(6)	mm	6300	7200	7200	7200	8400	9700
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(6)	kg	7670	8150	8250	8690	9260	11480

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

ERACS2-Q / XL-CA			1062	1162	1362	1562	1762	2022	2222	2422	2622	2722	3222
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE													
COOLING													
Cooling capacity	(1)	kW	204	247	293	319	366	454	500	528	584	665	772
Total power input	(1)	kW	66,6	77,0	99,5	105	127	167	169	180	212	230	287
EER	(1)		3,07	3,21	2,95	3,06	2,88	2,73	2,95	2,94	2,76	2,90	2,70
HEATING ONLY													
Total heating capacity	(2)	kW	218	267	308	340	393	486	536	564	607	703	815
Total power input	(2)	kW	62,4	77,6	88,4	95,2	116	143	152	161	170	199	230
COP	(2)		3,50	3,44	3,49	3,57	3,38	3,41	3,53	3,50	3,56	3,54	3,54
COOLING WITH TOTAL HEAT RECOVERY													
Cooling capacity with total heat recovery	(3)	kW	209	248	305	329	381	484	522	550	631	701	826
Total power input	(3)	kW	60,6	72,2	87,1	92,5	111	134	145	153	170	193	228
Recovery heat exchanger capacity	(3)	kW	266	316	386	416	486	609	658	694	791	883	1041
TER			7,83	7,81	7,93	8,06	7,80	8,18	8,14	8,12	8,35	8,19	8,17
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
Water flow	(1)	m³/h	35,2	42,5	50,5	55,0	63,1	78,2	86,2	91,0	101	115	133
Pressure drop	(1)	kPa	27,2	39,8	34,4	40,8	37,4	23,6	26,4	29,4	20,2	27,4	27,1
HEAT EXCHANGER USER SIDE IN HEATING													
Water flow	(2)	m³/h	37,9	46,4	53,5	59,1	68,3	84,4	93,1	98,0	105	122	142
Pressure drop	(2)	kPa	31,6	47,5	38,7	47,2	43,8	27,5	30,8	34,1	22,2	31,2	30,7
COMPRESSORS													
Compressors nr.		N°	2	2	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2	2	2
NOISE LEVEL													
Noise Pressure	(4)	dB(A)	53	54	54	54	54	52	54	54	54	54	55
Noise Power	(5)	dB(A)	85	86	86	87	87	85	87	87	87	87	88
SIZE AND WEIGHT													
A	(6)	mm	4610	5610	5610	6610	6610	6300	7200	7200	7200	8400	9700
B	(6)	mm	2220	2220	2220	2220	2220	2260	2260	2260	2260	2260	2260
H	(6)	mm	2420	2430	2430	2430	2430	2350	2350	2350	2350	2350	2350
Operating weight	(6)	kg	3900	4490	4830	5590	5730	7790	8260	8350	8790	9340	11580

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

ERACS2-Q / XL-CA-E			1062	1162	1362	1562	1762	2022	2222	2422	2622
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING											
Cooling capacity	(1)	kW	204	247	293	319	366	473	510	541	611
Total power input	(1)	kW	66,6	77,0	99,5	105	127	152	163	169	193
EER	(1)		3,07	3,21	2,95	3,06	2,88	3,11	3,14	3,20	3,17
HEATING ONLY											
Total heating capacity	(2)	kW	218	267	308	340	393	513	552	588	644
Total power input	(2)	kW	62,4	77,6	88,4	95,2	116	145	154	164	176
COP	(2)		3,50	3,44	3,49	3,57	3,38	3,52	3,58	3,59	3,67
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity with total heat recovery	(3)	kW	209	248	305	329	381	484	522	550	631
Total power input	(3)	kW	60,6	72,2	87,1	92,5	111	134	145	153	170
Recovery heat exchanger capacity	(3)	kW	266	316	386	416	486	609	658	694	791
TER			7,83	7,81	7,93	8,06	7,80	8,18	8,14	8,12	8,35
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	35,2	42,5	50,5	55,0	63,1	81,4	87,7	93,2	105
Pressure drop	(1)	kPa	27,2	39,8	34,4	40,8	37,4	25,5	27,3	30,8	22,1
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(2)	m³/h	37,9	46,4	53,5	59,1	68,3	89,1	95,9	102	112
Pressure drop	(2)	kPa	31,6	47,5	38,7	47,2	43,8	30,6	32,6	37,1	25,0
COMPRESSORS											
Compressors nr.		Nº	2	2	2	2	2	2	2	2	2
No. Circuits		Nº	2	2	2	2	2	2	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	53	54	54	54	54	53	55	55	55
Noise Power	(5)	dB(A)	85	86	86	87	87	86	88	88	88
SIZE AND WEIGHT											
A	(6)	mm	4610	5610	5610	6610	6610	8400	9300	9300	9300
B	(6)	mm	2220	2220	2220	2220	2220	2260	2260	2260	2260
H	(6)	mm	2420	2430	2430	2430	2430	2350	2350	2350	2350
Operating weight	(6)	kg	3900	4490	4830	5590	5730	8510	8720	8890	9400

Notes:

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

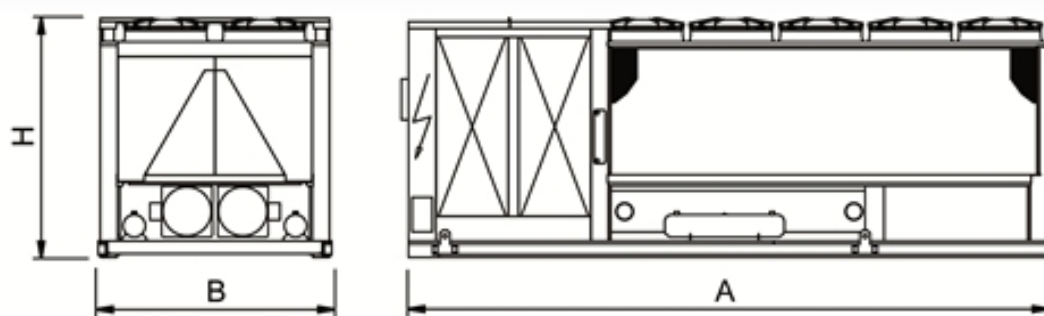
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.



Units for simultaneous and independent production of heat and cold water

i-FX-Q 0502 - 0802



INTEGRA unit for 4-pipe systems, air source for outdoor installation 466-811 kW

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler.

Each circuit works with an inverter driven semi-hermetic screw compressor using R134a, two shell and tubes heat exchangers shared by both circuits, a cold heat exchanger and a hot one on plant's side, and a source side coil heat exchanger that works as either condenser or evaporator as required by the loads.

The revolutionary unit's design, patent pending, and the use of inverter motors on compressors, fans and, on request, on pumps, ensures an unbeatable efficiency, specially at partial load.

Commands

W3000SE Large

The controller W3000 large offers the latest control and functions specially developed for these units. The controls and detailed LCD touch-screen make access to machine settings easy and safe. These resources permit to directly display the full operating status and to act on the unit settings through a multilevel menu, available in several languages.

The regulation operates on both water circuits and 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). This allows to satisfy simultaneously and accurately the different requests of both cooling and heating, with no need of mode 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 defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Version

CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency

Features

UNIQUE PROPOSAL - PATENT

The exclusive regulation's logic of the INTEGRA units, the only able to satisfy cold and hot building loads simultaneously, and the use of inverter motors ensure the highest energy saving for complex plants, as the 4-pipes system are

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 structure's design, to the use of EC fans (DC brushless) and to the adoption of variable-speed driven compressors

EXTENSIVE RANGE OF OPERATION

Unit's operation guaranteed with external air temperature down to -10°C during winter and up to 46°C during summer.

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

Accessory

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





I-FX-Q / CA			0502	0602	0702	0802
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE						
COOLING						
Cooling capacity	(1)	kW	487	617	711	811
Total power input	(1)	kW	166	206	245	273
EER	(1)		2,94	2,99	2,91	2,97
HEATING ONLY						
Total heating capacity	(2)	kW	515	654	758	856
Total power input	(2)	kW	149	193	224	249
COP	(2)		3,44	3,40	3,38	3,44
COOLING WITH TOTAL HEAT RECOVERY						
Cooling capacity with total heat recovery	(3)	kW	490	613	715	814
Total power input	(3)	kW	145	185	215	240
Recovery heat exchanger capacity	(3)	kW	626	787	917	1040
TER			7,72	7,56	7,58	7,72
EXCHANGERS						
HEAT EXCHANGER USER SIDE IN REFRIGERATION						
Water flow	(1)	m³/h	83,8	106	122	140
Pressure drop	(1)	kPa	24,2	26,7	36,7	35,1
HEAT EXCHANGER USER SIDE IN HEATING						
Water flow	(2)	m³/h	89,4	114	132	149
Pressure drop	(2)	kPa	27,6	30,5	42,5	39,8
COMPRESSORS						
Compressors nr.		N°	2	2	2	2
No. Circuits		N°	2	2	2	2
NOISE LEVEL						
Noise Pressure	(4)	dB(A)	64	65	65	66
Noise Power	(5)	dB(A)	97	98	98	99
SIZE AND WEIGHT						
A	(6)	mm	7800	9000	9000	9900
B	(6)	mm	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430
Operating weight	(6)	kg	7650	9350	9430	10580

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

I-FX-Q / LN-CA			0502	0602	0702	0802
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE						
COOLING						
Cooling capacity	(1)	kW	471	599	690	787
Total power input	(1)	kW	163	205	243	271
EER	(1)		2,89	2,93	2,84	2,91
HEATING ONLY						
Total heating capacity	(2)	kW	515	654	758	856
Total power input	(2)	kW	149	193	224	249
COP	(2)		3,44	3,40	3,38	3,44
COOLING WITH TOTAL HEAT RECOVERY						
Cooling capacity with total heat recovery	(3)	kW	490	613	715	814
Total power input	(3)	kW	145	185	215	240
Recovery heat exchanger capacity	(3)	kW	626	787	917	1040
TER			7,72	7,56	7,58	7,72
EXCHANGERS						
HEAT EXCHANGER USER SIDE IN REFRIGERATION						
Water flow	(1)	m³/h	81,1	103	119	135
Pressure drop	(1)	kPa	22,7	25,1	34,5	33,0
HEAT EXCHANGER USER SIDE IN HEATING						
Water flow	(2)	m³/h	89,4	114	132	149
Pressure drop	(2)	kPa	27,6	30,5	42,5	39,8
COMPRESSORS						
Compressors nr.		N°	2	2	2	2
No. Circuits		N°	2	2	2	2
NOISE LEVEL						
Noise Pressure	(4)	dB(A)	59	60	60	61
Noise Power	(5)	dB(A)	92	93	93	94
SIZE AND WEIGHT						
A	(6)	mm	7800	9000	9000	9900
B	(6)	mm	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430
Operating weight	(6)	kg	7650	9350	9430	10580

Notes:

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

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

I-FX-Q / SL-CA			0502	0602	0702	0802
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE						
COOLING						
Cooling capacity	(1)	kW	466	592	681	777
Total power input	(1)	kW	163	206	245	273
EER	(1)		2,85	2,88	2,78	2,85
HEATING ONLY						
Total heating capacity	(2)	kW	510	649	750	847
Total power input	(2)	kW	147	190	220	244
COP	(2)		3,47	3,42	3,40	3,47
COOLING WITH TOTAL HEAT RECOVERY						
Cooling capacity with total heat recovery	(3)	kW	490	613	715	814
Total power input	(3)	kW	145	185	215	240
Recovery heat exchanger capacity	(3)	kW	626	787	917	1040
TER			7,72	7,56	7,58	7,72
EXCHANGERS						
HEAT EXCHANGER USER SIDE IN REFRIGERATION						
Water flow	(1)	m³/h	80,2	102	117	134
Pressure drop	(1)	kPa	22,2	24,5	33,7	32,2
HEAT EXCHANGER USER SIDE IN HEATING						
Water flow	(2)	m³/h	88,7	113	130	147
Pressure drop	(2)	kPa	27,1	30,0	41,6	39,0
COMPRESSORS						
Compressors nr.		N°	2	2	2	2
No. Circuits		N°	2	2	2	2
NOISE LEVEL						
Noise Pressure	(4)	dB(A)	56	57	57	58
Noise Power	(5)	dB(A)	89	90	90	91
SIZE AND WEIGHT						
A	(6)	mm	7800	9000	9000	9900
B	(6)	mm	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430
Operating weight	(6)	kg	7920	9610	9700	10850

Notes:

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

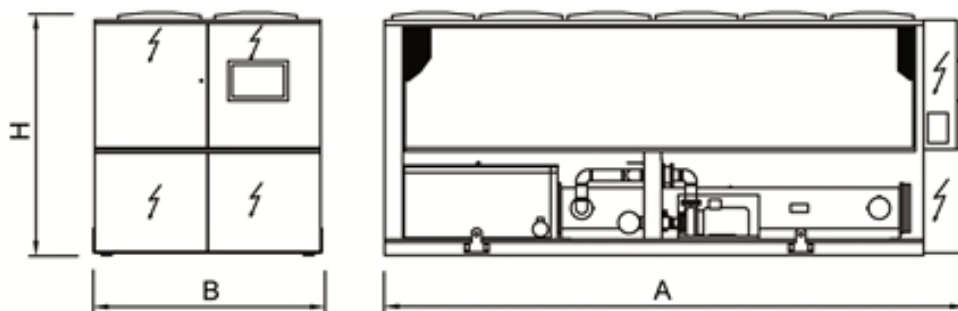
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.



Units for simultaneous and independent production of heat and cold water

NECS-WQ 0152 - 1604



INTEGRA unit for 4-pipe systems, water source 48,4-520 kW

Multi-purpose indoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent water circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching. Water-source unit equipped with hermetic rotary Scroll compressors, with R410A, plate heat exchangers and thermostatic expansion valve. The range is composed by units equipped with two and four compressors, all with two independent refrigerant circuits.

Commands

W3000 large

The controller W3000 large offers the latest control and functions developed directly by Climaveneta on the basis of their experience gained over the years with these particular units and the related plant engineering. The keypad is generously sized with full operating status display. The controls and detailed LCD make access to machine settings easy and safe. Temperature regulation managed on the two water circuits, with a proportional logic referred to the return water temperatures. This allows to satisfy simultaneously the different heating- and cooling requests, with no need of mode changeover. The diagnostics includes full management of alarms with black-box functions and alarm record for better analysis of unit performance. 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). Exclusive self-adaptive defrost logic, monitoring multiple operational- and ambient parameters, which allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.



Version

B Basic

Features

REFRIGERANT GAS R410A

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

INTEGRATED CONDENSATION'S CONTROL

A 2 way valve is supplied as standard for the condensing pressure control. For all the applications in which a constant waterflow through the condenser is needed, a 3-way valve option is also available under request.

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

HOT WATER SUPPLY

Production of hot water up to 55°C to meet the most demanding application needs.

Accessory

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Acoustical enclosure to reduce the noise emissions.
- Water connections directed upwards (for 2 compressors units only)



NECS-WQ			0152	0182	0202	0252	0262	0302	0412	0512	0612
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING											
Cooling capacity	(1)	kW	48,4	55,6	64,6	73,4	82,8	97,0	127	158	205
Total power input	(1)	kW	8,56	9,73	11,2	13,2	14,7	17,4	22,8	28,2	36,6
EER	(1)		5,65	5,71	5,77	5,56	5,63	5,57	5,56	5,59	5,60
HEATING ONLY											
Total heating capacity	(2)	kW	52,1	59,7	69,3	79,0	88,9	104	135	169	219
Total power input	(2)	kW	12,4	13,8	16,2	18,5	20,4	23,9	31,0	38,4	49,9
COP	(2)		4,20	4,33	4,28	4,27	4,36	4,37	4,35	4,40	4,39
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity with total heat recovery	(3)	kW	40,4	46,7	54,1	61,7	69,7	82,0	106	133	172
Total power input	(3)	kW	12,4	13,8	16,2	18,5	20,4	23,9	31,0	38,4	49,9
Recovery heat exchanger capacity	(3)	kW	52,1	59,7	69,3	79,0	88,9	104	135	169	219
TER			7,46	7,71	7,62	7,61	7,77	7,80	7,75	7,85	7,83
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	8,33	9,57	11,1	12,6	14,2	16,7	21,8	27,2	35,2
Pressure drop	(1)	kPa	28,4	25,6	25,0	28,7	31,9	33,8	39,1	42,4	44,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	3,04	3,49	4,05	4,63	5,21	6,12	7,99	9,94	12,9
Pressure drop	(1)	kPa	3,79	3,42	3,32	3,85	4,26	4,53	5,25	5,68	5,89
HEAT EXCHANGER SOURCE SIDE IN HEATING											
Water flow	(2)	m³/h	4,97	5,75	6,66	7,59	8,58	10,1	13,0	16,3	21,2
Pressure drop	(2)	kPa	10,1	9,25	8,95	10,4	11,5	12,3	13,9	15,3	15,8
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	m³/h	9,05	10,4	12,0	13,7	15,4	18,1	23,4	29,3	38,0
Pressure drop	(3)	kPa	33,5	30,1	29,3	34,0	37,5	39,8	45,1	49,5	51,2
COMPRESSORS											
Compressors nr.	N°		2	2	2	2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	42	43	43	43	44	45	46	47	48
Noise Power	(5)	dB(A)	73	74	74	74	75	76	77	78	79
SIZE AND WEIGHT											
A	(6)	mm	1220	1220	1220	1220	1220	1220	1220	1220	1220
B	(6)	mm	877	877	877	877	877	877	877	877	877
H	(6)	mm	1496	1496	1496	1496	1496	1496	1496	1496	1496
Operating weight	(6)	kg	450	470	490	505	525	550	745	825	910

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 14°C/30°C

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 14°C/7°C

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

NECS-WQ			0604	0704	0804	0904	1004	1104	1204	1404	1604
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING											
Cooling capacity	(1)	kW	193	224	254	284	315	363	412	466	520
Total power input	(1)	kW	34,7	40,1	45,5	50,9	56,4	64,8	73,0	84,8	96,5
EER	(1)		5,57	5,59	5,59	5,58	5,59	5,60	5,64	5,49	5,39
HEATING ONLY											
Total heating capacity	(2)	kW	208	240	270	303	338	388	440	498	557
Total power input	(2)	kW	47,7	54,7	61,8	69,2	76,8	88,4	99,6	113	126
COP	(2)		4,36	4,38	4,37	4,38	4,40	4,39	4,41	4,41	4,42
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity with total heat recovery	(3)	kW	163	188	212	238	266	305	346	392	438
Total power input	(3)	kW	47,7	54,7	61,8	69,2	76,8	88,4	99,6	113	126
Recovery heat exchanger capacity	(3)	kW	208	240	270	303	338	388	440	498	557
TER			7,79	7,82	7,80	7,83	7,86	7,84	7,89	7,88	7,90
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	33,3	38,6	43,8	48,9	54,3	62,5	70,9	80,1	89,5
Pressure drop	(1)	kPa	41,7	44,1	43,7	43,0	43,9	43,7	44,2	45,6	44,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	m³/h	12,2	14,1	16,0	17,9	19,9	22,9	25,9	29,4	32,9
Pressure drop	(1)	kPa	5,60	5,91	5,85	5,77	5,89	5,86	5,91	6,15	5,97
HEAT EXCHANGER SOURCE SIDE IN HEATING											
Water flow	(2)	m³/h	20,1	23,1	26,1	29,3	32,7	37,5	42,6	48,2	53,9
Pressure drop	(2)	kPa	15,2	15,8	15,5	15,5	15,9	15,8	15,9	16,5	16,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	m³/h	36,2	41,6	46,9	52,7	58,7	67,5	76,4	86,6	96,8
Pressure drop	(3)	kPa	49,3	51,3	50,2	50,0	51,3	51,0	51,4	53,2	51,5
COMPRESSORS											
Compressors nr.	N°		4	4	4	4	4	4	4	4	4
No. Circuits	N°		2	2	2	2	2	2	2	2	2
NOISE LEVEL											
Noise Pressure	(4)	dB(A)	54	55	56	57	58	59	59	59	59
Noise Power	(5)	dB(A)	86	87	88	89	90	91	91	91	91
SIZE AND WEIGHT											
A	(6)	mm	2560	2560	2560	2560	2560	2560	2560	2560	2560
B	(6)	mm	891	891	891	891	891	891	891	891	891
H	(6)	mm	1810	1810	1810	1810	1810	1810	1810	1810	1810
Operating weight	(6)	kg	975	1165	1365	1445	1610	1710	1810	1895	2000

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 14°C/30°C

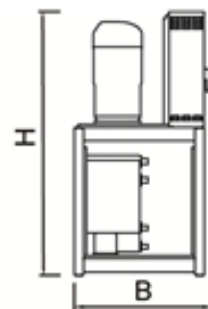
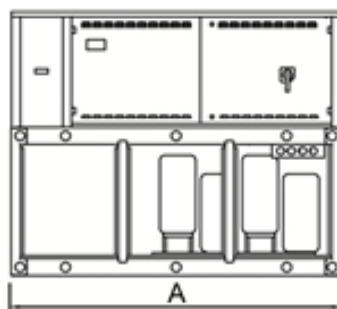
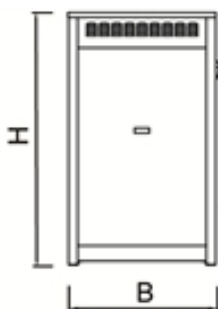
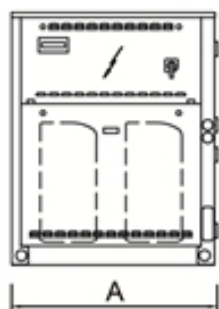
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 14°C/7°C

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.



Units for simultaneous and independent production of heat and cold water

ERACS2-WQ 0802 - 3202



INTEGRA unit for 4-pipe systems, water source 189-870 kW

Multi-purpose indoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent water circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching. Each circuit works with a semi-hermetic screw compressor using R134a, and three tube nest heat exchangers, a cold exchanger on the user side shared by both circuits that acts as an evaporator in the production of cold water, a heat exchanger on the user side that works as a condenser in the production of hot water, and a source side exchanger that works as either condenser or evaporator as required by the loads.

Commands

W3000SE Large

The W3000SE Large 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 operates on both water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. This allows to satisfy simultaneously the different requests of both cooling and heating, with no need of mode 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 defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.



Version

- Basic

Features

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

EXTENSIVE RANGE OF OPERATION

Supply of hot water in use up to 55°C, offering maximum versatility with respect to different plant engineering solutions

INTEGRATED CONDENSATION'S CONTROL

A 2 way valve is supplied as standard for the condensing pressure control. For all the applications in which a constant waterflow through the condenser is needed, a 3-way valve option is also available under request.

Accessory

- Integral acoustical enclosure (type base or plus)
- Several devices for condensation's control
- Electronic expansion valve
- Set-up for remote connectivity with ModBus/Echelon protocol cards



ERACS2-WQ			0802	1002	1102	1302	1502	1702
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	189	234	268	318	363	424
Total power input	(1)	kW	35,7	44,9	50,6	59,7	68,7	80,2
EER	(1)		5,31	5,22	5,30	5,32	5,29	5,29
HEATING ONLY								
Total heating capacity	(2)	kW	205	255	291	344	393	459
Total power input	(2)	kW	45,7	56,9	65,8	76,3	86,9	103
COP	(2)		4,49	4,48	4,43	4,51	4,52	4,44
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	162	201	229	272	311	362
Total power input	(3)	kW	45,7	56,9	65,8	76,3	86,9	103
Recovery heat exchanger capacity	(3)	kW	205	255	291	344	393	459
TER			8,05	8,01	7,91	8,08	8,10	7,94
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	32,6	40,3	46,1	54,7	62,6	73,0
Pressure drop	(1)	kPa	27,6	34,9	46,8	40,4	36,5	47,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	12,0	14,9	17,0	20,2	23,1	26,9
Pressure drop	(1)	kPa	3,76	4,78	6,38	5,50	4,98	6,42
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(2)	m³/h	20,0	24,8	28,2	33,5	38,3	44,5
Pressure drop	(2)	kPa	10,4	13,2	17,5	15,2	13,7	17,5
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	m³/h	35,7	44,3	50,6	59,8	68,3	79,8
Pressure drop	(3)	kPa	33,1	42,1	56,3	48,3	43,5	56,3
COMPRESSORS								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	62	63	65	65	65	65
Noise Power	(5)	dB(A)	94	95	97	97	97	97
SIZE AND WEIGHT								
A	(6)	mm	3680	3680	3680	3680	3680	3680
B	(6)	mm	1170	1170	1170	1170	1170	1170
H	(6)	mm	1950	1950	1950	1950	1950	1950
Operating weight	(6)	kg	2420	2470	2880	3580	3690	3750

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 14°C/30°C

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 14°C/7°C

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

ERACS2-WQ			1902	2152	2502	2602	2702	3202
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING								
Cooling capacity	(1)	kW	468	542	633	686	763	870
Total power input	(1)	kW	89,7	98,8	116	125	140	160
EER	(1)		5,21	5,48	5,46	5,48	5,44	5,44
HEATING ONLY								
Total heating capacity	(2)	kW	514	589	686	738	831	941
Total power input	(2)	kW	117	128	148	158	180	205
COP	(2)		4,41	4,59	4,62	4,68	4,63	4,60
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity with total heat recovery	(3)	kW	404	468	547	589	662	748
Total power input	(3)	kW	117	128	148	158	180	205
Recovery heat exchanger capacity	(3)	kW	514	589	686	738	831	941
TER			7,88	8,24	8,31	8,43	8,32	8,26
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	80,5	93,3	109	118	131	150
Pressure drop	(1)	kPa	27,2	25,5	34,8	29,0	35,9	46,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	m³/h	29,8	34,3	40,1	43,4	48,3	55,1
Pressure drop	(1)	kPa	3,73	3,44	4,70	3,92	4,85	6,31
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(2)	m³/h	49,7	57,6	67,2	72,5	81,5	92,0
Pressure drop	(2)	kPa	10,4	9,72	13,2	10,9	13,8	17,6
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	m³/h	89,2	102	119	128	144	163
Pressure drop	(3)	kPa	33,4	30,7	41,6	34,2	43,4	55,6
COMPRESSORS								
Compressors nr.	N°		2	2	2	2	2	2
No. Circuits	N°		2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	(4)	dB(A)	65	66	67	67	67	67
Noise Power	(5)	dB(A)	97	98	99	99	99	99
SIZE AND WEIGHT								
A	(6)	mm	3800	3800	3800	5000	5000	5000
B	(6)	mm	1490	1490	1490	1490	1490	1490
H	(6)	mm	1950	1950	1950	2050	2050	2050
Operating weight	(6)	kg	4920	5310	5730	6470	6590	7370

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 14°C/30°C

2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 14°C/7°C

3 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C

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 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 Unit in standard configuration/execution, without optional accessories.

