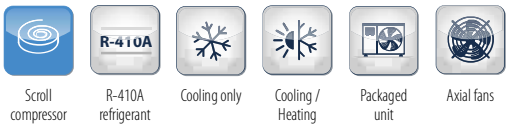
Outdoor packaged unit

LCX 40 - 360 kW

UP GRADE

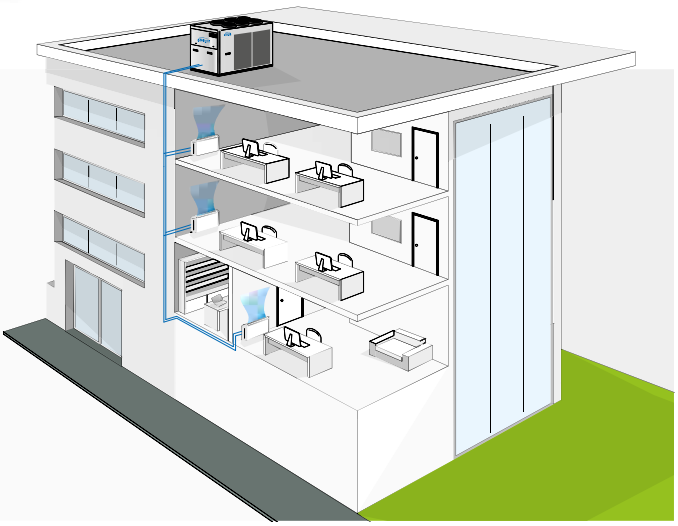


Scroll compressor | R-410A refrigerant | Cooling only | Cooling / Heating | Packaged unit | Axial fans

PLUS

- Completely configurable range
- Electronic expansion valve
- Incorporable hydronic kits
- Up to 4 compressors
- 1 or 2 cooling circuits
- Remote connectivity with the most common protocols

LCX heat pumps and water chillers are designed for heating or cooling the water to be used in air-conditioning systems for residential, commercial or industrial use.



MAIN COMPONENTS

Structure

Made in galvanised steel sheet with a polyester powder coating for outdoors.
The compressor compartment is completely sealed and may be accessed on 3 sides thanks to easy-to-remove panels that greatly simplify maintenance and/or inspection.

Scroll compressors

Scroll compressors are now the best solution in terms of reliability and limiting the sound power emitted. The compressors are supplied complete with motor protection against overheating, overcurrents and excessive outlet gas temperatures.

Heat exchanger

Made of generously sized aluminum fins and copper piping. The special engineering allows defrost cycles to be carried out at maximum speed in the models with heat pump operation, which brings clear benefits in terms of the integrated efficiency of the whole cycle.

Electronic microprocessor controller

It completely manages the unit. The electronic control system allows the setpoint to be adjusted automatically according to the outdoor temperature in order to reduce consumption and broaden the working temperature range. With the advanced microprocessor control it is possible to set up LAN networks for controlling up to 4 units in parallel.

Fan drive assembly

Axial fans with airfoil blades made of plastic-aluminum composite, connected to an electric motor with external rotor. The condensation control system continuously and automatically regulates the fan speed. Electric fans with BLDC motor are available on request.

Cooling circuit

It can be made in three different versions with the same power (Efficiency Pack), using mainly:
- R410A scroll compressors
- braze-welded plate exchangers
- finned block condenser
- electronic expansion valve

CONFIGURATION

The models are completely configurable by selecting the version and the options. To the right is shown an example of configuration.

Version	Fields ▶	1	2	3	4	5	6	7	8	9	10	11	12	13
LCX092HL		0	B	1	S	0	0	S	1	0	0	G	0	V

To verify the compatibility of the options, use the selection software or the price list.

AVAILABLE VERSIONS

Cooling only versions

LCX...CS	Standard execution
LCX...CL	Low noise execution
LCX...CQ	Quiet execution (super low noise)

Versions with reversible heat pump

LCX...HS	Standard execution
LCX...HL	Low noise execution
LCX...HQ	Quiet execution (super low noise)

CONFIGURATION OPTIONS

1 - POWER SUPPLY
- **0** 400/3/50 + N
- **1** 400/3/50 with transformer
- **2** 400/3/50 + N + Circuit breakers
- **3** 400/3/50 with transformer+ Circuit breakers

2 – CONTROL MICROPROCESSOR + THROTTLE VALVE
- **0** BASE control microprocessor + electronic expansion valve
- **B** ADVANCED control microprocessor + electronic expansion valve

3 - WATER PUMP ON USER SIDE
- **0** Absent
- **1** 1 pump and expansion tank
- **2** 1 uprated pump and expansion tank
- **3** 2 pumps for combined operation + expansion tank (only if FIELD 2 = B)
- **4** 2 uprated pumps for combined operation + expansion tank (only if FIELD 2 = B)
- **5** 2 pumps and expansion tank (in time sequence)
- **6** 2 uprated pumps and expansion tank (in time sequence)

4 - BUFFER TANK
- **0** Absent
- **S** Present

5 - PARTIAL HEAT RECOVERY (air flow modulation option is mandatory)
- **0** Absent
- **D** Desuperheater

6 - AIR FLOW MODULATION
- **0** Absent
- **C** Condensation control with fans adjusted by potentiometer
- **E** Condensation control, "EC brushless" electronically controlled fans

7 - ANTIFREEZE KIT
- **0** Absent
- **E** Present, basic unit (heating element only on plate exchangers)
- **P** Present, unit with pump/s and expansion tank
- **S** Present, unit with pump/s, expansion tank and tank

8 - REMOTE COMMUNICATION
- **0** Absent
- **1** RS485 Serial board (Modbus or Carel protocol)
- **2** Lonworks serial board (only if FIELD 2 = B)
- **3** GSM modem kit (only if FIELD 2 = B)
- **4** pCOWEB Ethernet card (SNMP or BACNET protocol) + clock card (only if FIELD 2 = B)
- **5** pCOWEB Ethernet card (SNMP or BACNET protocol) + clock card + supervision software (only if FIELD 2 = B)

9 - HEAT EXCHANGER CONSTRUCTION ON REQUEST
- **0** Standard
- **R** Copper / copper exchangers
- **C** Cataphoresis
- **B** Fins pre-coated with epoxy paint

10 - PACKING (net price)
- **0** Standard
- **1** Wooden crate
- **2** Wooden case

11 - INSULATION
- **0** Absent
- **G** Base rubber vibration dumpers
- **M** Base spring vibration dumpers

12 – REMOTE CONTROLLER
- **0** Absent
- **1** Simplified remote control panel
- **2** Remote display for BASE control microprocessor (only if FIELD 2 = 0)
- **3** Remote display for ADVANCED control microprocessor (only if FIELD 2 = B)

13 – INSTALLING THE UNIT
- **0** Absent
- **V** Pair of quick couplings for water IN-OUT

ACCESSORIES

- **A** Power factor correction capacitors
- **B** Soft-starter kit
- **C** Service kit (kit of sensors for quick diagnosis) (only if FIELD 2 = B)
- **D** Clock card (only if FIELD 2 = B)
- **E** ON/OFF status of the compressors
- **F** Remote control for power step limits (only if FIELD 2 = B)
- **G** Configurable digital alarm card (only if FIELD 2 = B
- **H** Outdoor air temperature probe for setpoint compensation (standard in heating mode)
- **I** Pressure gauges
- **L** Regulating filter kit (solenoid and tap on the liquid line)
- **M** Normative reference other than "97/23/CE - PED"
- **N** Unit lifting kit
- **P** Condenser protection grille
- **Q** Metal filters for protecting condenser coil

LCX CS Rated technical data of water chillers

LCX...CS		062	072	082	091	092	101	102
Power supply	V-ph-Hz	400 - 3N - 50						
Cooling capacity (1) (E)	kW	58,2	66,5	78,2	88,6	88,6	102	113
Power supply (1) (E)	kW	21,0	23,6	27,2	31,3	32,2	36,1	36,1
EER (1) (E)		2,78	2,82	2,88	2,83	2,75	2,81	2,81
ESEER (E)		3,67	3,72	3,8	3,29	3,61	3,72	3,37
Eurovent Efficiency Class		C	C	C	C	C	C	C
Water flow (1)	l/h	10046	11477	13492	15284	15284	17517	17517
Water pressure drop (1) (E)	kPa	28	29	31	32	32	32	32
Standard pump available pressure head (1)	kPa	142	138	135	130	130	127	127
Maximum current absorption	A	60	64	75	91	91	101	101
Start up current	A	195	192	200	261	261	269	269
Start up current with softstarter kit	A	120	133	148	199	199	207	207
nr. of compressors / circuits		2 / 1	2 / 1	2 / 1	2 / 2	2 / 1	2 / 2	2 / 1
Water tank volume	dm^3	200	200	200	220	220	220	220
Expansion vessel	dm^3	12	12	12	12	12	12	12
Sound power level (2) (E)	dB(A)	82	82	82	83	83	83	83
Operating weight of base unit	kg	540	570	650	730	730	730	730
Operating weight of unit with pump and full tank	kg	877	907	987	1138	1138	1138	1138

LCX...CS		121	122	124	141	142	144
Power supply	V-ph-Hz	400 - 3N - 50					
Cooling capacity (1) (E)	kW	113	113	119	144	144	143
Power supply (1) (E)	kW	40,5	40,5	42,1	50,9	50,9	50,8
EER (1) (E)		2,79	2,78	2,83	2,83	2,83	2,82
ESEER (E)		3,36	3,68	3,76	3,48	3,63	3,64
Eurovent Efficiency Class		C	C	C	C	C	C
Water flow (1)	l/h	19449	19447	20517	24817	24815	24665
Water pressure drop (1) (E)	kPa	34	34	34	36	36	36
Standard pump available pressure head (1)	kPa	115	115	116	177	176	172
Maximum current absorption	A	119	119	120	131	131	129
Start up current	A	319	319	247	330	330	245
Start up current with softstarter kit	A	254	254	172	265	265	186
nr. of compressors / circuits		2 / 2	2 / 1	4 / 2	2 / 2	2 / 1	4 / 2
Water tank volume	dm^3	340	340	340	340	340	340
Expansion vessel	dm^3	12	12	12	12	12	12
Sound power level (2) (E)	dB(A)	83	83	82	84	84	82
Operating weight of base unit	kg	1010	1010	1050	1055	1055	1070
Operating weight of unit with pump and full tank	kg	1581	1581	1641	1626	1626	1661

(1) Water temperature 12/7°C; outdoor air temperature 35°C (14511:2011)
(2) Sound power level measured according to UNI EN ISO 9614
(E) EUROVENT certified data

LCX CS Rated technical data of water chillers

LCX...CS		161	162	164	174	194	214
Power supply	V-ph-Hz	400 - 3N - 50					
Cooling capacity (1) (E)	kW	160	160	152	162	183	201
Power supply (1) (E)	kW	58,9	58,9	56,4	58,1	65,6	76,4
EER (1) (E)		2,71	2,71	2,70	2,78	2,78	2,63
ESEER (E)		3,49	3,75	3,68	3,71	3,59	3,72
Eurovent Efficiency Class		C	C	C	C	C	D
Water flow (1)	l/h	27525	27525	26192	27841	31473	34669
Water pressure drop (1) (E)	kPa	36	36	36	37	37	38
Standard pump available pressure head (1)	kPa	162	162	162	171	151	163
Maximum current absorption	A	137	144	150	136	155	173
Start up current	A	389	396	266	252	310	330
Start up current with softstarter kit	A	306	306	214	200	248	268
nr. of compressors / circuits		2 / 2	2 / 1	4 / 2	4 / 2	4 / 2	4 / 2
Water tank volume	dm^3	340	340	340	600	600	600
Expansion vessel	dm^3	12	12	12	24	24	24
Sound power level (2) (E)	dB(A)	84	84	82	85	85	86
Operating weight of base unit	kg	1085	1085	1220	1440	1460	1470
Operating weight of unit with pump and full tank	kg	1656	1656	1811	2208	2276	2286

LCX...CS		244	274	294	324	364
Power supply	V-ph-Hz	400 - 3N - 50				
Cooling capacity (1) (E)	kW	245	263	293	327	354
Power supply (1) (E)	kW	95,8	90,5	104	119	138
EER (1) (E)		2,55	2,91	2,81	2,76	2,56
ESEER (E)		3,68	3,71	3,62	3,59	3,54
Eurovent Efficiency Class		D	B	C	C	D
Water flow (1)	l/h	42146	45335	50506	56411	60931
Water pressure drop (1) (E)	kPa	38	39	40	41	41
Standard pump available pressure head (1)	kPa	194	179	166	159	137
Maximum current absorption	A	196	224	237	251	300
Start up current	A	380	403	468	476	497
Start up current with softstarter kit	A	215	338	385	393	360
nr. of compressors / circuits		4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
Water tank volume	dm^3	600	765	765	765	765
Expansion vessel	dm^3	24	24	24	24	24
Sound power level (2) (E)	dB(A)	86	86	86	86	87
Operating weight of base unit	kg	1620	1880	1912	1947	1947
Operating weight of unit with pump and full tank	kg	2469	2894	2926	2961	2961

(1) Water temperature 12/7°C; outdoor air temperature 35°C (14511:2011)
(2) Sound power level measured according to UNI EN ISO 9614
(E) EUROVENT certified data