EN

TECHNICAL MANUAL

LCX

Chillers and heat pumps

55 kW - 360 kW

Axial fan | Scroll compressor | Refrigerant R-410A | Cooling only | Heating/Cooling | Packaged execution

PLUS

- Super low noise execution available on request
- Electronic expansion valve
- Incorporable hydraulic kit
- Up to 4 compressors
- 1 or 2 cooling circuits
- Remote connectivity with the most common protocols
- Super low noise execution available on request

CE

RG66010694-09 02/23

EUROVENT CERTIFIED PERFORMANCE

Galletti AIR CONDITIONING

R410A

Dear Customer,
Thank you for placing your trust in one of the products of Galletti S.p.a
This product is the result of our work and our commitment to design, research, and production and has been made from the finest materials, employing state-of-the-art components and production technology.
The CE marking of the product ensures its compliance with the safety requirements of the following directives: the Machinery Directive, the Electromagnetic Compatibility Directive, the Electrical Safety Directive, and the Pressure Equipment Directive. Fulfillment of the Ecodesign requirements is fully in keeping with the environmental awareness that has always guided our company.
The company certification of the Quality and Safety management system ensures that product quality is constantly checked and improved, and that the product is manufactured in full compliance with the highest standards.
By choosing our product, you have opted for Quality, Reliability, Safety, and Sustainability.
At your disposal, once again.
Galletti S.p.a

TRANSLATION BY ORIGINAL INSTRUCTIONS

The water chillers and heat pumps comply with directive 2014/68//EC (PED).

The technical and dimensional data reported in this manual may be modified in view of any product improvement.

For any information , please contact the company: info@galletti.it

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1 SERIES

Water chillers and heat pumps of the series LCX are designed for outdoor installation in both residential and commercial applications.
The series consists of 16 models with cooling capacities from 55 to 360 kW, in cooling only version or heat pumpin with two different acoustic systems.
Complete hydronic kits can be incorporated within the units without modifying their size and you have the option of choosing the water circulation pump.
All units, irrespective of type of construction, are equipped with electronic expansion valves to maximise efficiency under part load conditions.

1.1 BEYOND CONVENTIONAL WORKING LIMITS

The finned block heat exchangers have been optimised for R410A and use 8 mm copper pipes, which permit a better heat exchange and quiet operation of the fans.

1.2 SMART DEFROST SYSTEM

The exclusive smart defrost system can correctly identify an impairment of performance in the outdoor exchanger due to the formation of ice and minimise the process time in relation to normal operation of the unit.

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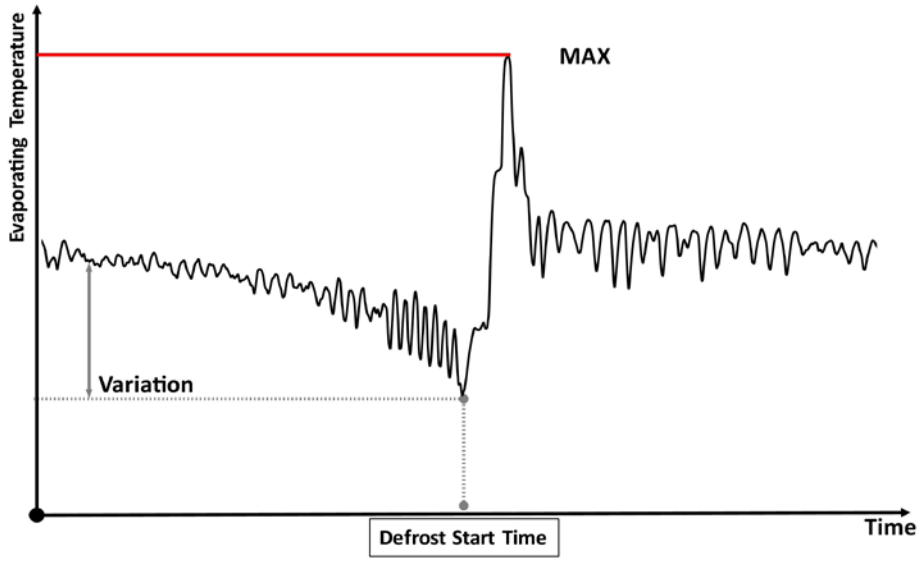
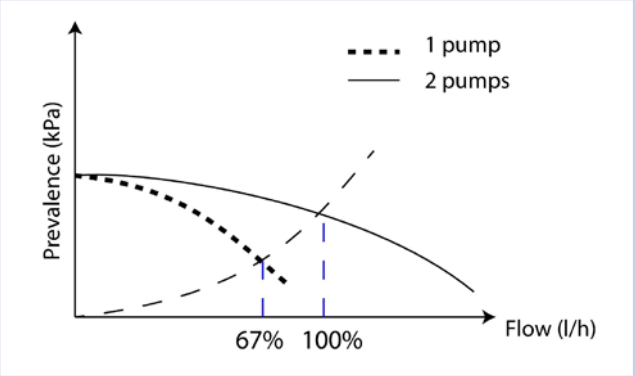


1.3 HYDRAULIC OPTIONS

— Single pump, standard head or uprated.
— Dual pump solution OR: standard head or uprated (high head), operating singly. The pumps operate in turns on a time/fault basis. In the case, the microprocessor controls the pumps in such a way as to equally divide the hours of operation, changing over the pumps in the event of a fault
— Dual pump solution AND: standard or uprated pump, operating simultaneously. Connected in parallel, they deliver water at the nominal flow rate when operating simultaneously.

Under part load conditions operation is limited to a single pump, reducing the capacity by 1/3 compared to the rated value and resulting in average savings of about 30% in pumping costs.



In the case of two pumps in combination, the advanced microprocessor is mandatory because it controls the on/off switching of the second pump according to the number of capacity steps required at every instant. This makes operation of the unit cost-effective for most of its life since, based on wellknown analyses, chillers operate 97% of the time under part load conditions. All LCX models are constructed so that the water inlet and outlet pipes are outside the unit. Pairs of quick connect couplings with a welding ring are available as an optional.

2 CONSTRUCTIVE FEATURES

2.1 STRUCTURE

Galvanised steel sheet base with a textured polyester powder coating for outdoors (colour RAL9005, deep black). Base frame designed with special reinforcement modules so to the eliminate the deformations arising from the stress during transport and handling.
Galvanised sheet steel structure treated with a polyester powder coating (RAL9002) suitable for outdoor applications, for an attractive look and effective resistance to corrosive agents.
Fastening devices are made of non-oxidizable materials, or carbon steel that has undergone surface-passivating treatments.
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.
Micro-switch coupled with the rear panel over the ventilating section to make routine and extraordinary maintenance operations safe.
Insulation from vibrations can be achieved using rubber or spring vibration dampers (available as an optional).

2.2 CUSTOMISED HYDRAULIC KIT

All units have lead-out plumbing connections with victaulic connectors (selectable option) situated on the rear of the unit, suitably positioned air vent valves, safety valve and paddle flow switch and outlet water temperature probe functioning as an antifreeze thermostat.
Available on request there are numerous pump systems that can be incorporated within the chiller unit without changing its overall dimensions:
— Single standard pump or high pressure head
— standard or high head pump and associated back-up pump
— standard pump for combined operation.
— high head pump for combined operation.
Each hydronic kit includes a membrane expansion tank.
The pump assembly is integrated into the machine structure and is arranged in such a way that the pump motors are always cooled down by outside air.
In the case of pump systems including a back-up pump, the microprocessor controls the pumps in such a way as to equally divide the hours of operation, changing over the pumps in the event of a fault.
With the combined dual pump option, an advanced microprocessor is a must because it controls the activation of the second pump according to the number of partial load steps.
The pump assembly is integrated into the machine structure and is arranged in such a way that the pump motors are always cooled down by outside air.
In addition to the pump kit, a water buffer tank can be installed inside the fan compartment, on the outlet side of water circuit, in order to attenuate the inevitable temperature fluctuations caused by the ON/OFF switching of the compressors.
Optional water circuit anti-freezing kit, configurable according to the selected hydronic options, with the adoption of self-regulating PTC heaters interlocked to compressors operation and to the setpoint value.

2.3 COOLING CIRCUIT

The cooling circuit is built using only components of the finest quality brands produced by qualified manufacturers according to the specifications of Directive 2014/68/UE (PED) for brazing.
Strict design and quality control standards are applied during all phases of construction of the internal piping. For all rated powers, the cooling circuit can be set up in 3 different configurations called "efficiency pack"::
— Efficiency pack 1: 2 cooling ciruits, 1 compressor for every circuit.
— Efficiency pack 2: 2 cooling ciruits, 1 tandem compressor.
— Efficiency pack 4: 2 cooling ciruits, 2 compressors for every circuit.
The main components of the refrigerating circuit are:
— Scroll-type compressors designed to work with R410A, operating singly or combined in a tandem configuration.
— Brazed plate heat exchangers made of stainless steel AISI 316 and optimised for use with R410A.
— Finned block condenser with 8 mm copper piping and aluminium fins, characterised by ample heat exchange surfaces.
— Dehydrating filter.
— Flow indicator with humidity indicator.
— Electronically controlled electric expansion valve including software designed and optimised so as to follow the cooling load under all conditions of use. In the case of heat pump models, dual mechanical thermostatic valve dedicated to each finned coil to provide optimised operation in the heating mode (the electronic valve is used in the cooling mode).
— Cycle reversal valve (heat pumps).
— Unidirectional valves (heat pumps).
— Liquid receiver (heat pumps).
— High and low pressure switch
— Safety valve.
— Schrader valves for checks and/or maintenance
— Refrigerant pressure gauges (optional)
Optionally, it is possible to obtain partial recovery of the condensation heat (40%) through adequately sized plate heat exchangers.

2.4 FAN DRIVE ASSEMBLY

4/6/8-pole axial-type fans with airfoil-shaped blades made of hybrid plastic/aluminium material, statically and dynamically balanced in two planes, fitted with a protective grille and mounted with rubber vibration dampers placed in between.
The fan is housed in a special compartment having a profile designed to optimise ventilation.
The condensation control system continuously and automatically regulates the fan speed, further limiting the noise emissions of the unit during nighttime operation and under partial load conditions (Opt).

2.5 FINNED BLOCK HEAT EXCHANGER

Made of 8mm diameter copper pipes and aluminium fins, generously sized.
The use of finned block heat exchangers with 8 mm diameter pipes reduces pressure drops on the air side, thus significantly improving the noise levels of the units.
The special engineering of the heat exchangers 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.
The finned block condensers can be fitted with a protective outer grille.

2.6 ELECTRONIC MICROPROCESSOR CONTROL

The electronic control enables the complete control of the **LCX** unit. It can be easily accessed through a polycarbonate flap with IP65 protection rating.
By reading the outdoor air temperature, it can automatically change the setpoint to adapt it to the outdoor load conditions or keep the unit running even in the harshest winter conditions.

2.7 ELECTRIC CONTROL BOARD

Electric control board with a door interlock isolating switch and watertight panels providing quick access to the control keys, built in conformity with standard EN 60204, wired in accordance with directive EEC 73/23, directive CEE 89/336 on electromagnetic compatibility and related standards. Is equipped with an air circulation system that is active while the unit is running.
The panel door is controlled by hydraulic control upward opening pistons to optimise accessibility during scheduled and unscheduled maintenance operations.
The cables inside the electric compartment are numbered.
The available options include a 400/3/50 power configuration with transformer for the auxiliary circuits, or thermal magnetic motor protectors for safeguarding against overcurrents/mains voltage fluctuations, or a combination of these solutions.

3 CONFIGURATION OPTIONS

The LCX series consists of 16 models with different cooling capacities,in cooling only or reversible heat pump. All models operates with R410A refrigerant.
When choosing a model, after determining the required power it is necessary to select the version (CHILLER or HEAT PUMP), cooling circuit architecture (EFFICIENCY PACK) and degree of noise control (STANDARD, LOW NOISE or QUIET).
It will then be necessary to choose the optionals and accessories which define the unit.
NOTE: The choice of some options can make the choice of some others forbidden or make some selection (fields) mandatory. Please contact Galletti S.p.A. for verification.

» Configuration options

1	**Power supply**
0	400 V - 3 N - 50 Hz
1	400 V - 3 - 50 Hz
2	400 V - 3 N - 50 Hz + magnetic breakers
3	400 V - 3 - 50 Hz + magnetic breakers
2	**Onboard controller and expansion valve**
B	Advanced + electronic expansion valve
3	**User side water pump**
0	Absent
1	LP pump + expansion vessel
2	HP pump + expansion vessel
3	Double pump LP parallel operation and expansion vessel (advanced controller required)
4	Double pump HP parallel operation and expansion vessel (advanced controller required)
5	LP run and standby double pump + expansion vessel
6	HP run and standby double pump + expansion vessel
4	**Water buffer tank**
0	Absent
S	Selected user side
5	**Partial heat recovery**
0	Absent
D	Desuperheater with water pump free contact
6	**Air flow modulation**
0	Absent
C	Condensation control by phase-cut fans
E	Condensation control performed by EC fans
7	**Antifreezing kit**
0	Absent
E	Evaporator
P	Evaporator and water pump
S	Evaporator, water pump and water buffer tank
8	**Remote communication**
0	Absent
1	RS485 serial board (Carel / Modbus protocol)
2	LON FTT10 serial board (advanced controller required)
3	GSM modem board (advanced controller required)
4	BACNET IP / PCOWEB serial board + supervision software Gweb (advanced controller required)
5	BACNET IP / PCOWEB serial board + clock board + supervision software Gweb (advanced controller required)
9	**Special coils / Protective treatments**
0	Standard
B	Pre-painted fins with polyester paint
C	Cataphoresis treatment on fins and coil carpentry
R	Copper-copper
10	**Packing**
0	Standard
1	Wooden cage
2	Wooden crate
11	**Anti vibration shock mounts**
0	Absent
G	Rubber anti vibration shock mounts
M	Spring anti vibration shock mounts
12	**Remote control**
0	Absent
1	Remote simplified user panel
2	Remote simplified user panel for standard controller
3	Remote user panel for advanced controller
13	**Unit installation accessories**
0	Absent
V	Pair of couplings Victaulic

» Accessories

A	Power factor capacitors
B	Soft starter
C	Service kit (advanced controller required)
D	Clock board (advanced controller required)
E	ON/OFF status of the compressors
F	Remote control for step capacity limit (advanced controller required)
G	Configurable digital alarm board (advanced controller required)
H	Set point compensation outdoor temperature probe
I	Refrigerant pressure gauges
L	Filter regulating kit
M	Directives reference other than "2014/68/UE - PED"
N	Unit lifting pipes
P	Outdoor finned coil heat exchanger protection grille
Q	Outdoor finned coil heat exchanger protection filters

4 TECHNICAL FEATURES

4.1 RATED TECHNICAL DATA FOR THE LCX C WATER CHILLER

» LCX CS air/water chillers rated technical data STANDARD version

LCX			92	102	122	124	142	144	162	164
Power supply		V-ph-Hz	400 - 3N - 50							
Cooling capacity	(1)(E)	kW	88,8	102	113	118	144	143	160	152
Total power input	(1)(E)	kW	32,1	35,9	40,4	42,8	50,9	50,8	58,9	56,4
Absorbed rated current	(1)	A	54,8	61,0	69,2	71,7	85,8	85,6	98,5	94,4
EER	(1)(E)		2,77	2,83	2,80	2,76	2,83	2,82	2,71	2,70
Eurovent efficiency class	(1)		C							
SEER	(2)		4,14	4,45	4,15	4,11	4,14	4,20	4,32	4,19
Maximum current absorption		A	91,0	101	119	120	131	129	144	150
Start up current		A	261	269	319	247	330	245	396	266
Startup current with soft starter		A	199	207	254	172	265	186	313	214
Compressors / circuits			2 / 1	2 / 1	2 / 1	4 / 2	2 / 1	4 / 2	2 / 1	4 / 2
no. of axial fans			6	6	8	8	8	8	8	8
Air flow rate	(1)	m^3/h	30913	30913	41340	41340	39890	39890	39890	39890
Water flow	(1)	l/h	15285	17530	19470	20283	24766	24674	27492	26160
Water pressure drop	(1)(E)	kPa	32	32	34	34	36	36	36	36
Available pressure head - LP pumps	(1)	kPa	128	125	113	114	174	168	158	159
Available pressure head - HP pumps	(1)	kPa	189	186	195	193	198	193	184	184
Buffer tank volume		dm^3	220	220	340	340	340	340	340	340
Expansion vessel volume		dm^3	12	12	12	12	12	12	12	12
Unit connections diameter		"	2,00	2,00	2,50	2,50	2,50	2,50	2,50	2,50
Height		mm	1735	1735	1735	1679	1735	1679	1735	1679
Depth		mm	1183	1183	1183	1183	1183	1183	1183	1183
Length		mm	2442	2442	3190	3540	3190	3540	3190	3540
Sound power level	(3)(E)	dB(A)	86	86	86	85	87	85	87	85
Sound pressure level	(4)	dB(A)	58	58	58	57	59	57	59	57
Refrigerant charge	(5)	kg	14,0	14,0	19,0	17,0	23,0	23,0	23,0	25,0
Transport weight unit with pump and tank		kg	918	918	1241	1301	1286	1321	1316	1471
Operating weight unit with pump and full tank		kg	1138	1138	1581	1641	1626	1661	1656	1811

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2022 regulation.
(3) Sound power level measured according to ISO 9614
(4) Sound pressure measured at a distance of 10 m in a free field with a directivity factor of 2
(5) Kg gas value is estimated. For the exact value refer to the plate data on the unit.
(E) EUROVENT certified data

LCX			174	194	214	244	274	294	364
Power supply		V-ph-Hz	400 - 3N - 50						
Cooling capacity	(1)(E)	kW	162	183	202	245	264	294	355
Total power input	(1)(E)	kW	58,2	65,6	76,2	95,7	90,5	104	138
Absorbed rated current	(1)	A	97,1	109	126	157	150	172	226
EER	(1)(E)		2,78	2,79	2,65	2,56	2,91	2,82	2,57
Eurovent efficiency class	(1)		C	C	D	D	B	C	D
SEER	(2)		4,13	4,28	4,31	4,19	4,33	4,37	4,15
Maximum current absorption		A	136	155	173	196	224	237	300
Start up current		A	252	310	330	380	403	468	497
Startup current with soft starter		A	200	248	268	315	338	385	440
Compressors / circuits			4 / 2						
no. of axial fans			6	6	6	6	8	8	8
Air flow rate	(1)	m^3/h	67672	67672	67672	75478	103511	97902	97902
Water flow	(1)	l/h	27855	31447	34689	42201	45368	50493	60969
Water pressure drop	(1)(E)	kPa	37	37	38	38	39	40	41
Available pressure head - LP pumps	(1)	kPa	170	150	161	196	183	170	143
Available pressure head - HP pumps	(1)	kPa	203	273	251	314	299	285	256
Buffer tank volume		dm^3	600	600	600	600	765	765	765
Expansion vessel volume		dm^3	24	24	24	24	24	24	24
Unit connections diameter		"	3,00	3,00	3,00	4,00	4,00	4,00	4,00
Height		mm	1847	1847	1847	2247	2330	2330	2330
Depth		mm	1653	1653	1653	1653	1653	1653	1653
Length		mm	3538	3538	3538	3538	4206	4206	4206
Sound power level	(3)(E)	dB(A)	88	88	89	89	89	89	90
Sound pressure level	(4)	dB(A)	60	60	61	61	61	61	62
Refrigerant charge	(5)	kg	30,0	31,0	32,0	44,0	45,0	56,0	54,0
Transport weight unit with pump and tank		kg	1608	1676	1686	1869	2129	2161	2196
Operating weight unit with pump and full tank		kg	2208	2276	2286	2469	2894	2926	2961

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2022 regulation.
(3) Sound power level measured according to ISO 9614
(4) Sound pressure measured at a distance of 10 m in a free field with a directivity factor of 2
(5) Kg gas value is estimated. For the exact value refer to the plate data on the unit.
(E) EUROVENT certified data

» LCX CL air/water chillers rated technical data LOW NOISE version

LCX			062	072	082	092	094	102	104
Power supply		V-ph-Hz	400 - 3N - 50						
Cooling capacity	(1)(E)	kW	58,3	66,7	78,6	88,9	90,6	102	105
Total power input	(1)(E)	kW	20,3	22,9	26,5	31,0	31,4	35,1	35,9
Absorbed rated current	(1)	A	34,7	38,8	44,6	52,6	53,2	59,1	60,4
EER	(1)(E)		2,88	2,91	2,97	2,87	2,89	2,90	2,91
Eurovent efficiency class	(1)(E)		C	B	B	C	C	C	B
SEER	(2)		4,13	4,39	4,64	4,40	4,15	4,67	4,46
Maximum current absorption		A	51,0	55,0	66,0	77,0	81,0	86,0	87,0
Start up current		A	185	183	191	246	194	254	198
Startup current with soft starter		A	111	124	139	184	122	192	137
Compressors / circuits			2 / 1	2 / 1	2 / 1	2 / 1	4 / 2	2 / 1	4 / 2
no. of axial fans			6	6	6	8	8	8	8
Air flow rate	(1)	m^3/h	21955	21955	21955	29393	29393	29393	29393
Water flow	(1)	l/h	10031	11481	13526	15297	15594	17545	18027
Water pressure drop	(1)(E)	kPa	28	29	31	32	32	32	34
Available pressure head - LP pumps	(1)	kPa	140	135	131	127	127	125	125
Available pressure head - HP pumps	(1)	kPa	200	199	198	188	188	185	186
Buffer tank volume		dm^3	220	220	220	340	340	340	340
Expansion vessel volume		dm^3	12	12	12	12	12	12	12
Unit connections diameter		"	2	2	2	2,50	2,50	2,50	2,50
Height		mm	1735	1735	1735	1735	1679	1735	1679
Depth		mm	1183	1183	1183	1183	1183	1183	1183
Length		mm	2442	2442	2442	3190	3540	3190	3540
Sound power level	(3)(E)	dB(A)	80	80	80	81	80	81	80
Sound pressure level	(4)	dB(A)	52	52	52	53	52	53	52
Refrigerant charge	(5)	kg	14,0	14,0	14,0	17,0	17,0	17,0	17,0
Transport weight unit with pump and tank		kg	762	767	847	1086	1217	1096	1217
Operating weight unit with pump and full tank		kg	982	987	1067	1426	1557	1436	1557

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
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(E) EUROVENT certified data

LCX			122	124	142	144	162	164	194
Power supply		V-ph-Hz	400 - 3N - 50						
Cooling capacity	(1)(E)	kW	113	117	128	133	160	152	178
Total power input	(1)(E)	kW	40,1	41,0	46,6	46,4	58,5	56,1	63,6
Absorbed rated current	(1)	A	64,9	66,3	75,2	74,9	94,0	90,2	102
EER	(1)(E)		2,82	2,85	2,74	2,87	2,74	2,72	2,79
Eurovent efficiency class	(1)(E)		C						
SEER	(2)		4,15	4,23	4,10	4,16	4,20	4,15	4,21
Maximum current absorption		A	95,0	96,0	106	105	120	126	148
Start up current		A	295	220	306	222	371	241	307
Startup current with soft starter		A	230	146	241	163	288	189	245
Compressors / circuits			2 / 1	4 / 2	2 / 1	4 / 2	2 / 1	4 / 2	4 / 2
no. of axial fans			6						
Air flow rate	(1)	m^3/h	43434	43434	43434	43434	40235	40235	55808
Water flow	(1)	l/h	19453	20090	21967	22953	27613	26228	30531
Water pressure drop	(1)(E)	kPa	34	34	36	36	37	37	37
Available pressure head - LP pumps	(1)	kPa	111	109	165	162	152	153	154
Available pressure head - HP pumps	(1)	kPa	194	193	191	189	183	183	277
Buffer tank volume		dm^3	600	600	600	600	600	600	600
Expansion vessel volume		dm^3	24	24	24	24	24	24	24
Unit connections diameter		"	3,00						
Height		mm	1847	1847	1847	1847	1847	1847	1847
Depth		mm	1653	1653	1653	1653	1653	1653	1653
Length		mm	3538	3538	3538	3538	3538	3538	3538
Sound power level	(3)(E)	dB(A)	83	80	84	80	84	80	85
Sound pressure level	(4)	dB(A)	55	52	56	52	56	52	57
Refrigerant charge	(5)	kg	22,0	23,0	22,0	22,0	28,0	28,0	32,0
Transport weight unit with pump and tank		kg	1440	1455	1490	1470	1510	1620	1676
Operating weight unit with pump and full tank		kg	2040	2055	2090	2070	2110	2220	2276

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
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(E) EUROVENT certified data

LCX			214	244	274	294	324	364
Power supply		V-ph-Hz	400 - 3N - 50					
Cooling capacity	(1)(E)	kW	198	220	256	279	316	338
Total power input	(1)(E)	kW	74,2	83,9	90,0	107	122	150
Absorbed rated current	(1)	A	119	135	143	171	195	239
EER	(1)(E)		2,66	2,62	2,84	2,59	2,59	2,26
Eurovent efficiency class	(1)(E)		D	D	C	D	D	F
SEER	(2)		4,25	4,16	4,28	4,34	4,10	4,12
Maximum current absorption		A	167	190	215	229	242	290
Start up current		A	318	382	398	464	472	487
Startup current with soft starter		A	256	317	333	381	389	430
Compressors / circuits			4 / 2					
no. of axial fans			6	6	8	8	8	8
Air flow rate	(1)	m^3/h	63261	63261	87186	81687	81687	81687
Water flow	(1)	l/h	33965	37745	43948	47875	54311	58055
Water pressure drop	(1)(E)	kPa	37	38	38	39	40	41
Available pressure head - LP pumps	(1)	kPa	163	192	185	171	166	147
Available pressure head - HP pumps	(1)	kPa	248	310	301	287	282	261
Buffer tank volume		dm^3	600	600	765	765	765	765
Expansion vessel volume		dm^3	24	24	24	24	24	24
Unit connections diameter		"	4,00					
Height		mm	2247	2247	2330	2330	2330	2330
Depth		mm	1653	1653	1653	1653	1653	1653
Length		mm	3538	3538	4206	4206	4206	4206
Sound power level	(3)(E)	dB(A)	85	85	87	87	87	88
Sound pressure level	(4)	dB(A)	57	57	59	59	59	60
Refrigerant charge	(5)	kg	43,0	44,0	45,0	56,0	56,0	54,0
Transport weight unit with pump and tank		kg	1726	1869	2129	2161	2196	2196
Operating weight unit with pump and full tank		kg	2326	2469	2894	2926	2961	2961

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2022 regulation.
(3) Sound power level measured according to ISO 9614
(4) Sound pressure measured at a distance of 10 m in a free field with a directivity factor of 2
(5) Kg gas value is estimated. For the exact value refer to the plate data on the unit.
(E) EUROVENT certified data

4.2 LCX H HEAT PUMPS RATED TECHNICAL DATA

» LCX HS air/water chillers rated technical data STANDARD version

LCX			092	102	122	124	142	144	162	164
Power supply		V-ph-Hz	400 - 3N - 50							
Cooling capacity	(1)(E)	kW	87,7	100	112	117	142	141	157	150
Total power input	(1)(E)	kW	32,0	35,3	40,4	41,9	50,8	50,7	58,8	56,3
Absorbed rated current	(1)	A	54,8	61,5	69,2	71,7	85,8	85,6	98,5	94,4
EER	(1)(E)		2,74	2,84	2,76	2,80	2,79	2,79	2,68	2,66
Eurovent efficiency class	(1)(E)		C	C	C	C	C	C	D	D
SEER	(2)		4,11	4,38	4,02	3,97	4,10	4,16	4,27	4,15
Heating capacity	(3)(E)	kW	107	120	133	146	166	168	187	181
Total power input	(3)(E)	kW	30,0	34,2	38,1	41,7	47,7	47,3	53,2	50,7
Absorbed rated current	(3)	A	51,2	57,8	65,2	70,9	80,3	79,8	89,0	85,0
COP	(3)(E)		3,55	3,50	3,50	3,51	3,49	3,55	3,51	3,56
Eurovent efficiency class	(3)		A							
SCOP	(2)(E)		4,22	4,30	4,18	4,11	4,13	4,10	4,15	4,07
Energy efficiency			166	169	165	162	163	161	163	160
Heating energy efficiency class	(4)		A++							
Maximum current absorption		A	91,0	101	119	120	131	129	144	150
Start up current		A	261	269	319	247	330	245	396	266
Startup current with soft starter		A	199	207	254	172	265	186	313	214
Compressors / circuits			2 / 1	2 / 1	2 / 1	4 / 2	2 / 1	4 / 2	2 / 1	4 / 2
Air flow rate	(1)	m^3/h	30913	30913	41340	41340	39890	39890	39890	39890
Water flow	(1)	l/h	15080	17276	19183	20189	24399	24308	27085	25773
Water pressure drop	(1)(E)	kPa	24	26	27	25	31	31	32	32
Available pressure head - LP pumps	(1)	kPa	136	131	121	123	177	173	161	162
Available pressure head - HP pumps	(1)	kPa	197	192	202	204	201	197	186	187
Air flow rate	(3)	m^3/h	30913	30913	41340	41340	39890	39890	39890	39890
Water flow	(3)	l/h	18461	20768	23116	25387	28831	29176	32378	31359
Water pressure drop	(3)(E)	kPa	36	37	39	39	43	44	46	47
Available pressure head - LP pumps	(3)	kPa	130	123	113	114	162	156	139	141
Available pressure head - HP pumps	(3)	kPa	181	173	184	185	179	171	154	157
Buffer tank volume		dm^3	220	220	340	340	340	340	340	340
Expansion vessel volume		dm^3	12	12	12	12	12	12	12	12
Unit connections diameter		"	2,00	2,00	2,50	2,50	2,50	2,50	2,50	2,50
Height		mm	1735	1735	1735	1679	1735	1679	1735	1679
Depth		mm	1183	1183	1183	1183	1183	1183	1183	1183
Length		mm	2442	2442	3190	3540	3190	3540	3190	3540
Sound power level	(5)(E)	dB(A)	86	86	86	85	87	85	87	85
Sound pressure level	(6)	dB(A)	58	58	58	57	59	57	59	57
Refrigerant charge	(7)	kg	18,0	18,0	24,0	23,0	29,0	29,0	30,0	29,0
Transport weight unit with pump and tank		kg	918	918	1241	1301	1286	1321	1316	1471
Operating weight unit with pump and full tank		kg	1138	1138	1581	1641	1626	1661	1656	1811

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2022 regulation.
(3) Outdoor air temperature dry bulb 7°C / wet bulb 6°C, water temperature 40°C / 45°C (EN14511:2022)
(4) Seasonal energy efficiency class for LOW TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]
(5) Sound power level measured according to ISO 9614
(6) Sound pressure measured at a distance of 10 m in a free field with a directivity factor of 2
(7) Kg gas value is estimated. For the exact value refer to the plate data on the unit.
(E) EUROVENT certified data

LCX			174	194	214	244	274	294	324	364
Power supply		V-ph-Hz	400 - 3N - 50							
Cooling capacity	(1)(E)	kW	160	180	199	242	260	289	324	349
Total power input	(1)(E)	kW	58,1	65,6	76,2	95,7	90,4	104	119	138
Absorbed rated current	(1)	A	97,1	109	126	157	150	172	195	226
EER	(1)(E)		2,74	2,74	2,61	2,53	2,88	2,77	2,72	2,53
Eurovent efficiency class	(1)(E)		C	C	D	D	C	C	C	D
SEER	(2)		3,45	3,64	3,67	3,55	3,69	3,73	3,86	4,04
Heating capacity	(3)(E)	kW	189	213	232	281	308	342	374	418
Total power input	(3)(E)	kW	56,9	64,6	71,0	85,6	88,7	99,5	110	128
Absorbed rated current	(3)	A	94,8	107	117	140	147	164	181	209
COP	(3)(E)		3,32	3,31	3,27	3,28	3,47	3,44	3,39	3,26
Eurovent efficiency class	(3)		A							
SCOP	(2)(E)		3,57	3,64	3,64	3,66	3,71	3,74	3,75	3,70
Energy efficiency			140	143	143	144	146	147	148	146
Heating energy efficiency class	(4)		A+							
Maximum current absorption		A	136	155	173	196	224	237	251	300
Start up current		A	252	310	330	380	403	468	476	497
Startup current with soft starter		A	200	248	268	315	338	385	393	440
Compressors / circuits			4 / 2							
Air flow rate	(1)	m^3/h	67672	67672	67672	75478	103511	97902	97902	97902
Water flow	(1)	l/h	27443	30948	34175	41577	44698	49746	55669	60026
Water pressure drop	(1)(E)	kPa	34	34	35	35	35	35	37	35
Available pressure head - LP pumps	(1)	kPa	172	152	164	198	186	173	165	147
Available pressure head - HP pumps	(1)	kPa	206	275	253	316	302	289	280	261
Air flow rate	(3)	m^3/h	67672	67672	67672	75478	103511	97902	97902	97902
Water flow	(3)	l/h	32758	37031	40301	48719	53462	59409	64891	72629
Water pressure drop	(3)(E)	kPa	48	48	48	48	50	50	51	51
Available pressure head - LP pumps	(3)	kPa	155	129	136	181	167	153	139	104
Available pressure head - HP pumps	(3)	kPa	180	239	208	287	270	254	238	207
Buffer tank volume		dm^3	600	600	600	600	765	765	765	765
Expansion vessel volume		dm^3	24	24	24	24	24	24	24	24
Unit connections diameter		"	3,00	3,00	3,00	4,00	4,00	4,00	4,00	4,00
Height		mm	1847	1847	1847	2247	2330	2330	2330	2330
Depth		mm	1653	1653	1653	1653	1653	1653	1653	1653
Length		mm	3538	3538	3538	3538	4206	4206	4206	4206
Sound power level	(5)(E)	dB(A)	88	88	89	89	89	89	89	90
Sound pressure level	(6)	dB(A)	60	60	61	61	61	61	61	62
Refrigerant charge	(7)	kg	33,0	35,0	35,0	49,0	50,0	62,0	62,0	62,0
Transport weight unit with pump and tank		kg	1608	1676	1686	1869	2129	2161	2196	2196
Operating weight unit with pump and full tank		kg	2208	2276	2286	2469	2894	2926	2961	2961

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2022 regulation.
(3) Outdoor air temperature dry bulb 7°C / wet bulb 6°C, water temperature 40°C / 45°C (EN14511:2022)
(4) Seasonal energy efficiency class for LOW TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]
(5) Sound power level measured according to ISO 9614
(6) Sound pressure measured at a distance of 10 m in a free field with a directivity factor of 2
(7) Kg gas value is estimated. For the exact value refer to the plate data on the unit.
(E) EUROVENT certified data

» LCX HL air/water chillers rated technical data LOW NOISE version

LCX			062	072	082	092	094	102	104
Power supply		V-ph-Hz	400 - 3N - 50						
Cooling capacity	(1)(E)	kW	57,3	65,6	77,6	87,4	89,0	101	103
Total power input	(1)(E)	kW	20,3	22,9	26,5	31,1	31,5	35,2	36,1
Absorbed rated current	(1)	A	34,7	38,8	44,6	52,6	53,2	59,1	60,4
EER	(1)(E)		2,82	2,86	2,93	2,81	2,83	2,85	2,86
SEER	(2)		4,09	4,35	4,60	4,37	4,13	4,62	4,42
Eurovent efficiency class	(1)(E)		C	C	B	C	C	C	C
Heating capacity	(3)(E)	kW	66,5	76,1	87,8	103	105	113	117
Total power input	(3)(E)	kW	19,0	21,3	24,8	28,7	29,7	32,2	33,8
Absorbed rated current	(3)	A	32,6	36,3	41,9	48,6	49,9	54,3	56,7
COP	(3)(E)		3,50	3,57	3,53	3,58	3,53	3,49	3,48
Eurovent efficiency class	(3)					A			
SCOP	(2)(E)		4,17	4,38	4,38	4,36	4,13	4,03	4,19
Energy efficiency			164	173	173	172	163	159	165
Heating energy efficiency class	(4)					A++			
Maximum current absorption		A	51,0	55,0	66,0	77,0	81,0	86,0	87,0
Start up current		A	185	183	191	246	194	254	198
Startup current with soft starter		A	111	124	139	184	122	192	137
Compressors / circuits			2 / 1	2 / 1	2 / 1	2 / 1	4 / 2	2 / 1	4 / 2
no. of axial fans			6	6	6	8	8	8	8
Air flow rate	(1)	m^3/h	21955	21955	21955	29393	29393	29393	29393
Water flow	(1)	l/h	9856	11285	13358	15029	15313	17286	17778
Water pressure drop	(1)(E)	kPa	25	24	26	25	25	29	29
Available pressure head - LP pumps	(1)	kPa	143	139	136	134	133	127	130
Available pressure head - HP pumps	(1)	kPa	203	203	203	195	194	188	191
Air flow rate	(3)	m^3/h	21955	21955	21955	29393	29393	29393	29393
Water flow	(3)	l/h	11534	13190	15218	17819	18200	19506	20336
Water pressure drop	(3)(E)	kPa	33	33	33	35	36	37	37
Available pressure head - LP pumps	(3)	kPa	137	133	128	126	124	117	120
Available pressure head - HP pumps	(3)	kPa	191	191	190	178	175	167	170
Buffer tank volume		dm^3	220	220	220	340	340	340	340
Expansion vessel volume		dm^3	12	12	12	12	12	12	12
Unit connections diameter		"	2,00	2,00	2,00	2,50	2,50	2,50	2,50
Height		mm	1720	1720	1720	1720	1720	1720	1720
Depth		mm	1185	1185	1185	1185	1185	1185	1185
Length		mm	2360	2360	2360	3190	3540	3190	3540
Sound power level	(5)(E)	dB(A)	80	80	80	81	80	81	80
Sound pressure level	(6)	dB(A)	52	52	52	53	52	53	53
Refrigerant charge	(7)	kg	18,0	19,0	19,0	23,0	22,0	23,0	22,0
Transport weight unit with pump and tank		kg	762	767	847	1086	1217	1096	1217
Operating weight unit with pump and full tank		kg	982	987	1067	1426	1557	1436	1557

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2022 regulation.
(3) Outdoor air temperature dry bulb 7°C / wet bulb 6°C, water temperature 40°C / 45°C (EN14511:2022)
(4) Seasonal energy efficiency class for LOW TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]
(5) Sound power level measured according to ISO 9614
(6) Sound pressure measured at a distance of 10 m in a free field with a directivity factor of 2
(7) Kg gas value is estimated. For the exact value refer to the plate data on the unit.
(E) EUROVENT certified data

LCX			122	124	142	144	162	164	194
Power supply		V-ph-Hz	400 - 3N - 50						
Cooling capacity	(1)(E)	kW	112	115	126	133	158	150	176
Total power input	(1)(E)	kW	40,6	41,1	47,1	47,0	59,6	56,4	63,6
Absorbed rated current	(1)	A	65,7	66,5	75,3	75,2	95,2	90,4	102
EER	(1)(E)		2,75	2,81	2,68	2,82	2,65	2,67	2,77
SEER	(2)		3,80	3,61	3,79	3,88	4,12	3,88	3,66
Eurovent efficiency class	(1)(E)		C	C	C	C	D	D	C
Heating capacity	(3)(E)	kW	135	139	147	154	182	173	206
Total power input	(3)(E)	kW	38,0	39,4	45,1	43,7	53,0	53,8	59,9
Absorbed rated current	(3)	A	61,4	63,5	72,0	69,8	84,5	81,1	95,8
COP	(3)(E)		3,56	3,52	3,27	3,52	3,43	3,22	3,44
Eurovent efficiency class	(3)		A						
SCOP	(2)(E)		4,38	4,22	3,95	3,74	3,77	3,91	3,81
Energy efficiency			173	166	156	147	148	154	150
Heating energy efficiency class	(4)		A++	A++	A++	A+	A+	A++	A++
Maximum current absorption		A	95,0	96,0	106	105	120	126	148
Start up current		A	295	220	306	222	371	241	307
Startup current with soft starter		A	230	146	241	163	288	189	245
Compressors / circuits			2 / 1	4 / 2	2 / 1	4 / 2	2 / 1	4 / 2	4 / 2
no. of axial fans			6						
Air flow rate	(1)	m^3/h	43434	43434	43434	43434	40235	40235	55808
Water flow	(1)	l/h	19202	19842	21739	22795	27214	25881	30277
Water pressure drop	(1)(E)	kPa	27	27	29	29	34	32	33
Available pressure head - LP pumps	(1)	kPa	118	116	172	169	154	157	157
Available pressure head - HP pumps	(1)	kPa	201	200	198	195	185	187	280
Air flow rate	(3)	m^3/h	43434	43434	43434	43434	40235	40235	55808
Water flow	(3)	l/h	23409	24033	25547	26722	31536	30016	35733
Water pressure drop	(3)(E)	kPa	40	40	40	40	46	43	46
Available pressure head - LP pumps	(3)	kPa	112	110	165	160	136	140	130
Available pressure head - HP pumps	(3)	kPa	183	180	177	173	153	156	241
Buffer tank volume		dm^3	600	600	600	600	600	600	600
Expansion vessel volume		dm^3	24	24	24	24	24	24	24
Unit connections diameter		"	3,00						
Height		mm	1830	1830	1830	1830	1830	1830	1830
Depth		mm	1654	1654	1654	1654	1654	1654	1654
Length		mm	3540	3540	3540	3540	3540	3540	3540
Sound power level	(5)(E)	dB(A)	83	80	84	80	84	80	85
Sound pressure level	(6)	dB(A)	55	52	56	52	56	52	57
Refrigerant charge	(7)	kg	25,0	25,0	25,0	25,0	31,0	31,0	35,0
Transport weight unit with pump and tank		kg	1440	1455	1490	1470	1510	1620	1676
Operating weight unit with pump and full tank		kg	2040	2055	2090	2070	2110	2220	2276

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2022 regulation.
(3) Outdoor air temperature dry bulb 7°C / wet bulb 6°C, water temperature 40°C / 45°C (EN14511:2022)
(4) Seasonal energy efficiency class for LOW TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]
(5) Sound power level measured according to ISO 9614
(6) Sound pressure measured at a distance of 10 m in a free field with a directivity factor of 2
(7) Kg gas value is estimated. For the exact value refer to the plate data on the unit.
(E) EUROVENT certified data

LCX			214	244	274	294	324
Power supply		V-ph-Hz	400 - 3N - 50				
Cooling capacity	(1)(E)	kW	195	216	253	275	312
Total power input	(1)(E)	kW	75,2	84,8	90,8	108	123
Absorbed rated current	(1)	A	120	135	144	172	196
EER	(1)(E)		2,59	2,55	2,78	2,55	2,54
SEER	(2)		3,89	3,68	3,86	3,82	3,89
Eurovent efficiency class	(1)(E)		D	D	C	D	D
Heating capacity	(3)(E)	kW	233	265	295	330	366
Total power input	(3)(E)	kW	67,3	76,9	86,2	97,5	109
Absorbed rated current	(3)	A	107	123	136	154	172
COP	(3)(E)		3,46	3,44	3,42	3,39	3,36
Eurovent efficiency class	(3)		A				
SCOP	(2)(E)		3,80	3,97	3,79	3,82	3,92
Energy efficiency			150	156	149	150	154
Heating energy efficiency class	(4)		A++	A++	A+	A++	A++
Maximum current absorption		A	167	190	215	229	242
Start up current		A	318	382	398	464	472
Startup current with soft starter		A	256	317	333	381	389
Compressors / circuits			4 / 2				
no. of axial fans			6	6	8	8	8
Air flow rate	(1)	m^3/h	63261	63261	87186	81687	81687
Water flow	(1)	l/h	33537	37139	43430	47237	53602
Water pressure drop	(1)(E)	kPa	34	33	36	34	37
Available pressure head - LP pumps	(1)	kPa	166	197	186	175	168
Available pressure head - HP pumps	(1)	kPa	251	315	302	291	284
Air flow rate	(3)	m^3/h	63261	63261	87186	81687	81687
Water flow	(3)	l/h	40476	45910	51192	57334	63554
Water pressure drop	(3)(E)	kPa	49	50	50	50	51
Available pressure head - LP pumps	(3)	kPa	137	176	164	151	139
Available pressure head - HP pumps	(3)	kPa	199	282	268	253	239
Buffer tank volume		dm^3	600	600	765	765	765
Expansion vessel volume		dm^3	24	24	24	24	24
Unit connections diameter		"	4,00				
Height		mm	2174	2174	2174	2174	2174
Depth		mm	1654	1654	1654	1654	1654
Length		mm	3540	3540	4296	4296	4296
Sound power level	(5)(E)	dB(A)	85	85	87	87	88
Sound pressure level	(6)	dB(A)	57	57	59	59	60
Refrigerant charge	(7)	kg	28,0	49,0	50,0	62,0	62,0
Transport weight unit with pump and tank		kg	1726	1869	2129	2161	2196
Operating weight unit with pump and full tank		kg	2326	2469	2894	2926	2961

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2022)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2022 regulation.
(3) Outdoor air temperature dry bulb 7°C / wet bulb 6°C, water temperature 40°C / 45°C (EN14511:2022)
(4) Seasonal energy efficiency class for LOW TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]
(5) Sound power level measured according to ISO 9614
(6) Sound pressure measured at a distance of 10 m in a free field with a directivity factor of 2
(7) Kg gas value is estimated. For the exact value refer to the plate data on the unit.
(E) EUROVENT certified data

4.3 PED CATEGORY

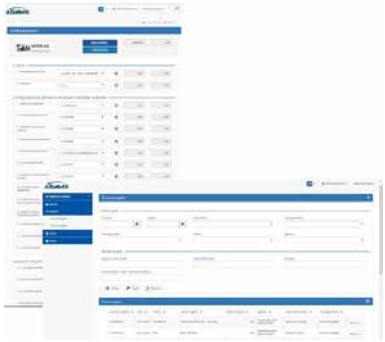
The water chillers and heat pumps comply with directive 2014/68//EC (PED).

Series	Size	Notified body	PED Category	Marking
LCX	Frame 2	0476	II	CE + PED
	Frame 3	0476	II	CE + PED
	Frame 3+	0476	II	CE + PED
	Frame 4	0476	II	CE + PED
	Frame 5	0476	II	CE + PED
	Frame 6	0476	II	CE + PED

5 PERFORMANCES

Galletti has developed on its www.galletti.com web-area the new ON-LINE integrated platform for product selection, configuration and the making of the economic offer.
The software, whose use is easy and intuitive, allows the identification of the desired products by calculating their performances based on real working conditions and their configuration helping the user in choosing options and accessories. It also allows to obtain a detailed report which includes performances, dimensional drawings, tender specifications and the economic offer.

Product selection:
Filters to make the identification of the requested product easier
Performance calculation and saving of results
Performance comparison between products belonging to different series



Configuration and project history
Wizard configuration of accessories and options for chillers, heat pumps and hydronic units
Creation of a project which collects all products of interest
Complete management of the storaged history projects

Report:
Generation of a detailed list report in pdf format
Choice of the sections to be included in the print:
— Products performances
— Dimensional drawings
— Tender specifications

5.1 INTEGRATED CAPACITIES

In the heat pump operation (heating mode), the actual heating capacities of units may be lower than the values shown in the table, due to defrosting cycles. To obtain the actual heating capacity, multiply the capacity values by the corrective coefficients given below.

Control	Air temperature dry bulb (°C)			
	-5	0	5	>5
PCO XS	0,91	0,90	0,94	1,00

6 CALCULATION FACTORS

6.1 CHANGE IN OPERATING PARAMETERS WITH DT OTHER THAN 5°C

After identifying the unit's performance in the terms of the desired outlet water temperature, correct the value by multiplying it by the following corrective coefficients.

Difference between water inlet temperature and water outlet temperature	Corrective coefficient of cooling/ heating capacity	Correction coefficient of electrical input	Correction coefficient of water flow rate	Correction coefficient of pressure drop
3	0,975	1	1,63	2,64
4	0,990	1	1,24	1,53
5	1,000	1	1,00	1,00
6	1,015	1	0,85	0,72
7	1,030	1	0,74	0,54
8	1,040	1	0,65	0,42

6.2 WATER AND GLYCOL MIXTURE

Based on the minimum outlet water temperature, you can derive the percentage of ethylene glycol and the corrective coefficient using the table below.

Percentage of ethylene glycol (%)	0%	10%	20%	30%	40%
Minimum temperature of water produced (°C)	5	2	-5	-10	-15
Mixture freezing temperature (°C)	0	-4	-14	-18	-24
Capacity correction factor	1	1,00	0,99	0,99	0,98
Water flow rate correction factor	1	1,05	1,09	1,14	1,20
Pressure drop correction factor	1	1,16	1,35	1,58	1,86

⚠ **IMPORTANT!** The use of propylene glycol is not admitted with standard pumps. For further information, contact the manufacturer.

7 SOUND LEVELS

» Sound power level LCX CS STANDARD version

LCX	125 Hz (1)	250 Hz (1)	500 Hz (1)	1000 Hz (1)	2000 Hz (1)	4000 Hz (1)	8000 Hz (1)	LwA (2)
	dB	dB	dB	dB	dB	dB	dB	dB(A)
92 - 102	83,3	89,7	80,8	79,6	73,2	66,0	65,0	86
124	82,3	88,7	79,8	78,6	72,2	65,0	64,0	85
142 - 162	84,3	90,7	81,8	80,6	74,2	67,0	66,0	87
144	84,3	88,7	79,8	78,6	72,2	65,0	64,0	87
122	83,3	89,7	80,8	79,6	73,2	66,0	65,0	86
164	82,3	88,7	79,8	78,6	72,2	65,0	64,0	82
174 - 194	85,3	91,7	82,8	81,6	75,2	68,0	67,0	88
214	86,3	92,7	83,8	82,6	76,2	69,0	68,0	89
244	86,3	92,7	83,8	82,6	76,2	69,0	68,0	89
274 - 294 - 324	86,3	92,7	83,8	82,6	76,2	69,0	68,0	89
364	87,3	93,7	84,8	83,6	77,2	70,0	69,0	90

1. Sound power level by octave band, not weighted
2. Total sound power level, weighted A

» Sound power levels LCS CL LOW-NOISE version

LCX	125 Hz (1)	250 Hz (1)	500 Hz (1)	1000 Hz (1)	2000 Hz (1)	4000 Hz (1)	8000 Hz (1)	LwA (2)
	dB	dB	dB	dB	dB	dB	dB	dB(A)
062 - 072 - 082	77,8	84,2	75,3	74,2	67,7	60,5	59,5	80
092 - 102	78,8	85,2	76,3	75,2	68,7	61,5	60,5	81
094 - 104	77,8	84,2	75,3	74,2	67,7	60,5	59,5	80
122	80,8	87,2	78,3	77,2	70,7	63,5	65,5	83
124 - 144 - 164	77,8	84,2	75,3	74,2	67,7	60,5	59,5	80
142 - 162	81,8	88,2	79,3	78,2	71,7	64,5	63,5	84
194	82,8	89,2	80,3	79,2	72,7	65,5	64,5	85
214 - 244	82,8	89,2	80,3	79,2	72,7	65,5	64,5	85
274 - 294 - 324	84,8	91,2	82,3	81,2	74,7	67,5	66,5	87
364	85,8	92,2	83,3	82,2	75,7	68,5	67,5	88

1. Sound power level by octave band, not weighted
2. Total sound power level, weighted A

» Sound power levels LCX HS STANDARD version

LCX	125 Hz (1)	250 Hz (1)	500 Hz (1)	1000 Hz (1)	2000 Hz (1)	4000 Hz (1)	8000 Hz (1)	LwA (2)
	dB	dB	dB	dB	dB	dB	dB	dB(A)
092 - 102	83,3	89,7	80,8	79,6	73,2	66,0	65,0	86
122	83,3	89,7	80,8	79,6	73,2	66,0	65,0	86
124 - 144 - 164	82,3	88,7	79,8	78,6	72,2	65,0	64,0	85
142 - 162	84,3	90,7	81,8	80,6	74,2	67,0	66,0	87
174 - 194	85,3	91,7	82,8	81,6	75,2	68,0	67,0	88
214	86,3	92,7	83,8	82,6	76,2	69,0	68,0	89
244	86,3	92,7	83,8	82,6	76,2	69,0	68,0	89
274 - 294 - 324	86,3	92,7	83,8	82,6	76,2	69,0	68,0	89
364	87,3	93,7	84,8	83,6	77,2	70,0	69,0	90

1. Sound power level by octave band, not weighted
2. Total sound power level, weighted A

» Sound power levels LCX HL LOW-NOISE execution

LCX	125 Hz (1)	250 Hz (1)	500 Hz (1)	1000 Hz (1)	2000 Hz (1)	4000 Hz (1)	8000 Hz (1)	LwA (2)
	dB	dB	dB	dB	dB	dB	dB	dB(A)
062 - 072 - 082	77,8	84,2	75,3	74,2	67,7	60,5	59,5	80
092 - 102	78,8	85,2	76,3	75,2	68,7	61,5	60,5	81
094 - 104	77,8	84,2	75,3	74,2	67,7	60,5	59,5	80
122	80,8	87,2	78,3	77,2	70,7	63,5	65,5	83
124 - 144 - 164	77,8	84,2	75,3	74,2	67,7	60,5	59,5	80
142 - 162	81,8	88,2	79,3	78,2	71,7	64,5	63,5	84
194	82,8	89,2	80,3	79,2	72,7	65,5	64,5	85
214 - 244	82,8	89,2	80,3	79,2	72,7	65,5	64,5	85
274 - 294	84,8	91,2	82,3	81,2	74,7	67,5	66,5	87
324	85,8	92,2	83,3	82,2	75,7	68,5	67,5	88

1. Sound power level by octave band, not weighted
2. Total sound power level, weighted A

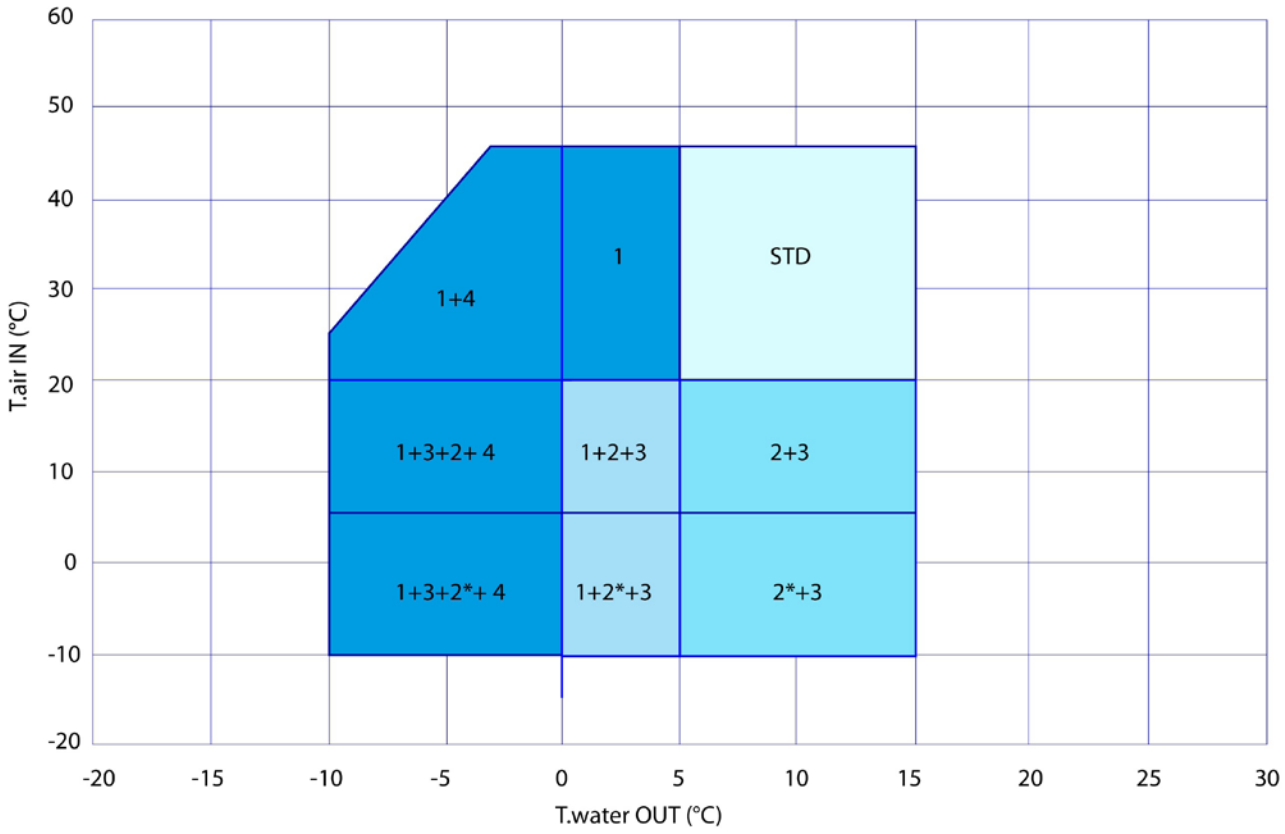
8 OPERATING LIMITS

The graphs below illustrate the operating limits of LCX units (in the case of continuous operation) in relation to the outlet water temperature and outdoor air temperature.

⚠ **WARNING** The units are designed to work with water and air temperatures falling within the range defined by the operating limits. Attempting to operate the units beyond these limits could cause irreparable damage to the units themselves.

8.1 OPERATING LIMITS IN CHILLER MODE

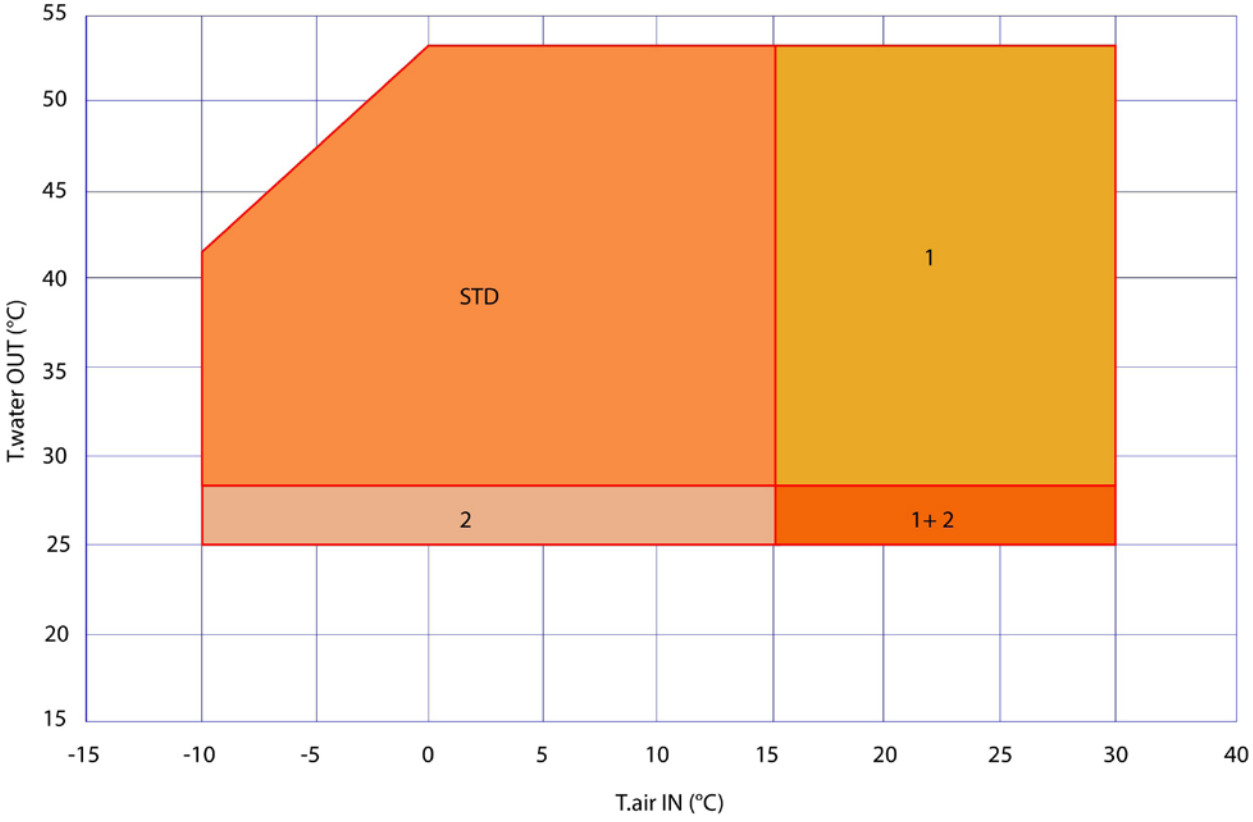
» Operating limits in chiller mode



1 Glycol
2 Condensation control
2* Condensation control with EC fans
3 Electronic expansion valve
4 Custom version on request

8.2 OPERATING LIMITS IN HEAT PUMP MODE

» Operating limits in heat pump mode



1 Evaporation control
2 Electronic expansion valve
STD Standard
Operating range calculated with temperature difference of 5°C on the water side.

8.3 THERMAL CARRYING FLUID

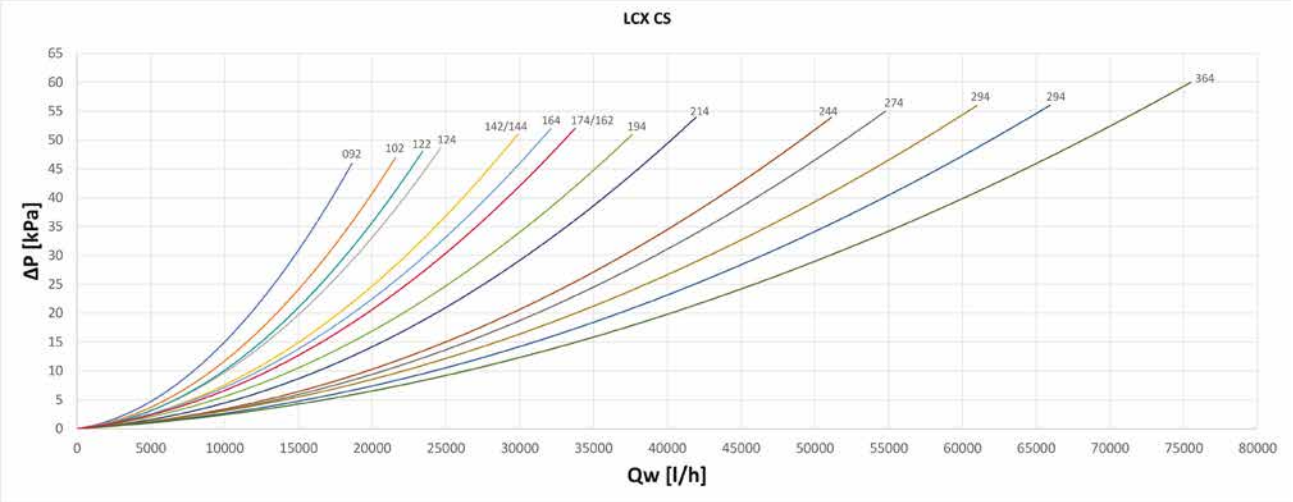
The units belonging to the LCXseries can work with mixtures of water and up to 30% ethylene glycol.

9 WATER PRESSURE DROP

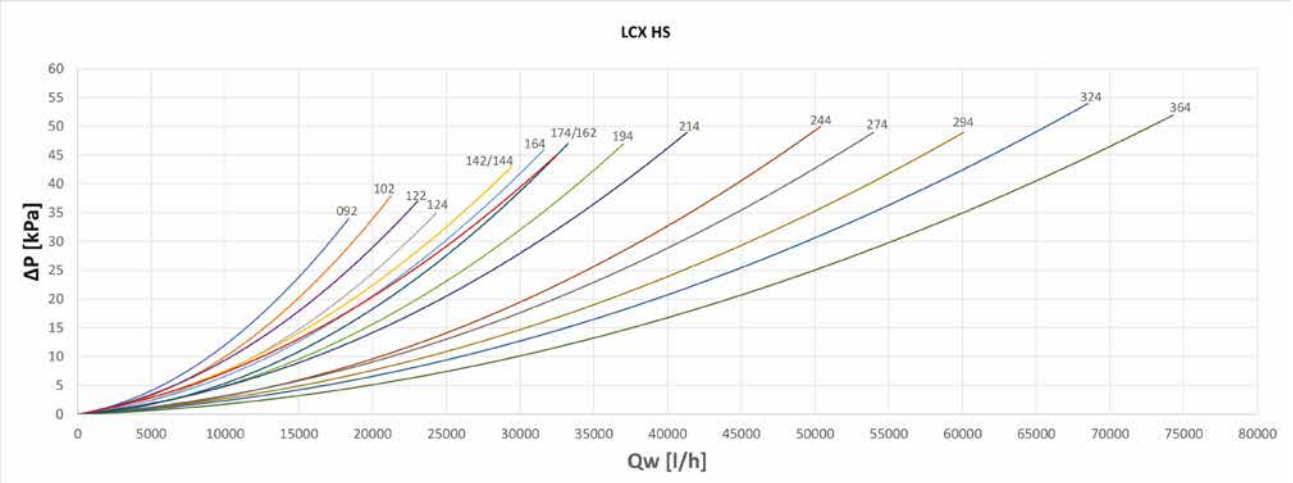
9.1 PRESSURE DROP, WATER SIDE

The table and diagrams shows the evaporator pressure drops (Δ_{pw}) as a function of the water flow rate (Q_w), assuming an average water temperature of 10 °C.

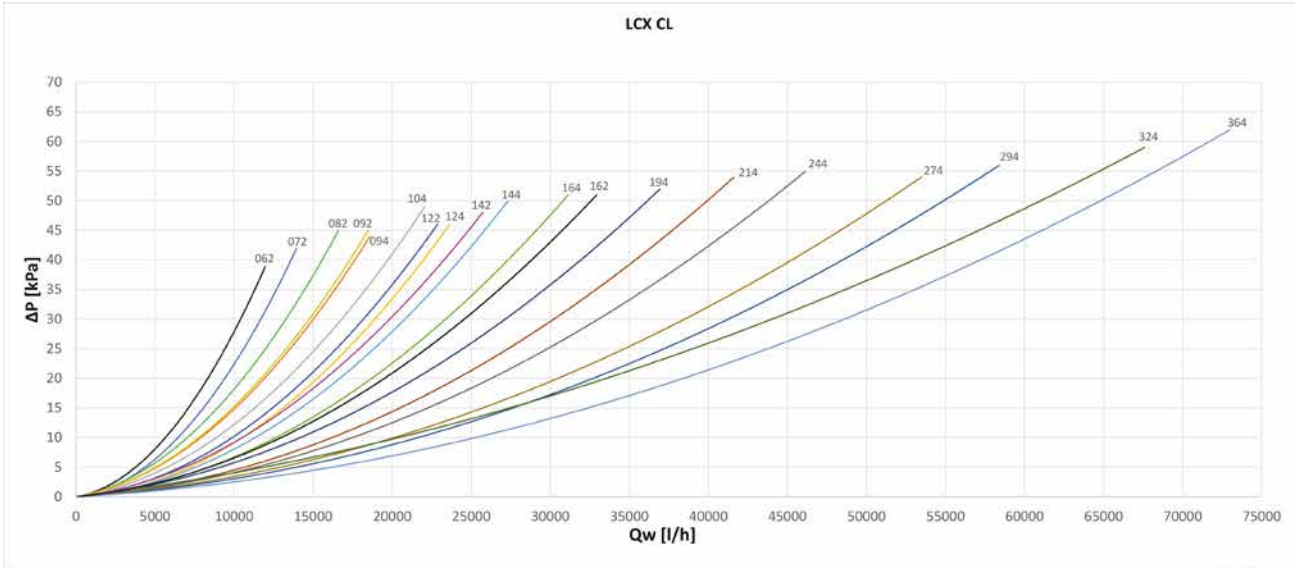
» Water pressure drop LCX CS



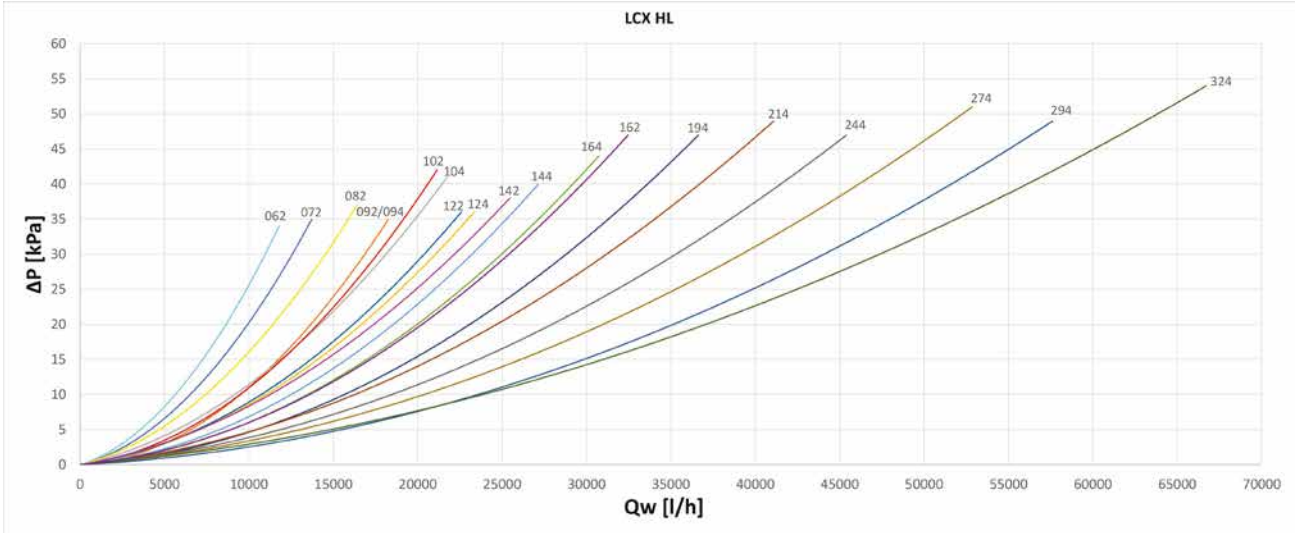
» Water pressure drop LCX HS



» Water pressure drop LCX CL



» Water pressure drop LCX HL

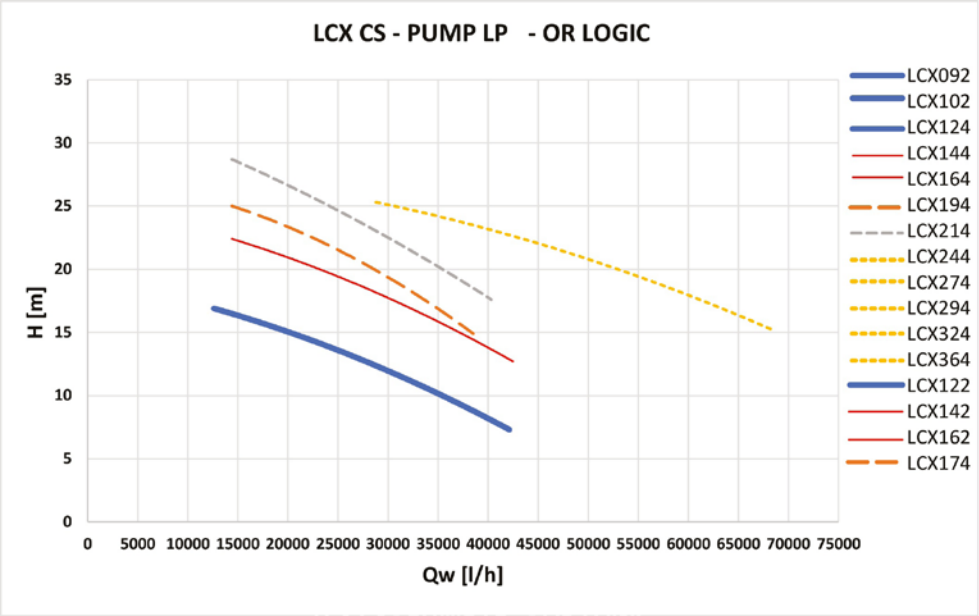


10 AVAILABLE PRESSURE HEAD

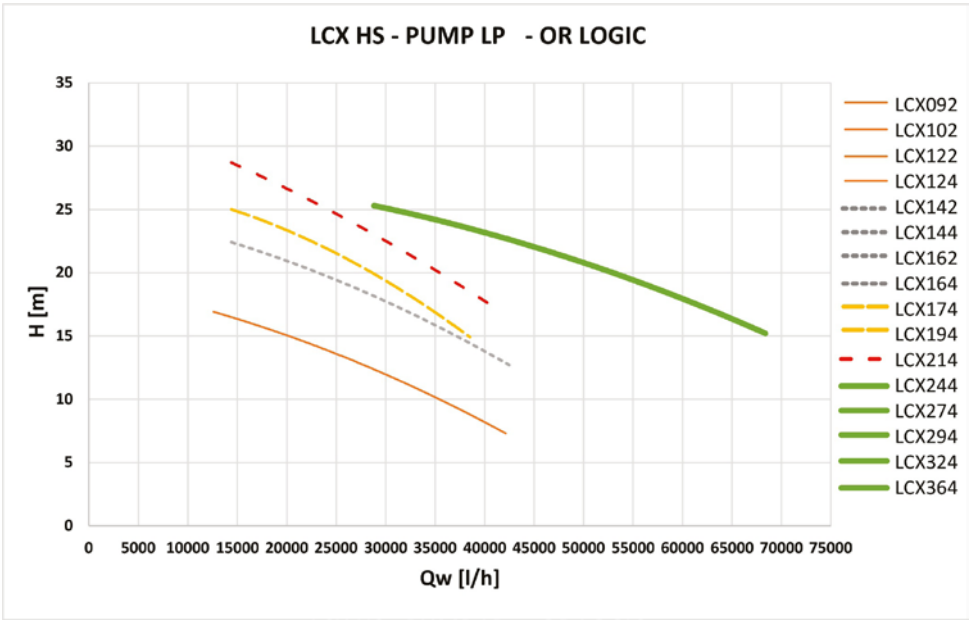
10.1 AVAILABLE PRESSURE HEAD OR STANDARD PUMPS

The diagrams show the total head of the pump (Pump Head) as a function of the water flow rate (Q_w), assuming an average water temperature of 10 °C.

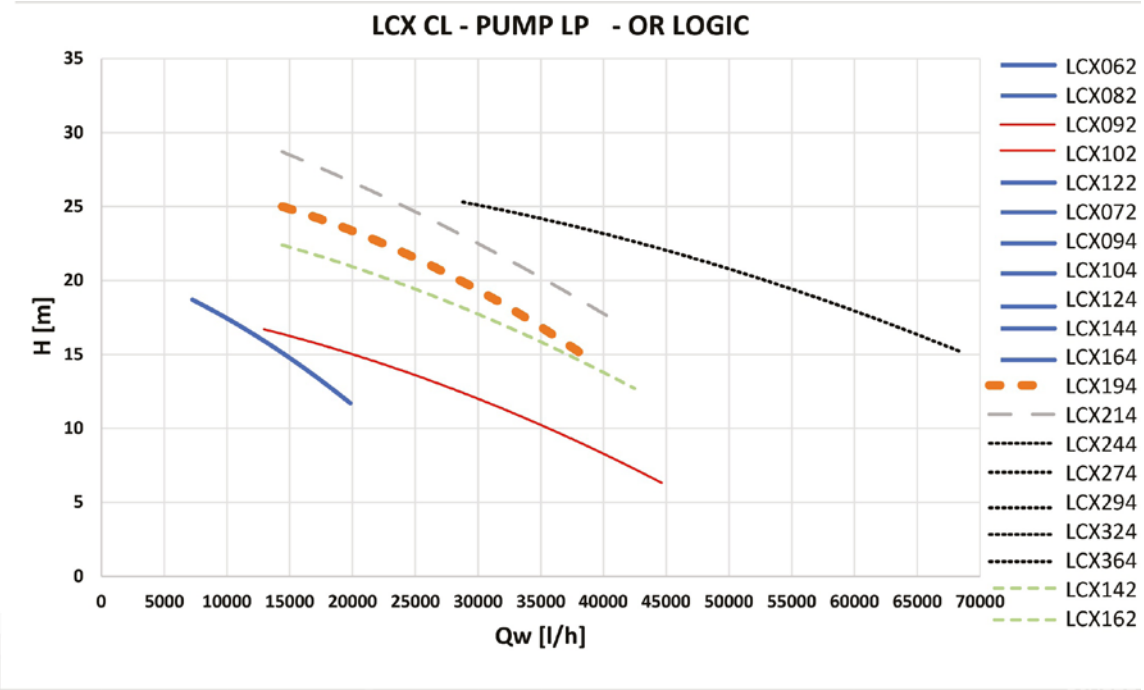
» Available pressure head diagram STANDARD LP OR pump - LCX CS



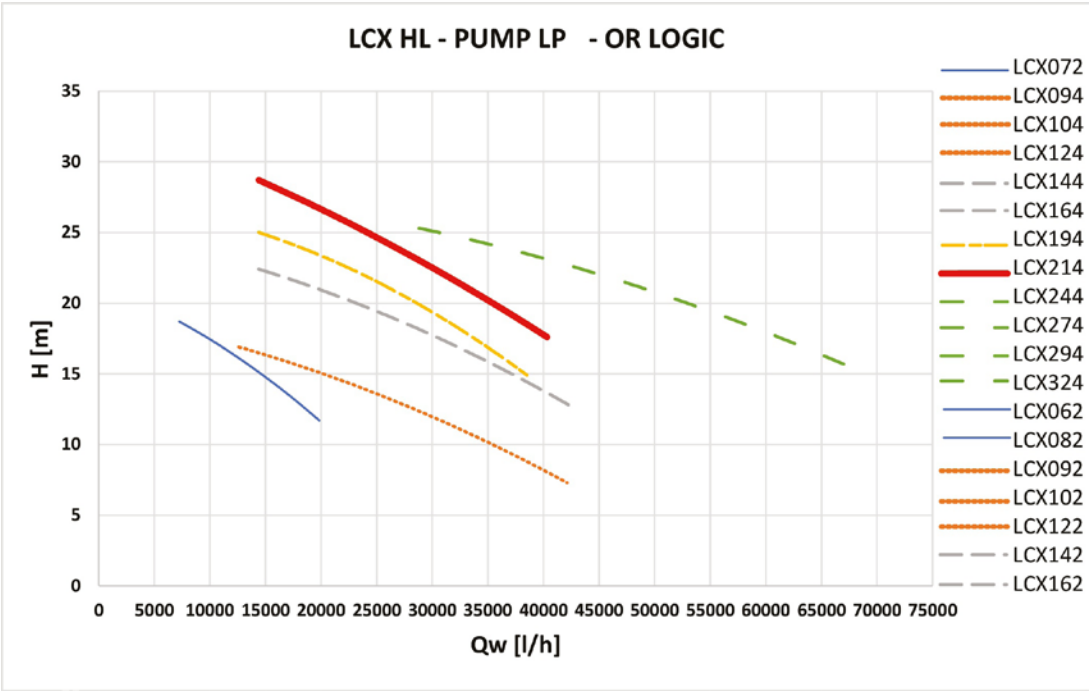
» Available pressure head diagram STANDARD LP OR pump - LCX HS



» Available pressure head diagram STANDARD LP OR pump - LCX CL



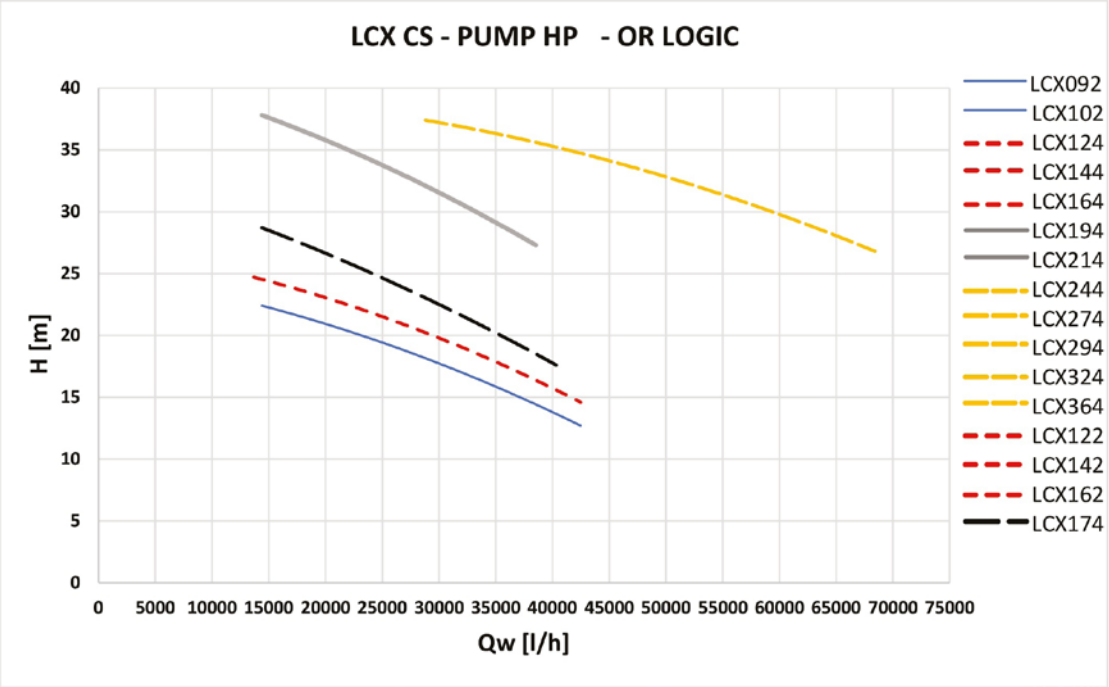
» Available pressure head diagram STANDARD LP OR pump - LCX HL



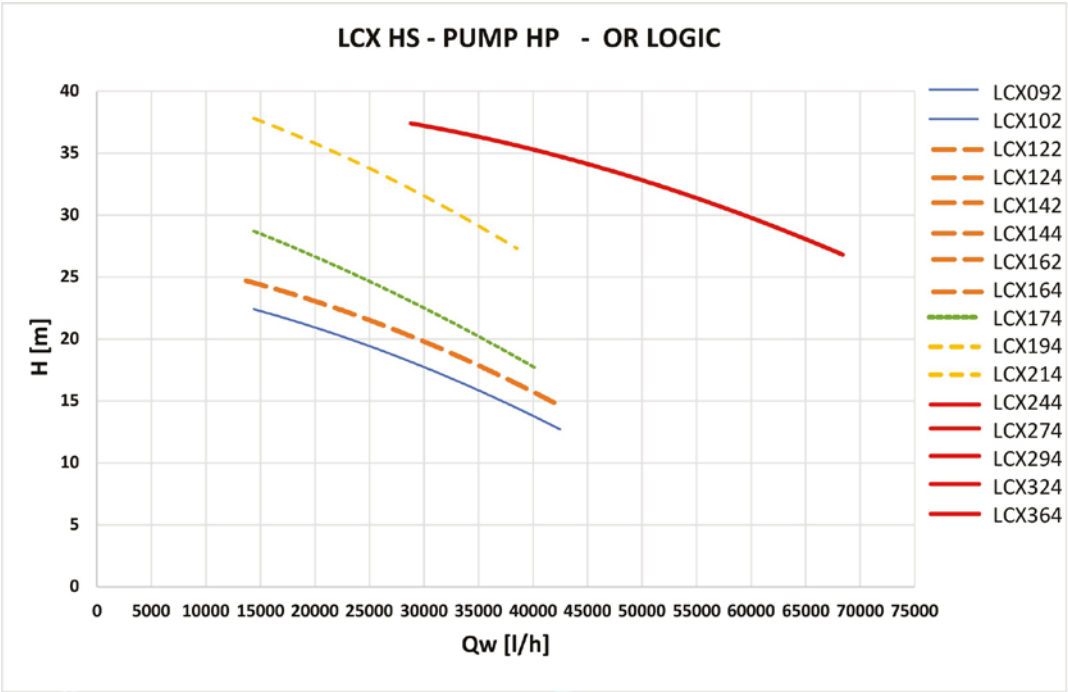
10.2 AVAILABLE PRESSURE HEAD HP OR PUMPS

The diagrams show the total head of the pump (Pump Head) as a function of the water flow rate (Qw), assuming an average water temperature of 10 °C.

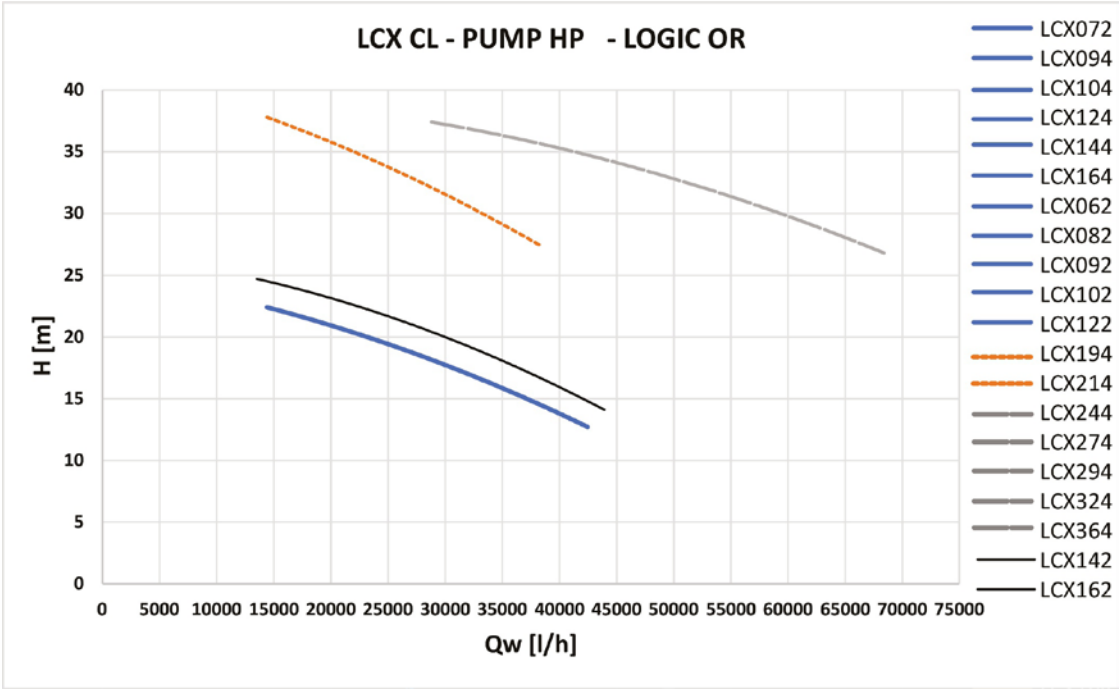
» Available pressure head diagram HP OR pump - LCX CS



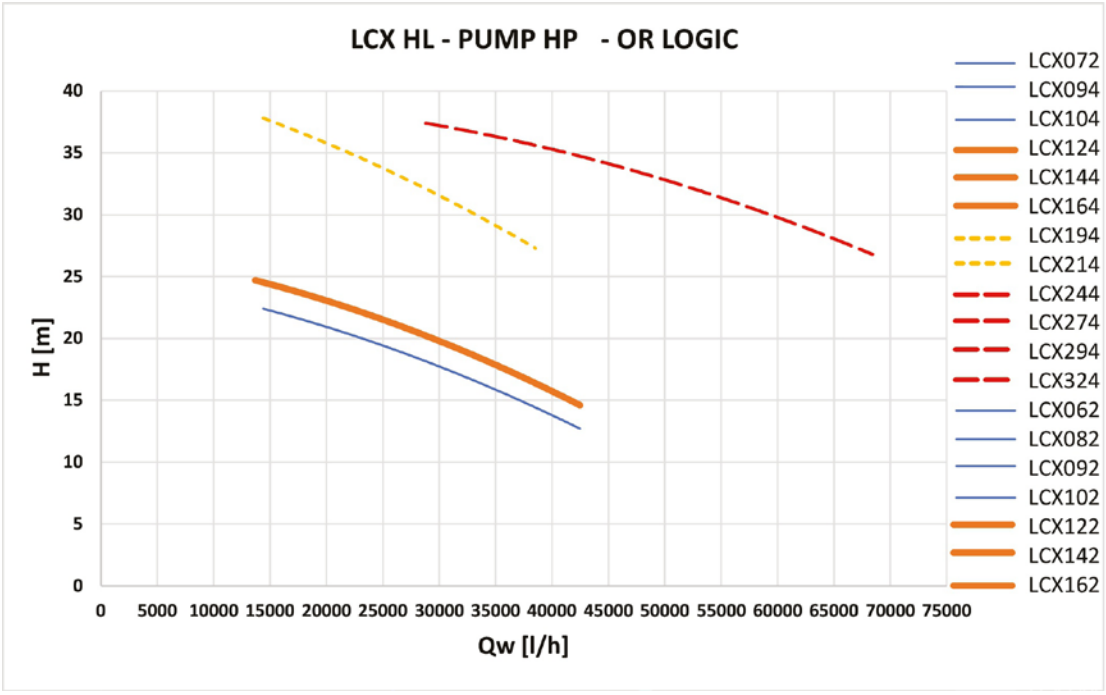
» Available pressure head diagram HP OR pump - LCX HS



» Available pressure head diagram HP OR pump - LCX CL



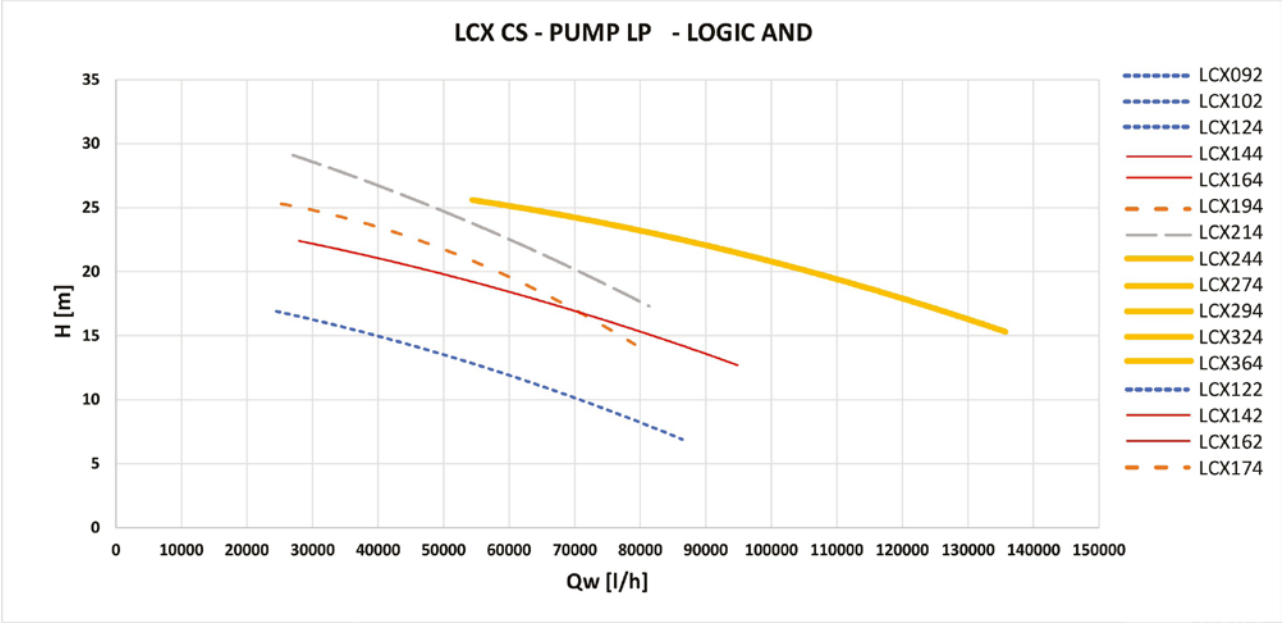
» Available pressure head diagram HP OR pump - LCX HL



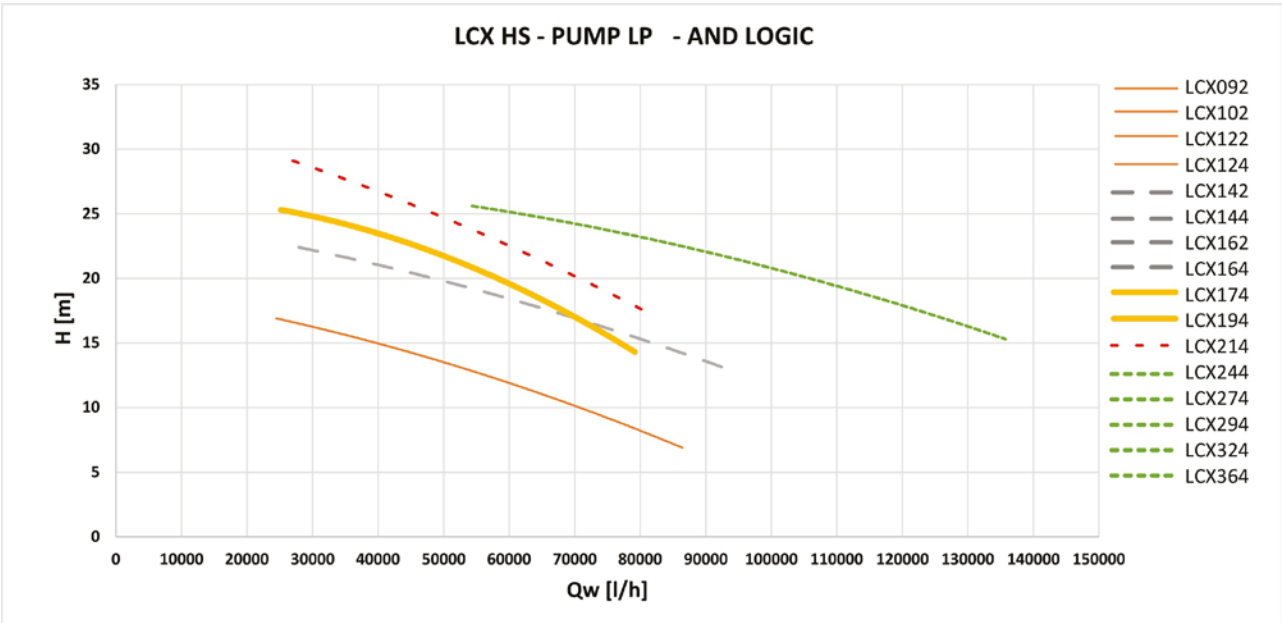
10.3 AVAILABLE PRESSURE HEAD AND PUMPS

The diagrams show the total head of the pump (Pump Head) as a function of the water flow rate (Qw), assuming an average water temperature of 10 °C.

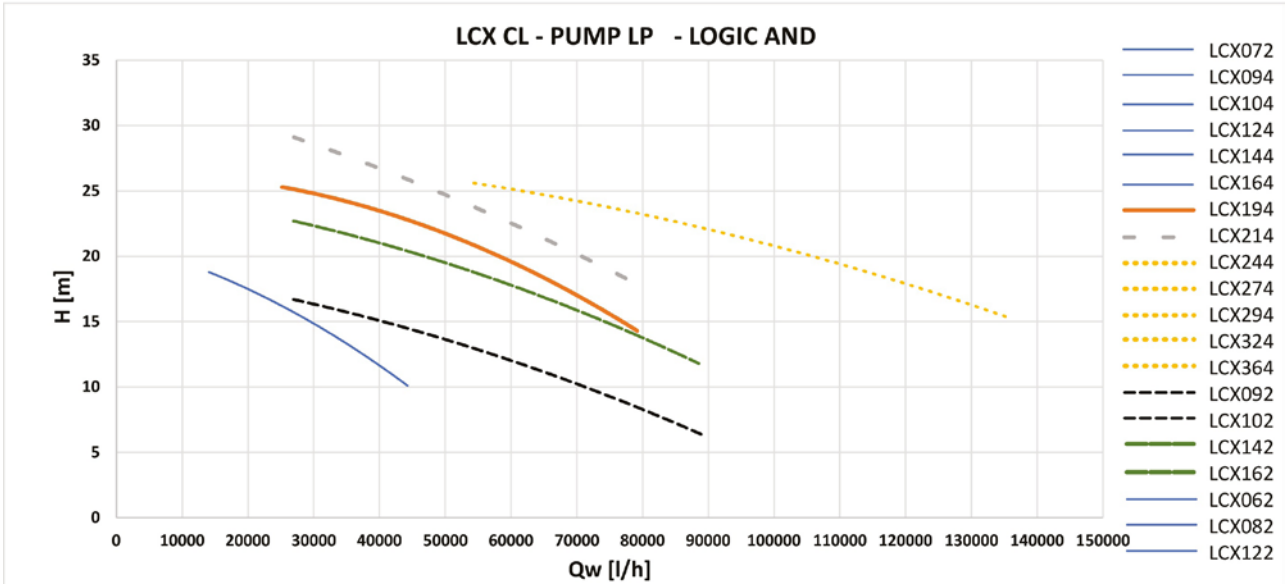
» Available pressure head diagram STANDARD LP AND pump - LCX CS



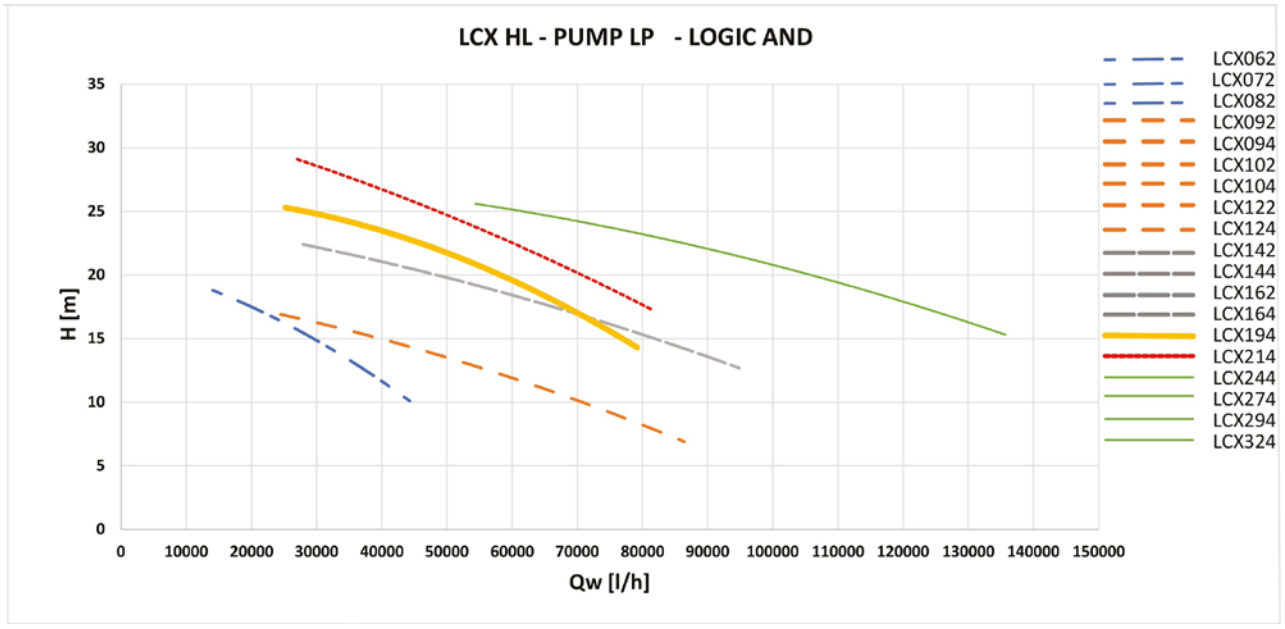
» Available pressure head diagram STANDARD LP AND pump - LCX HS



» Available pressure head diagram STANDARD LP AND pump - LCX CL



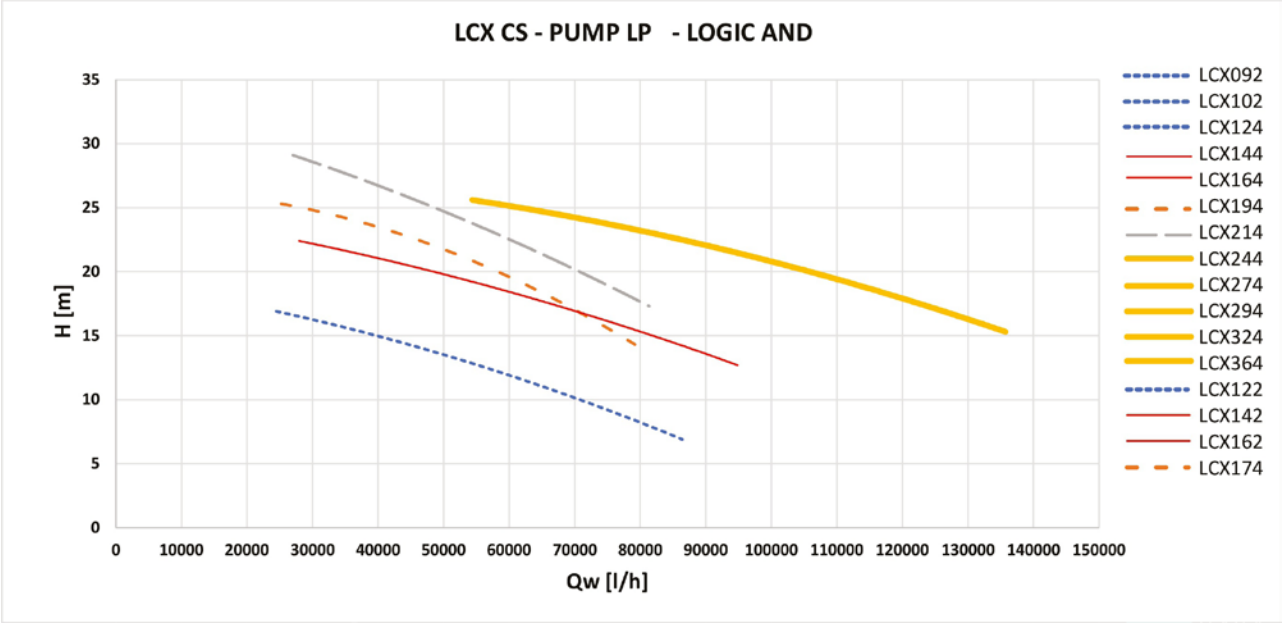
» Available pressure head diagram STANDARD LP AND pump - LCX HL



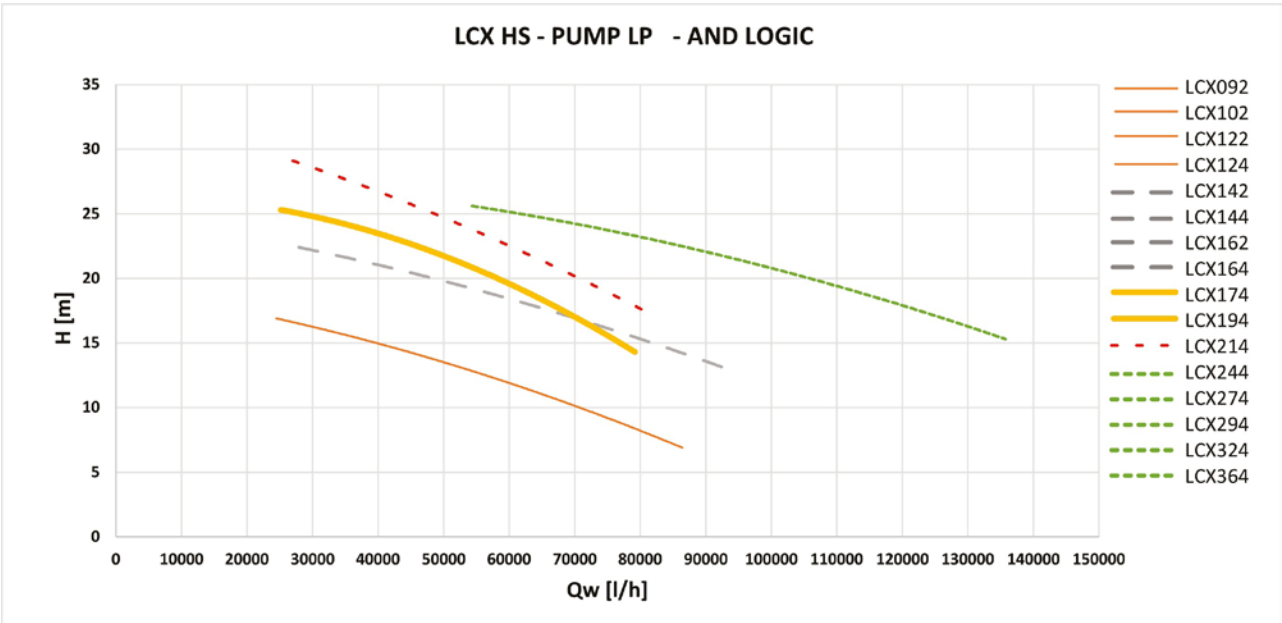
10.4 AVAILABLE PRESSURE HEAD HP AND PUMPS

The diagrams show the total head of the pump (Pump Head) as a function of the water flow rate (Qw), assuming an average water temperature of 10 °C.

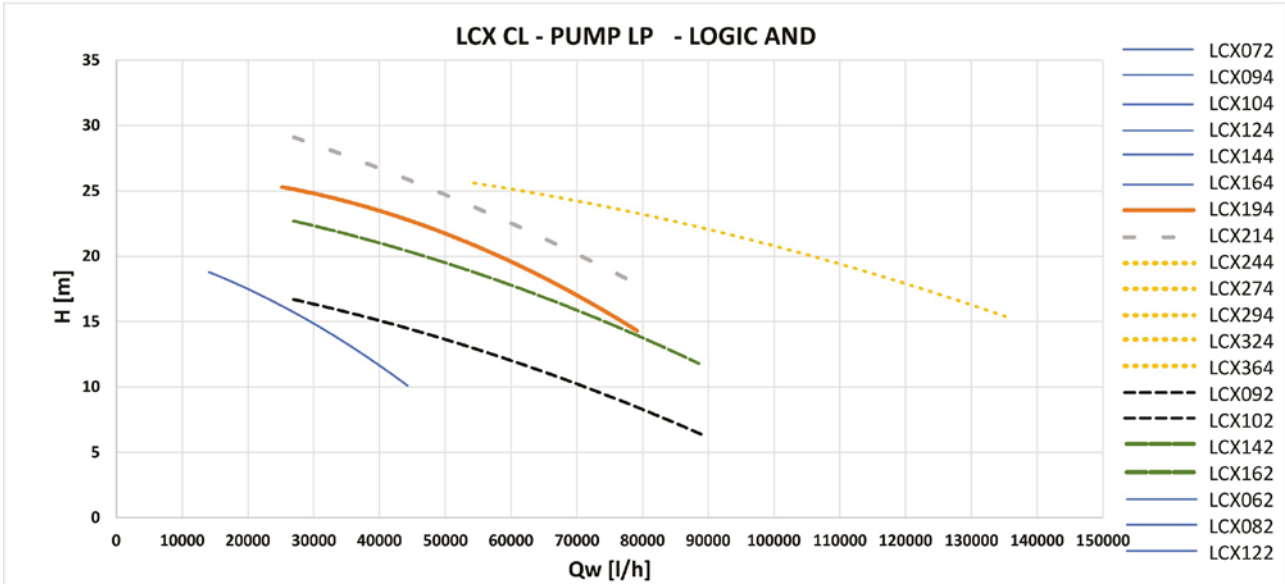
» Available pressure head diagram STANDARD LP AND pump - LCX CS



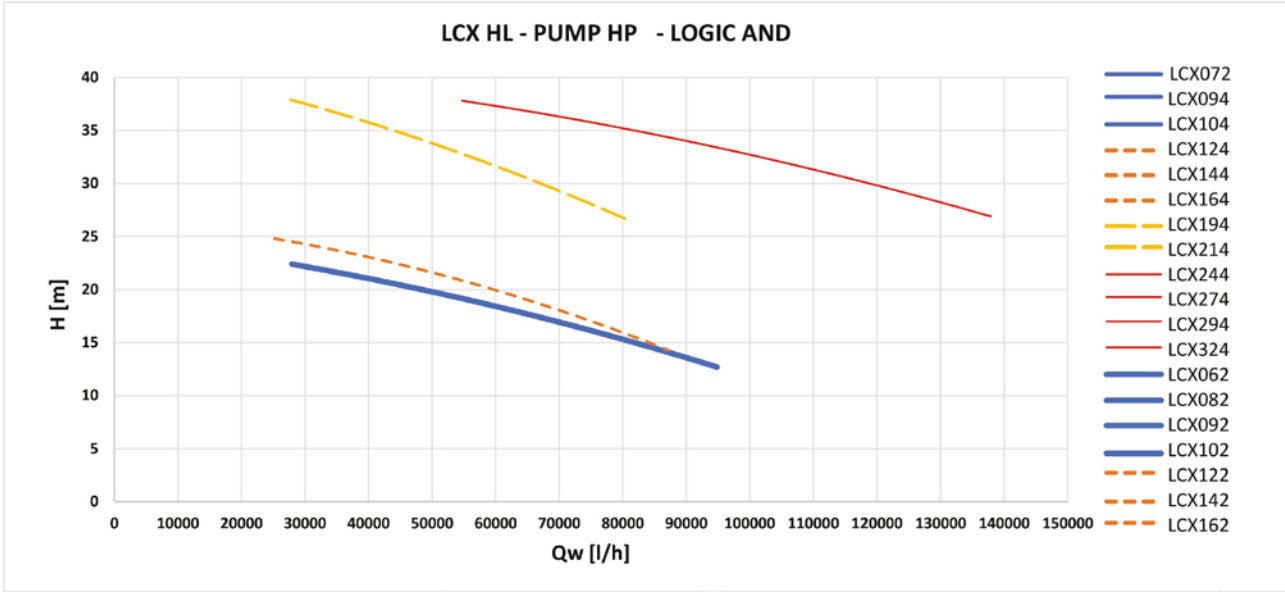
» Available pressure head diagram STANDARD LP AND pump - LCX HS



» Available pressure head diagram STANDARD LP AND pump - LCX CL



» Available pressure head diagram HP AND pump - LCX HL



11 WATER CIRCUIT

When setting up the water circuit of the unit, it is advisable to follow the directions below and in any case comply with local or national regulations.
Connect the pipes to the chiller using flexible couplings to prevent the transmission of vibrations and to compensate thermal expansions.
Install the following components on the piping:

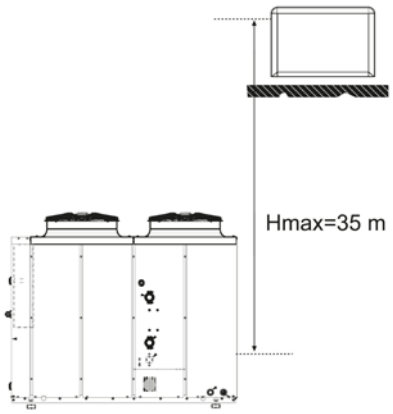
- Temperature and pressure indicators for routine maintenance and monitoring of the unit. Pressure control on the water side allows to assess the correct functioning of the expansion tank and to detect water leakage in advance.
- Traps on incoming and outgoing pipes for temperature measurements, which can provide a direct reading of the operating temperatures.
- Regulating valves (gate valves) for isolating the unit from the water circuit.
- **Metal mesh filter (supplied), with a mesh size no greater than 1 mm, to be fitted on the inlet pipe to protect the exchanger from scale or impurities present in the pipes.**
- Air vent valves, to be placed at the highest points of the water circuit for the purpose of bleeding air. (The internal pipes of the unit are fitted with small air vent valves for bleeding the unit itself: this operation may only be carried out when the unit is disconnected from the power supply).
- Drainage valve and, where necessary, a drainage tank for emptying out the equipment for maintenance purposes or when the unit is taken out of service at the end of the season. (A 1" drainage valve is provided on the optional water buffer tank: this operation may only be carried out when the unit is disconnected from the power supply).

It is of fundamental importance that the incoming water supply is hooked up to the connection marked "Water Inlet".
Otherwise the evaporator would be exposed to the risk of freezing since the antifreeze thermostat would not be able to perform its function; moreover the reverse cycle would not be respected in the cooling mode, resulting in additional risks of malfunctioning.
The dimensions and position of plumbing connections are shown in the dimension tables at the end of the manual.
The water circuit must be set up in such a way as to guarantee that the nominal flow rate of the water supplied to the evaporator remains constant (+/- 15%) in all operating conditions.
A standard feature of LCX units is a device for controlling the flow rate (flow switch or differential pressure switch) in the water circuit in the immediate vicinity of the evaporator.

11.1 WATER CONTENT AND CHARGING OF EXPANZION TANK SYSTEM

In models without a water storage reservoir it is necessary to assure that the content of water within the system does not fall below 3.5 litres/kW in the case of cooling-only models and 4.5 litres/kW in the case of heat pump models. This level is necessary to prevent the water temperature from falling below the indoor unit enabling threshold during defrost cycles.
N.B. kW in reference to rated capacity
The expansion tank is pre-charged to a pressure of 1.5 bars, sufficient for systems with a maximum height difference (H in the figure at the side) of 13 metres.
For greater height differences, refer to the table below in order to adjust the charging pressure of the expansion tank accordingly.
In no case should you exceed the maximum height difference Hmax = 35 m.

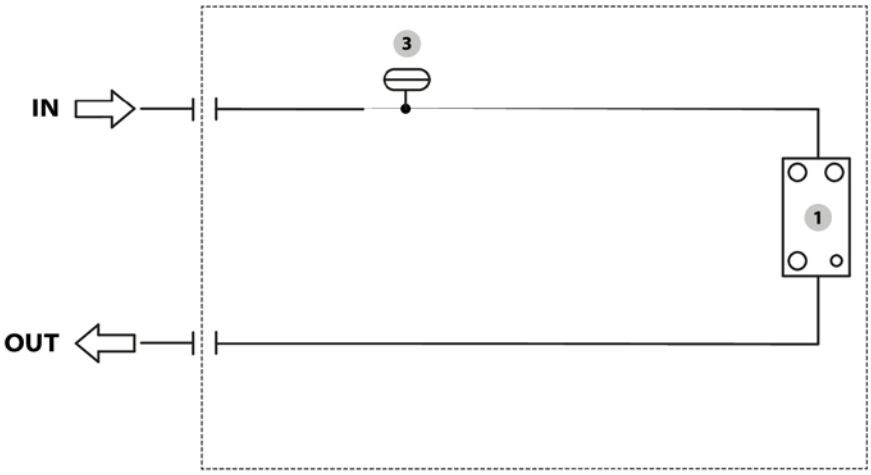
»



Height difference of system (m)	Charging pressure of expansion tank
<13	1,50
15	1,70
20	2,20
25	2,70
30	3,10

11.2 WATER CIRCUIT

» LCX (evaporator)

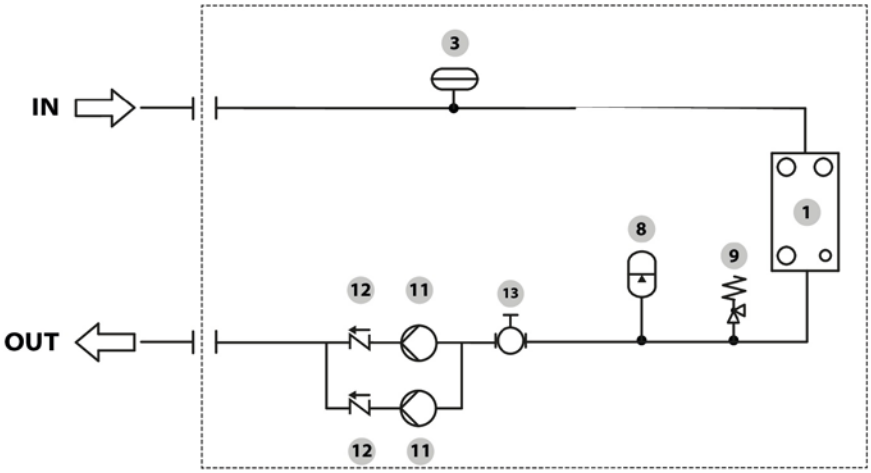


LEGEND

1	Evaporator
2	-
3	Flow switch
4	-
5	-
6	-
7	-
8	-
9	-
10	-
11	-
12	-
13	-

------ Internal and external borderline
———— OPTIONAL

» LCX (evaporator and 2 pumps)

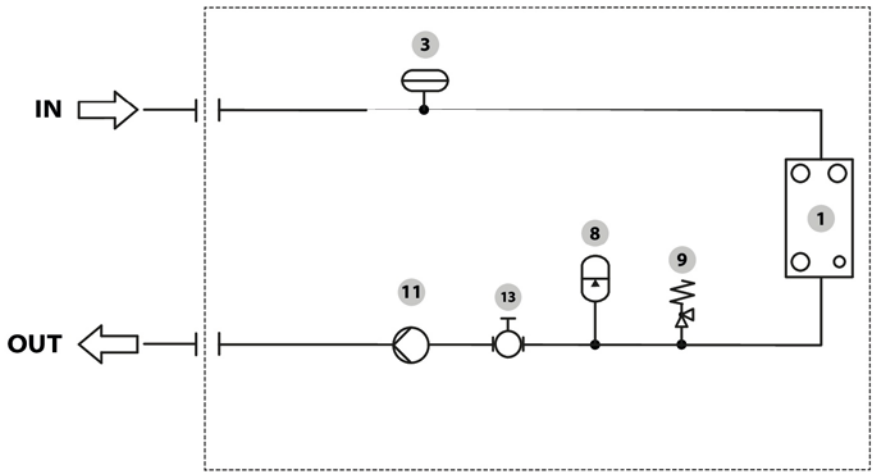


LEGEND

1	Evaporator
2	-
3	Flow switch
4	-
5	-
6	-
7	-
8	Expansion tank
9	Safety valve
10	-
11	Hydraulic pump
12	Clapet valve
13	Gate valve

------ Internal and external borderline
———— OPTIONAL

» LCX (evaporator and pump)

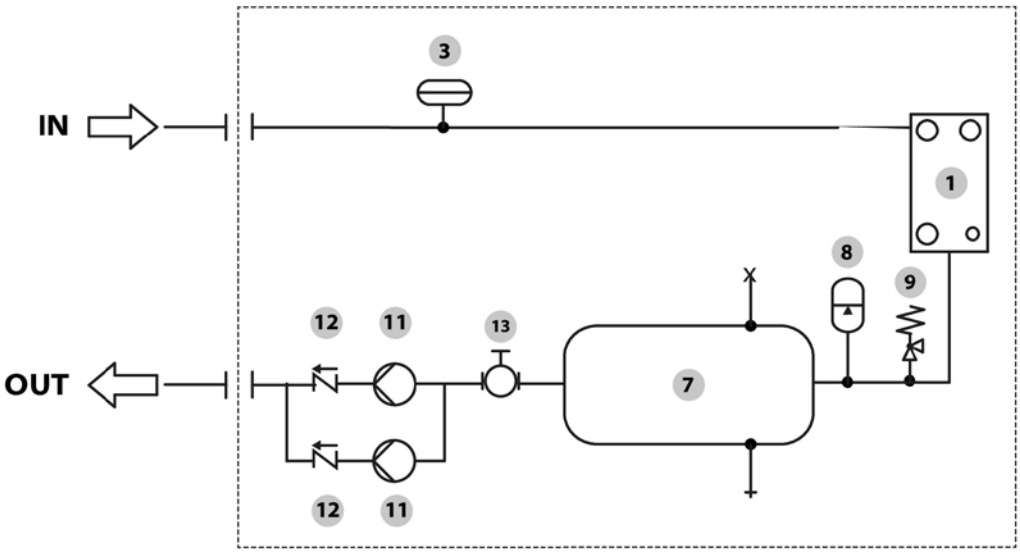


LEGEND

1 Evaporator
2 -
3 Flow switch
4 -
5 -
6 -
7 -
8 Expansion tank
9 Safety valve
10 -
11 Hydraulic pump
12 -
13 Gate valve

------ Internal and external borderline
———— OPTIONAL

» LCX (evaporator, tank and 2 pumps)

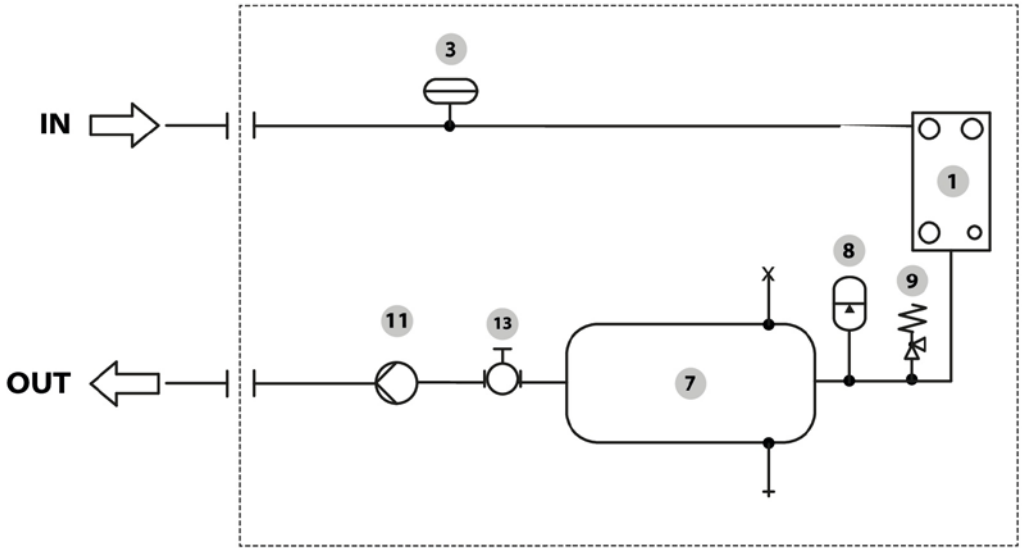


LEGEND

1 Evaporator
2 -
3 Flow switch
4 -
5 -
6 -
7 Buffer tank
8 Expansion tank
9 Safety valve
10 -
11 Hydraulic pump
12 Clapet valve
13 Gate valve

------ Internal and external borderline
———— OPTIONAL

» LCX (evaporator, pump and tank)



LEGEND

1 Evaporator
2 -
3 Flow switch
4 -
5 -
6 -
7 Buffer tank
8 Expansion tank
9 Safety valve
10 -
11 Hydraulic pump
12 -
13 Gate valve

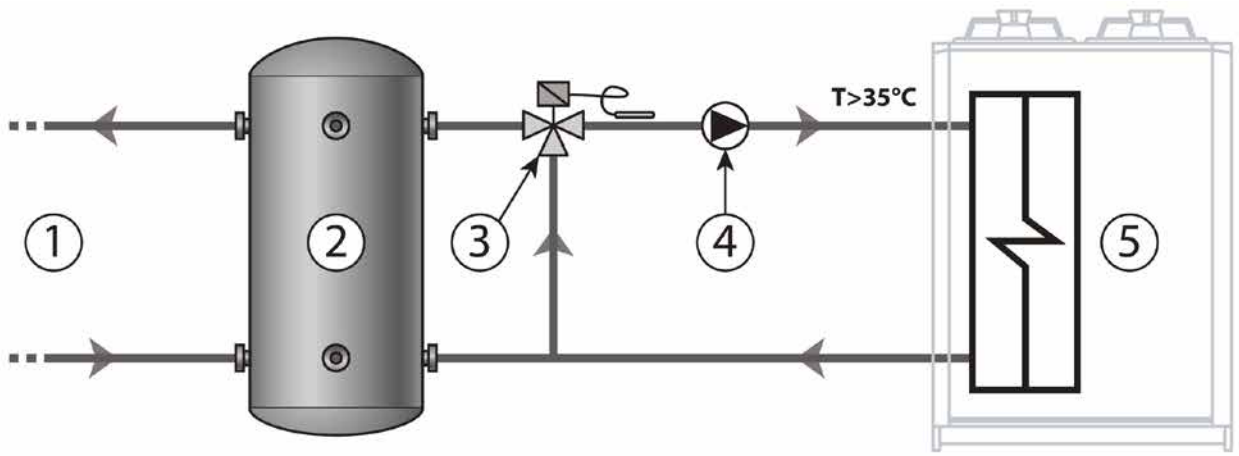
------ Internal and external borderline
———— OPTIONAL

11.3 DE-SUPERHEATER

11.3.1 Recommended water circuit

The partial heat recovery option is provided by a braze-welded plate heat exchanger placed in series on the compressor delivery (typically in series in relation to the finned pack condenser). Its size is designed to limit pressure drops on the refrigerant side to a minimum.
All units equipped with a heat recovery kit have modulating condensation control as a standard feature. To prevent unbalances from occurring in the cooling circuit in the event of start-ups with very low water temperatures at the recuperator inlet (<35°C), the recovery system water circuit should be configured as shown in the following figure. A low recuperator inlet water temperature would cause low condensation temperatures and thus an insufficient pressure differential on the expansion valve with the consequent risk of tripping the safety devices.

»



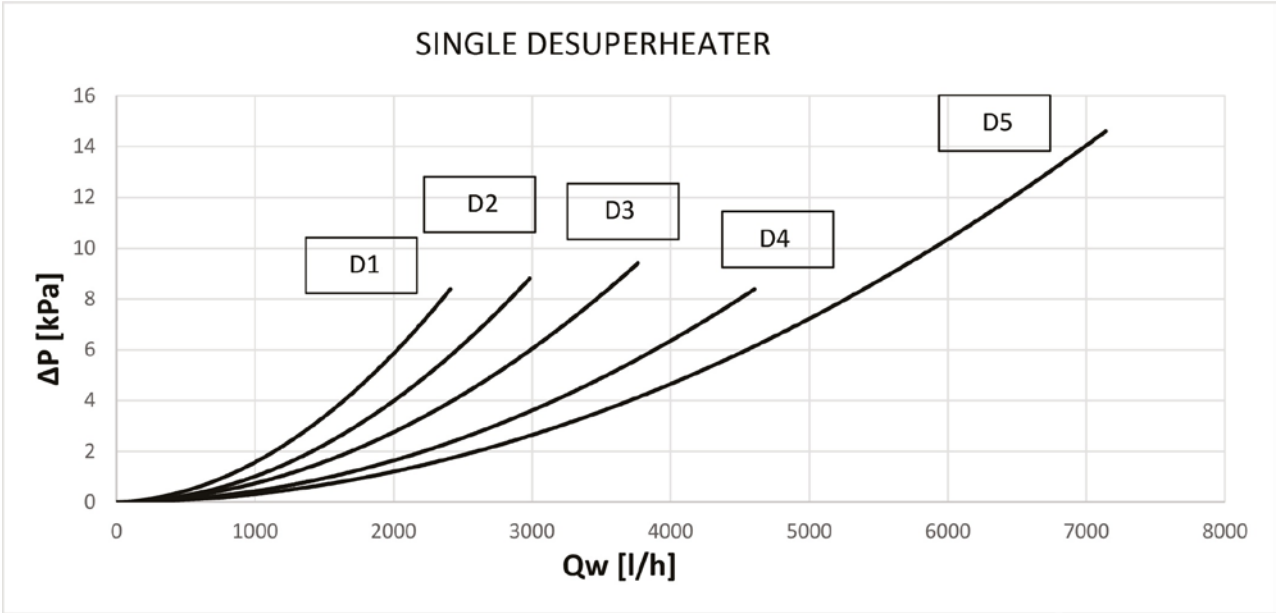
1 Utility side
2 Buffer tank
3 Mixing valve
4 Circulation pump
5 On-board desuperheater

The bulb of the 3-way mixer valve is placed at the de-superheater exchanger inlet. By mixing the hot water produced by the recovery with colder water from the tank, it reduces the time needed for the system to reach full operating capacity to a few moments.
A buffer tank must be placed between the unit and the utility since the demand for hot water and its availability are not simultaneous, because it needs the compressors to be running.
Note that the heat recovery capacity is tied to the delivered cooling capacity and therefore decreases proportionately in partial load situations: this aspect should be taken into account when choosing the size of the storage tank.
The partial heat recovery option is supplied only with the de-superheater exchanger. The other components of the circuit laid out in the previous figure are not included in the supply.

11.3.2 Water pressure drop

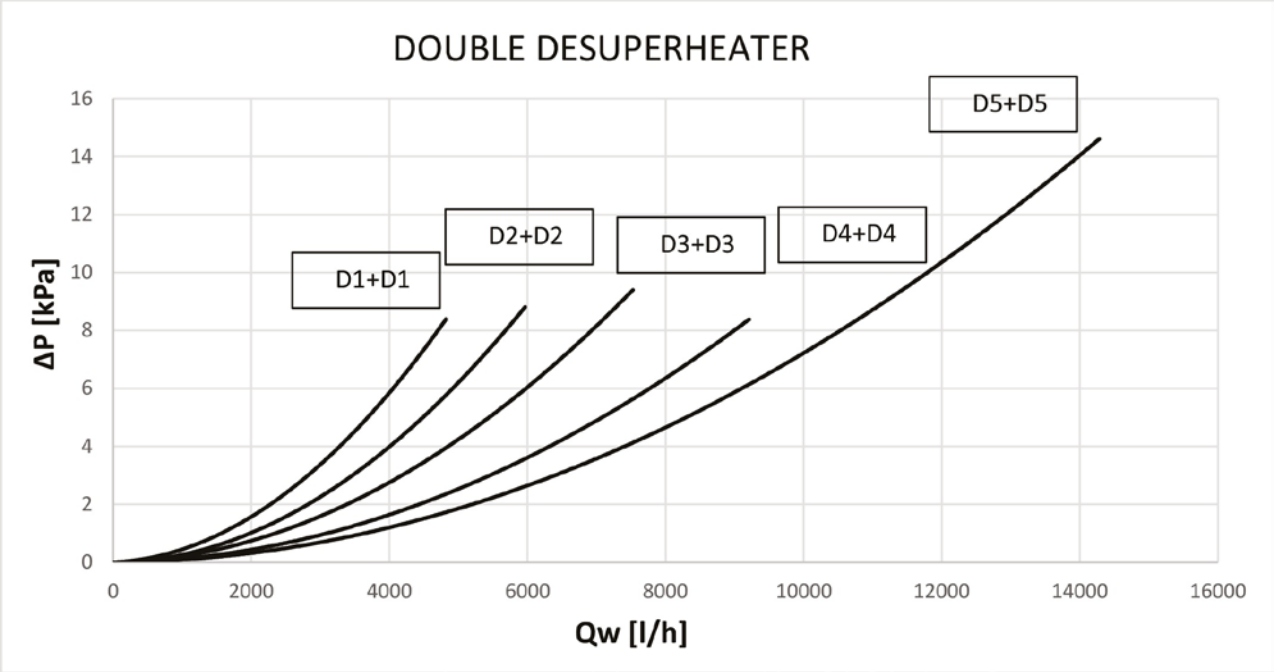
The diagrams shows the desuperheater pressure drops (Δ_{pa} as a function of the water flow rate (Q_w), assuming an average water temperature of 43 °C.

» Desuperheater pressure drop SINGLE



Type	Unit model LCX
D1	092,094,102
D2	062,072,122,124,142,144
D3	082,162,164
D4	194,214,244
D5	274,294,324,364

» Water pressure drop double desuperheater



Type	Unit model LCX
D1+D1	092,094,102
D2+D2	122,124,142,144
D3+D3	162,164
D4+D4	194,214,244
D5+D5	274,294,324,364

11.3.3 Heating capacities corrective factors

» De-Superheather heating capacities corrective factors

Air temperature (K)	Inlet water temperature / Outlet water temperature		
-	40/50	50/55	50/60
30	0,92	0,71	0,63
35	0,93	0,76	0,69
40	0,94	0,79	0,74

12 INSTALLATION CLEARANCE REQUIREMENTS

All models belonging to the LCX series are designed and built for outdoor installation: avoid covering them with roof structures or positioning them near plants (even if they only partly cover the unit) which may interfere with the regular ventilation of the unit condenser.
It is a good idea to provide a supporting base of adequate dimensions. This precaution becomes an imperative when the unit is to be sited on unstable ground (various types of soil, gardens, etc.)
It is advisable to place a rigid rubber strip between the base frame and the supporting surface.
Whenever more effective insulation is required, it is recommended to use vibrating-damping spring supports.
In the case of installation on roofs or intermediate storeys, the unit and pipes must be insulated from walls and ceilings by placing rigid rubber joints in between and using supports that are not rigidly anchored to the walls.
If the unit is to be installed in proximity to private offices, bedrooms or areas where noise levels must be kept down, it is advisable to conduct a thorough analysis of the sound field generated and verify its compatibility with the local laws in force.
It is of fundamental importance to ensure an adequate volume of air both on the intake and outlet sides of the condenser/evaporating finned coils; it is highly important to prevent the air delivered from being re-aspirated as this may impair the performance of the unit or even cause an interruption in normal operation.
For this reason it is necessary to guarantee the following clearances:

— rear side/plumbing connections: min. 1,0 metres to guarantee access to plumbing connections and/or for any necessary maintenance on the pumps, tank, expansion tank and flow switch
— Electric control board side: min. 1.0 metres to guarantee access for inspection and/or maintenance of cooling components.
— finned block exchanger side: min. 1.5 metres to ensure proper air circulation and access to the compressor compartment, also from the side
— top side: there must be no obstacle to air outlet.

13 SITING AND DAMPERS

It is important to bear in mind the following aspects when choosing the best site for installing the unit:

— Size and origin of water pipes;
— Location of the power supply;
— Solidity of the supporting surface;
— Avoid obstacles to the outflow of air from the fan which could cause back suction (see section on 14 Dimensions p. 45);
— Direction of prevalent winds: (position the unit so as to prevent prevalent winds from interfering with the fan air flow). Prevalent winds opposing the fan air flow will result in a maximum air temperature below the value indicated in the operating limits;
— Avoid the possible reverberation of sound waves; do not install the unit in narrow or cramped spaces;
— Ensure adequate accessibility for maintenance or repairs (see section on 14 Dimensions p. 45).

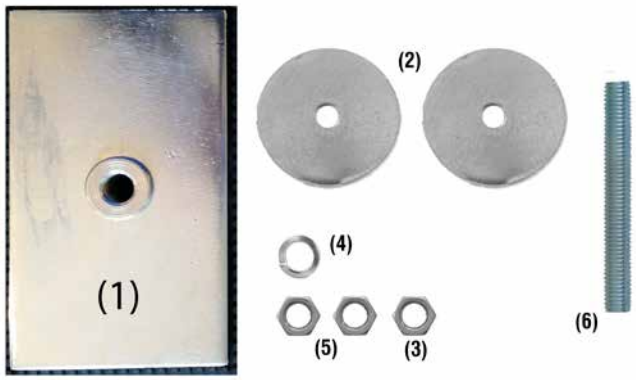
This appliance is not intended to be used by children or persons with physical, sensorial or mental problems, inexpert or unprepared, without supervision. Be careful that children do not approach the appliance.

When installing the vibration dampers follow the instructions below:

1. Screw the jack (6) into the vibration damper with jack support plate (1) all the way;
2. Screw the bolt (5) until the jack (6) is locked in place on the vibration damper (1);
3. Screw the bolt (3) and insert one of the two disks (2) into the jack (6);
4. Insert the jack (6) into the hole on the unit base;
5. Adjust the height by turning the bolt (3);
6. Insert the second disk (2) into the jack (6) until it makes contact with the base;
7. Tighten the vibration damper with the split washer (4) and the bolt (5) to the unit base.

LCX	DAMPERS
FRAME 2	4
FRAME 3	6
FRAME 3+	8
FRAME 4	8
FRAME 5	8
FRAME 6	8

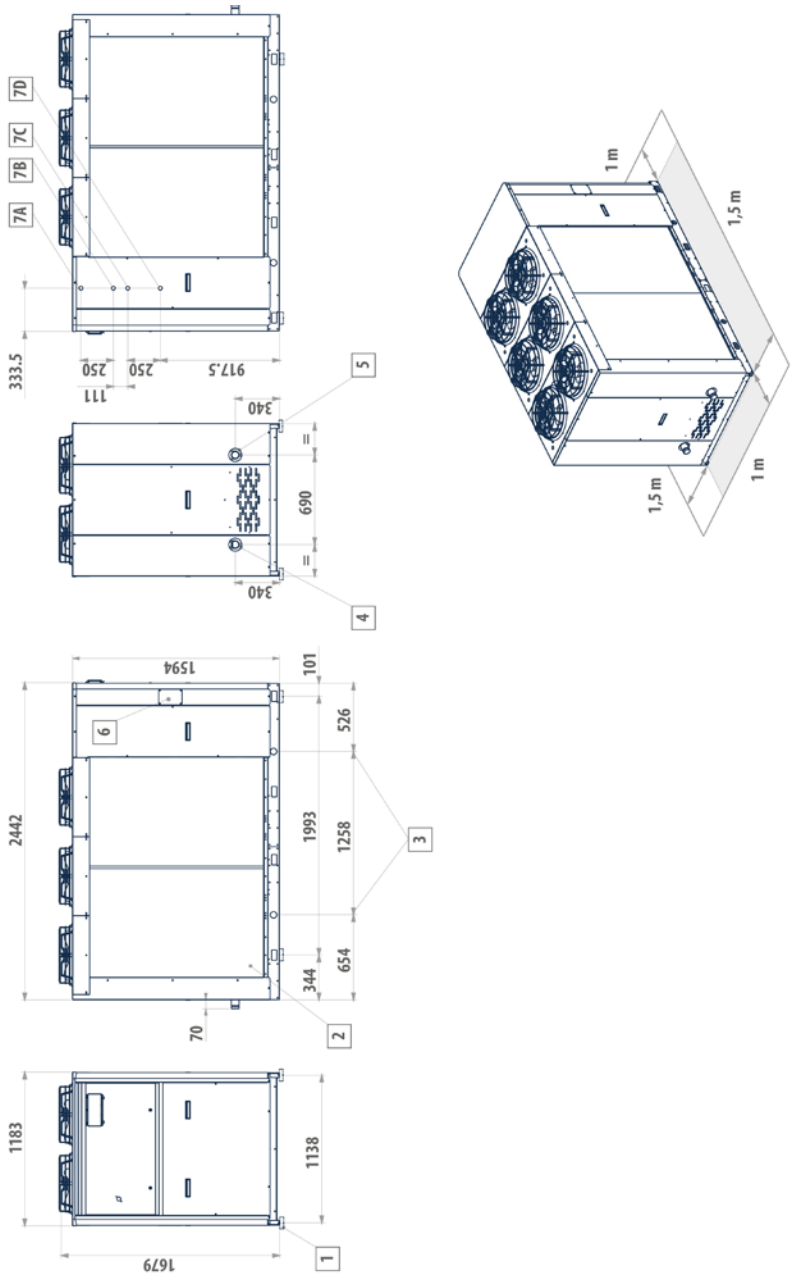
» Dampers components



See the vibration dumpers mounting instructions LCX (code RG66013698).

14 DIMENSIONS

» LCX FRAME 2

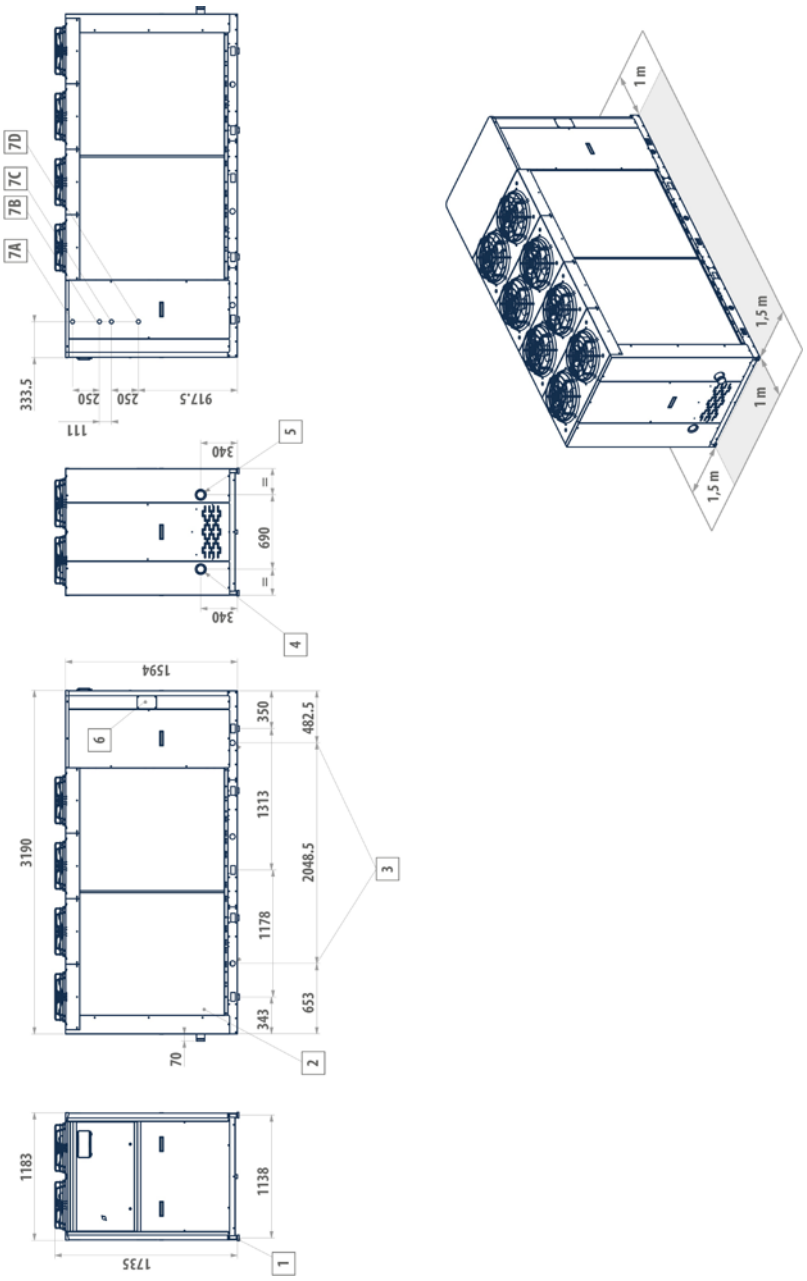


LEGEND

1	Vibration dampers	**6**	Power supply input
2	Protection grill (optional)	**7A**	Heat recovery water outlet (1"), left-hand circuit
3	Lifting points	**7B**	Heat recovery water inlet (1"), left-hand circuit
4	Water inlet (Victaulic 2")	**7C**	Heat recovery water outlet (1"), right-hand circuit
5	Water outlet (Victaulic 2")	**7D**	Heat recovery water inlet (1"), right-hand circuit

Model	Version
LCX 62-72-82	L - Q
LCX 92-102	S

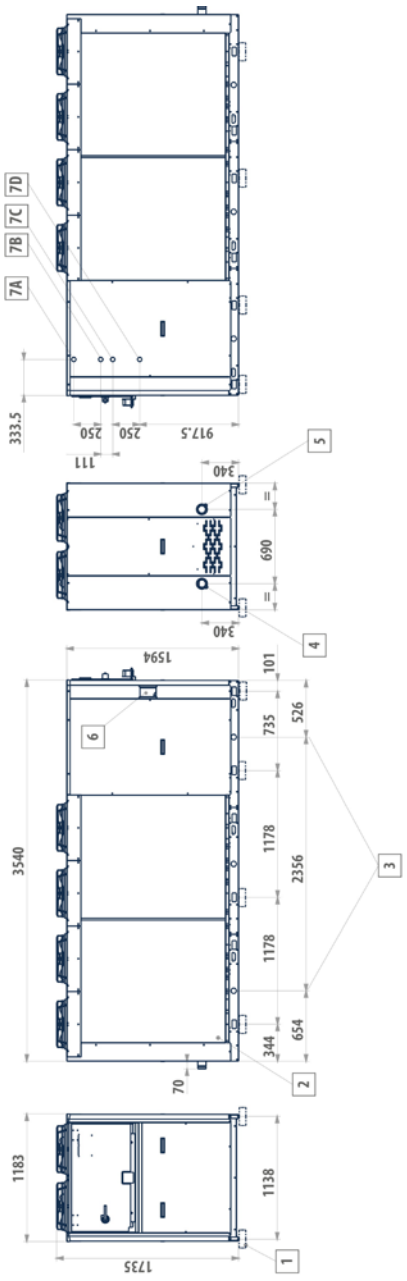
» LCX FRAME 3



LEGEND

1 Vibration dampers
2 Protection grill (optional)
3 Lifting points
4 Water inlet (Victaulic 2 1/2")
5 Water outlet (Victaulic 2 1/2")
6 Power supply input
7A Heat recovery water outlet (1"), left-hand circuit
7B Heat recovery water inlet (1"), left-hand circuit
7C Heat recovery water outlet (1"), right-hand circuit
7D Heat recovery water inlet (1"), right-hand circuit

Model	Version
LCX 92-102	L - Q
LCX 122-142-162	S

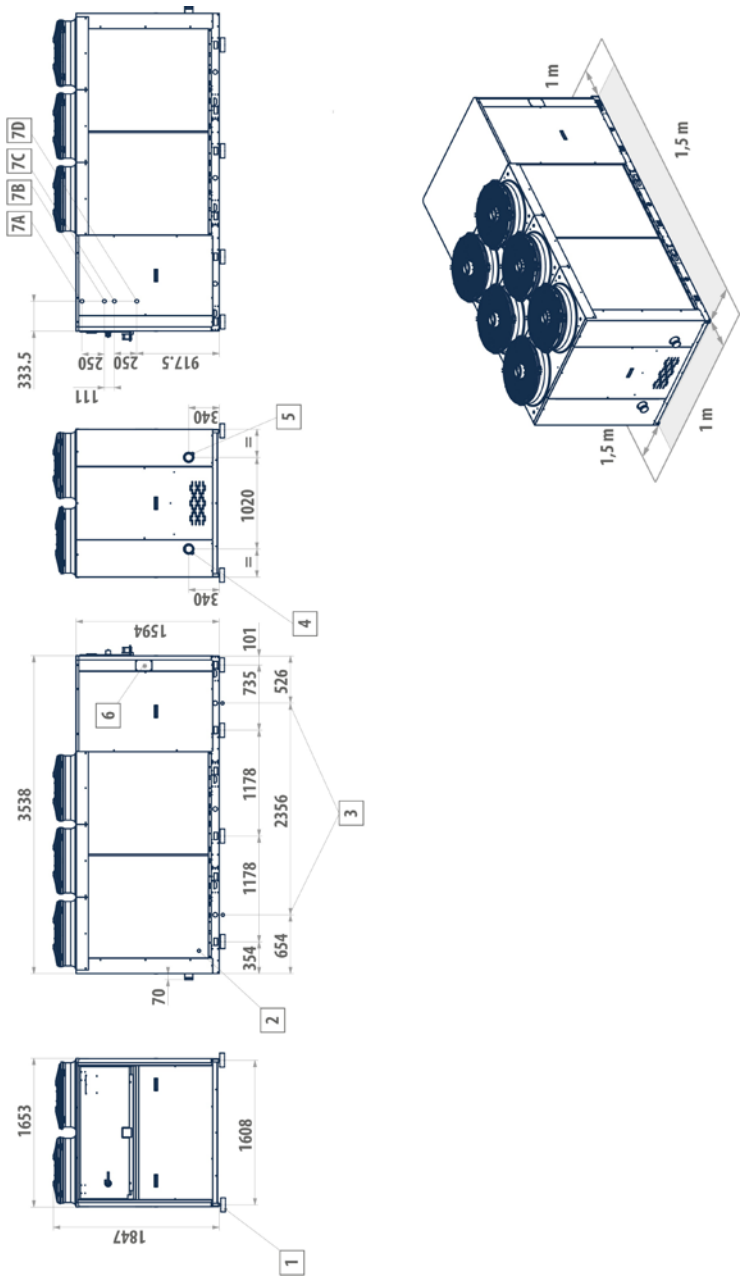


LEGEND

1	Vibration dampers	**6**	Power supply input
2	Protection grill (optional)	**7A**	Heat recovery water outlet (1"), left-hand circuit
3	Lifting points	**7B**	Heat recovery water inlet (1"), left-hand circuit
4	Water inlet (Victaulic 2 1/2")	**7C**	Heat recovery water outlet (1"), right-hand circuit
5	Water outlet (Victaulic 2 1/2")	**7D**	Heat recovery water inlet (1"), right-hand circuit

Model	Version
LCX 94-104	L - Q
LCX 124-144-164	S

» LCX FRAME 4

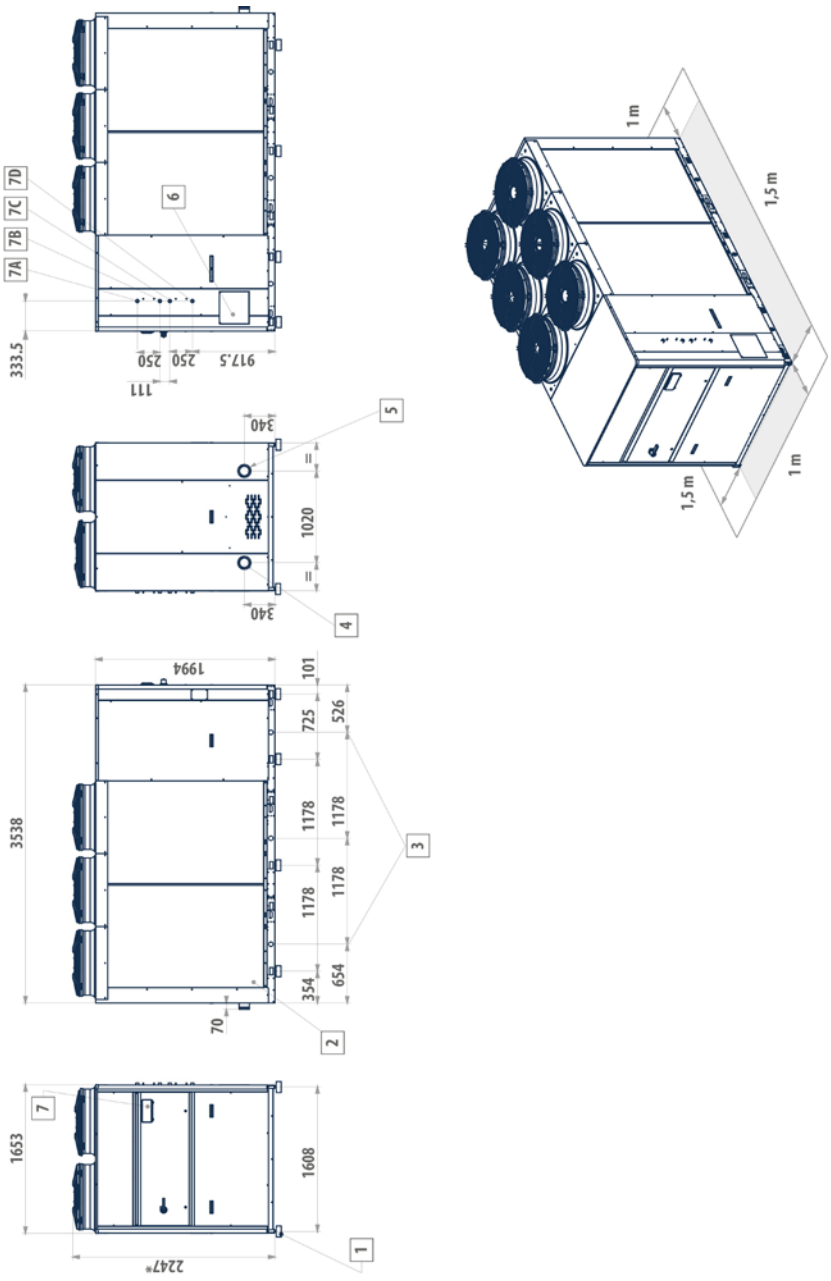


LEGEND

1 Vibration dampers
2 Protection grill (optional)
3 Lifting points (optional)
4 Water inlet (Victaulic 3")
5 Water outlet (Victaulic 3")
6 Power supply input
7A Heat recovery water outlet (1"), left-hand circuit
7B Heat recovery water inlet (1"), left-hand circuit
7C Heat recovery water outlet (1"), right-hand circuit
7D Heat recovery water inlet (1"), right-hand circuit
***** With EC=1884 fans

Model	Version
LCX 122-124-142-144-162-164	L - Q
LCX 174-214	S
LCX 194	L - Q - S

» LCX FRAME 5

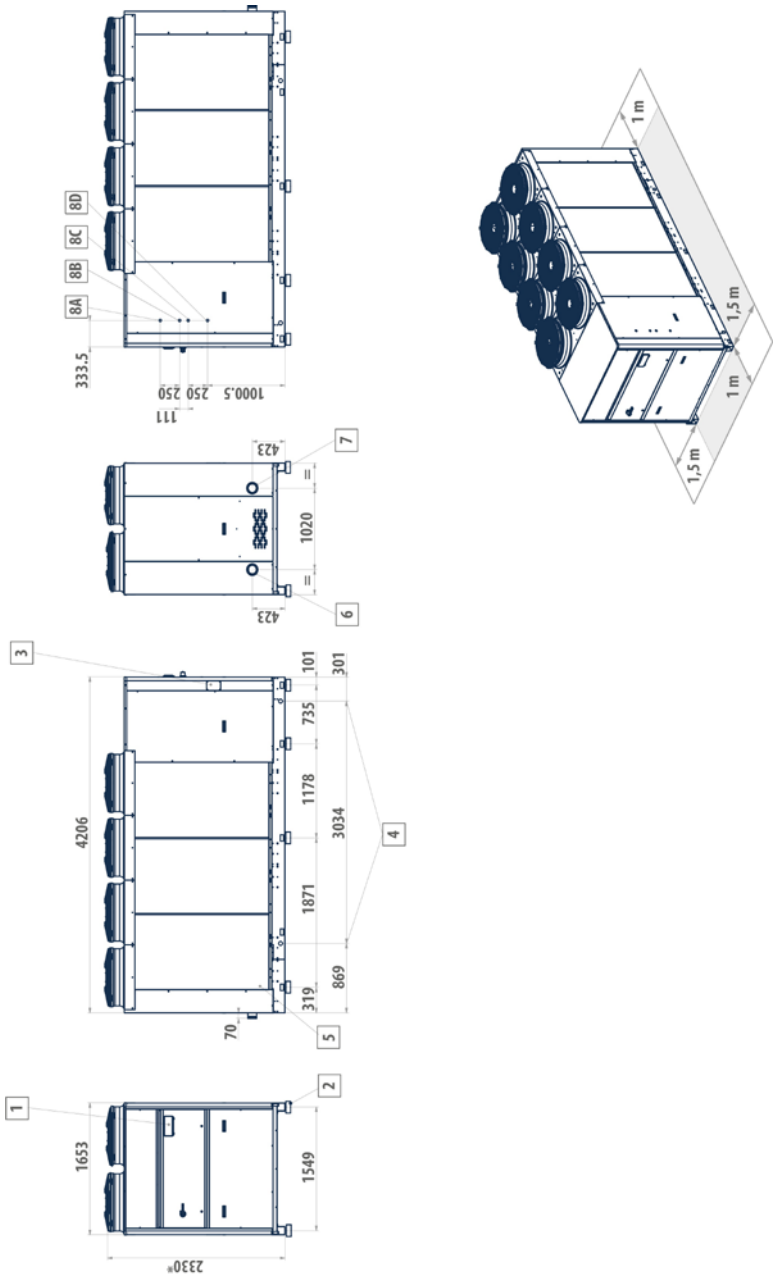


LEGEND

1	Vibration dampers	**6**	Power supply input
2	Protection grill (optional)	**7A**	Heat recovery water outlet (1"), left-hand circuit
3	Lifting points (optional)	**7B**	Heat recovery water inlet (1"), left-hand circuit
4	Water inlet (Victaulic 4")	**7C**	Heat recovery water outlet (1"), right-hand circuit
5	Water outlet (Victaulic 4")	**7D**	Heat recovery water inlet (1"), right-hand circuit
		*	With EC=2284 fans

Model	Version
LCX 214	L - Q
LCX 244	S - L - Q

» LCX FRAME 6



LEGEND

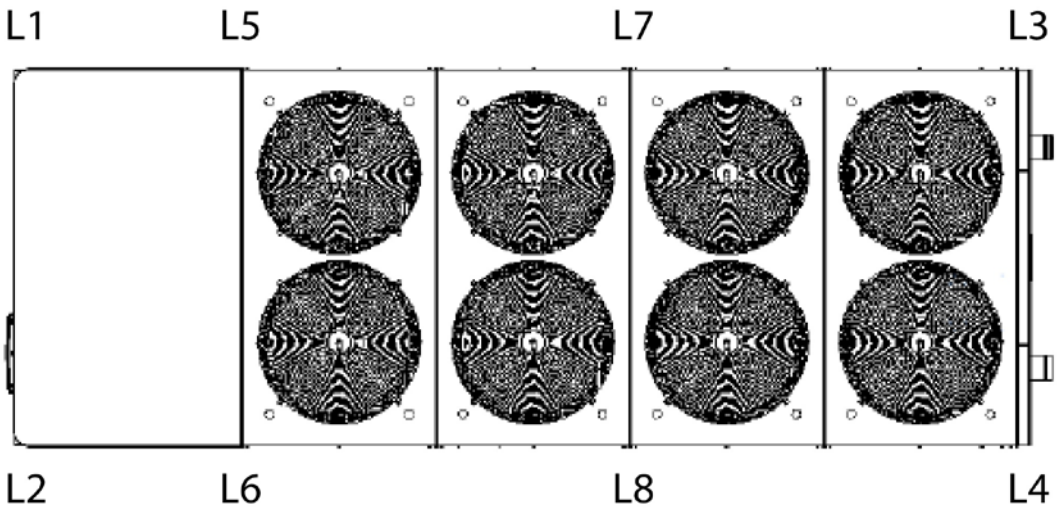
1	User interface	**7**	Water outlet (Victaulic 4")		right-hand circuit
2	Vibration dampers	**8A**	Heat recovery water outlet (1") left-hand circuit	**8D**	Heat recovery water inlet (1") right-hand circuit
3	Power supply	**8B**	Heat recovery water inlet (1") left-hand circuit	*	With EC=2367 fans
4	Lifting points (optional)	**8C**	Heat recovery water outlet (1")		
5	Protection grill (optional)				
6	Water inlet (Victaulic 4")				

Model	Version
LCX 274	L - Q - S
LCX 294	L - Q - S
LCX 324	L - Q - S
LCX 364	S - L

15 WEIGHTS

This drawing shows the points of the machine for which weights have been calculated, with respect to the basic chiller and heat pump model. The weights are shown in the tables below.

»



Frame	Height	Depth	Length	Water tank content
2	1735	1183	2442	220
3	1735	1183	3190	340
3+	1679	1183	3540	340
4	1847	1653	3538	600
5	2247	1653	3538	600
6	2330	1653	4206	765

Important note: the weights of the hydronic modules must be added to the standard weights of the respective basic model (cooling only and heat pump).
All weights stated below include the refrigerant charge as well as the water contained in the circuit (very important when assessing the most suitable bearing surface for the unit especially in the presence of a tank).
To get an approximate estimate of the unit's weight when empty, subtract the weight (in kg) of the water contained in the tank (see table).
In other cases the water content is negligible for these purposes.

» Operating weight C version with pump and full buffer tank

LCX CS		92	102	122	124	142	144	162	164
L1	kg	102	102	29	-	29	-	29	-
L2	kg	102	102	29	-	29	-	29	-
L3	kg	102	102	128	89	128	89	128	89
L4	kg	102	102	128	89	128	89	128	89
L5	kg	-	-	128	89	128	89	128	89
L6	kg	-	-	128	89	128	89	128	89
L7	kg	-	-	-	118	-	118	-	118
L8	kg	-	-	-	118	-	118	-	118
Total	kg	408	408	571	591	571	591	571	591

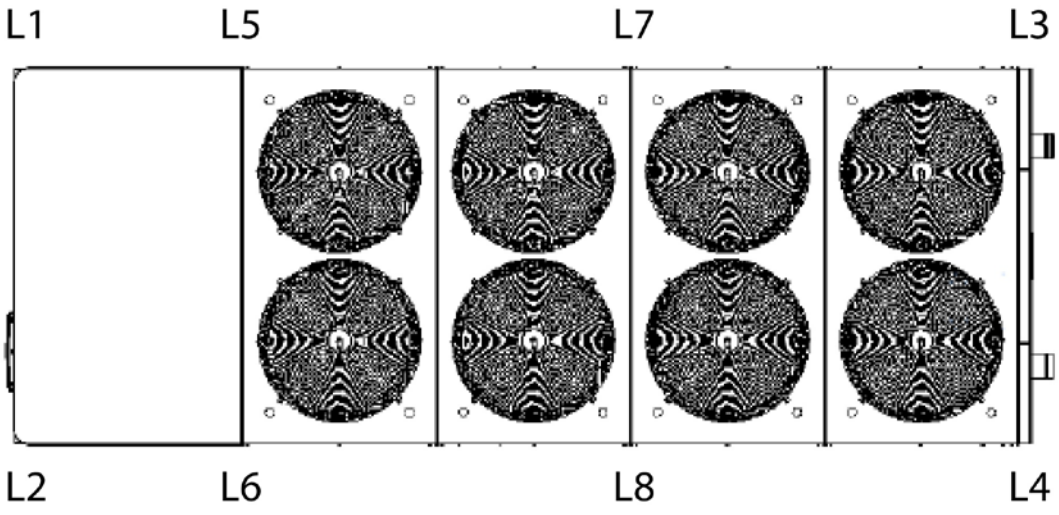
LCX CS		174	194	214	244	274	294	324	364
L1	kg	-	-	-	-	-	-	-	-
L2	kg	-	-	-	-	-	-	-	-
L3	kg	115	122	122	127	169	169	169	169
L4	kg	115	122	122	127	169	169	169	169
L5	kg	115	122	122	127	169	169	169	169
L6	kg	115	122	122	127	169	169	169	169
L7	kg	154	163	163	170	169	169	169	169
L8	kg	154	163	163	170	169	169	169	169
Total	kg	768	816	816	849	1014	1014	1014	1014

LCX CL		062	072	082	092	094	102	104	122	124	142
L1	kg	88	88	92	26	-	26	-	-	-	-
L2	kg	88	88	92	26	-	26	-	-	-	-
L3	kg	88	88	92	117	87	117	87	117	117	117
L4	kg	88	88	92	117	87	117	87	117	117	117
L5	kg	-	-	-	117	87	117	87	117	117	117
L6	kg	-	-	-	117	87	117	87	117	117	117
L7	kg	-	-	-	-	116	-	116	156	156	156
L8	kg	-	-	-	-	116	-	116	156	156	156
Total	kg	352	352	367	521	578	521	578	780	780	780

LCX CL		144	162	164	194	214	244	274	294	324	364
L1	kg	-	-	-	-	-	-	-	-	-	-
L2	kg	-	-	-	-	-	-	-	-	-	-
L3	kg	117	117	117	122	122	127	169	169	169	169
L4	kg	117	117	117	122	122	127	169	169	169	169
L5	kg	117	117	117	122	122	127	169	169	169	169
L6	kg	117	117	117	122	122	127	169	169	169	169
L7	kg	156	156	156	163	163	170	169	169	169	169
L8	kg	156	156	156	163	163	170	169	169	169	169
Total	kg	780	780	780	816	816	849	1014	1014	1014	1014

This drawing shows the points of the machine for which weights have been calculated, with respect to the basic chiller and heat pump model. The weights are shown in the tables below.

»



Frame	Height	Depth	Length	Water tank content
2	1735	1183	2442	220
3	1735	1183	3190	340
3+	1679	1183	3540	340
4	1847	1653	3538	600
5	2247	1653	3538	600
6	2330	1653	4206	765

Important note: the weights of the hydronic modules must be added to the standard weights of the respective basic model (cooling only and heat pump).
All weights stated below include the refrigerant charge as well as the water contained in the circuit (very important when assessing the most suitable bearing surface for the unit especially in the presence of a tank).
To get an approximate estimate of the unit's weight when empty, subtract the weight (in kg) of the water contained in the tank (see table).
In other cases the water content is negligible for these purposes.

» Operating weight C version with pump

LCX CS		92	102	122	124	142	144	162	164
L1	kg	36	36	8	-	8	-	8	-
L2	kg	36	36	8	-	8	-	8	-
L3	kg	36	36	36	24	36	24	36	24
L4	kg	36	36	36	24	36	24	36	24
L5	kg	-	-	36	24	36	24	36	24
L6	kg	-	-	36	24	36	24	36	24
L7	kg	-	-	-	32	-	32	-	32
L8	kg	-	-	-	32	-	32	-	32
Total	kg	143	143	159	159	159	159	159	159

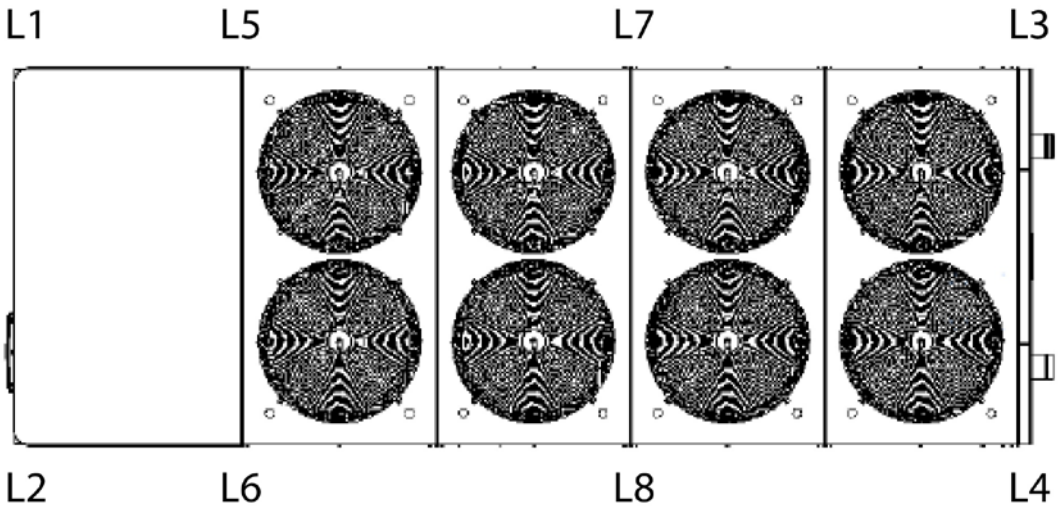
LCX CS		174	194	214	244	274	294	324	364
L1	kg	-	-	-	-	-	-	-	-
L2	kg	-	-	-	-	-	-	-	-
L3	kg	27	27	27	28	31	31	31	31
L4	kg	27	27	27	28	31	31	31	31
L5	kg	27	27	27	28	31	31	31	31
L6	kg	27	27	27	28	31	31	31	31
L7	kg	35	35	35	37	31	31	31	31
L8	kg	35	35	35	37	31	31	31	31
Total	kg	177	177	177	186	186	186	186	186

LCX CL		062	072	082	092	094	102	104	122	124	142
L1	kg	37	37	33	8	-	8	-	-	-	-
L2	kg	37	37	33	8	-	8	-	-	-	-
L3	kg	37	37	33	36	21	36	21	25	25	25
L4	kg	37	37	33	36	21	36	21	25	25	25
L5	kg	-	-	-	36	21	36	21	25	25	25
L6	kg	-	-	-	36	21	36	21	25	25	25
L7	kg	-	-	-	-	29	-	29	33	33	33
L8	kg	-	-	-	-	29	-	29	33	33	33
Total	kg	148	148	134	159	143	159	143	165	165	165

LCX CL		144	162	164	194	214	244	274	294	324	364
L1	kg	-	-	-	-	-	-	-	-	-	-
L2	kg	-	-	-	-	-	-	-	-	-	-
L3	kg	25	25	25	27	27	28	31	31	31	31
L4	kg	25	25	25	27	27	28	31	31	31	31
L5	kg	25	25	25	27	27	28	31	31	31	31
L6	kg	25	25	25	27	27	28	31	31	31	31
L7	kg	33	33	33	35	35	37	31	31	31	31
L8	kg	33	33	33	35	35	37	31	31	31	31
Total	kg	165	165	165	177	177	186	186	186	186	186

This drawing shows the points of the machine for which weights have been calculated, with respect to the basic chiller and heat pump model. The weights are shown in the tables below.

»



Frame	Height	Depth	Length	Water tank content
2	1735	1183	2442	220
3	1735	1183	3190	340
3+	1679	1183	3540	340
4	1847	1653	3538	600
5	2247	1653	3538	600
6	2330	1653	4206	765

Important note: the weights of the hydronic modules must be added to the standard weights of the respective basic model (cooling only and heat pump).
All weights stated below include the refrigerant charge as well as the water contained in the circuit (very important when assessing the most suitable bearing surface for the unit especially in the presence of a tank).
To get an approximate estimate of the unit's weight when empty, subtract the weight (in kg) of the water contained in the tank (see table).
In other cases the water content is negligible for these purposes.

» Operating weight CS version without hydraulic options

LCX		92	102	122	124	142	144	162	164
L1	kg	274	274	189	158	198	161	203	183
L2	kg	274	274	189	158	198	161	203	183
L3	kg	91	91	126	105	132	107	136	122
L4	kg	91	91	126	105	132	107	136	122
L5	kg	-	-	189	158	198	161	203	183
L6	kg	-	-	189	158	198	161	203	183
L7	kg	-	-	-	105	-	107	-	122
L8	kg	-	-	-	105	-	107	-	122
Total	kg	730	730	1010	1050	1055	1070	1085	1220

LCX		174	194	214	244	274	294	324	364
L1	kg	216	219	221	243	303	303	312	337
L2	kg	216	219	221	243	303	303	312	337
L3	kg	144	146	147	162	218	220	223	223
L4	kg	144	146	147	162	218	220	223	223
L5	kg	216	219	221	243	268	279	285	310
L6	kg	216	219	221	243	268	280	285	310
L7	kg	144	146	147	162	183	185	185	185
L8	kg	144	146	147	162	183	185	185	185
Total	kg	1440	1460	1470	1620	1943	1975	2010	2110

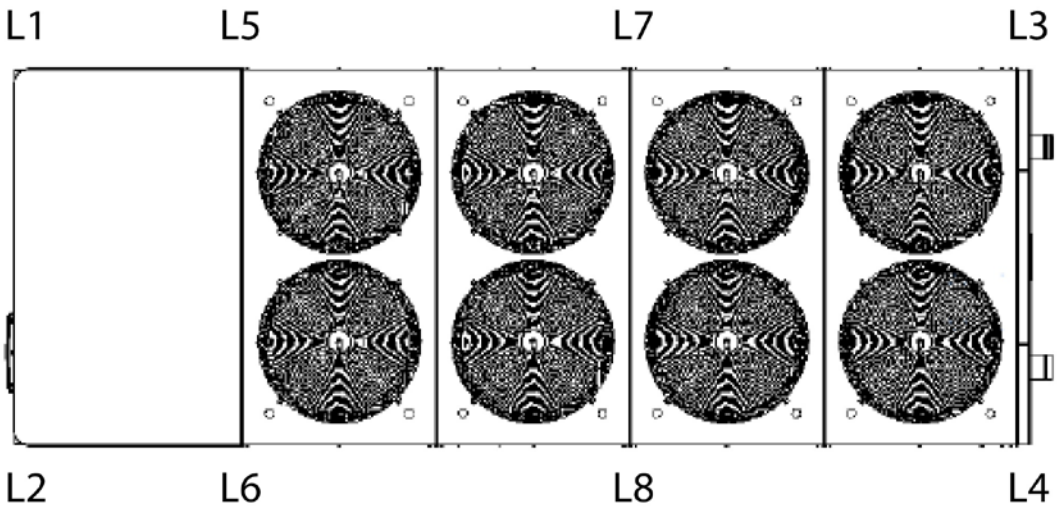
» Operating weight CL version without hydraulic options

LCX		062	072	082	092	094	102	104	122	124	142
L1	kg	236	238	263	170	147	172	147	189	191	197
L2	kg	236	238	263	170	147	172	147	189	191	197
L3	kg	79	79	88	113	98	114	98	126	128	131
L4	kg	79	79	88	113	98	114	98	126	128	131
L5	kg	-	-	-	170	147	172	147	189	191	197
L6	kg	-	-	-	170	147	172	147	189	191	197
L7	kg	-	-	-	-	98	-	98	126	128	131
L8	kg	-	-	-	-	98	-	98	126	128	131
Total	kg	630	635	700	905	980	915	980	1260	1275	1310

LCX		144	162	164	194	214	244	274	294	324	364
L1	kg	194	200	216	219	227	243	303	303	312	337
L2	kg	194	200	216	219	227	243	303	303	312	337
L3	kg	129	133	144	146	151	162	218	220	223	223
L4	kg	129	133	144	146	151	162	218	220	223	223
L5	kg	194	200	216	219	227	243	268	279	285	310
L6	kg	194	200	216	219	227	243	268	279	285	310
L7	kg	129	133	144	146	151	162	183	185	185	185
L8	kg	129	133	144	146	151	162	183	185	185	185
Total	kg	1290	1330	1440	1460	1510	1620	1943	1975	2010	2110

This drawing shows the points of the machine for which weights have been calculated, with respect to the basic chiller and heat pump model. The weights are shown in the tables below.

»



Frame	Height	Depth	Length	Water tank content
2	1735	1183	2442	220
3	1735	1183	3190	340
3+	1679	1183	3540	340
4	1847	1653	3538	600
5	2247	1653	3538	600
6	2330	1653	4206	765

Important note: the weights of the hydronic modules must be added to the standard weights of the respective basic model (cooling only and heat pump).
All weights stated below include the refrigerant charge as well as the water contained in the circuit (very important when assessing the most suitable bearing surface for the unit especially in the presence of a tank).
To get an approximate estimate of the unit's weight when empty, subtract the weight (in kg) of the water contained in the tank (see table).
In other cases the water content is negligible for these purposes.

» Operating weight H version with pump and full buffer tank

LCX HS		092	102	122	124	142	144	162	164
L1	kg	102	102	29	-	29	-	29	-
L2	kg	102	102	29	-	29	-	29	-
L3	kg	102	102	128	89	128	89	128	89
L4	kg	102	102	128	89	128	89	128	89
L5	kg	-	-	128	89	128	89	128	89
L6	kg	-	-	128	89	128	89	128	89
L7	kg	-	-	-	118	-	118	-	118
L8	kg	-	-	-	118	-	118	-	118
Total	kg	408	408	571	591	571	591	571	591

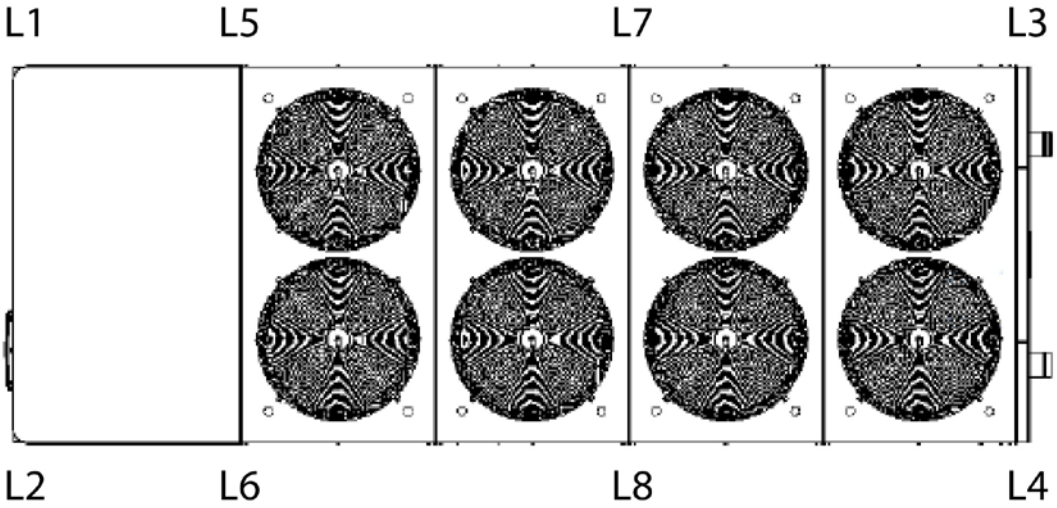
LCX HS		174	194	214	244	274	294	324	364
L1	kg	-	-	-	-	-	-	-	-
L2	kg	-	-	-	-	-	-	-	-
L3	kg	115	122	122	127	169	169	169	169
L4	kg	115	122	122	127	169	169	169	169
L5	kg	115	122	122	127	169	169	169	169
L6	kg	115	122	122	127	169	169	169	169
L7	kg	154	163	163	170	169	169	169	169
L8	kg	154	163	163	170	169	169	169	169
Total	kg	768	816	816	849	1014	1014	1014	1014

LCX HL		062	072	082	092	094	102	104	122	124	142
L1	kg	88	88	92	26	-	26	-	-	-	-
L2	kg	88	88	92	26	-	26	-	-	-	-
L3	kg	88	88	92	117	87	117	87	117	117	117
L4	kg	88	88	92	117	87	117	87	117	117	117
L5	kg	-	-	-	117	87	117	87	117	117	117
L6	kg	-	-	-	117	87	117	87	117	117	117
L7	kg	-	-	-	-	116	-	116	156	156	156
L8	kg	-	-	-	-	116	-	116	156	156	156
Total	kg	352	352	367	521	578	521	578	780	780	780

LCX HL		144	162	164	194	214	244	274	294	324
L1	kg	-	-	-	-	-	-	-	-	-
L2	kg	-	-	-	-	-	-	-	-	-
L3	kg	117	117	117	122	122	127	169	169	169
L4	kg	117	117	117	122	122	127	169	169	169
L5	kg	117	117	117	122	122	127	169	169	169
L6	kg	117	117	117	122	122	127	169	169	169
L7	kg	156	156	156	163	163	170	169	169	169
L8	kg	156	156	156	163	163	170	169	169	169
Total	kg	780	780	780	816	816	849	1014	1014	1014

This drawing shows the points of the machine for which weights have been calculated, with respect to the basic chiller and heat pump model. The weights are shown in the tables below.

»



Frame	Height	Depth	Length	Water tank content
2	1735	1183	2442	220
3	1735	1183	3190	340
3+	1679	1183	3540	340
4	1847	1653	3538	600
5	2247	1653	3538	600
6	2330	1653	4206	765

Important note: the weights of the hydronic modules must be added to the standard weights of the respective basic model (cooling only and heat pump).
All weights stated below include the refrigerant charge as well as the water contained in the circuit (very important when assessing the most suitable bearing surface for the unit especially in the presence of a tank).
To get an approximate estimate of the unit's weight when empty, subtract the weight (in kg) of the water contained in the tank (see table).
In other cases the water content is negligible for these purposes.

» Operating weight H version with pump

LCX HS		092	102	122	124	142	144	162	164
L1	kg	36	36	8	-	8	-	8	-
L2	kg	36	36	8	-	8	-	8	-
L3	kg	36	36	36	24	36	24	36	24
L4	kg	36	36	36	24	36	24	36	24
L5	kg	-	-	36	24	36	24	36	24
L6	kg	-	-	36	24	36	24	36	24
L7	kg	-	-	-	32	-	32	-	32
L8	kg	-	-	-	32	-	32	-	32
Total	kg	143	143	159	159	159	159	159	159

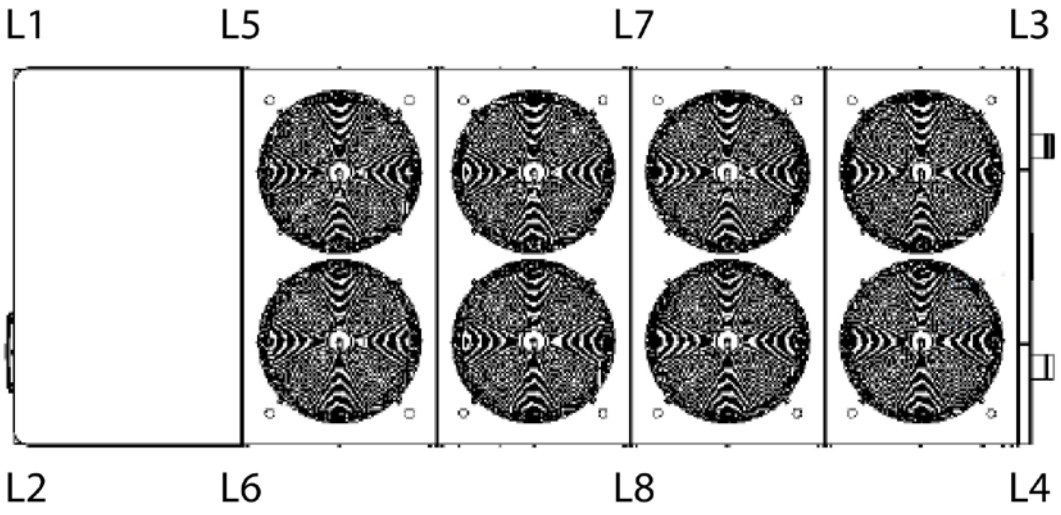
LCX HS		174	194	214	244	274	294	324	364
L1	kg	-	-	-	-	-	-	-	-
L2	kg	-	-	-	-	-	-	-	-
L3	kg	27	27	27	28	31	31	31	31
L4	kg	27	27	27	28	31	31	31	31
L5	kg	27	27	27	28	31	31	31	31
L6	kg	27	27	27	28	31	31	31	31
L7	kg	35	35	35	37	31	31	31	31
L8	kg	35	35	35	37	31	31	31	31
Total	kg	177	177	177	186	186	186	186	186

LCX HL		062	072	082	092	094	102	104	122	124	142
L1	kg	37	37	33	8	-	8	-	-	-	-
L2	kg	37	37	33	8	-	8	-	-	-	-
L3	kg	37	37	33	36	21	36	21	25	25	25
L4	kg	37	37	33	36	21	36	21	25	25	25
L5	kg	-	-	-	36	21	36	21	25	25	25
L6	kg	-	-	-	36	21	36	21	25	25	25
L7	kg	-	-	-	-	29	-	29	33	33	33
L8	kg	-	-	-	-	29	-	29	33	33	33
Total	kg	148	148	134	159	143	159	143	165	165	165

LCX HL		144	162	164	194	214	244	274	294	324
L1	kg	-	-	-	-	-	-	-	-	-
L2	kg	-	-	-	-	-	-	-	-	-
L3	kg	25	25	25	27	27	28	31	31	31
L4	kg	25	25	25	27	27	28	31	31	31
L5	kg	25	25	25	27	27	28	31	31	31
L6	kg	25	25	25	27	27	28	31	31	31
L7	kg	33	33	33	35	35	37	31	31	31
L8	kg	33	33	33	35	35	37	31	31	31
Total	kg	165	165	165	177	177	186	186	186	186

This drawing shows the points of the machine for which weights have been calculated, with respect to the basic chiller and heat pump model. The weights are shown in the tables below.

»



Frame	Height	Depth	Length	Water tank content
2	1735	1183	2442	220
3	1735	1183	3190	340
3+	1679	1183	3540	340
4	1847	1653	3538	600
5	2247	1653	3538	600
6	2330	1653	4206	765

Important note: the weights of the hydronic modules must be added to the standard weights of the respective basic model (cooling only and heat pump).
All weights stated below include the refrigerant charge as well as the water contained in the circuit (very important when assessing the most suitable bearing surface for the unit especially in the presence of a tank).
To get an approximate estimate of the unit's weight when empty, subtract the weight (in kg) of the water contained in the tank (see table).

In other cases the water content is negligible for these purposes.

» Operating weight HS version without hydraulic options

LCX		092	102	122	124	142	144	162	164
L1	kg	283	285	197	164	206	168	217	191
L2	kg	283	285	197	164	206	168	217	191
L3	kg	94	95	131	109	138	112	144	127
L4	kg	94	95	131	109	138	112	144	127
L5	kg	-	-	197	164	206	168	217	191
L6	kg	-	-	197	164	206	168	217	191
L7	kg	-	-	-	109	-	112	-	127
L8	kg	-	-	-	109	-	112	-	127
Total	kg	755	760	1050	1090	1100	1120	1155	1270

LCX		174	194	214	244	274	294	324	364
L1	kg	224	227	230	254	323	323	333	358
L2	kg	224	227	230	254	323	323	333	358
L3	kg	150	152	153	169	223	224	224	224
L4	kg	150	152	153	169	223	224	224	224
L5	kg	224	227	230	254	278	294	308	333
L6	kg	224	227	230	254	278	294	308	333
L7	kg	150	152	153	169	184	184	185	185
L8	kg	150	152	153	169	184	184	185	185
Total	kg	1495	1515	1530	1690	2015	2050	2101	2201

» Operating weight HL version without hydraulic options

LCX HL		062	072	082	092	094	102	104	122	124	142
L1	kg	244	246	276	176	153	177	153	196	197	203
L2	kg	244	246	276	176	153	177	153	196	197	203
L3	kg	81	82	92	118	102	118	102	131	132	135
L4	kg	81	82	92	118	102	118	102	131	132	135
L5	kg	-	-	-	176	153	177	153	196	197	203
L6	kg	-	-	-	176	153	177	153	196	197	203
L7	kg	-	-	-	-	102	-	102	131	132	135
L8	kg	-	-	-	-	102	-	102	131	132	135
Total	kg	650	655	735	940	1020	945	1020	1305	1315	1350

LCX HL		144	162	164	194	214	244	274	294	324
L1	kg	202	206	224	227	239	254	323	323	333
L2	kg	202	206	224	227	239	254	323	323	333
L3	kg	135	138	150	152	159	169	223	24	224
L4	kg	135	138	150	152	159	169	223	224	224
L5	kg	202	206	224	227	239	254	278	294	308
L6	kg	202	206	224	227	239	254	278	294	308
L7	kg	135	138	150	152	159	169	184	184	185
L8	kg	135	138	150	152	159	169	184	184	185
Total	kg	1345	1375	1495	1515	1590	1690	2015	2050	2101

16 ELECTRICAL DATA

» LCX CS electrical data

LCX		92	102	122	124	142	144	162	164
Power supply	V-ph-Hz	400 - 3N - 50							
Maximum power input	kW	45,5	52,0	59,6	60,5	65,7	67,3	76,6	75,1
Maximum current absorption	A	91,0	101	119	120	131	129	144	150
Start up current	A	261	269	319	247	330	245	396	266
Startup current with soft starter	A	199	207	254	172	265	186	313	214
Fan motor rated power	kW	1,75	1,75	2,34	2,34	2,34	2,34	2,34	2,34
Fan motor rated current	A	6,60	6,60	8,80	8,80	8,80	8,80	8,80	8,80
Pump motor rated power - LP pumps	kW	1,40	1,40	1,80	1,80	2,90	2,90	2,90	2,90
Pump motor rated current - LP pumps	A	2,50	2,50	3,40	3,40	4,80	4,80	4,80	4,80
Pump motor rated power - HP pumps	kW	2,90	2,90	3,30	3,30	3,30	3,30	3,30	3,30
Pump motor rated current - HP pumps	A	4,80	4,80	5,60	5,60	5,60	5,60	5,60	5,60

LCX		174	194	214	244	274	294	324	364
Power supply	V-ph-Hz	400 - 3N - 50							
Maximum power input	kW	75,4	88,4	101	114	128	139	150	179
Maximum current absorption	A	136	155	173	196	224	237	251	300
Start up current	A	252	310	330	380	403	468	476	497
Startup current with soft starter	A	200	248	268	315	338	385	393	440
Fan motor rated power	kW	6,30	6,30	6,30	6,30	8,40	8,40	8,40	8,40
Fan motor rated current	A	15,0	15,0	15,0	15,0	20,0	20,0	20,0	20,0
Pump motor rated power - LP pumps	kW	2,80	2,80	3,70	5,10	5,10	5,10	5,10	5,10
Pump motor rated current - LP pumps	A	4,80	4,80	6,80	9,20	9,20	9,20	9,20	9,20
Pump motor rated power - HP pumps	kW	3,70	3,70	5,10	9,10	9,10	9,10	9,10	9,10
Pump motor rated current - HP pumps	A	6,80	6,80	9,20	15,5	15,5	15,5	15,5	15,5

» LCX HS technical data

LCX		092	102	122	124	142	144	162	164
Power supply	V-ph-Hz	400 - 3N - 50							
Maximum power input	kW	45,5	52,0	59,6	60,5	65,7	67,3	76,6	75,1
Maximum current absorption	A	91,0	101	119	120	131	129	144	150
Start up current	A	261	269	319	247	330	245	396	266
Startup current with soft starter	A	199	207	254	172	265	186	313	214
Fan motor rated power	kW	1,75	1,75	2,34	2,34	2,34	2,34	2,34	2,34
Fan motor rated current	A	6,60	6,60	8,80	8,80	8,80	8,80	8,80	8,80
Pump motor rated power - LP pumps	kW	1,40	1,40	1,80	1,80	2,90	2,90	2,90	2,90
Pump motor rated current - LP pumps	A	2,50	2,50	3,40	3,40	4,80	4,80	4,80	4,80
Pump motor rated power - HP pumps	kW	2,90	2,90	3,30	3,30	3,30	3,30	3,30	3,30
Pump motor rated current - HP pumps	A	4,80	4,80	5,60	5,60	5,60	5,60	5,60	5,60

LCX		174	194	214	244	274	294	324	364
Maximum power input	kW	75,4	88,4	101	114	128	139	150	179
Maximum current absorption	A	136	155	173	196	224	237	251	300
Start up current	A	252	310	330	380	403	468	476	497
Startup current with soft starter	A	200	248	268	315	338	385	393	440
Fan motor rated power	kW	6,30	6,30	6,30	6,30	8,40	8,40	8,40	8,40
Fan motor rated current	A	15,0	15,0	15,0	15,0	20,0	20,0	20,0	20,0
Pump motor rated power - LP pumps	kW	2,80	2,80	3,70	5,10	5,10	5,10	5,10	5,10
Pump motor rated current - LP pumps	A	4,80	4,80	6,80	9,20	9,20	9,20	9,20	9,20
Pump motor rated power - HP pumps	kW	3,70	3,70	5,10	9,10	9,10	9,10	9,10	9,10
Pump motor rated current - HP pumps	A	6,80	6,80	9,20	15,5	15,5	15,5	15,5	15,5
Power supply	V-ph-Hz	400 - 3N - 50							

» LCX CL technical data

LCX		062	072	082	092	094	102	104	122	124	142
Power supply	V-ph-Hz	400 - 3N - 50									
Maximum power input	kW	28,5	31,9	35,8	42,7	44,1	49,2	49,1	56,2	57,1	62,3
Maximum current absorption	A	51,0	55,0	66,0	77,0	81,0	86,0	87,0	95,0	96,0	106
Start up current	A	185	183	191	246	194	254	198	295	220	306
Startup current with soft starter	A	111	124	139	184	122	192	137	230	146	241
Fan motor rated power	kW	0,81	0,81	0,81	1,08	1,08	1,08	1,08	4,02	4,02	4,02
Fan motor rated current	A	3,84	3,84	3,84	5,12	5,12	5,12	5,12	7,74	7,74	7,74
Pump motor rated power - LP pumps	kW	1,40	1,40	1,40	1,80	1,80	1,80	1,80	1,80	1,80	2,90
Pump motor rated current - LP pumps	A	2,50	2,50	2,50	3,40	3,40	3,40	3,40	3,40	3,40	4,80
Pump motor rated power - HP pumps	kW	2,90	2,90	2,90	2,90	2,90	2,90	2,90	3,30	3,30	3,30
Pump motor rated current - HP pumps	A	4,80	4,80	4,80	4,80	4,80	4,80	4,80	5,60	5,60	5,60

LCX		142	144	162	164	194	214	244	274	294	324	364
Power supply	V-ph-Hz	400 - 3N - 50										
Maximum power input	kW	62,3	63,9	73,2	71,7	86,5	99,5	112	125	136	147	173
Maximum current absorption	A	106	105	120	126	148	167	190	215	229	242	290
Start up current	A	306	222	371	241	307	318	382	398	464	472	487
Startup current with soft starter	A	241	163	288	189	245	256	317	333	381	389	430
Fan motor rated power	kW	4,02	4,02	4,02	4,02	4,02	4,02	4,02	6,10	6,10	6,10	6,10
Fan motor rated current	A	7,74	7,74	7,74	7,74	7,74	7,74	7,74	10,3	10,3	10,3	10,3
Pump motor rated power - LP pumps	kW	2,90	2,90	2,90	2,90	2,80	3,70	5,10	5,10	5,10	5,10	5,10
Pump motor rated current - LP pumps	A	4,80	4,80	4,80	4,80	4,80	6,80	9,20	9,20	9,20	9,20	9,20
Pump motor rated power - HP pumps	kW	3,30	3,30	3,30	3,30	5,10	5,10	9,10	9,10	9,10	9,10	9,10
Pump motor rated current - HP pumps	A	5,60	5,60	5,60	5,60	9,20	9,20	15,5	15,5	15,5	15,5	15,5

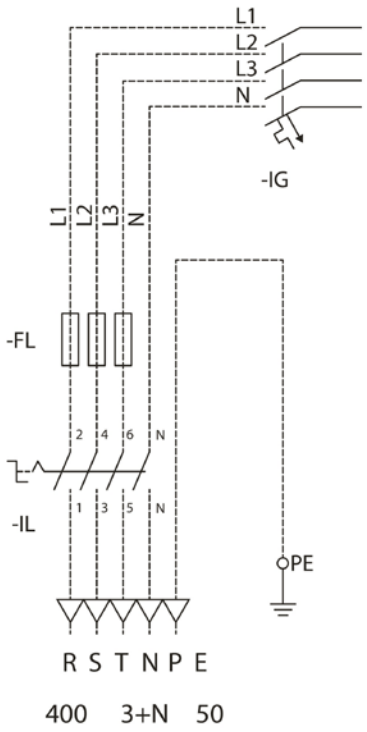
» LCX HL electrical data

LCX		062	072	082	092	094	102	104	122	124	142
Power supply	V-ph-Hz	400 - 3N - 50									
Maximum power input	kW	28,5	31,9	35,8	42,7	44,1	49,2	49,1	56,2	57,1	62,3
Maximum current absorption	A	51,0	55,0	66,0	77,0	81,0	86,0	87,0	95,0	96,0	106
Start up current	A	185	183	191	246	194	254	198	295	220	306
Startup current with soft starter	A	111	124	139	184	122	192	137	230	146	241
Fan motor rated power	kW	0,81	0,81	0,81	1,08	1,08	1,08	1,08	4,02	4,02	4,02
Fan motor rated current	A	3,84	3,84	3,84	5,12	5,12	5,12	5,12	7,74	7,74	7,74
Pump motor rated power - LP pumps	kW	1,40	1,40	1,40	1,80	1,80	1,80	1,80	1,80	1,80	2,90
Pump motor rated current - LP pumps	A	2,50	2,50	2,50	3,40	3,40	3,40	3,40	3,40	3,40	4,80
Pump motor rated power - HP pumps	kW	2,90	2,90	2,90	2,90	2,90	2,90	2,90	3,30	3,30	3,30
Pump motor rated current - HP pumps	A	4,80	4,80	4,80	4,80	4,80	4,80	4,80	5,60	5,60	5,60

LCX		144	162	164	194	214	244	274	294	324
Power supply	V-ph-Hz	400 - 3N - 50								
Maximum power input	kW	63,9	73,2	71,7	86,5	99,5	112	125	136	147
Maximum current absorption	A	105	120	126	148	167	190	215	229	242
Start up current	A	222	371	241	307	318	382	398	464	472
Startup current with soft starter	A	163	288	189	245	256	317	333	381	389
Fan motor rated power	kW	4,02	4,02	4,02	4,02	4,02	4,02	6,10	6,10	6,10
Fan motor rated current	A	7,74	7,74	7,74	7,74	7,74	7,74	10,3	10,3	10,3
Pump motor rated power - LP pumps	kW	2,90	2,90	2,90	2,80	3,70	5,10	5,10	5,10	5,10
Pump motor rated current - LP pumps	A	4,80	4,80	4,80	4,80	6,80	9,20	9,20	9,20	9,20
Pump motor rated power - HP pumps	kW	3,30	3,30	3,30	5,10	5,10	9,10	9,10	9,10	9,10
Pump motor rated current - HP pumps	A	5,60	5,60	5,60	9,20	9,20	15,5	15,5	15,5	15,5

16.1 ELECTRICAL WIRES

» Main electrical connection of units



Galletti S.p.A Organization has a Management System Certified by Kiwa Cermet Italia S.p.A, according to the UNI EN ISO 9001:2015, UNI EN ISO 14001:2015 and UNI ISO 45001:2018 standards.

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