Air cooled chillers

powerCIAT LX

Cooling capacity : 230 to 900 kW

Screw compressors
CIAT direct expansion
shell and tubes evaporator
Hydraulic pack versions
"Plug and Cool"
H.P.S. equipment
(High Power System)

PROPELLER FANS

cooling | **Hydraulic pack** | **Heating recovery**

USE

The new generation of **POWERCIAT water chillers LX** offers an optimal solution to all the refrigeration applications encountered in the air conditioning or industrial process.

This range is designed with the latest generation of components : accessible hermetic twin screw compressors, modulating capacity control, communicating control and management by Xtra Connect microprocessor, components optimized for the ecological refrigerant HFC 407C.

This range is also proposed with an integral hydraulic equipment : **POWERCIAT LXH**. This one includes all the elements required for a right operation of the unit : buffer tank, expansion vessel, single or twin pump, air vent , pressure relief valves , shut off valves , manometers...

A range with compact hydraulic equipment (without buffer tank) is also available : **POWERCIAT LXC.**

Units in accordance with EN 60-204 - EN 378-2 regulations and directives :
- Machines (98/37 CEE) modified
- CEM (89/336 CEE) modified 92/31 CEE - 93/68 CEE
- Low voltage (73/23 CEE) modified 92/31 CEE - 93/68 CEE
- DESP 97/23 CEE

→ **LX - LXH - LXC**
group 2 sizes 1200Z (HPS) to 1850Z (HPS)
group 3 sizes 2150Z (HPS) to 2800Z (HPS)
group 4 sizes 3050 HPS to 3750 HPS

RANGE

POWERCIAT LX - LXH - LXC

2 compressors, 2 refrigerant circuits :

12 models : 1200Z, 1200Z HPS, 1500Z, 1500Z HPS, 1850Z, 1850Z HPS, 2150Z, 2150Z HPS, 2500Z, 2500Z HPS, 2800Z, 2800Z HPS

3 compressors, 3 refrigerant circuits

3 models : 3050Z HPS, 3400Z HPS, 3750Z HPS

CONFIGURATION

a - **STANDARD** Version
Ventilation 905 rpm

b - **LOW NOISE** Version
Ventilation 715 rpm + compressors sound insulation

c - **XTRA LOW NOISE** Version
Specific mounting for 715 rpm fan + compressors sound insulation

PROPELLER FANS

DESCRIPTION

POWERCIAT LX serie

Compressors

- Accessible hermetic twin screw type
- Optimized profile of rotors ensuring a high efficiency
- Electrical motor incorporated with part **winding starting**
- Motor integral electronic protection
- Control of the phases balance and rotation direction
- Integrated overpressure valve
- Discharge temperature control
- Lubrication under controlled pressure
- 3-stage integrated oil separator
- Crankcase heater
- Suction filter
- Discharge valve
- Slide for modulating capacity control
- Compressors fitted on antivibration mounts

Evaporator

- Direct expansion shell and tube type
- High performance copper tubes bundle
- Steel shell
- Corrosion resistant baffles
- Thermal insulation by cellular foam with UV resistant polyurethane film

Air cooled condenser

- Copper tubes coils, aluminium fins
- Direct drive propeller fans
- Rotation speed : **905 or 715 rpm**
- 3 phase electrical motors, IP 54

HPS (High Power system) on models LX/LXH...HPS

- The HPS system allows to increase cooling capacity, improves the performance coefficients (EER) of your installation, particulary in part load, and ensures therefore an optimal operation of POWERCIAT during all the year.

Refrigerant accessories

- Filter dryers with rechargeable cartridges
- Liquid sight glasses
- Solenoid valves on liquid refrigerant lines
- Thermostatic expansion valves

Safety and regulation devices

- HP/LP pressure sensors
- Low and high pressure safety valves
- Chilled water control sensor (inlet or outlet)
- External temperature sensor
- Evaporator antifreeze sensor
- Compressors discharge sensor
- Evaporator water flow switch

Electrical panel

- IP 44
- Electrical supply 400 V - 3 ph. - 50 Hz + earth (+/- 10 %)
- Wires numbering and electrical components referencing.
- Main safety switch with outside handle
- Transformer for control circuit
- Compressors motors contactors
- Fans motors contactors
- Compressors motors protection by magneto-thermal circuit breakers (25 KA or 35 KA depend of sizes of compressors).
- Fans motors protection by magneto-thermal circuit breakers
- Main electrical ground
- Electronic control with microprocessor Xtra connect ensuring the following main functions :

- 2 remote switchable set points
- chilled water temperature control
- Possibility of water temperature variation as a function of the outside temperature (water law)
- Low temperature ice storage control
- Condensing pressure control
- Compressors discharge temperature control
- Compressors anti-short cycle control
- Control and optimisation of operating parameters
- Counting and balancing of compressors, pumps operating times
- Automaticity control
- LCD display panel, 2 lines of 20 characters allowing :
  - parametering of the unit
  - direct reading of all informations : settings, water inlet/outlet temperatures, outside temperature, HP/LP pressures, unit operating status...
  - Faults control with memorization of the last 9 faults and operating reading when those faults occur
  - Weekly management of the unit
  - Unit general fault display on terminals
  - Automaticity control on terminals
  - RS 485 output for bus connection with centralized Building Management System(MODBUS/JBUS protocol)

Capacity control

- Modulating capacity control :

- from 25 to 100 % (sizes 1200Z (HPS) to 2800Z (HPS))
- from 17 to 100 % (sizes 3050Z HPS to 3750Z HPS)

Frame and casing

- Frame in RAL 7035 and 7024 painted metal sheet
- Casing in RAL 7035 and 7024 lacquered metal sheet

POWERCIAT LXH serie

The design of **POWERCIAT units LXH** is identical to the one of POWERCIAT LX

These units integrate the **complete hydraulic** equipment for standard installation :

- 1 buffer thank insulated, capacity : 950 liters
- 1 monocellular centrifugal hydraulic pump (single or twin pump)
- 1 expansion vessel (80 liters)
- 1 automatic air vent
- 1 manual air vent
- 1 safety valve calibrated at 4 bars
- A draining hole
- 2 shut off valves for the pump
- 1 set of manometers
- Contactors, protection devices and control for pumps inside the unit electrical panel.

POWERCIAT LXC serie

The design of **POWERCIAT units LXC** is identical to the one of POWERCIAT LX

These units integrate the **a compact hydraulic equipment**

- 1 monocellular centrifugal hydraulic pump (single or twin pump)
- 1 expansion vessel (80 liters)
- 1 automatic air vent
- 1 manual air vent
- 1 safety valve calibrated at 4 bars
- A draining hole
- 2 shut off valves for the pump
- 1 set of manometers
- Contactors, protection devices and control for pumps inside the unit electrical panel.

OPTIONS

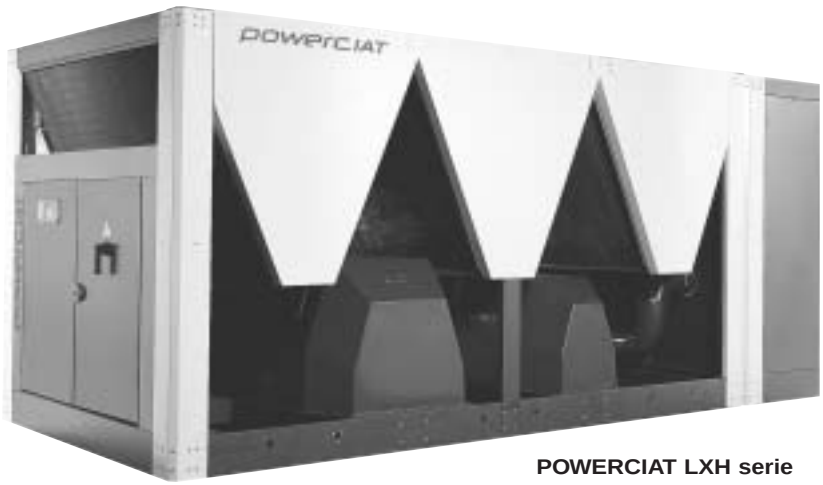
- **LOW NOISE** version : ABS phonic insulation casing with sound proof material + 715 rpm fans
- **XTRA LOW NOISE** version : ABS sound insulation casing with soundproof material + specific mounting for 715 rpm fans
- Compressors isolating suction valves
- Evaporator antifreeze protection (LX serie)
- Evaporator antifreeze protection + piping + hydraulic equipment (LXH - LXC series)
- Condenser coil treatment :

- polyurethane coated fins

- polual blygold coating

- Anti-vibration mounts
- Evaporator flexible connection
- Remote control box
- Voltage free relay card
- Brazed plates desuperheaters (1 per refrigerant circuit)
- Low temperature glycol water (LX unit only)

PROPELLER FANS



POWERCIAT LXH serie

VERSION WITH HYDRAULIC EQUIPMENT

LXH - LXC series

The “all integrated” solution

The Plug and Cool solution offered by POWERCIAT LXH - LXC

The hydraulic equipment integrates all the components necessary for the correct operation of the installation :

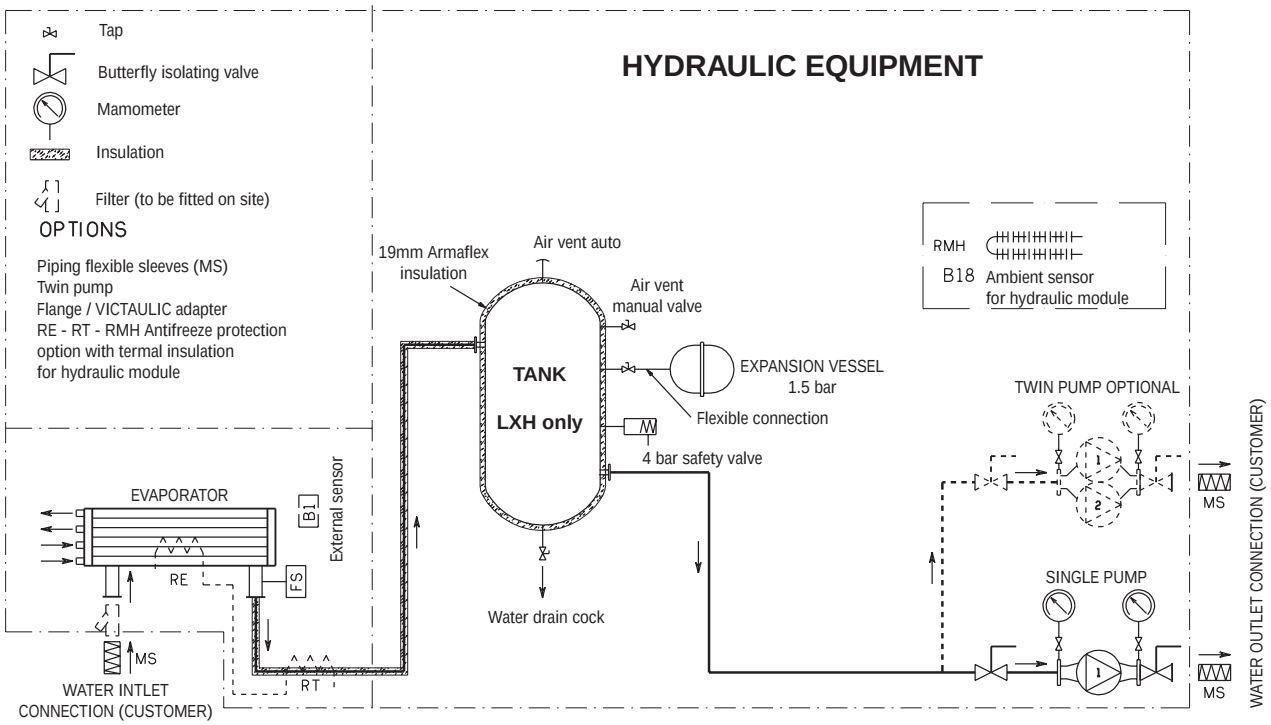
- 950 liters insulated buffer tank (**LXH only**)
- 80 liters expansion vessel
- Large choice of single or twin pumps for high head pressure **(1)**
- Manometers with shut off valves
- Pressure relief valves (calibrated at 4 bars)
- Draining circuit
- Manual and automatic air vent
- Control of the assembly
- Antifreeze protection (optional)

The hydraulic equipment, whose components have been selected in an optimal way, mounted and tested in factory, makes the installation of units easy and economical.

The preparation/commissioning times and the space required on site are therefore perfectly optimised.

(1) Our pumps are designed for operation on a closed water loop (low NPSH). For other applications, consult us (open water circuit, important intake height, etc).

■ Hydraulic equipment LXH serie



STANDARD EQUIPMENT / AVAILABLE OPTIONS

	POWERCIAT	1200Z	1200Z HPS	1500Z	1500Z HPS	1850Z	1850Z HPS	2150Z	2150Z HPS	2500Z	2500Z HPS	2800Z	2800Z HPS
Standard	Refrigerant R407C	●	●	●	●	●	●	●	●	●	●	●	●
	2 refrigerant circuits	●	●	●	●	●	●	●	●	●	●	●	●
	High Power System (H.P.S.)	-	●	-	●	-	●	-	●	-	●	-	●
	Main safety switch	●	●	●	●	●	●	●	●	●	●	●	●
	Control circuit transformer	●	●	●	●	●	●	●	●	●	●	●	●
	Wiring numbering	●	●	●	●	●	●	●	●	●	●	●	●
	Condensing pressure control	●	●	●	●	●	●	●	●	●	●	●	●
	RS 485 communication interface	●	●	●	●	●	●	●	●	●	●	●	●
	Compressors Part Winding starting	●	●	●	●	●	●	●	●	●	●	●	●
Options	LOW NOISE version	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	XTRA LOW NOISE version	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Compressors isolating suction valves	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Antifreeze protection	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Coil treatment	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Single pump (LXH - LXC versions)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Twin pump (LXH - LXC versions)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Antivibration mounts	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Hydraulic connectors	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Remote control box	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Free voltage relay card	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Desuperheaters	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Low temperature glycol water from 0 °C to - 8 °C (LX units only)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲

	POWERCIAT	3050Z HPS	3400Z HPS	3750Z HPS
Standard	Refrigerant R407C	●	●	●
	2 refrigerant circuits	●	●	●
	High Power System (H.P.S.)	●	●	●
	Main safety switch	●	●	●
	Control circuit transformer	●	●	●
	Wiring numbering	●	●	●
	Condensing pressure control	●	●	●
	RS 485 communication interface	●	●	●
	Compressors Part Winding starting	●	●	●
Options	LOW NOISE version	▲	▲	▲
	XTRA LOW NOISE version	▲	▲	▲
	Compressors isolating suction valves	▲	▲	▲
	Antifreeze protection	▲	▲	▲
	Coil treatment	▲	▲	▲
	Single pump (LXH - LXC versions)	▲	▲	▲
	Twin pump (LXH - LXC versions)	▲	▲	▲
	Antivibration mounts	▲	▲	▲
	Hydraulic connectors	▲	▲	▲
	Remote control box	▲	▲	▲
	Free voltage relay card	▲	▲	▲
	Desuperheaters	▲	▲	▲
	Low temperature glycol water from 0 °C to - 8 °C (LX units only)	▲	▲	▲

● Standard supply ▲ Option - Not available

PROPELLER FANS

TECHNICAL CHARACTERISTICS

POWERCIAT LX - LXH - LXC			1200Z	1200Z HPS	1500Z	1500Z HPS	1850Z	1850Z HPS	2150Z	2150Z HPS
Standard version	Cooling capacity (1)	kW	236	261	305	338	362	409	429	486
	Absorbed power (2)	kW	101	110	129	140	156	172	184	202
Low noise and xtra low noise versions	Cooling capacity (1)	kW	230	258	300	335	354	402	420	478
	Absorbed power (2)	kW	101	109	128	138	155	173	182	209
Compressor	Type		Twin screw							
	Number		2							
	Rotation speed	rpm	2900							
	R407C refrigerant charge	kg	2 x 23	2 x 24	40 + 25	41 + 26	50 + 25	51 + 26	50 + 45	51 + 46
	Capacity control		Modulating from 25 to 100% (50 to 100% on each compressor)							
	Type of oil for R407C		BITZER BSE 170							
	Oil charge for compressor	liters	2 x 8		14 + 8		18 + 8		18 + 14	
Evaporator	Type		Direct expansion shell and tubes							
	Number		1							
	Water capacity	liters	56,5		68				85	
	Hydraulic connections		VICTAULIC type							
	Maximum pressure on water side	bar	10							
	Maximum water flow	m³/h	82		100				135	
Air cooled condenser	Fans		Direct drive propeller type - 800 mm diameter							
	Number of fans		4		6				8	
	Rotation speed	rpm	STANDARD version 905 rpm							
	Air flow	m³/h	88 000		136 000		132 000		180 000	
	Motor unit power	kW	2,6							
	Rotation speed	rpm	LOW NOISE - XTRA LOW NOISE versions 715 rpm							
	Air flow	m³/h	72 400		112 200		108 600		148 400	
	Motor unit power	kW	1,8							
Standard version	Lw / Lp (3)	dB(A)	96/64		98/66				100/67	
Low noise version	Lw / Lp (3)	dB(A)	90/58		92/60				95/62	
Xtra low noise version	Lw / Lp (3)	dB(A)	85/53		87/55				88/55	

POWERCIAT LX - LXH - LXC			2500Z	2500Z HPS	2800Z	2800Z HPS	3050Z HPS	3400Z HPS	3750Z HPS
Standard version	Cooling capacity (1)	kW	522	594	605	690	740	820	903
	Absorbed power (2)	kW	216	238	244	268	287	320	362
Low noise and xtra low noise version	Cooling capacity (1)	kW	509	582	595	685	725	803	881
	Absorbed power (2)	kW	216	235	240	262	303	331	364
Compressor	Type		Twin screw						
	Number		2				3		
	Rotation speed	rpm	2900						
	R407C refrigerant charge	kg	2 x 50	2 x 51	2 x 62	2 x 63	51 + 2 x 46	2 x 51 + 46	3 x 51
	Capacity control		Modulating from 25 to 100% (50 to 100% on each compressor)				Modulating from 17 to 100% (50 to 100% on each compressor)		
	Type of oil for R407C		BITZER BSE 170						
	Oil charge for compressor	liters	2 x 18				18 + 2 x 14	2 x 18 + 14	3 x 18
Evaporator	Type		Direct expansion shell and tubes						
	Number		1						
	Water capacity	liters	91,5				219		
	Hydraulic connections		VICTAULIC type						
	Maximum pressure on water side	bar	10						
	Maximum water flow	m³/h	135				180		
Air cooled condenser	Fans		Direct drive propeller type - 800 mm diameter						
	Number of fans		8		12				
	Rotation speed	rpm	STANDARD version 905 rpm						
	Air flow	m³/h	176 000		276 000		272 000	268 000	264 000
	Motor unit power	kW	2,6						
	Rotation speed	rpm	LOW NOISE - XTRA LOW NOISE versions 715 rpm						
	Air flow	m³/h	144 800		228 000		224 400	220 800	217 200
	Motor unit power	kW	1,8						
Standard version	Lw / Lp (3)	dB(A)	101/68		101/68		101/68	102/69	
Low noise version	Lw / Lp (3)	dB(A)	96/63		98/65		97/64	98/65	
Xtra low noise version	Lw / Lp (3)	dB(A)	89/56		91/58		90/57	91/58	

(1) Cooling capacity for 12°C / 7°C evaporator chilled water and 35°C condenser air inlet.
(2) Compressors + fans absorbed power
(3) **Lw** : Global sound power level - **Lp** : Global sound pressure level at 10 meters, in free field, following ISO 3744 regulation

ELECTRICAL CHARACTERISTICS

POWERCIAT LX - LXH - LXC		1200Z	1200Z HPS	1500Z	1500Z HPS	1850Z	1850Z HPS	2150Z	2150Z HPS
COMPRESSORS (1)									
Maximum nominal current	A	216 (2 x 108)		270 (162+108)		324 (216+108)		378 (216+162)	
Starting current (3)	A	377		531		720		774	
FAN MOTORS (1)									
STANDARD version 905 rpm									
Maximum nominal current	A	24		36				48	
LOW NOISE - XTRA LOW NOISE versions 715 rpm									
Maximum nominal current	A	12,8		19,2				25,6	
LX ANTIFREEZE PROTECTION (OPTION) (2)									
Evaporator heating element power	W	180		240					
Maximum nominal current	A	0,80		1,05					
LXC ANTIFREEZE PROTECTION (OPTION) (2)									
Evaporator + hydraulic pipe + expansion vessel heating element power	W	480		540				600	
Maximum nominal current	A	2.1		2.3				2.6	
LXH ANTIFREEZE PROTECTION (OPTION)									
Evaporator heating element power + piping	W	300		480					
Maximum nominal current	A	1,3 (2)		2.10 (2)					
Hydraulic module heating element power	W	1500							
Maximum nominal current	A	2,3 (1)							
CONTROL AUXILIARY CIRCUIT (2)									
Maximum nominal current	A	4							
Transformer power	VA	1600							

POWERCIAT LX - LXH - LXC		2500Z	2500Z HPS	2800Z	2800Z HPS	3050Z HPS	3400Z HPS	3570Z HPS
COMPRESSORS (1)								
Maximum nominal current	A	432 (2 x 216)		492 (2 x 246)		540 (216 + 2 x 162)	594 (2 x 216 + 162)	648 (3 x 216)
Starting current (3)	A	828		911		936	990	1044
FAN MOTORS (1)								
STANDARD version 905 rpm								
Maximum nominal current	A	48		72				
LOW NOISE - XTRA LOW NOISE versions 715 rpm								
Maximum nominal current	A	25,6		38,4				
LX ANTIFREEZE PROTECTION (OPTION) (2)								
Evaporator heating element power	W	320						
Maximum nominal current	A	1,40						
LXC ANTIFREEZE PROTECTION (OPTION) (2)								
Evaporator + hydraulic pipe + expansion vessel heating element power	W	680						
Maximum nominal current	A	3						
LXH ANTIFREEZE PROTECTION (OPTION)								
Evaporator heating element power + piping	W	560		640		55		
Maximum nominal current	A	2,45 (2)		2,80 (2)		2,20 (2)		
Hydraulic module heating element power	W	1500						
Maximum nominal current	A	2.3 (1)						
CONTROL AUXILIARY CIRCUIT (2)								
Maximum nominal current	A	4						
Transformer power	VA	1600				2000		

SINGLE PUMPS (LXH - LXC ONLY) (1)															
Number		102	103	104	105	106	107	108	109	110	111	112	113	114	115
Power	kW	3	4	4	5,5	5,5	7,5	7,5	11	11	11	15	15	18,5	22
Maximum nominal current	A	6,3	8,0	8,0	10,3	10,3	13,8	13,8	20,0	20,0	20,0	26,5	26,5	32,5	39
TWIN PUMPS (LXH - LXC ONLY) (1)															
Number		202	203	204	205	206	207	208	209	210	211	212	213	214	215
Power	kW	3	4	4	5,5	5,5	7,5	7,5	11	11	11	15	15	18,5	22
Maximum nominal current	A	6,3	8,0	8,0	10,3	10,3	13,8	13,8	20,0	20,0	20,0	26,5	26,5	32,5	39

(1) Current for 400V / 3PH / 50HZ voltage
(2) Current for 230V / 1PH / 50HZ voltage
(3) Starting current of the biggest compressor + maximum current of others compressors in full load

Nominal current for cables selection = add the maximum nominal currents indicated in the above tables

PERFORMANCES

POWERCIAT LX-LXH-LXC
STANDARD version

PROPELLER FANS

R407C

LX LXH LXC	Evaporator water outlet temperature °C		CONDENSER AIR INLET TEMPERATURE °C 26 Pf kW	26 Pa kW	29 Pf kW	29 Pa kW	32 Pf kW	32 Pa kW	35 Pf kW	35 Pa kW	38 Pf kW	38 Pa kW	41 Pf kW	41 Pa kW
1200 Z	Glycol water	-8	146.1	74.3	139.8	78.2	132.6	82.3	126.2	86.8	119.9	91.6		
		-6	158.8	75.6	152.6	79.7	146.2	83.9	139.7	88.6	132.0	93.6		
		-4	171.9	77.0	165.2	81.0	158.4	85.4	151.2	90.1	144.5	95.3		
		-2	188.1	78.6	181.0	82.7	173.8	87.2	166.3	92.0	158.4	97.2	150.2	102.9
		0	202.5	80.1	194.9	84.3	187.5	88.8	179.5	93.7	171.1	99.0	162.5	104.7
		2	217.4	81.7	209.5	85.9	201.7	90.6	193.2	95.5	184.6	101.0	175.4	106.8
	Pure water	5	246.7	84.9	238.3	89.3	229.5	94.3	220.2	99.3	210.6	104.8	200.8	110.8
		6	255.1	85.9	246.2	90.3	237.2	95.1	227.6	100.3	218.1	106.0	207.9	112.0
		7	263.5	86.9	254.6	91.4	245.2	96.2	235.5	101.5	225.4	107.1	214.9	113.5
		8	272.0	88.0	262.8	92.4	253.2	97.3	243.3	102.6	233.1	108.3	222.5	114.5
		10	292.5	90.6	282.7	95.1	272.4	100.0	262.0	105.4	252.0	111.1	241	117.2
		12	310.9	93.0	300.5	97.5	289.6	102.5	279.2	108.1	269.1	113.8	258.0	120.5
1200 Z H.P.S.	Glycol water	-8	167.1	78.1	163.0	82.7	158.8	87.6	153.5	92.9	147.4	98.7		
		-6	179.1	80.6	175.2	85.3	170.6	89.1	165.7	94.5	159.8	100.4		
		-4	192.6	80.8	188.6	85.6	182.8	91.9	178.5	96.2	172.5	102.3		
		-2	207.8	82.3	203.1	88.6	198.6	94.0	192.9	99.7	186.9	106.0	180.3	111.1
		0	222.0	83.8	217.3	88.8	212.3	94.2	206.9	100.1	200.8	106.5	193.8	113.3
		2	236.1	85.3	230.9	91.9	226.2	95.9	220.6	102.0	214.5	108.6	206.2	117.5
	Pure water	5	263.7	90.0	259.1	93.7	253.2	99.5	247.3	105.8	239.7	114.9	233.4	120.1
		6	272.1	89.3	265.6	96.3	260.2	102.4	254.6	106.9	247.1	116.0	240.5	121.4
		7	279.3	91.9	274.5	95.6	268.5	101.6	261.4	110.1	254.5	117.2	246.9	124.9
		8	287.3	92.9	281.6	98.5	276.5	102.7	269.7	109.2	262.9	116.3	254.4	126.3
		10	306.3	95.4	300.3	101.1	294.6	105.2	286.0	114.8	280.4	119.2	271.5	129.6
		12	323.4	97.6	316.8	103.4	309.9	109.7	302.8	116.7	296.0	121.7		
1500 Z	Glycol water	-8	188.7	95.9	180.6	100.8	172.3	106.0	164.3	111.8	154.5	117.7		
		-6	206.0	97.5	197.5	102.5	188.8	107.9	179.2	113.6	169.3	119.8		
		-4	223.2	99.2	214.6	104.3	205.6	109.7	195.9	115.6	185.7	121.9		
		-2	243.4	101.1	234.4	106.3	225.2	111.9	215.3	118.0	205.3	124.5	194.6	131.5
		0	261.9	102.9	252.3	108.2	242.7	113.9	232.5	120.1	221.8	126.7	210.7	133.8
		2	281.2	104.8	271.2	110.2	260.9	116.0	250.2	122.3	239.3	129.0	227.6	136.3
	Pure water	5	319.6	108.8	308.3	114.3	296.9	120.3	285.3	126.8	273.0	133.9	260.6	141.3
		6	330.4	110.0	318.8	115.6	307.1	121.6	295.0	128.1	282.7	135.2	269.8	142.7
		7	341.2	111.2	329.6	116.9	317.4	122.9	305.2	129.5	292.4	136.5	279.4	144.2
		8	352.3	112.5	340.3	118.2	327.9	124.3	315.3	130.8	302.4	138.0	288.9	145.6
		10	378.7	115.7	365.9	121.4	352.9	127.6	339.5	134.2	325.9	141.4	311.8	149.2
		12	402.4	118.7	389.0	124.4	374.6	130.9	361.3	137.2	346.9	144.4	332.3	152.4
1500 Z H.P.S.	Glycol water	-8	214.8	101.9	208.8	107.5	203.4	113.7	196.5	120.4	187.4	126.8		
		-6	231.9	102.1	225.8	109.4	220.2	115.8	213.8	121.0	204.1	129.8		
		-4	247.9	105.3	243.0	111.4	237.1	117.9	230.6	124.9	222.0	132.4		
		-2	268.3	107.3	263.0	113.5	256.6	120.3	250.3	127.6	243.2	135.5	235.3	141.9
		0	285.7	109.1	280.2	115.5	274.3	122.4	267.4	129.9	259.0	137.9	251.7	146.7
		2	304.3	111.0	298.3	117.5	291.9	124.6	285.1	132.3	277.4	140.7	268.9	149.6
	Pure water	5	340.3	114.9	333.8	121.8	327.8	126.9	319.3	137.2	311.1	145.8	302.2	155.2
		6	350.2	116.0	343.6	123.0	336.5	130.4	329.8	136.1	320.3	147.3	311.4	156.8
		7	360.6	117.2	353.5	124.2	346.2	131.8	338.4	140.0	329.2	148.8	321.4	158.9
		8	370.8	118.5	363.8	125.5	355.8	133.4	348.1	141.4	339.2	150.3	329.9	160.0
		10	394.8	121.4	387.3	128.6	379.4	136.4	370.9	144.7	362.0	153.9	353.2	161.5
		12	416.6	124.2	408.8	131.6	400.2	139.3	391.4	147.7	381.8	157.1		

Pf : Cooling capacity calculated with :
- water inlet/outlet differential as per curves page 16
- 0.00005 m2 °C/W fouling factor

Pa : Compressors + fans absorbed power

Glycol water is necessary
Low temperature option necessary (valid only on LX versions).
EUROVENT conditions

PERFORMANCES

POWERCIAT LX-LXH-LXC
STANDARD version

R407C — PROPELLER FANS

LX LXH LXC	Evaporator water outlet temperature °C		CONDENSER AIR INLET TEMPERATURE °C 26 Pf kW	26 Pa kW	29 Pf kW	29 Pa kW	32 Pf kW	32 Pa kW	35 Pf kW	35 Pa kW	38 Pf kW	38 Pa kW	41 Pf kW	41 Pa kW
1850 Z	Glycol water	-8	**226.2**	114.0	**216.3**	119.6	**206.2**	125.6	**194.7**	132.0	**181.2**	138.5		
		-6	**246.3**	116.2	**236.0**	117.0	**225.0**	128.2	**213.4**	134.7	**200.4**	141.6		
		-4	**267.1**	118.5	**257.0**	115.3	**244.5**	130.8	**232.0**	136.5	**219.1**	144.4		
		-2	**290.8**	121.1	**279.4**	127.3	**267.5**	133.7	**254.9**	140.6	**241.7**	147.8	**227.6**	155.3
		0	**312.9**	123.5	**300.7**	129.8	**288**	136.6	**275.3**	143.5	**261.6**	150.8	**247.1**	158.4
		2	**335.7**	126.1	**323.1**	132.5	**310.1**	139.3	**296.5**	146.5	**282.2**	154.0	**267.1**	161.7
	Pure water	5	**380.9**	131.4	**367.6**	138.1	**353.2**	145.1	**338.4**	152.6	**323.0**	160.4	**306.8**	168.4
		6	**394.1**	133.0	**380.0**	139.7	**365.2**	146.8	**350.1**	154.4	**334.3**	162.2	**317.6**	170.7
		7	**406.9**	134.5	**392.5**	141.3	**377.6**	148.6	**361.9**	156.1	**345.8**	164.1	**328.9**	172.5
		8	**420.1**	136.2	**405.3**	143.1	**389.9**	150.3	**374.1**	158.0	**357.7**	166.0	**340.4**	174.4
		10	**451.2**	140.2	**435.4**	147.1	**419.2**	154.5	**402.4**	162.3	**383.6**	171.1	**367.3**	179.2
		12	**479.3**	143.9	**463.0**	150.9	**445.6**	158.4	**428.0**	166.2	**410.1**	174.6	**391.5**	183.4
1850 Z H.P.S.	Glycol water	-8	**261.8**	120.3	**254.7**	126.9	**246.3**	133.9	**236.6**	141.3	**220.0**	148.0		
		-6	**282.1**	124.8	**275.0**	129.5	**266.1**	136.6	**256.9**	144.3	**247.5**	153.8		
		-4	**302.3**	127.3	**295.5**	132.1	**286.4**	141.8	**276.6**	149.8	**265.8**	158.2		
		-2	**327.2**	127.9	**319.5**	135.1	**310.6**	145.4	**301.0**	153.7	**290.3**	162.3	**277.9**	170.0
		0	**348.6**	130.3	**340.3**	140.5	**331.8**	148.5	**322.1**	157.1	**311.2**	165.9	**296.8**	175.6
		2	**371.0**	132.9	**362.3**	143.4	**353.6**	151.8	**343.6**	160.6	**332.7**	169.6	**320.4**	179.1
	Pure water	5	**414.3**	141.3	**405.6**	149.5	**396.4**	158.4	**386.0**	167.6	**374.2**	177.6	**361.8**	187.2
		6	**426.4**	142.9	**417.8**	151.2	**408.3**	160.2	**397.8**	169.8	**385.6**	179.2	**372.9**	189.4
		7	**438.9**	144.5	**429.3**	152.9	**419.8**	162.0	**408.5**	171.6	**397.4**	181.5	**384.5**	191.9
		8	**451.2**	146.2	**442.0**	154.8	**432.0**	164.0	**420.3**	174.4	**409.2**	183.7	**396.1**	194.3
		10	**481.5**	146.5	**470.7**	159.1	**460.3**	168.6	**448.4**	178.6	**436.0**	188.7	**423.1**	199.7
		12	**506.9**	153.9	**496.3**	163.0	**484.1**	173.3	**473.6**	182.8	**460.3**	193.3		
2150 Z	Glycol water	-8	**269.3**	135.8	**257.1**	142.0	**246.1**	149.7	**233.0**	157.0	**216.0**	164.8		
		-6	**292.4**	138.3	**280.3**	145.2	**267.5**	152.5	**254.0**	160.2	**239.1**	168.3		
		-4	**316.2**	140.8	**303.5**	147.9	**290.1**	155.3	**276.0**	163.2	**261.3**	171.5		
		-2	**344.9**	143.9	**331.6**	151.1	**317.6**	158.8	**303.1**	166.9	**287.7**	175.3	**271.5**	184.2
		0	**371.0**	146.7	**356.9**	154.0	**342.3**	161.9	**327.1**	170.2	**311.2**	178.8	**294.5**	187.8
		2	**398.1**	149.6	**383.3**	157.1	**368.1**	165.2	**352.2**	173.6	**335.6**	182.4	**318.0**	191.6
	Pure water	5	**452.3**	155.7	**435.8**	163.5	**419.1**	171.8	**401.5**	180.5	**383.2**	189.8	**364.8**	199.1
		6	**467.3**	157.4	**450.6**	165.3	**433.1**	173.7	**415.2**	182.5	**397.1**	191.7	**377.9**	201.3
		7	**482.7**	159.3	**465.6**	167.3	**447.9**	175.7	**429.4**	184.5	**410.6**	193.8	**391.1**	203.5
		8	**498.6**	161.2	**480.8**	169.2	**462.5**	177.7	**442.7**	187.1	**424.6**	196.0	**404.8**	205.9
		10	**535.3**	165.8	**516.7**	173.9	**497.3**	182.5	**477.4**	191.6	**457.2**	201.1	**436.5**	211.2
		12	**569.2**	170.2	**549.5**	178.3	**527.7**	187.5	**508.2**	196.1	**487.0**	205.8	**465.3**	216.1
2150 Z H.P.S.	Glycol water	-8	**312.5**	144.8	**304.3**	152.6	**294.6**	159.3	**284.7**	170.8/	**273.5**	178.0		
		-6	**335.6**	148.4	**327.6**	156.6	**318.3**	165.1	**306.8**	174.2	**290.6**	182.8		
		-4	**359.2**	151.2	**351.0**	159.6	**342.1**	168.5	**331.2**	178.0	**319.5**	187.9		
		-2	**387.4**	154.5	**379.3**	163.4	**369.4**	172.5	**359.3**	182.2	**347.4**	192.5	**333.0**	200.8
		0	**412.8**	157.5	**404.1**	166.5	**394.3**	176.0	**383.7**	186.0	**371.5**	196.4	**358.1**	207.5
		2	**439.2**	160.7	**430.3**	170.0	**420.1**	179.7	**410.4**	190.6	**396.7**	200.6	**382.9**	211.8
	Pure water	5	**490.6**	167.0	**481.8**	177.0	**470.2**	187.1	**458.4**	197.9	**445.6**	209.3	**431.4**	221.1
		6	**505.1**	168.8	**495.3**	178.9	**484.0**	189.8	**471.9**	200.0	**459.1**	211.6	**444.8**	223.6
		7	**520.2**	170.9	**510.0**	181.0	**498.5**	191.7	**486.1**	202.4	**473.0**	214.2	**458.3**	226.2
		8	**535.0**	172.8	**524.3**	183.0	**512.5**	193.5	**499.9**	204.7	**486.7**	216.7	**474.1**	225.4
		10	**569.2**	177.3	**557.0**	188.4	**546.0**	198.8	**533.1**	210.5	**518.5**	222.6	**506.3**	231.2
		12	**600.3**	181.6	**589.4**	192.4	**576.4**	203.3	**562.9**	215.3	**547.9**	227.7		

Pf : Cooling capacity calculated with :
- water inlet/outlet differential as per curves page 16
- 0.00005 m2 °C/W fouling factor

Pa : Compressors + fans absorbed power

Glycol water is necessary
Low temperature option necessary (valid only on LX versions).
EUROVENT conditions

PERFORMANCES

POWERCIAT LX-LXH-LXC
STANDARD version

PROPELLER FANS

R407C

LX LXH LXC	Evaporator water oultet temperature °C		CONDENSER AIR INLET TEMPERATURE °C											
			26		29		32		35		38		41	
			Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW
2500 Z	Glycol water	-8	**322.9**	155.5	**306.9**	162.8	**289.4**	170.4	**272.1**	178.6	**253.3**	187.1		
		-6	**351.8**	158.8	**335.1**	166.4	**317.5**	174.4	**299.4**	182.7	**279.5**	191.3		
		-4	**380.7**	161.3	**363.3**	170.0	**346.9**	178.4	**328.1**	186.9	**307.5**	195.7		
		-2	**422.9**	166.9	**405.3**	175.2	**387.5**	183.9	**368.2**	192.8	**348.1**	202.0	**326.9**	211.4
		0	**454.7**	170.6	**436.4**	179.2	**417.5**	188.0	**397.6**	197.2	**376.6**	206.6	**354.9**	216.1
		2	**475.0**	180.3	**468.7**	183.3	**449.0**	192.3	**428.2**	201.8	**406.6**	211.4	**383.9**	221.1
	Pure water	5	**553.2**	182.6	**532.5**	191.6	**510.7**	201.1	**488.1**	210.8	**464.7**	220.9	**439.9**	231.2
		6	**571.6**	184.9	**550.2**	194.0	**527.9**	203.5	**504.8**	213.4	**481.0**	223.6	**456.0**	233.9
		7	**590.2**	187.3	**568.3**	196.4	**545.6**	206.1	**522.1**	216.1	**497.4**	226.6	**472.5**	236.9
		8	**609.5**	189.8	**586.7**	199.0	**563.6**	208.7	**539.5**	218.8	**513.7**	229.6	**488.9**	239.9
		10	**654.8**	195.8	**630.9**	205.1	**606.1**	215.0	**580.9**	225.2	**554.7**	235.9	**527.9**	247.0
		12	**695.4**	201.2	**669.8**	210.8	**644.3**	220.5	**617.3**	231.1	**590.5**	241.8	**563.7**	253.0
2500 Z H.P.S.	Glycol water	-8	**373.1**	167.5	**361.9**	176.2	**349.4**	182.3	**333.6**	195.0	**317.8**	205.1		
		-6	**402.7**	171.4	**394.7**	177.7	**378.2**	186.6	**363.7**	200.1	**354.5**	212.0		
		-4	**436.2**	172.2	**424.2**	181.6	**409.2**	191.0	**393.9**	205.1	**375.5**	215.5		
		-2	**478.0**	177.2	**466.5**	187.2	**452.6**	201.7	**438.3**	212.0	**421.7**	222.2	**394.6**	232.5
		0	**509.4**	181.0	**497.6**	191.3	**483.6**	206.3	**469.1**	217.8	**452.1**	227.2	**433.5**	237.7
		2	**541.7**	184.9	**528.5**	200.1	**515.7**	211.6	**500.2**	223.2	**480.8**	232.5	**464.1**	243.2
	Pure water	5	**605.1**	203.3	**591.1**	210.7	**576.1**	221.2	**560.1**	231.8	**542.8**	242.9	**524.0**	254.3
		6	**622.5**	205.5	**607.6**	213.4	**593.3**	223.8	**576.7**	234.7	**559.6**	245.9	**539.7**	257.2
		7	**640.3**	207.8	**626.8**	216.0	**610.2**	226.7	**593.5**	237.7	**576.3**	249.2	**556.1**	260.5
		8	**658.4**	210.1	**642.7**	218.9	**627.7**	229.5	**611.2**	240.6	**593.0**	252.5	**573.1**	263.8
		10	**699.3**	211.5	**684.7**	223.9	**667.1**	236.5	**651.7**	247.7	**632.7**	259.4	**618.0**	271.7
		12	**737.8**	217.2	**722.4**	229.8	**704.8**	242.5	**687.6**	254.2	**667.1**	265.9		
2800 Z	Glycol water	-8	**377.0**	181.4	**360.7**	190.6	**345.4**	200.7	**327.7**	211.3	**309.3**	222.8		
		-6	**410.7**	184.5	**394.4**	194.0	**376.5**	204.1	**359.4**	215.0	**339.0**	226.5		
		-4	**443.3**	187.5	**426.3**	197.2	**409.1**	207.6	**391.1**	218.7	**371.9**	230.6		
		-2	**484.3**	191.3	**466.5**	201.1	**448.1**	211.7	**428.7**	223.5	**409.5**	235.3	**388.7**	248.6
		0	**520.1**	194.6	**501.6**	204.6	**482.6**	215.5	**462.5**	227.0	**441.9**	239.4	**420.1**	253.0
		2	**558.0**	198.2	**538.1**	208.3	**517.9**	219.4	**497.4**	231.1	**476.2**	243.9	**453.3**	257.6
	Pure water	5	**632.8**	205.8	**610.9**	216.2	**588.8**	227.5	**565.6**	239.5	**542.4**	252.7	**517.8**	266.9
		6	**653.6**	208.0	**631.6**	218.5	**608.5**	229.9	**584.7**	242.5	**560.9**	255.2	**535.8**	269.5
		7	**675.3**	210.4	**652.2**	220.9	**628.8**	232.3	**604.8**	244.5	**580.0**	257.9	**554.4**	272.3
		8	**697.2**	212.8	**673.5**	223.4	**649.4**	234.9	**624.9**	247.0	**599.3**	260.5	**573.3**	275.4
		10	**749.1**	218.8	**724.2**	229.5	**698.5**	241.0	**672.0**	253.3	**645.3**	266.9	**617.5**	281.7
		12	**796.1**	224.4	**769.9**	235.1	**742.7**	246.6	**715.3**	259.0	**686.7**	272.6	**657.7**	287.6
2800 Z H.P.S.	Glycol water	-8	**437.7**	195.0	**429.3**	206.3	**413.9**	219.9	**402.0**	230.9	**389.0**	245.0		
		-6	**472.4**	198.7	**461.2**	212.3	**446.9**	224.3	**435.0**	235.5	**426.0**	250.0		
		-4	**506.5**	202.3	**494.0**	216.3	**485.4**	226.8	**469.8**	240.3	**457.3**	255.6		
		-2	**549.0**	202.2	**539.3**	214.2	**527.2**	229.7	**515.2**	243.7	**501.5**	258.8	**490.4**	275.0
		0	**583.9**	205.5	**573.9**	217.7	**562.0**	234.0	**549.0**	248.1	**536.4**	260.6	**519.8**	280.7
		2	**620.4**	209.0	**608.1**	224.4	**596.8**	238.1	**583.4**	252.5	**569.9**	268.9	**554.6**	286.6
	Pure water	5	**690.4**	219.4	**680.7**	229.3	**666.1**	246.9	**654.4**	258.5	**637.2**	279.0	**620.5**	297.4
		6	**710.0**	221.6	**700.1**	231.5	**685.2**	249.3	**670.6**	264.7	**658.0**	277.9	**641.1**	296.3
		7	**730.5**	223.9	**717.7**	237.2	**704.0**	251.7	**690.4**	267.6	**676.0**	286.0	**659.7**	299.2
		8	**750.6**	226.2	**740.5**	236.2	**724.1**	254.4	**711.8**	266.2	**693.2**	288.7	**676.6**	307.0
		10	**798.9**	231.9	**785.6**	245.8	**771.1**	260.6	**758.0**	272.4	**738.9**	294.9	**720.6**	314.5
		12	**841.7**	237.1	**828.1**	251.2	**812.8**	266.2	**799.5**	278.0	**781.4**	295.9		

Pf : Cooling capacity calculated with :
- water inlet/outlet differential as per curves page 16
- 0.00005 m2 °C/W fouling factor

Pa : Compressors + fans absorbed power

Glycol water is necessary
Low temperature option necessary (valid only on LX versions).
EUROVENT conditions

PERFORMANCES

POWERCIAT LX-LXH-LXC
STANDARD version

R407C

PROPELLER FANS

LX LXH LXC	Evaporator water oultet temperature °C		CONDENSER AIR INLET TEMPERATURE °C 26 Pf kW	26 Pa kW	29 Pf kW	29 Pa kW	32 Pf kW	32 Pa kW	35 Pf kW	35 Pa kW	38 Pf kW	38 Pa kW	41 Pf kW	41 Pa kW
3050 Z H.P.S.	Glycol water	-8	**448.7**	205.1	**429.7**	215.5	**421.4**	228.0	**402.0**	241.0	**383.0**	255.3		
		-6	**478.5**	208.3	**466.5**	219.7	**450.0**	231.7	**437.8**	245.0	**424.8**	260.0		
		-4	**513.4**	211.9	**502.3**	223.8	**491.8**	237.0	**471.0**	249.7	**457.1**	264.4		
		-2	**575.9**	218.3	**559.2**	230.4	**547.0**	243.8	**526.2**	257.0	**513.8**	270.2	**501.4**	288.0
		0	**619.8**	223.2	**601.4**	235.2	**585.0**	248.6	**572.3**	262.5	**549.9**	276.4	**531.5**	294.1
		2	**658.2**	227.1	**642.7**	240.1	**626.7**	254.0	**606.9**	267.9	**587.9**	281.8	**574.2**	301.2
	Pure water	5	**753.9**	237.9	**733.2**	251.2	**718.3**	266.3	**695.1**	280.8	**680.1**	297.9	**643.8**	317.3
		6	**771.6**	240.1	**758.2**	253.4	**739.2**	269.0	**719.1**	284.5	**699.5**	301.1	**678.5**	321.3
		7	**796.7**	243.1	**778.9**	256.4	**761.8**	272.0	**740.2**	287.5	**717.6**	303.9	**698.3**	324.2
		8	**819.4**	245.9	**797.8**	259.2	**782.9**	274.9	**762.3**	290.7	**740.1**	307.5	**719.9**	327.5
		10	**875.1**	260.0	**857.7**	271.2	**837.6**	282.4	**816.4**	298.6	**794.2**	316.2	**773.3**	336.0
		12	**921.6**	265.6	**906.1**	277.2	**884.5**	288.8	**862.9**	305.3	**841.7**	321.7		
3400 Z H.P.S.	Glycol water	-8	**498.6**	225.1	**485.3**	240.1	**468.0**	250.0	**445.7**	263.4	**427.0**	289.0		
		-6	**534.7**	229.8	**523.1**	242.6	**504.0**	255.4	**484.9**	269.5	**462.6**	293.5		
		-4	**576.3**	234.5	**561.4**	247.4	**543.3**	260.9	**522.7**	275.0	**504.0**	290.4		
		-2	**645.3**	242.3	**625.3**	255.4	**612.5**	270.6	**586.6**	284.5	**564.9**	300.0	**542.0**	314.2
		0	**687.6**	247.2	**671.1**	261.2	**651.4**	275.8	**630.6**	291.0	**611.8**	306.0	**583.8**	320.3
		2	**735.0**	252.7	**724.9**	268.2	**698.4**	282.4	**672.9**	303.8	**661.4**	313.5	**632.6**	327.6
	Pure water	5	**833.8**	263.8	**814.0**	279.9	**793.9**	295.9	**776.0**	313.5	**746.1**	330.0	**725.1**	342.5
		6	**858.7**	267.8	**838.7**	283.3	**814.1**	305.8	**795.8**	316.7	**773.5**	334.6	**748.2**	350.0
		7	**884.0**	271.1	**865.0**	286.9	**844.0**	311.7	**819.9**	320.5	**793.9**	338.2	**770.3**	356.5
		8	**907.2**	276.4	**890.2**	290.3	**868.2**	315.4	**844.5**	324.4	**819.1**	342.6	**800.3**	363.4
		10	**971.7**	285.0	**948.3**	308.3	**929.8**	324.1	**903.9**	333.7	**877.8**	352.8	**856.2**	373.5
		12	**1026.3**	295.7	**1000.5**	314.6	**981.0**	333.5	**952.7**	343.3	**928.3**	361.4		
3750 Z H.P.S.	Glycol water	-8	**557.8**	245.0	**544.0**	260.0	**518.0**	272.1	**493.9**	286.8	**475.0**	307.0		
		-6	**593.8**	250.9	**580.1**	265.8	**555.3**	278.1	**536.7**	293.6	**515.0**	311.0		
		-4	**641.4**	256.7	**624.1**	270.8	**601.5**	284.9	**577.5**	300.0	**553.6**	316.1		
		-2	**715.8**	265.6	**696.1**	280.3	**675.6**	295.7	**648.5**	317.3	**623.4**	335.6	**594**	351.6
		0	**764.4**	271.4	**743.9**	286.5	**724.5**	302.8	**697.9**	325.8	**672.6**	344.1	**643.0**	359.8
		2	**815.3**	277.6	**801.9**	294.4	**773.4**	310.0	**750.3**	335.2	**717.6**	352.7	**693.1**	361.9
	Pure water	5	**921.5**	291.0	**898.0**	313.2	**874.0**	333.8	**844.5**	352.9	**828.1**	370.2	**788.8**	378.9
		6	**948.3**	294.4	**924.4**	319.5	**904.6**	338.8	**872.3**	356.6	**850.1**	374.2	**816.8**	383.9
		7	**976.3**	298.0	**955.3**	323.5	**929.5**	343.0	**902.6**	362.2	**878.4**	379.0	**842.8**	387.2
		8	**1005.4**	301.9	**981.4**	328.7	**949.8**	347.1	**929.8**	367.0	**900.5**	383.4	**870.5**	391.0
		10	**1069.0**	320.2	**1045.5**	338.6	**1019.6**	358.2	**995.8**	377.6	**967.0**	392.0	**943.7**	402.5
		12	**1132.1**	330.8	**1102.6**	347.4	**1077.3**	367.3	**1047.8**	388.0	**1020.5**	411.1		

Pf : Cooling capacity calculated with :
- water inlet/outlet differential as per curves page 16
- 0.00005 m2 °C/W fouling factor

Pa : Compressors + fans absorbed power

Glycol water is necessary
Low temperature option necessary (valid only on LX versions).
EUROVENT conditions

NOTES

PERFORMANCES

POWERCIAT LX-LXH-LXC
LOW NOISE - XTRA LOW NOISE versions

PROPELLER FANS

R407C

LX LXH LXC	Evaporator water oultet temperature °C		CONDENSER AIR INLET TEMPERATURE °C 26 Pf kW	26 Pa kW	29 Pf kW	29 Pa kW	32 Pf kW	32 Pa kW	35 Pf kW	35 Pa kW	38 Pf kW	38 Pa kW
1200 Z	Glycol water	-8	144.5	72.1	138.2	76.0	131.2	80.1	124.7	84.7		
		-6	157.2	73.6	150.9	77.6	144.4	81.9	137.8	86.7		
		-4	169.7	75.0	163.1	79.1	156.3	83.5	149.1	88.4		
		-2	185.8	76.8	178.5	81.0	171.4	85.6	163.7	90.5	155.9	95.8
		0	199.8	78.5	192.2	82.7	184.6	87.4	176.4	92.4	168.2	97.8
		2	214.2	80.2	206.3	84.6	198.3	89.4	189.8	94.5	180.8	99.9
	Pure water	5	242.7	83.8	234.1	88.4	225.1	93.3	215.3	98.8	206.2	104.4
		6	250.6	84.9	241.8	89.5	232.5	94.5	222.9	99.9	213.2	105.6
		7	258.9	86.0	249.6	90.6	240.3	95.7	230.4	101.1	220.5	106.9
		8	267.1	87.2	257.7	91.8	247.9	96.9	238.0	102.4	227.7	108.2
		10	286.7	90.0	276.8	94.8	266.5	99.9	256.0	105.4	245.1	111.4
		12	304.3	92.6	292.6	97.9	282.9	102.6	271.8	108.1	260.8	114.1
1200 Z H.P.S.	Glycol water	-8	165.3	76.2	161.2	80.8	156.7	85.9	151.3	91.3		
		-6	177.7	78.9	173.8	82.5	168.5	87.6	163.1	93.2		
		-4	190.3	80.5	186.3	84.1	181.4	89.4	175.8	95.1		
		-2	206.1	81.0	201.8	86.1	196.6	91.6	191.0	97.5	184.0	105.5
		0	219.9	82.7	215.0	87.9	209.8	93.5	203.4	101.4	197.7	106.2
		2	233.5	85.9	229.0	89.8	223.6	95.6	217.6	103.7	211.1	108.6
	Pure water	5	261.6	88.0	256.0	93.6	249.4	101.7	243.8	106.3	236.9	113.4
		6	269.1	89.0	262.8	96.5	256.7	102.8	250.1	109.6	244.0	114.8
		7	277.0	90.1	270.4	97.8	264.7	102.0	258.4	108.9	250.9	116.1
		8	284.9	91.2	278.4	99.2	271.5	105.4	264.7	112.3	257.4	119.8
		10	303.4	93.9	296.0	101.9	289.2	108.4	282.0	115.6	274.7	123.4
		12	318.5	98.7	312.2	104.6	305.0	111.2	297.5	118.5		
1500 Z	Glycol water	-8	186.9	92.2	178.8	97.1	169.5	102.3	161.4	108.1		
		-6	203.6	94.0	195.3	99.0	187.0	104.5	176.9	110.2		
		-4	220.3	95.7	211.6	100.9	202.8	106.5	193.2	112.4		
		-2	240.8	97.9	231.6	103.2	222.3	108.9	212.4	115.0	202.3	121.8
		0	258.8	99.9	249.1	105.3	239.4	111.1	229.2	117.3	218.6	124.1
		2	277.7	102.0	267.5	107.5	257.2	113.4	246.5	119.8	235.3	126.7
	Pure water	5	314.8	106.4	303.7	112.1	292.2	118.2	280.4	124.8	268.1	131.9
		6	325.1	107.7	314.1	113.4	302.1	119.6	289.9	126.3	277.4	133.4
		7	335.7	109.1	323.6	115.0	312.0	121.0	299.6	127.7	286.8	135.0
		8	346.5	110.5	334.6	116.3	322.1	122.5	309.5	129.3	296.4	136.5
		10	371.7	114.1	359.4	119.8	346.3	126.1	332.9	132.9	318.8	140.3
		12	395.0	117.1	381.7	123.0	367.9	129.3	353.9	136.2	339.4	143.7
1500 Z H.P.S.	Glycol water	-8	213.7	98.1	207.7	103.9	201.2	110.0	195.4	117.0		
		-6	230.3	100.0	225.1	106.1	218.7	112.4	210.4	119.2		
		-4	246.9	101.9	241.6	108.1	235.6	114.7	228.9	121.8		
		-2	266.8	104.1	261.3	110.5	255.4	117.4	248.6	124.8	240.8	132.7
		0	284.2	106.0	278.2	112.6	272.2	119.6	265.5	127.2	257.5	135.5
		2	302.4	108.1	296.4	114.9	290.1	122.1	281.9	129.8	274.7	138.4
	Pure water	5	338.2	112.4	331.6	119.8	324.5	127.1	316.6	135.3	308.6	144.2
		6	347.9	113.7	341.2	120.8	334.6	126.0	325.7	136.7	316.8	145.9
		7	358.2	115.0	350.6	122.0	343.7	129.9	335.2	138.3	327.0	147.7
		8	368.3	116.3	361.0	123.6	353.3	131.3	344.6	139.9	336.5	149.2
		10	392.1	119.6	384.4	126.9	376.2	134.9	367.5	143.6	358.2	153.0
		12	413.5	122.5	405.2	129.9	396.6	138.0	386.3	147.4		

Pf : Cooling capacity calculated with :
- water inlet/outlet differential as per curves page 16
- 0.00005 m2 °C/W fouling factor

Pa : Compressors + fans absorbed power

Glycol water is necessary
Low temperature option necessary (valid only on LX versions).
EUROVENT conditions

PERFORMANCES

POWERCIAT LX-LXH-LXC
LOW NOISE - XTRA LOW NOISE versions

R407C

PROPELLER FANS

LX LXH LXC	Evaporator water oultet temperature °C		CONDENSER AIR INLET TEMPERATURE °C 26 Pf kW	26 Pa kW	29 Pf kW	29 Pa kW	32 Pf kW	32 Pa kW	35 Pf kW	35 Pa kW	38 Pf kW	38 Pa kW
1850 Z	Glycol water	-8	223.0	110.6	213.2	116.3	203.0	122.3	191.5	128.7		
		-6	242.6	113.0	232.2	118.8	221.3	125.1	209.6	131.7		
		-4	262.9	115.5	251.8	121.5	239.9	127.9	227.7	134.6		
		-2	286.6	118.5	275.0	124.9	263.3	131.3	250.5	138.3	237.2	145.5
		0	308.2	121.2	296.1	127.6	283.5	134.4	270.2	141.4	256.4	148.8
		2	330.4	124.0	317.7	130.6	304.6	137.6	290.7	144.8	275.6	152.7
	Pure water	5	374.5	129.9	360.4	136.8	345.6	144.3	330.8	151.8	315.5	159.4
		6	386.6	131.7	372.3	138.6	357.5	145.9	342.2	153.5	326.5	161.4
		7	399.0	133.4	384.5	140.4	369.8	147.9	353.7	155.5	337.6	163.5
		8	412.0	135.3	396.8	142.3	380.0	150.3	365.3	157.5	348.7	165.6
		10	441.5	139.7	425.7	146.9	409.0	154.4	392.4	162.3	375.4	170.3
		12	468.5	143.7	451.0	151.3	434	159	417.0	166.7	398.9	175.1
1850 Z H.P.S.	Glycol water	-8	259.1	117.5	251.6	124.2	243.3	131.4	234.8	137.0		
		-6	280.0	120.3	271.7	129.4	262.6	136.7	253.0	142.3		
		-4	300.1	122.9	291.7	132.5	283.7	140.3	272.5	148.2		
		-2	323.8	126.0	315.8	136.3	306.6	144.2	297.8	152.9	285.4	161.3
		0	345.3	131.8	336.4	139.4	327.4	147.7	317.2	156.6	305.5	165.2
		2	366.3	134.7	358.0	142.9	346.1	150.8	338.4	160.3	327.2	169.7
	Pure water	5	409.8	141.3	399.9	149.8	390.1	158.8	379.5	168.3	367.5	178.0
		6	422.3	139.7	410.7	151.9	401.8	160.9	391.6	166.8	378.6	180.5
		7	433.7	145.1	423.5	153.9	413.4	163.2	401.7	172.9	390.8	178.8
		8	445.4	146.8	436.2	156.3	425.1	165.3	413.4	175.3	401.1	185.4
		10	474.1	152.0	463.8	160.7	452.5	170.6	440.3	180.4	427.9	191.7
		12	499.4	156.0	488.6	165.1	477.1	175.2	464.8	185.5		
2150 Z	Glycol water	-8	266.3	131.1	255.1	137.8	241.6	144.9	228.2	152.4		
		-6	289.0	133.8	276.6	140.7	263.9	148.1	250.3	155.8		
		-4	312.4	136.6	299.3	143.7	285.9	151.2	272.0	159.1		
		-2	340.4	139.9	326.9	147.3	312.7	155.0	298.2	163.1	282.4	171.7
		0	365.6	143.0	351.5	150.5	336.8	158.4	321.4	166.8	305.4	175.3
		2	392.1	146.3	377.1	153.9	361.8	162.0	345.7	170.4	329.0	179.3
	Pure water	5	444.4	153.0	428.2	161.1	410.8	169.3	393.4	178.0	375.4	187.2
		6	459.0	155.0	441.1	163.4	424.6	171.4	406.8	180.2	388.4	189.5
		7	473.8	157.0	456.6	165.1	438.8	173.6	420.3	182.5	401.6	191.8
		8	488.9	159.1	471.2	167.3	453.1	175.8	434.1	184.8	415.0	194.2
		10	524.3	164.1	505.6	172.4	486.2	181.0	466.4	190.2	446.3	199.9
		12	556.9	168.9	537.0	177.1	516.7	185.9	496.1	195.2	474.6	205.1
2150 Z H.P.S.	Glycol water	-8	310.0	140.8	299.8	148.5	291.1	157.0	282.4	167.5		
		-6	332.8	144.7	324.2	153.0	314.8	161.9	304.6	171.6		
		-4	356.0	147.9	347.2	156.5	337.8	165.5	329.7	175.0		
		-2	384.6	151.9	375.1	160.5	365.1	170.0	354.4	179.8	341.5	190.1
		0	408.9	155.0	399.8	164.3	389.4	173.9	378.3	184.1	365.7	194.6
		2	434.7	158.6	425.7	168.4	414.7	178.2	403.0	188.5	390.2	199.3
	Pure water	5	485.8	172.6	475.4	182.4	463.8	192.9	451.2	203.8	438.1	215.4
		6	499.7	174.6	489.3	184.8	477.6	195.3	465.0	206.3	450.8	218.1
		7	513.8	176.6	502.9	186.9	491.9	198.0	478.4	208.9	464.6	220.7
		8	528.3	178.8	517.4	189.3	505.2	200.1	492.5	211.5	478.6	223.7
		10	562.0	177.8	549.7	188.2	537.7	199.7	523.9	211.5	511.8	219.7
		12	592.4	182.5	580.0	193.3	567.2	205.0	551.8	217.6		

Pf : Cooling capacity calculated with :
- water inlet/outlet differential as per curves page 16
- 0.00005 m2 °C/W fouling factor

Pa : Compressors + fans absorbed power

Glycol water is necessary
Low temperature option necessary (valid only on LX versions).
EUROVENT conditions

PERFORMANCES

POWERCIAT LX-LXH-LXC
LOW NOISE - XTRA LOW NOISE versions

PROPELLER FANS

R407C

LX LXH LXC	Evaporator water oultet temperature °C		CONDENSER AIR INLET TEMPERATURE °C 26 Pf kW	26 Pa kW	29 Pf kW	29 Pa kW	32 Pf kW	32 Pa kW	35 Pf kW	35 Pa kW	38 Pf kW	38 Pa kW
2500 Z	Glycol water	-8	317.5	151.1	301.6	158.4	286.1	166.3	267.9	174.5		
		-6	347.2	154.9	329.6	162.7	312.0	170.4	293.7	178.8		
		-4	376.9	158.7	358.8	166.8	340.6	174.9	320.8	183.3		
		-2	416.0	163.9	398.3	172.2	379.8	181.0	360.8	190.0	340.5	199.0
		0	446.9	167.9	428.4	176.6	409.1	185.5	389.1	194.7	367.5	204.3
		2	479.0	172.3	459.5	181.2	439.4	190.4	418.5	199.7	396.7	209.2
	Pure water	5	541.7	181.2	520.5	190.4	498.4	200.3	475.9	209.8	452.5	219.7
		6	559.1	183.8	537.6	193.1	514.8	203.0	491.9	212.6	468.1	222.7
		7	577.2	186.4	555.1	195.9	532.1	205.6	508.5	215.6	484.0	225.8
		8	595.5	189.2	573.1	198.8	549.1	208.5	524.9	218.6	500.0	228.9
		10	638.6	195.8	614.4	205.4	589.6	215.3	564.1	225.6	538.4	236.4
		12	675.6	202.4	651.9	211.4	625.9	221.4	599.4	231.9	573.7	243.0
2500 Z H.P.S.	Glycol water	-8	371.3	161.3	357.8	169.9	343.2	182.2	326.6	191.7		
		-6	402.5	165.7	386.6	177.8	373.0	187.5	356.3	197.4		
		-4	431.0	169.7	418.2	179.3	402.3	192.7	385.7	202.9		
		-2	471.9	178.6	460.1	187.7	446.0	197.2	430.6	207.1	412.3	216.9
		0	502.5	183.0	490.1	192.4	473.5	202.2	460.3	212.2	442.7	222.6
		2	534.4	187.8	521.4	197.5	507.1	207.5	490.9	217.6	473.2	228.0
	Pure water	5	595.4	197.5	581.2	207.5	565.9	218.3	549.0	228.6	531.3	239.4
		6	612.4	200.3	597.5	210.4	582.2	221.2	565.0	231.7	547.1	242.7
		7	629.3	203.1	615.6	213.5	599.6	224.1	581.9	235.0	563.7	246.1
		8	646.4	206.2	632.4	216.6	616.5	227.2	598.0	238.2	579.5	249.5
		10	688.1	213.4	672.0	223.8	656.9	234.6	638.2	245.9	619.7	257.6
		12	725.5	220.6	708.6	230.4	691.3	241.3	671.9	252.7		
2800 Z	Glycol water	-8	373.0	175.1	357.0	184.0	341.8	193.2	324.0	203.9		
		-6	406.0	178.0	390.0	187.0	372.5	196.9	355.0	207.9		
		-4	438.8	180.5	422.2	190.3	404.6	200.6	386.6	211.6		
		-2	478.9	184.6	461.5	194.6	442.9	205.2	424.1	216.8	404.3	229.3
		0	514.1	188.2	495.7	198.4	476.6	209.2	456.8	221.1	435.8	233.8
		2	551.3	192.1	531.4	202.4	511.6	213.5	490.4	225.6	468.9	238.6
	Pure water	5	624.3	200.4	602.5	210.9	580.3	222.4	557.2	234.9	532.6	248.8
		6	644.7	202.8	622.5	213.4	599.4	224.9	575.8	237.5	551.2	251.5
		7	665.2	205.3	642.7	216.0	619.2	227.7	594.6	240.2	569	253.2
		8	686.8	207.9	663.2	218.6	639.1	230.4	614.1	243.1	588.6	256.9
		10	737.5	214.3	712.4	225.1	685.9	237.5	659.4	250.1	633.0	263.9
		12	783.4	220.3	756.3	231.1	729.4	243.1	701.7	256.1	672.8	270.2
2800 Z H.P.S.	Glycol water	-8	433.0	185.2	425.5	198.2	409.8	210.2	397.0	223.6		
		-6	467.0	189.0	456.4	200.4	442.5	214.6	429.6	225.7		
		-4	500.0	192.6	489.0	204.3	482.0	219.4	464.0	233.2		
		-2	545.5	196.7	535.5	208.8	523.3	224.7	510.5	239.2	496.5	255.2
		0	580.5	200.4	569.6	212.8	558.3	226.4	544.1	244.2	530.9	257.2
		2	616.4	204.4	604.5	220.2	591.9	234.3	580.0	246.2	563.8	266.3
	Pure water	5	685.0	215.6	673.3	229.3	661.9	240.4	645.8	260.3	630.1	277.8
		6	704.5	218.1	692.2	231.8	680.7	243.0	664.2	263.3	648.2	281.0
		7	724.4	220.6	713.5	230.7	697.9	249.7	685.0	262.1	668.7	279.9
		8	744.9	223.3	731.9	237.2	717.3	252.6	704.0	265.1	685.2	287.6
		10	792.2	229.4	780.4	239.6	762.8	259.6	746.6	276.7	729.1	295.6
		12	834.6	235.1	822.4	245.4	806.6	261.1	786.9	283.4		

Pf : Cooling capacity calculated with :
- water inlet/outlet differential as per curves page 16
- 0.00005 m2 °C/W fouling factor

Pa : Compressors + fans absorbed power

Glycol water is necessary
Low temperature option necessary (valid only on LX versions).
EUROVENT conditions

PERFORMANCES

POWERCIAT LX-LXH-LXC
LOW NOISE - XTRA LOW NOISE versions

R407C

LX LXH LXC	Evaporator water oultet temperature °C		CONDENSER AIR INLET TEMPERATURE °C 26 Pf kW	26 Pa kW	29 Pf kW	29 Pa kW	32 Pf kW	32 Pa kW	35 Pf kW	35 Pa kW	38 Pf kW	38 Pa kW
3050 Z H.P.S.	Glycol water	-8	438.3	209.1	421.5	217.5	413.1	231.0	406.1	248.5		
		-6	473.9	211.7	457.4	222.9	442.5	235.1	427.6	252.6		
		-4	510.7	216.1	500.2	228.4	483.2	240.7	470.4	255.1		
		-2	574.0	223.8	547.3	239.0	537.6	248.6	521.2	262.9	503.1	278.0
		0	607.6	227.8	594.3	245.8	580.2	255.0	557.3	268.4	538.1	283.5
		2	647.6	238.1	635.0	246.4	619.8	260.7	599.1	275.1	577.4	295.9
	Pure water	5	742.0	245.1	722.3	258.8	706.2	274.0	685.4	289.4	665.5	306.3
		6	762.3	247.9	747.2	262.5	724.2	277.5	705.4	292.9	688.4	310.5
		7	785.5	251.1	765.5	271.3	748.4	280.5	725.0	303.3	710.2	313.9
		8	808.5	254.3	790.8	268.8	770.7	284.1	746.5	307.4	730.5	317.2
		10	863.3	261.9	844.8	276.7	824.0	292.4	802.4	309.3	777.3	330.0
		12	911.7	268.9	891.7	283.8	866.2	307.7	847.8	315.7		
3400 Z H.P.S.	Glycol water	-8	495.0	232.0	475.0	241.2	460.4	254.3	452.9	274.7		
		-6	531.6	234.3	511.2	246.3	501.0	260.8	479.5	279.8		
		-4	575.6	240.3	552.8	252.5	542.5	267.4	510.0	285.0		
		-2	644.3	249.3	617.6	261.9	594.9	281.4	579.6	291.6	556.6	307.2
		0	679.8	254.0	657.9	267.6	645.2	283.6	619.2	298.2	594.9	313.9
		2	725.3	260.2	700.4	280.3	686.7	290.4	665.1	306.4	642.5	322.7
	Pure water	5	822.5	275.2	803.6	290.1	779.0	305.7	758.8	323.3	731.7	340.4
		6	843.6	280.3	829.6	294.0	805.2	310.3	780.9	327.2	755.5	344.3
		7	870.8	284.2	851.0	299.5	827.7	314.0	803.4	331.5	779.5	349.8
		8	897.5	289.3	875.1	303.3	849.5	318.2	828.6	336.3	801.1	354.3
		10	954.2	300.2	934.9	313.9	910.7	328.3	881.4	356.4	864.8	364.2
		12	1009.4	313.2	985.9	326.1	962.9	337.4	932.8	366.2		
3750 Z H.P.S.	Glycol water	-8	552.0	251.0	530.3	263.4	509.8	277.3	490.3	292.7		
		-6	588.2	256.0	568.4	269.4	546.0	283.5	523.3	298.5		
		-4	635.4	262.6	616.2	282.2	594.7	291.6	574.0	307.5		
		-2	704.1	272.1	686.3	287.6	662.7	309.3	642.8	320.1	608.5	334.7
		0	754.4	279.2	733.7	294.9	701.8	316.0	686.6	327.7	656.3	343.7
		2	802.8	293..3	780.5	309.5	762.0	327.5	734.2	336.5	705.2	353.4
	Pure water	5	908.4	310.3	883.7	327.6	857.2	345.5	832.2	355.1	801.9	372.9
		6	930.6	314.4	911.4	331.6	888.9	351.8	861.5	360.8	827.7	378.7
		7	956.7	318.1	932.2	336.1	915.6	356.0	881.0	364.4	855.9	384.8
		8	987.6	323.9	963.6	342.0	940.7	360.0	909.2	370.6	879.3	400.6
		10	1050.6	334.3	1027.1	353.7	1002.3	367.6	972.4	381.5	942.4	409.8
		12	1109.1	344.0	1082.0	363.5	1054.3	378.8	1027.7	393.3		

PROPELLER FANS

Pf : Cooling capacity calculated with :
- water inlet/outlet differential as per curves page 16
- 0.00005 m2 °C/W fouling factor

Pa : Compressors + fans absorbed power

Glycol water is necessary
Low temperature option necessary (valid only on LX versions).
EUROVENT conditions

NOTES

CORRECTION FACTORS FOR ETHYLENE GLYCOL

Evaporator

Mass concentration %	Multiplying coefficient		
	Cooling capacity	Chilled water flow	Chilled water pressure drops
10	0.99	1.05	1.05
20	0.985	1.10	1.10
30	0.98	1.15	1.15
40	0.97	1.20	1.23

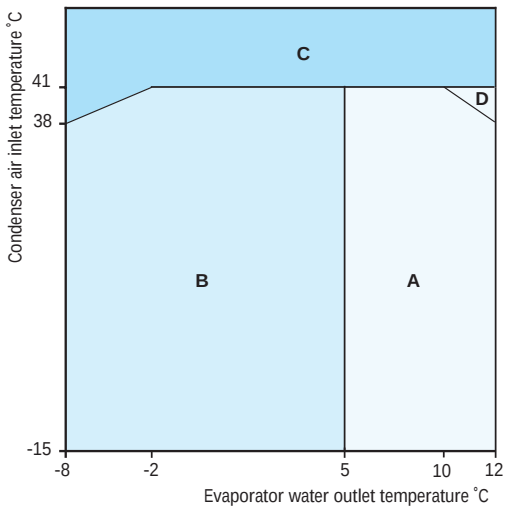
Glycol concentration necessary

Mass concentration %		0	10	20	30	40
Ethylene glycol	Freezing point °C	0	-4	-9	-16	-23
	Minimum water outlet °C	4	2	0	-5	-11
Propylene glycol	Freezing point °C	0	-3	-7	-13	-22
	Minimum water outlet °C	4	3	-2	-4	-10

OPERATION RANGES

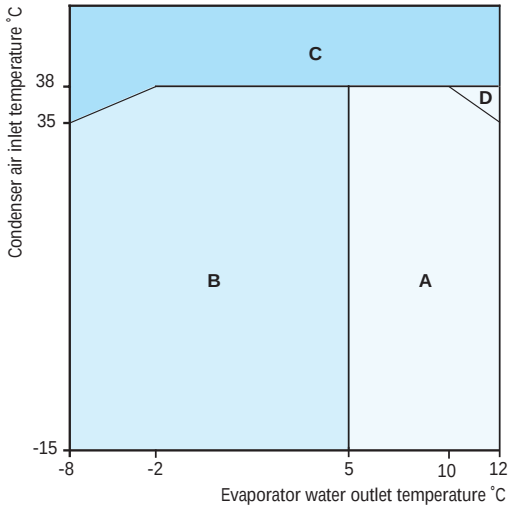
Standard version

905 rpm fan speed



Low noise - Xtra low noise versions

715 rpm fan speed

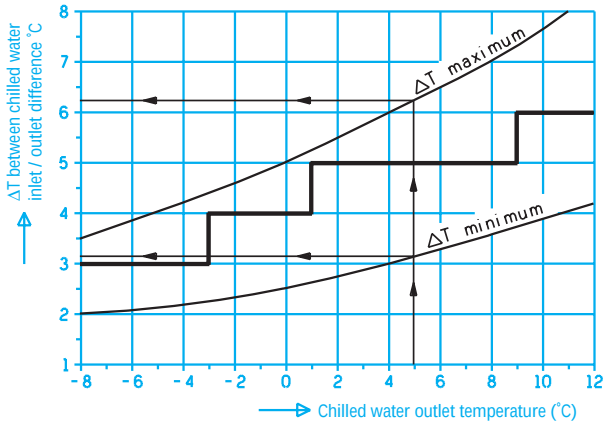


A - Full load operation with pure water
B - Full load operation with glycol compulsory
C - Part load operation
D - Operation without HPS

EVAPORATOR LIMITS

The curve below represents the min. and max. admissible temperature differences on pure water or glycol water as a function of the fluid outlet temperature at the evaporator.

Check also minimum and maximum temperature differences according to minimum and maximum flow (see curves "Hydraulic characteristics").

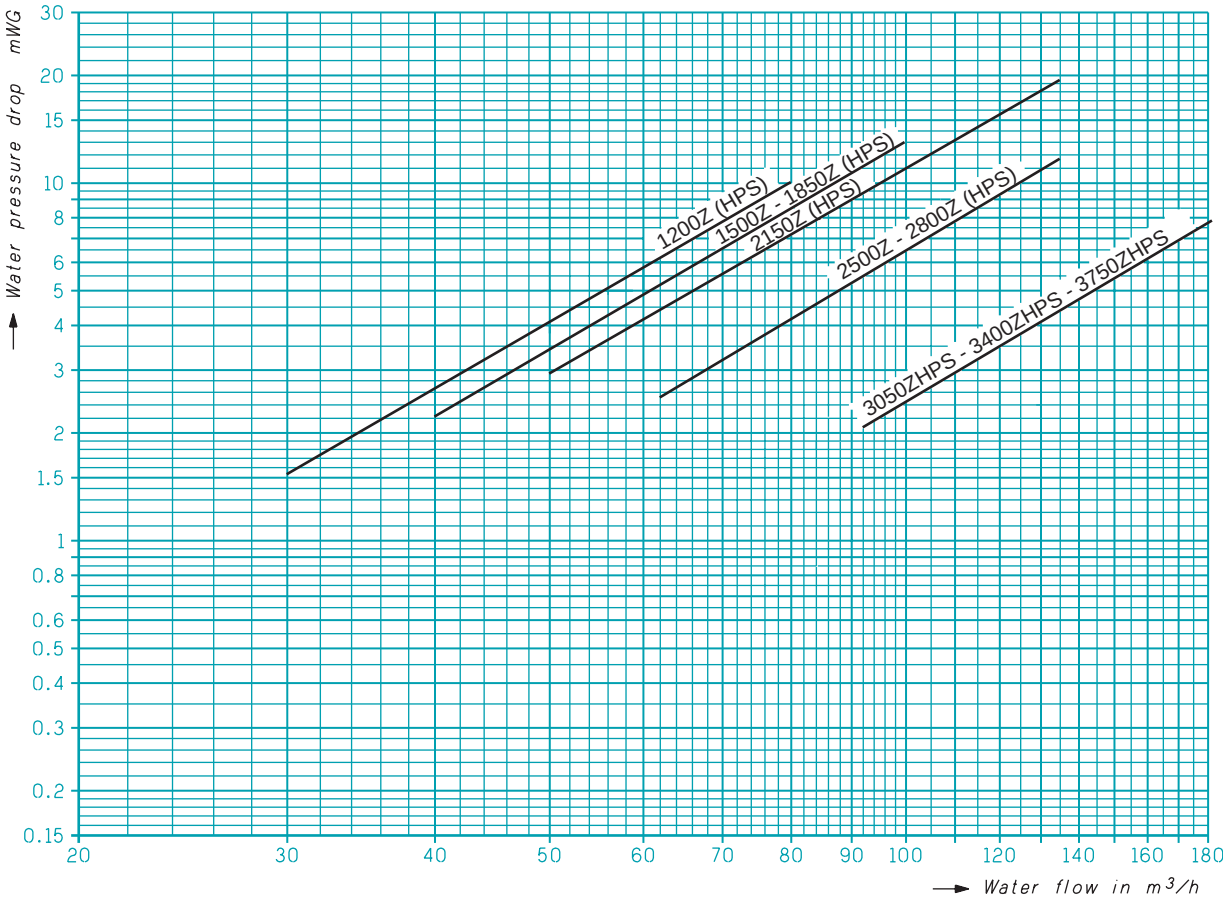


—— Difference of temperature for performances calculation tables

Example :
For a water outlet : + 5 °C (ΔT for performances calculation 5 °C)
ΔT minimum : 3,1 °C — Water temp : 8,1 / 5 °C
ΔT maximum : 7,5 °C — Water temp : 12,5 / 5 °C

HYDRAULIC CHARACTERISTICS

■ Water pressure drop POWERCIAT LX - LXC

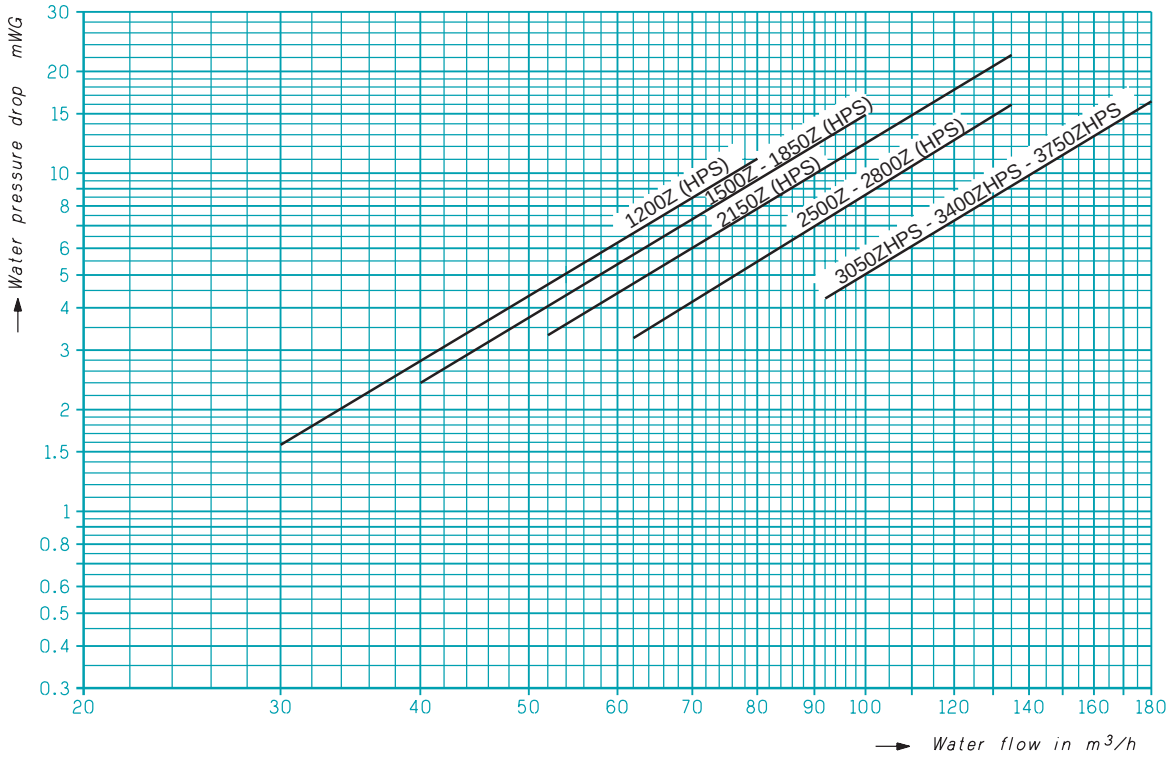


Do not extrapolate the values. Minimum and maximum water flow must be respected.

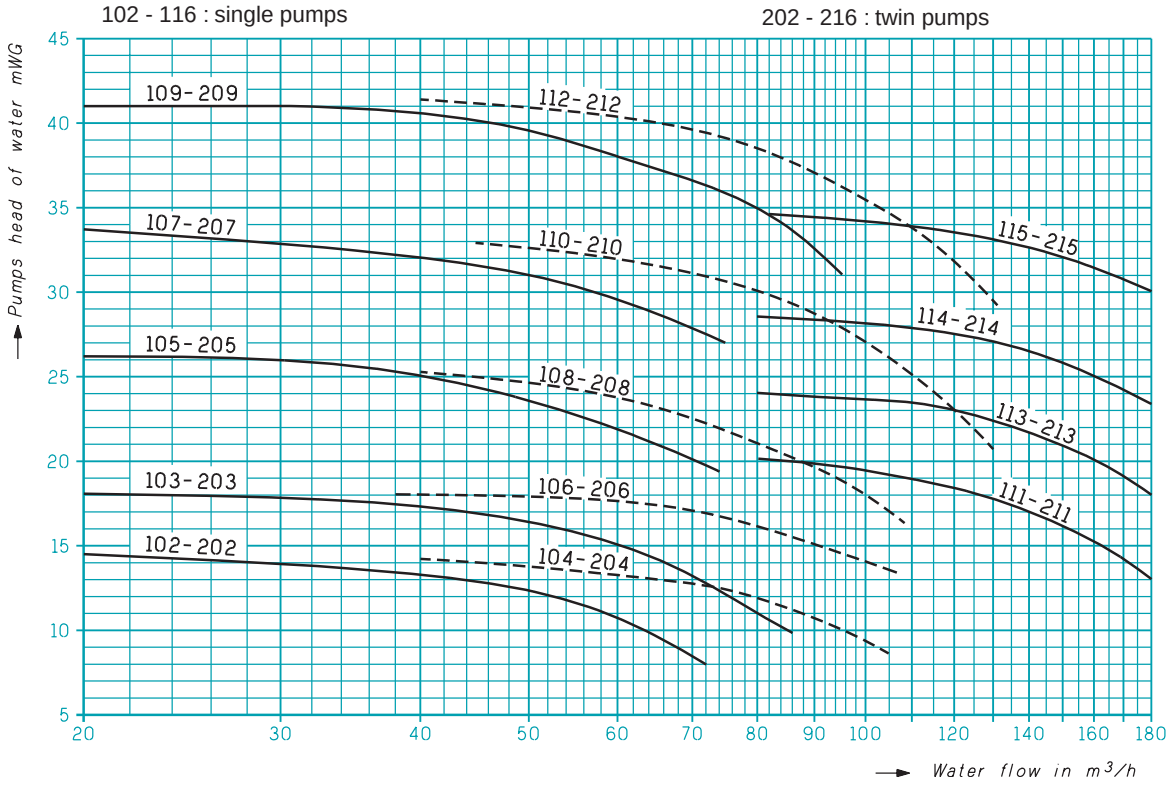
NOTES

HYDRAULIC CHARACTERISTICS

Water pressure drop POWERCIAT LXH



Pumps selection



Do not extrapolate the values. Minimum and maximum water flow must be respected.

MINIMUM CHILLED WATER PIPING VALUMES

POWERCIAT LX - LXH - LXC

Xtra Connect microprocessor fitted on POWERCIAT units allows a very flexible adjustement of the operation in comparison with the drift of parameters, especially for hydraulic installation with low water volume.

The auto adaptive control of the units and modulating capacity control on each compressor avoid the use of anti-short cycle function and the installation of buffer tank.

Minimum water volume ot the installation following sizes of units as below

Models LX - LXH - LXC	1200 Z	1200 Z HPS	1500 Z	1500 Z HPS	1850 Z	1850 Z HPS	2150 Z	2150 Z HPS	2500 Z	2500 Z HPS	2800 Z	2800 Z HPS	3050 Z HPS	3400 Z HPS	3750 Z HPS
Minimum volume of installations (liters)	2024	2256	2636	2934	3144	3562	3732	4240	4257	5167	5268	6035	4263	4749	5252

Minimum chilled water piping volumes calculation for the following conditions :

- chilled water temperature : 12°C / 7°C
- condenser air inlet temperature : 35°C

NOTE :

Installations with important thermal variation or some industrial process designed to supply very constant water temperature, must be equipped with buffer tank. (LXH alternative selection)

NOTES

PROPELLER FANS

SOUND LEVELS

STANDARD version
High speed fans (905 rpm)

■ Acoustic pressure levels ref 2 x 10^{-5} Pa ± 3 dB (Lp)

LX - LXH LXC	SOUND PRESSURE LEVEL SPECTRUM (dB)							Total pressure level dB(A)
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
1200Z 1200Z HPS	51	63	62	60	61	54	49	64
1500Z 1500Z HPS	53	65	64	62	63	56	51	66
1850Z 1850Z HPS	53	65	64	62	63	56	51	66
2150Z 2150Z HPS	52	65	64	65	64	59	53	67
2500Z 2500Z HPS	53	66	65	66	65	60	54	68
2800Z 2800Z HPS	55	67	66	64	65	58	53	68
3050Z HPS	55	67	66	64	65	58	53	68
3400Z HPS	56	68	67	65	66	59	54	69
3750Z HPS	56	68	67	65	66	59	54	69

■ Acoustic power levels ref 10^{-12} W ± 3 dB (Lw)

LX - LXH LXC	SOUND POWER LEVEL SPECTRUM (dB)							Total power level dB(A)
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
1200Z 1200Z HPS	83	95	94	92	93	86	81	96
1500Z 1500Z HPS	85	97	96	94	95	88	83	98
1850Z 1850Z HPS	85	97	96	94	95	88	83	98
2150Z 2150Z HPS	85	98	97	98	97	92	86	100
2500Z 2500Z HPS	86	99	98	99	98	93	87	101
2800Z 2800Z HPS	88	100	99	97	98	91	86	101
3050Z HPS	88	100	99	97	98	91	86	101
3400Z HPS	89	101	100	98	99	92	87	102
3750Z HPS	89	101	100	98	99	92	87	102

Acoustic pressure levels are calculated following ISO 3744 regulation Lp = Lw - 10 log S, in free field and at 10 meters from the unit.
We remind that the acoustic pressure level is given as an indication and that only the sound power level is comparable and certified.

SOUND LEVELS

LOW NOISE version
Low speed fans (715 rpm) + compressors phonic insulation

■ Acoustic pressure levels ref 2 x 10^{-5} Pa ± 3 dB (Lp)

LX - LXH LXC	SOUND PRESSURE LEVEL SPECTRUM (dB)							Total pressure level dB(A)
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
1200Z 1200Z HPS	57	55	57	55	55	49	44	58
1500Z 1500Z HPS	59	57	59	57	57	51	46	60
1850Z 1850Z HPS	59	57	59	57	57	51	46	60
2150Z 2150Z HPS	59	58	59	61	57	54	46	62
2500Z 2500Z HPS	60	59	60	62	58	55	47	63
2800Z 2800Z HPS	62	61	62	64	61	57	50	65
3050Z HPS	62	60	62	62	60	54	49	64
3400Z HPS	63	61	63	63	61	56	50	65
3750Z HPS	63	61	63	63	61	56	50	65

■ Acoustic power levels ref 10^{-12} W ± 3 dB (Lw)

LX - LXH LXC	SOUND POWER LEVEL SPECTRUM (dB)							Total power level dB(A)
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
1200Z 1200Z HPS	89	87	89	87	87	81	76	90
1500Z 1500Z HPS	91	89	91	89	89	83	78	92
1850Z 1850Z HPS	91	89	91	89	89	83	78	92
2150Z 2150Z HPS	92	91	92	94	90	87	79	95
2500Z 2500Z HPS	93	92	93	95	91	88	80	96
2800Z 2800Z HPS	95	94	95	97	94	90	83	98
3050Z HPS	95	93	95	95	93	87	82	97
3400Z HPS	96	94	96	96	94	89	83	98
3750Z HPS	96	94	96	96	94	89	83	98

Acoustic pressure levels are calculated following ISO 3744 regulation Lp = Lw - 10 log S, in free field and at 10 meters from the unit.
We remind that the acoustic pressure level is given as an indication and that only the sound power level is comparable and certified.

SOUND LEVELS

XTRA LOW NOISE version
Specific mounting for low speed fans (715 rpm) + compressors sound insulation

PROPELLER FANS

■ Acoustic pressure levels ref 2 x 10^{-5} Pa ± 3 dB (Lp)

LX - LXH LXC	SOUND PRESSURE LEVEL SPECTRUM (dB)							Total pressure level dB(A)
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
1200Z 1200Z HPS	51	52	46	54	47	40	32	53
1500Z 1500Z HPS	56	53	49	55	50	44	34	55
1850Z 1850Z HPS	56	53	49	55	50	44	34	55
2150Z 2150Z HPS	60	56	49	56	50	44	34	55
2500Z 2500Z HPS	60	56	49	57	51	44	34	56
2800Z 2800Z HPS	63	59	50	59	52	46	36	58
3050Z HPS	61	57	51	57	52	46	36	57
3400Z HPS	62	58	52	58	53	47	37	58
3750Z HPS	62	58	52	58	53	47	37	58

■ Acoustic power levels ref 10^{-12} W ± 3 dB (Lw)

LX - LXH LXC	SOUND PRESSURE LEVEL SPECTRUM (dB)							Total pressure level dB(A)
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
1200Z 1200Z HPS	83	84	78	86	79	72	64	85
1500Z 1500Z HPS	88	85	81	87	82	76	66	87
1850Z 1850Z HPS	88	85	81	87	82	76	66	87
2150Z 2150Z HPS	93	89	82	89	83	77	67	88
2500Z 2500Z HPS	93	89	82	90	84	77	67	89
2800Z 2800Z HPS	96	92	83	92	85	79	69	91
3050Z HPS	94	90	84	90	85	79	69	90
3400Z HPS	95	91	85	91	86	80	70	91
3750Z HPS	95	91	85	91	86	80	70	91

Acoustic pressure levels are calculated following ISO 3744 regulation Lp = Lw - 10 log S, in free field and at 10 meters from the unit.
We remind that the acoustic pressure level is given as an indication and that only the sound power level is comparable and certified.

DIMENSIONS LX - LXH

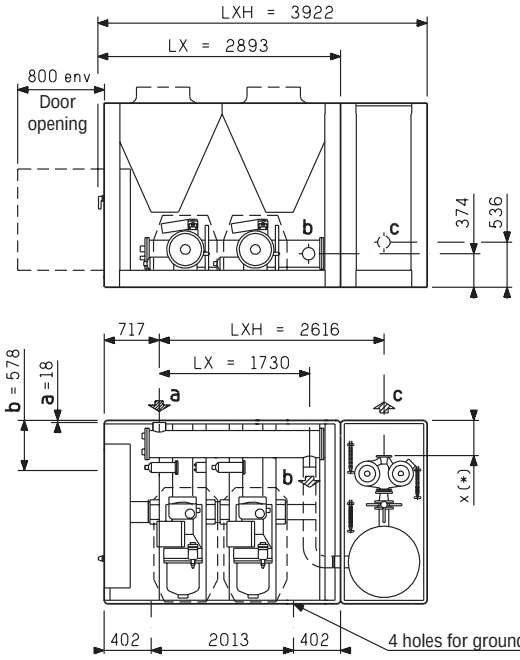
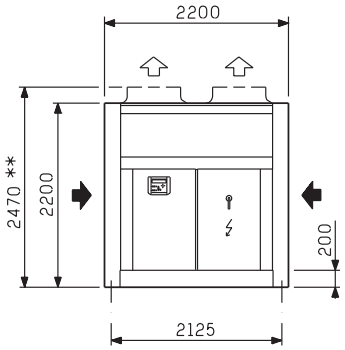


FIG.1



** For XTRA LOW NOISE version only

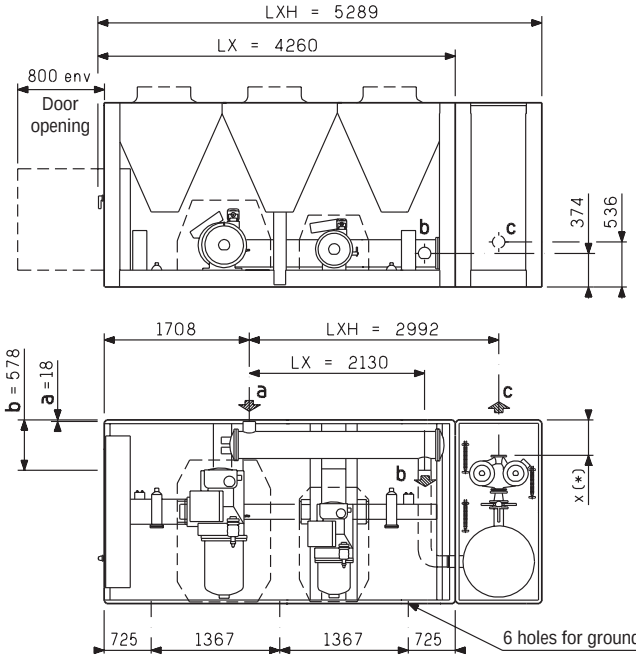
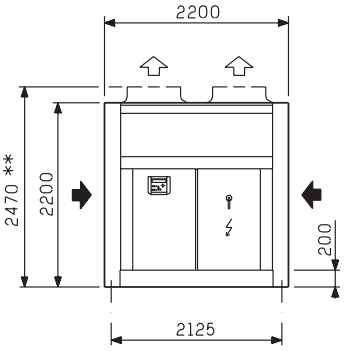


FIG.2



** For XTRA LOW NOISE version only

Models		Fig.	Chilled water inlet LX / LXH a	Chilled water outlet LX b	Chilled water outlet LXH c	Weight kg empty	Weight kg in operation
LX	1200Z (HPS)	1	VICTAULIC DN 125	DN 125	*	2667	2753
LXH	1200Z (HPS)					3417	4553
LX	1500Z (HPS)	2	VICTAULIC DN 125	DN 125	*	3459	3557
LXH	1500Z (HPS)					4209	5357
LX	1850Z (HPS)	2	VICTAULIC DN 125	DN 125	*	3908	4006
LXH	1850Z (HPS)					4658	5806

* **c** according to the selected pump (see page 25)

PROPELLER FANS

DIMENSIONS LX - LXH

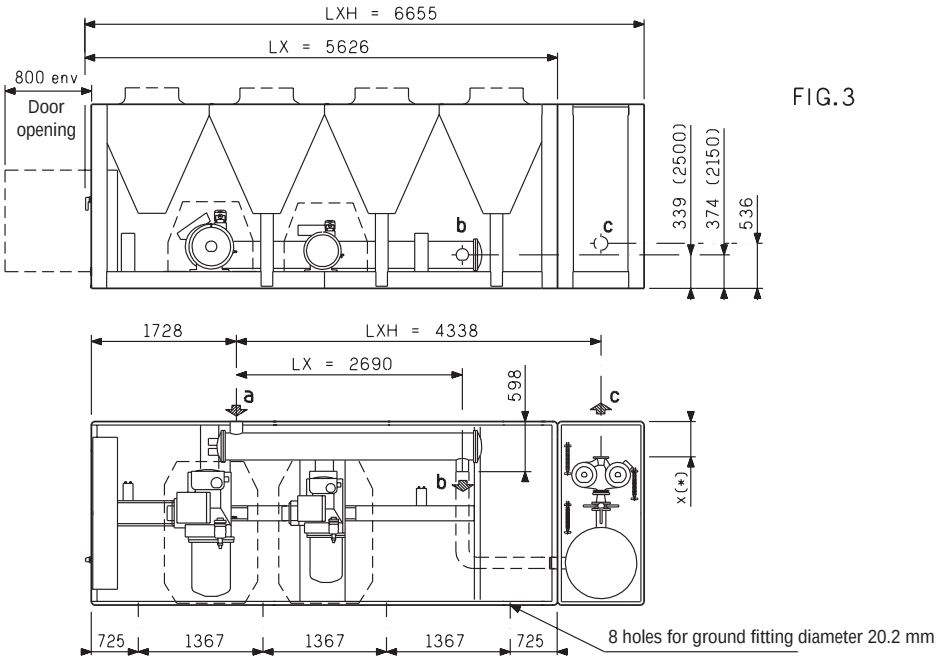
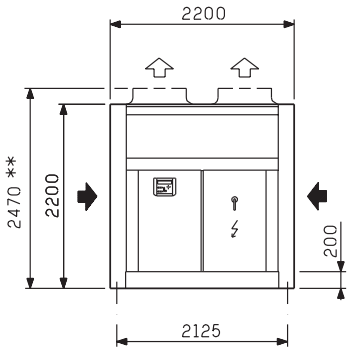


FIG.3



** For XTRA LOW NOISE version only

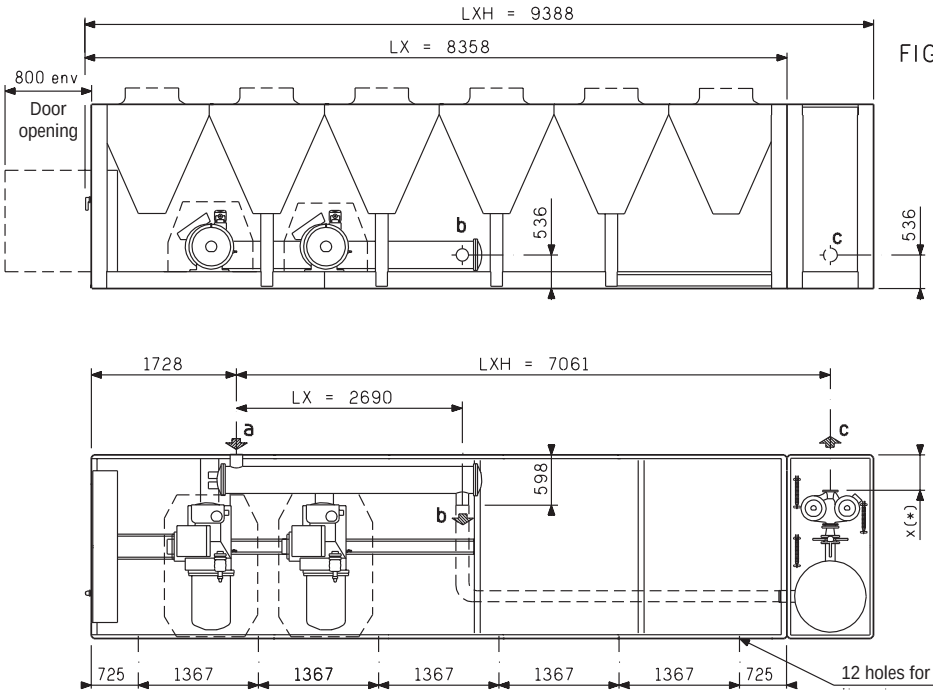
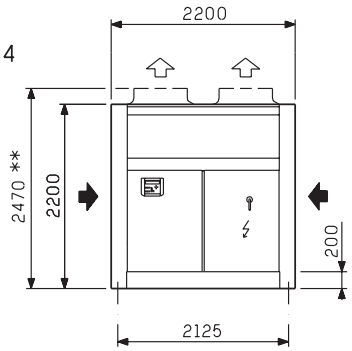


FIG.4

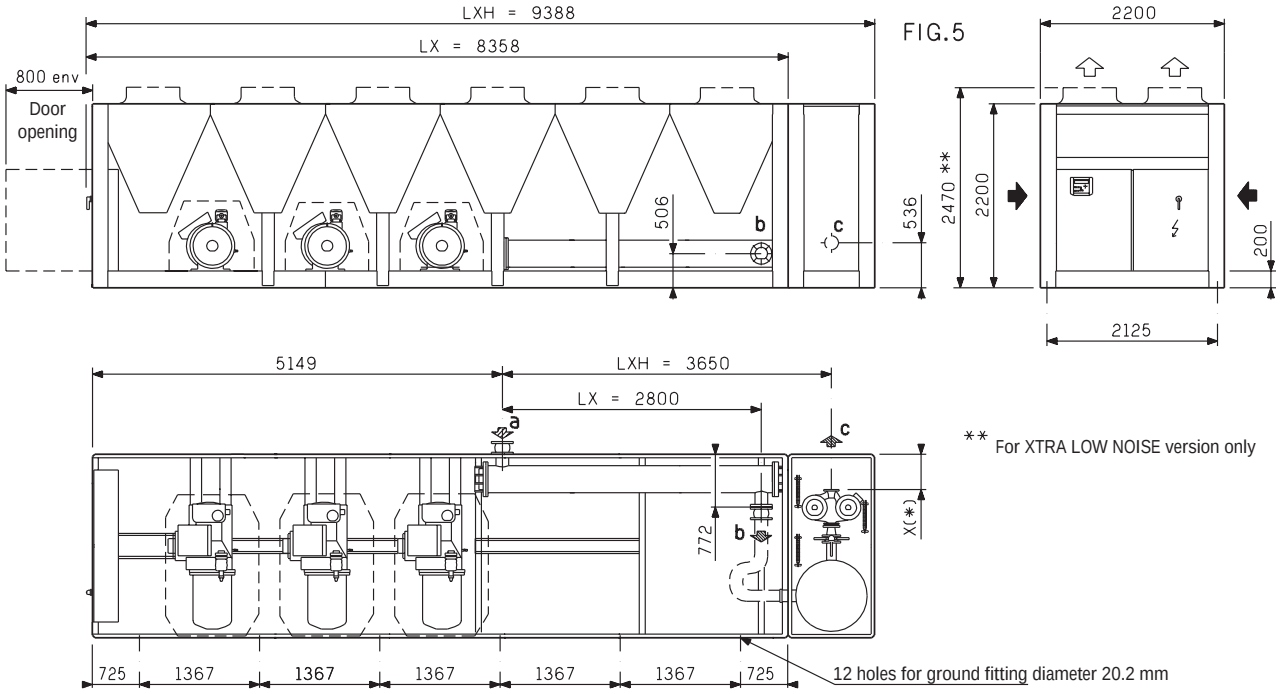


** For XTRA LOW NOISE version only

Models		Fig.	Chilled water inlet LX / LXH a	Chilled water outlet LX b	Chilled water outlet LXH c	Weight kg empty	Weight kg in operation
LX	2150Z (HPS)	3	VICTAULIC DN 125	DN 125	*	4652	4767
LXH	2150Z (HPS)					5402	6567
LX	2500Z (HPS)	3	VICTAULIC DN 150	DN 150	*	5177	5327
LXH	2500Z (HPS)					5927	7127
LX	2800Z (HPS)	4	VICTAULIC DN 150	DN 150	*	6071	6221
LXH	2800Z (HPS)					6821	8021

* **c** according to the selected pump (see page 25)

DIMENSIONS LX - LXH



** For XTRA LOW NOISE version only

Models		Fig.	Chilled water			Weight kg	
			inlet LX / LXH a	outlet LX b	outlet LXH c	empty	in operation
LX	3050Z HPS	5	VICTAULIC DN 200	DN 200	*	6940	7186
LXH	3050Z HPS					7690	8986
LX	3400Z HPS	5	VICTAULIC DN 200	DN 200	*	7383	7629
LXH	3400Z HPS					8133	9429
LX	3750Z HPS	5	VICTAULIC DN 200	DN 200	*	7826	8072
LXH	3750Z HPS					8576	9872

Models	1200 - 1500 - 1850 - 2150 - 2500 - 2800 - 3050 - 3400 - 3750		
Single pumps	102 - 103 - 105 - 107 - 109	104 - 106 - 108 - 110 - 112	111 - 113 - 114 - 115 - 116
Twin pumps	202 - 203 - 205 - 207 - 209	204 - 206 - 208 - 210 - 212	211 - 213 - 214 - 215 - 216
Flanges	DN 65 - PN 16	DN 80 - PN 16	DN 100 - PN 16
X (LXH)	364	374	448

* **c** according to the selected pump select above

DIMENSIONS LXC

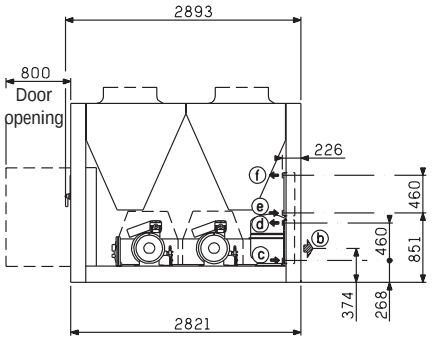
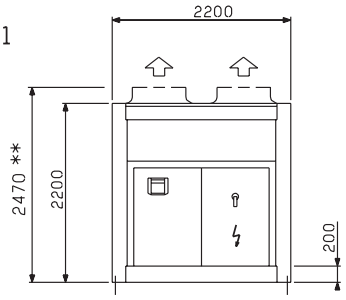
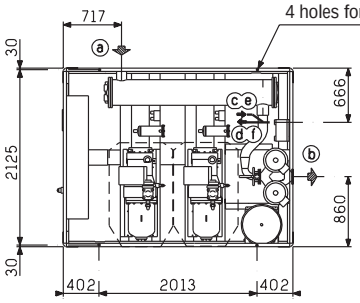


FIG.1





** For XTRA LOW NOISE version only

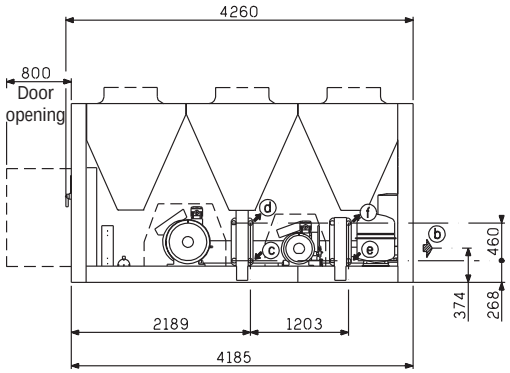
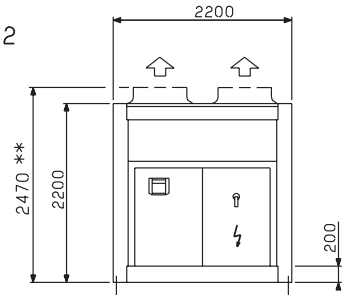
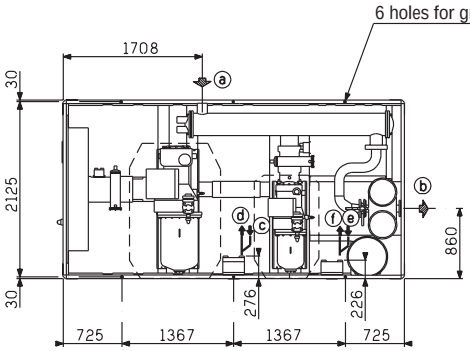


FIG.2



** For XTRA LOW NOISE version only



Models	Fig.	Chilled water		Desuperheaters hot water		Weight kg	
		inlet LXC a	oulet LXC b	inlet LX / LXC / LXH c - e	outlet LX / LXC / LXH d - f	empty	in operation
LXC 1200Z (HPS)	1	VICTAULIC DN 125	*	G 2"	G 2"	3017	3203
LXC 1500Z (HPS)	2	VICTAULIC DN 125	*	G 2"	G 2"	3809	3987
LXC 1850Z (HPS)	2	VICTAULIC DN 125	*	G 2"	G 2"	4258	4456

* **b** according to the selected pump (see page 28)

NOTE : Brazed plates desuperheaters optional (1 per refrigerant circuit) available for versions LX - LXC - LXH

DIMENSIONS LXC

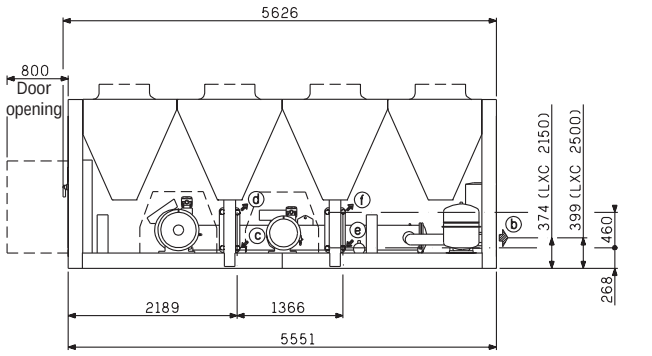
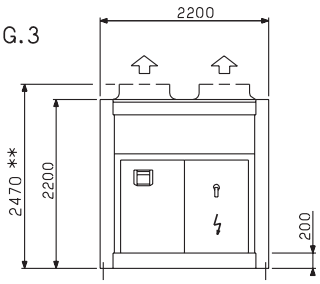
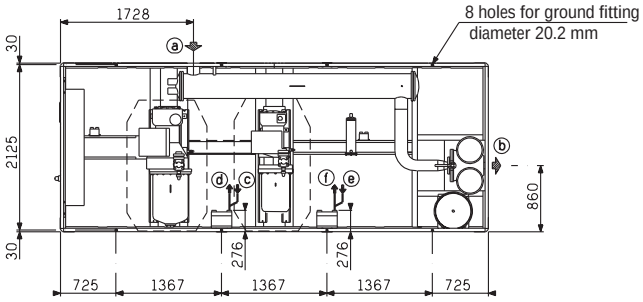


FIG.3



** For XTRA LOW NOISE version only



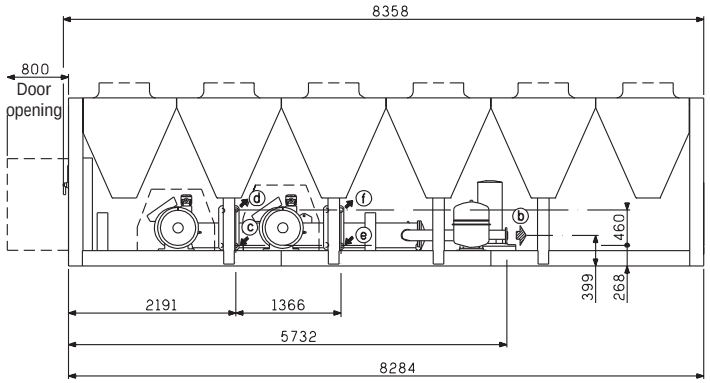
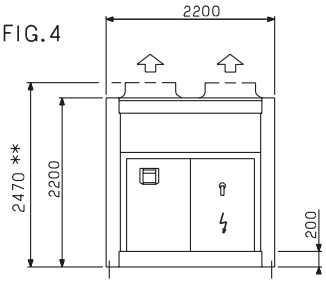
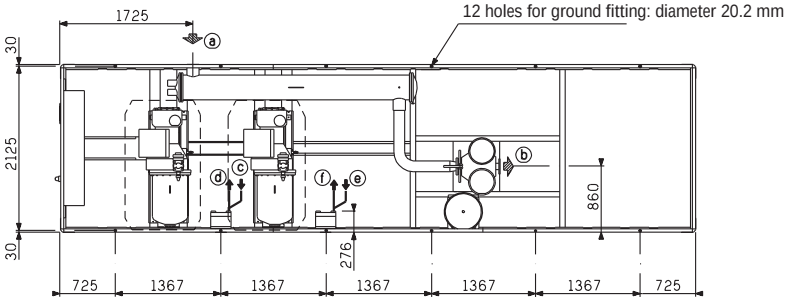


FIG.4



** For XTRA LOW NOISE version only



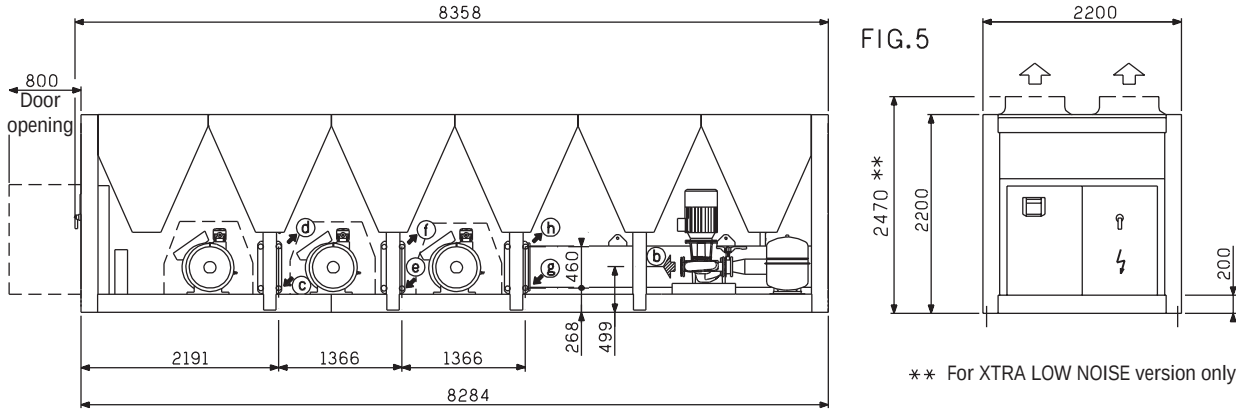
Models	Fig.	Chilled water		Desuperheaters hot water		Weight kg	
		inlet LXC a	outlet LXC b	inlet LX / LXC / LXH c - e	outlet LX / LXC / LXH d - f	empty	in operation
LXC 2150Z (HPS)	3	VICTAULIC DN 125	*	G 2"	G 2"	5002	5217
LXC 2500Z (HPS)	3	VICTAULIC DN 150	*	G 2"	G 2"	5527	5777
LXC 2800Z (HPS)	4	VICTAULIC DN 150	*	G 2"	G 2"	6421	6671

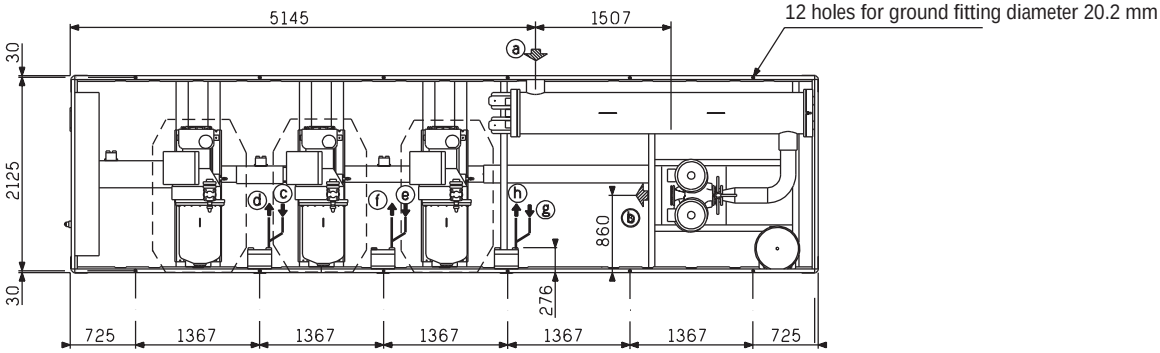
* **b** according to the selected pump (see page 28)

NOTE : Brazed plates desuperheaters optional (1 per refrigerant circuit) available for versions LX - LXC - LXH

PROPELLER FANS

DIMENSIONS LXC





Models	Fig.	Chilled water		Desuperheaters hot water		Weight kg	
		inlet LXC a	outlet LXC b	inlet LX / LXC / LXH c - e - g	outlet LX / LXC / LXH d - f - h	empty	in operation
LXC 3050Z HPS	5	VICTAULIC DN 200	*	G 2"	G 2"	7290	7636
LXC 3400Z HPS	5	VICTAULIC DN 200	*	G 2"	G 2"	7733	8079
LXC 3750Z HPS	5	VICTAULIC DN 200	*	G 2"	G 2"	8176	8522

Models	1200 - 1500 - 1850 - 2150 - 2500 - 2800 - 3050 - 3400 - 3750		
Single pumps	102 - 103 - 105 - 107 - 109	104 - 106 - 108 - 110 - 112	111 - 113 - 114 - 115 - 116
Twin pumps	202 - 203 - 205 - 207 - 209	204 - 206 - 208 - 210 - 212	211 - 213 - 214 - 215 - 216
Flanges	DN 65 - PN 16	DN 80 - PN 16	DN 100 - PN 16

* **b** according to the selected pump above

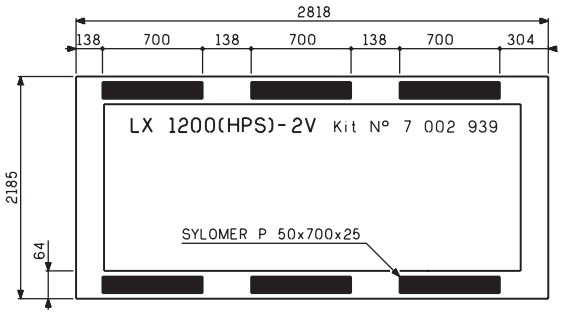
NOTE : Brazed plates desuperheaters optional (1 per refrigerant circuit) available for versions LX - LXC - LXH

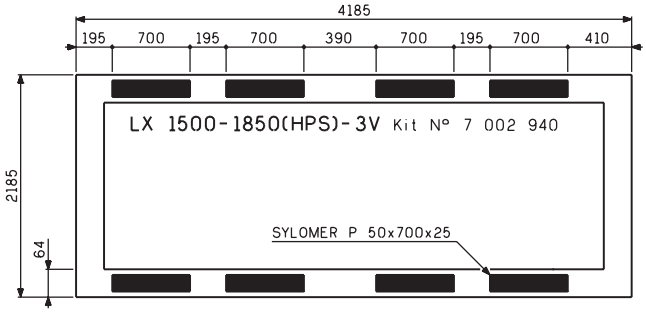
ANTIVIBRATIL MOUNTS (OPTION)

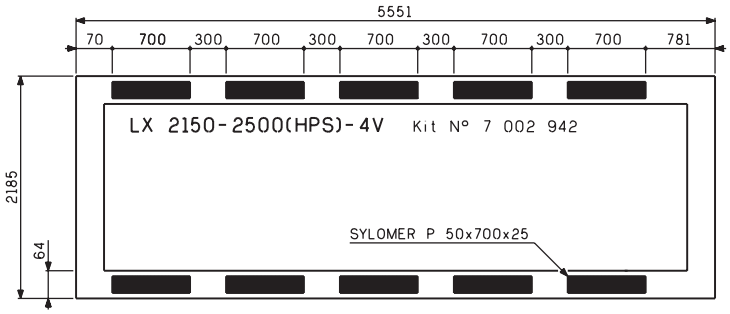
POWERCIAT LX

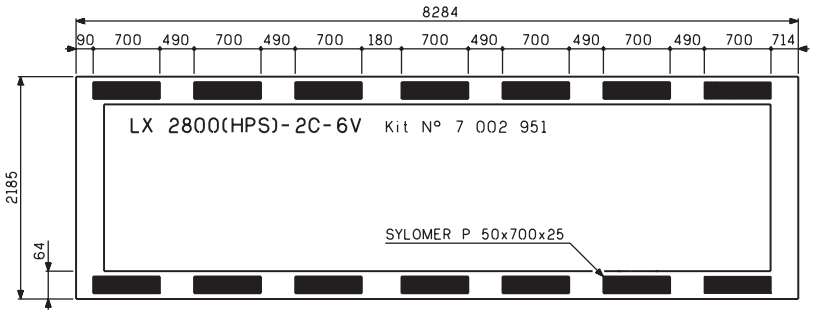
For applications with very low vibrations, it is necessary to install antivibration mounts underneath the unit.

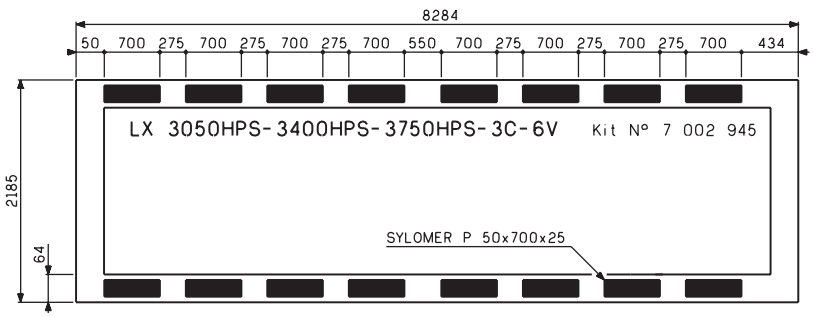
The fitting of mounts must be made according to the drawings below









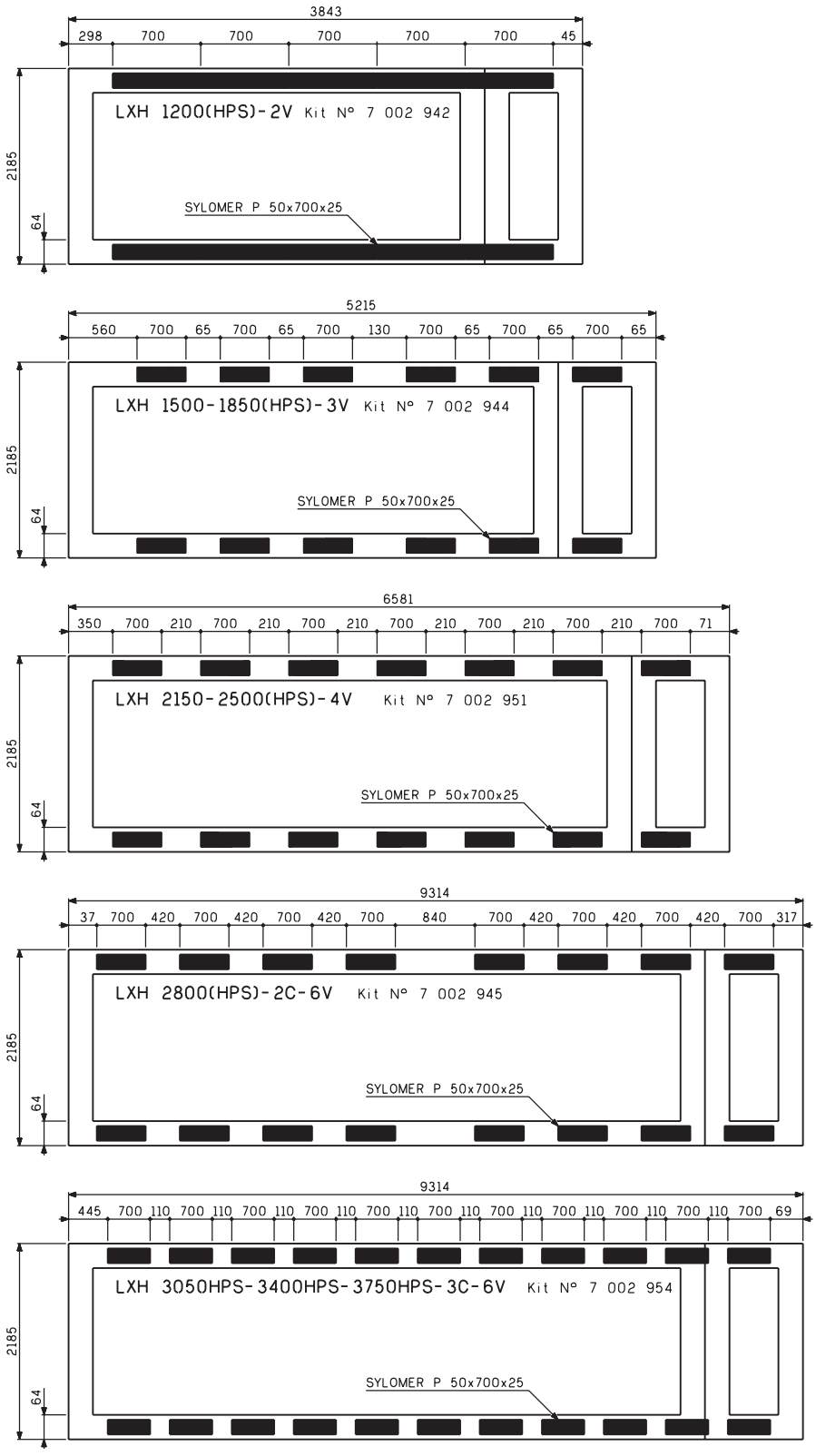


ANTIVIBRATIL MOUNTS (OPTION)

POWERCIAT LXH

For applications with very low vibrations, it is necessary to install antivibration mounts underneath the unit.

The fitting of mounts must be made according to the drawings below

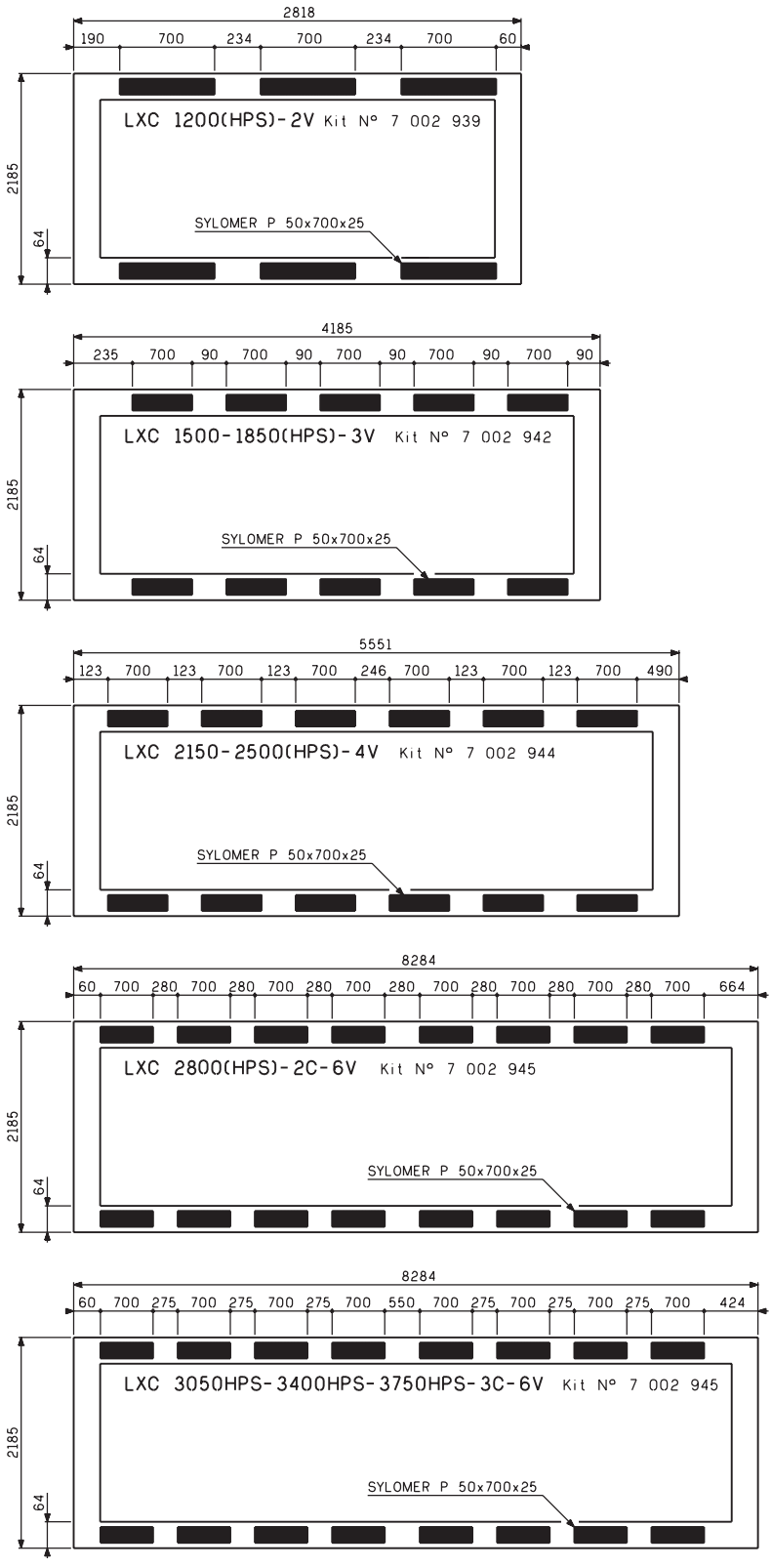


ANTIVIBRATIL MOUNTS (OPTION)

POWERCIAT LXC

For applications with very low vibrations, it is necessary to install antivibration mounts underneath the unit.

The fitting of mounts must be made according to the drawings below



PROPELLER FANS

ADVISES FOR INSTALLATION

Location

■ The **POWERCIAT packaged units LX - LXC and LXH** are designed for outdoor installation.

■ A free space of 2 meters around the unit is necessry for a good air circulation and maintenance.

■ Choose the location in order to respect environement (Acoustic level, etc,...)

■ The sound level problems must be analysed in detail

So, before installation of the unit, study the best position, if necessary with a sound technician.

If necessary, install the unit on antivibration mounts and equip the hydraulic pipes with flexible connectors **(recommended equipments)**

Electrical connections

■ All the indications concerning electrical connections are mentioned on the wiring diagram enclosed with the unit (they must be respected).

■ These connections must be made following good engineering practice and in accordance to the norm in force.

■ Leave the control auxiliary circuit under voltage to allow operation fo the crankcase heater and the antifreeze heater (option)

■ The customer electrical supply line must be fitted with a circuit breaker protection (to be supplied by the customer)

POWERCIAT LX - LXH - LXC

Antifreeze protection

■ If there is a risk of freezing :

a - either supply evaporator antifreeze protection option (LX model) or evaporator antifreeze protection + hydraulic equipment option (LXH - LXC models) if installation runs with pure water

b - or protect the installation with glycol concentration

c - or drain the installation

NOTE : With the antifreeze protection, if there is a electrical supply failure, the unit is not protected against freezing anymore.

POWERCIAT LX

Hydraulic connections

■ The hydraulic connections must be made following good engineering practice

■ Plan all the necessary accessories for an hydraulic circuit :

- expansion vessel
- Drains at low points
- Shut off valves
- Air vent at high points, etc.
- Check sure that the installation water contents is sufficient
- Plan, if required, a buffer tank

Commissioning

■ In accordance with our commissioning and maintenance brochure

Maintenance

■ In accordance with our maintenance brochure

■ Subscribe to a maintenance contract

Siège social & Usines
Avenue Jean Falconnier - B.P. 14
01350 Culoz - France
Tél. : 04 79 42 42 42 - Fax : 04 79 42 42 10
Internet : http://www.ciat.com

Département Réfrigération
Tél. : 04 79 42 42 30 - Fax : 04 79 42 40 11

Export Department
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