



# Water chillers Heat pumps

High energy efficiency with **R410A**

Compact and quiet

Scroll compressors

Brazed-plate heat exchangers

Self-adjusting electronic control



Cooling capacity: 330 to 500 kW

Heating capacity: 340 to 500 kW



Cooling only



Heat pump



Hydraulic module



Total and partial heat recovery



## USE

**AQUACIATpower LD - LDC - LDH and ILD - ILDC - ILDH series** packaged chilled water or hot water production units are medium-capacity machines specifically designed for heating and air-conditioning applications in one office healthcare, industries administration shopping centres and residential sectors.

These packaged units are specifically designed for outdoor installation and require no special protection from adverse weather.

They use the outdoor air as the sole transfer medium, which permits the evacuation of heat in summer or the supply of thermal energy for heating in winter.

When connected to a radiant floor heating and cooling system, fan coil units or an air handling unit, the **ILD - ILDC - ILDH series** of reversible **AQUACIATpower** units makes heating and air conditioning buildings extremely easy.

Each unit is delivered fully assembled, wired (control and power), charged with refrigerant and factory tested.

Simply make the necessary electrical and hydraulic connections, and your unit is ready to operate.

## RANGE

### **AQUACIATpower LD series**

Cooling-only version without hydraulic system.

### **AQUACIATpower LDC - LDH series**

Cooling-only version with hydraulic system (circulator pump only or pump and buffer tank).

### **AQUACIATpower ILD series**

Air-to-water reversible heat pumps without hydraulic system.

### **AQUACIATpower ILDC - ILDH series**

Air-to-water reversible heat pumps with hydraulic system (circulator pump only or pump and buffer tank).



### DESCRIPTION

Each **AQUACIAT<sup>power</sup> LD - LDC - LDH series cooling-only unit** **ILD - ILDC - ILDH reversible heat pump** is delivered with the following components:

- air-cooled condenser with axial fan motor assembly,
- chilled-water evaporator (hot-water condenser on reversible models),
- chilled-water or hot-water capacity control,
- control, automatic operation and startup box:
  - . Electrical power supply: Three-phase AC - 50 Hz - 400 V (+6% / -10%) + Earth
  - . Control circuit: Single-phase AC - 50 Hz - 230 V (transformers fitted on unit as standard),
- casing for outdoor installation.

#### ■ Compliance with European directives

- Machinery directive (98/37/EEC)
- EMC directive (2004/108/EC)
- Low voltage 2006/95/EC
- Pressure equipment directive (97/23/EEC, category 2).

#### ■ Compliance with standards

- EN 60204, EN 378-2 (NFC 15-100, France).

### KEY

<b>ILD</b>	>	heat pump version	<b>H</b>	>	hydraulic with pump and buffer tank
<b>LD</b>	>	cooling-only version	<b>1800</b>	>	unit size
<b>C</b>	>	hydraulic with pump only	<b>V</b>	>	R410A refrigerant



LDC - ILDC 1200 V - 1500 V Models



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## MAIN COMPONENTS

### ■ Hermetic scroll compressors

- Built-in electric motor cooled by suction gas
- Motor protected by internal winding thermostat
- Placed on anti-vibration mounts.

### ■ Evaporator

- Brazed-plate heat exchangers
- AISI 316 stainless steel plates
- High-performance, optimised plate patterns
- Thermal insulation.

### ■ Condenser

- High-performance air-cooled exchangers, aluminium fins with optimised profiles and grooved copper tubes
- Condenser or evaporator mode heat exchanger on ILDC-ILDH reversible heat pumps
- Axial fans with profiled blades
- IP54, class F motors.

### ■ Control functions or safety devices

- Water flow control
- Thermostatic expansion valves
- Refrigerant high and low-pressure safety devices
- Temperature and pressure sensors
- Evaporator water flow controller
- Unit start-up sequence.

### ■ Electrical box

The fully wired electrical box housing all the electrical components and the electronic CPU board controls the entire unit, monitors its operation, adjusts water setpoints and interfaces with an external control system.

Box features:

- Control and power circuits,
- Wire numbers,
- Main safety switch with handle on front,
- Control circuit transformer,
- Circuit breakers on the power and control circuits,
- Compressor motor contactors,
- Fan motor contactors,
- Main earth connection,
- *Connect* microprocessor-controlled electronic control unit,
- Alarm or information signals on free terminals.

### ■ Casing

- Removable galvanised metal panels,
- RAL 7024 and RAL 7035 lacquer coating.

## ELECTRONIC CONTROL UNIT



CIAT electronic control module with microprocessor and CPU, with central automatic operation and access to internal operation states.

### ■ Features

- On, off, reset or remote control
- Cooling or Heating mode selector
- RS485 output for BMS connection
- Board adapter for additional dry contacts (option)
- Remote-control adapter (option)
- Multilingual analogue LCD and LEDs

### ■ Functions

- Operation information displayed via:
  - . Multilingual clear-text messages
  - . Direct temperature and pressure readings
- Complete management of compressors with start-up sequence, timer and runtime balancing
- Self-adjusting and proactive functions with adjustment of settings drift control
- Cascade stage system on multiple compressors lowers power based on cooling and heating demands controlled using the water temperatures
- Monitoring of internal operation parameters
- Second setpoint management
- Direct display of water and pressure temperatures
- Operating status and fault analysis:  
HP/LP, water flow, compressor motors, frost protection
- Short-cycle protection
- Remote management and remote monitoring



### STANDARD OR OPTIONAL EQUIPMENT

AQUACIAT <sup>power</sup>	LD	LDC-LDH	ILD	ILDC - ILDH
	COOLING ONLY		HEAT PUMP	
400 V/3-ph/50 Hz + Earth with transformer	●	●	●	●
Main disconnect switch	●	●	●	●
Water flow switch	●	●	●	●
Electrical cabinet wire numbers	●	●	●	●
All-season operation (-15°C outdoor minimum)	●	●	●	●
Optimised High Pressure Operation (All-season operation with energy optimisation)	●	●	-	-
LOW NOISE version	▲	▲	▲	▲
XTRA LOW NOISE version	▲	▲	▲	▲
Compressor suction shut-off valves	▲	▲	▲	▲
Soft start	▲	▲	▲	▲
Fan speed control (-20°C outdoor minimum)	▲	▲	▲	▲
Electronic expansion valve	▲	▲	-	-
Frost protection	▲	▲	▲	▲
Phase controller (reversal, loss, over and under voltage)	▲	▲	▲	▲
Partial heat recovery - Desuperheater	▲	▲	▲	▲
Total heat recovery	▲	▲	▲	▲
Blygold coated coil	▲	▲	▲	▲
Polyurethane coated coil fins	▲	▲	▲	▲
Single or double pump (C and H version)	-	▲	-	▲
Low-temperature glycol/water mix (0 °C to -12 °C) (1)	▲	▲	▲	▲
800 micron water filter	■	●	■	●
Elastic suspensions	■	■	■	■
Flexible hydraulic couplings	■	■	■	■
Remote control unit (remote control panel)	■	■	■	■
Dry-contact relay board	■	■	■	■
LonWorks gateway	■	■	■	■
Multiconnect multi-unit management	■	■	■	■
Auxiliary electric heating management board (4 stages)	-	-	▲	▲
Container handling equipment	▲	▲	▲	▲
Shackles	■	■	■	■

● Supplied as standard      ▲ Factory-fitted option      ■ Option supplied as a kit      - Not available

(1) Supplied as standard for a glycol / water outlet temperature of 0°C to -12°C

**Note:** Some technical options not listed above may be added on special request. Consult us.



# Water chillers Heat pumps

**AQUACIAT** POWER

## TECHNICAL CHARACTERISTICS - COOLING ONLY

AQUACIAT <sup>power</sup> LD - LDC - LDH		1200 V	1500 V	1650 V	1800 V	
<b>Cooling capacity ①</b>	<b>kW</b>	<b>334</b>	<b>380</b>	<b>438</b>	<b>493</b>	
Power input	kW	110.7	127.6	145.6	163.2	
EER/ESEER ②		3.02 / 4.18	2.98 / 4.28	3.01 / 4.37	3.02 / 4.39	
Lw / Lp ③ (high-performance [HP] version)	dB(A)	93 / 61	95 / 63	96 / 64	98 / 66	
Lw / Lp ③ (Low Noise [LN] version)	dB(A)	91 / 59	90 / 58	91 / 59	91 / 59	
Lw / Lp ③ (XTRA Low Noise [XLN])	dB(A)	87 / 55	87 / 55	87 / 55	88 / 56	
Compressor		Hermetic scroll (2900 rpm)				
Start-up mode		Direct inline cascade				
Quantity		4	6			
	No. of stages	4	6	8	6	
Power control	%	100-75-50-25-0	100-83.3-66.6-50 33.3-16.6-0	100-84.8-66.6-48.5 36.4-30.3-18.2-15.1-0	100-83.3-66.6 50-33.3-16.6-0	
Refrigerant oil type		Polyol ester Kow 3MAF (32 cSt)				
Oil capacity	l	25.2	40.8	39.3	37.8	
No. of refrigerant lines		2				
Refrigerant (GWP)		R410A (1720)				
Refrigerant charge	Circuit 1	kg	26	34	32	40
	Circuit 2	kg	28	34	34	46
Electrical power supply	ph/Hz/V	Three-phase AC - 50 Hz - 400 V (+6% / -10%) + Earth				
Machine protection rating		IP44				
Control circuit voltage	ph/Hz/V	Single-phase AC - 50 Hz - 230 V (+6% / -10%) - transformer fitted				
Evaporator		Braze-plate heat exchangers				
Water capacity	l	26	33.5	37	40.5	
Chilled water outlet temp. (min./max.)	°C	-12 / +18				
Minimum water flow rate	m³/h	38	43	50	56	
Maximum water flow rate	m³/h	106	110	110	110	
Water connections	dia.	Victaulic DN 125				
Max. pressure, water end	bar	10 bar (LOD)/4 bar (LDC-LDH)				
Air-cooled condenser		Finned heat exchanger				
Fan dia.	mm	800				
No. x Motor output, high-performance (HP) version	kW	6 x 1.64		8 x 1.64		
Nb x Motor rated power High Performance series - LN - and Xtra Low Noise - XLN	kW	6 x 1.13		8 x 1.13		
Air flow, high-performance (HP) version	m³/h	121800	117000	159200	156000	
Air flow, low noise (LN) version and XTRA Low noise (XLN) version	m³/h	90000	87600	118400	116800	
Minimum system water volume	l	1171	871	905	1133	
Tank volume, model H	l	950				
Expansion vessel, C & H	l	50 (C version) - 80 (H version)				
Pump	Qty.	Based on selection (page 10)				
Height (excluding mounts)	mm	2200 ( 2450 Xtra Low Noise version)				
Length (standard version)	mm	4260		5626		
Length (version C)	mm	4260		5626		
Length (version H)	mm	5289		6655		
Width	mm	2200				
Weight (empty, standard version)	kg	3499	3957	4567	4621	
Weight (empty, version C)	kg	3859	4332	4934	4988	
Weight (empty, version H)	kg	4404	4870	5479	5532	
Storage temperature	°C	+50				

① High-performance version capacities based on: EN 14511 – Eurovent conditions  
COOLING: +12 °C / +7 °C and condenser air inlet temperature of +35 °C

② Gross EER and ESEER values

③ Overall sound power level (Lw) overall sound pressure level (Lp) measured at 10 metres in a free field, as per ISO 3744



# Water chillers Heat pumps

## TECHNICAL CHARACTERISTICS - REVERSIBLE HEAT PUMPS



AQUACIAT <sup>Power</sup> ILD - ILDC - ILDH		1200 V	1500 V	1650 V	1800 V
<b>Cooling capacity ①</b>	<b>kW</b>	<b>333</b>	<b>382</b>	<b>435</b>	<b>487</b>
Power input	kW	112	130.7	151	168.8
EER / ESEER ②		2.97 / 4.2	2.92 / 4.28	2.88 / 3.96	2.89 / 3.92
<b>Heating capacity ①</b>	<b>kW</b>	<b>341</b>	<b>387</b>	<b>451</b>	<b>503</b>
Power input	kW	111.4	126	147.2	164
COP ②		3.06	3.07	3.06	3.06
Lw / Lp ③ (high-performance [HP] version)	dB(A)	93 / 61	95 / 63	96 / 64	98 / 66
Lw / Lp ③ (Low Noise [LN] version)	dB(A)	91 / 59	90 / 58	91 / 59	91 / 59
Lw / Lp ③ (XTRA Low Noise [XLN] version)	dB(A)	87 / 55	87 / 55	87 / 55	88 / 56
Compressor		Hermetic scroll (2900 rpm)			
Start-up mode		Direct inline cascade			
Quantity		4	6		
	No. of stages	4	6	8	6
Power control	%	100-75-50-25-0	100-83.3-66.6-50 33.3-16.6-0	100-84.8-66.6-48.5 36.4-30.3-18.2-15.1-0	100-83.3-66.6 50-33.3-16.6-0
Refrigerant oil type		Polyol ester Kow 3MAF (32 cSt)			
Oil capacity	l	25.2	40.8	39.3	37.8
No. of refrigerant lines		2			
Refrigerant (GWP)		R410A (1720)			
Refrigerant charge	Circuit 1	kg	42	43	49
	Circuit 2	kg	42	43	52
Electrical power supply	ph/Hz/V	Three-phase AC - 50 Hz - 400 V (+6%/-10%) + Earth			
Machine protection rating		IP44			
Control circuit voltage	ph/Hz/V	Single-phase AC - 50 Hz - 230 V (+6%/-10%) - transformer fitted			
Evaporator		Braze-plate heat exchangers			
Water capacity	l	26	33.5	37	40.5
Chilled water outlet temp. (min. / max.)	°C	-12 / +18			
Hot water outlet temp. (min. / max.)	°C	+30 / +55			
Minimum water flow rate	m³/h	38	43	50	56
Maximum water flow rate	m³/h	106	110	110	110
Water connections	dia.	Victaulic DN 125			
Max. pressure, water end	bar	10 bar (ILD) / 4 bar (ILDC-ILDH)			
Air-cooled condenser		Finned heat exchanger			
Fan	mm	800			
No. x Motor output, high-performance (HP) version	kW	6 x 1.64		8 x 1.64	
Nb x Motor rated power High Performance series - LN - and Xtra Low Noise - XLN	kW	6 x 1.13		8 x 1.13	
Air flow, high-performance (HP) version	m³/h	121800	117000	159200	156000
Air flow, low noise (LN) version and XTRA Low noise (XLN) version	m³/h	90000	87600	118400	116800
Minimum system water volume	l				
Tank volume, model H	l	950			
Expansion vessel, C & H	l	50 (C version) - 80 (H version)			
Pump	Qty.	Based on selection (page 10)			
Height (excluding mounts)	mm	2200 ( 2450 Xtra Low Noise version)			
Length (standard version)	mm	4260		5626	
Length (version C)	mm	4260		5626	
Length (version H)	mm	5289		6655	
Width	mm	2200			
Weight (empty, standard version)	kg	3575	4033	4648	4707
Weight (empty, version C)	kg	3935	4408	5015	5074
Weight (empty, version H)	kg	4480	4946	5560	5618
Storage temperature	°C	+50			

① High-performance version capacities based on: EN 14511 – Eurovent conditions  
a/ COOLING: +12°C/+7°C and condenser air inlet temperature of +35°C  
b/ HEATING: hot water outlet at +45°C and outdoor air at +7°C DB, 86% RH

② Gross EER, ESEER and COP values

③ Overall sound power level (Lw) overall sound pressure level (Lp) measured at 10 metres in a free field, as per ISO 3744

### ELECTRICAL CHARACTERISTICS

#### ■ Basic equipment (pump excluded)



AQUACIAT power		1200 V	1500 V	1650 V	1800 V
<b>COMPRESSORS (1)</b>					
Maximum rated current	A	263	296	348	390
Starting current (3)	A	514	750	849	892
Starting current with Soft Start option (3)	A	390	533	601	644
<b>FAN MOTORS (1)</b>					
HIGH PERFORMANCE version (905 rpm)					
Maximum rated current	A	20.4 (6 x 3.4)		27.2 (8 x 3.4)	
LOW NOISE - XTRA LOW NOISE versions (715 rpm)					
Maximum rated current	A	12.6 (6 x 2.1)		16.8 (8 x 2.1)	
<b>LD FROST PROTECTION (OPTION) (2)</b>					
Evaporator heating element power	W			240	
Maximum rated current	A			1.05	
<b>LDC FROST PROTECTION (OPTION) (2)</b>					
Evaporator heating element power + piping + expansion vessel	W			480	
Maximum rated current	A			2.10	
<b>LDH FROST PROTECTION (OPTION)</b>					
Evaporator heating element power + piping	W			360	
Maximum rated current	A			1.6 (2)	
Hydraulic module heating element power	W			1500	
Maximum rated current	A			2.3 (1)	
<b>DESUPERHEATER FROST PROTECTION - CONDENSER TOTAL RECOVERY (OPTION) (2)</b>					
Heat exchanger heating element power	W			240	
Maximum rated current	A			1.05	
<b>REMOTE-CONTROL AUXILIARY CIRCUIT (2)</b>					
Maximum rated current	A	4		5	
Transformer power	V A	1600		2000	

(1) Current for 400 V/3-ph/50 Hz.

(2) Current for 230 V/1-ph/50 Hz.

(3) Starting current of largest compressor + maximum current of other compressors under full load.

#### ■ Hydraulic pumps (version C and H)

		 <b>SINGLE PUMP</b>									
Number		102	103	104	105	106	107	108	109	110	112
Power	kW	3	4	4	5.5	5.5	7.5	7.5	11	11	15
Maximum rated current	A	6.3	8.0	8.0	10.3	10.3	13.8	13.8	20.0	20.0	26.5
		 <b>DOUBLE PUMP</b>									
Number		202	203	204	205	206	207	208	209	210	212
Power	kW	3	4	4	5.5	5.5	7.5	7.5	11	11	15
Maximum rated current	A	6.3	8.0	8.0	10.3	10.3	13.8	13.8	20.0	20.0	26.5

The electric voltage for selecting the main power supply cables is equal to the sum of the maximum rated currents given in the table above.

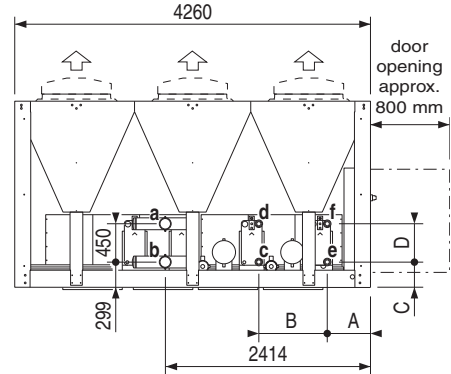
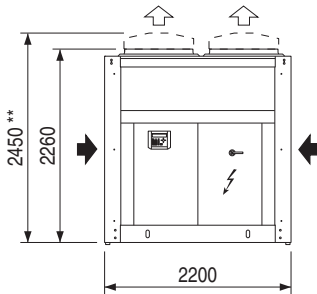


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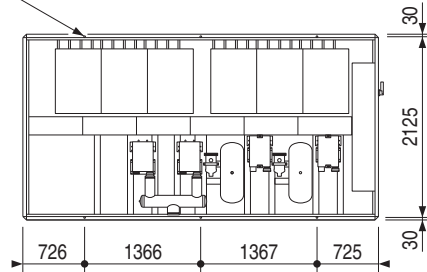
**AQUACIAT** POWER

## DIMENSIONS: LD - I LD

### AQUACIAT<sup>power</sup> 1200 V - 1500 V

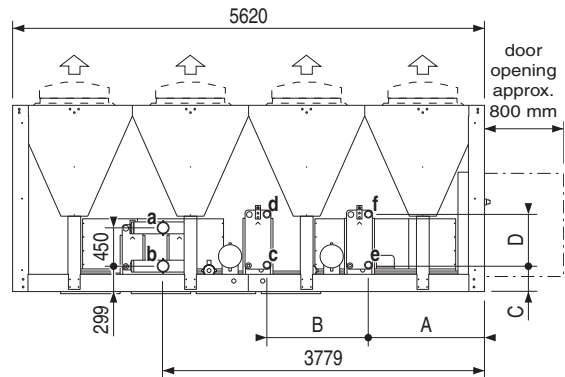
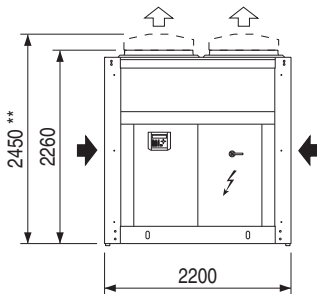


6 dia. 20.2 mm holes for fastening to ground

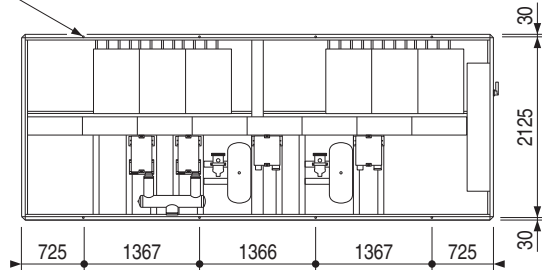


AQUACIAT <sup>power</sup>		A	B	C	D
(I)LD 1200 V	Desuperheater	524	805	254	476
(I)LD 1500 V	Total recovery	509	805	299	450

### AQUACIAT<sup>power</sup> 1650 V - 1800 V



8 dia. 20.2 mm holes for fastening to ground



AQUACIAT <sup>power</sup>		A	B	C	D
(I)LD 1650 V	Desuperheater	1430	1194	254	476
(I)LD 1800 V	Total recovery	1363	1194	312	597

AQUACIAT <sup>power</sup>	Chilled water		Desuperheater hot water or Total recovery hot water		LD		ILD			
	inlet a	outlet b	inlet c-e	outlet d-f	Weight kg empty	Weight kg in operation	Weight kg empty	Weight kg in operation		
(I)LD 1200 V	VICTAULIC DN 125	VICTAULIC DN 125	G2" male	G2" male	VICTAULIC DN 100	VICTAULIC DN100	3499	3581	3575	3657
(I)LD 1500 V							3957	4054	4033	4130
(I)LD 1650 V							4567	4677	4648	4758
(I)LD 1800 V							4621	4732	4707	4818

\*\* XTRA LOW NOISE version only

NOTE: Optional brazed-plate desuperheater for cooling-only and reversible versions.  
Optional brazed-plate total-recovery condenser for cooling-only versions only.

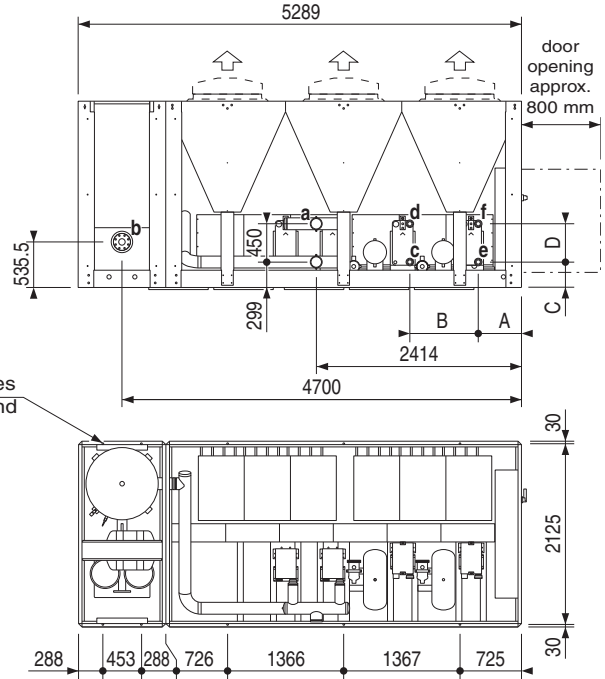
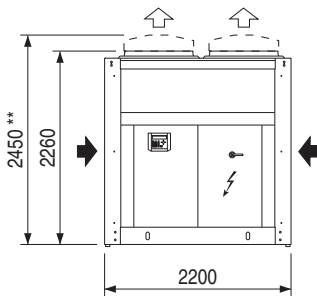




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## DIMENSIONS LDH - ILDH

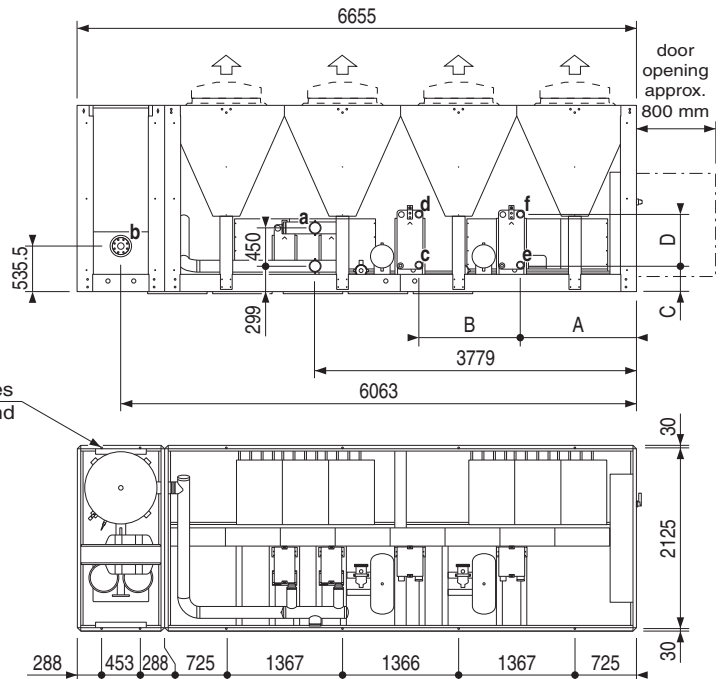
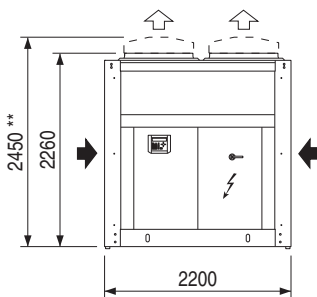
### AQUACIATpower 1200 V - 1500 V



10 dia. 20.2 mm holes for fastening to ground

AQUACIATpower		A	B	C	D
(I)LDH 1200 V	Desuperheater	524	805	254	476
(I)LDH 1500 V	Total recovery	509	805	299	450

### AQUACIATpower 1650 V - 1800 V



12 dia. 20.2 mm holes for fastening to ground

AQUACIATpower		A	B	C	D
(I)LDH 1650 V	Desuperheater	1430	1194	254	476
(I)LDH 1800 V	Total recovery	1363	1194	312	597

AQUACIATpower	Chilled water		Desuperheater hot water or Total recovery hot water		LDH		ILDH			
	inlet a	outlet b*	inlet c - e	outlet d - f	Weight kg empty	Weight kg in operation	Weight kg empty	Weight kg in operation		
(I)LDH 1200 V	VICTAULIC DN 125	DN 65 (1) ou DN80 (2)	G2" male	G2" male	VICTAULIC DN 100	VICTAULIC DN100	4404	5469	4480	5545
(I)LDH 1500 V							4870	5949	4946	6025
(I)LDH 1650 V							5479	6572	5560	6653
(I)LDH 1800 V							5532	6626	5618	6712

\* Connections b based on pump selected:  
 (1) Pumps No. 102-10-105-107-109-202-203-205-207-209  
 (2) Pumps No. 104-106-108-110-112-204-206-208-210-212

\*\* XTRA LOW NOISE version only

NOTE: Optional brazed-plate desuperheater for cooling-only and reversible versions.

Optional brazed-plate total-recovery condenser for cooling-only versions only.

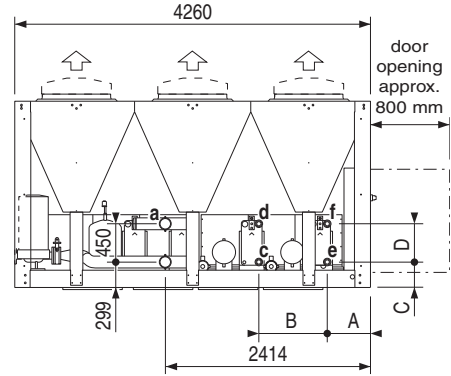
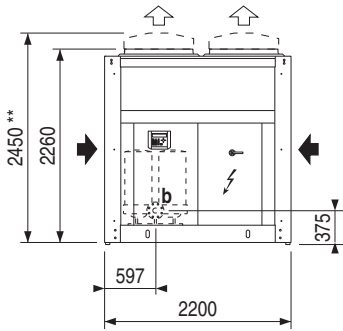


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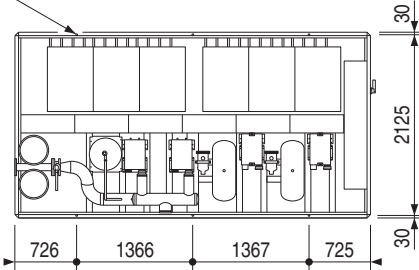
**AQUACIAT** POWER

## DIMENSIONS LDC - ILDC

### AQUACIATpower 1200 V - 1500 V

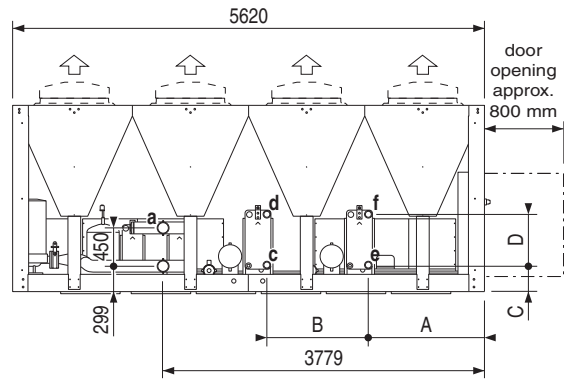
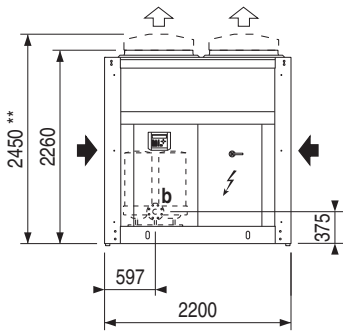


12 dia. 20.2 mm holes for fastening to ground

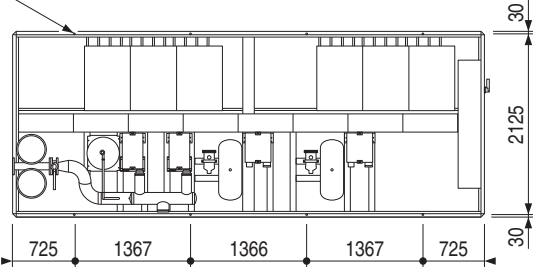


AQUACIATpower		A	B	C	D
(I)LDC 1200 V	Desuperheater	524	805	254	476
(I)LDC 1500 V	Total recovery	509	805	299	450

### AQUACIATpower 1650 V - 1800 V



14 dia. 20.2 mm holes for fastening to ground



AQUACIATpower		A	B	C	D
(I)LDC 1650 V	Desuperheater	1430	1194	254	476
(I)LDC 1800 V	Total recovery	1363	1194	312	597

AQUACIATpower	Chilled water		Desuperheater hot water or		Total recovery hot water		LDC		ILDC	
	inlet a	outlet b*	inlet c - e	outlet d - f	inlet c - e	outlet d - f	Weight kg empty	Weight kg in operation	Weight kg empty	Weight kg in operation
(I)LDC 1200 V	VICTAULIC DN 125	DN 65 (1)	G2" male	G2" male	VICTAULIC DN 100	VICTAULIC DN100	3859	3945	3935	4021
(I)LDC 1500 V		ou DN80 (2)					4332	4432	4408	4508
(I)LDC 1650 V							4934	5049	5015	5130
(I)LDC 1800 V							4988	5103	5074	5189

\* Connections b based on pump selected:  
 (1) Pumps No. 102-10-105-107-109-202-203-205-207-209  
 (2) Pumps No. 104-106-108-110-112-204-206-208-210-212

\*\* XTRA LOW NOISE version only

NOTE: Optional brazed-plate desuperheater for cooling-only and reversible versions.

Optional brazed-plate total-recovery condenser for cooling-only versions only.

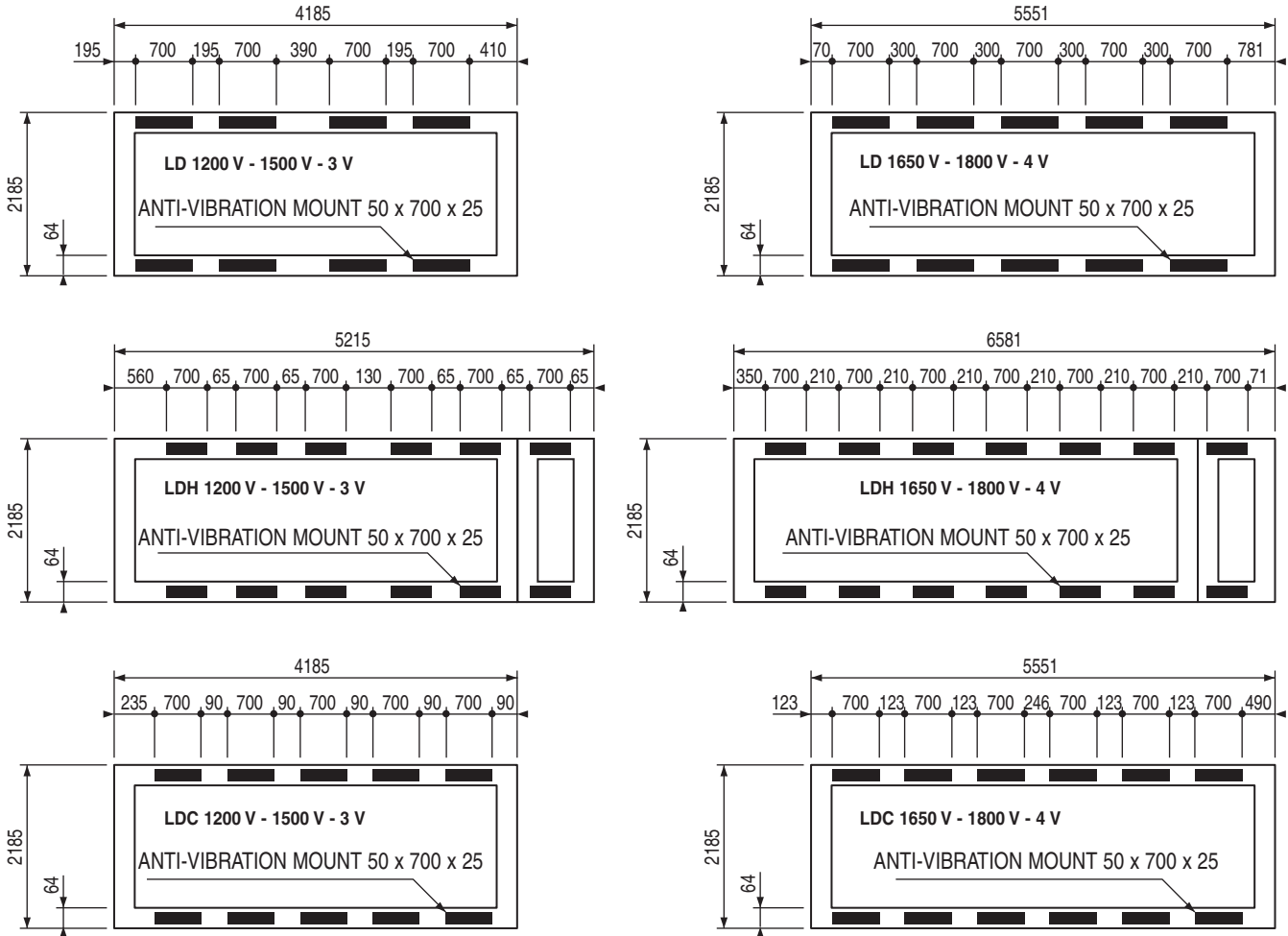


# Water chillers Heat pumps

## ANTI-VIBRATION MOUNTS (OPTION)

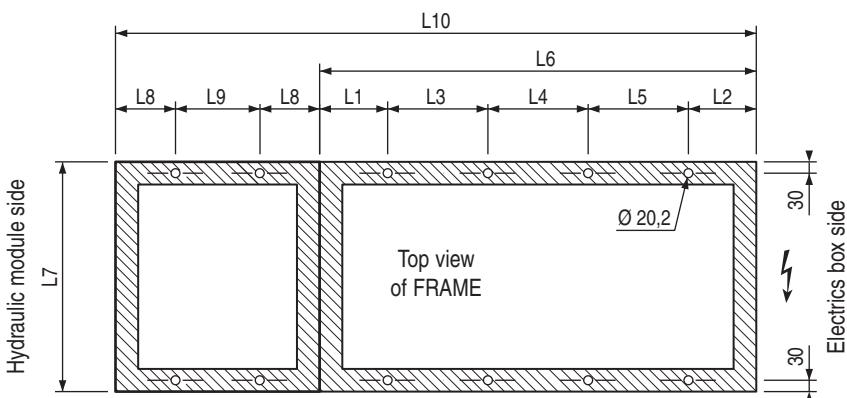
### AQUACIATpower

Anti-vibration mounts must be installed beneath the unit for applications that generate extremely low vibrations. The mounts must be placed at the locations illustrated below.



## FIXING OF FRAMES TO GROUND

### AQUACIAT LD - LDC - LDH - ILD - ILDH



	1200 V	1500 V	1650 V	1800 V
<b>LD - ILD - LDC - ILDC - LDH - ILDH version</b>				
L1	726		725	
L2	725		725	
L3	1366		1367	
L4	1367		1366	
L5	-		1367	
L6	4185		5551	
L7	2185		2185	
<b>LDH - ILDH version only (hydraulic module)</b>				
L8	288		288	
L9	453		453	
L10	5215		6581	

Suggested translation for "Ground fixation":

The frame may be mounted to the ground (bolts not supplied by CIAT).

The hardness is to be defined based on the weight and centre of gravity of the unit.



### CONNECT CONTROL



#### USER-FRIENDLY INTERFACE CONSOLE

- Multilanguage LCD  
(2 lines of 20 characters each)
- Pressure and temperature readings
- Pump management
- Communication

Available voltage-free contact inputs and outputs:

- Inputs:
- Automatic operation control
  - Selection of setpoints 1/2
  - Heating/Cooling mode selection
  - Compressor load shedding
- Outputs:
- General fault display
  - Pump control.

#### RS-485 OUTPUT AS STANDARD

**MODBUS-JBUS open Protocol (standard)**  
**LONWORKS Protocol (option)**

#### RELAY BOARD (OPTION)

Available outputs:

- Water flow fault
- Frost protection fault
- Pump fault
- Fan fault
- Low and high pressure fault
- Compressor safety fault
- Discharge temperature fault
- Compressor operation fault

#### REMOTE-CONTROL UNIT (OPTION)

**Operation and design same as display console**

#### MULTICONNECT MULTI-UNIT MANAGEMENT (OPTION)

Main functions available:

- Management of up to 8 units on a single water loop
- Management in cooling mode (water chiller) or heating mode (heat pump)
- Management of chilled-water or hot-water pumps
- Centralised management of a backup unit
- Unit load shedding
- System time programming
- Energy storage mode management
- Fault management on each unit
- Unit running time balancing
- Integrated Modbus BMS link for obtaining information on unit operation and faults

This document is non-contractual. As part of its policy of continual product improvement, CIAT reserves the right to make any technical modification it feels appropriate without prior notification.

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CERTIFIED ISO 9001  
QUALITY SYSTEM



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