



aquaciat

LD

Cooling capacity : 35 to 270 kW

Heating capacity : 40 to 330 kW



PROPELLER
CONDENSER

Silent operation
Low speed fans
Optimal control
by microprocessor
All year round operation



USE

The new range **AQUACIAT** offers a solution to both heating and cooling applications encountered in the public, tertiary or industrial process fields.

Its remarkable acoustic characteristics, its microprocessor integral control and the large range of versions make this unit suitable to any application.

All the components are mounted on a steel frame with **large dismountable panels to ease maintenance operations.**

This line of products exists in 6 versions :

AQUACIAT LD

COOLING ALONE operation

AQUACIAT LDH

COOLING ALONE operation + hydraulic module

AQUACIAT LDC

COOLING ALONE operation + pumping unit.

AQUACIAT ILD

REVERSIBLE HEATING or COOLING operation

AQUACIAT ILDH

REVERSIBLE HEATING or COOLING operation + hydraulic module

The whole range integrates the last technological innovations and meets following expectations :

- **Silence,**
- **Respect of environment,**
- **Simplicity of installation and reliability.**

QUICK SELECTION

AQUACIAT (LOW NOISE)			100	150	200	250	300	350	400	450	500	600	750	753	900	1000	
Number of circuit(s)			1						2								
Number of compressor(s)			1		2		3			4		5		3		4	
COOLING ALONE LD / LDH / LDC	R407C	Cooling capacity (1)	kW	22.2	34.1	45.5	57.6	67.8	78.1	88.9	96.4	105.5	125.2	153.6	189.8	223.1	244.3
		Compressor power input	kW	10.45	15.35	20.6	25.3	31.1	37.5	42.6	50.5	56.5	69.4	87.8	66.7	83.3	92.85
		Pressure drop	kpa	12.5	24	29	23	31	26	23	22	23.5	26	32	33	32	37
	R22	Cooling capacity (1)	kW	24	36.3	46.9	60.9	71.3	83.5	93.2	102.5	111.2	134.4	164.5	192.5	221.7	253.4
		Compressor power input	kW	9.55	14.45	19.2	23.8	29	35.5	40	47.2	52.8	64.2	81.4	65.5	76.9	88.9
		Pressure drop	kpa	14.5	27	30	26	34	30	25	25	26	29	37	34.6	32.4	31
REVERSIBLE ILD / ILDH	R407C	Cooling capacity (1)	kW	-	-	41.6	52.8	60.8	70.6	82.8	95.3	95.4	114.9	/	177.3	204.7	220.4
		Compressor power input	kW	-	-	20.5	24.7	29.8	36.6	43.1	47.4	55.4	64.6	/	72.5	89.7	99.0
		Pressure drop	kpa	-	-	9.8	15.7	20.6	17.5	20.6	26.5	17.6	27.4	/	27.5	23.6	33.3
		Heating capacity (2)	kW	-	-	46.6	59.1	73.2	82.7	92.4	106.7	114.4	139.5	/	179.5	211.6	230
		Compressor power input	kW	-	-	17.8	23.05	26.4	31.8	34.1	38.9	43.1	52.5	/	64.8	78.6	86.9
		Pressure drop	kpa	-	-	9.8	15.7	20.6	17.5	20.6	26.5	17.6	27.4	/	27.5	23.6	33.3
	R22	Cooling capacity (1)	kW	-	-	45.6	57.1	66.2	76.8	91.2	103.8	108.3	131.1	/	168.2	193.3	213.4
		Compressor power input	kW	-	-	19.2	23.2	28.2	33.9	39.6	44.4	50.2	58.8	/	63.6	78.5	87.5
		Pressure drop	kpa	-	-	13	20	27	22	28	36	25	36	/	28	24.7	29.4
		Heating capacity (1)	kW	-	-	52.4	66	80	88.2	103.9	114.8	125	155.7	/	186.5	216.8	233.5
		Compressor power input	kW	-	-	17.9	22	26.2	31.7	34	37.9	41.9	51.4	/	62.1	74.6	82.9
		Pressure drop	kpa	-	-	13	20	27	22	28	36	25	36	/	28	24.7	29.4

(1) Cooling capacity and power input (without pump) for a +7 °C chilled water outlet and a 35 °C air inlet.

(2) Heating capacity and power input (without pump) for a +45°C hot water outlet with the same water flow as the cooling mode and a +7°C DB RH air inlet.
Exchange fouling factor : 0,000044 m²C/W

DESCRIPTION

AQUACIAT LD

■ Unit conforms to EN 60-204 - EN 378-2 norms and to following directives :

- 98 / 37 CEE

- CEM 89 / 336 CEE modified 92/31 CEE 93/68 CEE

Low voltage 73/23 CEE modified 93/68 CEE

- DESP 97 / 23 CEE -> group 2

■ Scroll hermetic compressor(s)

■ Motor cooled by suction gas

■ Internal motor protection by winding sensor

■ Mounted on resilient mounts

■ Brazed plates evaporator

■ End and internal plates made of AISI 316 stainless steel, with high performance optimized pattern.

■ Thermal insulation

■ Air cooled condenser

■ Copper pipes and mechanically bonded aluminium fins coils

■ Direct drive propeller fan(s) 500 or 750 rpm (standard wiring: 500 rpm)

■ **2 speed motor - IP 55, Class F**

■ Coil protection grille (models 100 to 750

0)

■ Control and safety devices

■ HP safety by manual reset pressostats

■ LP safety :

- by automatic pressostats models ILD 200 to 600

- by pressure pick-up and electronic regulator (other models)

■ Water flow controller mounted

■ Condensing pressure regulation allowing an operation down to - 15°C outside :

- by automatic HP pressostats (models ILD 100 to 600)

- by pressure pick-up and electronic regulator (other models)

■ Evaporator anti-frost protection :

- by trace heating element

- by room heaters models 753 to 1000

■ Control panel

■ Main safety switch with external handle

■ Remote circuit transformer

■ Remote control and power circuits protection

■ Contactors and compressor(s) fan(s) motors protection

■ Wiring numbering

■ **Microprocessor electronic module ensuring the following main functions**

- chilled water temperature control (on evaporator return or departure) or a function of the outside temperature.

- operating parameters control

- faults diagnosis

- automatic equalization of compressors running hours

- remote management and remote survey

- **RS 485** exit for BUS control

- HP and LP pressure pick up for manometers.

AQUACIAT LDH

The basic composition of the **AQUACIAT LDH** water chillers is identical to the AQUACIAT LD

These derived units integrate a **complete hydraulic module** based on a traditional installation :

- 1 buffer tank in black sheet metal, with thermal insulation.
- 1 monocellular centrifugal hydraulic pump (single or double pump).(1)
- 1 expansion vessel
- 1 automatic air vent
- 1 safety valve
- 1 filling hole with valves
- 1 draining hole with valve
- 1 set of manometers
- Contactor(s) and protection device(s) for the hydraulic pump.
- **Hydraulic circuit antifreeze protection through electrical heaters and thermostat (all models) + tank protection by immersion heater (753 to 1000)**
- 1 strainer
- 1 balancing valve (models 100 to 750)

AQUACIAT LDC

The basic composition of the **AQUACIAT LDC** water chillers is identical to the one of the AQUACIAT LD

These derived units integrate the **pumping unit** :

- 1 monocellular centrifugal hydraulic pump (single or double pump).(1)
- 1 expansion vessel
- 1 automatic air vent
- 1 safety valve
- 1 filling hole with valves
- 1 draining hole with valve
- 1 set of manometers
- Contactor(s) and protection device(s) for the hydraulic pump.
- **Hydraulic circuit antifreeze protection**
- 1 strainer
- 1 balancing valve (models 100 to 600)

AQUACIAT serie ILD

The **AQUACIAT ILD** allows, by reversing the thermodynamic cycle, a production of chilled or hot water, depending on the season. Associated with the CIAT terminal units (fan coils, cassettes, air handling units), they offer a maximum comfort and high performances all year around.

AQUACIAT ILDH

The basic composition of **AQUACIAT** units **ILDH** is identical to the one of the AQUACIAT ILD, plus the **hydraulic module**.

IMPORTANT

Each can be equipped with brazed plates **desuperheater(s)** to permanently recover part of the heat for hot water production. This option is particularly suitable for installations operating all year around and **guarantees important energy savings**.

OPTIONS

- Antivibration equipment :
 - hydraulic flexible connections kit
 - High and low pressure gauge panel (ILD - ILDH) 200 to 600
 - Coil protection grille
 - Coil treatment :
 - Polyurethane coated fins
 - Blygold Polual treatment
 - Remote control
 - Dry contacts relay card
 - Variable speed
 - Supply voltage 230 V - 3 ph - 50 Hz
 - Brazed plates desuperheater(s) (Except LDC version)
- (1) Our pumps are designed for operation on a close water loop (low NPSH). For other applications, consult us (open water circuit, important intake height, etc).

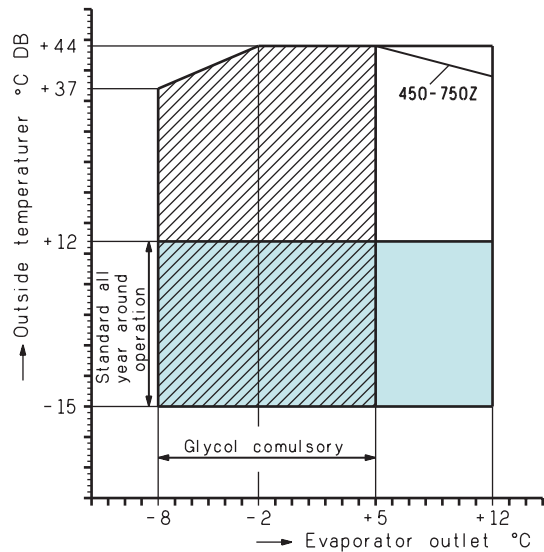
AQUACIAT		100		150		200		250		300		350		400		450		500		600		750		753		900		1000	
		LD	LD	LD	ILD	LD	ILD	LD	ILD	LD	ILD	LD	ILD	LD	ILD	LD	ILD	LD	ILD	LD	ILD	LD	ILD	LD	ILD	LD	ILD	LD	ILD
Réf	Operation with R22	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Operation with R407C (models Z)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Standard	Coil protection grille	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Control transformer	●	●	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-
	All year around regulator	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Anti-frost protection	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Water flow controller	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Low speed fans	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Safety switch	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Wiring numbering	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Set of resilient mounts	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Available options	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Available options	Hydraulic flexible connections kit	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Pressure gauge panel HP - LP	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Coil protection treatment	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Remote control box	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Potential free contacts relay card	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Desuperheaters	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	SINGLE pump (version H/C)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	DOUBLE pump (version H/C)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Variable speed	▲	▲	▲	-	▲	-	▲	-	▲	-	▲	-	▲	-	▲	-	▲	-	▲	-	▲	-	▲	-	▲	-	▲	-	

● Standard supply ▲ Option - Not available

OPERATING LIMITS

Chilled water production	LD - LDC - LDH
Outside ambient temperature	
°C maxi with full load	
Fans 500 rpm	+40 °C (44 °C -> 753 à 1000)
Fans 750 rpm	+44 °C
Mini °C	-15 °C
Evaporator	
ΔT mini °C	see curves below
ΔT maxi °C	
Hot water production	ILD - ILDH
Outside ambient temperature	
Maxi wet bulb temp °C	+15 °C
Mini wet bulb temp °C	-10 °C
Condenser	
Hot water outlet temperature °C	+50 °C
ΔT mini °C	5 °C
ΔT maxi °C	10 °C

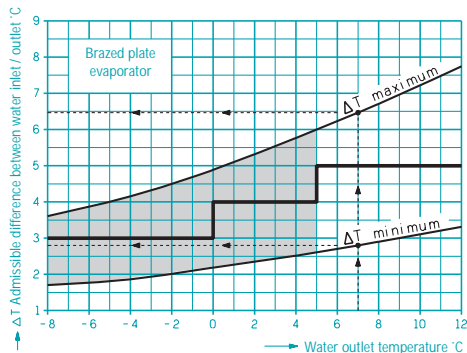
LD - LDC - LDH 100Z to 1000Z



Evaporator

The curves below represent the minimum and maximum temperature differences admissible on the chilled or glycolated water, as a function of the outlet temperature.

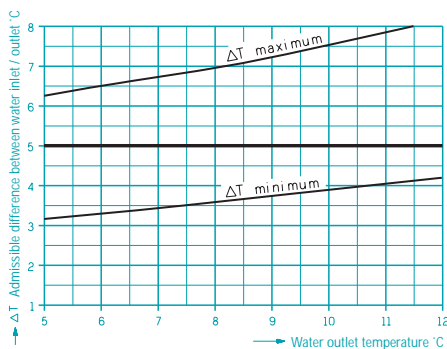
LD - LDC - LDH 100 to 1000



— Performance tables calculations ΔT
 ■ glycol water

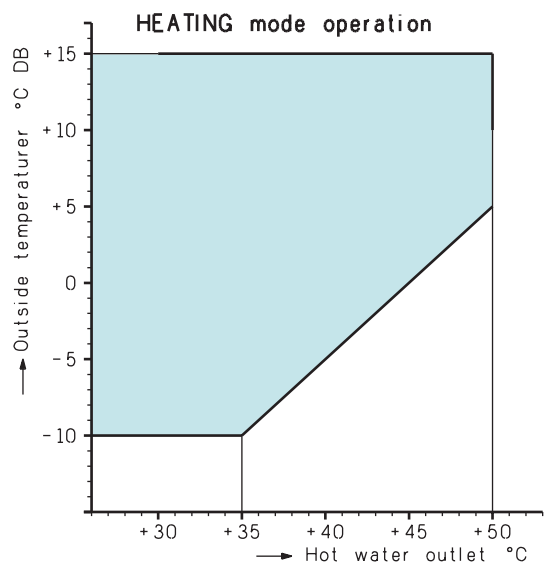
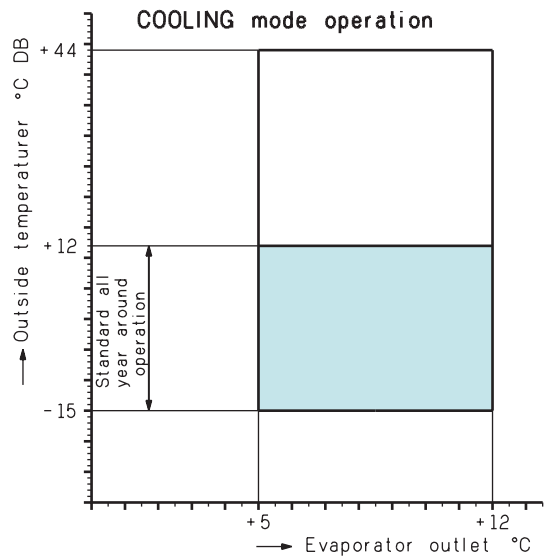
Example : for a water outlet : + 7 °C
 ΔT minimum : 2,8 °C / water temp : 9,8 / 7 °C
 ΔT maximum : 6,5 °C / water temp : 13,5 / 7 °C
 For temperature differences not included between the two curves, consult us.

ILD - ILDH 200 to 1000



— Performance tables calculations ΔT

ILD - ILDH 100Z to 1000Z



GLYCOL WATER COEFFICIENT

- 30 % concentration by glycol weight
- Freezing point of the solution : - 17.5 °C

CORRECTION		POSITIVE CONDITIONS		NEGATIVE CONDITIONS	
		K	Calculation mode	K	Calculation mode
Evaporator	Cooling capacity	0,98	$P_{fc} = P_f \times 0,98$	1,00	See selection table
	Chilled water flow	1,05	$Q_c = P_{fc} \times 0,86 \times 1,05$	1,10	$Q_c = P_{fc} \times 0,86 \times 1,10$
	Water pressure	1,15	$\Delta P_c = \Delta P \times 1,15$	1,30	$\Delta P_c = \Delta P \times 1,30$
	Average temp.	12 / 7 ° C		See table	
Condenser	Cooling capacity	0,97	$P_{fc} = P_f \times 0,97$		
	Chilled water flow	1,05	$Q_c = (P_{fc} + P_a) \times 0,86 \times 1,10$		
	Water pressure	1,10	$\Delta P_c = \Delta P \times 1,10$		
	Average temp.	35 / 40 ° C			

K : Correction coefficient
Values written in the brochure :
P_f : cooling capacity as per selection table
P_a : compressors power input as per selection tables
ΔP : water pressure drop as per curves, for the corresponding corrected flow value (Q_c)

Values corrected as per above calculations :
P_{fc} : corrected cooling capacity
Q_c : corrected flow, chilled or hot water
ΔP_c : corrected water pressure drop, evaporator or condenser

UNITS CONVERSION FORMULA

USRT	kW x 0,2846
Btu/h	kW x 3414
kcal/h	kW x 860
Frig/h	kcal/h
Cheval vapeur (CH)	kW x 1,36
Horsepower (HP)	kW x 1,341
kPa	bar x 100
bar	mCE x 0,0981
kg/cm ²	bar x 1,0197
Livre/Pouce ² (lbf/in ²)	bar x 14,504
Pouce (in)	mm x 0,0394
Pied (ft)	mm x 0,0032808
Livre (lb)	kg x 2,205
Pied ³ /mn (cfm)	m ³ /h x 0,5885
Gallons US	m ³ x 264,2
Gallons UK	m ³ x 220
Degré Fahrenheit (°F)	(°C x 9/5) + 32

PROPELLER
CONDENSER

MINIMUM WATER VOLUME

- LD - LDC - LDH / ILD - ILDH

The Connect control is equipped with an anticipation logic allowing high flexibility in adjusting the set points according to the parameters drifting, in particular for low water volume hydraulic installations.

An adapted management of the compressors operating periods avoids therefore the start of anti-short cycle functions, and in most cases, the requirement of a buffer tank.

Models LD - ILD - LDC	100	150	200	250	300	350	400	450	500	600	750	753	900	1000
Minimum volume Of installation	112	181	110	112	174	121	174	167	106	164	161	327	257	322

Remark :

Industrial processes which require high stability of water temperatures or installations with high thermal load variation can privilege the use of LDH-ILDH models equipped with a buffer tank.

COOLING CAPACITY



STANDARD version

PROPELLER
CONDENSER

AQUACIAT LD - LDC - LDH		Evaporator water outlet temperature in °C	INLET AIR TEMPERATURE AT THE CONDENSER °C													
			28		32		36		40		44					
			Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW				
100Z	Fans 750 rpm	Glycol water	-8	13,4	6,9	12,6	7,5	11,9	8,2							
			-4	15,9	7,1	15,0	7,8	14,2	8,5	13,4	9,3					
			2	20,3	7,5	19,3	8,2	18,3	8,9	17,2	9,8	16,0	10,7			
		Pure water	5	23,9	7,8	22,6	8,5	21,4	9,3	20,2	10,2	18,8	11,1			
			7	25,5	7,9	24,3	8,6	23,0	9,4	21,8	10,3	20,2	11,3			
			12	30,5	8,2	28,9	9,0	27,4	9,8	25,8	10,7	24,2	11,7			
	150Z	Fans 750 rpm	Glycol water	-8	20,7	10,0	19,7	10,9	18,7	11,9						
				-4	24,9	10,4	23,6	11,3	22,6	12,3	21,4	13,4				
				2	31,8	11,0	30,4	11,9	28,9	12,9	27,2	14,1	25,9	15,3		
			Pure water	5	36,6	11,4	35,3	12,4	33,6	13,4	31,9	14,6	30,1	15,8		
				7	39,6	11,7	37,9	12,6	36,2	13,7	34,1	14,8	32,3	16,1		
				12	46,7	12,3	44,8	13,3	42,6	14,4	40,4	15,6	38,1	16,8		
200Z	Fans 750 rpm	Glycol water	-8	26,8	13,6	25,7	14,8	24,3	16,2							
			-4	32,2	14,0	30,9	15,3	29,0	16,7	27,5	18,3					
			2	41,7	14,8	39,8	16,1	37,7	17,5	35,6	19,1	33,1	20,9			
		Pure water	5	48,2	15,3	46,3	16,7	44,0	18,2	41,3	19,8	39,0	21,6			
			7	52,1	15,6	49,5	17,0	47,1	18,5	44,6	20,1	41,8	21,9			
			12	61,5	16,4	58,7	17,8	55,9	19,4	52,4	21,0	49,7	22,9			
250Z	Fans 750 rpm	Glycol water	-8	34,0	16,8	32,8	18,3	30,8	19,9							
			-4	40,8	17,3	39,3	18,9	36,9	20,5	35,2	22,4					
			2	52,2	18,2	50,4	19,8	47,9	21,6	45,3	23,5	42,6	25,6			
		Pure water	5	60,6	18,9	58,6	20,6	55,8	22,3	52,3	24,3	49,7	26,4			
			7	65,8	19,3	62,7	20,9	60,0	22,8	56,8	24,7	53,1	26,8			
			12	78,3	20,3	74,3	22,0	70,7	23,8	67,0	25,9	63,3	28,1			
300Z	Fans 750 rpm	Glycol water	-8	41,2	20,2	39,4	21,9	37,4	23,9							
			-4	49,1	20,9	46,9	22,8	44,5	24,7	42,6	27,0					
			2	63,3	22,2	60,0	24,0	57,5	26,1	54,5	28,4	51,4	30,8			
		Pure water	5	72,9	23,0	70,3	25,0	67,0	27,1	63,5	29,4	59,8	31,9			
			7	78,4	23,5	75,0	25,4	71,5	27,8	68,2	30,0	64,1	32,4			
			12	93,0	24,8	88,9	26,9	84,7	29,1	80,2	31,4	75,8	34,0			
350Z	Fans 750 rpm	Glycol water	-8	47,2	23,9	45,2	26,1	42,7	28,4							
			-4	56,5	24,7	54,2	27,0	51,5	29,4	48,3	32,0					
			2	71,9	26,2	69,7	28,6	65,8	31,0	62,4	33,8	58,6	36,7			
		Pure water	5	84,2	27,4	81,0	29,8	76,7	32,3	72,1	35,0	68,3	38,1			
			7	91,1	28,1	86,3	30,3	82,0	32,9	77,8	35,8	73,1	38,8			
			12	105,7	29,8	101,8	32,1	97,2	34,8	92,2	37,7	87,0	40,8			
400Z	Fans 750 rpm	Glycol water	-8	54,5	27,1	52,2	29,5	49,4	32,1							
			-4	64,7	28,0	62,2	30,5	59,2	33,2	56,2	36,2					
			2	82,2	29,6	79,0	32,2	75,2	35,1	71,6	38,1	67,5	41,4			
		Pure water	5	96,6	30,9	92,6	33,6	88,2	36,5	83,4	39,6	78,5	42,9			
			7	103,9	31,6	99,4	34,3	94,5	37,3	89,4	40,3	84,5	43,7			
			12	121,6	33,4	116,8	36,2	111,5	39,2	105,8	42,5	99,8	46,0			
450Z	Fans 750 rpm	Glycol water	-8	60,7	31,8	58,1	34,6	54,4	37,6							
			-4	72,6	33,1	69,1	36,0	65,3	39,1	61,5	42,4					
			2	90,7	35,2	87,0	38,2	82,8	41,6	78,3	45,0	73,3	48,7			
		Pure water	5	106,0	37,1	101,0	40,2	96,2	43,5	90,8	47,1	85,6	50,9			
			7	113,5	38,0	108,3	41,2	102,9	44,5	97,3	48,1	91,5	52,0			
			12	133,0	40,4	127,1	43,8	121,0	47,3	114,3	51,0					

Pf : Cooling capacity valid for a ΔT according to operating limits.
Inlet / outlet difference, as per curve page 4
Pa : Compressor power input

Zone when glycol water must be used.
Calculation fouling 0,00005 m² °C/W

COOLING CAPACITY



STANDARD version



AQUACIAT LD - LDC - LDH	Evaporator water outlet temperature in °C	INLET AIR TEMPERATURE AT THE CONDENSER °C												
		28		32		36		40		44				
		Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW			
500 Z	Glycol water	-8	66.8	35.1	63.5	38.1	60.0	41.5						
		-4	79.7	36.5	76.5	39.8	72.4	43.3	67.8	47.1				
		2	101.8	39.1	97.3	42.4	92.4	46.0	87.0	50.0	81.1	54.1		
		5	117.6	41.0	112.3	44.4	106.8	48.2	100.7	52.2	94.8	56.5		
		7	125.9	42.0	120.0	45.5	113.8	49.2	107.6	53.3	101.1	57.6		
		12	148.7	44.9	141.2	48.5	133.9	52.4	126.6	56.5				
	Pure water													
600 Z	Glycol water	-8	80.1	43.6	75.1	47.3	71.8	51.7						
		-4	95.1	45.4	90.4	49.3	85.6	53.7	80.4	58.3				
		2	120.2	48.4	114.5	52.6	108.7	57.1	102.0	61.9	95.6	67.1		
		5	138.9	50.7	132.2	55.0	125.6	59.7	118.9	64.8	110.8	69.9		
		7	148.4	51.9	141.3	56.3	134.3	61.0	126.3	66.0				
		12	174.7	55.4	166.4	60.0	157.8	64.8	148.5	69.9				
	Pure water													
750 Z	Glycol water	-8	100.5	54.5	96.0	58.2	90.0	63.5						
		-4	117.8	56.3	112.0	61.2	106.2	66.5	100.0	72.3				
		2	151.1	60.5	143.4	65.5	135.5	71.0	127.4	77.0	119.2	83.3		
		5	173.1	63.3	164.5	68.5	155.9	74.2	147.2	80.4	138.1	86.9		
		7	184.6	64.9	176.1	70.2	167.0	76.0	157.7	82.3				
		12	217.6	69.4	206.9	75.0	196.2	81.0	185.4	87.3				
	Pure water													
753 Z	Glycol water	-8	109,70	47,58	104,50	51,50	99,90	55,80	95,03	60,34				
		-4	129,20	49,20	124,10	53,40	118,60	57,90	113,20	62,64	107,40	67,68		
		2	167,00	52,54	161,20	57,07	153,10	61,88	146,10	66,71	139,10	72,10		
		5	194,10	55,00	186,50	59,71	178,20	64,20	170,00	69,65	160,80	75,03		
		7	208,80	56,38	199,60	61,03	190,60	65,86	181,40	71,04	172,20	76,56		
		12	245,40	59,96	236,00	64,97	225,40	69,90	214,70	75,26	203,10	80,78		
	Pure water													
900 Z	Glycol water	-8	128,90	59,06	123,10	63,85	118,10	69,20	111,80	74,90	105,60	81,01		
		-4	153,00	61,18	146,50	66,20	139,20	71,60	133,10	77,52	125,20	83,78		
		2	199,10	65,60	190,30	70,80	180,80	76,64	172,40	82,66	163,20	89,27		
		5	230,00	68,70	220,80	74,20	210,30	80,06	199,70	86,40	189,50	93,30		
		7	246,80	70,45	235,80	75,94	225,60	82,02	214,00	88,38	202,80	95,32		
		12	291,00	75,20	278,40	81,05	265,40	87,24	252,30	93,90	239,10	101,00		
	Pure water													
1000 Z	Glycol water	-8	143,10	64,50	137,60	69,90	131,50	75,70	124,40	81,80	118,30	88,50		
		-4	169,20	67,00	162,30	72,70	155,80	78,80	147,00	85,00	139,00	91,80		
		2	219,10	72,60	209,60	78,60	199,70	85,14	190,90	91,75	180,60	98,90		
		5	250,90	75,90	241,20	82,20	230,20	88,80	218,90	95,80	206,50	113,00		
		7	269,00	78,00	257,40	84,30	245,40	90,90	233,50	98,00	221,30	105,40		
		12	315,90	83,60	302,40	90,20	288,40	97,00	274,90	104,40	259,80	111,90		
	Pure water													

PROPELLER
CONDENSER

Pf : Cooling capacity valid for a ΔT according to operating limits.
Inlet / outlet difference, as per curve page 4
Pa : Compressor power input

Zone when glycol water must be used.
Calculation fouling 0,00005 m² °C/W

NOTES

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COOLING CAPACITY



LOW NOISE version

PROPELLER
CONDENSER

AQUACIAT LD - LDC - LDH		Evaporator water outlet temperature in °C	INLET AIR TEMPERATURE AT THE CONDENSER °C								
			28		32		36		40		
			Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	
R407C	100Z	Glycol water	-8	13,1	7,2	12,3	7,8				
			-4	15,4	7,5	14,6	8,1	13,7	8,9		
			2	19,6	7,9	18,6	8,7	17,6	9,5	16,4	10,4
		Pure water	5	23,0	8,3	21,7	9,1	20,5	9,9	19,1	10,8
			7	24,4	8,5	23,2	9,3	21,9	10,1	20,5	11,1
			12	28,9	9,0	27,6	9,8	25,9	10,7	24,3	11,6
	150Z	Glycol water	-8	20,1	10,6	19,1	11,5				
			-4	24,0	11,1	22,9	12,1	21,5	13,1	20,5	14,2
			2	30,3	11,9	28,9	12,9	27,4	14,0	26,0	15,2
		Pure water	5	35,0	12,6	33,1	13,6	31,7	14,7	30,0	15,9
			7	37,1	12,9	35,4	13,9	33,7	15,1	31,8	16,3
			12	43,6	13,8	41,6	14,9	39,3	16,2	37,5	17,4
	200Z	Glycol water	-8	26,1	14,1	25,1	15,4	23,6	16,9		
			-4	31,6	14,7	30,0	16,0	28,4	17,5	26,6	19,1
			2	40,0	15,6	38,0	17,0	36,2	18,6	33,8	20,3
		Pure water	5	46,4	16,4	44,5	17,9	42,0	19,5	39,6	21,2
			7	49,9	16,8	47,4	18,3	44,9	19,9	42,2	21,6
			12	58,7	17,9	55,8	19,4	52,8	21,1	49,8	22,9
	250Z	Glycol water	-8	33,3	17,5	32,0	19,2	30,2	20,9		
			-4	40,0	18,3	38,0	19,9	35,7	21,7	33,5	23,6
			2	50,3	19,5	48,4	21,3	45,8	23,1	43,3	25,1
		Pure water	5	58,5	20,5	55,9	22,3	52,8	24,1	50,1	26,2
			7	62,5	21,0	59,9	22,8	56,8	24,7	53,5	26,8
			12	73,6	22,4	70,5	24,3	66,5	26,2	62,8	28,4
300Z	Glycol water	-8	40,1	21,3	38,1	23,1					
		-4	47,8	22,4	45,1	24,3	43,2	26,5			
		2	60,4	24,1	57,5	26,2	54,2	28,3	51,5	30,7	
	Pure water	5	69,1	25,4	66,3	27,6	62,9	29,8	59,4	32,2	
		7	74,4	26,2	70,9	28,3	66,8	30,5	63,2	32,9	
		12	86,9	28,1	82,5	30,2	78,3	32,6	74,0	35,1	
350Z	Glycol water	-8	45,8	25,2	43,8	27,5					
		-4	55,1	26,5	52,0	28,8	49,2	31,3	46,4	36,0	
		2	69,6	28,6	66,2	31,0	62,6	33,7	59,0	36,5	
	Pure water	5	79,6	30,1	75,9	32,6	72,0	35,3	67,8	38,3	
		7	85,4	31,0	81,2	33,7	77,1	36,3	72,5	39,3	
		12	99,0	33,2	94,3	36,1	89,7	38,8			
400Z	Glycol water	-8	52,9	28,9	50,6	31,4					
		-4	62,6	30,2	59,4	32,8	56,4	35,7			
		2	79,0	32,7	75,3	35,4	71,4	38,4	67,6	41,6	
	Pure water	5	91,0	34,6	86,7	37,4	82,1	40,4	77,4	43,7	
		7	97,3	35,6	92,6	38,5	87,7	41,6	82,7	44,9	
		12	113,0	38,4	107,8	41,4	102,2	44,6			
450Z	Glycol water	-8	58,1	33,9	55,4	36,8					
		-4	68,9	35,7	65,6	38,7	61,9	41,9	58,4	45,5	
		2	85,5	38,6	81,5	41,9	77,6	45,4	73,2	49,1	
	Pure water	5	99,6	41,4	94,2	44,6	89,0	48,1	84,2	51,9	
		7	105,6	42,8	100,4	46,0	95,1	49,6			
		12	122,7	46,2	116,4	49,7	110,2	53,3			

Pf : Cooling capacity valid for a ΔT according to operating limits.
 Inlet / outlet difference, as per curve page 4
 Pa : Compressor power input

Zone when glycol water must be used.
 Calculation fouling 0,00005 m² °C/W

COOLING CAPACITY



LOW NOISE version



AQUACIAT LD - LDC - LDH		Evaporator water outlet temperature in °C	INLET AIR TEMPERATURE AT THE CONDENSER °C								
			28		32		36		40		
			Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	Pf kW	Pa kW	
R407C	500 Z	Glycol water	-8	63.9	37.7	61.2	41.0				
			-4	75.8	39.9	72.4	43.3	68.0	46.9		
			2	94.1	43.4	90.0	47.0	85.2	51.0	80.1	55.1
		Pure water	5	108.5	46.3	103.8	50.2	98.1	54.2	92.3	58.3
			7	116.0	47.9	110.0	51.7	104.0	55.7		
			12	134.4	52.1	127.6	56.0				
	600 Z	Glycol water	-8	76.9	46.6	72.7	50.7				
			-4	90.2	49.0	85.5	53.2	80.2	57.6		
			2	113.4	53.5	107.6	57.9	100.7	62.5	95.0	67.7
		Pure water	5	128.7	56.5	122.7	61.0	115.8	65.9	108.7	71.0
			7	137.9	58.3	130.6	62.9	123.4	67.9		
			12	160.5	63.3	151.9	68.1				
	700 Z	Glycol water	-8	94.5	58.3	89.7	63.4				
			-4	111.4	61.8	105.7	67.0	99.6	72.6		
			2	139.3	68.0	132.3	73.3	124.8	79.2	117.2	85.4
		Pure water	5	159.4	72.4	150.9	78.0	142.3	84.0		
			7	169.1	74.7	160.2	80.4	151.4	86.6		
			12	195.2	81.2	185.5	87.5				
	753 Z	Glycol water	-8	108,50	48,20	103,60	52,28	99,67	56,67	94,24	61,20
			-4	128,10	50,15	122,90	54,40	117,90	58,99	111,50	63,63
			2	165,10	53,98	158,40	58,49	151,60	63,30	144,40	68,36
		Pure water	5	191,30	56,80	183,40	61,40	175,10	66,30	166,20	71,42
			7	204,30	58,20	195,80	62,90	186,80	67,84	178,50	73,14
			12	240,80	62,34	230,40	67,17	220,60	72,26	209,10	77,90
900 Z	Glycol water	-8	127,40	60,02	123,10	63,86	117,90	69,17	111,90	74,84	
		-4	151,30	62,50	145,10	67,70	138,60	73,23	130,50	79,02	
		2	195,90	67,50	187,20	72,90	178,70	78,77	169,00	84,88	
	Pure water	5	225,20	71,20	216,10	76,70	205,90	82,69	195,20	89,06	
		7	241,90	73,09	231,20	78,76	220,50	84,90	209,00	91,32	
		12	283,70	78,46	271,20	84,40	258,60	90,76	245,50	97,60	
1000 Z	Glycol water	-8	142,60	62,86	135,46	67,70	129,46	73,02	122,42	78,46	
		-4	166,90	65,90	160,40	71,00	152,50	76,46	144,86	82,42	
		2	214,00	71,60	204,60	77,38	195,00	83,26	184,60	89,30	
	Pure water	5	245,60	75,98	236,00	81,92	224,80	88,20	213,40	94,48	
		7	263,20	78,44	251,80	84,24	240,00	90,50	228,00	96,94	
		12	307,80	84,62	294,80	90,60	280,60	97,20	266,60	104,54	

PROPELLER
CONDENSER

Pf : Cooling capacity valid for a ΔT according to operating limits.
 Inlet / outlet difference, as per curve page 4
 Pa : Compressor power input

Zone when glycol water must be used.
 Calculation fouling 0,00005 m² °C/W

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Reversible AQUACIAT ILD - ILDH

The reversibility on one single unit offers an appreciable economical advantage :

■ **In winter** : thanks to their high coefficient of performance (COP), the reversible AQUACIAT units offer a low and controlled heating cost. Designed for extreme conditions, the AQUACIAT can operate down to - 15 °C outside temperature. The reverse cycle represents substantial savings, up to 50 % compared to a traditional heating device.

■ **In summer** : the same unit allows cooling at a lower cost.



AQUACIAT ILDH

Monobloc design, tested in factory and fitted with all the accessories required by an hydraulic circuit (buffer tank, expansion vessel, circulation pump...), the installation of reversible AQUACIAT, ILDH with hydraulic module heater is simple, quick and at a low cost.

These compact units save a lot of space in the plant room (pumps, tanks integrated).