

## AIR CONDENSED CHILLERS



# AFC

**HFC 407 C**  
ecological refrigerant



### PROFILE - AFC

The AFC Series air condensed chillers, have been designed to produce process cooled water for the cooling of industrial plants on closet or open circuit.

They are completely independent enbloc units consisting of a structure build in treated and painted steel with epoxy.

The machine are equipped with hermetic compressor orbiting spiral which ensures a reduction of energy consumption and a reduction of vibrations, greatly improving the sound effect product.

The condenser fan with high efficiency copper tubes and aluminium fins over a large area, the axial fans and thermostatic expansion valve censure a better functioning of the refrigerator in all conditions, even within the production departments.

The special construction guarantees high efficiencies thanks to a very low power consumption even in extreme conditions of use.



## AIR CONDENSED CHILLERS

### TECHNICAL DATA - AFC

Model (1)	Cooling capacity (2)		Cooling capacity (3)		Compressor		EER	Gas	Pump				Fan			Tank	Pipe connections
	kW	kcal/h	kW	kcal/h	n°	kW (2)			kW/kW (2)	n°	kW	lt/min	bar	n°	kW		
AFC06	7,2	6.190	4,8	4.100	1	1,2	6,0	R407C	1	0,40	25	3,0	1	0,6	6.200	25	3/4"
AFC 10	10,9	9.380	7,1	6.060	1	2,1	5,2	R407c	1	0,40	25,0	3,0	1	0,6	6.200	25	3/4"
AFC 15	17,3	14.880	11,4	9.790	1	2,9	5,9	R407c	1	0,40	40,0	2,6	1	0,6	4.800	25	1"
AFC 20	22,5	19.350	13,9	11.910	1	4,9	4,6	R407c	1	0,50	53,0	3,0	1	0,6	4.800	25	1"
AFC 30	29,5	25.370	19,1	16.430	1	5,0	5,9	R407c	1	0,50	60,0	2,6	2	1,2	8.800	55	1 1/4"
AFC 40	39,0	33.540	25,0	21.500	1	7,5	5,2	R407c	1	1,10	90,0	3,1	2	1,2	8.800	55	1 1/4"
AFC 50	50,2	43.170	32,1	27.610	1	9,1	5,5	R407c	1	1,10	120,0	3,1	2	1,2	14.500	125	1 1/4"
AFC 60	59,3	51.000	37,9	32.640	1	11,5	5,1	R407c	1	1,10	140,0	3,0	2	1,6	16.500	125	1 1/2"
AFC 80	75,7	65.100	50,7	43.600	1	13,5	5,6	R407c	1	1,50	180,0	3,0	2	1,9	21.000	150	2"
AFC 100	101,0	86.860	66,7	57.360	1	18,5	5,4	R407c	1	2,2	220,0	2,9	2	2,2	27.000	150	2"

(1) - Standard electric alimentation 400V-3Ph-50Hz - Special on request

(2) - Water of temperature 15°C - Ambient temperature 25°C

(3) - Water of temperature 7°C - Ambient temperature 35°C

### DIMENSIONS - WEIGHT - SOUND LEVEL

Model	Dimensions			Net weight	Sound level (4)
	L mm	P mm	H mm		
AFC 06	540	912	1.325	170	63
AFC 10	540	912	1.325	170	63
AFC 15	540	912	1.325	180	66
AFC 20	540	912	1.325	190	66
AFC 30	540	1.280	1.445	315	68
AFC 40	540	1.280	1.445	330	68
AFC 50	840	1.580	1.545	420	68
AFC 60	840	1.580	1.545	460	69
AFC 80	950	1.680	1.545	480	70
AFC 100	950	1.680	1.545	510	71

(4) - Sound pressure level at 1 m - UNI 7712



## MODULAR and ENBLOC WATER CONDENSED CHILLERS



NP

**HFC 407 C**  
ecological refrigerant

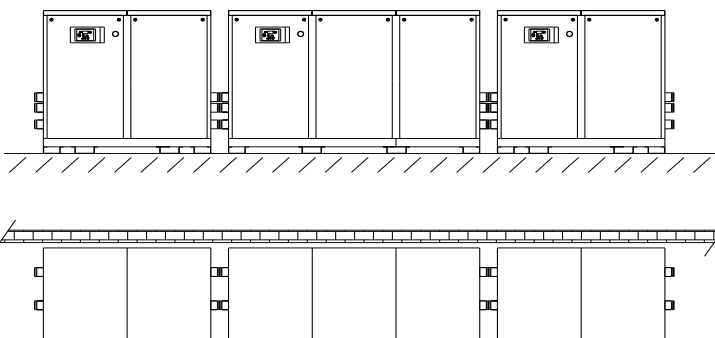


### PROFILE

The modular water cooled chiller NP Series are designed to produce process cold water for industrial plants. The cooling involves the generation of hot water in the condenser heat exchange, it is possible to dissipate the heat load with thermoconvectors NOVA FRIGO. Otherwise, it is possible to use cooling towers or cold water from river etc.

They are completely independent units consisting of an hydraulic circuit complete of a tank, circulating pump and user pump. The special construction guarantees high efficiency, consequence of the lowest energetic consumption also under extreme conditions. In particular the oversizing of the exchangers enables the compressor to work under excellent conditions raising the cooling capacity. The chiller is controlled by a NOVA FRIGO microprocessor governing both the evaporating and the condensing pressures and to survey precise measures of the system parameters.

It is possible to control the units by a MULTICHILLER board which, after checking the heat load, adjusts the introduction of each compressor. The results are: stability and precision of the process temperature, balanced operation of compressors and, as consequence, an higher energy saving, avoiding useless starts.



### TECHNICAL FEATURES

**Steel main frame** of pre-galvanized, aluminium steel treated and painted with epoxy powder.

**Gas condenser** it's a plate heat exchanger, with AISI 316 stainless steel, copper braze welded plates.

**Gas evaporator** it's a plate heat exchanger, with AISI 316 stainless steel, copper braze welded plates. It is placed inside a shell of thermo-insulating material to avoid the condensing and the heat exchange towards outside.

**AISI 304 stainless steel tank**, thermo-insulated with closed cell foam material to avoid the condensing and the heat exchange towards outside.

### PATENTED MODULARITY

These products have been designed according to an INDUSTRIAL PATENT deposited and certified in the most important countries all over the world. Such an invention, technologically in the lead, grants TOTAL MODULARITY which allows the cooling, hydraulic, mechanical and electric coupling of units even of different capacity.

### CONTROLLED BY MICROPROCESSOR

The NP series units are equipped with an innovative multi-function microprocessor control specially designed by NOVA FRIGO to optimize the modular systems operation and control for cooling.

Each unit or system can be equipped with remote control panel that allows the complete management of unit linked.

## MODULAR and ENBLOC WATER CONDENSED CHILLERS

### TECHNICAL DATA

Model (1)	Cooling capacity (2)		Condenser heating capacity (2)		Compressor		E.E.R.	Gas	Pumps				Tank	Pipe connection	Sound level (3)	Dimensions			Net weight
	kW	kcal/h	kW	kcal/h	n°	kW			kW/kW (2)	n°	kW	m³/h				bar	l	Ø	
NP 050	50,2	43.200	59,2	50.910	1	9,1	5,52	R407c	1	1,1	7,2	2,7	193	3"	55	1.990	1.110	1.750	900
NP 080	78,0	67.080	92,0	79.120	2	13,8	5,65	R407c	1	1,9	10,8	2,7	193	3"	57	1.990	1.110	1.750	1.200
NP 120	118,6	102.000	140,0	120.400	2	21,6	5,49	R407c	1	2,2	16,8	2,7	193	3"	58	1.990	1.110	1.750	1.500
NP 160	151,4	130.200	178,6	153.600	2	27,0	5,61	R407c	1	3,0	24,0	2,7	260	3"	60	2.890	1.110	1.750	1.600
NP 200	201,8	173.600	238,1	204.760	2	37,0	5,45	R407c	1	4,0	29,4	2,7	260	3"	61	2.890	1.110	1.750	1.850
NP 250	232,3	199.780	272,8	234.610	4	40,9	5,68	R407c	1	4,0	33,0	2,7	260	3"	62	3.790	1.110	1.750	2.100
NP 330/m	339,0	291.600	400,0	344.000	4	59,4	5,70	R407c	1	5,5	46,2	2,7	260	4"	62	3.790	1.110	1.750	2.500

(1) - Standard electric alimентация 400V-3Ph-50Hz - Special on request  
 (2) - Water out temperature 15°C - Water cooling temperature 30°C  
 (3) - Sound pressure level at 10 metres

### COOLING CIRCUIT

**Metal cartridge water filter** fitted on the return line of the hydraulic plant as well as on the tank automatic filling. It stops impurities which could damage the plate exchanger or the pump.

**Flowmeter** it controls the flow rate as protection of the plate exchanger.

**Hydraulic connections** placed sideways, they're already arranged for the modular coupling of more units with "Victaulic" DN80 roll forming.

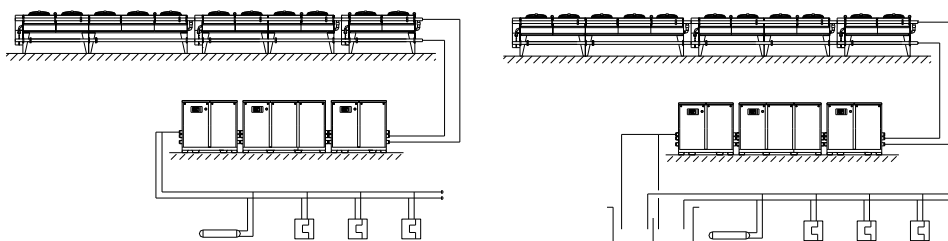
**Safety valve** fitted on tank to avoid eventual overpressure in case of operator's wrong manoeuvring.

**Automatic air discharge valve** to eliminate air locks into the hydraulic circuit.

**Water drain** complete drainage of the evaporator tank.



### EXAMPLES OF INSTALLATION



Distribuidor em Portugal:  
[www.resitec.pt](http://www.resitec.pt)

## MODULAR AIR CONDENSED CHILLERS FOR INTERNAL INSTALLATION



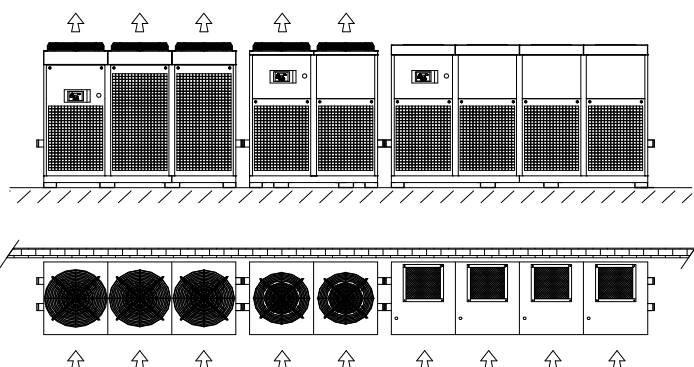
# RC

**HFC 407 C**  
ecological refrigerant



### PROFILE

The modular RC air condensed CHILLERS, have been designed to produce process cooled water for the cooling of industrial plants on closed or open circuit. They are completely independent units consisting of a hydraulic circuit complete with closed accumulation tank, circulator and electric pump. The special construction guarantees high efficiency thanks to a very low power consumption even in extreme conditions of use (tropical climates with ambient temperature up to +45°C). In particular the oversizing of the heat exchangers enables the compressor to work under excellent conditions raising the cooling capacity. The chiller is controlled by a NOVA FRIGO microprocessor governing both the evaporating and the condensing pressures and to survey precise measures of the system parameters. It is possible to control the units by a "MULTICHILLER" board which, after checking the thermal load, adjusts the introduction of each compressor. The results are: stability and precision of the process temperature, balanced operation of compressors and, as a consequence, a higher energy saving, thus avoiding useless current startings.



### TECHNICAL FEATURES

**Steel main frame** of pre-galvanized, aluminium steel treated and painted with epoxy powder.

**Gas condenser** with an extensive exchange surface, with copper piping and aluminium fins (6 ranks).

**Gas evaporator** it's a plate heat exchanger, with AISI 316 stainless steel, copper braze welded plates. It is placed inside a shell of thermo-insulating material to avoid the condensing and the heat exchange towards outside.

**AISI 304 stainless steel tank**, thermo-insulated with closed cell foam material to avoid the condensing and the heat exchange towards outside.

### PATENTED MODULARITY

These products have been designed according to an INDUSTRIAL PATENT deposited and certified in the most important countries all over the world. Such an invention, technologically in the lead, grants TOTAL MODULARITY which allows the cooling, hydraulic, mechanical and electric coupling of units even of different capacity.

### CONTROLLED BY MICROPROCESSOR

The RC series units are equipped with an innovative multi-function microprocessor control specially designed by NOVA FRIGO to optimize the modular systems operation and control for cooling. Each unit or system can be equipped with remote control panel that allows the complete management of unit linked.



## MODULAR AIR CONDENSED CHILLERS FOR INTERNAL INSTALLATION

### TECHNICAL DATA

Mod. (1)	Cooling (2)		Heating		Compressor		EER	Gas	Pumps				Fans		Tank	Pipe connection	Sound level (3)	Dimensions			Net weight	
	kW	kcal/h	kW	kcal/h	n°	kW			kW/kW (2)	tipo	n°	kW	m³/h	bar				n°	kW	m³/h		l
RC 050	50,2	43.200	59,2	50.910	1	9,1	5,5	R407c	1	1,1	7,2	2,7	2	3,0	16.000	193	3"	59	1.990	1.110	2.190	790
RC 080	78,0	67.080	92,0	79.120	2	13,8	5,7	R407c	1	1,9	10,8	2,7	3	4,5	24.000	193	3"	60	2.890	1.110	2.190	1.180
RC 120	118,6	102.000	140,0	120.400	2	21,6	5,5	R407c	1	2,2	16,8	2,7	4	6,0	32.000	193	3"	63	3.790	1.110	2.190	1.550

(1) - Standard electric alimentation 400V-3Ph-50Hz - Special on request

(2) - Water out temperature 15°C - Ambient temperature 25°C

(3) - Sound pressure level at 10 metres

### COOLING CIRCUIT

**Metal cartridge water filter** fitted on the return line of the hydraulic plant as well as on the tank automatic filling. It stops impurities which could damage the plate exchanger or the pump.

**Flowmeter** it controls the flow rate as protection of the plate exchanger.

**Hydraulic connections** placed sideways, they're already arranged for the modular coupling of more units with "Victaulic" DN80 roll forming.

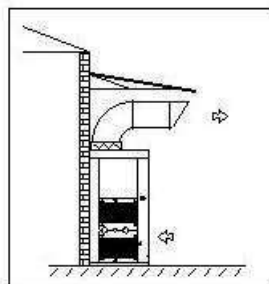
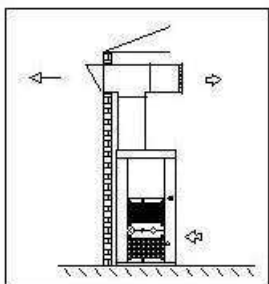
**Safety valve** fitted on tank to avoid eventual overpressure in case of operator's wrong manoeuvring.

**Automatic air discharge valve** to eliminate air locks into the hydraulic circuit.

**Water drain** complete drainage of the evaporator tank.



### EXAMPLES OF INSTALLATION



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www.resitec.pt

## ENBLOC AIR CONDENSED CHILLERS FOR EXTERNAL INSTALLATION



# RC/m

HFC 407 C  
refrigerante ecologico



### PROFILE

The enbloc RC/m air condensed CHILLERS, have been designed to produce process cooled water for the cooling of industrial plants on closed or open circuit. They are completely independent units consisting of a hydraulic circuit complete with electric pump. The special construction guarantees high efficiency thanks to a very low power consumption even in extreme conditions of use (tropical climates with ambient temperature up to +45°C). In particular the oversizing of the heat exchangers enables the compressor to work under excellent conditions raising the cooling capacity. The chiller is controlled by a NOVA FRIGO micro-processor governing both the evaporating and the condensing pressures and to survey precise measures of the system parameters. It is possible to control the units by a "MULTICHILLER" board which, after checking the thermal load, adjusts the introduction of each compressor. The results are: stability and precision of the process temperature, balanced operation of compressors and, as a consequence, a higher energy saving, thus avoiding useless current startings

### CONTROLLED BY MICROPROCESSOR

The RS/m series units are equipped with an innovative multi-function microprocessor control specially designed by NOVA FRIGO to optimize the systems operation and control for cooling. Each unit or system can be equipped with remote control panel that allows the complete management of unit linked.

### TECHNICAL FEATURES

**Steel main frame** of pre-galvanized, aluminium steel treated and painted with epoxy powder.

**Axial fans** with automatic speed regulation. New European regulations ERP 2015.

**Gas condenser** with an extensive exchange surface, with copper piping and aluminium fins.

**Gas evaporator** it's a plate heat exchanger, with AISI 316 stainless steel, copper braze welded plates. It is placed inside a shell of thermo-insulating material to avoid the condensing and the heat exchange towards outside.

### TOUCH SCREEN

New interface for users with a TOUCH-SCREEN display and the chance to link the chiller to the business LAN net, to distance commands and management on every PC, TABLET and SMARTPHONE.

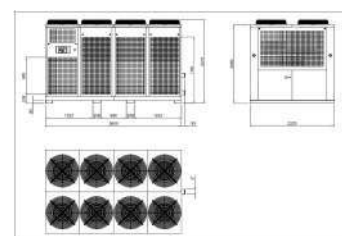
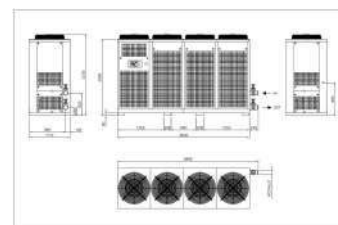


## ENBLOC AIR CONDENSED CHILLERS FOR EXTERNAL INSTALLATION

### TECHNICAL DATA

Model (1)	Cooling capacity (2)		Cooling capacity (3)		Compressors		EER	Gas		Pumps			Fans		Tank	Pipe connections	Sound level (4)	Dimensions			Net weight		
	kW	kcal/h	kW	kcal/h	n°	kW (2)	kW/kW (2)	tipo	circuiti	n°	kW	m³/h	bar	n°	kW	m³/h	l	Ø	dB(A)	L mm	P mm	H mm	kg
RC/m 050	50,2	43.200	33,4	28.730	1	9,1	5,5	R407c	1	1	1,1	7,2	2,7	2	0,88	14.500	140	2"	57	1.990	1.110	2.330	810
RC/m 080	78,0	67.080	51,9	44.640	2	13,8	5,7	R407c	1	1	1,9	10,8	2,7	2	2,2	23.000	140	2"	58	1.990	1.110	2.370	920
RC/m 120	118,6	102.000	78,9	67.860	2	21,6	5,5	R407c	1	1	2,2	16,8	2,7	2	3,9	33.000	140	2"	59	1.990	1.110	2.370	1.010

(1) - Standard electric alimention 400V-3Ph-50Hzs – Special on request    (2) - Water out temperature 15°C - Ambient temperature 25°C    (3) - Water out temperature 7°C - Ambient temperature 35°C    (4) - Sound pressure level at 10 meters





## MODULAR AIR CONDENSED CHILLERS FOR EXTERNAL INSTALLATION



RS

HFC 407 C  
ecological refrigerant



### PROFILE

The modular RS air condensed CHILLERS, have been designed to produce process cooled water for the cooling of industrial plants on closed or open circuit. They are completely independent units consisting of a hydraulic circuit complete with closed accumulation tank, circulator and electric pump. The special construction guarantees high efficiency thanks to a very low power consumption even in extreme conditions of use (tropical climates with ambient temperature up to +45°C). In particular the oversizing of the heat exchangers enables the compressor to work under excellent conditions raising the cooling capacity. The chiller is controlled by a NOVA FRIGO microprocessor governing both the evaporating and the condensing pressures and to survey precise measures of the system parameters. It is possible to control the units by a "MULTICHILLER" board which, after checking the thermal load, adjusts the introduction of each compressor. The results are stability and precision of the process temperature, balanced operation of compressors and, as a consequence, a higher energy saving, thus avoiding useless current startings.

### CONTROLLED BY MICROPROCESSOR

The RS series units are equipped with an innovative multi-function microprocessor control specially designed by NOVA FRIGO to optimize the modular systems operation and control for cooling.

Each unit or system can be equipped with remote control panel that allows the complete management of unit linked.

### TOUCH SCREEN

New interface for users with a TOUCH-SCREEN display and the chance to link the chiller to the business LAN net, to distance commands and management on every PC, TABLET and SMARTPHONE.

### TECHNICAL FEATURES

**Steel main frame** of pre-galvanized, aluminium steel treated and painted with epoxy powder.

**Axial fans** with automatic speed regulation. New European regulations ERP 2015.

**Gas condenser** with an extensive exchange surface, with copper piping and aluminium fins.

**Gas evaporator** it's a plate heat exchanger, with AISI 316 stainless steel, copper braze welded plates. It is placed inside a shell of thermo-insulating material to avoid the condensing and the heat exchange towards outside.

**AISI 304 stainless steel tank**, thermo-insulated with closed cell foam material to avoid the condensing and the heat exchange towards outside.



## MODULAR AIR CONDENSED CHILLERS FOR EXTERNAL INSTALLATION

### TECHNICAL DATA

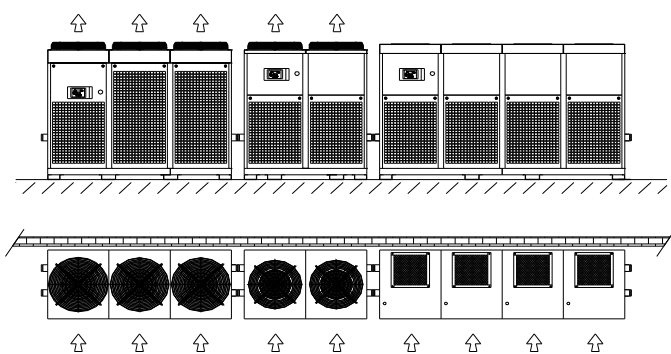
Mod. (1)	Cooling capacity (2)		Cooling capacity (3)		Compressors		EER	Gas	Gas	Pumps			Fans			Tank	Pipe connections	Sound level (4)	Dimensions			Net weight	
	kW	kcal/h	kW	kcal/h	n°	kW	kW/kW (2)	tipo	circuíti	n°	kW	m³/h	bar	n°	kW	m³/h	l	Ø	dB(A)	L mm	P mm	H mm	kg
RS 050	50,2	43.200	33,4	28.730	1	9,1	5,5	R407c	1	1	1,1	7,2	2,7	2	0,88	14.500	140	3"	57	1.990	1.110	2.330	810
RS 080	78,0	67.080	51,9	44.640	2	13,8	5,7	R407c	1	1	1,9	10,8	2,7	2	2,2	23.000	140	3"	58	1.990	1.110	2.370	920
RS 120	118,6	102.000	78,9	67.860	2	21,6	5,5	R407c	1	1	2,2	16,8	2,7	2	3,9	33.000	140	3"	59	1.990	1.110	2.370	1.010
RS 160	151,4	130.200	100,7	86.600	2	27,0	5,6	R407c	2	1	3,0	24,0	2,7	3	5,9	45.000	260	3"	62	2.890	1.110	2.370	1.500
RS 200	201,8	173.600	134,2	115.420	2	37,0	5,5	R407c	2	1	4,0	29,4	2,7	4	7,8	60.000	260	3"	63	3.790	1.110	2.370	2.050
RS 250	232,3	199.780	154,5	132.870	4	40,9	5,7	R407c	2	1	4,0	33,0	2,7	4	7,8	60.000	260	3"	63	3.790	1.110	2.370	2.150

(1) - Standard electric alimентация 400V-3Ph-50Hz - Special on request

(2) - Water out temperature 15°C - Ambient temperature 25°C

(3) - Water out temperature 7°C - Ambient temperature 35°C

(4) - Sound pressure level at 10 metres



### PATENTED MODULARITY

These products have been designed according to an INDUSTRIAL PATENT deposited and certified in the most important countries all over the world. Such an invention, technologically in the lead, grants TOTAL MODULARITY which allows the cooling, hydraulic, mechanical and electric coupling of units even of different capacity.

### COOLING CIRCUIT

**Metal cartridge water filter** fitted on the return line of the hydraulic plant as well as on the tank automatic filling. It stops impurities which could damage the plate exchanger or the pump.

**Flowmeter** it controls the flow rate as protection of the plate exchanger.

**Hydraulic connections** placed sideways, they're already arranged for the modular coupling of more units with "Victaulic" DN80 roll forming.

**Safety valve** fitted on tank to avoid eventual overpressure in case of operator's wrong manoeuvring.

**Automatic air discharge valve** to eliminate air locks into the hydraulic circuit.

**Water drain** complete drainage of the evaporator tank.



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## ENBLOC AIR CONDENSED CHILLERS FOR EXTERNAL INSTALLATION



# RS/m AD

HFC 407 C  
refrigerante ecologico



### PROFILE

The enbloc RS/m AD air condensed CHILLERS, have been designed to produce process cooled water for the cooling of industrial plants on closed or open circuit. They are completely independent units consisting of a hydraulic circuit complete with electric pump. The special construction guarantees high efficiency thanks to a very low power consumption even in extreme conditions of use (tropical climates with ambient temperature up to +45°C). In particular the oversizing of the heat exchangers enables the compressor to work under excellent conditions raising the cooling capacity. The chiller is controlled by a NOVA FRIGO microprocessor governing both the evaporating and the condensing pressures and to survey precise measures of the system parameters. It is possible to control the units by a "MULTICHILLER" board which, after checking the thermal load, adjusts the introduction of each compressor. The results are: stability and precision of the process temperature, balanced operation of compressors and, as a consequence, a higher energy saving, thus avoiding useless current starting.

### CONTROLLED BY MICROPROCESSOR

The RS/m series units are equipped with an innovative multi-function microprocessor control specially designed by NOVA FRIGO to optimize the systems operation and control for cooling. Each unit or system can be equipped with remote control panel that allows the complete management of unit linked.

### TECHNICAL FEATURES

**Steel main frame** of pre-galvanized, aluminium steel treated and painted with epoxy powder.

**Axial fans** with automatic speed regulation. New European regulations ERP 2015.

**Gas condenser** with an extensive exchange surface, with copper piping and aluminium fins.

**Gas evaporator** it's a plate heat exchanger, with AISI 316 stainless steel, copper braze welded plates. It is placed inside a shell of thermo-insulating material to avoid the condensing and the heat exchange towards outside.

### TOUCH SCREEN

New interface for users with a TOUCH-SCREEN display and the chance to link the chiller to the business LAN net, to distance commands and management on every PC, TABLET and SMARTPHONE.



## ENBLOC AIR CONDENSED CHILLERS FOR EXTERNAL INSTALLATION

### TECHNICAL DATA

Model (1)	Cooling capacity (2)		Cooling capacity (3)		Compressors		EER	Gas		Pumps			Fans			Tank	Pipe connections	Sound level (4)	Dimensions			Net weight	
	kW	kcal/h	kW	kcal/h	n°	kW (2)		kW/kW (2)	tipo	circuiti	n°	kW	m³/h	bar	n°				kW	m³/h	l		Ø
RS/m 080AD	78,0	67.080	51,9	44.640	2	13,8	5,7	R407c	1	1	1,9	10,8	2,7	2	2,2	23.000	140	2"	58	1.990	1.110	2.370	920
RS/m 120AD	118	102.000	78,9	67.860	2	21,6	5,5	R407c	1	1	2,2	16,8	2,7	2	3,9	33.000	140	2"	59	1.990	1.110	2.370	1.010
RS/m 160AD	151,4	130.200	100,7	86.600	2	27,0	5,6	R407c	2	1	3,0	24,0	2,7	3	5,9	45.000	260	3"	62	2.890	1.110	2.370	1.290
RS/m 200AD	201,8	173.600	134,2	115.420	2	37,0	5,5	R407c	2	1	4,0	29,4	2,7	4	7,8	60.000	260	3"	63	3.790	1.110	2.370	1.815
RS/m 250AD	232,3	119.780	154,5	132.870	4	40,9	5,7	R407c	2	1	4,0	33,0	2,7	4	7,8	60.000	260	3"	63	3.790	1.110	2.370	1.915
RS/m 330AD	339,0	291.600	225,4	193.850	4	59,4	5,7	R407c	2	1	5,5	46,2	2,7	4	11,2	72.000	260	4"	64	3.600	1.110	2.370	2.350
RS/m 400/1AD	397,0	341.420	264,0	227.040	4	82,4	4,8	R407c	2	1	5,5	55,8	2,7	4	11,2	78.000	260	4"	64	3.790	1.110	2.370	2.450

(1) - Standard electric alimentation 400V-3Ph-50Hz - Special on request (2) - Water out temperature 15°C - Ambient temperature 25°C (3) - Water out temperature 7°C - Ambient temperature 35°C (4) - Sound pressure level at 10 metres distance

		Supply temperature vel. Air [2 m/s]							
Outdoor air temperature	50 °C	26,4	30,4	34,2					
	48 °C	25,3	29,1	32,6					
	46 °C	24,2	27,8	31,0					
	44 °C	23,2	26,5	29,5	32,3				
	42 °C	22,1	25,2	28,0	30,6				
	40 °C	21,0	23,9	26,5	29,0	31,2			
	38 °C	19,9	22,6	25,1	27,4	29,5			
	36 °C	18,7	21,3	23,6	25,8	27,8	29,7		
	34 °C	17,6	20,0	22,2	24,2	26,1	27,9	29,6	
	32 °C	16,4	18,7	20,8	22,7	24,5	26,2	27,8	29,3
	30 °C	15,2	17,4	19,3	21,1	22,8	24,4	25,9	27,4
	28 °C	14,0	16,0	17,9	19,6	21,2	22,7	24,1	25,5
	26 °C	12,7	14,7	16,4	18,0	19,5	20,9	22,3	23,6
	24 °C	11,4	13,3	14,9	16,4	17,9	19,2	20,5	21,7
	22 °C		11,8	13,4	14,8	16,2	17,5	18,7	19,8
	20 °C			11,9	13,2	14,5	15,7	16,9	17,9
		10%	20%	30%	40%	50%	60%	70%	80%
		Outdoor air relative humidity							



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## ENBLOC CHILLER WITH INTEGRATED FREE-COOLING AND ADIABATIC PANELS



# RS/m FC-AD



### PROFILE

The RS/m FC-AD enbloc air condensed CHILLERS, have been designed to produce process cooled water for the cooling of industrial plants on closed or open circuit. They are completely independent units consisting of a hydraulic circuit complete with closed accumulation tank, circulator and electric pump. The special construction guarantees high efficiency thanks to a very low power consumption even in extreme conditions of use (tropical climates with ambient temperature up to +45°C). In particular the oversizing of the heat exchangers enables the compressor to work under excellent conditions raising the cooling capacity. The chiller is controlled by a NOVA FRIGO microprocessor governing both the evaporating and the condensing pressures and to survey precise measures of the system parameters. It is possible to control the units by a "MULTICHILLER" board which, after checking the thermal load, adjusts the introduction of each compressor. The results are stability and precision of the process temperature, balanced operation of compressors and, as a consequence, a higher energy saving, thus avoiding useless current startings.

### CONDENSING BATTERIES / FREE COOLING

The machine is well equipped with n. 2 batteries with large exchange surfaces, with copper pipes and aluminum fins. These perform a dual function, condensation and dry-cooling (one part is used for gas the other for cooling the liquid). The chiller detects the temperature of the liquid returning from the system (ST) and using a temperature probe (Sta) the software establishes the possibility of activating free-cooling. The fluid is then conveyed by the three-way diverter valve (Vd) towards the battery (BFC).

### ADIABATIC PANELS

How it works

- The evaporation kit **lowers the intake air temperature** used for cooling the refrigerating machine.
- To do so it uses the sensitive heat of the air and transforms it into latent heat of the water.
- **The water evaporating absorbs the heat of the air** that goes through the panel and lowers its temperature.
- The special material allows an exchange so that the **outgoing air has a saturation between 89% and 93%**.



## ENBLOC CHILLER WITH INTEGRATED FREE-COOLING AND ADIABATIC PANELS

### TECHNICAL DATA

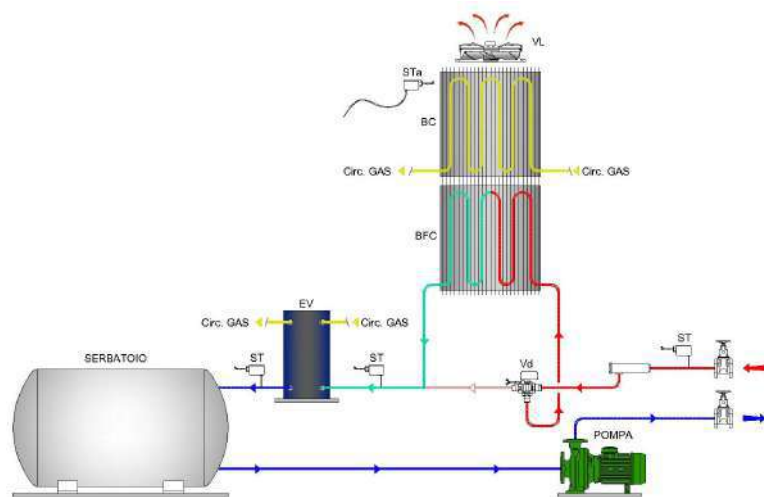
Model (1)	Chiller cooling capacity (2)		free-cooling capacity (3)		Compressors		EER	Gas		Pumps			Fans			Tanks	Attacchi idraulici	Sound level (4)	Dimensions			Net weight	
	kW	kcal/h	kW	kcal/h	n°	kW (2)	kW/kW (2)	type	circuits	n°	kW	m³/h	bar	n°	kW	m³/h	l	Ø	dB(A)	L mm	P mm	H mm	kg
RS/m 080 FC-AD	78,0	67.080	78,0	67.080	2	13,8	5,7	R407c	1	1	1,85	10,8	2,7	3	5,4	45.000	140	2"	62	2.890	1.110	2.370	1.090
RS/m 120 FC-AD	118,0	102.000	118,0	102.000	2	21,6	5,5	R407c	1	1	2,2	16,8	2,7	3	9,0	57.000	140	2"	64	2.890	1.110	2.370	1.190
RS/m 160 FC-AD	151,4	130.200	151,4	130.200	2	27,0	5,6	R407c	2	1	3,0	24,0	2,7	4	11,2	78.000	260	3"	65	3.790	1.110	2.370	2.125
RS/m 200 FC-AD	201,8	173.600	201,8	173.600	2	37,0	5,5	R407c	2	1	4,0	29,4	2,7	5	14,0	97.500	260	3"	66	4.690	1.110	2.370	2.750
RS/m 250 FC-AD	232,3	119.780	232,3	119.780	4	40,9	5,7	R407c	2	1	4,0	33,0	2,7	5	14,0	97.500	260	3"	66	4.690	1.110	2.370	2.750

(1) - Standard electric alimentation 400V-3Ph-50Hz - Special on request (2) - Water out temperature 15°C - Ambient temperature 25°C (3) - Referred at 5°C ambient temperature and water out temperature (4) - Sound pressure level at 10 meters

### AIR / RELATIVE HUMIDITY

Outdoor air temperature	Supply temperature vel. Air [2 m/s]							
	10%	20%	30%	40%	50%	60%	70%	80%
50 °C	26,4	30,4	34,2					
48 °C	25,3	29,1	32,6					
46 °C	24,2	27,8	31,0					
44 °C	23,2	26,5	29,5	32,3				
42 °C	22,1	25,2	28,0	30,6				
40 °C	21,0	23,9	26,5	29,0	31,2			
38 °C	19,9	22,6	25,1	27,4	29,5			
36 °C	18,7	21,3	23,6	25,8	27,8	29,7		
34 °C	17,6	20,0	22,2	24,2	26,1	27,9	29,6	
32 °C	16,4	18,7	20,8	22,7	24,5	26,2	27,8	29,3
30 °C	15,2	17,4	19,3	21,1	22,8	24,4	25,9	27,4
28 °C	14,0	16,0	17,9	19,6	21,2	22,7	24,1	25,5
26 °C	12,7	14,7	16,4	18,0	19,5	20,9	22,3	23,6
24 °C	11,4	13,3	14,9	16,4	17,9	19,2	20,5	21,7
22 °C		11,8	13,4	14,8	16,2	17,5	18,7	19,8
20 °C			11,9	13,2	14,5	15,7	16,9	17,9
	10%	20%	30%	40%	50%	60%	70%	80%

### FREE-COOLING LAYOUT



### CHARACTERISTICS OF ADIABATIC PANELS

- The aluminum fabric with anti-corrosion coating, is characterized by a high heat exchange, long life and low maintenance
- The high permeability of the panel guarantees **low pressure drops**.
- The particular **modular construction** allows the system to be adapted to each model of machine.
- **Standardized attachments** make the structure applicable both to new systems and to retrofit existing installations
- Water distribution system is **integrated into the machine body**.
- Use normal **mains water**



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## ENBLOC AIR CONDENSED CHILLERS FOR EXTERNAL INSTALLATION



# RS/m

HFC 407 C  
refrigerante ecologico



### PROFILE

The enbloc RS/m air condensed CHILLERS, have been designed to produce process cooled water for the cooling of industrial plants on closed or open circuit. They are completely independent units consisting of a hydraulic circuit complete with electric pump. The special construction guarantees high efficiency thanks to a very low power consumption even in extreme conditions of use (tropical climates with ambient temperature up to +45°C). In particular the oversizing of the heat exchangers enables the compressor to work under excellent conditions raising the cooling capacity. The chiller is controlled by a NOVA FRIGO micro-processor governing both the evaporating and the condensing pressures and to survey precise measures of the system parameters. It is possible to control the units by a "MULTICHILLER" board which, after checking the thermal load, adjusts the introduction of each compressor. The results are: stability and precision of the process temperature, balanced operation of compressors and, as a consequence, a higher energy saving, thus avoiding useless current startings

### CONTROLLED BY MICROPROCESSOR

The RS/m series units are equipped with an innovative multi-function microprocessor control specially designed by NOVA FRIGO to optimize the systems operation and control for cooling. Each unit or system can be equipped with remote control panel that allows the complete management of unit linked.

### TECHNICAL FEATURES

**Steel main frame** of pre-galvanized, aluminium steel treated and painted with epoxy powder.

**Axial fans** with automatic speed regulation. New European regulations ERP 2015.

**Gas condenser** with an extensive exchange surface, with copper piping and aluminium fins.

**Gas evaporator** it's a plate heat exchanger, with AISI 316 stainless steel, copper braze welded plates. It is placed inside a shell of thermo-insulating material to avoid the condensing and the heat exchange towards outside.

### TOUCH SCREEN

New interface for users with a TOUCH-SCREEN display and the chance to link the chiller to the business LAN net, to distance commands and management on every PC, TABLET and SMARTPHONE.





## ENBLOC AIR CONDENSED CHILLERS FOR EXTERNAL INSTALLATION

### TECHNICAL DATA

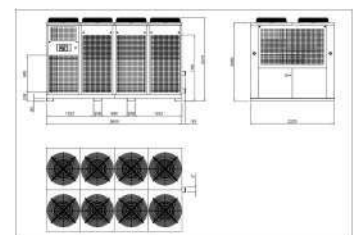
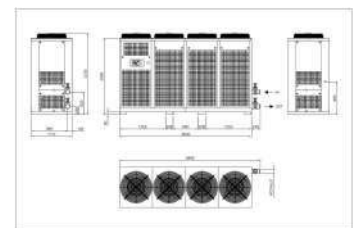
Model (1)	Cooling capacity (2)		Cooling capacity (3)		Compressors		EER	Gas		Pumps			Fans		Tank	Pipe connections	Sound level (4)	Dimensions			Net weight		
	kW	kcal/h	kW	kcal/h	n°	kW (2)		kW/kW (2)	tipo	circuti	n°	kW	m³/h	bar				n°	kW	m³/h		l	Ø
RS/m 050	50,2	43.200	33,4	28.730	1	9,1	5,5	R407c	1	1	1,1	7,2	2,7	2	0,88	14.500	140	2"	57	1.990	1.110	2.330	810
RS/m 080	78,0	67.080	51,9	44.640	2	13,8	5,7	R407c	1	1	1,9	10,8	2,7	2	2,2	23.000	140	2"	58	1.990	1.110	2.370	920
RS/m 120	118,6	102.000	78,9	67.860	2	21,6	5,5	R407c	1	1	2,2	16,8	2,7	2	3,9	33.000	140	2"	59	1.990	1.110	2.370	1.010
RS/m 160	151,4	130.200	100,7	86.600	2	27,0	5,6	R407c	2	1	3,0	24,0	2,7	3	5,9	45.000	260	3"	62	2.890	1.110	2.370	1.290
RS/m 200	201,8	173.600	134,2	115.420	2	37,0	5,5	R407c	2	1	4,0	29,4	2,7	4	7,8	60.000	260	3"	63	3.790	1.110	2.370	1.815
RS/m 250	232,3	199.780	154,5	132.870	4	40,9	5,7	R407c	2	1	4,0	33,0	2,7	4	7,8	60.000	260	3"	63	3.790	1.110	2.370	1.915
RS/m 330	339,0	291.600	225,4	193.850	4	59,4	5,7	R407c	2	1	5,5	46,2	2,7	4	11,2	72.000	260	4"	64	3.790	1.110	2.370	2.350
RS/m 400/1	397,0	341.420	264,0	227.040	4	82,4	4,8	R407c	2	1	5,5	55,8	2,7	4	11,2	78.000	260	4"	64	3.790	1.110	2.370	2.450
RS/m 400/2	418,6	360.000	278,4	239.430	4	74,0	5,7	R407c	4	2	8,0	58,8	2,7	8	15,6	120.000	260	4"	63	3.700	2.220	2.370	3.900
RS/m 500	483,2	415.540	321,3	276.320	8	85,8	5,6	R407c	4	2	8,0	66,0	2,7	8	15,6	120.000	260	4"	63	3.700	2.220	2.370	4.100
RS/m 650	643,2	553.100	427,7	367.820	8	113,2	5,7	R407c	4	2	11,0	92,4	2,7	8	22,4	144.000	260	5"	64	3.700	2.220	2.370	4.900
RS/m 800	789,0	678.540	524,7	451.240	8	164,8	4,8	R407c	4	2	11,0	111,6	2,7	8	22,4	156.000	260	5"	65	3.700	2.220	2.370	5.100
RS/m 1000	944,0	811.840	627,8	539.910	8	196,0	4,8	R407c	4	2	15,0	138,0	3,0	10	28,0	205.000	350	6"	68	4.690	2.220	2.370	5.700
RS/m 1200	1.146,0	986.243	756,4	650.920	12	247,2	4,7	R407c	4	2	22,0	172	3,0	12	33,6	223.200	460	6"	72	5.400	2.200	2.170	6000

(1) - Standard electric alimentation 400V-3Ph-50Hzs - Special on request

(2) - Water out temperature 15°C - Ambient temperature 25°C

(3) - Water out temperature 7°C - Ambient temperature 35°C

(4) - Sound pressure level at 10 meters



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## AIR CONDENSED CHILLERS FOR EXTERNAL INSTALLATION INTEGRATED FREE COOLING



# RS/m-FC

HFC 407 C  
refrigerante ecologico



### PROFILE

The RS/M FC air condensed CHILLERS, have been designed to produce process cooled water for the cooling of industrial plants on closed or open circuit. They are completely independent units consisting of a hydraulic circuit complete with closed accumulation tank, circulator and electric pump. The special construction guarantees high efficiency thanks to a very low power consumption even in extreme conditions of use (tropical climates with ambient temperature up to +45°C). In particular the oversizing of the heat exchangers enables the compressor to work under excellent conditions raising the cooling capacity. The chiller is controlled by a NOVA FRIGO microprocessor governing both the evaporating and the condensing pressures and to survey precise measures of the system parameters. It is possible to control the units by a "MULTICHILLER" board which, after checking the thermal load, adjusts the introduction of each compressor. The results are stability and precision of the process temperature, balanced operation of compressors and, as a consequence, a higher energy saving, thus avoiding useless current startings.

### CONTROLLED BY MICROPROCESSOR

The RS series units are equipped with an innovative multi-function microprocessor control specially designed by NOVA FRIGO to optimize the modular systems operation and control for cooling. Each unit or system can be equipped with remote control panel that allows the complete management of unit linked.

### TECHNICAL FEATURES

**Steel main frame** of pre-galvanized, aluminium steel treated and painted with epoxy powder. **Axial fans** with automatic speed regulation. New European regulations ERP 2015. **Gas condenser** with an extensive exchange surface, with copper piping and aluminium fins. **Gas evaporator** it's a plate heat exchanger, with AISI 316 stainless steel, copper braze welded plates. It is placed inside a shell of thermo-insulating material to avoid the condensing and the heat exchange towards outside.. **AISI 304 stainless steel tank**, thermo-insulated with closed cell foam material to avoid the condensing and the heat exchange towards outside.

### TOUCH SCREEN

New interface for users with a TOUCH-SCREEN display and the chance to link the chiller to the business LAN net, to distance commands and management on every PC, TABLET and SMARTPHONE.

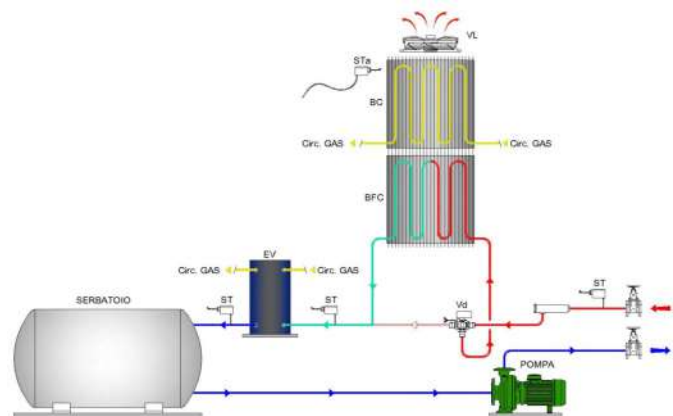


## AIR CONDENSED CHILLER FOR EXTERNAL INSTALLATION INTEGRATED FREE COOLING

### TECHNICAL DATA

Mod. (1)	Cooling capacity (2)		Free cooling capacity (3)		Compressors		EER	Gas		Pumps			Fans			Tank	Pipe connections	Sound level (4)	Dimensions			Net weight	
	kW	kcal/h	kW	kcal/h	n°	kW		kW/kW (2)	tipo	circuiti	n°	kW	m³/h	bar	n°				kW/cad.	m³/h	l		Ø
RS/m 080FC	78,0	67.080	78,0	67.080	2	13,8	5,7	R407c	1	1	1,85	10,8	2,7	3	5,4	45.000	140	2"	62	2.890	1.110	2.370	1.090
RS/m 120FC	118,0	101.480	118,0	101.480	2	21,6	5,5	R407c	1	1	2,2	16,8	2,7	3	9,0	57.000	140	2"	64	2.890	1.110	2.370	1.190
RS/m 160FC	151,4	130.200	151,4	130.200	2	27,0	5,6	R407c	2	1	3,0	24,0	2,7	4	11,2	78.000	260	3"	65	3.790	1.110	2.370	2.125
RS/m 200FC	202,0	173.720	202,0	173.720	2	37,0	5,5	R407c	2	1	4,0	29,4	2,7	5	14,0	97.500	260	3"	66	4.690	1.110	2.370	2.750
RS/m 250FC	232,0	199.520	232,0	199.520	4	40,9	5,7	R407c	2	1	4,0	33,0	2,7	5	14,0	97.500	260	3"	66	4.690	1.110	2.370	2.750

(1) - Standard electric alimention 400V-3Ph-50Hz - Special on request (2) - Water out temperature 15°C - Ambient temperature 25°C (3) - Referred Δt 5°C ambient temperature and water out temperature (4) - Sound pressure level at 10 meters



### CONDENSING BATTERIES

The machine is equipped with no. 2 batteries with great exchange surfaces, made with copper pipes and 6 row aluminum wings each battery. These serve a dual function, condensation and dry-cooling (2 ranks are used for gas and 4 ranks for the cooling of the liquid cooling). The chiller measures the temperature of the liquid which returns from the system (ST), and together with an air temperature probe (Sta), the software also determines, according to the water temperature set by the user, the possibility to activate the free cooling. The flow of the air thermoconvector fluid is conveyed by the diverter three-way valve (Vd) to the battery (BFC) where the liquid is cooled.



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## WATER CONDENSED CHILLERS



# SIGMA

**HFC 407 C**  
refrigerante ecologico



### PROFILE

Water condensed chiller Series SIGMA have been designed to produce process cooled water for the cooling of industrial plants. They are completely independent units consisting of a hydraulic circuit complete with closed accumulation tank and circulation electric pump. The oversizing of the heat exchanger an evaporator allows the condenser to work in optimal conditions. The special construction guarantees to obtain an high efficiency, thanks to a very low power consumption even in extreme condition of use. The particular quietness of these machines allows the installation inside the production department.

### FLEXIBILITY AND EFFICIENCY

In addition to the production of cold water, with Series SIGMA chillers it is possible to produce process hot water (max 90°C) devoted to thermoregulation of the industrial processes. The machines depending on the chosen version are completed with nr. 1 or nr.2 cold circuit (+6°C / +18°C version C1 and version C2), and with nr. 1 or nr. 2 hot/cold circuits (+6°C / +90°C version H1 and version H2). Thanks to the conformation of water circuits and to the special dimensioning of components, evaporator and condenser, chillers work in optimal conditions thus achieving high cooling efficiency.



## WATER CONDENSED CHILLERS

### TECHNICAL DATA

SIGMA (singole zone)		Version C1 (+6°C / +18°C) - Version H1 (+6°C / +90°C)							
Model (1)		06-C1 / 06-H1	10-C1 / 10-H1	15-C1 / 15-H1	20-C1 / 20-H1	30-C1 / 30-H1	40-C1 / 40-H1	50-C1 / 50-H1	60-C1 / 60-H1
Cooling capacity (2)	<i>kW</i>	7,2	10,9	16,5	22,7	29,2	39,0	50,9	59,8
Compressor	<i>tipo</i>	SCROLL							
	<i>kW</i>	1,2	2,1	2,9	4,0	5,1	6,9	9,1	11,5
E.E.R.	<i>kW/kW</i>	6,0	5,75	5,70	5,70	5,70	5,65	5,60	5,20
Gas		R407C							
Water flow	<i>m3/h</i>	1,5	1,5	2,4	3,2	4,3	5,5	7,2	8,4
Recycling pump	<i>kW</i>	0,37	0,37	0,37	0,37	0,45	0,45	0,75	0,75
User pump LP (2,9 bar)	<i>kW</i>	0,45	0,45	0,55	0,75	0,75	1,1	1,5	1,5
User pump HP (4,5 bar)	<i>kW</i>	0,9	0,9	0,9	1,1	1,5	1,5	2,2	2,2
Electrical heating (ver. H1)	<i>kW</i>	6	6	6	9	9	9	12	12
Sound level (3)	<i>dB(A)</i>	45	45	46	47	48	49	50	50
Dimensions (L x W x H)	<i>mm</i>	450 x 920 x 1.120				540 x 1.190 x 1.270		800 x 1.190 x 1.270	
Net weight	<i>kg</i>	170	175	180	190	215	220	270	280

SIGMA (double zone)		Versione C2 (+6°C / +18°C) - Versione H2 (+6°C / +90°C)							
Model (1)		06-C2 / 06-H2	10-C2 / 10-H2	15-C2 / 15-H2	20-C2 / 20-H2	30-C2 / 30-H2	40-C2 / 40-H2	50-C2 / 50-H2	60-C2 / 60-H2
Cooling capacity (2)	<i>kW</i>	7,2	10,9	16,5	22,7	29,2	39,0	50,9	59,8
Compressor	<i>tipo</i>	SCROLL							
	<i>kW</i>	1,2	2,1	2,9	4,0	5,1	6,9	9,1	11,5
E.E.R.	<i>kW/kW</i>	6,0	5,75	5,70	5,70	5,70	5,65	5,60	5,20
Gas		R407C							
Water flow	<i>m3/h</i>	1,5 + 1,5	1,5 + 1,5	2,4 + 2,4	3,2 + 3,2	4,3 + 4,3	5,5 + 5,5	7,2 + 7,2	8,4 + 8,4
Recycling pump	<i>kW</i>	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37
User pump LP (2,9 bar)	<i>kW</i>	0,45 + 0,45	0,45 + 0,45	0,55 + 0,55	0,75 + 0,75	0,75 + 0,75	1,1 + 1,1	1,5 + 1,5	1,5 + 1,5
User pump HP (4,5 bar)	<i>kW</i>	0,9 + 0,9	0,9 + 0,9	0,9 + 0,9	1,1 + 1,1	1,5 + 1,5	1,5 + 1,5	2,2 + 2,2	2,2 + 2,2
Electrical heating (ver. H2)	<i>kW</i>	6 + 6	6 + 6	6 + 6	9 + 9	9 + 9	9 + 9	12 + 12	12 + 12
Sound level (3)	<i>dB(A)</i>	47	47	48	49	50	51	52	52
Dimensions (L x W x H)	<i>mm</i>	450 x 920 x 1.120				540 x 1.190 x 1.270		800 x 1.190 x 1.270	
Net weight	<i>kg</i>	190	200	205	215	240	250	320	340

(1) - Standard electric alimentionation 400V-3Ph-50Hz - Special on request (2) - Water out acqua temperature 15°C - Water cooling temperature 30°C (3) - Sound pressure level at 10 meters

### COOLING CIRCUIT WITH DIRECT EXCHANGE

In thermoregulation cooling and / or the maintenance of the temperature occurs for direct exchange (mixing between water circuit temperature control and water cooling circuit).

The advantage, besides the simplification of the hydraulic circuit, is the ability to eliminate the heat jump between the two circuits, thermoregulation and cooling, delivering water at the same temperature as the cooling water one, as limit condition.



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## AIR CONDENSED MULTIFUNCTION UNITS



# SIGMA AFC

**HFC 407 C**  
refrigerante ecologico



### PROFILE

The multifunction air condensed SIGMA - AFC series are designed to produce chilled water and hot water for temperature control plants of the industrial process. Its completely autonomous monoblock refrigeration units consist of a complete hydraulic circuit with duly sealed storage tank and electrical circulation pump. The machines are equipped with condenser plates and, thanks to its size and work, allow the compressor to operate in optimum conditions. The constructive concepts allow employees to achieve high performance, the result of a low power consumption even under extreme conditions. The low noise of these machines allow them to work in production departments.

### FLEXIBILITY AND EFFICIENCY

In addition to the production of cold water, with Series SIGMA chillers it is possible to produce process hot water (max 90°C) devoted to thermoregulation of the industrial processes. The machines depending on the chosen version are completed with nr. 1 or nr.2 cold circuit (+6°C / +18°C version C1 and version C2), and with nr. 1 or nr. 2 hot/cold circuits (+6°C / +90°C version H1 and version H2). Thanks to the conformation of water circuits and to the special dimensioning of components, evaporator and condenser, chillers work in optimal conditions thus achieving high cooling efficiency.



## AIR CONDENSED MULTIFUNCTION UNITS

### TECHNICAL DATA

SIGMA (singole zone)		Version C1 (+6°C / +18°C) - Version H1 (+6°C / +90°C)							
Model (1)		06-C1 / 06-H1	10-C1 / 10-H1	15-C1 / 15-H1	20-C1 / 20-H1	30-C1 / 30-H1	40-C1 / 40-H1	50-C1 / 50-H1	60-C1 / 60-H1
Cooling capacity (2)	<i>kW</i>	7,2	10,9	17,3	22,5	29,5	33,0	50,2	59,3
Compressor	<i>tipo</i>	SCROLL							
	<i>kW</i>	1,2	2,1	2,9	4,0	5,1	6,9	9,1	11,5
E.E.R.	<i>kW/kW</i>	6	5,2	5,9	5,7	5,9	5,9	5,9	5,9
Gas		R407C							
Water flow	<i>m3/h</i>	1,5	1,5	2,4	3,2	4,3	5,5	7,2	8,4
Recycling pump	<i>kW</i>	0,37	0,37	0,37	0,37	0,45	0,45	0,75	0,75
User pump LP (2,9 bar)	<i>kW</i>	0,45	0,45	0,55	0,75	0,75	1,1	1,5	1,5
User pump HP (4,5 bar)	<i>kW</i>	0,9	0,9	0,9	1,1	1,5	1,5	2,2	2,2
Electrical heating (ver. H1)	<i>kW</i>	6	6	6	9	9	9	12	12
Fans	<i>kW</i>	1	1	1	1	2	2	2	2
Sound level (3)	<i>dB(A)</i>	63	63	66	66	68	68	68	69
Dimensions (L x W x H)	<i>mm</i>	540 x 912 x 1.325				540 x 1.280 x 1.445		540 x 1.580 x 1.545	
Net weight	<i>kg</i>	170	170	180	190	315	330	420	480

SIGMA (double zone)		Versione C2 (+6°C / +18°C) - Versione H2 (+6°C / +90°C)							
Model (1)		06-C2 / 06-H2	10-C2 / 10-H2	15-C2 / 15-H2	20-C2 / 20-H2	30-C2 / 30-H2	40-C2 / 40-H2	50-C2 / 50-H2	60-C2 / 60-H2
Cooling capacity (2)	<i>kW</i>	7,2	10,9	17,3	22,5	29,5	39,0	50,2	59,3
Compressor	<i>tipo</i>	SCROLL							
	<i>kW</i>	1,2	2,1	2,9	4,0	5,1	6,9	9,1	11,5
E.E.R.	<i>kW/kW</i>	6	5,2	5,9	5,7	5,9	5,9	5,9	5,9
Gas		R407C							
Water flow	<i>m3/h</i>	1,5 + 1,5	1,5 + 1,5	2,4 + 2,4	3,2 + 3,2	4,3 + 4,3	5,5 + 5,5	7,2 + 7,2	8,4 + 8,4
Recycling pump	<i>kW</i>	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37
User pump LP (2,9 bar)	<i>kW</i>	0,45 + 0,45	0,45 + 0,45	0,55 + 0,55	0,75 + 0,75	0,75 + 0,75	1,1 + 1,1	1,5 + 1,5	1,5 + 1,5
User pump HP (4,5 bar)	<i>kW</i>	0,9 + 0,9	0,9 + 0,9	0,9 + 0,9	1,1 + 1,1	1,5 + 1,5	1,5 + 1,5	2,2 + 2,2	2,2 + 2,2
Electrical heating (ver. H2)	<i>kW</i>	6 + 6	6 + 6	6 + 6	9 + 9	9 + 9	9 + 9	12 + 12	12 + 12
Fans	<i>kW</i>	1	1	1	1	2	2	2	2
Sound level (3)	<i>dB(A)</i>	63	63	66	66	68	68	68	69
Dimensions (L x W x H)	<i>mm</i>	540 x 912 x 1.325				540 x 1.280 x 1.445		540 x 1.580 x 1.545	
Net weight	<i>kg</i>	170	170	180	190	315	330	420	480

(1) - Standard electric alimentation 400V-3Ph-50Hz - Special on request (2) - Water out acqua temperature 15°C - Water cooling temperature 25°C (3) - Sound pressure level at 10 meters

### COOLING CIRCUIT WITH DIRECT EXCHANGE

In thermoregulation cooling and / or the maintenance of the temperature occurs for direct exchange (mixing between water circuit temperature control and water cooling circuit). The advantage, besides the simplification of the hydraulic circuit, is the ability to eliminate the heat jump between the two circuits, thermoregulation and cooling, delivering water at the same temperature as the cooling water one, as limit condition



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## MODULAR THERMOCONVECTORS



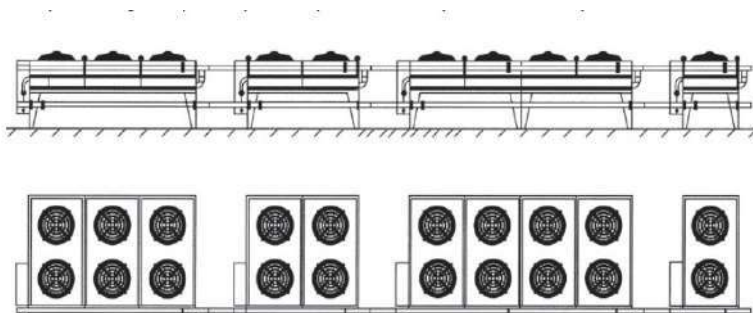
# Jolly TS



### PROFILE

The Jolly TS Modular Thermoconvectors have been designed to obtain closed circuit systems for the production of process cold water for the cooling of industrial plants with no water consumption and the lowest electric power use. They basically consist of an air/water (or water/glycol mixture) heat exchange battery, an hydraulic circuit complete with pump, electrofans and a refined microprocessor control panel.

Thanks to the very high heat exchange coefficient, result of the oversizing of the exchange surface, the water coming out of the thermoconvectors may reach temperatures close to the ambient air. Coupling of the Jolly TS Thermoconvectors with the Jolly RS/RC or Jolly NP chillers result in the RSTS/RCTS/NPTS energy saving systems.



### PATENTED COIL

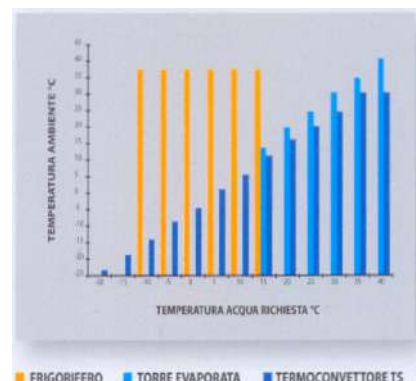
These products have been designed and manufactured according to an INDUSTRIAL PATENT deposited and certified in the most important countries all over the world. Such an invention, technologically in the lead, grants TOTAL MODULARITY which allows the cooling, hydraulic, mechanical and electric coupling of units even of different capacity.

### APPLICATION FIELD

The Jolly TS Modular Thermoconvector has been specifically designed for the closed circuit cooling of water or of water/glycol mixture thanks to the counter current heat exchange with the thermoconvector according to the required temperature. As shown into the diagram, its application field allows the use of the thermoconvector according to the required temperature. The essential concept of the Jolly TS thermoconvectors is the aim to supply the end-user not just with a machine but rather with a system.

**TS MODULAR SYSTEM FOR DIRECT HEAT DISPOSAL** : it replace the cooling tower for water temperature beyond the dry bulb ambient temperature.

**RSTS/RCTS/NPTS MODULAR ENERGY SAVING SYSTEM** : coupled to a traditional chiller and taking advantage of the low ambient temperature, it allows the so called "free cooling", i.e. it replaces the chiller reaching a very high, total energy saving.



## MODULAR THERMOCONVECTORS

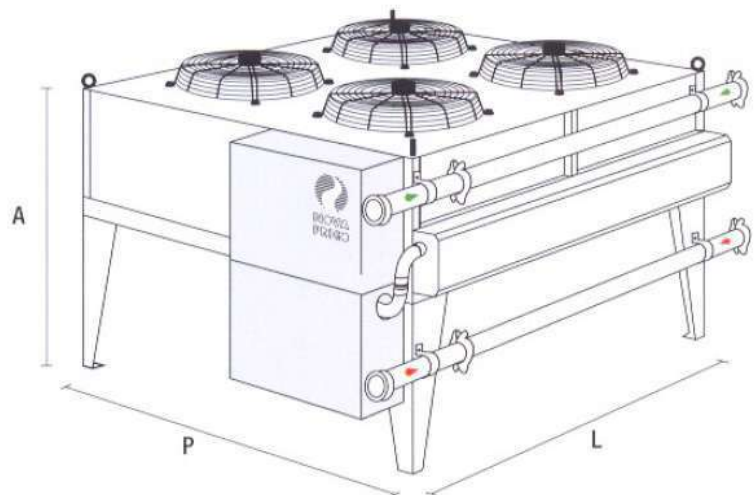
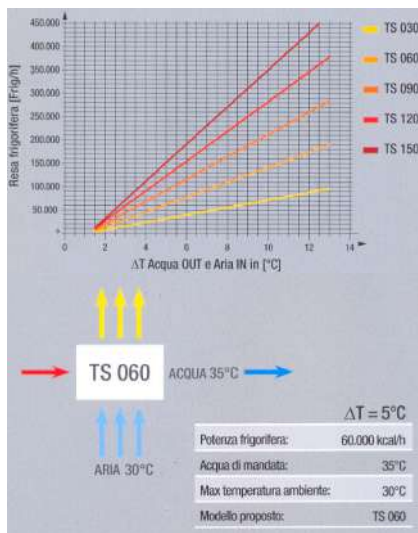
### TECHNICAL DATA

Model (1)	Cooling (2)		Efficiency	Cooling (3)		Efficiency	Pump			Fans		Internal volume	Pipe connection	Sound level (4)	Dimensions			Net weight	
	kW	kcal/h		kW/kW	kW		kcal/h	kW/kW	kW	m <sup>3</sup> /h	bar				n°	kW tot.	m <sup>3</sup> /h		l
TS 030	35,0	30.000	39,0	81,0	70.000	90,0	1,2	5,4	3,1	2	0,9	16.000	50	3"	55	1.580	2.190	1.400	320
TS 060	70,0	60.000	39,0	162,0	140.000	90,0	1,9	10,8	3,1	4	1,8	32.000	95	3"	58	2.650	2.190	1.400	560
TS 090	105,0	90.000	39,0	244,0	210.000	90,0	3,0	16,2	3,1	6	2,7	48.000	140	3"	60	3.730	2.190	1.400	800
TS 120	140,0	120.000	39,0	325,0	280.000	90,0	3,9	21,6	3,1	8	3,6	64.000	185	3"	62	4.800	2.190	1.400	1.110
TS 150	175,0	150.000	39,0	407,0	350.000	90,0	4,8	27,0	3,1	10	4,5	80.000	230	3"	64	5.880	2.190	1.400	1.350

- (1) - Standard electric alimention 400V-3Ph-50Hz - Special on request  
 (2) - With 5°C between ambient temperature and outlet water temperature  
 (3) - With 10°C between ambient temperature and outlet water temperature  
 (4) - Sound pressure level at 10 metres

**CAUTION** - Should temperature drop below 0 °C it will be necessary to introduce antifreeze mixture. - Guarantee won't be applied in the event of damages deriving from the freezing of the fluid into the system..

### COOLING CAPACITY DIAGRAM



### ADVANTAGES

**Reduced energy consumption:** working at its full capacity, the TS energy consumption is approximately 10 times lower than that of a traditional chillers. When the external temperature drops, such consumption reduces still further due to the automatic reduction of the fans revs.

**Automatic continuous adjustment:** the microprocessor keeps the working temperature steady (set-point) by the continuous reduction of the fans revs, thus removing the temperature swings and the startings, reaching moreover a precision at a tenth of degree.

**No water consumption:** as the TS thermoconvective is a closed system, the cooling water is always the same and, as a consequence, there are: no water consumption, no limestone deposits and no bacterial pollution, resulting in the best performance without any maintenance.

**Modularity:** such features, originated from an industrial patent already to Nova Frigo chillers, allows the coupling in series of units even of different capacity.

**Cheap installation and reliability:** the hydraulic system, the electric one of adjustment and control, the circulation pump are preassembled and tested for each single module.



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## ORTHOGONAL THERMOCONVECTORS



# TS-V



### PROFILE

The TS-V series ORTHOGONAL THERMOCONVECTORS are conceived and realized with an innovative system of double heat, able to completely satisfy the industrial cooling operators exigencies. The powers of the new TS-V series vary from 100 kW to 800 kW in nominal conditions. The extraordinary potentiality of these DRY-COOLERS spring from the optimal combination between the new high efficiency fins and copper piping and new conception fans, conceived to develop high air flow with reduced absorption and reduced noise.

The TS-V series is characterized by a modular design with oven painted galvanized steel fairing and can mount up to 12 fans with different efficiency levels and noise levels, in single or double bank.



### ADIABATIC COOLING

It is also available the innovative AWS device (Adiabatic Water System), an automatical system of adiabatic cooling which permits to the exchanger to grant the performance indicated on the list of the machinery, also when the environmental temperature is higher then the project temperature

### PERSONALISATION

It's available, on demand, a great personalisation choice, including: cutting stage, step, with inverter speed regulators; standard switchboards or special on demand switchboards; special materials for any type of application and environmental settings.



## ORTHOGONAL THERMOCONVECTORS

### TECHNICAL DATA

Model (1)	Cooling capacity (2)	Fluid flow rate	Fluid pressure loss	Air flow rate	Fans (3)		Pump		Internal volume	Surface	Sound level (4)	Pipe connections	Dimensions			Net weight
					n°	kW tot.	n°	kW					L mm	P mm	H mm	
TS-V 050/1	49,8	9,3	30,9	27.050	1	2,49	1	2,2	32,0	171,2	56	1"½	1.600	1.200	1.660	245
TS-V 075/1	71,8	13,5	44,4	30.190	2	1,03	1	2,2	62,0	342,4	42	2"	2.850	1.200	1.660	425
TS-V 100/1	100,1	18,8	28,6	54.100	2	4,98	1	3,0	72,0	342,4	59	2"	2.850	1.200	1.660	425
TS-V 125/1	128,7	24,2	61,8	58.310	3	4,18	1	4,0	98,0	513,6	55	2"	4.100	1.200	1.660	515
TS-V 150/1	154,2	29,0	35,2	79.760	3	7,47	1	4,0	98,0	513,6	61	2"½	4.310	1.200	1.660	610
TS-V 200/1	198,9	37,3	27,3	106.410	4	9,97	1	5,5	124,0	684,8	62	2"½	5.350	1.200	1.660	790
TS-V 250/1	271,5	51,0	51,9	135.120	5	12,46	1	7,5	170,0	856,1	63	2"½	6.600	1.200	1.660	970
TS-V 250/2	252,3	41,1	55,5	122.500	6	8,35	2	2 x 4,0	236,4	1.049,4	58	2"½	4.670	2.385	2.500	1.535
TS-V 300/2	318,8	59,8	46,8	167.670	6	14,9	2	2 x 4,0	236,4	1.049,4	64	4"	4.900	2.385	2.500	1.535
TS-V 350/2	353,8	66,4	36,6	159.240	6	15,3	2	2 x 5,5	290,8	1.399,2	64	4"	4.900	2.385	2.500	1.685
TS-V 400/2	409,4	76,8	36,3	223.760	8	19,9	2	2 x 5,5	289,8	1.399,2	65	4"	6.100	2.385	2.500	1.885
TS-V 450/2	454,1	85,3	31,3	212.500	8	20,3	2	2 x 7,5	362,0	1.865,6	65	4"	6.100	2.385	2.500	2.085
TS-V 500/2	526,8	91,7	55,5	279.400	10	24,9	2	2 x 7,5	343,4	1.749,0	66	4"	7.550	2.385	2.500	2.235
TS-V 600/2	607,5	114,1	44,5	265.280	10	25,5	2	2 x 7,5	433,4	2.331,9	66	2 x 4"	7.550	2.385	2.500	2.490
TS-V 700/2	708,9	120,6	58,2	318.470	12	30,5	2	2 x 9,2	504,6	2.798,3	66	2 x 4"	8.950	2.385	2.500	2.895
TS-V 800/2	796,0	149,5	20,8	366.200	14	35,6	2	2 x 11,0	575,8	3.264,7	67	2 x 4"	10.600	2.385	2.500	3.300
TS-V 900/2	925,4	173,7	30,3	425.020	16	40,7	2	2 x 11,0	647,2	3.731,1	67	2 x 4"	12.050	2.385	2.500	3.700
TS-V 1000/2	1.067,3	200,4	42,1	470.830	18	45,8	2	2 x 15,0	718,4	4.197,5	67	2 x 4"	13.430	2.385	2.500	4.105

(1) - Standard electric alimentation 400V-3Ph-50Hz - Special on request

(2) - With 5°C between ambient temperature and outlet water temperature

(3) - With variable speed control

(4) - Sound pressure level at 10 metres



**WARNING** If the ambient temperature drops below 0° C, it is compulsory to use an anti-freeze mixture. Damage caused by freezing of liquid in the system is NOT covered by warranty

## WATER CONDENSED CHILLERS



# WFC

**HFC 407 C**  
refrigerante ecologico



### PROFILE - WFC

Water condensed chiller Series WFC have been designed to produce process cooled water for the cooling of industrial plants. They are completely independent units consisting of a hydraulic circuit complete with closed accumulation tank and circulation electric pump. The oversizing of the heat exchanger an evaporator allows the condenser to work in optimal conditions. The special construction guarantees to obtain an high efficiency, thanks to a very low power consumption even in extreme condition of use. The particular quietness of these machines allows the installation inside the production department.

## WATER CONDENSED CHILLER

### TECHNICAL DATA

Model (1)	Cooling capacity (2)		Compressor		EER	Gas	Pump				Tank	Pipe connections
	<i>kW</i>	<i>kcal/h</i>	<i>n°</i>	<i>kW</i> (2)	<i>kW/kW</i> (2)		<i>n°</i>	<i>kW</i>	<i>lt/min</i>	<i>bar</i>	<i>l</i>	$\varnothing$
WFC 06	7,2	6.190	1	1,2	6,0	R407C	1	0,40	25,0	3,0	25	3/4"
WFC 10	10,9	9.380	1	2,1	5,2	R407c	1	0,40	25,0	3,0	25	3/4"
WFC 15	17,3	14.880	1	2,9	5,9	R407c	1	0,40	40,0	2,6	25	1"
WFC 20	22,5	19.350	1	4,9	4,6	R407c	1	0,50	53,0	3,0	25	1"
WFC 30	29,5	25.370	1	5,0	5,9	R407c	1	0,50	60,0	2,6	55	1 1/4"
WFC 40	39,0	33.540	1	7,5	5,2	R407c	1	1,10	90,0	3,1	55	1 1/4"
WFC 50	50,2	43.170	1	9,1	5,5	R407c	1	1,10	120,0	3,1	125	1 1/4"
WFC 60	59,3	51.000	1	11,5	5,1	R407c	1	1,10	140,0	3,0	125	1 1/2"
WFC 80	75,7	65.100	1	13,5	5,6	R407c	1	1,50	180,0	3,0	150	2"
WFC 100	101,0	86.860	1	18,5	5,4	R407c	1	2,2	220,0	2,9	150	2"

(1) - Standard electric alimentation 400V-3Ph-50Hz - Special on request

(2) - Water of temperature 15°C - Ambient temperature 30°C

### DIMENSIONS - WEIGHT - SOUND LEVEL

Model	Dimensions			Net weight	Sound level (3)
	<i>L</i> <i>mm</i>	<i>P</i> <i>mm</i>	<i>H</i> <i>mm</i>	<i>kg</i>	<i>dB(A)</i>
WFC 06	450	920	1.120	170	44
WFC 10	450	920	1.120	175	45
WFC 15	450	920	1.120	180	46
WFC 20	450	920	1.120	190	47
WFC 30	600	1.100	1.270	215	48
WFC 40	600	1.100	1.270	220	49
WFC 50	800	1.100	1.270	270	50
WFC 60	800	1.100	1.270	280	50
WFC 80	910	1.200	1.270	430	52
WFC 100	910	1.200	1.270	500	52

(3) - Sound pressure level at 10 mt. - UNI 7712



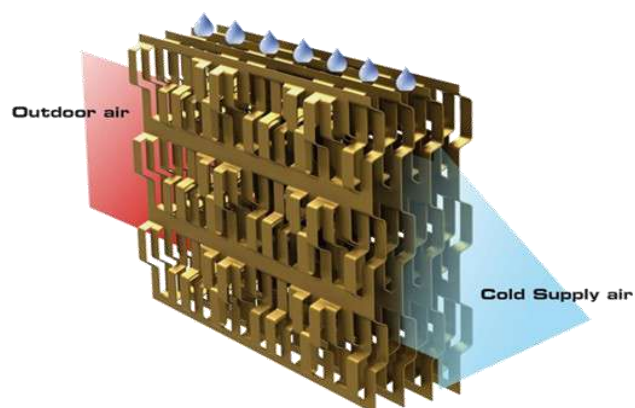


## KIT FOR PRE-COOLING BY EVAPORATION



### PRINCIPLE OF OPERATION

The evaporation kit **lowers the temperature of the inlet air**, used for the cooling of the chiller, to do this, you use network water to fully wet the surface of the panels that are crossed by the air, **water by evaporating, absorbs the heat of the air** which crosses the panel and lowers its temperature, a consumption of 1 liter/h of water produces a cooling power of 695W, the special material allows such an exchange that **the outgoing air has a saturation of 90%**.



### CHARACTERISTICS OF THE PANELS

The aluminum fabric with anti-corrosion coating is characterized by a high thermal exchange, long life and low maintenance. The high permeability of the panel guarantees **low load losses**. The particular **modular construction** allows adapting the system to any **model of chiller**. **Standardized connections** make the structure applicable both to new installations and to existing installation **retrofit**. Water distribution system is **integrated** into the body of the machine. It uses normal **network water**.

### OPERATION

By default, the system is activated by refrigeration signal present from at least 2 minutes, air temperature higher than 20°C by at least 15 minutes, fan speed exceeding 30% for at least 3 minutes.

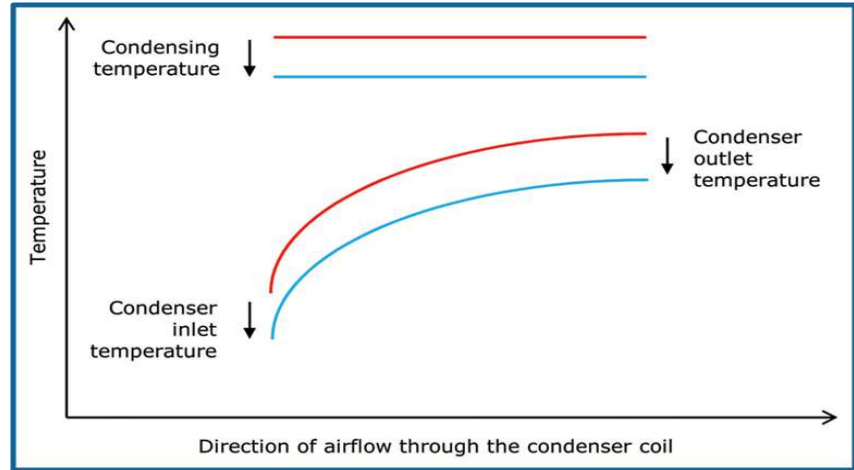
The system is disabled by **periodic drying** for 2 hours on alternate days during the night rain mode for **panel cleaning** and tank water replacement (if present)

# ADIABATIC KIT

## KIT FOR PRE-COOLING BY EVAPORATION

### ADVANTAGES

- It reduce energy consumption
- Lower condensation temperature
- It reduces the work done by compressors
- It reduces fan speed and noise level
- It increases the life of the chiller



Outdoor air temperature	Supply temperature			Supply temperature			Supply temperature			Supply temperature			Supply temperature			Supply temperature			Supply temperature					
	1 m/s	2 m/s	3 m/s	1 m/s	2 m/s	3 m/s	1 m/s	2 m/s	3 m/s	1 m/s	2 m/s	3 m/s	1 m/s	2 m/s	3 m/s	1 m/s	2 m/s	3 m/s	1 m/s	2 m/s	3 m/s			
50 °C	24,2	26,4	27,6	28,7	30,4	31,4	32,7	34,2	35,0															
48 °C	23,2	25,3	26,4	27,4	29,1	30,0	31,2	32,6	33,3															
46 °C	22,2	24,2	25,3	26,1	27,8	28,7	29,6	31,0	31,7															
44 °C	21,3	23,2	24,2	24,9	26,5	27,3	28,1	29,5	30,2	31,2	32,3	32,9												
42 °C	20,3	22,1	23,1	23,6	25,2	26,0	26,7	28,0	28,7	29,6	30,6	31,2												
40 °C	19,2	21,0	21,9	22,4	23,9	24,7	25,3	26,5	27,2	28,0	29,0	29,5	30,5	31,2	31,7									
38 °C	18,2	19,9	20,8	21,2	22,6	23,4	23,9	25,1	25,7	26,4	27,4	27,9	28,7	29,5	29,9									
36 °C	17,2	18,7	19,6	20,0	21,3	22,1	22,5	23,6	24,3	24,9	25,8	26,3	27,1	27,8	28,2	29,1	29,7	30,0						
34 °C	16,1	17,6	18,4	18,7	20,0	20,7	21,1	22,2	22,8	23,4	24,2	24,7	25,4	26,1	26,5	27,4	27,9	28,2	29,2	29,6	29,8			
32 °C	15,0	16,4	17,2	17,5	18,7	19,4	19,8	20,8	21,3	21,8	22,7	23,2	23,8	24,5	24,9	25,6	26,2	26,5	27,4	27,8	28,0			
30 °C	13,8	15,2	15,9	16,2	17,4	18,0	18,4	19,3	19,9	20,3	21,1	21,6	22,2	22,8	23,2	23,9	24,4	24,7	25,6	25,9	26,1			
28 °C	12,7	14,0	14,7	14,9	16,0	16,6	17,0	17,9	18,4	18,8	19,6	20,0	20,6	21,2	21,5	22,2	22,7	22,9	23,8	24,1	24,3			
26 °C	11,5	12,7	13,4	13,6	14,7	15,2	15,5	16,4	16,9	17,3	18,0	18,4	18,9	19,5	19,8	20,5	20,9	21,2	22,0	22,3	22,5			
24 °C		11,4	12,0	12,3	13,3	13,8	14,1	14,9	15,4	15,8	16,4	16,8	17,3	17,9	18,2	18,8	19,2	19,4	20,2	20,5	20,7			
22 °C			10,7	10,9	11,8	12,3	12,6	13,4	13,8	14,2	14,8	15,2	15,7	16,2	16,5	17,1	17,5	17,7	18,4	18,7	18,8			
20 °C					10,9	11,1	11,1	11,9	12,3	12,6	13,2	13,6	14,0	14,5	14,8	15,3	15,7	15,9	16,6	16,9	17,0			
	10%			20%			30%			40%			50%			60%			70%			80%		
	Outdoor air relative humidity																							

### RESULT APPLIED WITH RS/M 330

	INLET AIR T [°C]	CONDENSATION P [bar]	CONDENSATION T [°C]	ELECTRIC P [kW]	COOLING P [kW]	EER
STANDARD	34,3	20,3	50,5	61,5	216	3,5
PRE-COOLING	26,2	17,1	43,8	55,1	305	5,5

(water flow to plnells 2,5 l/min.)



Distribuidor em Portugal:  
www.resitec.pt