

# ADCooler C

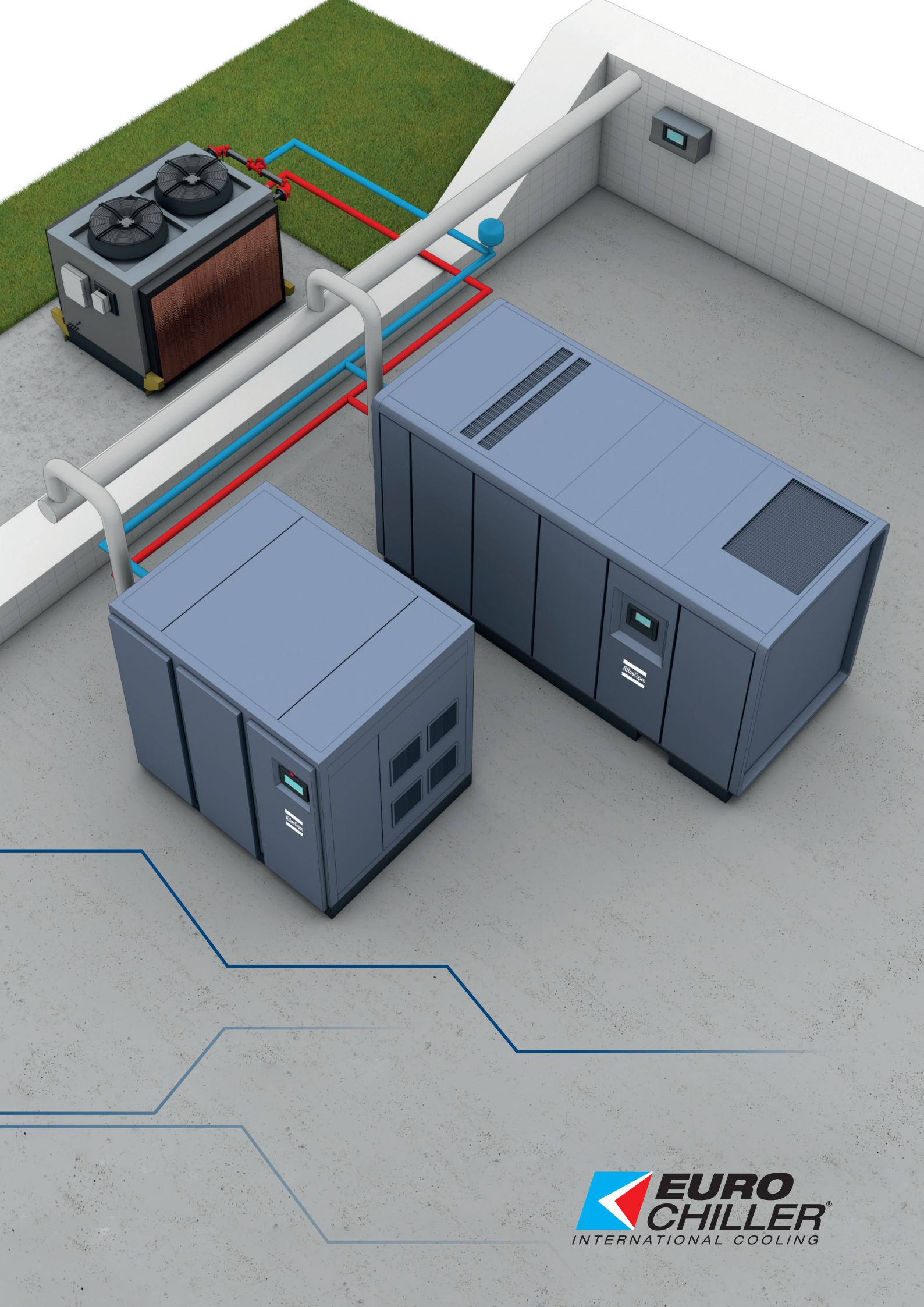
**ADIABATIC COOLERS** for compressor cooling

 88 – 571 kW



 **EURO  
CHILLER**<sup>®</sup>  
INTERNATIONAL COOLING







THE IMPORTANCE OF A  
**PROPER COMPRESSOR  
COOLING**

**1** **SAVE  
INSTALLATION  
COSTS**

**2** **SIGNIFICANT REDUCTION OF WATER  
CONSUMPTION VS COOLING TOWERS**

**3** **PEAK LOAD SAFETY  
(ADIABATIC FUNCTION  
DURING SUMMER PERIOD)**





## ENVIRONMENT AND ENERGY SAVINGS

For some time the manufacturers of cooling equipment are questioning how to contribute to the reduction of energy consumption into their products and to consequently reduce the emission of CO2 into the environment.

Eurochiller fulfils this need with its ADCooler C line, which combines the energy savings provided by a dry-cooler battery with the thermal efficiency provided by an adiabatic system. ADCooler C is suitable to cool down a single or multiple water cooled air compressors, ensuring temperatures close to the wet bulb value.



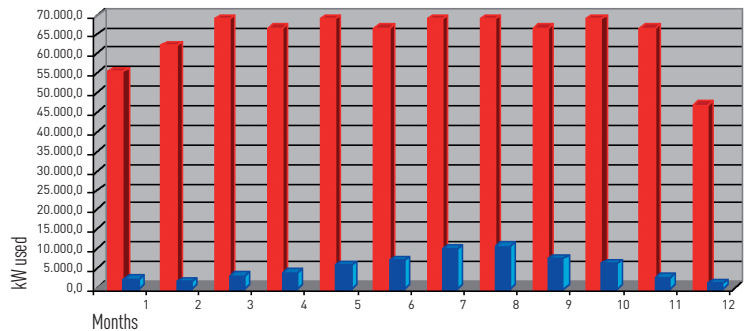
## ENERGY SAVINGS: FOR THE AMBIENT, FOR OUR FUTURE, TO INCREASE PROFITS

Until not long ago industrial cooling processes were carried out with two systems being efficient in terms of performances but quite energy-consuming and not much eco-friendly. We refer to standard chillers using refrigerant compressors and cooling towers. Chillers are machines allowing the regulation of the process temperature without considering the environmental parameters, but with the great disadvantage of absorbing a lot of energy. Cooling towers grant instead a lower power consumption thanks to their design features, thus allowing the direct exchange of water and air by the action of fans. This system is efficient but on the other hand not so interesting from an environmental perspective. The huge volume of limestone, the continuous and compulsory use of chemical additives, the excessive water consumption and finally the treatment which is required to avoid the risk of "legionella": these aspects reduce or zero the initial advantage.

### CHILLER vs ADCooler C DRY COOLER APPLICATION

Cooling capacity to be disposed:  
400.000 kCal/h

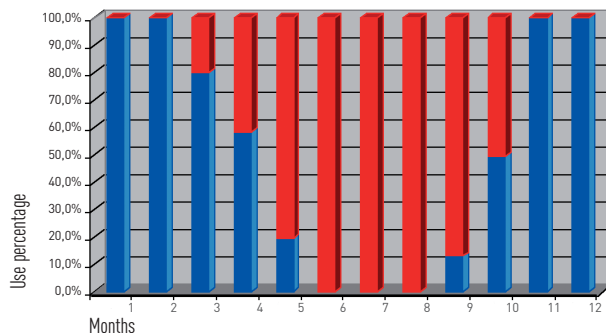
■ CHILLER  
■ ADCooler C



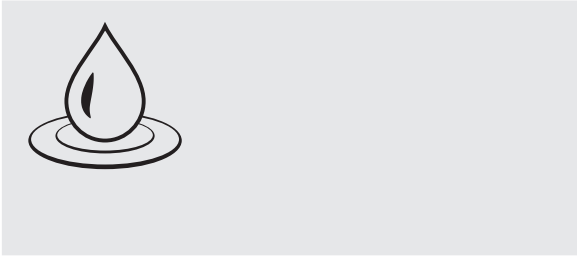
### CHILLER vs ADCooler C FREE COOLER APPLICATION

Process water temperature:  
15°C

■ CHILLER  
■ ADCooler C

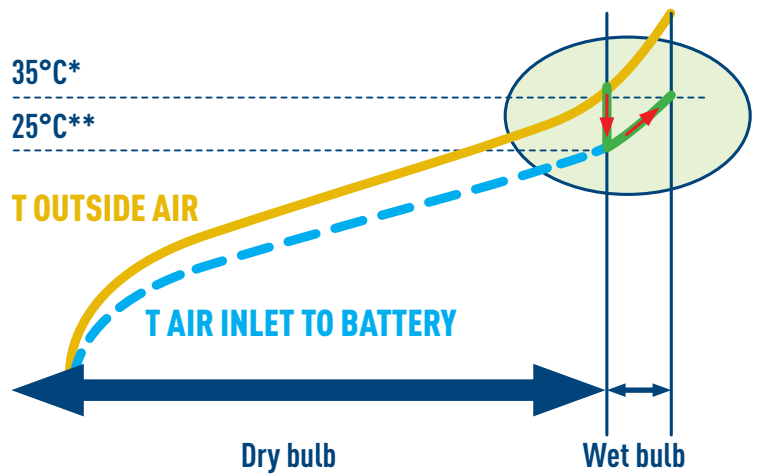


Ambient temperatures referred to Milan area (Italy)



## DRY AND WET BULB

The dry bulb temperature is the temperature of the ambient air, while the wet bulb temperature is obtained by letting the water be in contact with the air: the evaporation of water removes the heat by reducing temperature in a way which is inversely proportional to the air humidity. This is the basis of the ADCooler C operation: the temperature of the process water provided by our unit will always be lower (by several degrees) than the ambient air.



\* Relative humidity 40%  
\*\* Saturation 90%



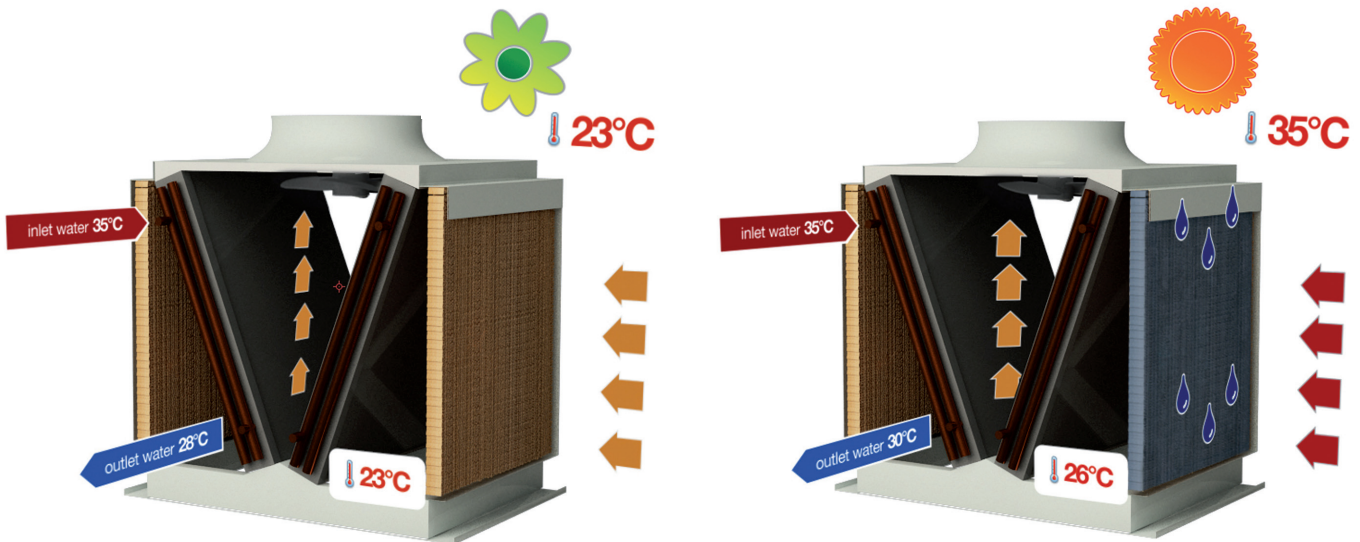




## HOW IT WORKS

ADCooler C is an adiabatic dry-cooler using the ambient air to cool the cooling water circuit of the compressor. If we take advantage of the evaporation of water resulting from the use of the adiabatic pads, we get an inlet air temperature to the exchange batteries which is much lower than the ambient one. This process allows the ADCooler C to cool the water at a temperature which is always lower than the ambient one, with no contamination or consumption of water of the compressor.

The unit is supplied either with single or double pump (run/st-by) on board: these are located inside the machine which is then ready for a plug-and-play installation. ADCooler C can be connected straight to the cooling system connections of the compressor.



## PLUSES

- The best performing alternative to the cooling tower to cool down your air compressor
- No process water consumption
- No water spray in the air stream
- No water stagnation
- High performance even with air temperatures above 40°C
- Circulation pump on board
- Modular concept to increase cooling capacity
- Suitable for outdoor installation without risk of corrosion
- Microprocessor control panel



## HOW IT IS MADE

Unit is manufactured to respond to the most severe European regulations in terms of energy efficiency and health safety. It consists of a modular structure for outdoor installation with removable panels allowing inspection on all sides. The adiabatic system is placed on the two sides of the unit with a wider surface if compared to the heating exchange coils. The circulation pump is installed inside the frame to reduce the external footprint and save client's space.

The unit is controlled by means of an electronic board managing the following operation parameters:

- set of temperature
- fans speed control
- control of the adiabatic system
- serial MODBUS RTU communication (optional)

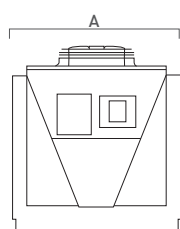
The quantity of water to attain the adiabatic result is managed by a control which is under patent process.



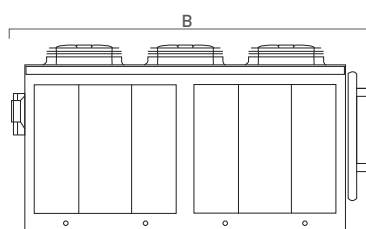
ADCooler C		ADCooler C01	ADCooler C02	ADCooler C03
COOLING CAPACITY*	kW	<b>88</b>	<b>178</b>	<b>298</b>
WATER FLOW, NOMINAL	m3/h	7,8	15,8	26,5
PRESSURE LOSS, NOMINAL	bar	0,3	0,4	0,4
WATER CONTENT	l	40	70	140
HYDRAULIC CONNECTIONS	inch	2"	2"1/2	3"
FANS QUANTITY	#	1	2	3
FANS DIAMETER	mm	910	910	910
TOTAL AIR FLOW	m3/h	22.000	44.000	66.000
NOISE LEVEL **	dB(A)	47	50	52
TOTAL INPUT POWER	kW	2,5	4,5	6,75
VOLTAGE	V/Ph/Hz	400/3/50	400/3/50	400/3/50
WIDTH	mm - A	1.910	1.910	1.910
LENGTH	mm - B	1.770	2.970	4.170
HEIGHT	mm - C	2.145	2.145	2.145
NET WEIGHT	kg	565	810	1.245

\*Water + 25% glycol from 48°C to 38°C, Tdry=35°C RH=40%.

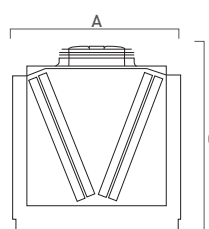
\*\* At 10 mt distance in free field



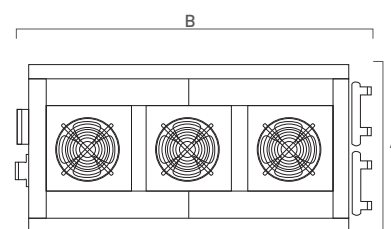
FRONT VIEW



SIDE VIEW




BACK VIEW



TOP VIEW



		ADCooler C04	ADCooler C05	ADCooler C06
COOLING CAPACITY*	kW	<b>392</b>	<b>498</b>	<b>571</b>
WATER FLOW NOMINAL	m3/h	44,3	50,8	88,5
PRESSURE LOSS NOMINAL	bar	0,3	0,4	0,1
WATER CONTENT	l	300	380	460
HYDRAULIC CONNECTIONS	inch	3"	3"	3"
FANS NUMBER	#	4	5	6
FANS DIAMETER	mm	910	910	910
TOTAL AIR FLOW	m3/h	88.000	110.000	132.000
NOISE LEVEL **	dB(A)	53	54	55
TOTAL INPUT POWER	kW	9	11,25	13,5
VOLTAGE	V/Ph/Hz	400/3/50	400/3/50	400/3/50
WIDTH	mm - A	1.910	1.910	1.910
LENGTH	mm - B	5.370	6.520	7.770
HEIGHT	mm - C	2.145	2.145	2.145
NET WEIGHT	kg	1.570	1.710	2.510

\*Water + 25% glycol from 48°C to 38°C, Tdry=35°C RH=40%.

\*\* At 10 mt distance in free field

INCLUDED	OPTIONS AVAILABLE
Manual filling kit	EC fans
Expansion tank	VSD for fans
Phase cut fans speed control	Modbus RTU RS485 connection
Remote panel	Energy counter, MID certified
Manual by-pass	Descaling filter for adiabatic panels
Remote ON-OFF	Aluminium air filters



**ADCooler C**

EUROCHILLER S.r.l. - Via Milano, 69 - 27030 Castello d'Agogna - PV - Italy  
Tel. +39 0384.298985 - Fax +39 0384.298984 - Service +39 0384.298981  
enquiry@eurochiller.com - www.eurochiller.com

