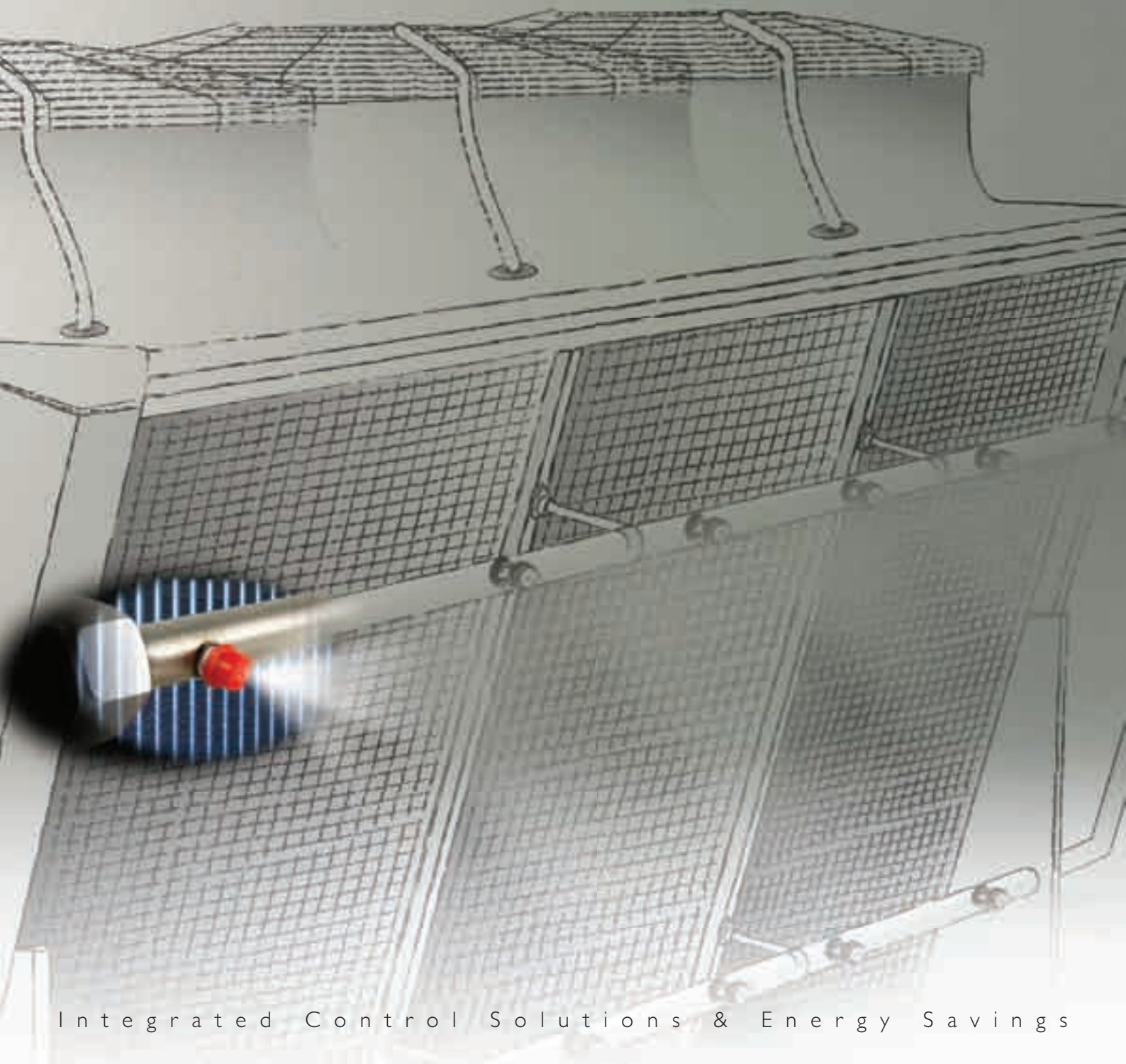


Booster for air-conditioning
& refrigeration applications

CAREL

ChillBooster 



Integrated Control Solutions & Energy Savings



ChillBooster is an adiabatic air cooling system for use on chillers and drycoolers and for all air-conditioning and refrigeration applications.

ChillBooster atomises water into very fine droplets that evaporate spontaneously, cooling the air. The coil is thus cooled by a flow of colder air and droplets of water, allowing more favourable operating conditions; even in summer, the cooling air has spring temperatures!

In addition, the droplets that evaporate from the surface of the fins actively contribute to the cooling process, increasing the booster effect.

This allows liquid coolers and condensers to deliver their rated capacity even during the hotter periods of the year, which often coincide with operation at maximum load. All without costly system oversizing.



Easy to install

The water distribution system, thanks to the nozzle manifolds available in various lengths, quick couplings and connection hoses, makes ChillBooster easy to install without requiring special tools or welding.



Hygiene

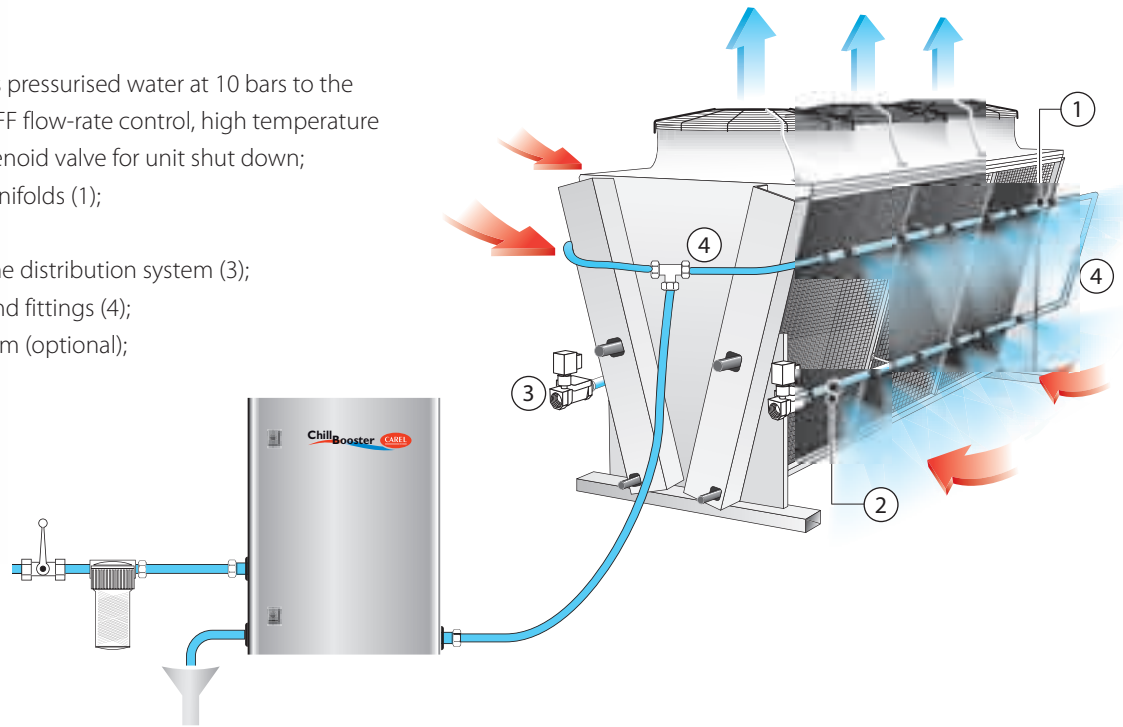
ChillBooster has been designed with special care paid to hygiene:

- avoids water stagnation;
- UV sanitising lamp
- can be used with demineralised water.

System

ChillBooster is made up of:

- pumping unit that delivers pressurised water at 10 bars to the distribution system, ON/OFF flow-rate control, high temperature protection valve, drain solenoid valve for unit shut down;
- modular stainless steel manifolds (1);
- spray nozzles (2);
- drain solenoid valves on the distribution system (3);
- metal connection hoses and fittings (4);
- UV water sanitisation system (optional);



Supply water and maintenance

ChillBooster can operate on untreated drinking water (with brass pump) and demineralised water (with stainless steel pump, recommended by CAREL).

Following the evaporation process, the minerals dissolved in the supply water will partly be carried by the flow of air in the form of fine dust and will thus accumulate on the surface of the heat exchanger fins.

The nature and quantity of minerals contained in the supply water affect the frequency of the routine maintenance operations required due to the formation of dirt and, in extreme cases, corrosion of the materials.

These problems can be minimised by using demineralised water from reverse osmosis, as specified by the relevant standards, UNI 8884, VDI6022, VDI3803.

To limit accumulation of dirt on the surface of the coils when untreated water is used, it is recommended to operate ChillBooster no more than 200 hours a year.

CAREL can supply, upon request, the WTS water treatment systems, complete with pre-treatment, reverse osmosis demineraliser, storage tank and system for pumping the water to the appliances.

Performance

The effect of ChillBooster is significant:

- **adiabatic air cooling:** the droplets of water are evaporated by absorbing heat from the air that, as a consequence, is cooled by several degrees.
- **evaporation from the coil fins:** the portion of droplets that evaporates from the fins causes the coils to work at a temperature of around 2-3 °C above the dew point of the air.



Ideal for retrofit

The IP55 pumping unit and the easy to install modular system make ChillBooster ideal for retrofits of chillers, drycoolers and liquid coolers.



Very low energy consumption

ChillBooster has extremely reduced electricity consumption: a system for drycoolers with an air flow-rate of 200,000 m³/h atomises 1000 l/h, for a power consumption of under 0.7 kW!

Components



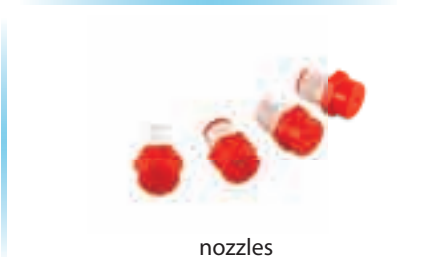
solenoid valve at end of line



quick fitting



hose



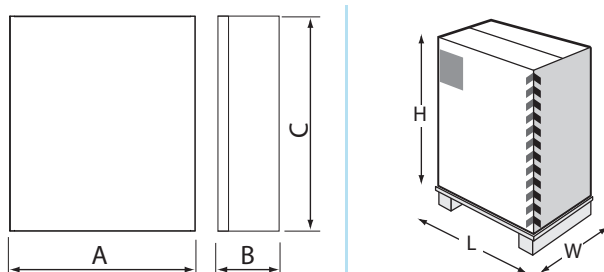
nozzles

Technical specifications

Model	AC100D****	AC050D****
Flow-rate (l/h)	500	1000
Inlet pressure min.-max. (Bar/Mpa/ Psi)	3-8 / 0.3-0.8 / 40-115	
Temperature (C°/F°)	5-40 / 40-104	
Inlet connection	G1/2" female	
Outlet connection	G1/2" female	
Drain connection	G1/2" female	
Temp. valve drain connection *	Hose OD 10, ID 5	
Electrical specifications	230 V, 50/60 Hz (depending on the model)	
Certification	CE	
Index of protection	IP55	

* the solenoid valve drain hose must run out through the hole on the L side.

Dimensions in mm (in.) & weight in kg (lbs)



Model	AxBxC	weight	LxWxH	weight
AC*****0**	600x300x800 (23.62x11.82x31.50)	49 (108)	720x410x1020 (28.5x16x40)	52 (115)
AC*****01*	600x300x800 (23.62x11.82x31.50)	53 (115)	720x410x1020 (28.5x16x40)	56 (125)
AC*****K**	550x210x750 (21.65x8.30x29.53)	27 (60)	860x660x360 (34x26x14)	32 (70)
AC*****K1*	550x210x750 (21.65x8.30x29.53)	32 (70)	860x660x360 (34x26x14)	37 (82)

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