Success story

Service continuity for a mission-critical application

Evaporative cooling with CAREL

Delhaize is a retailer whose main business is the management of food supermarkets. In recent years, due to repeated heat waves, many of the chain's stores suffered equipment shutdowns that caused quite a few problems.
The solution they chose to this problem is an evaporative cooling system that allows the existing equipment to meet the design requirements even in the hotter conditions.

DELHAIZE GROUP

Where
105 Delhaize stores across Belgium
www.delhaize.be

What
120 chillBooster units and distribution systems.

Why

Prevent equipment downtime due to summer heat waves by using evaporative cooling.

Delhaize Le Lion / De Leeuw is a Belgian food retailer based in Zellik (Asse) near Brussels in Belgium, and since 2015 part of Ahold Delhaize.
Ahold Delhaize operates in seven countries on three continents, the Group's core business is food retail.

The problem and the solution

During the summer of 2019, due to a series of heat waves, many of the Delhaize chain's stores were unable to get their refrigeration units to work properly.
In addition to an overall decline in the performance of cold rooms and refrigerated showcases, the higher temperatures caused several units to shut down, with a consequent loss of the goods on display and, in some cases, forcing the stores to close for a few days.
As a result of these problems and the corresponding economic damage, Delhaize started to look for a solution to prevent these situations from being repeated the following summers.
At an exhibition in France, Delhaize learned about the CAREL chillBooster system for evaporative cooling, and decided to install it on its gas coolers at over 100 sites throughout Belgium.
chillBooster exploits evaporative cooling to increase the heat exchange capacity of dry coolers and condensers, extending the working life of existing systems and saving on new installations. Its significant flexibility means it can adapt to the different layouts and needs of each site: indeed, each of the 120 chillBooster systems has been sized and designed specifically to adapt to the site where it is installed.

Fig. 1.a - Delhaize has more than 800 stores throughout Belgium

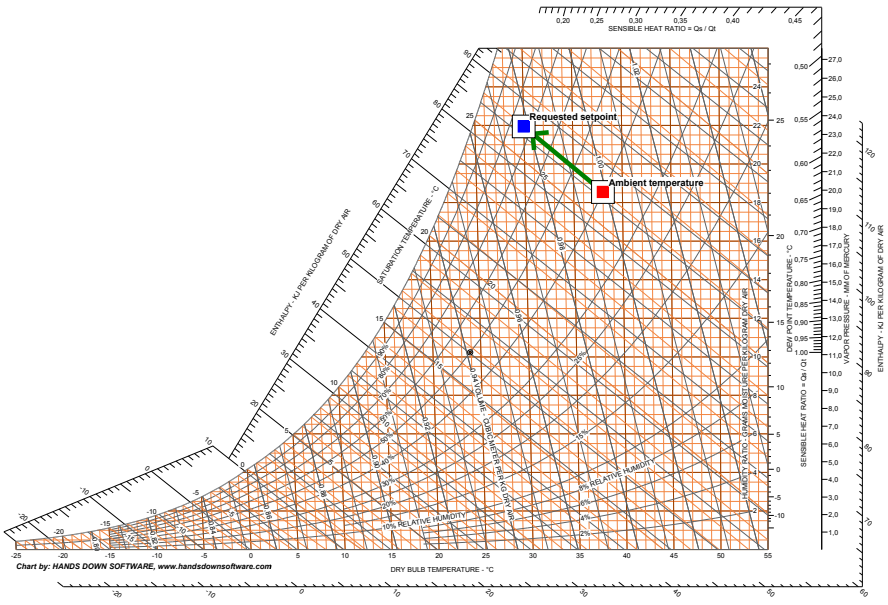


Fig. 1.b - chillBooster applies evaporative cooling to the air

The CAREL proposal

Based on Delhaize's requirements, each system was sized by CAREL to meet the specific needs of the site where it was to be installed. Each supermarket was asked to fill in a template summarising the specifications required for correct sizing of a chillBooster system:

- Gas cooler size and shape;
- Peak temperature, i.e. the maximum temperature expected during the summer;
- Maximum temperature allowed by the gas cooler for correct operation;
- Type of water available: either tap water or demineralised water;
- Whether or not an antibacterial system was required, i.e. a UV lamp that disinfects the water before it is atomised.

Delhaize also asked for a system that was able to increase the amount of atomised water delivered if needed in the future.
With all of this information, CAREL exploited its decades of experience to size the system that best meets the requirements, providing each site with a system layout diagram and bill of materials. Moreover, to support installers during the installation work, CAREL organised a training day at one of the sites, with all of the installers invited to attend.

CAREL FRANCE

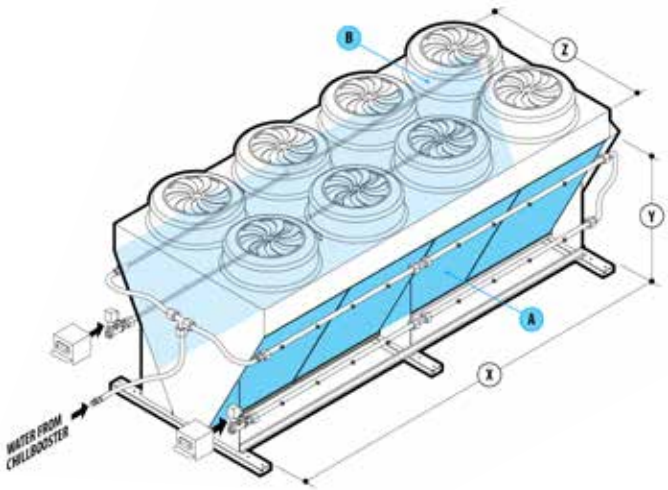
PROJET CHILLBOOSTER

CLIENT DEMANDEUR:			
Adresse:			
Code postal:			
Ville:			
SITE:			
Adresse:			
Code postal:			
Ville:			
TYPE DE MATERIEL A EQUIPER:			
Marque:			
Modele:			
Débit total air:		m3/h	
Dimensions	Lg x ht	mm	
Nbre de face:	1		
	2		Joindre schéma
	modèle W		
CONDITIONS DE FONCTIONNEMENT:			
Air extérieur:	°C	% Hr	
Consigne	°C		
Type d'eau:	Réseau	Adoucie	Déminéralisée
PRECISION SUR LE BESOIN:			
	Retrofit	Neuf	
	Pics de T°	> à 1 000 h/an	
OPTIONS:			
	Lampe UV		
	Montage sur site		
	Mise en service		
INFOS:			

Fig. 1.c - Template sent to each store to gather the required data

Fig. 1.d - Detail of a chillBooster system installed on a fluid cooler

The significant flexibility of chillBooster means it can adapt to the different layouts and needs of each site: indeed, each of the 120 chillBooster systems has been sized and designed specifically to adapt to the site where it is installed.



Conclusions

Despite most of the design work being done in early 2020, coinciding with the first lockdowns in Europe due to the Covid-19 epidemic, the customer's requests were fully met. All thanks to excellent cooperation between CAREL, Delhaize and the seven different companies that managed the installation of the various systems.
The installed chillBooster systems ensure service continuity even during the hottest times in summer, all with very low operating and maintenance costs. All of this makes chillBooster the perfect solution for these types of projects.

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Fig. 1.e - Detail of a chillBooster system installed on a fluid cooler

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