integral supermarket system Blue Cool Concept

Roland Handschuh | Cool Expert GmbH | 13.09.2019

Wellcome to Cool Expert

Cool Expert is a creative, owner-managed company that is passionately committed to refrigeration technology. In our think tank, we develop technologies that optimise themselves in technical and economic terms. The most important goal for us is to ensure the quality of the refrigerated goods while at the same time saving energy costs.

Our aim is to be better than others, above all to understand our customers' requirements. We convince with safe, well thought-out system technology that lasts for decades. Unique is our digital service management that reduces the operating costs of your refrigeration systems to a minimum.

We take the overall responsibility:

Calculation
Project planning
Production
Delivery
Construction
Commissioning and handover

The special thing:
Our assistance in service and cooperation with the craftmen

blue cool concept with natural refrigerants

The complete solution for supermarkets

blue cool concept essentially consists of the CHANGE IT® compact chiller, a water-cooled cooling module in a class of its own. It can be operated as an individual unit or as a hydraulic network consisting of several cooling modules.

Replacement CHANGE IT compact chiller in 30 minutes
https://youtu.be/v8QgbvF_7sA

get video

Cold brine is used as the heat transfer medium in the secondary refrigeration circuit. CHANGE IT® is operated with the energy-efficient, natural refrigerant propane R290. The filling quantity is 1.45 kg for each module. If servicing is required, the CHANGE IT® compact chiller can be replaced within 30 minutes; revision is carried out exclusively at the Cool Expert factory in Allendorf (Eder).

blue cool concept is a unique ALL-in-ONE system whose outstanding features cover the entire application range of commercial refrigeration thanks to its modular design. This includes plus cooling and deep-freezing with simultaneous heat recovery, including heating in heat pump mode, through to air conditioning.

blue cool concept

„ALL in ONE" solution

DEFRO POWER PACK® AIR

DEFRO POWER PACK® AIR from Cool Expert is the defrosting process of the future, a milestone in the history of refrigeration technology and, at the same time, of epoch-making importance with regard to the conservation of our energy resources. Simple and ingenious.

DEFRO POWER PACK® AIR saves the operator of commercial refrigeration systems 98% and more in energy costs in the future.

DEFRO POWER PACK® AIR corresponds to our spirit of the times in every respect, is environmentally neutral and can be ideally applied in the supermarket refrigeration sector, in the deep-freeze as well as in the positive-cooling sector.
When defrosting is required in a refrigerated display shelf, it is separated from the cold glycol circuit and the glycol remaining in the cooler is heated via a connected warm glycol circuit until the heat exchanger in the unit has defrosted. The required heat is absorbed via a ceiling cassette, which can be used economically for the purpose of fruit and vegetable cooling.

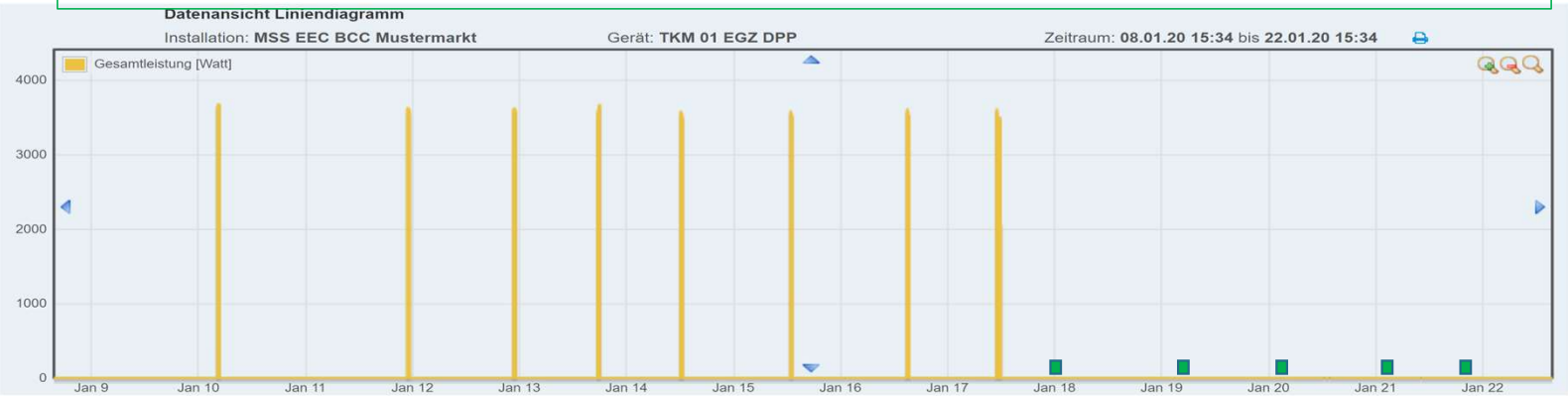
98 % energy saving

Foto: R. Handschuh

DEFRO POWER PACK© AIR

Efficiency

- 98% energy saving
- 100 % absorbed heat is used for defrosting
- Defrosting without power peaks



DEFRO POWER PACK® AIR

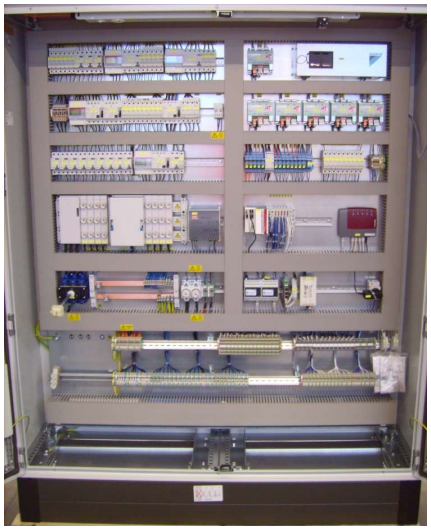
- Our patented key technology is a milestone in supermarket refrigeration.
  It is an indispensable technology for the operator of commercial refrigeration systems in supermarkets.
- 98% savings on energy costs during defrosting.
  For each defrosting operation 70 W pump power instead of 3,500 W power for electrical defrost
- Save 11.58 t CO2 eq. with only one freezer (with 2 defrosts daily) within 10 years
- Amortisation under 6 months
- Defrosting without power peaks (lower connection costs)

Market control Scope of services

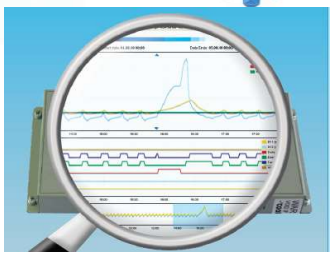
Control system for **cooling, airconditioning** and **heating**

- HACCP (Hazard Analysis and Critical Control Points) logging
- Market control
- Heating, (air conditioning) and ventilation
- Monitoring
- Fault management

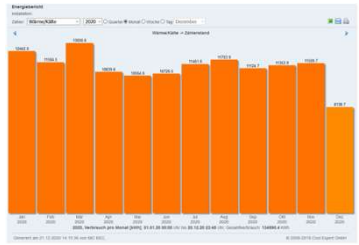
Cool Expert Refrigeration controller



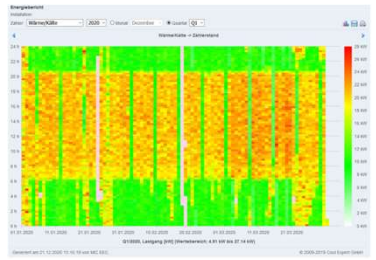
Cool Expert control cabinet



Cool Expert Temperature profile defrost temperature



Cool Expert Energy consumption evaluation



Cool Expert Load profile

Reference „blue cool concept“ with „CHANGE IT®“

approx. 850 m² retail space

Integral system for **cooling, airconditioning** and **heating**

Foto: R.Handschuh

Equipment:

- 15 m refrigerated shelves (with glass doors)
- 5 m Service counter
- 1 plus cold room
- 10 ceiling units heating / air conditioning and 1 door air curtain

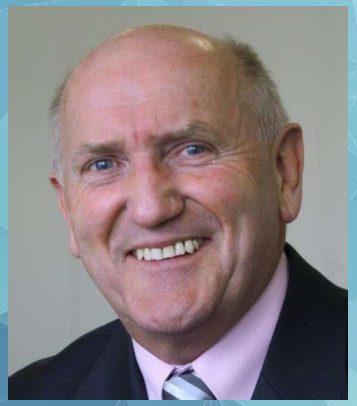
Fresh air with heat recovery

Technical data:

- Commercial refrigeration: 20 kW ($t_{glycol,evap}$ = -8 °C; $t_{glycol,cond}$ = +30 °C)
- Airconditioning: 55 kW ($t_{glycol,evap}$ = 7 °C; $t_{glykol,cond}$ = +30 °C)
- Heat pump: 70 kW ($t_{glycol,evap}$ = 7 °C; $t_{glycol,cond}$ = +30 °C)
- Heat recovery: max. 26 kW ($t_{glycol,evap}$ = -8 °C; $t_{glycol,cond}$ = +30 °C)

Fotos: G.Pfeiffer

Cool Expert GmbH



Dipl.-Ing.
Roland Handschuh
Marketing Consultant

+49 (0) 6452 9290 0
info@cool-expert.de
www.cool-expert.de

Foto: J. Distelberg

Cool Expert GmbH
Besenacker 14
D-35108 Allendorf (Eder)