

Chillventa Specialist Forums 2024

Chillventa Fachforen 2024

**CONNECTING
EXPERTS.**



**BEST - the Rivacold packaged unit for cold rooms,
tackles the food cold chain challenges with the best
CAREL solutions**

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CAREL

Filippo Pizzo
Application Manager

RIVACOLD
MASTERING COLD

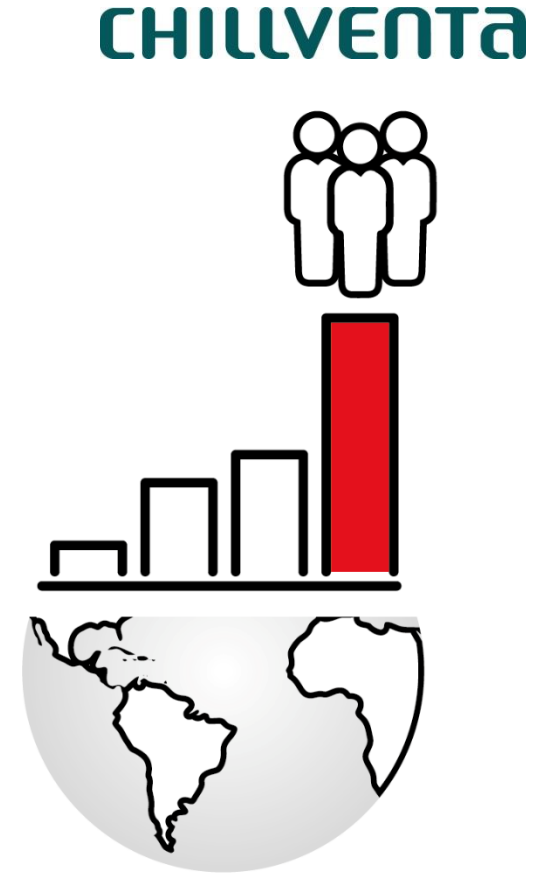
Francesco Ugolini
Product Manager



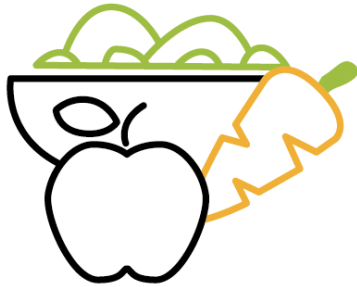
Food Cold Chain – Background and challenges

The forecast growth of population of up to 9.7 billion people and the related ***increasing demand for food of over 60% by 2050*** represent significant challenges for many sectors.

The need of optimizing the resources and minimizing the environmental impact leads to identify sustainable solutions all along the supply chain.



The challenges are represented by



Food waste reduction



Long term sustainability



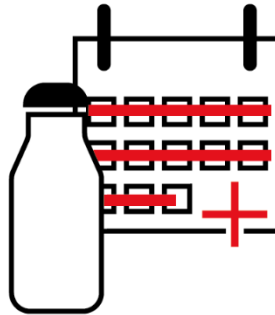
Reduce environmental impact

Guarantee the optimal storage conditions of the produce, from the very early stages of the process (such as harvesting, slaughtering, fishing, ...) up the market distribution, to reduce the food loss.

Benefits



Premium food quality



Extended shelf life



Food safety

Optimal storage conditions guaranteed through:

- a ***continuous and precise control of temperature, humidity and air quality*** through advanced specialized algorithms



CAREL offers a wide range of **parametric and programmable controllers**, provided with proprietary **programming tools** for a complete customization of the control logics.

Optimal storage conditions guaranteed through:

- a **continuous monitoring** of the storage conditions, using *local monitoring systems, like the ones of the Boss family*, and cloud like **RED Control**, for the governance of several installations.



All these solutions are provided with **advanced alarm notifications** for a prompt intervention in case of anomalies.

Sustainable solutions must be identified to support the increasing cooling demand:



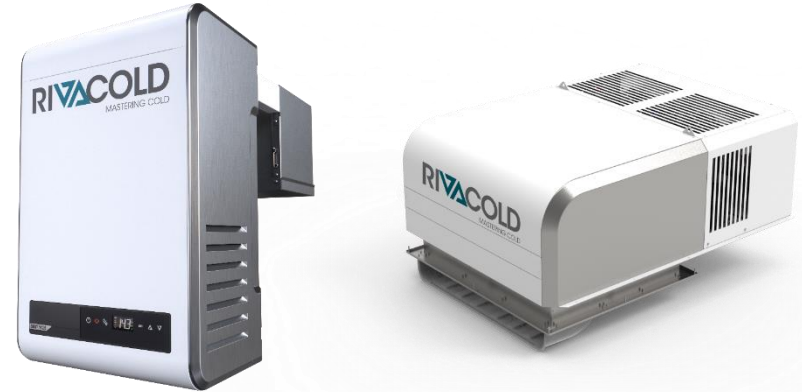
- Introduction of **high efficiency solutions** to reduce the power consumption thus to optimize the available resources
- Adoption of low GWP refrigerant, like **natural refrigerants** (R290, R717, R744)

Reducing the complexity of the solution, both in terms of setup, maintainability and optimization, is a key to ease the adoption in areas even where limited technical skills are available



CAREL technology is provided with an **advanced connectivity** with tools and **Apps** for an easier setup and fine tuning of the units.

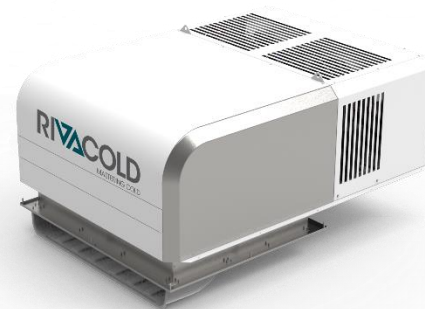
BEST *R-290 packaged system for cold rooms*



BEST – Overview - R-290 packaged system for cold rooms

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- **Indoor installation.** Permitted ambient temperature: +5 °C to +43° C
- **Natural refrigerant.** R-290, refrigerant charge $\leq 150\text{g}$
- **Wall and ceiling** mounted models
- **Low, Medium and High Temperature:** -25 °C to +15 °C

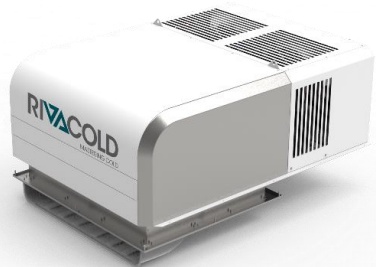


BEST – Cooling capacity

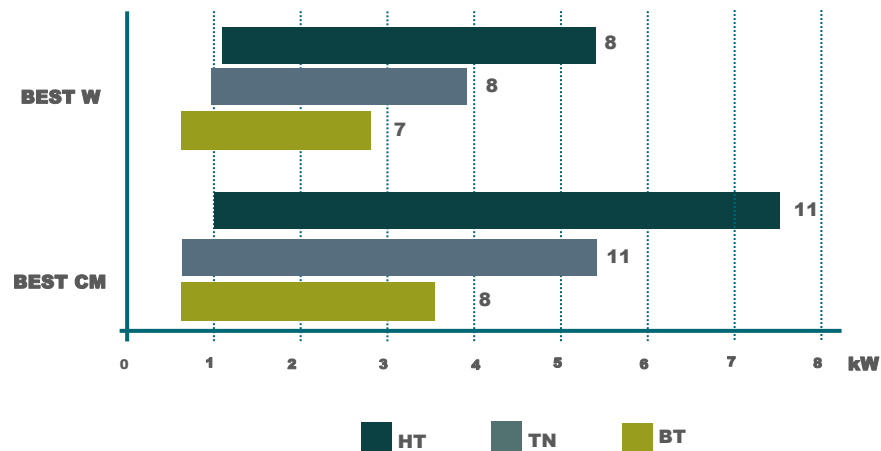
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8 HT/MT Models _ 0.9 kW to 5.5 kW
7 LT Models _ 0.7 kW to 2.6 kW



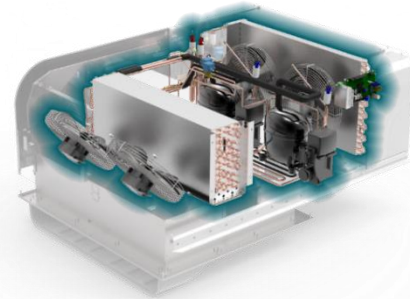
11 HT/MT Models _ 0.7 kW to 7,6 kW
8 LT Models _ 0.7 kW to 3,4 kW



BEST - Principal technical features

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- A **new circuitry** revised and designed to **maximizing the COP**
- **High-efficiency** compressors
- **Electronic fan** motors
- **Thermostatic expansion valve** and pressure probes
- The new **RIV-OLUTION** electronics



- A **new electronic board** developed by Carel with Rivacold
- **Dedicated hardware** specifications for monoblocks and machines using flammable refrigerant
- Programmable control – **Rivacold Software**
- **Universal** and **configurable I/O**
- **Open** communication protocols



Software developed internally by Rivacold:

Flexibility

Versatility

Scalability

Example of SW personalization for the BEST range

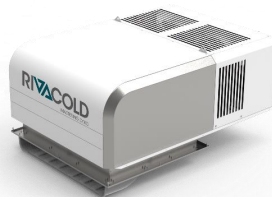
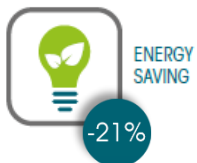
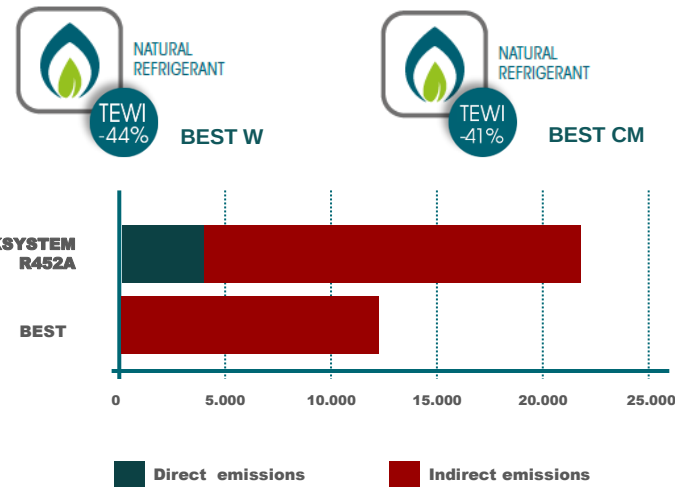
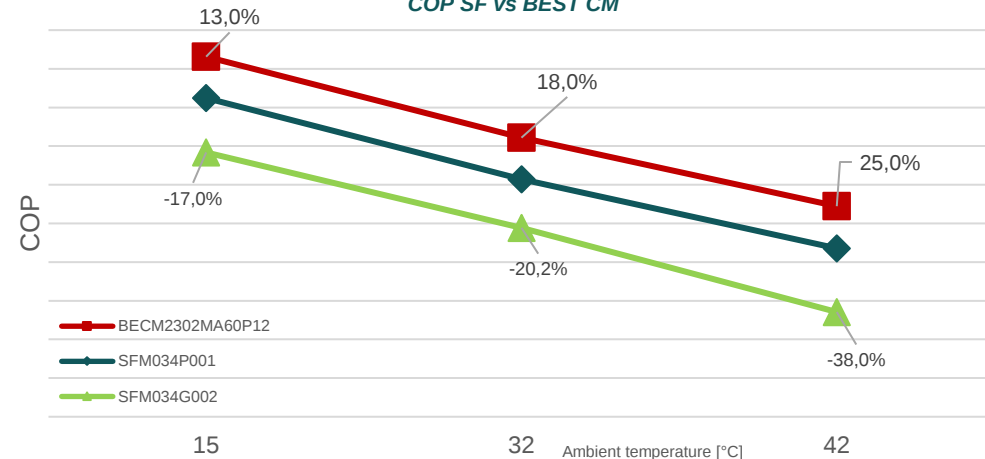
- Compressor management
- Smart Defrost, Leak alarm
- Humidity control / Neutral zone
- Electronic expansion valve management
- Condensation adjustment



BEST – Energy Saving

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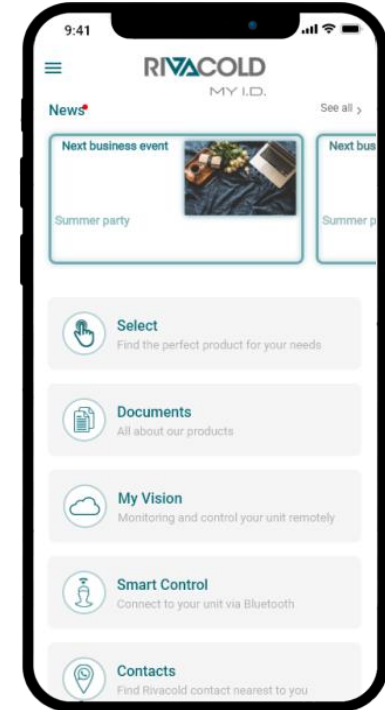
COP SF vs BEST CM



BEST – Advanced Connectivity

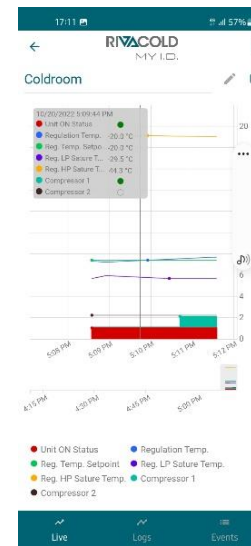
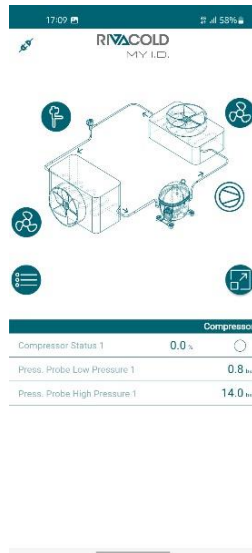
- **Rivacold MY I.D.** _ Single Application to control Rivacold units and manage all Rivacold services
 - **Smart Control** _ Bluetooth connection
 - **My. Vision** _ Remote control IoT

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BEST – Advanced Connectivity

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Thank you

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Visit us at
Hall 5 Booth 304-306



Visit us at
Hall 6 Booth 6-321

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