

SIMPLIFYING ENERGY EFFICIENCY WITH THE PX G1300[®]

Installations across multiple sites demonstrated the PX G1300 pressure exchanger reduced energy consumption of existing systems while enhancing cooling capacity and system stability.



PX G1300 BENEFITS



Lower energy consumption with up to **30% peak COP lift***



Safeguard against heatwaves with up to **6°C (11°F) increased design temperature***



Minimize or **eliminate water usage** from adiabatic gas coolers



Reduce carbon footprint

OVERVIEW

In the summer of 2024, Energy Recovery conducted a rigorous measurement and validation (M&V) program to assess the performance gains achieved by incorporating the PX G1300 into diverse system designs and load sizes.

> 30 PROJECTS

> 25,000 HOURS RUNTIME

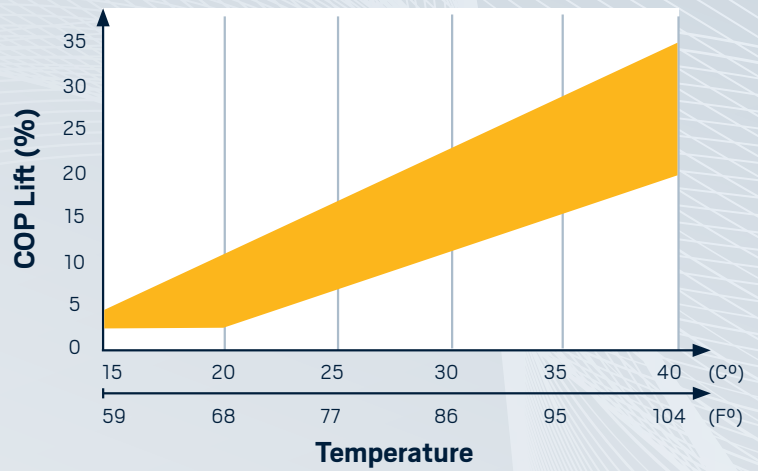


ENERGY SAVINGS

The PX G1300 pressure exchanger is a versatile solution to simplify energy efficiency for CO₂ refrigeration. It can be seamlessly incorporated into new systems or retrofitted onto existing racks with the compact, pre-designed PX Energy Optimizer module.

The PX G1300 can deliver as much as **30% peak COP lift** with projected **annual energy savings of up to 15% or more***.

PX G1300 COP Lift vs. Temperature



“ The biggest advantage of the PX G1300 installation is that we can save on our energy bill. Since our cooling is our biggest energy consumer, this setup allows us to save up to 15% annually.

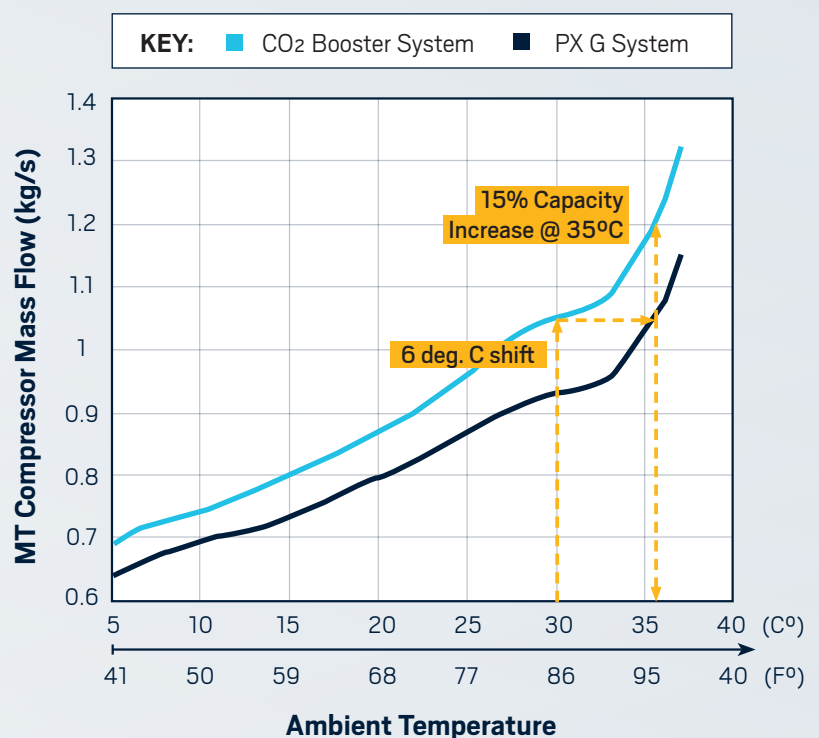
Tom De Witte
Managing Director at Delhaize in Waregem, Belgium

INCREASED CAPACITY

The PX G1300 reduces flash gas in CO₂ systems, improving energy efficiency and increasing system capacity. In normal system conditions, it saves energy, decreases dependence on water spray systems, and provides operational flexibility. Under high-temperature stress, the PX G1300's reduction in flash gas offers extra capacity and high temperature rack stability to protect against high-pressure discharge failure and associated downtime.

In a 150 kW system, incorporating the PX G1300 can increase system capacity by up to 15% at 35°C* (95°F), as measured by a reduction in flash gas through the MT Compressor, or result in a 6°C (11°F) rise in design temperature to safeguard against heat waves.

MT Compressor Mass Flow Reduction



PX G1300



PRODUCT OVERVIEW

The PX G1300® is a revolutionary application of pressure exchange technology for CO₂ refrigeration. Invented for desalination over 30 years ago, Energy Recovery’s PX® Pressure Exchanger® is the globally trusted, gold-standard energy recovery device for the seawater reverse osmosis industry.

The PX G1300 pressure exchanger harvests existing high pressure from CO₂ systems and recycles it, providing free compression to reduce compressor workload and energy consumption.

CURRENT & FUTURE APPLICATIONS

- Commercial refrigeration
- Industrial refrigeration
- Heat pump*
- Data center cooling*

“ We have installed over a dozen PX G1300 units across the Benelux region and have been impressed by its ability to drive energy savings across our customer base.

Stefaan Bostyn, CEO, Fieuw Koeltechniek

CUSTOMIZED MODULE AVAILABLE NOW — PX G1300® ENERGY OPTIMIZER

Efficiently incorporate the PX G1300 with the pre-designed Energy Optimizer module.

DESIGN FEATURES

- Add to new or existing systems
- Install with as few as four mechanical connections
- Compact footprint
- Compatible with commercial refrigeration controllers

INTEGRATION BENEFITS

- Increase energy efficiency and cooling capacity
- Protect against high-pressure discharge failure and system downtime
- Minimize or eliminate water usage from adiabatic gas coolers
- Reduce carbon footprint

* Future applications

Disclaimer: Actual results may vary based on multiple factors including system architecture, cost of electricity, ambient temperature, square footage and size of facility, variable loading of the system, time of day, and geographic location. Findings based on customer testimonials and Energy Recovery’s laboratory and field results. Energy Recovery accepts no responsibility for possible errors in catalogues, brochures and other product material, and reliance on data is at your own risk. All trademarks in this material are the property of the respective companies.



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