



开利二氧化碳冷库项目案例

芬兰耶尔文佩冷库

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PowerCO₂OL工程案例-芬兰耶尔文佩冷库

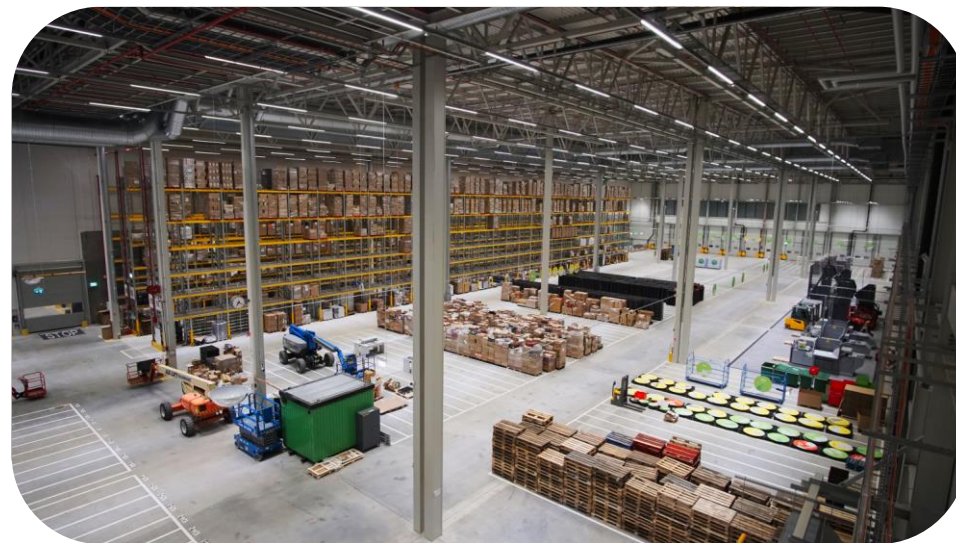


CASE STUDY- Järvepää DC FINLAND



- ❖ 冷藏区 (+2°C) 24 000 m²
Cold area (+2°C) 24 000 m²
 - ❖ 2 400 kW (蒸发温度 -10°C)
- ❖ 冷冻区 (-26°C) 5 000 m²
Frozen area (-26°C) 5 000 m²
 - ❖ 740 kW (蒸发温度 -34°C)
- ❖ 速冻区(-42°C) 200 m²
Blast freezer (-42°C) 200 m²
 - ❖ 280 kW (蒸发温度 -48°C)

- ❖ 62 000 m² 总面积
62 000 m² total area
- ❖ 仓储总容量 1 000 000 m³
Total volume above 1 000 000 m³
- ❖ 温控区域 29 000 m²
Temperature controlled area 29 000 m²
- ❖ 22m库内高度
22m indoor height



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- ❖ 1000m³ 洒水器水箱，在冬季用作供暖的热量缓冲，在夏季作预冷使用
1000m³ Sprinkler water tank used as an energy buffer for heating in winter and sub-cooling in summer time
- ❖ 供暖管网的设计充分利用了CO₂特性
Heating network is designed to work together with properties of CO₂
- ❖ 10°C以下，CO₂系统比NH₃系统有更好的能效值（EER）；基于全年的分析，前者过冷度和热回收增加的效率更高
CO₂ system has better EER below 10°C compared to NH₃ system due to sub cooling and heat recovery on an annual basis
- ❖ 由于所处位置，氨的使用受到限制
Location caused restrictions for the use of ammonia

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- ❖ 估算的二氧化碳排放量表明该设施可减少二氧化碳排放带来的影响
Estimation of CO₂ emissions shows that the property has a negative CO₂ emission impact
- ❖ 设施使用无二氧化碳排放量的水力电和风力电
Property uses emission free electricity produced by the wind and water
- ❖ 相比于类似的物流中心，能耗成本削减达到**20%**
Energy cost is reduced by up to 20% compared to similar logistic centers
- ❖ 随着高峰使用量需求负荷的削减，计算总减少量接近**70%**
With demand load shaving at peak usage the calculated total reduction is near 70%

"For our energy efficient warehouse in Järvenpää, CO₂ system was chosen due to its benefits on overall energy efficiency and its environmental friendly qualities to support our goals"

"在耶尔文佩，为了得到一个高能效的冷库，CO₂系统被选中，之所以如此是由于它有利于整体能源效率与环境友好的品质，这些都切合我们的目标。"

Kalle Hintikka, Project leader of Logistic center LIDL Järvenpää
Järvenpää LIDL 物流中心主管



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