



Epta

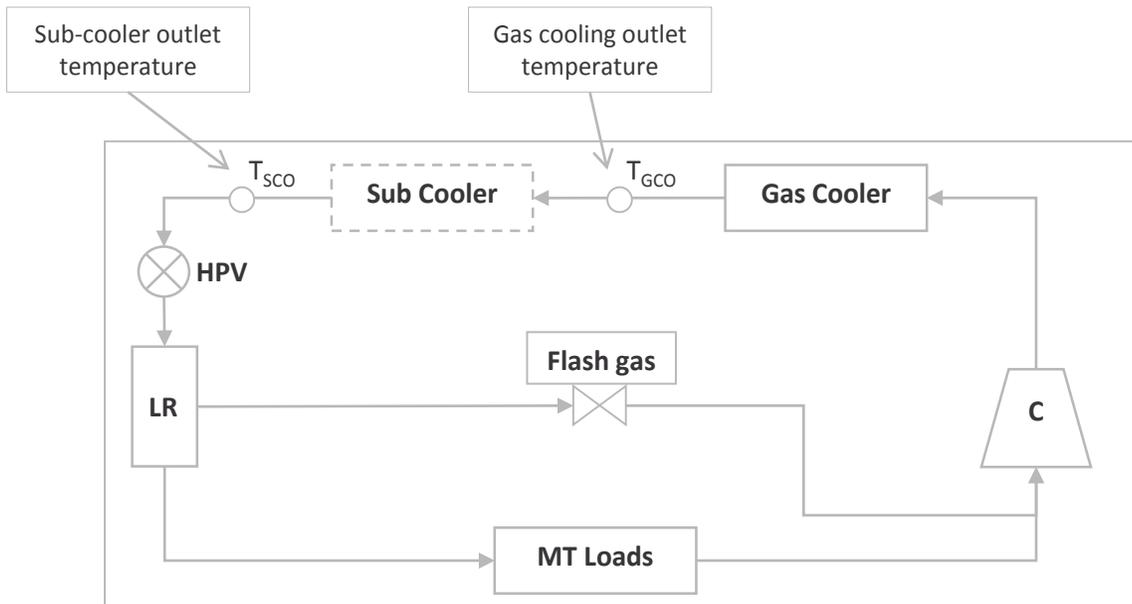
Advanced Solutions for your Store

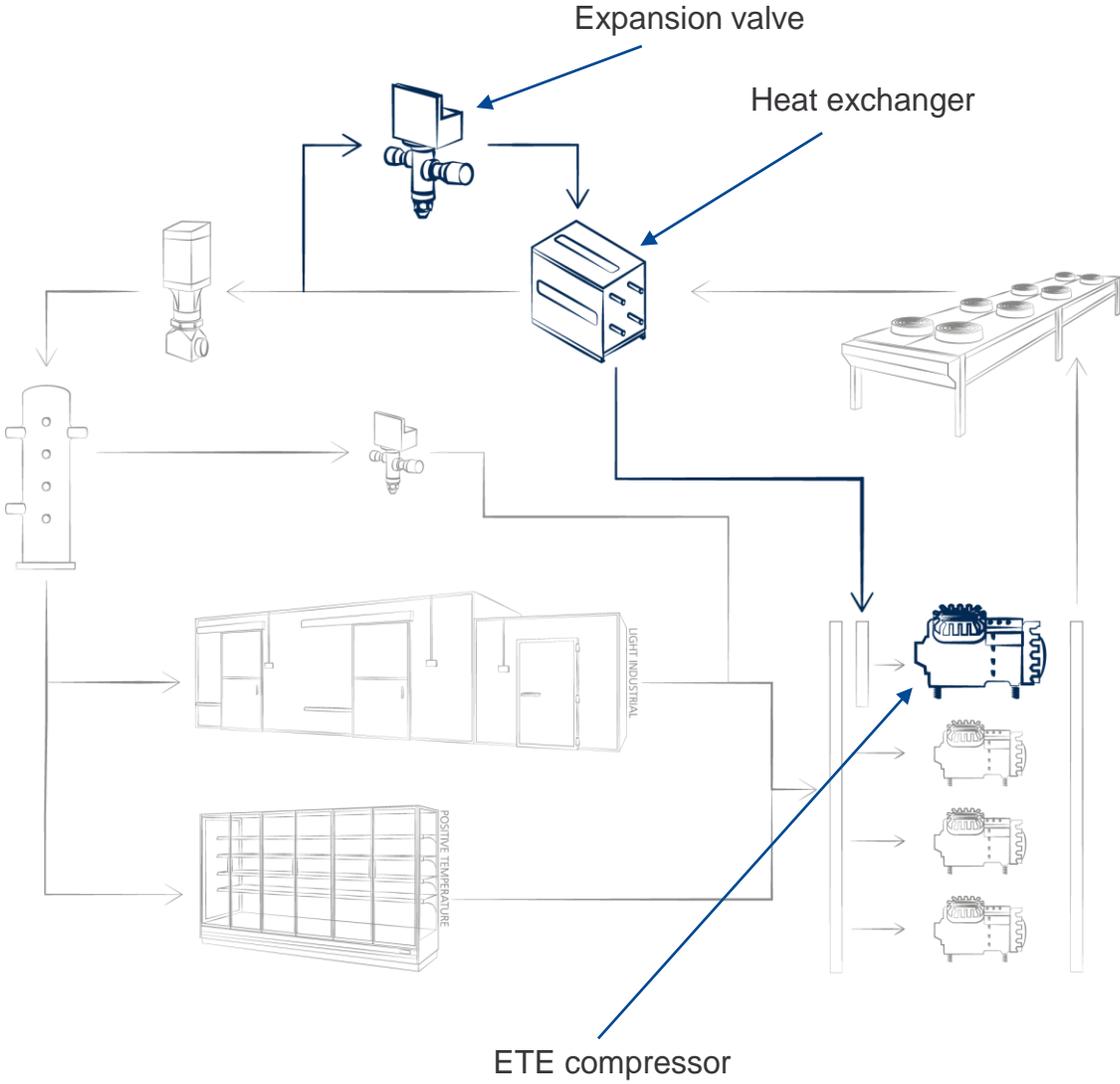
Sales Aid Arguments ETE

ETE - Extreme Temperature Efficiency



ETE has the same effect as external subcooling units: the gas cooling outlet temperature is cooled down to lower temperatures than ambient temperature. This makes sure that the cooling capacity is not decreasing at hot ambient conditions.





The subcooling is done by using a part of the high pressure massflow (~20%) to cool down the gascooling outlet temperature.

The massflow for subcooling is running through an expansion valve where it's expanded and cooled down.

The temperature of the gascooling outlet is reduced through a heat exchanger.

A dedicated ETE-compressor is bringing the refrigerant to high pressure again.

No limit to ambient temperature

- Extend the use of the TSC systems in environments with temperatures from + 40 ° C to + 50 ° C

100% natural and not flammable refrigerant

- Only CO₂ is used. No HFC or flammable refrigerant required.

No water used

- No need to use water cooling based system (ex. Spray, adiabatic, evaporative, etc...)

Light industrial

- Solution for only MT, only LT or booster system. Solution fit also for light industrial refrigeration applications.

No oil return issues

- Oil management system remains standard without compromising the reliability of the system

ETE comes pre-installed inside the pack

- No installation on site needed

Also as retrofit possible

- a verification of the hardware installed is mandatory – in some cases a retrofit is economical not reasonable

Increasing the total energy efficiency of transcritical systems

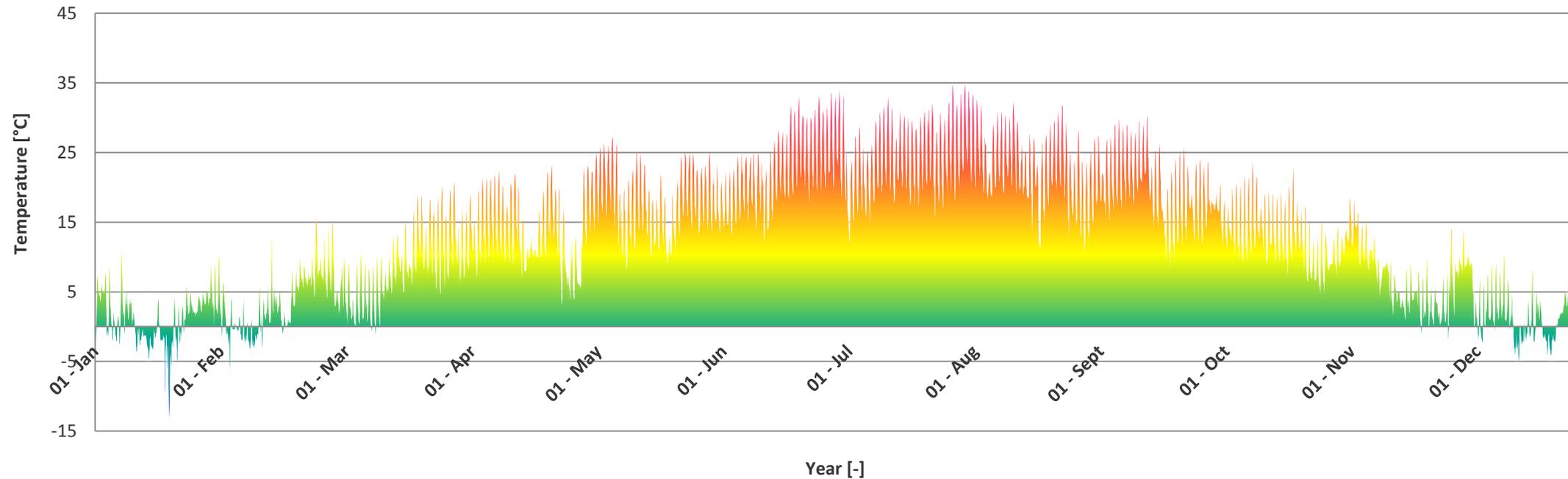
- In hot ambient, ETE is more efficient compared to parallel compression

ETE – CASE STUDY

BOLOGNA - ITALY PROJEKT LIFE C4R

- Vending area: 6.500m²
- MT power loads: 150 kW
- SubCO₂ power: 47 kW

External Temperature Profile



ETE – CASE STUDY

BOLOGNA - ITALY PROJEKT LIFE C4R

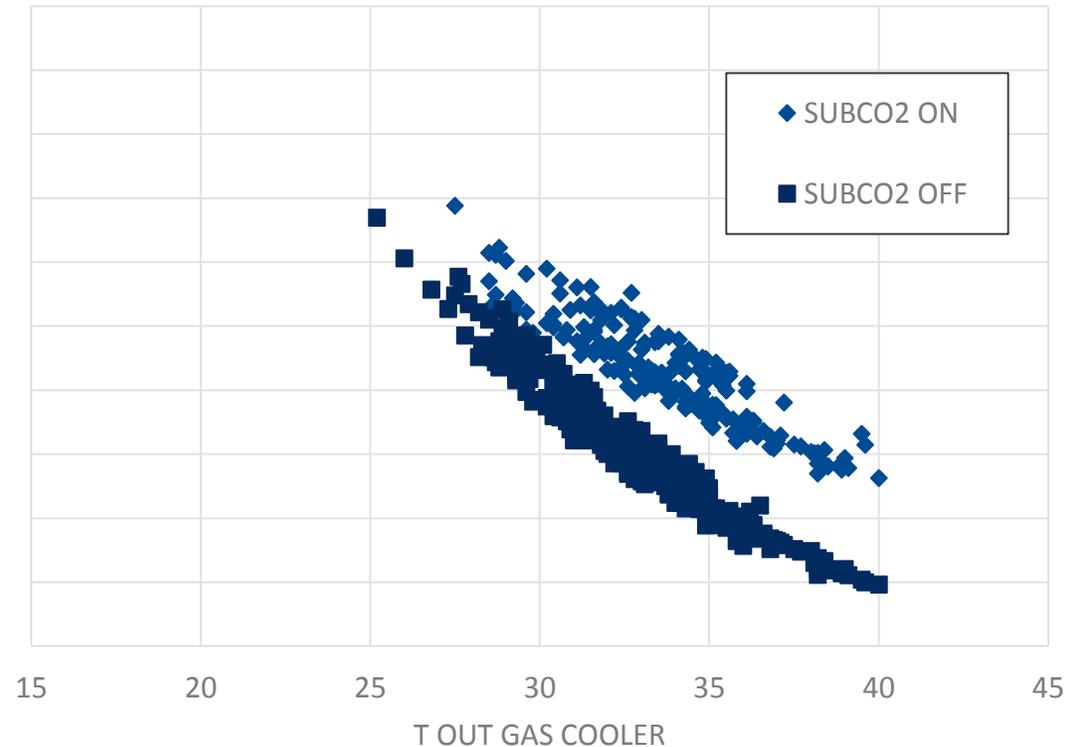
- Vending area: 6.500m²
- MT power loads: 150 kW
- SubCO₂ power: 47 kW
- Max Ext Temp: +41,5°C

HIGHLIGHTS DURING THE WARM PERIOD

Saving flash gas mass flow [%]	-73%
Saving Pack energy [%]	-14%
Saving Power MT compr. [%]	-30%

[EFFICIENCY]

COOLING MT POWER / MT COMPR. POWER

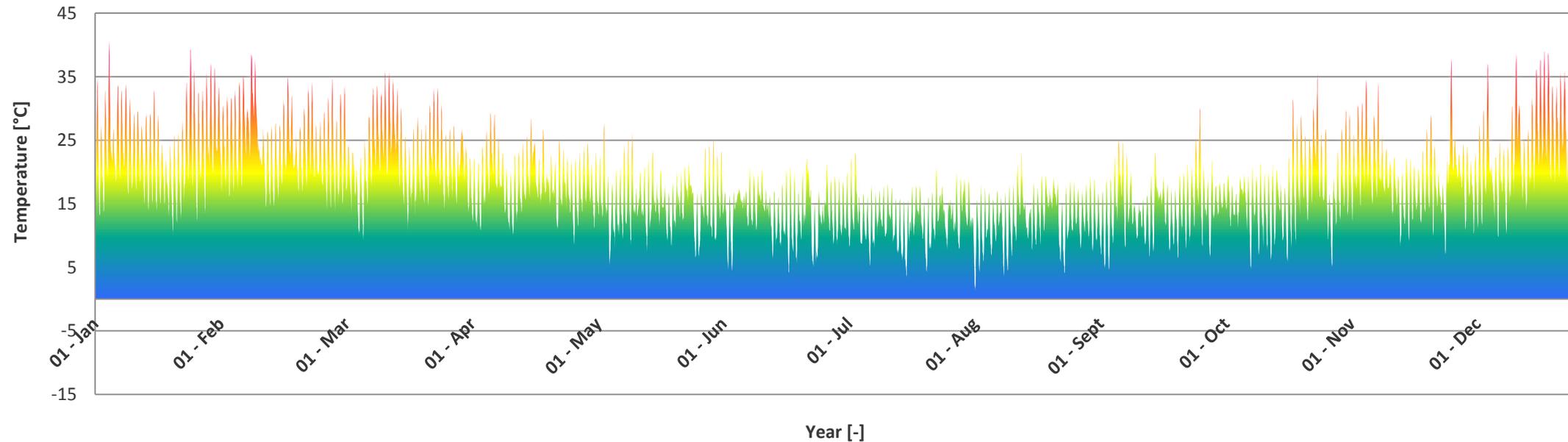


ETE – CASE STUDY

ELLENBROOK – AUSTRALIA

- Vending area: 1.500m²
- MT power loads: 90 kW
- LT power loads: 5 kW
- Sub-cooling power: 34 kW

External Temperature Profile



ETE – CASE STUDY

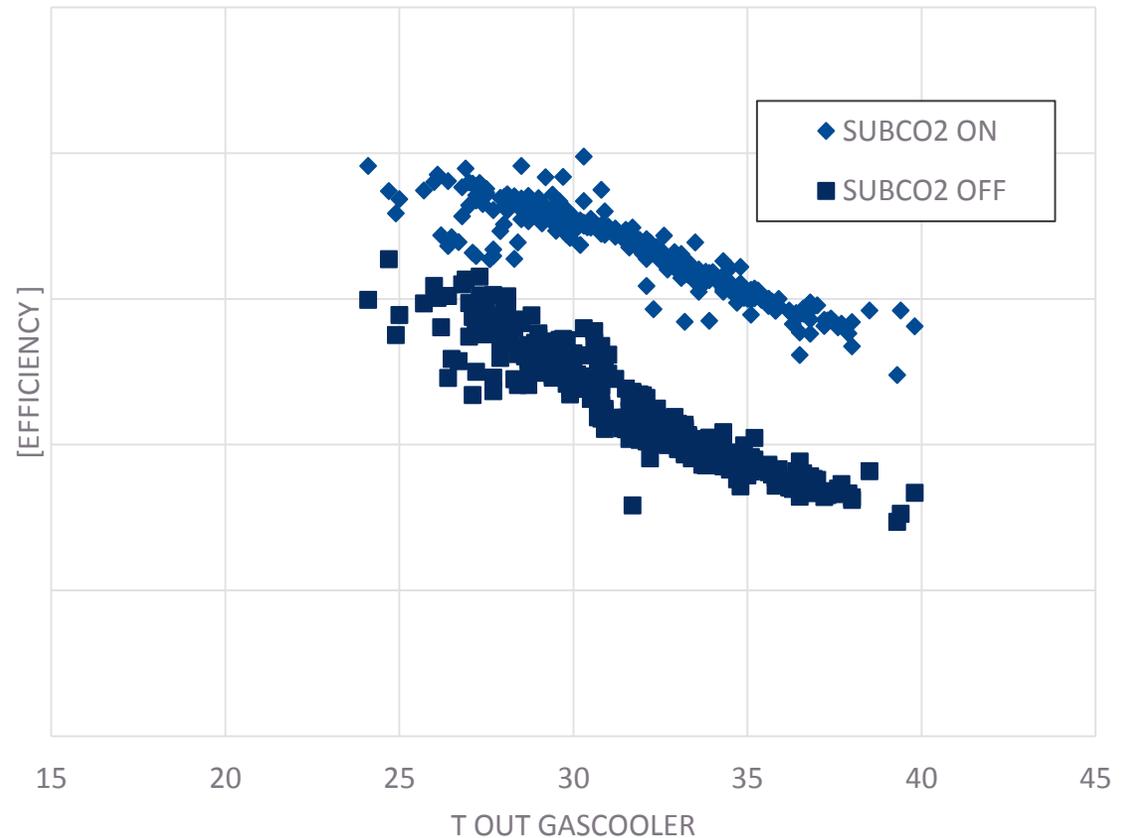
ELLENBROOK – AUSTRALIA

- Vending area: 1.500m²
- MT power loads: 90 kW
- LT power loads: 5 kW
- Max Ext Temp: +47,5°C

HIGHLIGHTS DURING THE WARM PERIOD

Saving flash gas mass flow [%]	-81%
Saving Pack energy [%]	-18%
Saving Power MT compr. [%]	-35%

COOLING MT POWER / MT COMPR. POWER





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