

Sustainable and Energy Efficient CO₂ Climate Solutions

Andrea Silva / ADVANSOR / 11.10.23



Advansor



- Head office in Denmark with 15,000 m² production
- Customers in more than 30 countries
- More than 300 employees of 30 different nationalities
- Over 14,000 systems manufactured
- Part of the Dover Corporation
- Constantly striving to meet our mission of designing and producing the world's best sustainable CO₂ climate solutions



Types of refrigerants and their effects

	HCFC	HFC	HFC/HFO BLENDS	HFO	NATURAL
Climate effects	<p>✗ ODP 0.05</p>	<p>✓ ODP 0.0</p>	<p>✓ ODP 0.0</p>	<p>✓ ODP 0.0</p>	<p>✓ ODP 0.0</p>
Environmental & health effects	<p>✗ GWP 1500</p>	<p>✗ GWP 600-2000</p>	<p>✗ GWP 1500</p>	<p>✓ GWP <10</p>	<p>✓ GWP <1</p>
	<p>✗ PFAS</p>	<p>✗ PFAS</p>	<p>✗ PFAS</p>	<p>✗ PFAS</p>	<p>✓ PFAS free</p>
Examples of refrigerants	<p>R22 R123 R142b</p>	<p>R404A R407A R410A R407C R134A R32</p>	<p>R448A R452B R513A R454B</p>	<p>HFO-1234yf HFO-1234ze</p>	<p>R744 R600a R290 R1270 R717 R718 R729</p>

The natural choice



The most climate & environmentally friendly refrigerant:

- It doesn't contribute to global warming
- It doesn't affect the ozone layer
- It's non-toxic
- It's non-flammable
- It doesn't harm our drinking water
- It's very energy efficient

That's why we are 'cool with CO₂'.

**WE'RE
COOL WITH
CO₂**

Margarine factories, Egypt

Facts

- Crystallisation of grease for factory in Egypt
- Danish OEM and contractor Gerstenberg
- 1335m² production area

Requirements

- Desire to switch from HFC/Ammonia to CO₂ because they could see the advantage of producing more products with the same footprint
- Finding supplier fitting their total system solution
- Need for high capacity
- Semi-flooded system
- Keep complexity down
- System designed for high ambient temperatures



Margarine factories, Egypt



Solution

- 12 SteelX/SteelXL delivered over 5 years to different facilities in different warm climate countries
- Heat transfer in CO₂ is much higher, can produce up to 50% due to the heat transfer in this specific application
- Training and start-up on-site
- Ultra-Low Superheat modules to be able to operate semi-flooded system





Andrea Silva

Area Sales Manager

asi@advansor.com