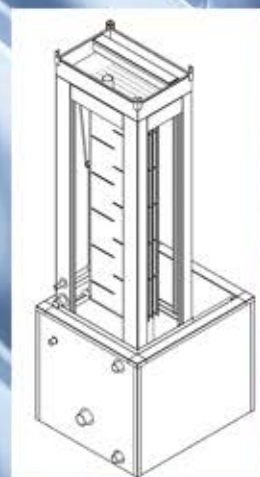


OMEGA FALLING FILM CHILLER WITH CO₂ (R744)

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Over the last few decades, synthetic refrigerants such as CFCs and HCFCs are being phased out by regulation. Increasing concern and regulatory actions related to the environmental impact of hydro fluorocarbon (HFC) refrigerants has prompted a re-emergence of carbon dioxide (CO₂) based refrigeration systems and other low GWP solutions around the world. CO₂ based refrigeration is of interest due to low global warming potential, low price, potential for energy reduction, non-toxicity and a positive safety rating. Another benefit is no need for expensive future retrofits due to refrigerant phase out.

Most commonly used feed methods for CO₂ are:

- Pumped liquid
- Direct expansion

While gravity flooded feed is very effective with ammonia, it is not commonly used with CO₂ due to the higher density of CO₂ liquid compared to ammonia.

For a project designated for cooling vegetables Omega produced a stainless steel Falling Film Chiller to cool main supply water from 15 °C to 0,5 °C with refrigerant CO₂ based on direct expansion. The chiller is capable of working with a maximum allowable working pressure of 52 bar. During the process the vegetables are cleaned with this water, which is then filtered and led back to the pump tank. After the cleaning the vegetables will be stored and transported on a conveyer belt in the cold water for further processing.

LEADING IN HEAT TRANSFER TECHNOLOGY

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