

Frequently asked questions

THE KAPP CO₂ CHILLER

Question 1: What is special about THE KAPP CO₂ CHILLER?

Answer 1: KAPP Engineers are specialists in heat exchanger designs. THE KAPP CO₂ CHILLER has two special features. 1) Minimum pressure drop on the CO₂ side (about 50% lower than alternative designs) leading to a significant lower pay back time 2) Avoiding the need for a cold energy source by choosing the option to cool the CO₂ with feed NH₃ to the urea plant.

Question 2: What is the minimum acceptable CO₂ temperature?

Answer 2: In case one is not convinced that a lower CO₂ temperature at the inlet of the CO₂ compressor is acceptable for the CO₂ compressor, we suggest to choose as a minimum CO₂ temperature the actual CO₂ temperature during winter conditions or check the design inlet temperature or start a discussion with the CO₂ compressor vendor.

Question 3: What is the maximum acceptable NH₃ temperature?

Answer 3: In case one is not convinced that a higher NH₃ temperature at the inlet of the HP NH₃ pump is acceptable for the HP NH₃ pump, we suggest to choose as a maximum NH₃ temperature the actual NH₃ temperature during summer conditions or check the design inlet temperature or discuss with the HP NH₃ pump vendor.

Question 4: Can we also cool the CO₂ with chilled water?

Answer 4: Yes, THE KAPP CO₂ CHILLER can also be designed for chilled water also.

Question 5: How to reduce the risk of NH₃ contamination of CO₂?

Answer 5: Similar references do exist in the urea industry; successful in operation since 15+ years. THE KAPP CO₂ CHILLER reduces this risk by: 1) Proper tube vibration analysis during design, 2) Making use of a high-quality fabricator, 3) Applying optionally an accurate and reliable NH₃ detector in CO₂ stream in the CO₂ outlet of the chiller.

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