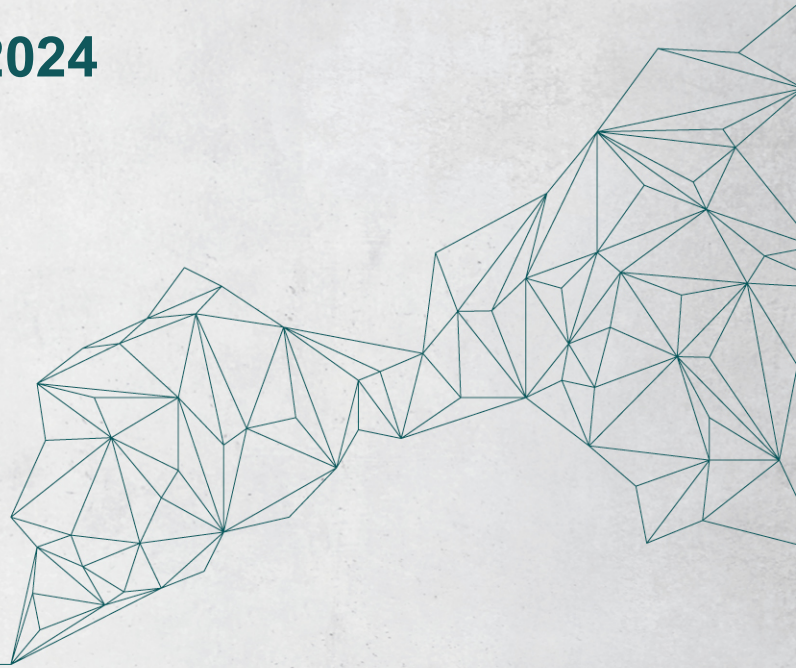
Hall 7A

CHILLVENTA

Chillventa Specialist Forums 2024
Chillventa Fachforen 2024

CONNECTING EXPERTS.



Trends in Industry: GREEN and Cost Effective

Changes within the HVAC/R industry are accelerating:

- Ammonia, Propane and CO2 are the only long term refrigerants (PFAS)
- cost pressure
- heating/cooling the two sides of the energy equation

⇒ holistic approach is changing industry, integration of heatpumps
⇒ border line between commercial and industrial refrigeration is getting blurred
⇒ features of Commercial Refrigeration are integrated into Industrial Compressors like
  - control components: solenoid valves, differential pressure switches, sensors
  - filters (suction, oil)

⇒ compactness and versatile installations
⇒ low on-site cost
⇒ energy efficiency

All natural refrigerants are somehow potentially dangerous

- flammability
- toxicity
- pressure

legal system is supporting the change:

⇒ critical gas charges

⇒ plant room requirements

Properties of Ammonia

- Non-ozone depleting-, no direct GWP-potential => long term natural refrigerant
- refrigeration efficiency at least as good as R22
- low price
- high enthalpy difference => control of small systems can be difficult
- flammable, toxic => special safety precautions, dedicated plant rooms
- oil miscibility => oil separation and oil return systems
- copper/ammonia incompatibility => steel piping, open-drive motors vs. special motors

Ammonia

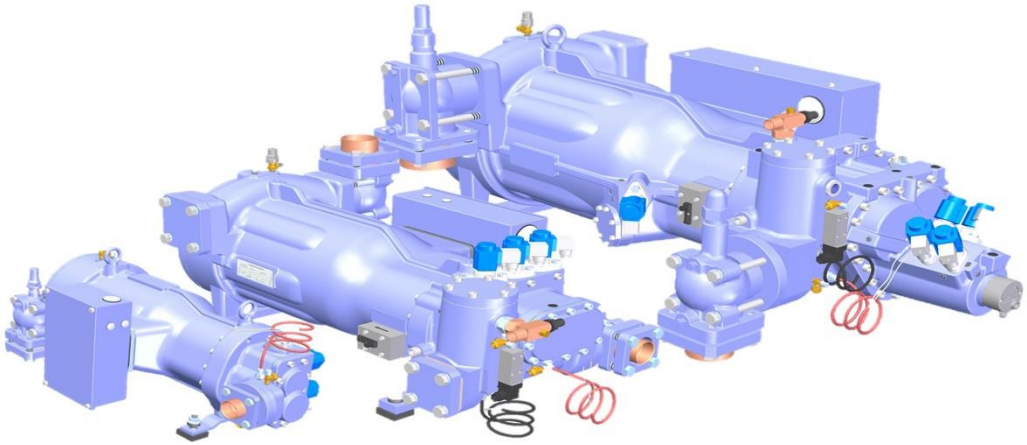
- is applied fast in many applications
- is applied in smaller capacity applications
- **skills in the industry are not developing and spreading with the same speed**

SRM was aware of this issue, developed semi-hermetic compressors SRS/SRS-C

- no shaft seal
  - => technically permanent leak-proof
  - => no alignment of drive shaft, coupling and compressor shaft
  - => no maintenance = less service cost
- permanent magnet motor with aluminium windings
  - => no copper/ammonia incompatibility
  - => compact size
  - => highly efficient
  - => wide speed range 1500 to 3600 (4200) rpm
- wide model range from displacements of 43 to 709 m3/h on single stage
- matching oil separators making frames obsolete for SRS Packs
- wide range of double-stage compressors for low-temperature applications
- SRS-C with integrated oil separator for Chiller Applications

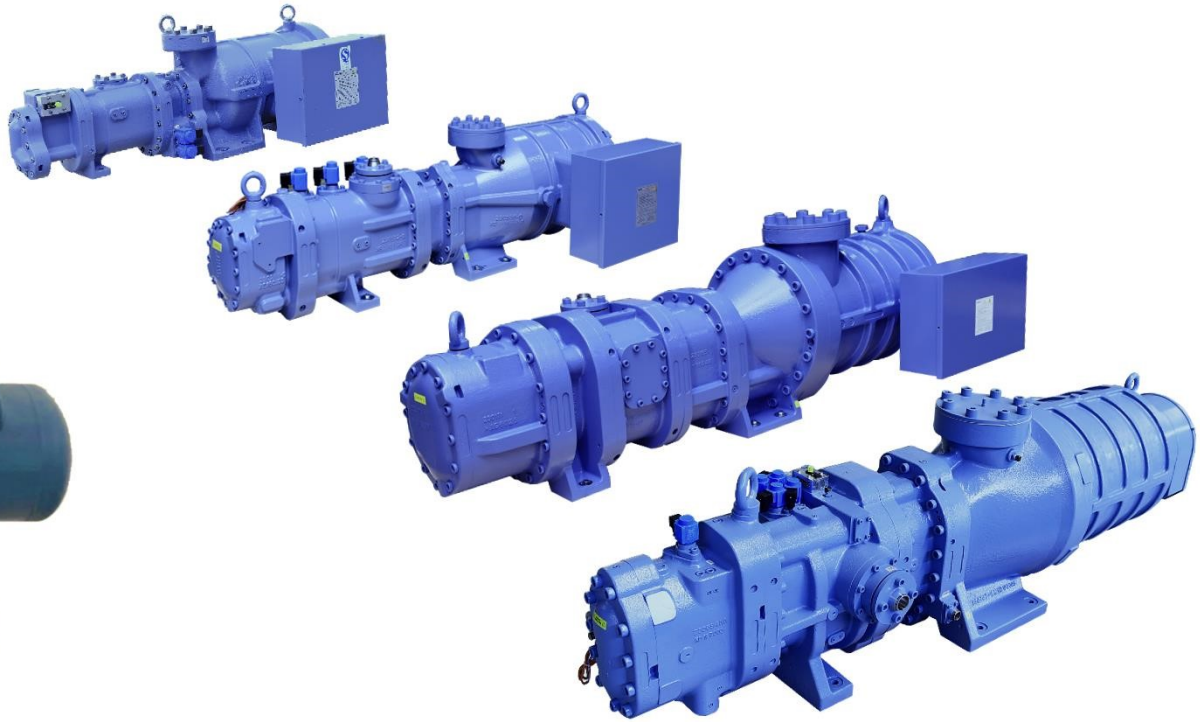
SRS, single stage

- in operation since 2016
- more than 450 compressors applied



SRS, double stage

- in operation since 2017
- more than 110 compressors applied



SRS-C

- in operation since 2022
- more than 40 compressors applied
- Integrated temp sensors, liquid injection ports => air cooled, d/x systems
- integrated oil separator > less piping
  > less welding
  > less potential leakage
  > less space needed
  > less cost

=> the ultimate screw for chillers

SRM Production “Made in Europe”:

- Production Capacity in Asia fully utilised
- Orders in Europe increased so much that efficient assembly is possible => SRM Italy

⇒ Short delivery time

⇒ Uninterrupted and secure supply chain of product and spare-parts

⇒ Technical Support

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