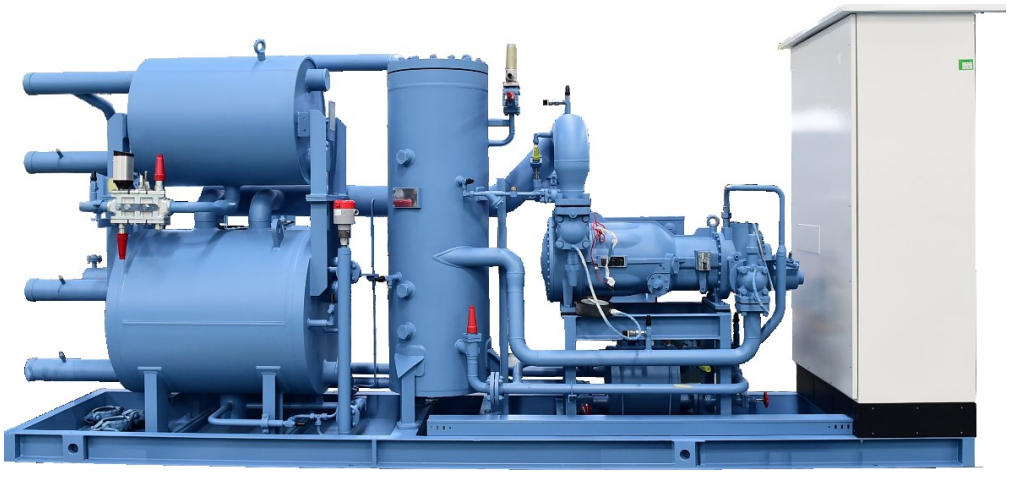
# SEMAC-Chiller



SEMAC547 Air Conditioning Chiller

| | |
|---|---|
| Cooling Capacity @3600 rpm Qo: | 631kW |
| Evaporation Te: | +4 deg C |
| Condensing Tc: | +38 deg C |

Oil Temperature Regulating Valve
Water-cooled oil cooler

Application: Air Conditioning

SRMTec Chillers with semi-hermetic SRS Compressors

Optional with
- Sound attenuation
- Weather cover
- Gas-tight cover with ex-proof extraction as self-contained plant room
- Heat-exchangers for air-conditioning or process chiller

## SRS Compressors

Innovative Features
- Latest rotor i-profile and 5+7 lobes for efficiency and low noise/vibrations
- Semi-hermetic Design for ease of application, no shaft-seal
- Permanent Magnet Motor Design
- Advanced axial bearing for long life (up to 10 years dependent on speed regime)

⇨ Most efficient and least service requirements
⇨ Lowest operating cost
⇨ **Best Life-Cycle Performance**

# Complete Product Range

| Model | Application | Compressor | Capacity @3600 (kW] |
|---|---|---|---|
| SEMAC120 | AC 12/6 | SRS08ML | 136 |
| SEMAC170 | AC 12/6 | SRS10SL | 192 |
| SEMAC280 | AC 12/6 | SRS12ML | 320 |
| SEMAC414 | AC 12/6 | SRS14MR | 490 |
| SEMAC547 | AC 12/6 | SRS16MR | 631 |
| SEMAC145 | PC –2/-8 | SRS08LH | 95 |
| SEMAC204 | PC –2/-8 | SRS10LH | 133 |
| SEMAC304 | PC –2/-8 | SRS12LH | 198 |
| SEMAC450 | PC –2/-8 | SRS14LM | 290 |
| SEMAC608 | PC –2/-8 | SRS16LM | 398 |

Standard Conditions: AC Te: +4 deg C, Tc: +38 deg C, Process Cooling: Te: (-)10,5 deg C Tc: +38 deg C

# Heatpump/Chiller Combination SRS

The world-wide first semi-hermetic Ammonia chiller/heatpump combination is successfully commissioned in Eindhoven, Netherlands by contractor **van Hout** and **ECR Nederland** during the mega-project of converting the defunct Philips Factory and Office Precinct into a live-able and sustainable office and residential complex.
The objective was to deliver heating and cooling with least impact to the environment by highly efficient machinery employing natural refrigerant Ammonia.
As Ammonia traditionally is used in industrial applications it was important to overcome the apprehension against this gas which is slightly flammable and poisonous, but highly efficient and without any negative influence to global warming or the ozone layer. This was achieved by using the innovative SRS semi-hermetic compressor of SRM which makes shaft-seals obsolete by its design.

## SRM Europe

**Solutions for Industrial Refrigeration**

### Project Description

Chiller/Heatpump Combination

SRMTec : 2 x SRS14SR

Refrigerant: Ammonia R717

### Technical Data, each system

Capacity @3600rpm

| | |
|---|---|
| $Q_{0\ Cooling}$: | 400 kW |
| Te: | + 3,5° |
| Tc: | +42 ° |
| COP: | 4,04 |
| $Q_{0\ Heating}$: | 426 kW |
| Te: | - 3,5° |
| Tc: | +42 ° |
| COP: | 4,1 |
| Commissioning: | Aug 2018 |

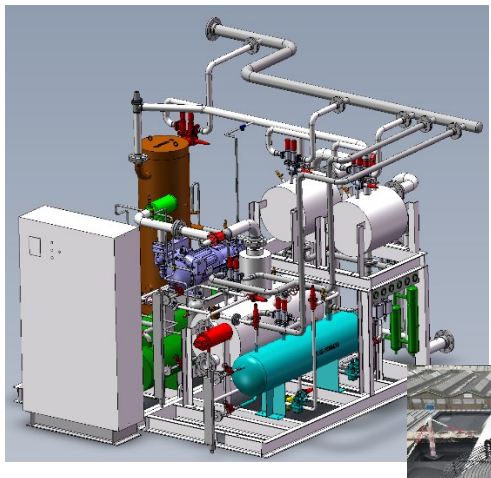
**SRS Compressors** are the development of **S**venska **R**otor **M**askiner,
since 110 years pioneer of screw compressor technology, which combines as a semi-hermetic compressor the advantages of Ammonia/R717 with serviceability and leak-free technology.

Main features:

- no shaft-seal
- newest 5/7-i-profile for highest efficiency and lowest demand of oil for sealing and lubrication.
- permanent magnet motor for highest efficiency.
- Speed control of up to 4500 rpm adapts closely to the capacity profile needed.
- Vi-Regulation for optimal adjustment to temperature zones
- single- and two-stage compressors

⇨ **optimized life-cycle-cost at highest efficiency**

**The system is operating in summer mode for cooling and can be switched over easily to wintre mode for heating.**
**In winter operation the Ammonia receiver is acting as an economizer to boost the capacity.**
**Frequency inverters assure close following of required cooling (heating) capacity with fast reaction.**



**Dry-Coolers and high efficient Plate in Shell Condensers and Evaporators with integrated phase-separation domes were used to reduce the refrigerant to a bare minimum of xxx kg.**
**The dry-coolers are equipped with an intelligent sensor system reducing electricity consumption by defrost-on-demand according to ice-build-up and EC-fans for free-cooling and low-noise function during night mode.**

**SRM** is your partner for customer support and sales of industrial refrigeration solutions. We cooperate closely with our agents and distributors to be a reliable local partner for our customers.

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