

## ARP in Oldest German Refinery

### Background

In August 1999 Stork Thermeq / Colibri received the order from Schmierstoffen Raffinerie Salzbergen GmbH to replace the existing vapour compressor refrigeration unit by an Absorption Refrigeration Plant in the oldest German lubricant refinery. The project was characterised by a very short delivery time. In May 2000 the commissioning was successfully finalised without any delay.

The existing unit, a vapour compressor system, showed a relatively low availability and high maintenance costs, a drive to choose a reliable and economical Absorption Refrigeration Plant.

The ammonia content in the existing installation could be reused, which was an environmentally friendly action saving a lot of money and problems with the legislation.

### The project

*SRS schmierstoff Vertrieb GmbH : a brief company profile*

SRS Schmierstoffen Vertrieb GmbH is nowadays part of H&R WASAG AG. H&R stands for Hansen & Rosenthal, a traditional Hamburg family firm whose chemical special product business goes back four generations. Hansen & Rosenthal is Europe's biggest producer of white oils, with a market share of well over 30%.

The technical and technological conditions at SRS enable the company to manufacture a wide range of extremely sophisticated and valuable refinery products.

SRS manufactures and sells more than 650 lubricants and related special products, tailored to meet the customers' special demands.

SRS is a member of the GVÖ, an association of companies who takes responsibility for their own waste disposal.

The ARP produces pure ammonia of approximately  $-30^{\circ}\text{C}$ . From the  $30\text{ m}^3$  storage vessel the liquid ammonia is pumped to the paraffine production process.



ARP – 2700 at SRS, Salzbergen, Germany

## Unique aspects

The Absorption Refrigeration Plant replaced the existing vapour compressor system. The unique aspect in this project was the short delivery time and the fact that the original amount of ammonia was reused. The installation does not contain an evaporator. The liquid ammonia of  $-30\text{ }^{\circ}\text{C}$  is brought into a large storage vessel. Due to the large size of the installation, the normal skid philosophy was not applicable, so the complete plant has been erected at site.

The ARP has been provided with two redundant solution pumps, which are swapped every fortnight. Cooling water for the condenser and absorber is supplied by the existing cooling tower system. The driving energy, steam, is tapped off from the steam grid.

Since the time of commissioning, i.e. May 2000, the plant runs without any problems and has an excellent availability. For Stork Thermeq / Colibri this plant is an excellent reference to show new customers the reality of Absorption Refrigeration Plants.

Technical specification of the ARP:

Model	ARP-C27
Refrigeration capacity	2700 kW
Evaporation temperature	- 30 °C
Driving energy	steam of 10 bar
Electrical consumption	52 kW
Condenser type	Cooling tower
Absorber cooling	Cooling tower
Dimensions (l x w x h) (excl. Cooling towers)	10 x 3 x 12 m



Side view of the ARP-C27

## About Stork Thermeq

Stork Thermeq is a specialist on boiler systems. We aim to leverage our expertise in order to be the best partner for our customers in the field of tailor-made design, production, construction and maintenance for combustion, deaerating, condensate and absorption refrigeration systems. With a focus on speed and flexibility we are a leading supplier of state of the art components for boiler systems for utilities and the process industry. By combining the energetic characteristics of our independent operating company and the back-up of our parent company Stork N.V., our customers have the best of both worlds.

We consider satisfied customers, motivated employees, quality and sound financial performance the core values for the successful continuity of our company.

Stork Thermeq B.V.  
P.O. Box 33, 7550 AA Hengelo, The Netherlands

Visiting address:  
Langelermatweg 12, 7553 JD Hengelo, The Netherlands  
Tel.: + 31 74 240 1724  
Fax.: + 31 74 242 4790  
e-mail: info.thermeq@stork.com  
Website: www.thermeq.nl

