When a constant temperature is vital

Copenhagen, Denmark: Throughout the different stages of pharmaceutical production a constant temperature and humidity are extremely important factors. In fact the variation in temperature and humidity must be kept to an absolute minimum at all times.

Last year, the laboratories and production facilities at H. Lundbeck A/S in Copenhagen had expanded to an extent, where the refrigerating plants no longer had the capacity to meet the strict temperature and humidity requirements. As a result, the capacity of the refrigerating system keeping the 160,000 m² complex chilled had to be expanded.

For centuries Grundfos has been the preferred name of pump solutions at H. Lundbeck, and the new refrigerating project was no exception.

The Situation

The expansion of the refrigerating system was concentrated on just one of the two refrigerating plants. To meet the requirements, a completely new and updated pump solution had to be installed, which also involved a new structure.

To meet the demand for a reliable temperature and humidity, it was estimated that the refrigerating plant needed a performance of 5 MW cooling effect, divided on a 3 MW compressor and two of each 1 MW. And because H. Lundbeck had learned from experience that future expansions could be necessary, all pump solutions were designed to be expandable by an additional 3 MW cooling effect.

The Grundfos Solution

TOPIC:

For centuries Grundfos has been the preferred name on the pump solutions at H. Lundbeck

LOCATION:

Denmark

COMPANY:

H. Lundbeck A/S

Grundfos supplied a heavyweight pump solution with 7 long-coupled single-stage centrifugal pumps and a variety of smaller pumps.

One NK pump sends water through the system via the closed circuit and evaporates it on the ammonia compressors. From here, it is led to a storage tank and then back again. Three of the larger NK pumps remove the heat from the cooling water and the compressors by pumping the water to a number of dry coolers, where it is cooled by atmospheric air. The 3 largest NK pumps push water at a temperature of 7ºC through the entire system. When the water returns to the refrigerating plant it is once again cooled down to 7ºC and sent through the system.

Between them, the two refrigerating plants now have a cooling effect of 8 MW. And even though the plants run each their part of the complex, they have been connected by a pipe work, so that they can supplement each other with 1 MW in case of breakdown.

The Outcome
According to Preben Bybjerg, who is responsible for air-con, ventilation and plumbing and heating at H. Lundbeck, the Grundfos solution has proven to be energy-efficient and very reliable.

In fact, H. Lundbeck's decision to install two large refrigerating plants instead of many smaller and locally placed systems was to some extent based on company values: "Because we are a company with great concern for the environment it was very important to us that the large systems are much more energy-efficient. Also, we decided to base our refrigerating system on ammonia compressors to avoid the use of freon altogether", says Preben Bybjerg.

To secure reliable operation many years into the future and at the same time verify the continuous maintenance of the production facilities to the authorities, H. Lundbeck also required a Grundfos service agreement. Therefore, all several hundred Grundfos pumps are thoroughly checked and registered by Grundfos at least once a year.

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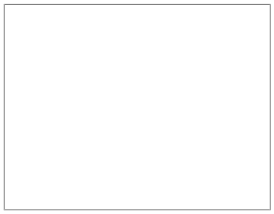

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