

Novozymes

Highly Efficient and Reliable DESMI Pumps for Pharmaceutical Company - DESMI Pumps used as cooling pumps in Novozymes Biotechnology Tianjin

Novozymes has invested in additional enzyme granulation capacity at its Chinese Tianjin plant. As one of Novozymes' three strategic production bases around the world, the plant is capable of manufacturing various enzymes used in industries, such as biofuel, food beverage, and detergent. The extended granulation capacity allows Novozymes to produce more granulated enzymes, mainly for the detergent and food industries. Novozymes offers sustainable solutions to increase yields and to replace, reduce, or optimize the use of petrochemicals, thereby contributing to energy savings and emissions reduction.



DESMI centrifugal pumps installed at Novozymes Tianjin plant.

CASE STORY



DESMI Pumping Technology located in Suzhou, China is proud to be the preferred supplier for Novozymes Tianjin plant with a supply of 12 pumps for their expansion project in 2009. DESMI A/S in Denmark supplied another 12 pumps to Novozymes back in 1998 through the EPC ABB Engineering Ltd, and these pumps have now been in operation for more than 14 years without the need for any new spare parts.

Three DSL400-495A/a, four DSL300-320A/a, two NSL250-265A/a, two NSL250-415A/a and two NSL200-265/A16 pumps for cooling tower applications were supplied to Novozymes. The capacities range from 250 m³/h to 3000 m³/h, and pressures ranging from 15 to 38 mLC. Seven DSL double-suction vertical in-line centrifugal pump units are used as cooling water circulation pumps, whereas five NSL vertical in-line pump units are used as chilled water primary and secondary pumps.

Based on our experience, DESMI had a clear understanding of cooling tower pump operations and the principle of operating two or more pumps in parallel. The varying temperature between seasons and

between day and night time operations requires the capacity for cooling and chilled water pumps to vary with the fluctuation of temperature based on the following formula:

$$Q \times (T_{out} - T_{in}) \times \text{Factor} = P = Q \times (T_{in} - T_{out}) \times \text{Factor}.$$

Therefore, we suggested that the customer use a variable frequency drive for the cooling water pump with the motor operating at 55 Hz for peak capacity.

*"With the optimization of the pump selection, DESMI has offered us the best solution for saving power. The motor power has changed from 1400KW for four pumps to 1200KW for three pumps using variable frequency drives that will save 200kw*8000hr = 1.6 million kWh per year, equal to 1.6 million RMB in savings per year based on 1kWh=1RMB.*

Novozymes has used DESMI pumps for many years. We have ONLY had good experiences with DESMI pumps and will, whenever a pump need occurs, be in contact with you." - Bjarne Ege Hundstrup, Technical Service & Maintenance Manager, Novozymes Biotechnology Ltd.