HVAC Coil Cleaning In Czech Chemical Plant

Problem
A modern Czech chemical plant that manufactures specialty chemical products had flexible blending and packaging equipment. The plant prided itself on modern measurement and process controls allowing consistent delivery of high-quality product.

Every HVAC unit in the plant was monitored for energy usage. The HVAC unit used in one of the most critical rooms of the plant for temperature and microbiological control was getting clogged often with process contaminants. It proved quite difficult to clean. About two years ago air filters were installed, which significantly improved the performance, as well as the frequency of cleaning.

Due to the special manufacturing requirements for this particular room, plant management wanted a non-chemical cleaning method. Microbiological control of the air quality was also a main objective.

Analysis
Due to location of the unit inside the building and risk of production line contamination by using chemicals, Chem-Aqua decided to use a steam coil cleaning process. Both the HVAC “cool” side, located in the pelletizing room for microbiological material (contaminated with dust and bacteria), and the “hot” side, located in the warehouse (blocked mainly with dust), were cleaned using steam. The final step in the process was to apply a disinfectant approved for HVAC use to improve microbiological control.

Solution
Following the professional coil cleaning work, critical humidity and temperature control was successfully restored on the production floor. Due to the antistatic and hydrophobic properties of the applied disinfectant, microbial control of cleaned surfaces and air was maintained for several months. Additionally, there was a 15% improvement in air flow and electrical power savings of 8%, as measured by the customer.

Chem-Aqua’s steam coil cleaning service improved the heat transfer efficiency for one of the plant’s most critical HVAC units.