HEMO
THE CLEANING SYSTEM

HEMO Cleaning System Sets New Standards in Bone Preparation

A Reference in Animal Bone Degreasing

Once again, the parts cleaning specialist HEMO has succeeded in establishing its system technology as a benchmark within a specific industry. After applications in heat treatment and tube cleaning, the focus now turns to animal bone degreasing. With its cleaning systems, the company is setting new standards in this area as well.

“An impressive animal bone degreasing and drying system for the Natural History Museum of Bern, Switzerland, triggered an unexpected development,” reveals HEMO Managing Director Andreas Fritz. What happened? The museum’s team of preparators was seeking an efficient method for degreasing animal bones.

Background: In bone preparation, fat content plays a critical role. If fat cannot be reduced to a minimum, bones quickly yellow. Over time, fat would also break down the calcium in the bones, making them porous, brittle, and eventually causing them to disintegrate.
Such disasters can only be prevented through nearly complete degreasing of the bones. Here, the preparators had a brilliant idea: why not use industrial cleaning systems — typically employed to clean, degrease, and dry metal and plastic parts — for the degreasing of animal bones?

From Concept to Groundbreaking Technology

„At first, as one of the world's leading manufacturers of industrial parts cleaning systems, we were surprised by the unusual request for animal bone degreasing. But fundamentally, the idea didn't seem far-fetched at all: our solvent-based systems can degrease all kinds of parts. So why not animal bones as well?" explains Andreas Fritz.

Since HEMO had no prior experience in this area, the challenge was to develop a solution in close partnership with the preparators that would meet the specific requirements of this unique application. Through intensive collaboration, HEMO succeeded in modifying its well-known SOLVACS cleaning technology so that, after months of development, it delivered outstanding results in animal bone degreasing.

Animal Bone Degreasing Ten Times Faster with Better Results

The degreasing results of the pilot system for the Natural History Museum of Bern were truly impressive: the idea of adapting an industrial cleaning and degreasing system for animal bone degreasing has advanced the preparation of bones by leaps and bounds. The system is roughly ten times more efficient than the method previously used in Switzerland. Whereas comparable batches used to take around 300 hours, degreasing now takes just 30 hours—and with even better results. This is a genuine breakthrough.

> „The rest is easy to tell. Of course, the spectacular results spread rapidly through the well-connected preparator community around the world, and orders for animal bone degreasing have surged. Soon, another system will be put into operation at the Berlin Natural History Museum. Apparently, we have once again succeeded in setting new standards in this field. The time-intensive investment in the Swiss pilot project has truly paid off," says Andreas Fritz.

The New Standard in Animal Bone Degreasing

HEMO is currently keeping details about the new technology under wraps, but one thing can be revealed: the cleaning medium used is methylene chloride, which is circulated almost entirely without loss. The key to this system's technology lies in the sophisticated combination of vacuum and overpressure steps at low temperatures for both the solvent-based degreasing stages and the drying process. This ensures optimal degreasing and a relatively fast, residue-free drying — without, and this is extremely important, causing any mechanical, thermal, or chemical damage to the bones.

The process also offers significantly improved environmental performance. On one hand, the methylene chloride can be almost completely recirculated; on the other hand, preparators no longer come into direct contact with this hazardous substance. The days when experts had to handle full solvent containers in protective suits are now definitively a thing of the past with this new degreasing system.

Text: Ralf Högel