

Sustainable Cleaning Solution from Moosfrei Taps into Xylem Technology to Reach New Heights

Innovative treatment system powered by Flojet technology supports the effective removal of algae and lichens from building facades

Customer Challenge

All buildings, from commercial business premises to private dwellings, are made to withstand even the harshest environmental elements. While most modern structures endure the variable conditions that come with severe weather, other less obvious environmental factors have the potential to degrade building materials - causing significant and irreparable damage.

Take spring organisms like lichens and algae, for example. Renowned for forming habitats on damp, porous surfaces, their ability to thrive in diverse conditions mean building facades are particularly susceptible to colonization. In urban settings, materials like concrete, paint and roofing materials are most at risk.

Initially, the problem may present itself as an unsightly visual for those passing by, as the spores create unusual or irregular patterns in shades of green, gray, orange and brown. Depending on climate exposure and the type of organism, different textures can present. Lichens can have different textures, ranging from crusty forms that closely adhere to surfaces, to leafy or branching forms that extend outward. Algae tend to form slimy or slippery patches that grow in streaks - particularly on surfaces that are prone to moisture retention.

While visual aesthetics might not be a top priority for home or business owners, if left untreated these colonies can infiltrate the very structure of the building facade. This can cause consequential damage to the building, leading to a substantial loss in property value over time.



Swiss based Moosfrei® offers efficient and sustainable cleaning solutions for the effective removal of algae and lichens from building facades - without using aggressive high-pressure cleaners or harmful chemicals such as chlorine or bleach.

Therefore, it is important that regular, proactive maintenance is undertaken to prevent the development of spring organisms. While installing good ventilation systems and ensuring proper drainage can help minimize exposure, regular cleaning and maintenance is a simple yet critical part of the process.

Moosfrei, a Swiss based business that works to address algae and lichen infestations is one such company paving the way in terms of offering effective and sustainable cleaning solutions. Its trademarked treatment method leverages the company's patented active ingredient, without using bleach, chlorine or other harsh chemicals. Furthermore, many conventional methods for removing algae and lichen rely on high-pressure cleaning processes that can cause significant damage to the exterior of buildings. Moosfrei's innovative treatment solution, which is used exclusively in Moosfrei products, eliminates lichen and algae colonies without compromising the building's structure.

Xylem Solution

In addition to being highly efficient and sustainable, Moosfrei's system is also extremely flexible and doesn't require scaffolding during the cleaning process. When designing the system, Moosfrei specifically looked for a pumping solution that could complement this degree of flexibility, while also having the power and chemical compatibility to disperse the active ingredient at elevated heights. To find the right pump for the job, Moosfrei turned to global water technology company Xylem, for a suitable solution.

Working with Almatechnik TDF, a leader in the procurement and distribution of pumping equipment and related products, Xylem provided several of its renowned Flojet Triplex Series industrial diaphragm pumps. Engineered to offer greater reliability and flexibility in even the toughest of applications, the pump's three chamber design offers exceptional flow rates under pressures of up to 150 psi (10.3 bar), and its unique self-priming capability allows the pump to reach a 2.4 meter vertical lift. Crucially, the pump is made from highly durable materials, including EPDM rubber, and is capable of handling a broad range of chemicals. The pump can also run dry for extended periods of time without damage.

"Moosfrei is a proven leader in the provision of algae and lichen removal, and they required a pumping solution that's not only innovative, but also efficient and sustainable," said Martin Lüthi, Sales Manager at Almatechnik TDF. "This system needs to reach a range of heights using just the right amount of pressure, with a pumping solution that can also handle corrosive chemicals. In working through the requirements with Moosfrei, Xylem's Flojet Triplex Series pumps were identified as being the best pumps for the job."



Moosfrei® have over five treatment vans equipped with Flojet's Triplex Series industrial diaphragm pumps, and each pump can be recharged while in transit to eliminate unnecessary downtime.

The Moosfrei treatment system works by spraying the active ingredient directly on to the affected area as a mist. The pressure boosting capability of the Flojet Triplex Series industrial diaphragm pump allows the system to be operated from the ground as the active ingredient is pumped up a line pole direct to the treatment site. In just one application, the active ingredient is absorbed by the organisms, causing them to perish within just a few months. The solution is so effective, treated facades remain protected from black lichen for between six and ten years, and green algae for between two and five years.

"Designed to be the most versatile pumps on the market, our Flojet Triplex Series pumps are the ideal solution for any spraying, misting or pressure boosting application," said Pierpaolo Nocchia, Area Sales Manager, SFC Industry Europe at Xylem. "Not only does the pump satisfy Moosfrei's requirements for a high-pressure pump capable of dosing active ingredients, it's also really compact with a great quick-connect hose system - making it the perfect fit for Moosfrei's mobile van installations."



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Customer Result

Together with the Flojet Triplex Series industrial diaphragm pumps, the Moosfrei treatment system provides an efficient and environmentally friendly method for the effective cleaning of building facades. Moosfrei's patented and exclusive active ingredient, coupled with the accurate spraying and dosing capabilities of the pump, delivers a result that's not only long lasting, but also cost effective.

Moosfrei have over five treatment vans equipped with Flojet Triplex Series industrial diaphragm pumps, and each pump can be recharged while in transit to eliminate unnecessary downtime. Since designing the solution, Moosfrei has also expanded its services to include innovative drone technology to serve more complex applications in a shorter time - significantly reducing treatment and cleaning time.

"When we originally designed this system, flexibility and durability were top of mind - we wanted to develop a simple but effective solution that took the complexity out of building maintenance. This solution is incredibly innovative, and we knew we needed a reliable pumping solution to support it," said Fabian Imboden, Owner and Managing Director at Moosfrei.

"Almatechnik TDF has been an incredible partner to us, and really helped us identify the right solution to meet our treatment needs. To date, we've used Flojet technology to successfully treat more than 3,000 facades across Switzerland, and we also have the trust of over 250 property management companies that use our services. If that's not proof of a great partnership, I don't know what is."