REFERENCE



PROTECTION AGAINST SNOWSTORMS

FOR MICHIGAN PUBLIC POWER AGENCY

viledon®

Located in the snowbelt of Lake Michigan, the Michigan Public Power Agency operates a power station (Mitsubishi Power-Aero FT8-1 Twin-Pak gas turbine) exposed to extreme weather conditions during winter. With an average annual snowfall of 126 inches (3.2 meters), the site faced severe challenges with its air intake filtration system.

Recurring snow accumulation on pleated pre-filters required maintenance personnel to climb into the air filter house during storms, a dangerous and time-consuming task. Each intervention involved multiple technicians working for hours under hazardous conditions. In addition to safety risks, these interventions resulted in significant labor costs and operational inconvenience.

In case the filter elements failed to be cleaned in time, the increased pressure drop started opening the implosion doors, allowing unfiltered air to bypass directly into the gas turbine. With heavy snowstorms, additional flow resistance even posed a significant risk of load reduction or system shutdown.



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Initially installed prefilters completely clogged with snow



hydroMaxx installed in reverse flow direction, with closed pockets facing against the direction of flow



Large areas of hydroMaxx filters keep clear off snow allowing air passage

The Viledon® solution

Freudenberg implemented a two-stage air filtration system designed to withstand even harsh winter conditions:

- **Stage 1:** hydroMaxx reverse pocket coalescer filter (ISO 29461-1 T4)
- **Stage 2:** Viledon® MVPGT 98 cassette filters (ISO 29461-1 T9)

With trial fit samples, provided by Freudenberg, a smooth changeover to the new filter selection was ensured, while experiences and references of close by plants that were already successfully working with the Viledon® solution and attested its effectiveness ensured a high level of confidence in the chosen solution right from the start.

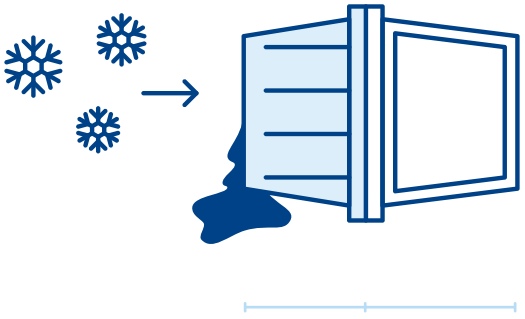
CUSTOMER BENEFITS

- ✔ Eliminated storm-related manual cleaning
- ✔ Ensured proper supply of clean combustion air
- ✔ Reduced maintenance costs and downtime
- ✔ Improved airflow and lower pressure drop
- ✔ Enhanced safety for maintenance personnel

As a result, the hydroMaxx system's self-cleaning snow removal capability eliminated the need for manual cleaning during storms, significantly reducing maintenance time and labor costs. The new system further lowered the air filter pressure drop, improving overall efficiency and enhancing safety by removing the need for personnel to climb into the air filter house during hazardous conditions.

Snow removal with Viledon®

Due to normal vibrations of the filter wall snow falls directly off the filter onto the floor.



1ST FILTER STAGE hydroMaxx

2ND FILTER STAGE Cassette filter

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