



SCHUST

A MEMBER OF THE SCHEUCH GROUP

PROJECT PROFILE

PULSE JET BAGHOUSE RELIABLY HANDLES HIGH TEMPERATURE, AIR VOLUME FURNACE EXHAUST

The Situation

A foundry recently added an additional new furnace and connected it to an existing baghouse that had reliably serviced the original existing furnace for many years. When both furnaces operated together, the air in the baghouse reached temperatures that exceeded the maximum limits it was originally designed for resulting in bag and airlock damage. To prevent a shut down, the foundry needed a solution to meet current permitting requirements.

The foundry sought the assistance of a third-party engineering firm who would better understand the expanding air volumes and to provide a means of stabilizing the air stream temperature. Additional air dilution would be introduced and became part of the final volume calculation and target operational temperature.

PROJECT IN BRIEF:

EQUIPMENT & SERVICE

- Engineering
- Commissioning
- Dust Collector

INDUSTRY

- Foundry

APPLICATION

- Emission Control

The Solution

The engineering firm needed an air pollution control partner to develop and size a custom pulse jet baghouse and to specify high-temperature filter media based on their calculations. The pulse jet needed to handle both furnaces running at the same time, based on 24/7 operation, and provide safe serviceability to employees. The foundry also wanted to install the unit that would function self-contained, on its own without extensive control systems.

Schust experts custom engineered a pulse jet baghouse which would reliably handle 402°F temperature and excursions up to 450°F at expected volumes. Engineers at Schust identified the problem that was causing the airlocks to bind. Schust provided the baghouse and airlocks with machining clearances and features that allowed for thermal expansion without binding.

The customer successfully installed the unit themselves. Upon request Schust provided a proposal to provide final system commissioning services to the customer. It was a good thing the customer included Schust in commissioning and overseeing the installation. During the final inspection, Schust identified and recommended adjustments to the customer provided variable frequency drive (VFD) controls and damper functions to fine tune operation to ensure they worked together properly.

Because Schust can provide turnkey ventilation solutions, the experienced experts are able to adapt quickly and support customers in any capacity of the turnkey process like they did for this foundry customer.

Pulse Jet Features

- Provided appropriate air-to cloth recommendations.
- Specified the filter media that would reliably handle the gas stream.
- Provided special coatings and surface preparations.
- Provided heat shields for sensitive components.
- Remote mounting of the control panel from the factory.
- All high-temperature components used such as Viton, stainless steel, and silicone.
- A special blowpipe design which allowed for thermal expansion was developed to minimize stress on the housing.
- Insulation was specified for safety in areas where service personnel may come in contact with the hot surface of the dust collector.

Contact Schust to learn more about this project.

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