

CASE STUDY

APPLICATION:
ATEX CENTRAL VACUUM CLEANING SYSTEM
IN A GRAIN MILL

CUSTOMER:
INDUSTRIAL GRAIN MILL IN POLAND



OUR CHALLENGE: MAINTAINING A CLEAN ENVIRONMENT IN AN INDUSTRIAL GRAIN MILL

In an industrial mill, it is crucial to maintain a clean environment: **flour is highly combustible** and its fine particles can become airborne, creating a combustible dust atmosphere.

To mitigate this risk, it is essential to implement strict safety measures and clean with **ATEX certified equipment**, built to be used in potentially explosive environments.

Furthermore, maintaining a clean workspace in a mill is essential for meeting **stringent hygiene standards** and **safeguarding your brand image**.

Benefits of keeping a mill environment clean and free from flour residue:

- great reduction of the explosion risk;
- enhance overall production efficiency by keeping unwanted visitors like animals and insects away;
- minimal chance of equipment malfunctions and breakdowns;
- better outcome of the final product, because the amount of contaminants in the environment are lowered.
- better **air quality** and less risk of respiratory issues for workers.



OUR CENTRAL VACUUM **INSTALLATION**

IN A 5 FLOORS GRAIN MILL

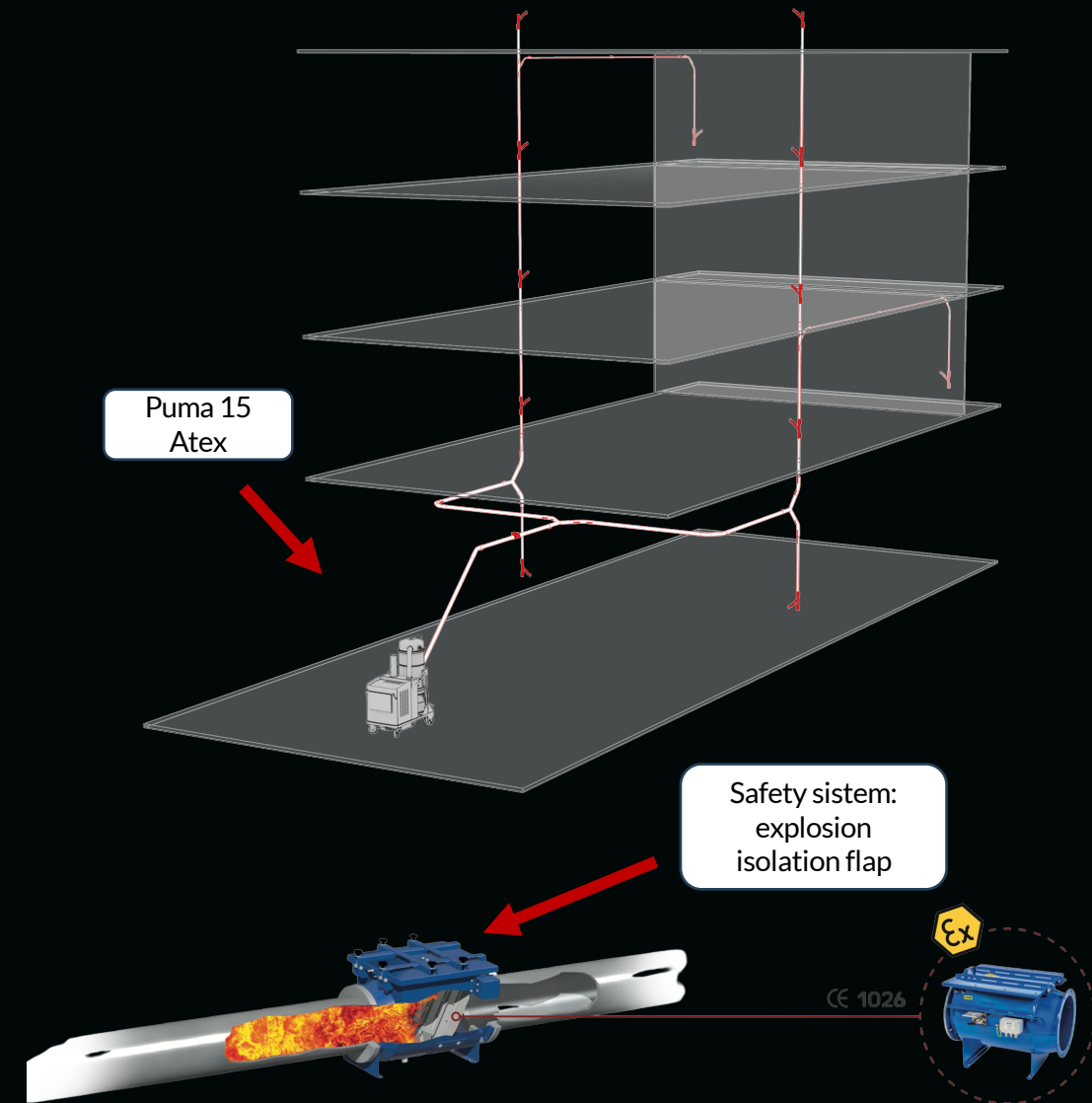
Our client contacted us to create a system able to collect dirt from floor and the working environment directly into the vacuum container, ensuring a clean and safe space. He opted for a centralized vacuum system to make continuous maintenance of the 5 floors building.



Inlet socket

CENTRAL VACUUM SYSTEM: **FEATURES**

- 2 pipelines, one for each side of the building.
- Each pipeline features 1 suction inlet on every floor (total 10 suction inlets) in order to easily reach the milling equipment and cover all the surface of the silo, minimizing footprint and the need for piping.
- 2 additional suction inlets on first and last floor to clean additional rooms
- In addition, the system features an explosion isolation flap that isolates the vacuum and prevents fire from spreading towards the piping in case of explosion.
- The Atex-certified vacuum unit collects grain and flour directly into the vacuum container, ensuring a clean and safe environment.



CVS SYSTEM WITH PUMA 15 ATEX

VACUUM UNIT

The chosen central vacuum unit for this mill is the ATEX-certified **Depureco PUMA 15**.



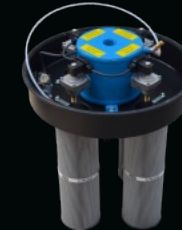
This unit offers exceptional safety features:

- 1/3D ATEX marking of the vacuum (for use in zone 22 with Z20 internal certification of the chamber)
- ATEX certified 11kW side channel blower
- Large surface antistatic filters with SP automatic filter cleaning system
- AISI304 Stainless steel container
- Built-in flameless vent, designed to contain flame and over-pressure in case of possible explosion
- Antistatic accessories in order to avoid any kind of ignition during the vacuum

By using a centralized vacuum system dust, debris, and other impurities coming from various locations in the milling process are removed in a highly efficient and effective manner.



11 kW Side channel blower



SP automatic filter cleaning system



Atex kit pro 50 mm



Tangential Inlet with cyclone



AISI304 stainless steel container



Flameless vent