

CASE STUDY

**APPLICATION:
CENTRALIZED VACUUM SYSTEM FOR WELDING FUMES**

**CUSTOMER:
METALWORKING INDUSTRY IN ITALY**



OUR CHALLENGE: IMPROVING AIR QUALITY TO ENSURE WORKERS' SAFETY

In a metalworking environment where welding torches are used, the production of welding fumes represents a significant risk. These fumes contain **harmful substances and heavy metals** that, if inhaled, can lead to respiratory issues and other health problems.

Implementing a **centralized welding fume extraction system** is crucial to safeguard the well-being of workers. In fact, these systems effectively capture and remove hazardous fumes from different sources simultaneously.

By investing in welding fume extractors, companies **comply with safety regulations** and demonstrate a commitment to provide a safe and secure working environment for their employees.

Benefits of keeping a metalworking industry free from welding fumes:

- Enhanced workers' safety;
- Compliance with regulations;
- Improved air quality.



OUR CENTRAL VACUUM **INSTALLATION**

FOR WELDING FUMES

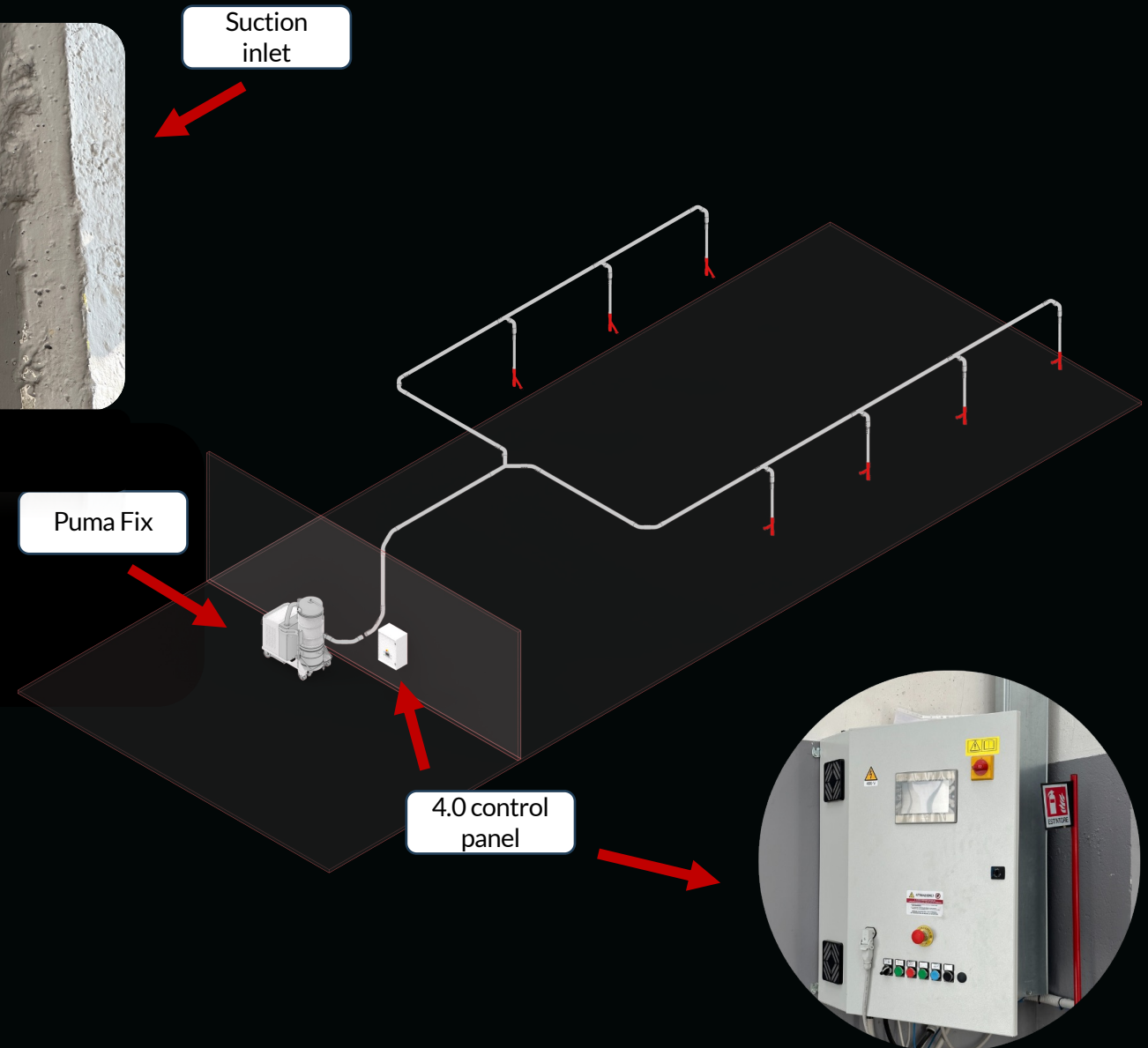
Our customer had the need to establish a system capable of collecting welding fumes from **multiple welding stations** simultaneously, using a single extraction unit. He opted for a centralized vacuum system to ensure excellent air quality within the welding area.



Suction inlet

CENTRAL VACUUM SYSTEM: **FEATURES**

- 2 pipelines, one for each side of the area, for a total of **over 300 meters of piping**.
- Each pipeline features various suction inlets, **7 in total**, in order to easily reach every welding station and cover all the surface of the working area.
- **Up to 3 suction points can be used simultaneously** for a direct extraction from magnetic hoods or from welding torches.
- Thanks to an **integrated cleaning system** within the pipes, the vacuum cleaner performs an automatic cleaning cycle at the end of each operation by opening strategically positioned shutters.
- A **4.0 control panel** is also included, enabling the transmission of the system's operating data to the company's ERP for subsequent analysis.



Puma Fix

4.0 control panel

EXPLORE OUR CENTRAL VACUUM **INSTALLATION**



DISCOVER ALL THE DETAILS!



PUMA FIX 10 – vacuum unit



Working area



More than 300 meters of piping

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Suction inlet



4.0 control panel with inverter



Built-in pipes cleaning system

CVS SYSTEM WITH PUMA FIX 10

VACUUM UNIT

The chosen central vacuum unit for welding fumes extraction in this working area is the **Depureco PUMA FIX 10**.



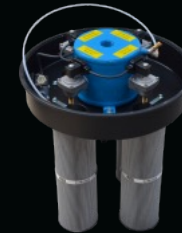
This unit offers exceptional features:

- Powerful **7,5 kW side channel blower**
- Included **relief valve**, to avoid potentially dangerous overpressures
- 4 large surface (120.000 cm²) **cylindrical cartridges**, classified as M Class. This means that all particles till 1 µm are stopped by the filter to protect the blower
- **SP automatic** filter cleaning system
- **175 liters collection bin** with a metal handle and 4 pivoting wheels
- **Tangential inlet**, to ease the process of pushing the vacuumed material down the bin

Welding fumes from the entire production area are efficiently extracted, preventing dangerous gases and particles that develop during welding from remaining in the air for an extended period.



7,5 kW Side channel blower



SP automatic filter cleaning system



Relief valve



Tangential Inlet with cyclone



175 liters collection bin



Iron reducer ø 100/100 mm

ACCESSORIES