

Case Study

Dust Control for a Garnet Blasting Operation

An overhead crane manufacturer in Pennsylvania abrasive blast cleans crane sections prior to painting. The parts, which can be very large and heavy (e.g., steel beams), are moved into the blast room via forklifts or pulled into the blast room on wagons. The blast cleaning area is 125 ft. deep, 24 ft. wide and 20 ft. high with an internal volume of 60,000 cu ft. The cleaning is done by blasting the parts with garnet, thereby, creating poor visibility and air quality conditions. The customer initially requested an air cleaning system with a dust collector located outside the building, collection hoods, and duct to remove the dust and return duct to direct the clean air back into the room. Locating the dust collector outside, against the building, would have required a concrete pad in a location which was difficult to access.

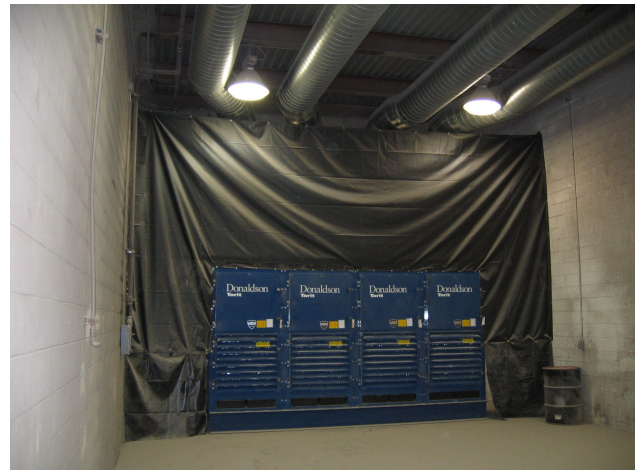
Systech proposed an alternative design of providing four (4) Torit Downflo WorkStation Modules (DWS) against the interior back wall, thereby creating an internal system with the proper cross-draft airflow velocity. Each DWS unit is a self-contained cartridge style dust collector with an automatic pulse cleaning system. The dirty air was collected through intake louvers positioned at the front bottom of each unit with the clean air ducted off the top of the units back to the front of the room and discharged in a downward direction.

SysTech's solution provided the proper airflow pattern, keeping the dust out of the workers breathing zone with improved visibility. The discharge grills were positioned in such a way as to minimize dead zones in the work space and to provide the maximum air velocities where most of the blasting took place.

For ease of maintenance, the customer provided a 12" high steel platform to set the DWS modules above floor level. In addition, the customer also installed curtains to the sides of the units and from the floor to the ceiling to control dust from getting behind the units, keeping the space clean.

Thinking ahead, the DWS units were installed with an electrical control panel outfitted to be able to run a 5th DWS should the customer have future job requirements.

The room is now much cleaner, visibility is improved and the operators are much more efficient.



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