



Explosion Protected Portable Pharmaceutical Dust Collector

BY ADAM CONLEY

■ EXPLOSION PROTECTED PORTABLE DUST COLLECTOR

Dust control and source capture of fugitive dust often require a portable unit to access multiple processes within a pilot pharma facility. Mobility to get into tight spaces is a necessity.

Space does not always allow for a site dedicated dust collector. Our client needed a dust collector to collect fugitive dust from mixers, test cells and batch weight stations located throughout their plant. The unit construction was required to meet acceptable sanitary and anti-static standards. Additionally, the unit design needed to include explosion protection options as the materials being handled were potentially explosive.

A portable unit was required, but it needed to be certified for a Class 1 Div 1 environment. Reviewing available equipment, they found vacuum units did not have enough airflow to capture the dust and traditional dust collectors that could not be adapted to the explosive environment.

■ HAZARDOUS LOCATION CLASS 1 DIVISION 1 PORTABLE DUST COLLECTOR

At the client's request, SysTech designed and commissioned the manufacture of a custom portable dust collector sized at 750 CFM, to meet the specific requirement of the EXP Class 1, Div. 1 environment and would capture airborne dusts generated at weigh stations and mixers.

The unit was built for the environment and included a six (6) inch diameter flexible extraction arm, high efficiency pulse clean cartridge filter cleaner, NEMA 7 controls, 3 HP, 1 Ø EXP motor, cast aluminum pressure blower, 99.97% HEPA final filter and sealed collection pail, all stainless steel construction and mounted on a moveable frame with anti-static casters.



Portable dust collector, NEMA 7 Controls, sanitary and anti-static design.

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The unit was fabricated and assembled with the following features:

- *All 316 stainless steel construction*
- *High efficiency pulse clean cartridge dust collector*
- *Six (6) inch diameter flexible grounded extraction arm*
- *NEMA 7 controls*
- *3 HP, 1 Ø EXP motor*
- *Cast aluminum pressure blower, AMCA A*
- *99.97% HEPA final filter*
- *Sealed collection pail*
- *Anti-Static casters*

“Off the shelf portables for explosive environments just would not do the job.”

Modifying “off the shelf” products allowed us to provide a solution to meet the needs of the client.