SONIC AIR SYSTEMS

Improved Safety in the Concrete Finishing Industry with Sonic Hydraulic-Driven Vacuum Blowers



Overview

Penhall, a leading provider of concrete finishing, cutting, and grinding services since 1957, has been utilizing Sonic Air Systems' hydraulic-driven vacuum blowers since 1993. With a focus on various driving surfaces such as freeways, bridge decks, roadways, tunnels, airport runways, and racetracks, Penhall sought an alternative to their previous positive displacement/rotary lobe blowers. Sonic's air blower solution proved to be a game-changer in terms of size, weight, and maintenance efficiency.

Solution

Sonic Air Systems collaborated with Penhall to address their specific need to replace the 700 lbs (317.5 kg) 12″ (30.5 cm) Hg positive displacement vacuum blowers with Sonic's 6-7" (15.2-17.8 cm) Hg vacuum and higher inlet CFM to achieve the same effectiveness in picking up concrete debris and water slurry. The Sonic compact vacuum blowers for concrete, integrated into Penhall's concrete grooving machines, eliminated the need for additional in-line filtration and blower silencers. With Penhall’s cyclone separator effectively removing bulk water and heavy particulate matter, the remaining concrete fines and water vapor pass through the Sonic blowers without extra filtration, allowing for safe and efficient operation. Sonic's vacuum blower assembly with 20HP (15 kW) hydraulic motor occupies less than 2 ft2 (0.19 m2) of platform space and weighs only 75 lbs (34 kg). They reduced the weight by over 600 lbs (272 kg) compared to the previous blowers, providing additional space and increased maneuverability for Penhall's grinding operations.

Result

By adopting Sonic's hydraulic-driven vacuum blowers, Penhall experienced significant improvements in its concrete grinding and grooving efficiency and effectiveness by eliminating sweeper trucks while leaving no standing water or debris immediately after grinding. The elimination of secondary filtration and reduction in blower size and weight streamlined their equipment, resulting in reduced operating and maintenance costs. The Sonic blowers are seamlessly integrated into the road surface finishing vacuum system to provide effective road slurry pick-up without compromising the overall performance of the equipment. Additionally, the Sonic industrial vacuum blowers for concrete operated at a sound level comparable to the grinder, maintaining a safer working environment.

KEY TAKEAWAYS

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