

Heavy-Duty Suction: Industrial Vacuums

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The industrial vacuum, a seemingly simple pneumatic device, can help improve a facility's cleanliness, reduce down-time of valuable production equipment, and enhance quality control efforts. A wide variety of vacuums with different technologies, designs, and configurations are available today for industrial tasks, and "material handling for collected debris has definitely improved," says David Kennedy, sales manager, Vacuum Cleaning Division with VAC-U-MAX.

"Every industry is different," Kennedy says, "and today there is a better understanding of the unique needs of every plant." Regulations such as OSHA's National Emphasis Program on Combustible Dusts, with cross-references to NFPA (National Fire Protection Association) Standards, demand that facility managers understand their work environment better than ever before. And while it may be a challenge for an already strained facility manager to be an expert in industrial vacuums as well as a facility's multi-talented jack-of-all-trades, Kennedy stresses that the place to look for help is a facility's vacuum vendor, as industrial vacuums are continuing to get more and more specific for each application. Kennedy says specialist vacuums are becoming the norm, and multi-purpose vacuums are becoming a thing of the past.

Safety First

The most important thing that facility managers need to know is if their housekeeping program is providing a safe place for employees, says Kennedy: "'Life Safety' is the number one priority for OSHA." Assessing the safety of a facility's housekeeping program requires full knowledge of the characteristics of powders, materials, and by-products found in the facility, including combustibility, chemical reactivity, and inhalation or skin irritation hazards. A facility manager also needs to review sanitation requirements for the facility; this step is particularly important in the food industry. Lastly, managers need to recognize potential problems that can result from a dirty facility, such as high product failure rates, cross-contamination, or increased machine downtime. And where potentially dangerous spills are concerned: "Some facilities have large spills such as a broken 2,000-pound bulk bag, requiring the fastest possible cleanup," Kennedy says. "Portable vacuums are now available to clean that up in 15 minutes."

"The safety factor has definitely increased," he adds, "particularly in the powder-handling industry where combustible dust is the dominant subject." He points out that central vacuum systems now commonly employ explosion venting and chemical suppression systems, and bonding and grounding of components and

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equipment is critical. Industrial vacuums are able to utilize filters to separate materials, diverting impeller discharge into separation chambers and through filters to remove dust, for example, and prevent it from being released into the atmosphere.

Efficiency Second

“Customers are also more knowledgeable about the cost of operating various types of vacuums, such as the compressed air usage, which can vary as much as 300 percent between one brand and another,” says Kennedy. Vacuum efficiency includes “up-time” for the vacuum; and new technology, such as pulse-jet filter cleaning, provides fewer interruptions and extended operating times.

With an eye on costs, and overall efficiency, manufacturers are looking toward more ergonomic techniques such as “forkliftable” hoppers and bulk bag loaders. Kennedy says, “We are also seeing growing interest in continuous bagging accessories, which reduce operator exposure to the debris, eliminate drum lifting, and allow the operator to control the amount of material in the bag.” He points out that some industries value new “bag-in, bag-out” vacuum systems for reduced operator exposure during filter changes. Other vacuum systems are able to discharge collected debris back into the user’s process, eliminating operator handling completely, reclaiming material that otherwise would end up in the wastewater system or a landfill.

While a specialist vacuum may cost more than the multipurpose vacuums of the past, Kennedy says that’s not all a manufacturer needs to consider when making this type of an investment: “A cost-effective engineered vacuum system will pay for itself in as little as a month if it helps to avoid a back injury claim or lost-time accident. The cost of an engineered vacuum is negligible if it helps prevent a combustible dust incident or reduces operator exposure to sensitive chemicals or avoids a lifting injury.”

Choose Wisely

Heavy-duty industrial vacuums, which range from small air- and electric-powered drum-style units to large electric- and diesel-powered units, are available in an endless variety of options today, with custom-engineered vacuum cleaning systems also available. With the capabilities to keep both equipment and employee safe while creating a more efficient operation, static-dissipative vacuum hoses, noise mufflers, and compressed air power are just a few of the options available for a facility manager to choose from. “Companies of all sizes are relying on the vacuum equipment vendor to be a knowledgeable resource in recommending the right vacuum for the job,” says Kennedy.

“The days of multi-purpose or jack-of-all trade vacuums are gone.”

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