

## About Vector Vacuums

Vector vacuums are the finest high-powered mobile and in-plant vacuum systems available in the world today. Organizations considering a vacuum system should benefit from Vector Technologies' over thirty years experience solving a wide-variety of conveyance, production, and clean-up problems for numerous industries. Vector vacuums are built at our 42,000 square foot plant in Milwaukee, Wisconsin. Vector's old-world work ethic and quality of workmanship will become readily apparent during a plant visit.

An old-world work ethic is not enough, so all Vector equipment is designed utilizing the latest technologies available. Vector systems are design utilizing Computer-Aided Design (CAD). Vector has developed computer programs to facilitate system evaluation. The Vector VacCalc program takes into consideration the mean and largest material particle size, material density, elevation, humidity, material and ambient temperature, piping and hose system length and diameter, material velocity and other factors. VacCalc results are then integrated into blower and piping system calculation and analysis programs.

Vacuums are not a panacea for all problems. In instances, vacuum systems can be more costly to utilize or less productive than mechanical alternatives such as front-end loaders, conveyors, or pumps. Vector vacuums excel when other tools are not feasible due to limited space, the nature of the product (weight, dust, liquid content or health, safety, and environmental risks) or the inaccessibility or impracticability of mechanical processes.

Representative situations where Vector Technologies has provided solutions follow. These examples should provide insight into Vector's corporate capabilities and the potential uses for VecLoader® vacuums and other Vector systems.

**Steel mills** use VecLoaders to clean ingot molds and furnaces. VecLoaders are utilized because **pit cleaning** by means of manual labor is not cost effective and mechanical options are often restricted due to space constraints. **Gold mines** benefit from VecLoader vacuum use. In addition to ore conveyance, Vector vacuums are used to fill blast holes since a VecLoader can be easily moved by a one-ton truck and the discharge design allows a controlled dump to the blast hole. Using a conveyor or front-end loader to fill blast holes generally results in overfills. **Copper and silver mines** also use VecLoaders for **conveyor spill clean up**. So do **foundries**. **Coal producers** clean dust and fly ash spills and accumulations with Vector vacuums. **Carbon processors** choose VecLoaders as vacuum conveyance does not destroy the granular nature of activated carbon, as would manual or mechanical alternatives. VecLoaders also have filtration systems capable of clean-up of **Carbon black** and similar fine materials.

**Asbestos Removal and Hazardous Material** contractors use the VecLoader Hepa Vac® due to the regulated nature of the product. VecLoaders reduce worker exposure to asbestos fibers and the process is far more cost effective than hand labor. Besides safety, a VecLoader Hepa Vac provides other benefits to the contractor. A VecLoader fills bags more compactly, thereby reducing waste disposal costs. Other **Haz-mat contractors** use the Hepa Vac to enhance control over the **remediation** process.

**Carbide plants** operate VecLoader Spartan vacuums to **clean their rafters, support structures, and balconies** since the product is extremely expensive and the recovered carbide dust can be reprocessed. **Brillion plants** and **brass foundries** clean all parts of their facilities using VecLoaders due to the hazardous nature of the dust and the value of the raw materials. **Wastewater treatment plants** select VecLoaders to clean filter beds since sludge cannot be effectively collected by hand. Other **wastewater and water department** uses include manhole cleaning, meter box cleaning and relocation, and dry well cleaning. **Cement plants** use VecLoader vacuum systems at bagging stations, for bulk transfer spills, conveyor spills, and general housekeeping.

**Abrasive blasters** operate VecLoaders to recover sand, steel grit or other blast media used for blast-cleaning bridges, water towers and other steel structures. The hazardous nature of lead dust precludes use of a front-end loader, so VecLoaders are called upon to convey heavy blast media with weights to 200 pounds per cubic foot, distances up to 1,200 feet. Vector vacuums are used to **recover grit and shot** in industrial blast booths.

VecLoaders are utilized worldwide in **catalyst change-outs** and other highly combustible processes where inert gas such as nitrogen is used in lieu of oxygen as the transport gas. VecLoaders are offered with closed loop systems insuring that ambient air is never in contact with the collected material or expelled to atmosphere.

VecLoaders have used on both barges and on land after **oil spills**. VecLoaders recover spilled **bulk solids, liquids, and slurries**. VecLoaders clean sump pumps. VecLoaders evacuate **radioactive sites and gunnery ranges**. VecLoaders are used in **wetland remediation** projects for the Army Corp. of Engineers. VecLoaders are used in **topsoil and gravel removal on underground storage tanks** in order to avoid tank damage.

VecLoaders clean hard to reach **crawl spaces** when soil is contaminated with trace minerals, asbestos, and other assorted elements. VecLoaders are selected for **barge and railcar filling, their bulk cleaning, and their final clean out**, avoiding cross contamination. VecLoaders **remove roofing rock** from built-up roofs and clean petroleum based resins embedded in processing machinery or spilled during transport or processing. VecLoaders vacuum around the perimeter of oil pipelines, water mains, and underground storage tanks where ruptures would be catastrophic. They also sit on a railcar as a component of a **pipeline coating rehabilitation** unit. VecLoaders collect **cow and horse manure from stables and exhibition halls**.

Vector HDD™ Vacuum Excavators are used to **vacuum excavate**, for locating utilities or other “**soft trenching**” when a backhoe or similar mechanical devise may damage the water or power line. HDD systems vacuum **bentonite drilling mud** generated by Directional Drilling rigs. Hydro Vac™ systems work with **Ultra High-Pressure Robotic Water Blast Crawlers** not only vacuum but to help keep the Crawler on the side of a ship. Vector Mud Vacs™ recover cuttings on oil platforms. Slurry Vacs™ recover the **slurry** generated from concrete saws in road building. Neptune and Super Jetter Combination Vacs™ clean **manholes, catch basins, sewer lines, and culverts**. Vector Hi-rail systems are operating in tunnels for various cleaning and other applications.

Vector systems are purchased by **OEMs** for integration into varied manufacturing systems. **Blast room, cutting tool and brick manufacturers** specify Vector vacuums. **Vector vacuums are part of process systems in clean rooms, chemical, resin plants, food plants, and glass plants**. And of course, Vector vacuums are called upon for general plant housekeeping and clean up.

In order to further expand our vacuum offerings, Vector Technologies Ltd. has acquired the Ross Cook Brand of vacuum products, specializing in multi-user Central Vacuum systems. Utilizing multi-stage centrifugal technology, Ross Cook Brand systems can support from one to twenty users simultaneously without effecting production as users are added or dropped off.

We hope the above is informative and would like an opportunity to work with your organization to improve its efficiency, safety and cost structure. Vector is committed to excellence in product design and customer support. If we can help in any way, call me at 1 (800) 832-4010, extension 17, or 1 (414) 247-7100. I can be E-Mailed at [pres@vector-vacuums.com](mailto:pres@vector-vacuums.com) and faxed at 1 (414) 247-7110. Additional information is available on our web site at [www.vector-vacuums.com](http://www.vector-vacuums.com). We look forward to the opportunity to be of service.

**Vector-performance proven vacuum solutions™.**

Very truly yours,

*Steve Schoenberger*

Stephen B. Schoenberger  
President

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