

Suction canister waste reduction

This reference list of canister-free and reusable canister vacuum systems provides suction canister waste reduction information for healthcare facilities.

A study completed by a MnTAP intern found that about 40% of the infectious waste from hospital operating rooms is suction canister waste. Suction canisters hold body fluids and saline solution that are suctioned out of a patient by an aspirator during surgical procedures and patient care. Under Minnesota Statute 116.76, waste body fluids are considered infectious waste—waste that has the potential to transmit disease. Some liquid infectious waste, including suction canister contents, can be disposed into a sanitary sewer system. Once the canisters have been emptied and are no longer dripping they can be disposed of as solid waste.

A vacuum system that uses reusable canisters or empties directly to the sanitary sewer can help a facility cut its infectious waste volume, reduce exposure risk and save money on labor, disposal and canister purchase costs. Reducing the number of suction canisters in your infectious waste will help your facility meet the Hospitals for a Healthy Environment (H2E) goal of reducing the volume of waste at health care facilities 30% by 2005 and 50% by 2010. H2E is a joint project of the American Hospital Association, the U.S. Environmental Protection Agency, Health Care Without Harm and the American Nurses Association developed to educate health care professionals about pollution prevention opportunities in hospitals and health care systems.

The U.S. Occupational Safety and Health Administration's (OSHA) 1991 Bloodborne Pathogens Standard requires engineering and work practice controls to eliminate or minimize occupational exposure to bloodborne pathogens, including those found in suction canister waste. Typically, facilities require employees to use work practice controls such as splash guards, goggles and gloves to ensure employee safety when emptying suction canisters. Canister-free vacuum systems and systems with reusable canisters have drainage features that eliminate the need to manually dump canisters. These provide greater employee protection, reducing the facility's liability.

Some vendors advocate the use of disinfectant powders to solidify and decontaminate suction

canister contents. The effectiveness of these powders is questionable because they have not been adequately tested on body fluids. Disinfectant powders are considered pesticides. Health care staff mixing the powder with the suction canister waste are not only exposed to a potential blood borne pathogen splash, but they are also exposed to a pesticide. Disposing of suction canister waste that has been mixed with the powders also adds more pollutants to the landfills.

MnTAP maintains this list of canister-free and reusable canister vacuum systems solely as a service to Minnesota companies. This is not a complete list and does not represent an endorsement by MnTAP. MnTAP, by providing this list does not guarantee that these products do or do not comply with environmental and safety laws in any specific application.

Determining Payback

Before purchasing new equipment to help reduce suction canister waste, evaluate its payback. In addition to calculating canister, solidifier and regulated waste disposal expenses, include costs associated with employee exposure, time spent dumping suction canisters and the potential liability of waste disposal. Equipment vendors can assist with this calculation.

Using data from a study completed by a MnTAP intern at HealthEast Hospitals, St. John's Hospital installed a reusable-canister vacuum system and is saving approximately \$40,000 a year.

For More Information

MnTAP has a variety of technical assistance services available to help Minnesota businesses implement industry-tailored solutions that prevent pollution at the source, maximize efficient use of resources, and reduce energy use and cost. Our information resources are available online at <mntap.umn.edu> or by phone at 612.624.1300 or 800.247.0015 from greater Minnesota for personal assistance.

Company	System/Canisters	Capacity	Utility Requirements	Cost	Notes
Dornoch Medical Systems, Inc. 888.466.6633 <dornoch.com>	Transposal Reusable, 200 uses or 2 years	3,000 cc each canister	1/2" hot water line, 1.5" drain line, 120 volt electrical outlet with 20 amp circuit breaker.	Approximately \$27,000. No installation required.	Disposal unit flushes collected fluids down the drain and cleans canisters with a disinfectant/ water flush. Unit is portable.
MD Technologies 815.598.3143 800.201.3060 <mdtechnologiesinc.com>	Environ-mate DM6000 Series Canister-free	From 1,500 cc to unlimited depending on model	2" drain line, 120 volt electrical outlet with 15 amp circuit breaker, 15" to 25" wall vacuum.	\$2,500 to \$6,000. Installation included.	Unit automatically cleans as part of the procedure. MD Technologies can provide installation. Unit is hard plumbed into facility.
Stryker Instruments 800.253.3210 <stryker.com/ instruments>	Neptune Waste Reusable	20,000 cc	Hot water line with dedicated shut-off valves, inlet accepts garden-hose style fitting. 3/4" drain hose runs into a drain or standpipe. 120 volt electrical outlet with 15 or 20 amp circuit breaker, depending on model.	Approximately \$22,500. No installation required.	Flush with hot water and replace manifolds after each use. Unit is portable.



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