

ABCO Industries Ltd.

Lunenburg, NS

The technology

Mobile dewatering (MDT) system.

This system replaces a conventional pumper truck for servicing waste treatment plants and septic tanks; it is mounted on the customer's choice of truck chassis. The system results in reduced mileage, pumping costs, disposal fees, and fuel costs.

Conventional pumpers convey a slurry of waste solids and water to a disposal site – often a sewage treatment plant. The MDT system separates solids from liquids and returns the liquids to the source location, thereby avoiding costs related to pumping and transporting water.

As combined solids and liquids are pumped into the vehicle holding tank, a flocculent is added to make suspended solids clump together. Dewatering takes place on a screened trough. A series of paddles move the slurry back and forth, gradually moving the solids up a slope as the liquid drains through the screen. The solids are pumped into a large onboard holding tank. The water, usually containing useful and valuable bacteria, is returned to the treatment system or septic tank either by pumping or through a continuous gravity drain, which reduces pump use and maintenance.

The system is computer controlled with a weatherproof touchscreen panel.

A typical volume reduction of 75–85% means being able to handle five times more jobs of similar capacity before having to discharge the load. This is the key to reducing costs. One MDT truck can replace several conventional trucks.

Solids can be disposed of in a composting facility rather than in a specialized sewage treatment plant. Built-in hydraulics open the rear of the tank, and a sliding bulkhead forces the contents out. The system includes an onboard pressure-wash system for cleanup and for cleaning pipes, etc. It even has an operator's hot-water hand wash station.

A recent study comparing the MDT system to a conventional pumper truck servicing 102 tanks in one area had the following results: the conventional pumper truck hauled 509 t mixed solids and liquids and travelled 7200 km; the MDT truck hauled 39 t dewatered solids (92 percent less weight) and travelled 640 km (91 percent less distance).

Specifications:

- Stainless steel construction for structural strength and corrosion-free long life
- Reduction in pumping costs greater than 50%, reduction in fuel costs greater than 80%
- Volume reduction: typically 75–85%

Environmental Benefits

GHG reduction is proportional to fuel reduction. Burning one litre of diesel fuel results in the emission of about 2.7 kg of CO₂.

Uses

Private contractor, municipality

Applications

Municipal wastewater treatment plants, residential septic systems, vacuuming & jetting operations on pipes of all kinds, replacing fixed dewatering systems

Advantages

Fewer trips and shorter distances, lighter loads, less fuel, reduced maintenance costs, prolonged truck life, more customers serviced per day.

ABCO was founded 1947 and currently employs approximately 60 people in Lunenburg, Nova Scotia. The company specializes in industrial engineering, design, and fabrication in the areas of food processing, aluminum boats, industrial equipment, waste and compost handling, recycling, and environmental equipment.

ABCO systems and components are proven to stand up to the harshest environments and hardest use while being operator- and budget-friendly. Foremost in the company's design considerations are safety, robustness, efficiency, and ease of maintenance.