

CASE STUDY

Volumetric mixing provides high-tech solution for concrete applications

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Innovative applications and additives are changing the concrete industry, as construction professionals find modern ways to use this ancient construction staple. With these new products comes the need for an equally advanced delivery solution.

Often these specialty concrete projects require a level of consistency and flexibility that a standard drum truck can't provide. In cases like this, the best solution is often a volumetric mixer.

WHAT IS A VOLUMETRIC MIXER?

A volumetric mixer is itself a portable batch plant containing preloaded ingredients that are used to produce a specific mix in a precise quantity, right on the job site. Unlike a standard drum truck that leaves the concrete batch plant preloaded with a specific mix, with a volumetric mixer, the ingredients are loaded into the mixer's individual compartments and are combined at the job site just before the pour. The mixing equipment is usually truck-mounted, although it may also be stationary or trailer-mounted.

"Volumetric concrete mixers are a disruptive solution in a traditional market," says Sam Overduin, sales and marketing manager of Bay-Lynx. "The biggest challenge is getting people to change the way they've done something in the past—but that's where the greatest potential lies."

Volumetric mixers can provide many advantages over traditional drum trucks:

- Even the smallest quantities of specialty concrete can be created fresh on-site, greatly minimizing waste.
- Specialty products, like the rapid-setting mixes used in highway repairs or those containing additives like latex for bridge deck overlays, can be created minutes before placing and won't set up in the mixer.
- Quick, on-site clean-out after the pour is easier than with a drum truck, with less hardened residue to remove.
- A volumetric mixer can perform several jobs requiring different mixes throughout the day without ever having to return to a batch plant.
- In highly congested urban areas, the equipment can remain stationary without losing time navigating through traffic. Instead, ingredients are delivered and loaded in for continuous operation.
- Since the concrete is created on the job site, the customer can easily alter the mix as desired.

Jerry Stoner, president of Zimmerman Industries, notes an increasing demand for innovative mixes and specialty work, saying the possibilities are intriguing. He wonders, "In the future, what else will we be able to do with volumetric mixers—beyond conventional concrete?"

LOOKING AHEAD

The newest generation of volumetric mixers is designed with sophisticated technology that automates the process from beginning to end, greatly increasing the mixer's versatility.

"Volumetric technology has evolved into something we hardly envisioned 15 years ago," says Andrew Coates, general manager of ProAll. "Automation not only improves accuracy in the mix, it's verifiable by computer."

Mark Rinehart of Cemen Tech agrees, saying that *"because volumetric mixers are complex systems, manufacturers are making their equipment easier to use through technology. Newer equipment allows remote monitoring of how it's performing, and it can be cleaned out with the touch of a button."*

A volumetric mixer is designed to produce consistent mixes to precise specifications from beginning to end, and the operators are trained to ensure the proper mix.

THE VMMB

The VMMB was organized in 1999. Its founders' mission was to develop an equipment-rating standard for volumetric mixers and to promote education and professionalism for their manufacturers and operators.

The organization has five charter equipment manufacturer members:

- Bay-Lynx Manufacturing, Inc. is an international company now working on building an integrated accounting system for their mixers.
- Cemen Tech Inc. was an early adopter of volumetric technology, has 50 years of global experience and currently manufactures one of the most advanced volumetric mixers on the market today.
- Elkin Hi-Tech, Inc. has built volumetric mixers for every branch of the U.S. military and is focused on technological advancement.



- ProAll evolved from a small, family-owned Canadian business in the 1960s to an award-winning international business today.
- Zimmerman Industries, Inc.'s founder Harold Zimmerman invented the first volumetric mixer in the 1960s and their innovation and leadership continues in the market today.



The current membership roster also includes Custom-Crete, a concrete supplier specializing in volumetric mixer pours.

The organization continues working toward its aim of promoting education and industry professionalism. It recently introduced its first volumetric operator certification program, including training modules on safety, concrete technology, volumetric operation and maintenance, and customer and company relations.

"Operators have needed to fill many roles—that of driver and batch man," says Jerry Gaubert, vice president and general manager of Custom-Crete and chairman of the Volumetric Mixer Manufacturers Bureau (VMMB). "The job requires attention to detail and a variety of skills."

VMMB MEMBERS



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