



Customer Requirements Lead the Way

Strong Manufacturing, located in Pine Bluff, Arkansas, is one of the nation's leading equipment manufacturers for mixing and pumping concrete and gypsum of every kind for every purpose. Their outstanding reputation is the result of their total focus on customer needs and delivering the high-quality equipment that meets those needs.

According to Dewar Gleissner, a mechanical engineer at Strong Manufacturing, "We have standard machines, but if the customer wants something specific, we'll work with them to create a fully custom setup that gets the job done."

This kind of customer focus led to the development of the FloorMate80E (E for electric). The small, pull-behind machine both mixes and pumps various materials for jobs that include floor underlayment, decorative floor topping, 3D printing, fireproofing, grouting and more.

Several Concrete Reasons for Going Electric

New health and safety requirements on job sites prohibit any kind of exhaust in the building. With a combustion machine, workers have to pipe the exhaust out of the building or find a way to place the machine outside.



Quality Mixing and Pumping Equipment Since 1964



The FR-A800 VFD enables the use of a standard single phase 240V outlet, while delivering a three-phase output.

“I think the key to success in this project was the ability to leverage the relationships between customer, distributor, and supplier. If we were to always use this approach as a roadmap, we could help everybody innovate in every industry.”

– **JT Koncaba, Outside Technical Support**
Womack Machine Supply Co.



So when a customer expressed interest in an all-electric machine for use in residential and commercial buildings, Strong engineers got busy. They created the FloorMate80E, an eco-friendly machine that:

- Eliminates consumables such as hydraulic oil and gas
- Eliminates the possibility of leaking fluids on site
- Is quiet, compared to gasoline-powered machines
- Doesn't require workers to stop production to refill the gas or hydraulic tank
- Saves the company money that would be spent on fuel, filters and fluids.

It's interesting to note that the predecessor to this all-electric machine, the Floormate80, offered both combustion and 3 phase electric operation. But both units powered a hydraulic system. The FloorMate80E replaces the hydraulics with an electric motor and uses the more readily available 240v single phase.

A Trusted Integrator Makes the Development Process Easy

To handle their customer's request for an all-electric machine, Strong Manufacturing turned to Womack Machine Supply, a long-time partner and provider of

hydraulic systems. As the development process got underway, Womack suggested using Mitsubishi Electric Automation for their highly reliable automation components.

Throughout the process of creating an all-electric machine, the Womack team was a constant presence and handled the programming for the system, while the Mitsubishi Electric team designated the electrical components. The project was completed in several stages, with each stage making improvements over the last.

Big Capabilities in a Compact Size

In developing this all-new, all-electric machine, one of the goals was to give it a slim profile. After all, if the unit was needed on the upper floor of a new building, it would have to fit in an elevator and make it through a standard doorway.

To meet the size requirement, Engineered Solutions from Mitsubishi Electric integrated their FR-A800 VFD into the control panel. This VFD enabled the use of a standard single phase 240V outlet, while delivering a three-phase output. For easy operation, the machine's electric control panel was mounted on the outside of the machine where the electric pumps start easily with the flip of a switch.

The portable FloorMate80E is a workhorse, handling a wide range of materials, pumping each at the perfect pre-programmed speed





“We’ve done multiple projects with Womack that involved Mitsubishi Electric Automation. So we were very comfortable and understood what great products are put out by Mitsubishi Electric. It was an easy decision and their VFD was perfect for what we were trying to do.”

– Dewar Gleissner, Mechanical Engineer
Strong Manufacturing

The Key to Success: Customer, Distributor and Supplier Collaboration

According to Womack’s JT Koncaba, Outside Technical Support–Arkansas, “I think the key to success in this project was the ability to leverage the relationships between customer, distributor, and supplier. If we were to always use this approach as a roadmap, we could help everybody innovate in every industry.”

The end result of this collaboration was the highly reliable FloorMate80E. This workhorse can handle a wide range of materials, pumping each of them at the perfect pre-programmed speed. If additional output is required, a secondary mixer can double output by doubling the mixing capacity. And when needed, the FM80E can also be used as a secondary booster pump to deliver materials to upper floors.

“Thanks to the tremendous support from Womack and Mitsubishi Electric,” Gleissner concluded, “I was able to deliver a machine that does more than we initially set out to do. It does what the customer wants and more.”

Bottom line? This eco-friendly answer to one customer’s request will enable contractors to eliminate the maintenance and expenses that come with a non-electric solution. It took a team to make it happen and today that team is ready for whatever is next.

AUTOMATION SOLUTION INGREDIENTS

- **FREQROL FR-A800 VFD**
- **Engineered Solutions Custom VFD Panel**

NEXT STEPS

For more information or a free consultation with an automation engineer, please

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Strong Manufacturing
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the World**