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Material Handling in the Pharmaceutical Environment



The Meto Technology Advantage

The technology behind Meto Lift equipment is fairly simple: lift, tumble, blend, dump, position and stack.

It's true. When it comes to the design, engineering and assembly of its equipment, Meto Lift can go toe-to-toe with any of its competitors. What makes Meto Lift equipment truly exceptional, however, is the team that stands behind it.

"The real value of Meto Lift equipment is how we apply the technology and find solutions for our customers," Engineering Manager Adam Baird said. Our engineers are committed to developing customizations for every manufacturing environment."

It's all part of the Meto Technology Advantage.

Equipment that Meets and Exceeds Industry Standards

Even the simplest machines are useless if they do not meet industry standards.

Meto Lift's equipment not only meets but exceeds industry standards thanks to a detail-oriented culture. Smooth and polished surface finishing—some of the best in the industry—makes Meto equipment easy to clean, easy to maintain and easy to appreciate.

All equipment is designed with Good Manufacturing Practice standards in mind. Product contact surfaces are crevice-free with welds ground smooth and polished to match, horizontal surfaces are minimized to eliminate areas where dust can accumulate, and all areas are designed to completely drain when washed down.

Given the FDA's stringent regulations, Meto Lift's attention to otherwise minor technical details are vital to pharmaceutical manufacturers that rely on sterile and easy to clean equipment for their reputation and revenue.

Evolving Equipment That's Standardized and Customized

In 2000, Meto Lift went through a major redesign and introduced a modular product line, which now makes up the bulk of the company's sales. Moving to modular products, even for heavy equipment, shortened delivery times and got customers up and running much more quickly. What once took 14 or 16 weeks to ship out can now take as little as six.

In the mid-2000s, Meto Lift again adapted designs to reflect advances in the material handling equipment industry. Most recently, Meto Lift introduced an entire line of mobile powered equipment designed from scratch. The advantage of designing and manufacturing original parts means Meto Lift has complete control over its equipment, and can better customize individual units. Other manufacturers often purchase generic units and rebuild them to meet customer specifications. This can add an extra layer to the production process which can mean maintenance or repair delays for the consumer.

Creating original modular equipment presents a number of unique challenges, however. It isn't one-size-fits-all thinking. When it comes to meeting customer needs Meto Lift's design engineers are all about thinking outside the box.

Customers have very specific needs when it comes to process system integrations, process area layouts and friendly operator controls. Meto Lift's engineers are used to innovative alternatives and coming up with more than one answer to a problem.

"We like to find the right solution," Baird said. "Giving customers a variety of options helps them find the system that will work best for them."

Starting a liquid blending process with a single push of a button might be efficient, but from a safety perspective some operation managers might rather see an additional step added to the process.

"That's where customized technology comes into play," Baird said. "Each customer has a unique way of handling material, and we want to make sure our equipment can be modified to meet their specific needs."

Touch screens and keypads make a lot of sense when there's an operator on duty directing a complicated, multi-step, stage of the manufacturing process. For simpler tasks, a push-button starter may be all that's required.

Sometimes the right solution is a matter of size, not style. When lifting and dumping, switching from a ten-gallon drum to a bigger container can mean fewer lifts, fewer dumps, and ultimately a more efficient process. Thus, the right size and type of equipment, outfitted to meet customer and operator needs, can translate into an incredible competitive advantage.

That is technology done right!

Technology + Experience = Problems Solved

When a customer comes to Meto Lift, they're getting more than just a durable, technologically sound piece of equipment. They're also getting the years of experience Meto's team has invested into using that equipment in a variety of ways.

“When a customer tells us about a process giving them trouble, they only know how *their* company has chosen to handle it,” Baird said. “Meanwhile, we have probably seen that process 150 times in 150 iterations.”

That means Meto Lift’s staff can help solve even the most complicated problems and can offer a solution that will save the customer time and money

“A manufacturer of processing ingredients for the beverage industry came to us with a simple process, but with a number of unusual requirements,” Baird said “They had a 50-cubic-foot open-head vessel filled with blended powders that they needed to transfer into a 9-foot high hopper that fed their packaging line. Due to cleaning requirements between batches, a screw conveyor or vacuum transfer system was not an ideal solution, and they wanted to gravity feed the product.”

That’s where it got challenging, he said. The manufacturing site was a single-story building, which made the option of discharging powder from the floor above the processing line nonexistent.

Instead, they needed a lifting and positioning device to raise the vessel above the line. Cycle time of the equipment was critical to keeping the packaging line running non-stop and—to top it all off—the product had difficult flow characteristics.

Anyone could have sold them a lift and an inverter, but that wouldn’t have solved the problem efficiently. So, the Meto team went to work.

“In order to handle the large vessel, we adapted our standard concept for handling small product drums and scaled it up to handle the much larger vessel,” Baird said. “This device clamped a closed discharge cone to the top of the vessel so that it could be inverted to discharge product through the cone. A 12-inch butterfly valve was affixed to the outlet to control the flow of the product, and an internal agitator bar was included to prevent bridging of the product inside the cone to improve flow speed.”

Cycle time? That required the inclusion of encoders on all axes of motion so that they could all run simultaneously. Rather than running through a step-by-step sequence, several steps ran concurrently to minimize the amount of time it took to move the vessel into position.

Finally, the system was provided with a color touchscreen interface so sequences and positioning could be easily adjusted by the operator to improve cycle time.

Technology meets experience, and the customer wins, every time!

Good Technology Uses the Best Option, Always

Meto Lift is decisive about drives, because the best available option should really be the only option.

Take the drive system. Hydraulic drive lifting systems are common in Europe where many German companies use them in both their mobile and stationary systems.

But Meto Lift only uses hydraulic drives in mobile equipment because using it in other products would limit height capabilities.

“And we rarely use hydraulic drives in equipment made for the pharmaceutical industry,” Baird said. “The slightest hint of an oil leak—even food-grade oil—will bring production to a halt.”

Ball screws are another option, but they tend to be maintenance heavy. Plus, height is once again a problem. Even a modest variation in height requires a whole new screw assembly. That means critical down time to replace a sizeable part of the system.

Meto Lift relies primarily on roller chain drives. They’re easy to maintain with standard servicing, and they don’t have nearly the length and height limitations—they can go up to 60 feet.

There’s a lot of careful thought, experience and creativity behind both the design of Meto Lift’s equipment and its applications for customers.

Lifting, tumbling, blending, dumping, positioning, and stacking – the simple, yet vital steps necessary to the health of your manufacturing process. Meto Lift has built its reputation on designing machines that do these simple jobs efficiently and effectively.

Because at Meto Lift, we handle the heavy lifting.