

Optimizing quality and production in the pharmaceutical and dietary supplement industries

Raising the bar in the dietary supplement industry to pharmaceutical standards, Enzymatic Therapy has relied on compact vibratory screeners to optimize product quality and production while meeting growing demand

When Enzymatic Therapy stopped outsourcing and built its own FDA-approved manufacturing facility, the goal was to improve product quality, streamline production, and ramp up sales growth. Now the Green Bay, Wisconsin-based manufacturer of dietary supplements and over-the-counter (OTC) medications is one of only a select few dietary supplement manufacturers that are in full compliance with the Good Manufacturing Practices (GMPs) established for drug manufacturing facilities. Sales have also grown along with product quality.

The company follows FDA pharmaceutical quality standards in all facets of their business, from raw material evaluation and supplier selection to laboratory analytics for quality, purity, potency and efficacy. While some dietary supplement manufacturers place encapsulators next to each other in the same room despite cross contamination risk, Enzymatic Therapy dispenses product in separate rooms with negative air pressure to prevent cross contamination. Among their proactive efforts, they conduct preventive microbiology testing to detect pathogens, high performance liquid chromatography (HPLC) testing to independently measure vitamins and compounds, and dissolution-disintegration testing to determine a product's bioavailability or absorption by the body.

When a company is as committed to quality and streamlined production as Enzymatic Therapy, starting the manufacturing process off properly is critical. A crucial step was selecting the right sieving equipment to remove any agglomerates, oversize particles or contaminants from incoming raw dry materials.

"For a quality end product, we need quality from the start," says Dave Hoffman, Production Lead for Enzymatic Therapy. "Sieving is the first step in manufacturing for every product we make. We depend on it to break up lumps and remove any foreign materials. When some materials come out of containers, they're hard as a rock yet have to blend properly with all the other materials."



- Improves product quality
- Reduces downtime
- Simple and quick to clean

To streamline production, raw materials must also have uniform weight to run well on equipment. "We don't want lumpy blends that we have to remix," says Hoffman. "The product has to properly form tablets or fit into capsules."

For quality assurance and maintenance reasons, the company frowned on brushes or metal rollers that pushed product through the sieve. "We wanted to avoid the possibility of brush fibers getting into product, as well as issues of chains, grease, and metal debris potentially linked to metal rollers," says Hoffman. For similar reasons, they disapproved of equipment where parts could potentially vibrate loose into the product stream.

“The right sieving equipment had to meet pharmaceutical grade standards, not just those for food processing,” explains Hoffman. “To minimize production downtime, all surfaces had to be cleanable. The equipment had to be quick to disassemble/reassemble, and easily portable to go where needed.”

To resolve these challenges, Enzymatic Therapy chose a high-capacity, 22-inch Vibrasonic Compact Screener from Russell Finex of Pineville, NC. Russell Finex has a long history of addressing the pharmaceutical industry’s needs and extensive experience working with customers to determine the appropriate use of screening and filtering equipment to meet specific requirements.

The first step in ensuring quality involves passing all dry materials through a 16-mesh screen to remove oversize particles. A special magnetic trap removes any sub-mesh sized ferrous contaminants, which can sometimes occur due to the pulverizing or processing of raw materials into powder.

“While some manufacturers do ferrous metal detection at the end, in encapsulating and tableting areas, we do it at the beginning,” says Hoffman. “That way we can ensure that the raw materials are pure before continuing production. There’s no sense in coating a capsule or tablet, only to find out they don’t meet quality standards.

Some materials are also run through a finer 40-mesh screen to improve binding with other materials. “What emerges is a nice, uniformly blended product that’ll pass lab specs, flow on production equipment, and dissolve properly for consumers,” explains Hoffman. “Being proactive about sieving also minimizes downtime on all our other equipment downstream.”

For over 70 years Russell Finex has manufactured and supplied screeners, filters, and separators to improve product quality, enhance productivity, safeguard worker health, and ensure powders and liquids are contamination-free. Their unique, vibratory Compact Screeners are a breakthrough improvement over conventional screeners where reliability, cleaning efficiency, and headroom or room size are issues.

Unlike some screeners which have commercial hardware such as nuts and springs exposed to the material being screened, Hoffman appreciates that the Russell Finex unit does not, thereby eliminating the risk of hardware vibrating loose to enter the product stream. “Materials go right through the screener into containers, and there’s no chance for parts to vibrate loose into product,” says Hoffman.

Since the Russell Finex Compact Screener is crevice-free - and entirely constructed from polished stainless steel including stands - all surfaces are easily cleanable. Its simple design makes it easy to strip down and clean without tools.

“There’s no need for tools or a toolbelt when cleaning the Russell Finex unit,” says Hoffman. “We can strip one down for cleaning in 30 seconds and reassemble it just as easily so there’s no wasted downtime.”

As Enzymatic Therapy’s business has grown with its focus on quality, production, and customer value, it has purchased additional Compact Screeners from Russell Finex. Enzymatic Therapy now has a total of four Compact Screeners in applications ranging from initial ingredient dispensing to product mixing. Mounted on castors, each unit is fully portable and able to fit into tight spaces not achievable by larger, less efficient models. This can be particularly helpful in areas with limited headroom or when fitting into existing production space.

“The units add capacity without taking extra space,” says Hoffman. “Because they’re mobile, we just wheel them wherever we need them.” Hoffman also appreciates the units low noise level due to solid rubber suspension, which makes conversation easier on the production floor

“As we’ve grown, the Russell Finex Screeners have helped us optimize our quality and production,” concludes Hoffman. “They’ve been an integral part of our growth as we’ve produced OTC medications and raised the bar on dietary supplements to pharmaceutical standards.”

Throughout the world, Russell Finex serves a variety of industries with applications including pharmaceuticals, food, chemicals, adhesives, plastisols, paint, coatings, metal powders and ceramics.



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