LEADERSHIP IN EQUIPMENT AND TECHNOLOGY

WALKER ENGINEERED PRODUCTS

RODEM® PROCESS EQUIPMENT

www.rodem.com 800-543-7312
Walker Engineered Products, the leader in the design, manufacture and service of vessels provides the highest quality solutions in stainless fabrication technology from our facilities in New Lisbon, Wisconsin; Elroy, Wisconsin; and Tavares, Florida. Founded in 1943, Walker has over 60 years of experience in stainless steel design and fabrication. We focus on leading the food, beverage, dairy, fine chemical, biopharm and personal care industries with a full range of high-value, high-quality products built to meet and exceed our customers’ most challenging applications. Working directly with the customers, our skilled staff is always available to discuss options, design approaches and opportunities. We also work closely with key suppliers, interacting to update and maintain our total knowledge base to help meet the challenges of each individual application, and we use lean manufacturing techniques to assure we deliver the highest value product possible. Experienced craftsmen and professionals assure our customers that Walker Engineered Products is the best choice for cost-effective solutions.

Walker Engineered Products is a division of Walker Stainless Equipment Company, LLC, which is a privately owned company comprised of four operating units:

- **Walker Transport**, based in New Lisbon, WI, manufactures sanitary and chemical trailers for transporting liquids;
- **Walker Engineered Products**, based in New Lisbon, WI, designs and custom fabricates processing and storage tanks and vessel components;
- **Walker Barrier Systems**, based in New Lisbon, WI, designs and manufactures barrier isolator systems used for aseptic processing and potent compound containment as well as glove boxes for the nuclear industry, and;
- **Extract Technology**, based in Huddersfield, U.K., designs and manufactures products for the containment of potent compounds, including downflow booths, pack-off systems and isolators.

With a focus on products for the Food, Dairy, Beverage, Pharmaceutical, Fine Chemicals, and Personal Care Industries you know Walker can help your company achieve the results you want.
**Walker Engineered Products**

Value starts with design. From a substantial database of practical knowledge drawn from decades of experience we use tools to simulate heat transfer between the vessel jacket to the product, and model scenarios for vessel agitation so that the optimum solution for design can be achieved for each specific process. Our engineers then use state of the art engineering technology and computer modeling techniques to work within the context of sanitary design to meet the requirements of seismic and pressure vessel codes. We design to good manufacturing practices to begin the stringent quality processes.

We use a team-orientated approach that forges strong links between our engineers and manufacturing.

Project scheduling data is drawn from the MRP system to build up a Gantt chart to plot the schedule for a multiple vessel project.

![An example of the use of finite element analysis to determine the stresses that a 70,000 gallon silo will be subjected to during transit from our factory to the process site.](image)

![WO Traveller screen shot of a material traveller used to track material through the fabrication process. All linked to our MRP system to provide real time data to manage our operations.](image)

![Pressure vessel design is aided by Codeware to ensure compliance with appropriate codes.](image)
We provide a broad range of products for mixing and blending, including process vessels, aseptic tanks, vertical and horizontal storage tanks and silos. With the benefit of our experience and application knowledge we also provide a wide range of agitation technologies that includes sweep, scraped surface, counter rotating and high shear mixing. In addition, we provide dimple, channel, and half pipe heat transfer solutions to meet the ever-changing needs of our customers’ markets.

Walker Engineered Products has brought to the market innovations like the USDA-accepted horizontal CIP agitator. We also build to 3A Sanitary Standards, and in accordance to USDA regulations.

**Custom Fabrication**

Our specialized craftsmen have diverse experience in producing custom equipment. Applications include evaporators, dryers, specialized heat exchangers, pressure vessels and vacuum vessels. Our products may use higher alloys such as Hastelloy and AL 6XN®. We design and build vessels to ASME & CRN standards and can also, upon request, comply with certain categories within the PED regulations.

Our heritage is the foundation of our performance
## Viscosity and Examples of Common Food

<table>
<thead>
<tr>
<th>VISCOSITY RANGE</th>
<th>PRODUCT EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 500 cps</td>
<td>water, milk, fruit juices, ice cream mix</td>
</tr>
<tr>
<td>500 to 2000 cps</td>
<td>catsup (hot), jams, spaghetti sauce, whey (50% solids), corn starch</td>
</tr>
<tr>
<td>2,000 to 5,000 cps</td>
<td>barbecue sauce, pancake mix, chocolate syrup, honey, tomato sauce</td>
</tr>
<tr>
<td>5,000 to 15,000 cps</td>
<td>fruit purees, condensed milk, juice concentrate, sour cream, tomato paste, yogurt</td>
</tr>
<tr>
<td>15,000 &amp; Up cps</td>
<td>cream cheese, baby food, liquid sponge mix, molasses</td>
</tr>
</tbody>
</table>
Our experienced and dedicated craftsmen are industry specialists committed to the BioPharm marketplace, and we work closely with suppliers to develop features and accessories specifically designed to enhance our products. Walker’s leadership in the design and manufacture of ASME vessels for the pharmaceutical and biotech industries requires the maximum priority on quality and integrity. We provide the highest standard FAT (factory acceptance testing), including spray ball testing, and we include full documentation packages with weld inspection reports and Ra mapping. We also specialize in working with higher alloys featuring Hastelloy and AL 6XN®.

Offering the latest, most advanced design enhancements in vessel manufacturing and accessories.
Liqui-mixer™ – For mixing light to medium bodied products.

The Liqui-mixer™ combines simple design with ingenious engineering to provide the perfect solution for dispersing and mixing of powders into light to medium bodied products. With capacities of up to 600 gallons the Liqui-mixer is easy to use, and easy to maintain, it’s the perfect solution for a variety of food, chemical, and pharmaceutical product applications.

We began with geometry, and a simple square design that provides optimal flow properties without the need for internal baffling. The impeller pulls product from the top center of the tank to the bottom, then forces it up the side to the surface for recirculation. Repeating this process many times per minute, the Liqui-mixer assures complete hydration to dissolve solids or semi-solids quickly and efficiently. In fact, any product that can be dissolved by agitation can be put into complete solution in 1 to 3 minutes!

The Liqui-mixer™ with its high speed mixing is ideal for...

- light to medium bodied food mixes
- chemicals
- pharmaceuticals
- beverages
- dairy products
- confections
- bakery products

Multi-mixer™ – For mixing heavy, viscous products

The Multi-mixer capacities range from 50 to 600 gallons. It meets 3-A sanitary standards, and features integral CIP as standard equipment. The combination side/bottom scrapers prevent burn-on and speed up clean-up. The heavy-duty baffle optimizes mixing action. It also comes with heat transfer system and impeller drive options.

Mix, Chop, Heat or Cool the Multi-mixer is ideal for...

- Sauces
- Dips
- Syrups
- Batters
- Candy Mixes
- Fortified Drink Mixes
- Starch or Nutrient Slurries
- Powder Reconstitution
- Cosmetics
- Pharmaceuticals

The Multi-mixer™ does the work of multiple pieces of equipment by providing:
- high speed mixing of heavy-bodied, viscous products.
- efficient chopping of mixture components (from room-temperature to near-frozen) to quickly form a uniform slurry.
- gentle agitation for even the most fragile food products.
- concurrent heating or cooling of any product being mixed.
Vertical Silos

Walker silos, for installation on a flat horizontal pad for either internal or external location, offer dependable and economical product storage solutions. They are designed to specific space and applications needs, with a variety of exterior finishes including stainless steel wrap (either light gauge lapped or heavy gauge all welded), or the lower cost painted carbon steel outer shell. The silo base is a proven and unique design incorporating a series of "Z" rails that give unequalled support of the base of the product vessel to ensure long life of the entire structure. Walker offers options in designing your silo to meet your specific needs:

- Heat transfer jacket according to the thermal duty and media available
- Conventional spray down CIP or specially designed spray-up CIP system
- Capacities from 5,000 gallons to 70,000 gallons
- Vertical or horizontal agitation
- Site-specific access equipment

CIP Agitators

Walker Engineered Products has developed a unique horizontal agitator that is USDA accepted for mechanical cleaning for use in 3-A dairy silos & storage tanks. During CIP, the one-piece stainless steel body and agitator shaft assembly is connected to the CIP supply line. This forces CIP solution through the assembly and, via a specially contoured nose, directs pressurized flow to effectively clean the impeller blades. The unique one-piece construction eliminates internal threads. The self-lubricated internal plastic bushing is grooved for effective flow, minimal maintenance and cleanability. This provides a self-lubricated bearing surface between the shaft and body housing. The sanitary internal construction is free from internal springs, unsanitary crevices, and threads for more effective CIP flow-through cleaning. The simplicity of the design ensures that all basic components can be removed in just a few minutes to facilitate full inspection of all internal parts.
Vertical Storage Tanks

In addition to the range of silos, Walker offers a range of vertical storage tanks with dish, flat pitched or cone bottom design supported on legs or side mounted lugs. Application specific options are available and include:

- Heat transfer jacket on side wall and/or vessel bottom
- Insulated or single shell
- Agitation
- Side or top entry manway
- 304 or 316L stainless steel, other materials are also available
- Atmospheric or pressure design

Horizontal Storage Tanks

Walker’s stainless steel round horizontal storage tanks offer the dairy, beverage and food industries all the holding capacity required – in single or multiple-unit installations. Standard sizes range from 1,000 to 20,000 gallons and can be customized to your specifications. All Walker units meet or exceed 3A or USDA standards.

Horizontal storage tanks are available in refrigerated cold-wall models and non-refrigerated designs. Both tanks maintain efficient cooled product storage and are fully insulated with three inches of polystyrene. CIP cleaning is easy with flush interior fittings. Storage tanks are designed for regular floor mounting or for through-wall installation.

Continuous length leg angles are welded to the reinforcing rings. This allows the loaded weight to be equalized throughout the tank bottom and directly transferred to the legs. Adjustable ball feet allow proper tank leveling.

Horizontal storage tanks can be equipped with either vertical or horizontal agitators. Vertical agitation is ideal for continuous product agitation. Located in the center of the tank 8” to 10” from the bottom, it effectively agitates milk, cream, ice cream mix and other dairy food products until the product is almost completely drained from the tank. Walker agitators are designed for fast assembly and disassembly without tools.
PRODUCT CATEGORY: STAINLESS STEEL PROCESSING TANKS

Model PZ -Sloped Bottom, Side Outlet Processor
The Walker Model PZ processor is a multi-purpose unit providing mixing and blending with fast heating and cooling. The stainless steel heat transfer surface covers the sidewalls and bottom and is divided into separately controllable zones for maximum efficiency, flexibility and control when processing partial batches.

Model PZ-CB Cone Bottom, Center Outlet Processor
The Walker Model PZ-CB processor is a multi-purpose unit designed to handle products such as sour cream, chip dips, yogurt, salad dressings, relishes, etc. It features a cone bottom, pitched to a center outlet and a scraper blade agitator assembly with removable molded nylon blades, which continuously wipe the bottom and sidewalls to blend the product, increase heat transfer efficiency and aid in unloading. The Model PZ-CB is also available with sealed agitator port for pressure and/or vacuum processing.

Model PZ-K Stainless Steel Processor Kettle
Separately Controlled Heat Transfer Zones Permit Processing of Partial Batches with Maximum Efficiency. Walker’s Processor-Kettle is a sanitary, high-performance, insulated, multi-purpose processing vessel designed to perform high-speed mixing, blending, heating and cooling of a wide range of products including viscous materials. It features an agitator system of dual counteraction design to assure a thorough uniform blending of products and incorporation of ingredients.

Model PZ-ST Enclosed Starter Processor
This specially designed processor provides a high degree of protection for the production of bulk starter and minimizing chances for bacterial and phage contamination. It is a completely sealed unit.

Hi-Mix™ Tanks
Ideal for rapid incorporation of powders and particulates into slurries, high-speed agitation is achieved with squirrel-cage agitator and economical helical gear agitator drive. Use an optional variable speed, programmable motor drive to meet various processing cycle requirements. Custom Hi-Mix tank sizes, agitation, materials, finishes and other options are offered with flat or cone bottom designs.

Capacity Capabilities
Walker offers standard designs for processors up to 6,000 gallon tanks. Larger sizes can be built to customer specifications.
PRODUCT CATEGORY: 
PROCESSOR AGITATION

Walker Engineered Products offers a wide range of agitator design options and combination for the processing tanks

- Side & Bottom Sweep
- Offset Squirrel Cage Agitator
- Offset Turbine Agitator
- Offset Baffle with Scraper Blade Agitator
- Offset Turbine with Scraper Blade Agitator
- Finger Baffle with Scraper Blade Agitator
- Counter Rotating Agitator with Scraper Blade Agitator

Finding the Optimum Agitation for your product:

<table>
<thead>
<tr>
<th>VISCOSITY RANGE (CPS)</th>
<th>0 to 500</th>
<th>500 to 2,000</th>
<th>2,000 to 5,000</th>
<th>5,000 to 15,000</th>
<th>15,000 &amp; up</th>
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</thead>
<tbody>
<tr>
<td>PZ &amp; PZ-ST</td>
<td>BEST</td>
<td>GOOD</td>
<td></td>
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<tr>
<td>sloped bottom, slide outlet, multi zone heat transfer</td>
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<tr>
<td>PZ -CB</td>
<td>GOOD</td>
<td>BEST</td>
<td>BEST</td>
<td>BEST</td>
<td>GOOD</td>
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<tr>
<td>cone bottom, center outlet, multi zone heat transfer</td>
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<tr>
<td>PZ -CR</td>
<td>BEST</td>
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<td>counter rotating agitators, cone bottom, center outlet, multi zone heat transfer</td>
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<tr>
<td>PZ -K</td>
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<tr>
<td>process kettle, center outlet, counter rotating agitator, multi zone heat transfer</td>
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<tr>
<td>HI-MIX</td>
<td>BEST</td>
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<td>sloped bottom, squirrel cage agitation-powers/particulates into slurries</td>
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<tr>
<td>MULTI-MIXER</td>
<td>GOOD</td>
<td>BEST</td>
<td>BEST</td>
<td>GOOD</td>
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<td>bottom mounted high speed mixer counter rotating agitator, options—heat/cool</td>
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<tr>
<td>LIQUI-MIXER</td>
<td>BEST</td>
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<td>bottom mounted high speed mixer—agitation-powers/particulates into slurries</td>
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Counter-Rotating Agitators

Two separate agitators provide even mixing and blending of highly viscous products. Nylon scraper blades on outer agitator assembly pull products off interior heated walls while center agitation blends and mixes product into a homogeneous mixture.

Offset Turbine with Scraper Blade Agitator

Internal view of a cone bottom processor shows the dimple bottom heat transfer surface, agitator with nylon scraper blades, axial flow turbine agitator, baffle and temperature probe wells.
In addition to providing the finest stainless fabrication available today, Walker is able to supply vessel heads, manways and other specialized components. And Walker is there when needed, even well after the sale. Our dedicated parts department stocks most standard components and accessories, and we can quickly turn around any special requirements.

Our field service department consists of several specialized crews experienced in “on-site” conditions. We can repair equipment at your location no matter how demanding the application. We’ll help get your production up and running rapidly and effectively. It’s the aftermarket support you expect from the leader in stainless equipment and technology.