

# Goodness, From Tank to Table



**MUELLER**

**FOOD AND DAIRY PROCESSING EQUIPMENT**

**MUELLER**

# Processing and Storage Tanks for the Food and Dairy Industries

## Dedication to Pure Ingredients

It is your name on the label. That is why we back the quality of your process with our name. At Paul Mueller Company, we bring no-frills quick thinking and a focused effort to every dairy silo and food processing tank we build.

We stand by our equipment and our customers with a collective vision to have a lasting impact on the food and dairy industry.

Whether our equipment preserves raw milk or helps process the foods that go into your customers' homes, together we are making an impact from the tank to the table.

## Honest Dedication

We understand how our equipment can fit into your whole system. That is why our focus is on customer service, industry knowledge, and a willingness to always serve up the solution rather than serve up a product for sale. Our dedication to each project starts with innovative thinking around the most efficient equipment for your business.

During production, we update you on progress and refine every last detail for maximum return on your investment. From manufacturing to shipping, your equipment stays in the hands of Mueller®, so the quality is protected and startup is smooth.







# Standard Equipment, Custom Specifications

We take the time to understand your goals, requirements, and challenges to give you a processing solution that gets it right the first time, so you can focus on the rest of your operation. Your specific product will guide our designers and engineers as they configure the best standard or custom equipment applications to meet your objectives. Product viscosity, agitation, heat transfer requirements, material finishes, and fittings will all be considered in your project.

Our tanks and vessels can be shop built up to 100,000 gallons and 16 feet in diameter. We offer materials of construction from 300-series stainless steel to special alloys; material finishes from mill or HRAP to electropolish; and material thicknesses ranging from gauge to one inch. The smallest to the largest tanks are built and transported to your facility by Paul Mueller Company.





# Silo Storage Tanks

When it comes to storing and processing the ingredients that make up your end product, you deserve a manufacturer who doesn't just build you a silo, but asks exactly the right questions about your specific needs before starting. Our model "SV" silos are optimized to provide the best product protection. The silo's vertical design allows for maximum product storage in minimal space.

## STANDARD FEATURES

- Capacities from 5,000- to 100,000-gallons.
- Flat-pitched bottom with all-stainless-steel "bullseye bottom" support structure engineered for your product and location.
- Type 304 stainless steel inner liner with large radius corners; 32 Ra (3-A) finish for sanitation and ease of cleaning.
- Clean-in-place (CIP) system with vented door, separate vent line with screens, and a removable manifold assembly.
- Horizontally mounted, USDA-accepted, mechanical agitator system built to 3-A Sanitary Standard 22.
- 3" rigid insulation on sides, 3" fiberglass on top, and 3" foam insulated outer bottom.
- Stainless steel 2B finish exterior or coated aluminum available in a variety of colors.
- Liquid level gauge connection for constant monitoring of fluid volume.
- Insulated manway door with product sampling valve.
- Dial thermometer and recording thermometer wells.
- Designed for pad mounting on a flat concrete base.
- Heat tape and insulation on CIP and vent lines.
- Stainless steel alcove, 60" x 60" x 20".
- Seismic designed to current building codes.

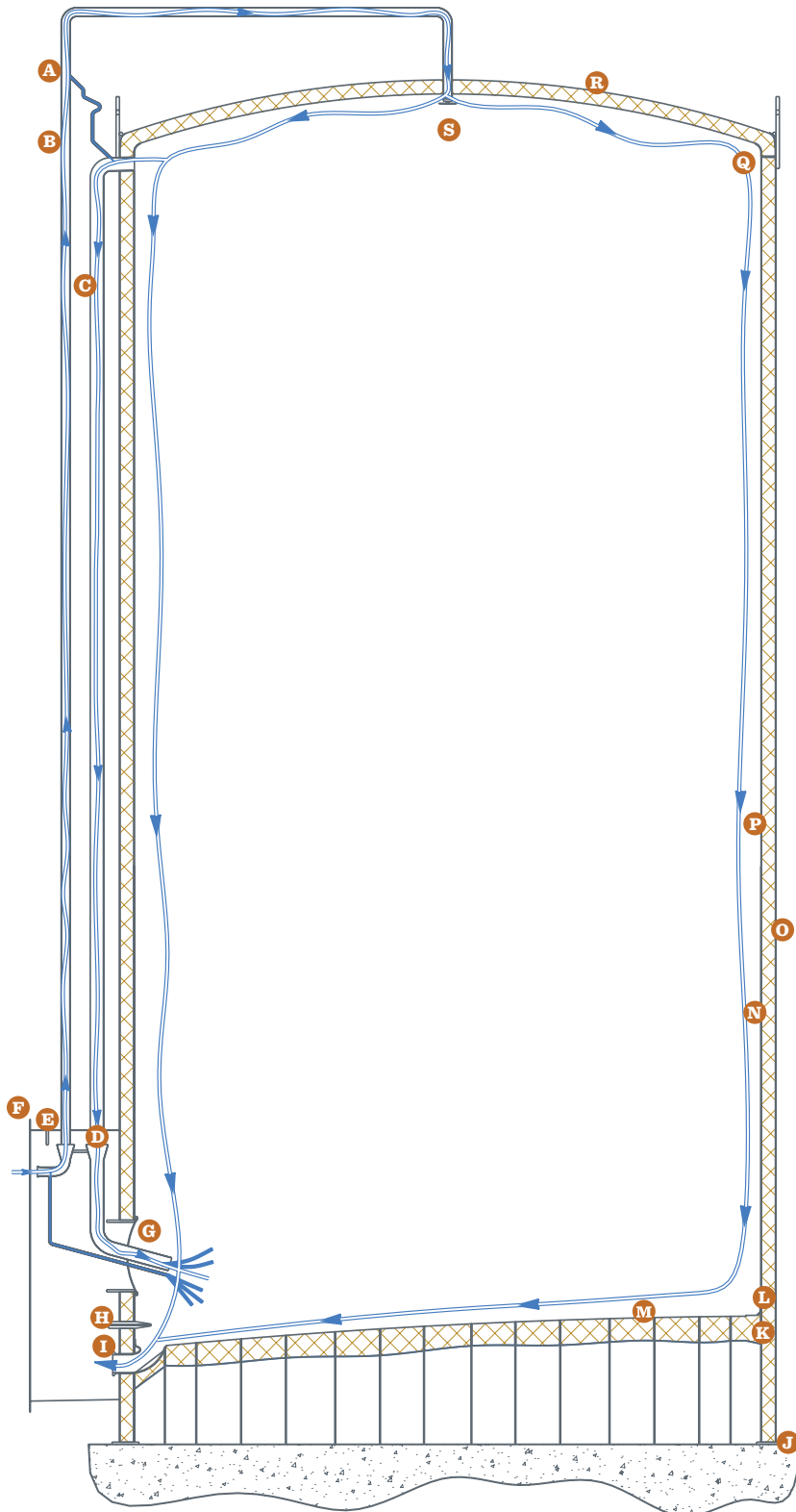


## ADDITIONAL OPTIONS

- Engineered-to-order for your specific needs.
- Vertical agitation systems available.
- Type 316/316L stainless steel inner liner for corrosion resistance.
- Mueller® Temp-Plate® heat transfer surface (ASME Code stamping available) for precise, consistent temperature control.
- Refrigeration controls can be included.
- Ladders, catwalks, and/or circumferential guard rails for additional personnel safety.
- Overflow line vacuum breaker loop for added vacuum protection.
- Calculations performed by registered professional engineers.



# Silo Construction and Design



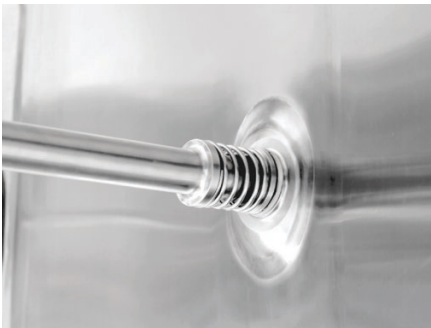
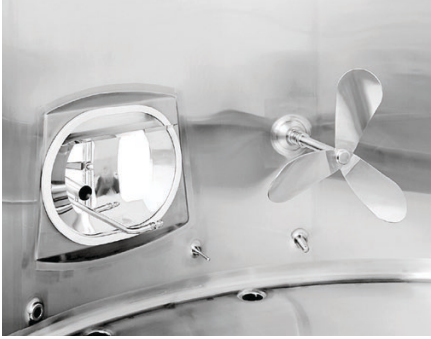
- A** Standard heat trace and insulation on external lines.
- B** 2" CIP.
- C** 3" or 4" vent/overflow line.
- D** CIP supply manifold and CIP return keeps door open during CIP.
- E** Heavy-duty, 12" wide, .5" handhold.
- F** A 60" x 60" x 20" deep, factory-installed stainless steel alcove with 32 Ra (3-A) interior finish eliminates field welding. Optional insulated alcove on request.
- G** 16" x 21" CIP door and insulated manway with choice of sample ports. Not shown is Mueller's patented, USDA-accepted, fully CIP-able horizontal agitator.
- H** A 5" dial thermometer (25°F-125°F/0°C-50°C) with projectile well for increased accuracy. Also includes a separate recorder well and optional level sleeve.
- I** A 3" elbow-style outlet and 3" inlet provides complete, thorough emptying and superior cleaning.
- J** Stainless steel base ring for securing to pad.
- K** Foam urethane insulation for moisture barrier and undercoating.
- L** .75"-per-foot slope for drainage.
- M** Stainless steel support structure.
- N** Stainless steel 32 Ra (3-A) finish interior surface. (Type 304 standard/Type 316L optional.)
- O** Stainless steel 2B finish exterior or coated aluminum available in a variety of colors.
- P** 3" solid insulation throughout without spacers that can attract heat and cause sweating on outer jacket.
- Q** 2" knuckle radius for enhanced cleanability.
- R** 3" fiberglass insulation on top head allows for thermal expansion.
- S** All-welded CIP spray dish with .375" space to flush debris. Removable spray dish upon request.



## BULLSEYE BOTTOM

All-stainless steel bottom means no rusting or re-painting.





## Horizontal Agitation

Paul Mueller Company’s patented, USDA-accepted, horizontal agitator saves you time and labor with its clean-in-place (CIP) system. Our agitator and seal assembly can stay in the tank while cleaning, which saves you the hassle of removal and re-installation.

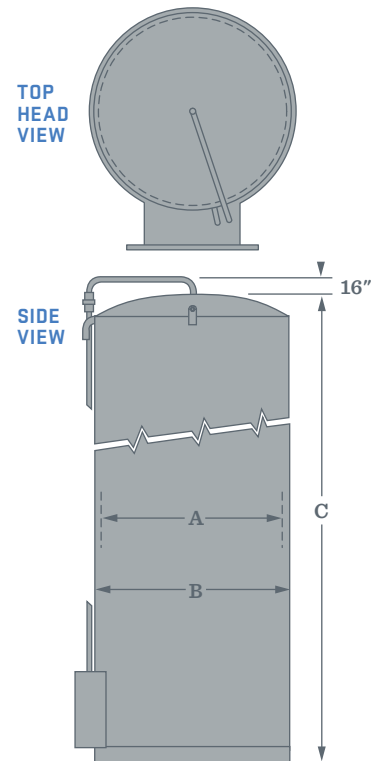
For cleaning, open the manway door, install the CIP door and attachment assembly, turn on the agitator, and start the CIP cycle. There’s no need to loosen or remove the shaft, thus eliminating the confined space entry procedure. This design is capable of fully separating all sealed surfaces for periodic inspection without the need to remove the agitator shaft.

In addition to CIP, the agitator complies with 3-A Sanitary Standard 22 when installed in our silo storage tanks for milk and milk products.

## Silo Storage Tank Specifications

Capacity (U.S. gal/L)	Dimensions (in)			Agitator		Empty Weight (lb)
	A	B	C*	HP	RPM	
5,000/18,925	98	104.5	199	1	103	7,600
6,000/22,710	98	104.5	230	1	103	8,200
7,000/26,495	120	126.5	192	1	103	9,000
8,000/30,280	120	126.5	212	1	103	9,600
10,000/37,280	120	126.5	254	3	153	10,700
15,000/56,775	120	126.5	386	3	153	13,300
20,000/75,700	120	126.5	460	3	153	17,500
25,000/94,625	140	146.5	429	3	155	18,900
30,000/113,550	140	146.5	502	3	155	22,000
40,000/151,400	140	146.5	661	3	155	27,900
50,000/189,250	140	146.5	808	3	155	32,800
60,000/227,100	147	153.5	872	3	155	44,926
70,000/264,950	147	153.5	1,016	3	155	48,000
100,000/378,541	185.5	192.5	918	5	157	51,640

\*Approximate.





# Custom Processors

Whether it is yogurt, ice cream, chicken stock, or pet food, our job is to ask about flow rates and agitation requirements, where the product is going next, and how it will be transferred. Understanding the demands of your entire process means we get your equipment right from the start.

Mueller processors come in standard models for optimal lead time and cost savings, or they can be designed to meet your exact specifications for maximum operating efficiency in heating, cooling, and processing. We have two model options for you to choose from: a PCP model for thinner products like glazes and sauces, and a PCPC model designed for more viscous liquids, such as gravies, sour creams, and yogurt.

## STANDARD FEATURES

- Stainless steel outer jacket and interior sidewall with 32 Ra (3-A) finish for sanitation and ease of cleaning.
- Full sidewall and bottom Temp-Plate assures optimum performance.
- 2" low-chloride sidewall and bottom head insulation for minimum heat transfer loss.
- Agitator assembly with bottom guide and single-speed, 460-volt, 60-hertz, 3-phase gear motor, and fixed baffle. (International: 80-volt, 50-hertz, 3-phase.)
- Adjustable stainless steel legs with ball feet.
- Stainless steel pipe connections for external zone control valves allows for the processing of partial batches.
- D10F outlet valve flange connection.
- Projectile wells for indicating and recording thermometer probes.
- "No-foam" inlet assembly.
- Stainless steel ladder.
- CIP spray balls.
- 3" air vent.

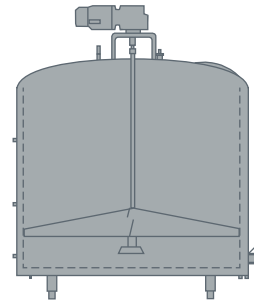


## ADDITIONAL OPTIONS

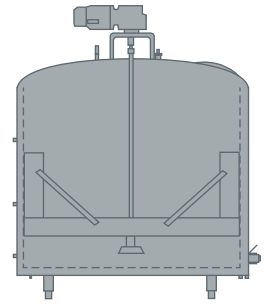
- Engineered-to-order for your specific needs.
- D10FL leak detector outlet valve, air space heater, and thermometer connection add pasteurization capabilities to all standard processor units.
- Steam controls and water controls for heating and cooling systems, and manifold assembly with zone control valves.
- Custom-designed agitation and baffle systems to meet specific mixing or processing requirements. Various models range from the agitation required for heavy-bodied, viscous products to the gentle stirring action needed to handle delicate products.
- Indicating and recording thermometer.
- Sight- and light-glass assemblies are available for all models and sizes.
- Construction from different alloys to meet product compatibility.

## Flat-Bottom Processors

The flat-bottom processor has a standard bottom-sweep agitator for rapid, heavy-duty mixing, and moves product over the heat transfer surface for fast, efficient heating or cooling. There is also an optional side-sweep agitator. This unit is designed for use with viscous products up to 1,500 centipoise. The blades do not contact the sidewall. Motor power and speed are product and application specific.



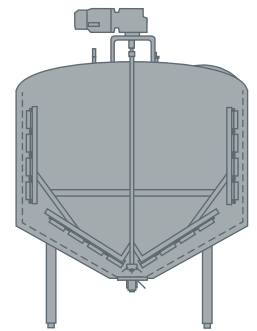
BOTTOM-SWEEP



OPTIONAL SIDE-SWEEP

## Cone-Bottom Processors

The cone-bottom processor has a standard sidewall and bottom-scraping agitator. This agitator is designed for viscous products up to 1,500 centipoise. In addition to scraping the sidewall and bottom, this agitator gives gentle agitation and rapidly moves the product across the heat transfer surface for efficient heating or cooling.



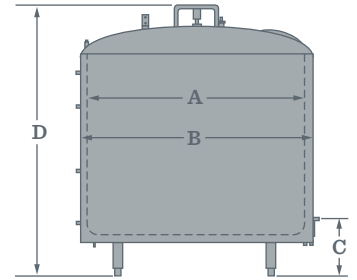
SIDEWALL AND  
BOTTOM-SCRAPING





# Flat-Bottom Processor Specifications

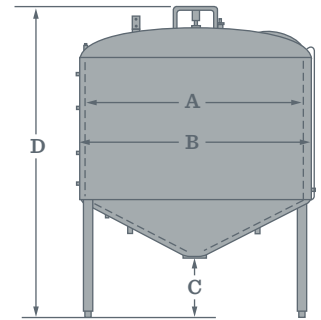
Rated Capacity (U.S. gal/L)	Standard Dimensions (in)					Heat Transfer	
	ID A	OD B	Outlet to Floor C	Approx. OA D	Outlet Size (in)	Temp-Plate Zone 1	Temp-Plate Zone 2
500/1,893	70	74.875	18	80.75	2	Entire Bottom and Sidewall to Rated Capacity	None
1,000/3,785	78	82.875	18	96.5	2	Entire Bottom and Sidewall to Half Rated Capacity	Sidewall from Half to Rated Capacity
1,500/5,678	96	100.875	16	100.625	3		
2,000/7,570	96	100.875	16	115.125	3		
3,000/11,355	96	100.875	16	147.125	3		



FLAT-BOTTOM SIDE VIEW

# Cone-Bottom Processor Specifications

Rated Capacity (U.S. gal/L)	Standard Dimensions (in)					Heat Transfer	
	ID A	OD B	Outlet to Floor C	Approx. OA D	Outlet Size (in)	Temp-Plate Zone 1	Temp-Plate Zone 2
500/1,893	70	74.875	20	91.375	3	Bottom Cone	Sidewall to Rated Capacity
1,000/3,785	78	82.875	20	111.656	3		
1,500/5,678	96	100.875	20	116.75	3		
2,000/7,570	96	100.875	20	131.875	3		
3,000/11,355	96	100.875	20	163.875	3		



CONE-BOTTOM SIDE VIEW

# Agitation Specifications

Rated Capacity (U.S. gal/L)	Agitator Motor Size and Speed	Bottom Sweep		Side- and Bottom- Scrape Agitator	
		High	Low	High	Low
500/1,893	HP	1	.5	1.5	.75
	RPM	35	17.5	22	11
1,000/3,785	HP	2.4	1.2	2.4	1.2
	RPM	37	18.5	23	11.5
1,500/5,678	HP	3	1.6	4.5	2.5
	RPM	30	15	20	10
2,000/7,570	HP	3	1.6	4.5	2.5
	RPM	30	15	20	10
3,000/11,355	HP	3	1.6	3.5	N/A
	RPM	30	15	20	10



Sidewall and bottom-scraping displayed.

# Horizontal Storage Tanks



When inside storage space is limited in height, Paul Mueller Company horizontal tanks might work best for your operation. We apply the same quality and efficiency standards to our Model “SH” tanks as we do our vertical variety. These cylindrical, horizontal storage containers are well-suited for bulkhead installation, as all product connections are located on the front head. Mueller horizontal tanks are built to 3-A Sanitary Standard 01 and can be equipped to meet your exact specifications for liquid product storage needs.

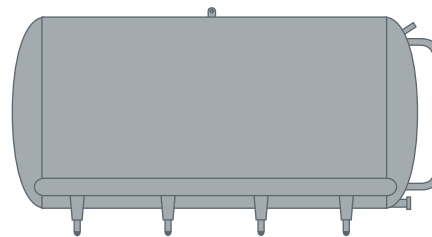
## STANDARD FEATURES

- Durable Type 304 stainless steel inner liner polished to a 32 Ra (3-A) finish for sanitation and ease of cleaning.
- Removable, 2” stainless steel inlet with special “no-foam” design.
- Removable, 3” perforated air vent protects tank structure from vacuum.
- 16”x20” insulated, stainless steel manway door with sampling valve.
- Ladder with a platform for access to inlet and vent.
- Adjustable legs with concealed threads.
- Horizontal, mechanical agitation system.
- 3” clamp-type outlet ferrule.
- Dial thermometer with well.
- 2” rigid insulation.
- Lifting lugs.

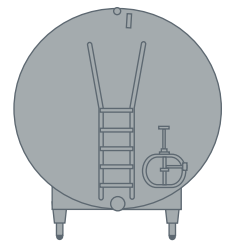


## ADDITIONAL OPTIONS

- Mueller Temp-Plate for precise temperature control (Model “SHW”).
- Liquid level gauge connection for constant monitoring of fluid volume.
- Recording thermometer well for temperature tracking.
- Refrigeration controls for chilled water, flooded and DX ammonia, and most types of refrigerant.
- CIP door and spray devices for automated cleaning.
- Vertical agitation.
- Combination sight- and light-glass with handy light fixture.



SIDE VIEW



FRONT VIEW

# Whey Crystallizer Tanks



Paul Mueller Company whey crystallizer tanks help transform whey into useful products and profits. Our crystallizers are designed to offer the maximum efficiency in cooling and continuous agitation: the two requirements for effective crystallization. Our Temp-Plate heat transfer surface cools whey to 40°F while solids are maintained in suspension and continuously agitated, allowing crystals to form. Three inches of insulation on the sides and bottom of the crystallizer optimize the cooling process.

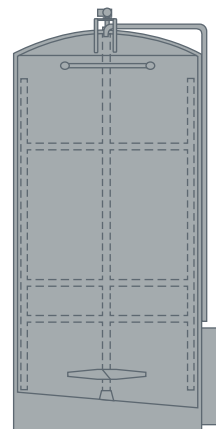
## STANDARD FEATURES

- Capacities range from 3,000 to 20,000 gallons.
- Type 304 stainless steel inner liner, polished to 32 Ra finish (3-A) for sanitation and ease of cleaning.
- In-plant model: No. 4 polished, Type 304 stainless steel outer jacket and cone bottom.
- Outdoor models have a stainless steel outer jacket and a stainless steel alcove that opens into the processing area.
- Outdoor models: cone or flat-pitched bottom.
- Heavy-duty, vertical, side- and bottom-sweep agitator.
- Mueller Temp-Plate provides optimum cooling efficiency for proper crystallization.
- 16" x 20" self-centering insulated manway door with sampling valve.
- Dial thermometer and recording thermometer well.
- CIP spray device and separate overflow vent lines provide thorough cleaning and vacuum protection. A vent door and fail-safe assembly are also provided.

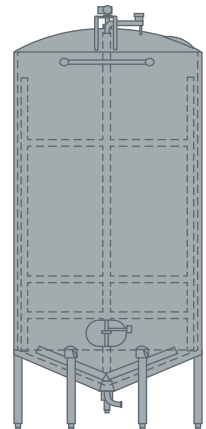


## ADDITIONAL OPTIONS

- Extended alcove and additional insulation.
- Ladder, safety cage, and guard rail.
- Recording thermometer.
- Liquid level gauge connection for constant monitoring of fluid volume.
- Custom agitation available.



FLAT-PITCH BOTTOM



CONE BOTTOM



# Multi-Compartment Storage Tanks



Our highly customizable multi-compartment tanks are designed with ice cream mix and other similar products in mind. This line of tanks has models with either a hinged cover or a solid top with a manway.

What makes our multi-compartment tanks special is that adjacent compartments can be used with extreme temperature variations without affecting the other compartments. One-and-a-half inch rigid insulation on each side of each compartment allows multiple tanks in a minimum amount of space.

## STANDARD FEATURES

- Type 304 stainless steel construction with both interior and exterior surfaces polished to a 32 Ra (3-A) finish for sanitation and ease of cleaning.
- Units with up to four compartments available.
- Insulated adjacent compartments can be used with extreme temperature variations without appreciable heat transfer.
- Stainless steel agitator shield to prevent contaminants from entering the tank.
- Bottoms are pitched to an industry standard. 2" clamp-type outlet ferrule for easy, complete drainage and connection compatibility.
- 1.5" rigid insulation on each side of each compartment.
- CIP technology for quick, easy cleaning.



## ADDITIONAL OPTIONS

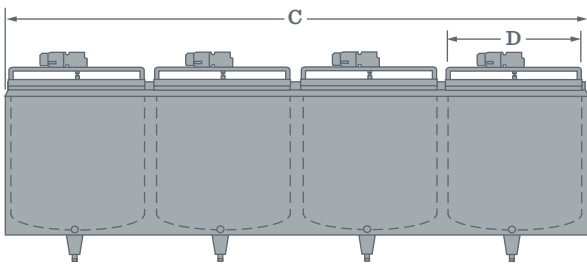
- Mueller Temp-Plate heat transfer surface designed for use with a variety of cooling and heating media, available on any or all compartments of each tank.
- Calibration rod available to measure contents of each compartment.
- 2" stainless steel outlet.



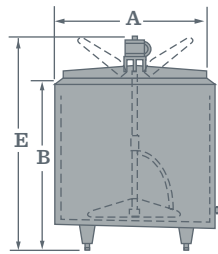
# Multi-Compartment Storage Tank Specifications

Capacity Per Unit (U.S. gal/L)	Dimensions (in)						D	Approx. E
	A	B	Number of Compartments (C)					
			1	2	3	4		
100/379	41.25	35.25	30.25	60.375	90.5	120.625	27	49.5
200/757	41.25	46.5	39.25	78.375	117.5	156.625	36	60.75
300/1,136	48.25	51.5	43	85.875	128.375	171.625	39.75	65.25
400/1,514	53.25	52	50.25	100.375	150.5	200	47	66.5
500/1,893	65.75	52	50.25	100.375	150.5	200	47	66.5
600/2,271	78.25	52	50.25	100.375	150.5	200	47	66.5
800/3,028	73.375	52.5	66.125	132	197.875	263.75	62.75	69.75
1,000/3,785	82.375	60	66.125	132	197.875	263.75	62.75	74.5

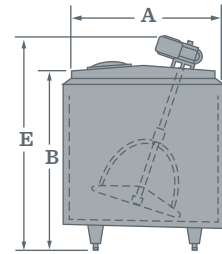
*\*For model "HM," deduct 1" between compartments. These dimensions are not to be used for construction purposes.*



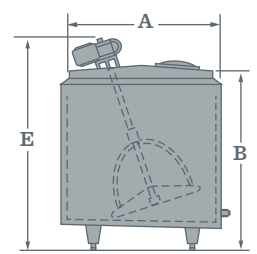
4-COMPARTMENT MODEL



MODEL HM



MODEL SOM



MODEL SRM

# Custom Tanks

When your process can't use a "one-size-fits-all" kind of solution, Paul Mueller Company offers an array of custom tanks to meet your unique processing needs. From safe storage of your ingredients to perfect mixing of your final product, we have customizable equipment for various applications. Our tanks can be insulated, single-wall, aseptic, sized to fit your space, or customized for specific heat transfer or agitation applications. Our dedicated and specialized team will help you identify the best equipment for your final product.



## CUSTOM AGITATION

*We have the solution!*

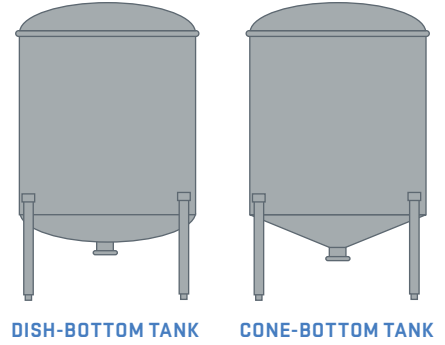
We understand that the mixing needs of your product will determine the agitation requirements for your tank. Fortunately, you can depend on us to select the right agitator that will be the best fit for your processing needs. Paul Mueller Company offers a variety of custom agitation solutions for robust churning to a milder blending. Our team can also custom design an agitator according to your specific application. Contact us to discuss which agitation option is best for your business.





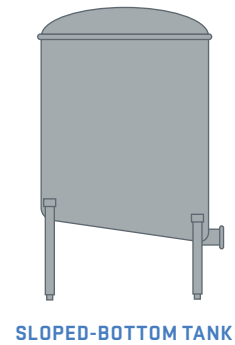
# Dish- or Cone-Bottom Tanks

These tanks are designed to give you optimal product retention with a dished bottom and a center drain. Dish- and cone-bottom tanks are designed for use with more viscous fluids, such as ice cream mixes, heavy syrups, or other applications to enhance rapid, complete drainage.



# Sloped-Bottom Tanks

Our sloped-bottom tanks are pitched to one side to guide all product to the side outlet for easy access and release. Ideal for low-viscosity fluids such as milk, broths, or other light-bodied products.



# Additional Tank Options

At Paul Mueller Company, we understand that one size doesn't fit all. We know your needs are unique and work closely with you to ensure we provide the best possible value for your investment.

We offer imported tank options from our trusted manufacturing partners around the globe, giving you access to a more extensive range of equipment with highly competitive pricing and lead times. Our partners are carefully selected based on their commitment to quality and build tanks designed to meet United States standards for ASTM material, 3-A capability, and even ASME® pressure ratings if required.

These tank options allow you to maximize the value of your investment, while maintaining access to the level of equipment quality and customer service that you have come to expect from Mueller.





# A Careful Plan for Your Expanded Needs

Safety and experience can't be an afterthought when it comes to delivery of your valuable equipment. Paul Mueller Company manages the entire process including logistics, execution, and everything in between.





# Delivered Right to Your Door



A food and dairy processing solution from Paul Mueller Company goes beyond tanks. Once our shop fabrication is complete, we take the responsibility of safely transporting your equipment from our production floor to your door. Our tank transportation group provides the loading crews, drivers, and logistical organization to keep your tanks in Mueller hands the whole way. Whether it is standard size or oversize freight, our specialists are committed to steadfast delivery so your project arrives without a scratch.



# Contact Our Experts

## REGIONAL SALES MANAGERS



### Autumn Larkowski

Regional Sales Manager

Food & Dairy | Eastern United States & Canada  
417-942-7658 | [alarkowski@paulmueller.com](mailto:alarkowski@paulmueller.com)



### Zach Wilson

Regional Sales Manager

Food & Dairy | Western United States & Mexico  
417-575-9442 | [zwilson@paulmueller.com](mailto:zwilson@paulmueller.com)

## REPLACEMENT PARTS



### Michelle Dove

Senior Inside Sales Representative

Food & Beverage  
417-575-9770 | [mdove@paulmueller.com](mailto:mdove@paulmueller.com)



### Richelle Graves

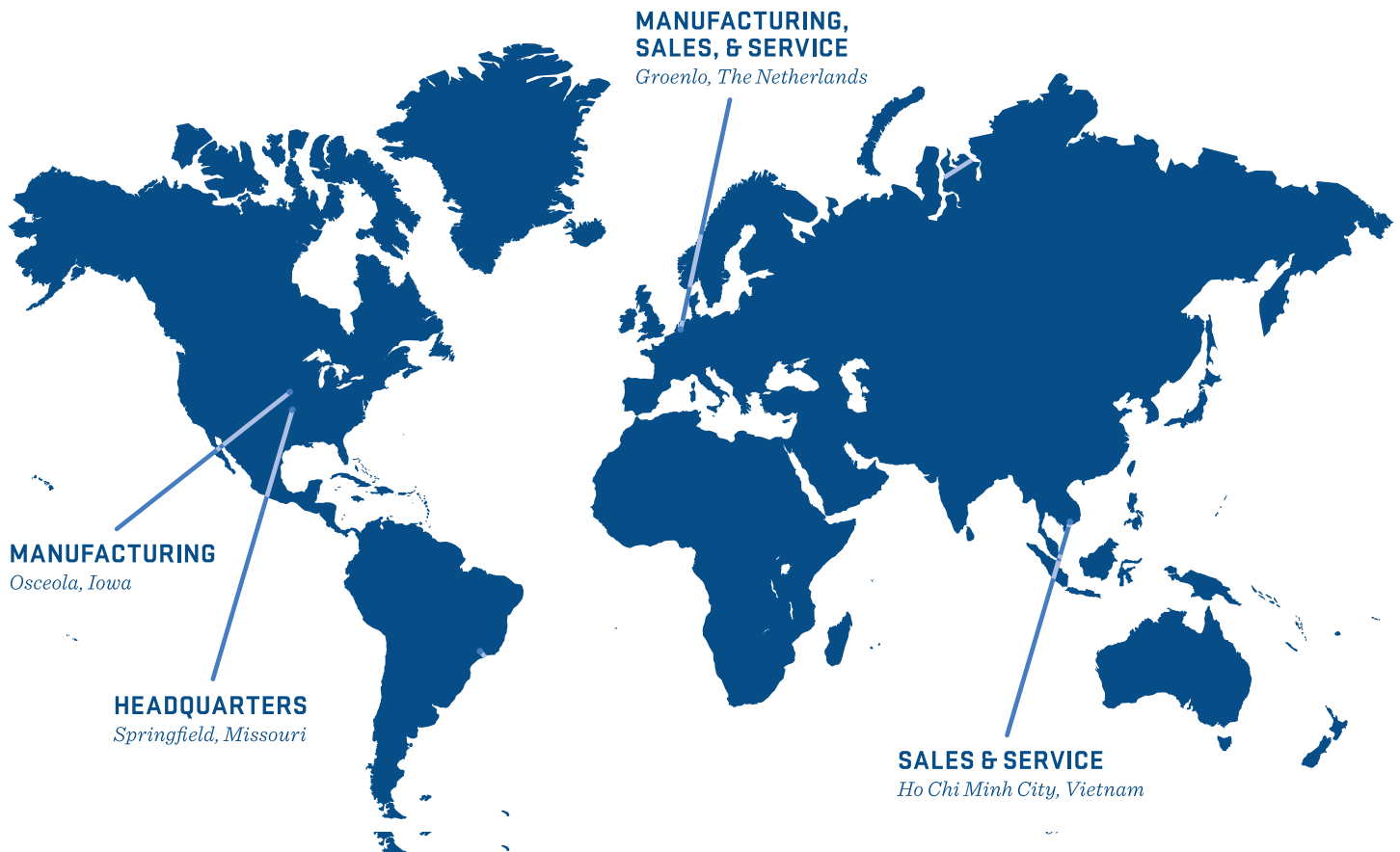
Senior Inside Sales Representative

Food & Beverage  
417-575-9861 | [rgraves@paulmueller.com](mailto:rgraves@paulmueller.com)



# PAUL MUELLER COMPANY

At Paul Mueller Company, we are united by a belief that the only quality that matters is quality that works for life. With every piece of processing equipment we build, our goal is to have lasting impact. This collective vision has led us from a small sheet metal shop to a global supplier of heating, cooling, processing, and storage solutions. Our equipment allows farmers, brewers, and engineers to keep their products fresh and their inventory strong. Whether our equipment preserves milk in rural areas or helps manufacture medicine with broad health benefits, we are making an impact across the globe.



[contact@paulmueller.com](mailto:contact@paulmueller.com)

1-800-MUELLER | [WWW.PAULMUELLER.COM](http://WWW.PAULMUELLER.COM)

©2023 Paul Mueller Company | 1204023830766102