



# OptimaBlend®

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## Fluidizing Paddle Blender

Sanitary blender for efficient but gentle blending of particles of various size, shape, and density.



**AMERICAN  
PROCESS SYSTEMS**  
EIRICH GROUP

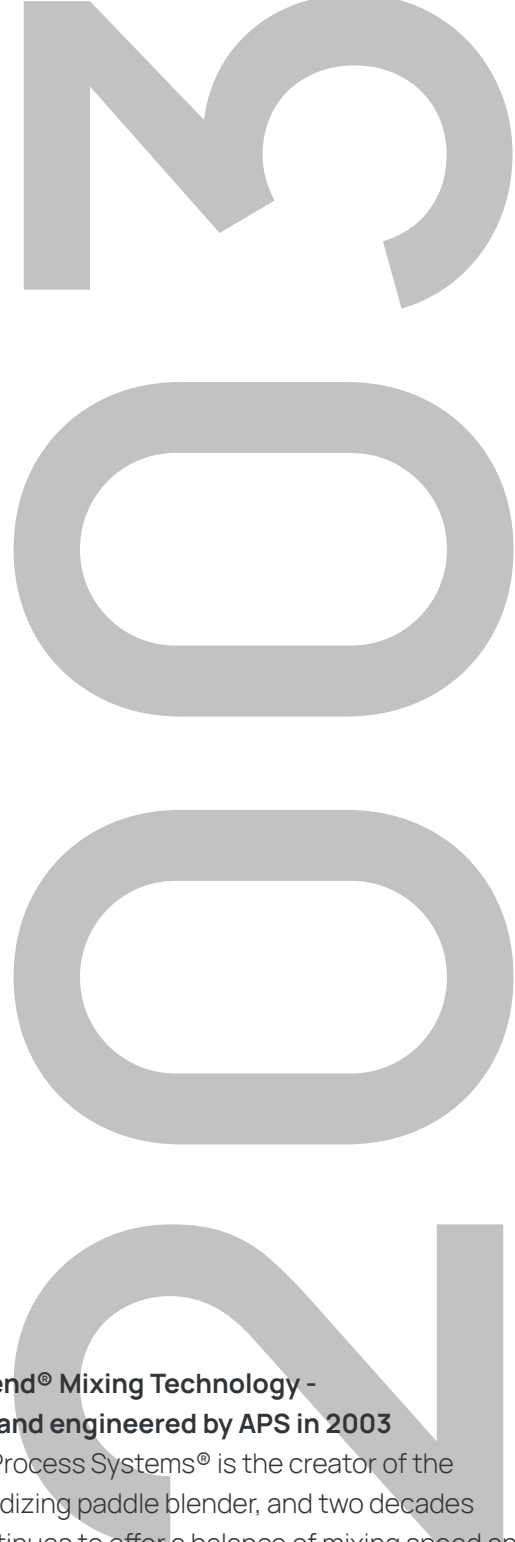
The Pioneer in Material Processing®

# OptimaBlend® Fluidizing Paddle Blender

## **OptimaBlend® Mixing Technology - Designed and engineered by APS in 2003**

American Process Systems® is the creator of the original fluidizing paddle blender, and two decades later it continues to offer a balance of mixing speed and efficiency with low equipment cost and consumed power.

OptimaBlend® eliminates roll apart segregation caused by gravity when mixing ingredients of greatly varying density, shape, and size by fluidizing. Mechanical fluidization is achieved by a combination of defined geometry lifting action with a triple, multi-zoned rotor turning about 80% faster than a traditional ribbon blender.



# + Design Features & Benefits

## High efficiency design

- Mechanical fluidization assures homogeneous mixes independent of large range of particle size, shape, or density
- Low CV - Coefficient of Variation (measures mixture uniformity)
- Low consumed power and hp/ton

## Increased production capacity

- Up to ten times the throughput versus ribbon blenders

## Low shear design

- Extremely gentle with fragile ingredients
- Minimal heat generated due to internal friction

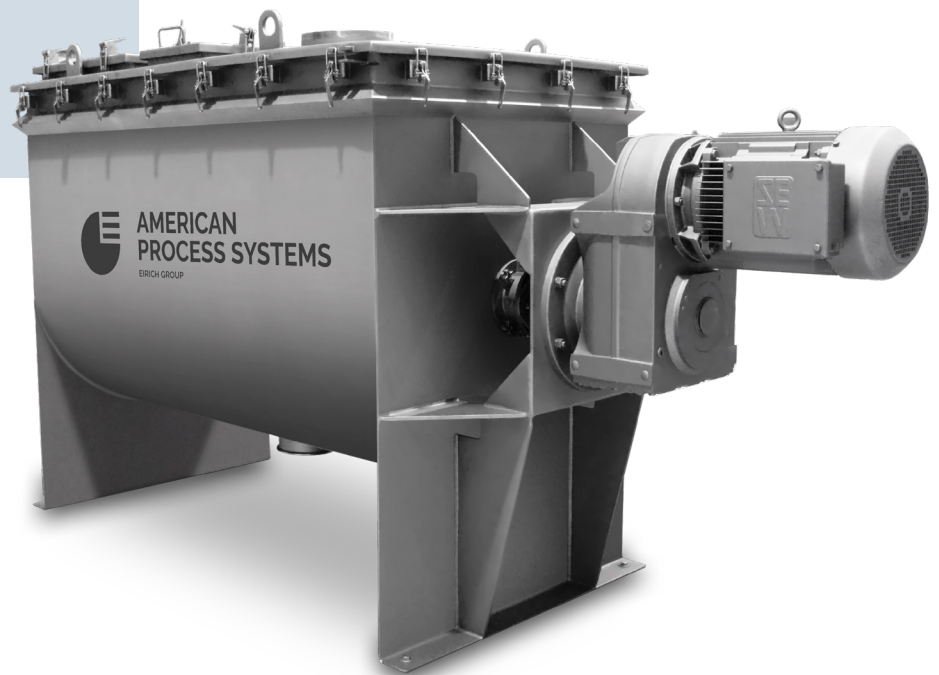
## High particle movement

- Fast and even liquid addition and coating

## No over- or demixing issues

## Sanitary design

- Stainless steel construction
- One-piece tank weldment
- Solid bar agitator shaft
- All continuous welds
- Product contact surfaces have a #4 ground finish or better. Free of pits, cracks, folds, and weld marks.





## Mixing Applications

### Examples of OptimaBlend® applications



- Bakery premix
- Batters and breadings
- Seasonings
- Flavorings
- Soup mix
- Trail mix
- Snacks
- Flavoring of whole coffee beans and ground coffee
- Flavored instant coffee blends
- Tea blends and flavoring
- IQF vegetables
- Infant formula
- Nutraceuticals
- Sport/Nutritional supplements
- Whey protein powders
- Pharmaceuticals
- Animal feeds

And many more



✚ Ask us about your application

# Fluidizing Paddle Blender vs. Ribbon Blender

	<p><b>OptimaBlend® Fluidizing Paddle Blender</b></p>	
<p>Inner and outer paddles on the triple action, multi-zone rotor.</p>	<p><b>Double-Ribbon Blender</b></p>	<p>Double or triple action with blending occurring in the small voided areas right behind the blending ribbons.</p>
<p>Higher tip speed - more than twice that of comparably sized ribbon blenders - creating the optimum fluidized bed mixing environment.</p>	<p><b>Methodology</b></p>	<p>Low tip speed.</p>
<p>30-60 seconds for dry applications.</p>	<p><b>RPM</b></p>	<p>5-6 minutes for dry applications.</p>
<p>The OptimaBlend® mixing technology provides the ideal environment for effectively mixing a wide distribution of particle size and bulk densities without segregation.</p>	<p><b>Mix time</b></p>	<p>Extended mixing times are required to blend powders with various particle size and density. Potential segregation may occur in the mixer.</p>
<p>≤0.5% standard deviation and ≤5% coefficient of variation with 0.25 lb sample.</p>	<p><b>Product characteristics (shape, size, density)</b></p>	<p>5% standard deviation with 10% coefficient of variation is common with 0.5 lb sample.</p>
<p>None.</p>	<p><b>Mix quality</b></p>	<p>Could be substantial dependent upon materials.</p>
<p>The ability to mix in approx. 30-60 seconds means potentially 80% less energy consumption for any given batch.</p>	<p><b>Product degradation</b></p>	<p>1 hp for every 100-150 lbs. Product dependent.</p>
<p>Very low or minimal.</p>	<p><b>Hp/Energy consumption</b></p>	<p>Slight, moderate.</p>
<p>Random location.</p>	<p><b>Shear/Heat</b></p>	<p>As close to the center as possible.</p>
	<p><b>Filling/Loading</b></p>	

# Combination of Options

## - Tailored to Your Application

### Engineered solutions

We take pride in our engineering and manufacturing skill sets, tailoring our mixing equipment to clients' specific process requirements.

#### Cover options

- Bulk bag inlet port with screen and magnetic grating
- Dust-controlled, easy to clean blender cover
- Covers for hand dumping and easy cleanability
- Removable, pneumatically vibrated tray
- Rare earth or ceramic magnetic grating
- Pneumatically actuated cover assembly
- Metal-detectable and removable A-gasket for dust control and easy cleaning

#### Direct drive options (dependent on blender size)

- In-line shaft mount
- Right angle shaft mount

#### Chopper motor options

- X-mas style chopper head for high shear
- Tulip style chopper head for medium shear

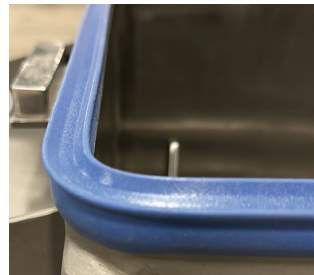
Our unique chopper motors are coupling free



Bulk bag inlet port



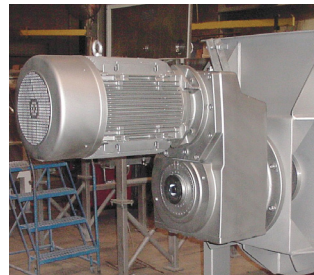
Vibratory tray assembly



Metal-detectable A-gasket



Pneumatically actuated cover



Direct drive, in-line shaft mount



Direct drive, right angle shaft mount



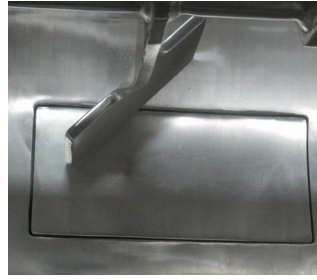
Tulip-style chopper head



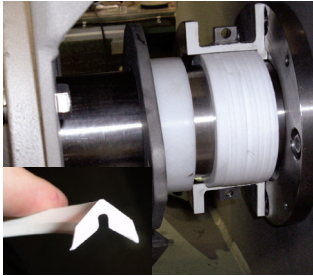
X-mas style chopper head



USDA Dairy Standard slide gate



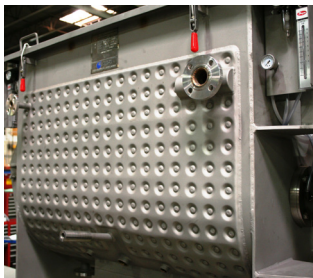
Flush bottom drop gate valve



Split, removable packing gland seals with Teflon V-rings



Bag dump station



Dimpled jacket



Side access doors



Tri-clamped ferruls for liquid addition port



360° spray nozzles for CIP kit



Trapped keys



Control panels

### Discharge options

- Slide/roller gate, or optional USDA Dairy approved slide gate
- Flush bottom drop gate
- Bombay doors

### Seal options

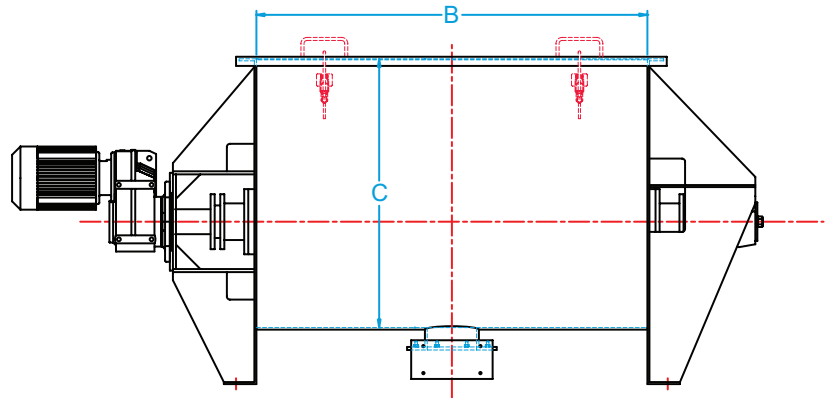
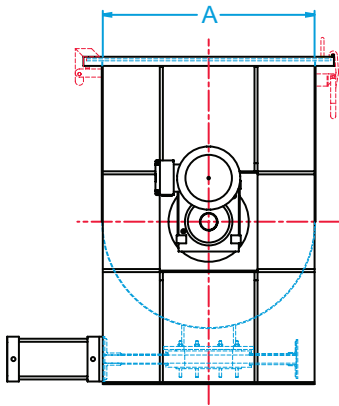
- Seal saver kit. Includes filter regulator and flow meter
- Split, removable packing gland seals with Teflon V-rings. Suitable for USDA dairy applications

### Other options

- Bag dump station, filtered or non filtered
- Dimpled jacket for heating/cooling
- Side access doors
- Compressed air header for use with seals and discharge valve
- CO<sub>2</sub>/N<sub>2</sub> injection nozzles
- Tri-clamped liquid addition port
- Clean-in-place kit with 360° rotating spray nozzles
- Trapped keys
- Shrouded endplates for a more sanitary design
- Control panels

# Dimensions & Drawings

+ Ask us which blender size best fits your application



Model	Capacity (ft <sup>3</sup> ) Working Volume	HP* *Depending on Application	Dimensions (inches)		
			A	B	C
FPB-1P5	1.5	3	14	24	21
FPB-005	5	7.5 / 10	21	36	28
FPB-010	10	10 / 20	26	48	33
FPB-020	20	20 / 30	32	54	39
FPB-030	30	25 / 40	37	66	44
FPB-050	50	40 / 60	45	78	52
FPB-075	75	50 / 100	50	90	57
FPB-100	100	60 / 125	54	96	61
FPB-125	125	75 / 125	60	108	67
FPB-150	150	100 / 150	66	108	73
FPB-200	200	125 / 200	72	120	79
FPB-300	300	125 / 200	80	144	87
FPB-400	400	150 / 200	88	156	93



# Test Lab Services

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## Put us to the test!

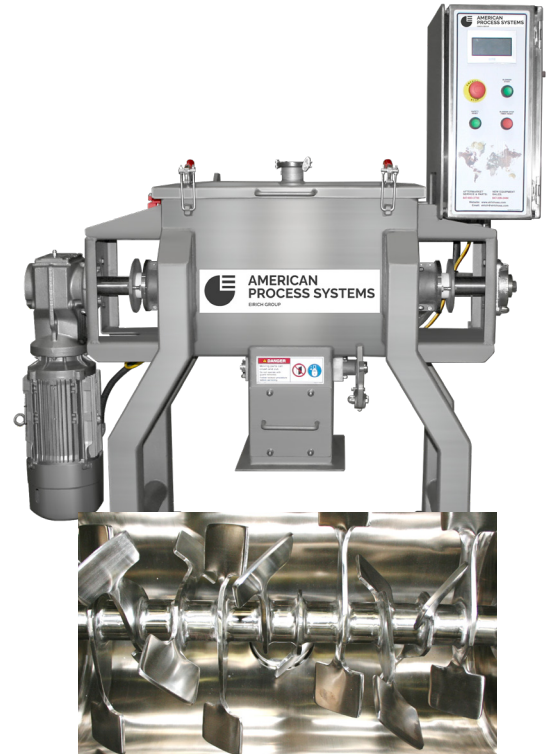
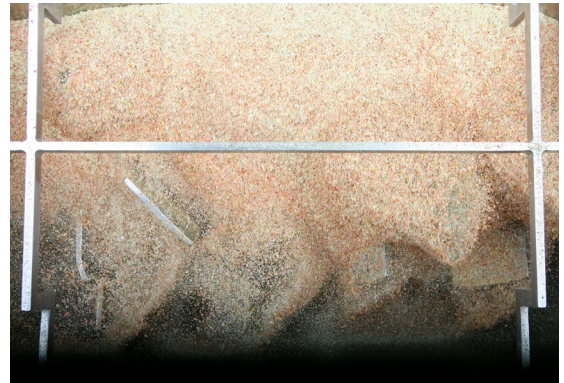
We have an in-house, fully equipped test lab with blenders, mixers, dryers, and reactors. We welcome you to visit and test your product in our equipment. It is the perfect opportunity for R&D, recipe optimization, and to see our manufacturing.

If you can't visit us, we offer virtual trials via livestream video. You interact with our Test Lab Manager during the trials, watch live as your product is processed, and see microscope images of your processed product. Our detailed test reports include photos and video links.

## Rent our equipment!

You can also rent our lab-size fluidizing paddle blender (FPB-1P5) and try it at your own facility. Optional ribbon agitator is available.

*"I would like to commend you on the trial recording as it demonstrated the dedicated passion and expertise of your team. The team's confidence in your equipment was illustrated when you can record the trial on an unknown material!" - Verne Hogg, ZMM*



# Customer Support

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## Our Customer Support team is here for you!

We build our blenders to last for decades, but they do need routine maintenance. Our Customer Support team is here for you when you need spare parts, equipment inspection, training, or have questions about your blender.

## Want to learn more?

Send an email to [customersupport@eirichusa.com](mailto:customersupport@eirichusa.com) or call 847-693-3700.



Eirich Machines, part of worldwide Eirich Group, is an international supplier of machinery, systems, and services for material processing. With the two product lines EIRICH and American Process Systems® (APS), we offer the most comprehensive range of mixers, blenders, pelletizers, dryers, and grinding mills. Eirich Machines is your one-stop shop for all material processing needs with sales, test lab, engineering, manufacturing, and customer support in one location.

**Our APS product line includes:**

- OptimaBlend® Fluidizing Paddle Blenders
- OptimalBlend™ Fluidizing Zone Mixers
- Ribbon Blenders
- Paddle-Ribbon Blenders
- Paddle Blenders
- Plow Blenders
- Dryers/Reactors
- Filtered and Non-Filtered Bag Dump Stations
- Product Conditioners for De-Lumping

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For more information visit us at:

**[www.eirichusa.com](http://www.eirichusa.com)**