



OptimaBlend®

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

OptimaBlend® by American Process Systems® offers 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

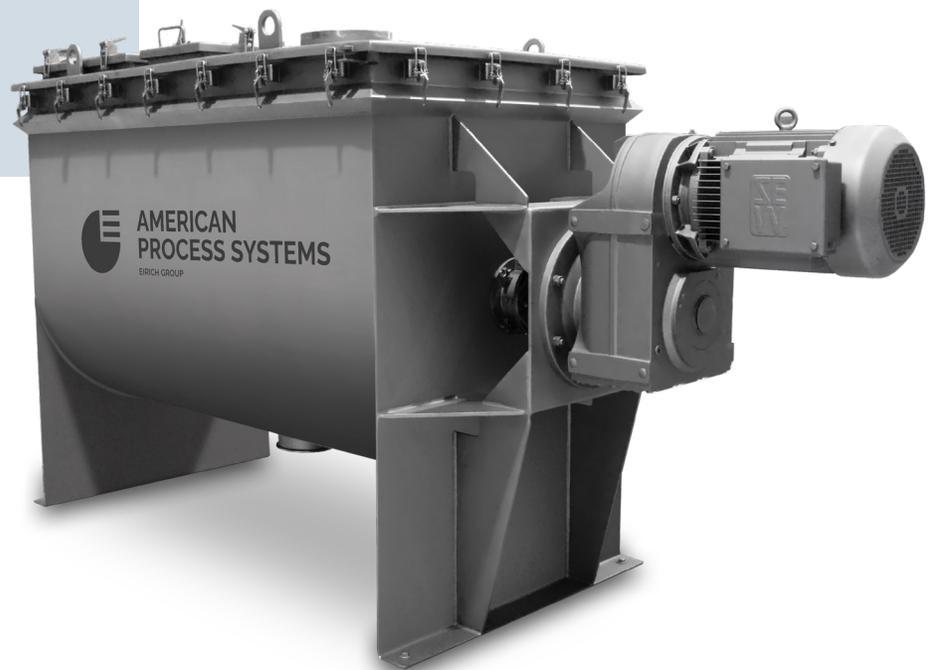
High particle movement

- 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

|  | Fluidizing Paddle Blender |  |
|--|--|--|
| <p>Inner and outer paddles on the triple action, multi-zone rotor.</p> | <p>Methodology</p> <p>RPM</p> <p>Mix time</p> <p>Product characteristics (shape, size, density)</p> <p>Mix quality</p> <p>Product degradation</p> <p>Hp/Energy consumption</p> <p>Shear/Heat</p> <p>Filling/Loading</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>Low tip speed.</p> |
| <p>30-60 seconds for dry applications.</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>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>5% standard deviation with 10% coefficient of variation is common with 0.5 lb sample.</p> |
| <p>None.</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>1 hp for every 100-150 lbs. Product dependent.</p> |
| <p>Very low or minimal.</p> | | <p>Slight, moderate.</p> |
| <p>Random location.</p> | | <p>As close to the center as possible.</p> |

Combination of Options

- Tailored to Your Application

Engineered Solutions

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

Cover options

- Bulk bag inlet ports with screens and magnetic grating
- Dust-controlled, easy to clean blender cover
- Covers for hand dumping and easy cleanability
- Removable pneumatically vibrated screen with hinged cover
- Magnetic grating
- Pneumatic cover
- Metal-detectable A-gasket for better dust control. Removable for easy cleaning

Direct drive options

- In-line shaft mount
- Right angle shaft mount

Chopper options

Chopper motors with:

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



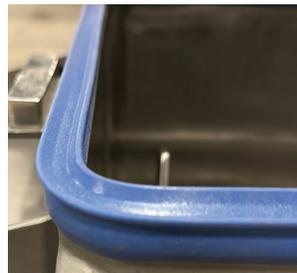
Bulk bag inlet port



Dust-controlled cover



Pneumatic cover



Metal-detectable A-gasket



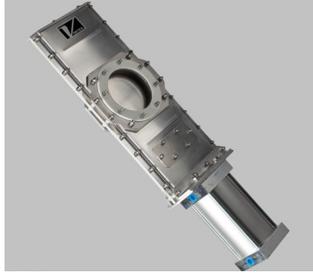
X-mas style chopper head



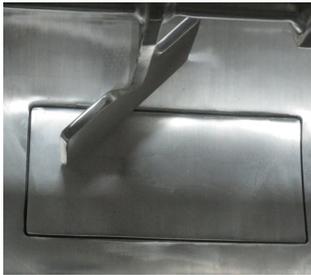
Tulip style chopper head



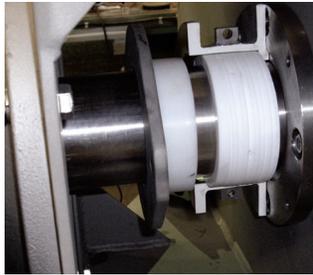
Quick-clean gate



Orifice gate



Flush bottom drop gate valve



Split, removable packing gland seals with Teflon V-rings



Bag dump station



Side access doors



360° spray nozzles for CIP kit

Gate and valve options

- Quick-clean gate, can be modified to USDA Dairy Standard
- Roller-supported slide gate
- Orifice gate
- Flush bottom drop gate valve
- 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

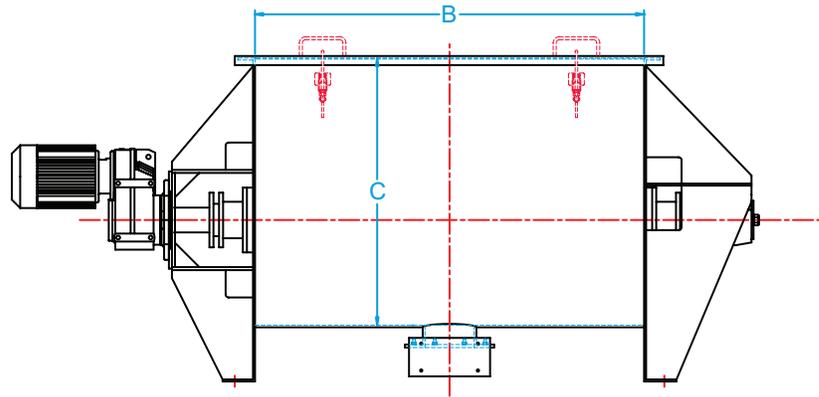
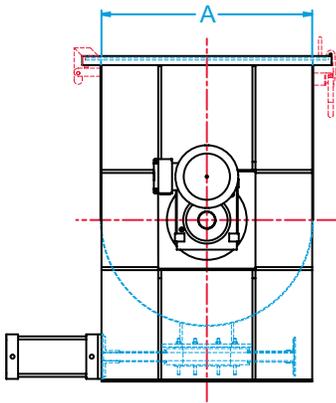
Other options

- 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
- CO₂/N₂ injection nozzles
- Tri-clamped liquid addition port
- Clean-in-place kit with four 360° rotating spray nozzles
- Shrouded endplates for a more sanitary design
- Trapped keys

+ Customize your blender

Dimensions & Drawings

+ Ask us which blender size best fits your needs



| Model | Capacity (ft ³) 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

Try our equipment - Test lab in Gurnee, IL

We have a fully equipped in-house test lab with blenders, mixers, dryers, and reactors. We welcome you to test your product in our equipment. It is the perfect opportunity for R&D, recipe optimization, or to put us to the test!

If you can't visit our test lab in Gurnee, IL, 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. All types of trials include an extensive lab report.

Book a test lab today!

You can also rent our equipment and try it at your own facility.



"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

Our Customer Support team is here for you

We build our blenders to last for decades but they do need service to continuously perform at full capacity. Our Customer Support team is here for you when you need spare parts, service maintenance, or have questions about your blender.

Want to learn more?

Send an email to 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, production, and customer support in one location.

Our APS product line includes:

- Fluidizing Paddle Blenders
- Ribbon Blenders
- Paddle-Ribbon Blenders
- Paddle Blenders
- Plow Blenders
- Dryers/Reactors

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