

# OptimalBlend™

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## Fluidizing Zone Mixer

Sanitary, twin-shaft fluidizing zone mixer for very efficient but gentle blending of particles of various size, shape, and density.



**AMERICAN  
PROCESS SYSTEMS**  
EIRICH GROUP

The Pioneer in Material Processing®

# OptimalBlend™ Fluidizing Zone Mixer

## **OptimalBlend Mixing Technology - Fast, Gentle, and Cost Efficient**

Fluidizing zone mixers are capable of preparing a homogeneous mix independent of particle size, shape, and density. The unique agitation ensures rapid yet gentle blending, short mixing cycles, low operating cost, minimal product degradation, and one of the highest production capacities of any mixer type.

The mixer consists of twin shaft, overlapping paddle assemblies, which are counter rotating at comparatively low rotor speeds drawing material from each rotor drum and lifting the ingredients up and between the rotors. This creates a fluidized zone where particles can freely transpose, thereby eliminating segregation.

Micro-minors of 1 ppm are mixed regardless of where they are added into the mixer. Shear is very low and therefore minimal heat is generated. As a result, extremely fragile ingredients such as flakes or whole coffee beans can be blended with minimal degradation.



# Our Competitive Edge

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## Technology features

- Efficient blend of micro ingredients
- Low CV - Coefficient of Variation (measures mixture uniformity)
- Short mixing time
- Minimal product degradation
- Extremely gentle with fragile ingredients
- No dead zones
- Low rotor speeds
- Constant tip speed
- Low shear
- Incorporate shear with optional high-speed chopper(s)
- Minimal heat generation
- Low power consumption
- Mass-flow discharge
- Organized and randomized transport system
- Exact scale-up

## Standard APS design enhancements

- Mechanical fluidizing mix action
- Solid agitator shafts lathed to  $\leq 0.004$ " total indicator runout to assure optimal sealing surfaces
- Precision liquid additions
- Split packing glands for easy removal and maintenance
- Sanitary design
- Stub shaft assembly for rotor removal through the top
- Extruded gasket captured in a formed channel for a superior seal around bomb bay doors
- Dual pneumatic cylinders on each bomb bay door, plus leveling and adjusting bolts for a uniform seal





## Mixing Applications

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### Examples of OptimalBlend™ applications

- Coating whole bean coffee with flavors
- Flavored instant coffee powdered blends
- Animal feeds
- Granola mix
- De-blocking raisins for cereal
- Powder and granular spice mixes with liquids
- IQF (Individually Quick Frozen) vegetables
- Frozen meats and vegetables for frozen dinners
- Infant formula of milk sugar and protein powders
- Salad croutons with seasonings
- Cocoa powder for cereal coating
- Aquarium salts
- Pigments with resin above extruder
- Super absorbants for diapers
- Clay based herbicide with sprayed-on liquid active ingredient

And many more

+ Ask us about your application



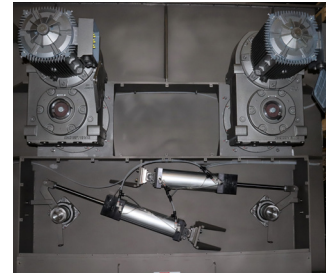
# Combination of Options - Tailored to Your Application

## Engineered Solutions

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

### Optional features:

- Not overlapping, tangential twin agitators, with independent gearboxes
- High-speed choppers with tulip style or X-mas style chopper heads
- Fluid coupling between motor and gearbox to allow for soft starts under load with 20- 25% increased starting torque
- Choice of discharge valves includes half bomb bay doors, overtoggle bomb bay doors, or spherical disc valves
- Side access door(s) for additional entry to the mixer interior
- Spray systems for liquid ingredients
- Removable gasket and high-pressure spray nozzle
- Load cell systems
- Dual pneumatic cylinders for opening cover
- Split packing gland and suspended bearing
- Shaft seal purge
- Surge hopper
- Controls customized per application and demand
- USDA, FDA, or USDA Dairy compliant



Independent gearboxes



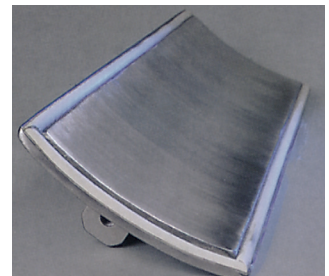
X-mas style chopper head



Tulip-style chopper head



Dual pneumatic cylinders for opening cover



Flush, radiused bomb bay door with solid extruded gasket



Side access door

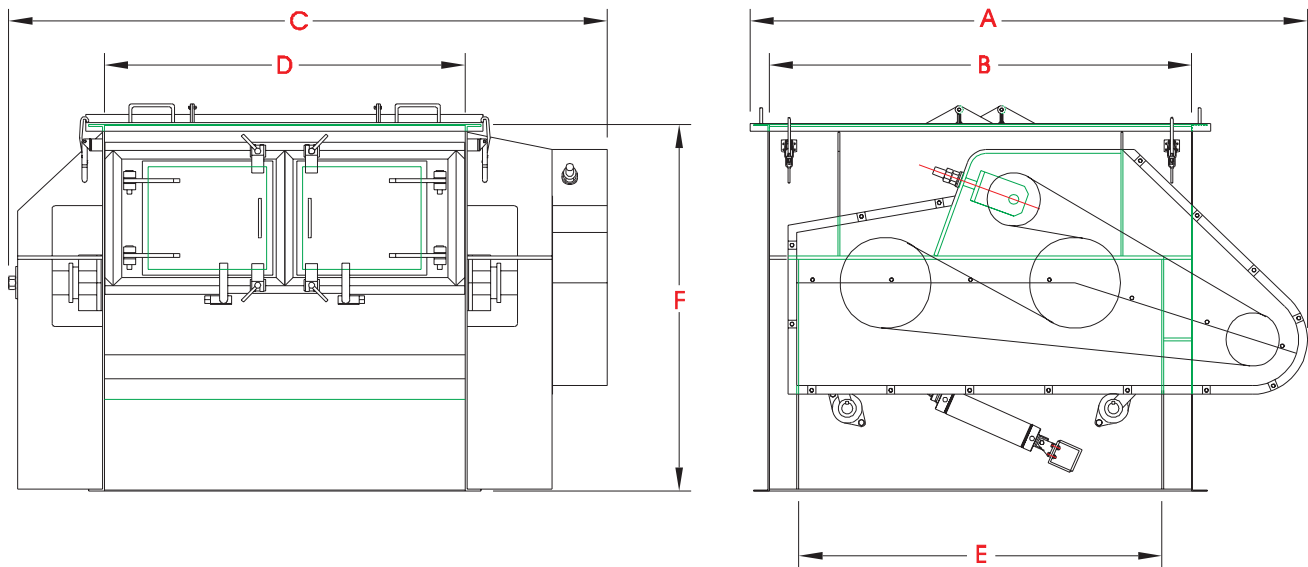


Shaft seal filter regulator gauge

# Dimensions & Drawings

From 0.7 cubic feet up to 175 cubic feet - choose a mixer size that best fits your application, needs, and production plant. Reach out to us if you have any questions about the different sizes.

**+** Ask us which blender size best fits your needs



| Model   | Capacity<br>(ft <sup>3</sup> /liters) | HP<br>(standard) | Dimensions (inches) |                    |                   |                   |                   |                   |
|---------|---------------------------------------|------------------|---------------------|--------------------|-------------------|-------------------|-------------------|-------------------|
|         |                                       |                  | A                   | B                  | C                 | D                 | E                 | F                 |
| FZM-0.7 | 0.7/20                                | 1 <sup>1/2</sup> | -                   | 18 <sup>1/2</sup>  | 15 <sup>1/2</sup> | 15 <sup>1/2</sup> | 16                | 19                |
| FZM-2   | 3/60                                  | 3                | 39                  | 27                 | 22 <sup>1/2</sup> | 22 <sup>1/2</sup> | 27                | 32                |
| FZM-4   | 4/120                                 | 5                | 47                  | 33                 | 28 <sup>1/2</sup> | 28 <sup>1/2</sup> | 33                | 32                |
| FZM-7   | 7/200                                 | 5                | 54                  | 39 <sup>1/2</sup>  | 33 <sup>1/2</sup> | 33 <sup>1/2</sup> | 39 <sup>1/2</sup> | 37 <sup>1/2</sup> |
| FZM-12  | 12/350                                | 5                | 66                  | 49 <sup>1/2</sup>  | 39 <sup>1/2</sup> | 39 <sup>1/2</sup> | 49 <sup>1/2</sup> | 43 <sup>1/2</sup> |
| FZM-18  | 18/500                                | 7 <sup>1/2</sup> | 69                  | 53 <sup>1/2</sup>  | 45 <sup>1/2</sup> | 45 <sup>1/2</sup> | 53 <sup>1/2</sup> | 46 <sup>1/2</sup> |
| FZM-26  | 26/750                                | 15               | 81                  | 61                 | 52                | 52                | 39 <sup>1/2</sup> | 58 <sup>1/2</sup> |
| FZM-35  | 35/1,000                              | 20               | 88                  | 67                 | 57                | 57                | 44                | 61 <sup>1/2</sup> |
| FZM-53  | 53/1,500                              | 30               | 102                 | 77                 | 66                | 66                | 53                | 68                |
| FZM-70  | 70/2,000                              | 40               | 113                 | 86                 | 73 <sup>1/2</sup> | 73 <sup>1/2</sup> | 57                | 80 <sup>1/2</sup> |
| FZM-88  | 88/2,500                              | 40               | 122                 | 91 <sup>1/2</sup>  | 78                | 78                | 61                | 82 <sup>1/2</sup> |
| FZM-125 | 125/3,600                             | 50               | *                   | 106 <sup>1/2</sup> | 91 <sup>1/2</sup> | 91 <sup>1/2</sup> | 63                | 94 <sup>1/2</sup> |
| FZM-175 | 175/5,000                             | 75               | *                   | 118                | 98 <sup>1/2</sup> | 98 <sup>1/2</sup> | 79                | 98 <sup>1/2</sup> |

# Test Lab Services

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## 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

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## 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](mailto:customersupport@eirichusa.com) or call 847-693-3700.



**AMERICAN  
PROCESS SYSTEMS**  
EIRICH GROUP

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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For more information visit us at:  
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