Ribbon Blenders
and other horizontal mixers

Design
Flexibility For
Individualized
Process
Solutions

Mixing • Reacting • Drying • Heating • Cooling • Granulating • Pelletizing • Agglomerating • Coating • Crushing • Batching • Weighing • Conveying
Pumping • Metering • Dust Control • Systems Engineering • Application Process Control • Instrumentation • Systems Control • Worldwide Service
The Traditional U-Shaped Shell...
is found on the majority of ribbon blenders. The full open top allows for ease of access during cleaning.

Cover designs typically include a flanged filtered bag dump work station and end covers. The covers also routinely include nozzles for dumping super sacks of major ingredients or carriers.

Cylindrical Shells...
find application when vacuum or pressure or heating/cooling is required. A cylindrical shape withstands these higher pressures with minimal increase in shell thickness. Also, a cylindrical shell offers more jacketed area in contact with the product. Access is limited to small side access doors or top mounted manways.

Semi-Cylindrical Shells...
lend themselves to cooker/cooler applications where a greater level of heat transfer is needed than can be accommodated in a U-shaped vessel. The large rectangular top provides greater access than found in a cylindrical unit. The 300° cylindrical shell also eliminates pinch points for shear sensitive products.
The Double Ribbon Agitator...
is valued for its thorough mixing. It consists of an inner and an outer ribbon providing counter-directional flow while keeping the product in constant motion throughout the vessel. Inside ribbons move materials toward the ends of the blender whereas the outside ribbons move material back toward the center discharge.

The long trailing edge of the outer ribbon transmits high mechanical energy and product shear to the mix. Typical mix times are in the 10-15 minute range for fill levels from 40 to 100% of the working volume.

The Paddle/Ribbon Agitator...
combines inner ribbons with outer paddles. It is especially well suited for fragile, heat sensitive products.

While maintaining counter-directional flow, the outer paddles minimize pinch points at the wall thus introducing less frictional heat than a continuous outer ribbon.

The cupped outer paddles can mix quicker than a second outer ribbon and will achieve an even greater range of possible batch sizes.

Paddle-Only Designs...
are best suited to products of uniform size and density such as feed and grain, non-directional liquid or slurry mixes, and soap pellets with fragrance.

Drawbacks of the lack of an inner agitator are mounding of the product reducing mixer effective capacity and possible de-mixing and segregating mixtures of different size or density.
Sanitary Mixers

The APS sanitary and ultra-sanitary ribbon, paddle and combination paddle/ribbon blenders consist of a stainless steel, U-shaped mixing tank with a two piece, removable solid bar shaft agitator supported at each end by suspended pillow block bearings.

The tank is a one-piece weldment. There are no removable or slotted endplates with seams for unmixed materials to accumulate.

Heavy duty, plasma cut support posts, flange free construction and continuous welds ground smooth with large radii throughout add further to the structural integrity and cleanliness of our design.
APS Expertise

American Process Systems has for over 25 years developed and installed equipment tailored to the requirements of many different industries.

Our installations can be found in plants ranging from bakeries to pesticides, seasonings to PVC, dairy to detergents, animal feed, and pharmaceuticals.

Mixers For Industrial Applications

Industrial processes require either carbon steel or stainless steel construction. Some applications call for internal polishing of welds to prevent contamination between batches.

Tanks can be U-shaped, semi-cylindrical or cylindrical and have pressurized jacketing for a variety of applications.

The APS agitator which is "Guaranteed For Life" against breakage is a definite advantage when heavy duty or extra heavy duty construction is required.

APS Agitator Shaft—Guaranteed For Life

The agitator shaft is constructed of solid stainless or carbon steel designed to be free of any nuts, bolts, or flanges. The unique shaft design gives much greater strength than pipes or tubes. The shaft is warranted to the Purchaser by American Process Systems for any defects, including breakage, for the life of the mixer.
The APS Advantage

More Standard Features

- **“Guaranteed For Life” solid bar agitator shafts**
  - Agitators designed to exceed torque and twist of drive and deflection due to rotor and batch weight.
  - Machined shafts straightened to less than 0.004” TIR.

- **Split packing glands for easy removal and maintenance**
  - Sanitary design allows for external access
  - Flush inner boss is machined to limit buildup

- **The best agitator for your product**
  - Double ribbon
  - Outer paddle/inner ribbon combination
  - Paddle only

- **Sanitary designs**
  - All continuous internal and external welds
  - Single weldment mixing tank without seams to avoid product contamination

- **Flange free rotor construction**
  - No nuts or bolts to come loose in your mix

- **Endplate scrapers**
  - Prevent materials from accumulating at the ends

- **Machined stub shaft assembly**
  - Allows for easy agitator removal, if necessary

- **Trouble free operation**
  - Inverted bearing housing protects suspended double pillow block bearings from dust

- **Solid support structure**
  - Legs built from enclosed, rectangular tubing

- **Choice of materials and construction**
  - Stainless or carbon steel
  - Sanitary or industrial finish
  - Standard, heavy duty, or extra heavy duty construction
  - Dairy, USDA and FDA compliant designs

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Braided packing, lantern ring and split housing on agitator shaft

Stub Shaft Assembly
### Standard blender sizes and approximate dimensions

<table>
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<th>APPROXIMATE DIMENSIONS (INCHES)</th>
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American Process Systems
Eirich Machines, Inc.
4033 Ryan Road • Gurnee, Illinois 60031
(847) 336-2444 • Fax (847) 336-0914
Website: www.eirich.com • E-mail: apssales@eirichusa.com

Ask about other equipment by American Process Systems & Eirich Machines: