Horizontal Batch Mixers
HORIZONTAL BATCH MIXERS

Hayes & Stolz Ind. Mfg. Co. uses a combination of creativity, state-of-the-art technology, and years of expertise to design and produce a line of mixing equipment that is unsurpassed in efficiency, fast mix time, and durability.

Ribbon and paddle type mixers are designed with the precise balance of shaft speeds, agitator component pitch, component widths and spacing, and width-to-length body ratios in order to deliver maximized performance.

Down time is minimized due in part to solid steel shafting and generously sized agitator components.

Mixers are custom designed and built to meet the most demanding mixing applications.

Available in SINGLE SHAFT or TWIN SHAFT body styles with RIBBON or PADDLE type agitators.

Standard finishes from mild or stainless steel commercial to sanitary food grade.

A wide range of standard sizes and options are available to choose from. With extensive knowledge of numerous applications in diverse industries, H&S is uniquely qualified to recommend performance enhancing options for your next mixer.
SINGLE SHAFT MIXERS

The standard configuration for Horizontal Batch Mixers is the single shaft design, consisting of a U-shaped body and a single horizontal main shaft agitator assembly. Single shaft mixers are proven to be effective for mixing dry powders, granules, slurries and some pastes.

Available with RIBBON or PADDLE type agitators.

Homogenous mixing, measured as Coefficient of Variation (Cv) of less than 10, can be achieved in as little as 2 minutes for most products in the Hayes & Stolz Single Shaft Horizontal Batch Mixer.

<table>
<thead>
<tr>
<th>CAPACITY</th>
<th>DIMENSIONS (in.)</th>
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<tbody>
<tr>
<td>Width ID</td>
<td>Length ID</td>
</tr>
<tr>
<td>10 CF</td>
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<td>662 CF</td>
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* Capacities are based on 100% of the swept volume of the agitator assembly. Special sizes are available upon request.
TWIN SHAFT “COUNTERPOISE” MIXERS

“Counterpoise” by definition is the result of equal power or forces acting in opposition; a state of balance. This is what the counter-rotating twin shafts provide: a unique, smooth, continuous, multi-directional flow of particles in the mixing zone. The result is a quick, gentle mixing that is unsurpassed in mixing efficiency.

Available with RIBBON or PADDLE type agitators.

Homogenous mixing, measured as Coefficient of Variation (Cv) of less than 10, can be achieved in as little as 15 seconds to 1 minute for most products in the Hayes & Stolz Twin Shaft “Couterpoise” Mixer.

Can effectively mix smaller batch sizes down to 15% of rated capacity.

Ideal for mixing ingredients of dissimilar particle sizes and densities.

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<tr>
<th>CAPACITY *</th>
<th>DIMENSIONS (in.)</th>
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<tbody>
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<td></td>
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<td>750 CF</td>
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* Capacities are based on 75% of the swept volume of the agitator assembly. Special sizes are available upon request.
FOOD GRADE / SANITARY MIXERS

With experience since 1945 in commercial and industrial mixing, Hayes & Stolz reviews each application and recommends the required level of finish for product contact and non-contact surfaces.

Ultra-Sanitary Stainless Steel (USSS)

Used primarily when sanitary construction is specified for food, chemical and pharmaceutical industries requiring stainless steel product contact, a finish with no cracks or crevices, and a high degree of interior polish. Interior is polished to 120 grit final finish.

Sanitary Stainless Steel (SSS)

Used primarily when sanitary construction is specified for food, chemical and pharmaceutical industries requiring stainless steel product contact surfaces and a finish with no cracks or crevices, but not requiring the highest degree of interior polish. Interior is polished to 80 grit final finish.

Stainless Steel Commercial (SSC II)

Used primarily when "stainless steel construction" is specified for applications requiring the benefit of internal and external stainless steel construction, but having no surface finish requirements. The exterior of SSC-II equipment will not be painted.

Stainless Steel Commercial (SSC I)

Used primarily when "stainless steel product contact surfaces" is specified for applications where an unpolished stainless steel interior is required, but the remaining external components are carbon steel, providing cost savings. The exterior of SSC-I equipment will be painted.
FEATURES & OPTIONS

Ribbon Assemblies
- Constructed from solid steel shaft precision machined to exacting tolerances.
- Cross arms (ribbon support arms) from solid steel round bars secured with welded collars eliminating welds on the main shaft.
- Standard continuous double-inner and double-outer ribbon design assures end-to-end travel and balance of product across the length of the mixer for fast, uniform blending.
- Standard and optional ribbon design for center discharge requirements.
- Through holes in the main shaft are special-machined and treated to relieve manufacturing-induced stress in the shaft.
- Manufacturing procedures for welding of ribbon assemblies have been developed to reduce heat-induced stress.
- Ribbons are rolled to both pitch and diameter on a proprietary ribbon rolling machine.

Paddle Assemblies
- Constructed from solid steel shaft precision machined to exacting tolerances.
- Paddle support arms of fabricated steel secured to the main shaft with bolted and keyed hubs, eliminating welds on the main shaft.
- Standard inner and outer paddle arrangement assures end-to-end travel and balance of product across the length of the mixer for fast, uniform blending.
- Standard and optional paddle assembly for center discharge designs.

Cover Options
- Hinged and Grated full or split covers
- Cover assist mechanisms available
- Flanged Inlet Ports for dry ingredient or liquid addition
- Dust Pickup Ports
- Bag Dump Stations
- Access openings

Shaft Seals
- Split Block Seal – UHMW body, steel front and back plates and two wraps of braided teflon packing – mild steel or stainless.
- Flanged Gland Seal – steel body, steel back plate and one wrap of braided teflon packing – mild steel or stainless – adjustable as packing wears.
- Packing Gland Seal – UHMW body with stainless steel front plate, back plate and pusher plate – optional stainless body – multiple wraps of braided teflon packing – adjustable as packing wears – with or without air purge.
- Seals from other manufacturers are available.

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- Seals from other manufacturers are available.
Liquid Addition

- Liquid manifolds and / or spray nozzles.
- Mounted either inside or outside the mixer body assembly.
- Located to minimize build-up on the agitator assembly and mixer body.
- Up first, then down" design of pipe extensions minimizes dripping" of liquids
- Optional design for nozzle inspection / replacement without removing the mixer cover

Discharge Locations And Options

- Full-Length Drop Bottom Discharge – air operated – open/closed limit switches – optional door dampening system
- Flat Slide or Curved Slide Gates – single or multiple arrangements – manual, air or electric operators – optional open / closed limit switches
- Paddle Gates – manual, air or electric operators – optional open/closed limit switches
- Weir Discharges – discharge opening on sidewall or endplate – optional false wall (weir) inside mixer
- Through-The-Endplate Discharge Gates – manual, air or electric operators – optional open/closed limit switches
- Butterfly Valves
- Gates / Valves by other manufacturers

Surge Bins & Unloading Conveyors

- Surge bins furnished with either a drag type or screw type unloading conveyor.
- Full-length removable baffle assembly over the return flights inside the surge bin.
- Horizontal, inclined or bent section drag conveyor configurations.
- Custom designed surge bins & unloading conveyors are available.

High Speed Choppers

- For de-agglomerating and size reduction of lumps and balls or fibrous materials.
- Standard tulip blades are available of stainless steel for both commercial and sanitary/food grade applications or of plasmdized, abrasion resistant carbon steel for highly abrasive applications.

Miscellaneous Options

- Heating and Cooling Jackets
- Intensifier Bars - steel rods for de-agglomeration
- Support Structures and Platforms
- Control Panels
- Load Cells
- Custom Designs
Hayes & Stolz Industrial Manufacturing Company offers a wide variety of mixing, blending, processing and material handling equipment to serve your needs, including:

Batch Mixers
Continuous Blenders
Bucket Elevators
Distributors
Gates
Valves
Rotary Scalpers
Horizontal Coolers
Coaters

Other Services:
Laser / Water Jet Cutting
Contract Manufacturing