



Mixing, drying, and reacting are fundamental procedures used in the process industries. These functions are the foundation on which all manufactured products in the food, chemical, pharmaceutical, and plastics industries are based. Processall equipment, with its mechanically fluidized bed agitation principle, offers the materials processor the ability to perform these multiple processing functions within a single vessel.

The mechanically fluidized bed principle provides outstanding performance when processing dissimilar materials. Solids to solids or liquids to solids, even transitional phase dilatant and thixotropic viscous materials are easily processed. Processall mixers, dryers, and reactors provide the efficiencies of a single-step process by eliminating multi-vessel procedures, unnecessary material handling, excessive cycle times, and energy consumption as well as enhanced final product performance. With its totally enclosed design, Processall mixers, dryers, and reactors provide a safe, clean working environment.

Special Heat Transfer Plow

While the standard plow-shaped agitators are sufficient to obtain the heat transfer needed for drying, there can be applications that require special agitator elements. The Processall heat transfer plow is specially designed to provide sweeping action of the material on the jacketed surface for maximum heat transfer while mixing the material. Special scraper edge surface elements are available for sticky materials to minimize build up on the vessel wall.



20 Liter Mixer

High Speed Dispersion Mill

The capabilities of mechanically fluidized bed processing vessels can be extended to meet the needs of the most difficult of applications with the use of optional high speed dispersing/shearing devices. The dispersion mills work in conjunction with each pass of the plow-shaped agitators to achieve the desired results with the final product.

The mill drive shafts feature a two-piece design for simplicity, durability, and ease of maintenance. The high speed mills are mounted at approximately the 4 o'clock position on the vessel shell. The mill assembly extends into the vessel chamber where the material being processed will be exposed to the rotating mill blades. By locating the mills between the paths of the agitators, the sweeping action of these elements constantly brings the material into contact with them. The mills augment the fluidized mixing action. This combination acts to control agglomeration size (up or down), disperse ingredients in either dry or liquid form and enhance the complete distribution of material.



Pilot Plant Mixers, Dryers, and Reactors
 Processall offers a variety of different pilot plant horizontal mixers featuring the mechanically fluidized bed mixing principle. These pilot plant mixers have many of the same design features found in production scale mixers, dryers, and reactors such as stainless steel construction, vacuum operation capabilities, high speed mills, liquid addition capability, heat transfer jacket and many others. Standard sizes available are 4, 20, 40, 60, 90 and 140 liter models.



Vacuum Carts

The Processall moisture recovery system can be used with the vacuum filter stack when using the Tilt-A-Mix or Pilot Plant Dryers. This system utilizes a liquid ring vacuum pump to achieve high vacuum levels. A shell and tube heat exchanger discharges the condensate to a 5 gallon recovery tank. All product contact surfaces are 304 stainless steel except in the vacuum pump area. The entire unit is mounted on a stainless steel base with casters for mobility.



Features:

- 5 HP, 208-230/460 Volt, 3 Phase, 60 Hertz Vacuum Pump
- Stainless Steel Mobile Cart With Casters, Separator and Plumbing
- Explosion Proof Motor Class I, Group D, Class II, Groups F&G
- 11 Square Foot Shell & Tube Heat Exchanger
- 5 Gallon Stainless Steel Reservoir
- 60 Inch Tygon Attachment Hose with Triclover Adapter (optional)

Liquid Addition Capabilities

The controlled addition of liquid to the mix is accomplished via a hollow lance which protrudes into the vessel between the paths of the plows.

Typically, the lances are mounted directly over the high speed chopping mills. The lance can be equipped with a Pro-Nozzle, which features an exclusive check valve design. The nozzle is self-cleaning and the spray pattern is adjustable. Air/Liquid fogging nozzle is also available when a fine mist is needed to control particle sizing.

Testing Center

Processall has a completely equipped technical center for testing of customers' products and processes. This laboratory features both batch mechanically fluidized bed and continuous mixers, dryers and reactors for pilot plant evaluation. All necessary auxiliary equipment is available for testing such as liquid addition, pressure, vacuum, coolant chilling, heating (hot water, steam, or oil) systems as well as other items needed to produce proper documentation for successful testing.



Parts and Services

Processall offers original OEM replacement parts for all products, as well as competitor products through our Aftermarket Service team. From seals to blades, mixers to choppers, we can provide the proper replacement parts and fast repair service you need to keep your equipment operating.



Rebuilds

Processall can refurbish, rebuild and upgrade your worn-out and outdated mixing and drying equipment to meet the specifications and demands of any industry. Our team can turn old equipment into like-new condition. We also refurbish to meet new industry requirements or to change the application the equipment is used for.



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