
EMULSION POLYMERIZATION

Fritz Industries emulsion polymerization systems feature tanks with high shear capabilities. Environmental parameters are automatically controlled by a series of mounted heating and cooling sensors inside each tank. Emulsion is transferred to a sealed polymer with automated catalyst injection. Reactors are agitated with high volume agitators. Reactor and catalyst tanks support nitrogen purge and blanket capabilities. Processes are protected by a negative pressure vapor recovery and scrubbing system. Capabilities allow for continuous production.

FLUIDIZED BED COATING

Fritz Industries has several Fluidized Bed Coaters for encapsulation or agglomeration of fine powders. In the encapsulation process, a film is formed around a particle by atomizing the coating and spraying it into a bed that is fluidized by the flow of heated air. A wide variety of water based coatings may be used to achieve desired performances. In the agglomeration process, a binder liquid is sprayed into the fluidized particles, increasing particle size. Both processes may be performed in a low humidity air stream for hydroscopic materials. Finished products are screened and packaged to user's specified requirements.

WATER SOLUBLE POLYMER REACTORS

From 500 gallon to 4500 gallon stainless steel reactors, Fritz Industries has a reactor sized to meet your processing requirements. Our reactors are equipped with mechanical mixing, deionized feed water, cooling, hot water heating, steam heating, nitrogen purge, nitrogen blanket, and vapor recovery systems. Reactions can be carried out in sealed or under vacuum environments. Packaging options include five-gallon pails, fifty five-gallon drums, or totes.

RIBBON BLENDING

With batch sizes to 300 cubic feet, our stainless steel double ribbon blenders are well suited to handle a wide range of materials with varying particle sizes and bulk densities. Uniformly blended products can be produced in minutes. Liquids may be added through spray nozzles to dry powders while being blended. Blender's holding bins allow for continuous production and packaging.

The information contained herein is based on data considered accurate with representative samples. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. The above data does not imply specifications for this product. Fritz Industries, Inc. assumes no responsibility for personal injury or property damage to vendees, users or third parties, caused by the material. Such vendees or users assume all risks associated with the use of the material. Consult the Material Safety Data Sheet before using this product.

Packaging is available in pneumatically fed valve-pack bags, open top heat sealed bags, or super sacks.

SPRAY DRYING

Fritz Industries has countercurrent spray dryers capable of producing over 1,000 pounds per hour of dried product. Spray drying is ideally suited for high solids, low molecular weight water-soluble polymers and inorganic chemicals. The liquid feed stock may be preheated to decrease viscosity and increase production. The feed stock is injected into the spray dryer through a quad lance spraying system and atomized into a spray of fine droplets. A heated gas stream, evaporating the liquid and leaving the solids suspended in the gas stream dries the spray. The dried powder is separated from the gas stream, collected and packaged.

DRUM DRYING

Fritz industries Inc., have several double drum stainless-steel drum dryers. Drum drying is ideally suited for high or low solids content, high molecular weight water-soluble polymers. The liquid feed stock is pumped from heated holding tanks to the drum dryers. The feed stock is manifold into two parallel drums heated with steam. The drums, separated by a narrow gap, turn inward and a thin layer of polymer is formed on the heated drums. As the drums rotate, water is evaporated and a continuous knife along the outer face of the drum removes the dry powder remaining. The dry product is collected and pneumatically transferred to a rotary hammer mill, reduced to the desired particle size and packaged. A delicate balance between feed rate, roll speed, steam pressure and roll gap is maintained to ensure a consistent product that meets customer specifications.

MICROWAVE DRYING

Fritz Industries uses microwave oven dryers for drying water-based ultra-high molecular weight polymers. Often when ultra-high molecular weight polymers are diluted to a pumpable state for drying by other means, the solids content is too low to be economically feasible. Continuous conveying allows polymers to be dried in their original state without dilution. The dryer product is milled to the specified particle size and packaged to customer's requirements.

The information contained herein is based on data considered accurate with representative samples. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. The above data does not imply specifications for this product. Fritz Industries, Inc. assumes no responsibility for personal injury or property damage to vendees, users or third parties, caused by the material. Such vendees or users assume all risks associated with the use of the material. Consult the Material Safety Data Sheet before using this product.

OIL SUSPENSION SYSTEMS

Water soluble polymers or organic compounds are often easier to use in liquid forms but are inherently viscous, contain low solids and are costly to transport. Fritz Industries suspension systems pack up to ten pounds per gallon of inorganic compounds or five pounds per gallon of water-soluble polymers into a superior mineral oil carrier. The suspension system remains non-settling to 140 F and pourable to 20 F. With no water added, the products are not susceptible to the problems associated with freezing. The mineral oil used in the system is biodegradable and environmentally friendly. Custom packaging is available in five-gallon pails, fifty five-gallon drums, 330-gallon and 550-gallon totes. Custom suspension systems can be designed to meet your specific needs.

BIO-REACTING

Fritz Industries has a variety of bioreactors designated to grow and harvest select bacterial cultures and enzymes. Professional Microbiologist nurture and electronically monitor reactors for exacting environmental conditions.

WATER SOLUBLE BAGGING

Fritz Industries patented water-soluble bagging system allows for custom packaging of dry powdered chemicals. This unique packaging concept provides individually packaged preweighed bags with the exact quantity of product required for special applications. The bags, when added to water or water-based systems will readily dissolve and allow the addition of specific quantities of materials without weighing, dusting, or coming in contact with the chemicals. The inner, water-soluble bags are of sturdy form-fill-and-seal construction and individually packaged in polyethylene plastic outer bags. Custom blending and packaging is available.

The information contained herein is based on data considered accurate with representative samples. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. The above data does not imply specifications for this product. Fritz Industries, Inc. assumes no responsibility for personal injury or property damage to vendees, users or third parties, caused by the material. Such vendees or users assume all risks associated with the use of the material. Consult the Material Safety Data Sheet before using this product.