

MicroDairy Designs Vat Pasteurizer and Packager



Typical Installation – Pasteurizer with Thermometers and Chart Recorder, Sanitary Tube Pump, Packager.



Typical Installation – Pasteurizer, Pump, Packager, Chiller

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Pasteurizer with lid open to show water jacket and immersion heater in water jacket. Water Jacket is insulated.



Chart Recorder and Temperature Control



Water jacket fill/drain connections



Inserting the removable liner.



Sight gage to allow observation of water level in the water jacket. Pin locks product liner in position.



Pasteurizer lid (insulated). Ports included for airspace and product indicating thermometers, chart recorder probe, airspace heater, agitator and for filling/emptying the vat. Lid can be removed for manual cleaning.



Airspace heater with fan and filter

Air in contact with milk must be filtered with a filter that is 98% effective at filtering out particles as small as .3 microns. The filter on our airspace heater is 99.997% effective at filtering those particles.



Sanitary tube (peristaltic) pump. This is the most sanitary pump on the market, commonly used in hospitals and the pharmaceutical industry because it is so sanitary. Product is completely contained within the tube and never touches the pump. There is no danger of pump components being sent downstream into the product in the event of a pump failure. Tubing provided is FDA and 3-A Dairy approved. The pump is used to pump product into and out of the vat, to fill containers in the optional packager, as well as to circulate water in the water jacket for cooling product prior to packaging.



Completely separate tube sets are used for raw milk (opaque hose, red “O” rings on umbrella fitting) and for pasteurized milk (clear hose, black “O” rings) Memorization Tip: red is for raw is for danger. A tube set is made up of 2 pieces of stainless tubing connected by a short piece of flexible tubing where it is positioned in the pump. The tubing is easily cleaned because the pulsing nature of the peristaltic pump creates the “slugging” action that is so important for cleaning pipelines. Both ends of the tube set are simply immersed in turn in each of the soap, rinse and sanitizing solutions. The pump is turned on to circulate the solutions.



Agitator drive



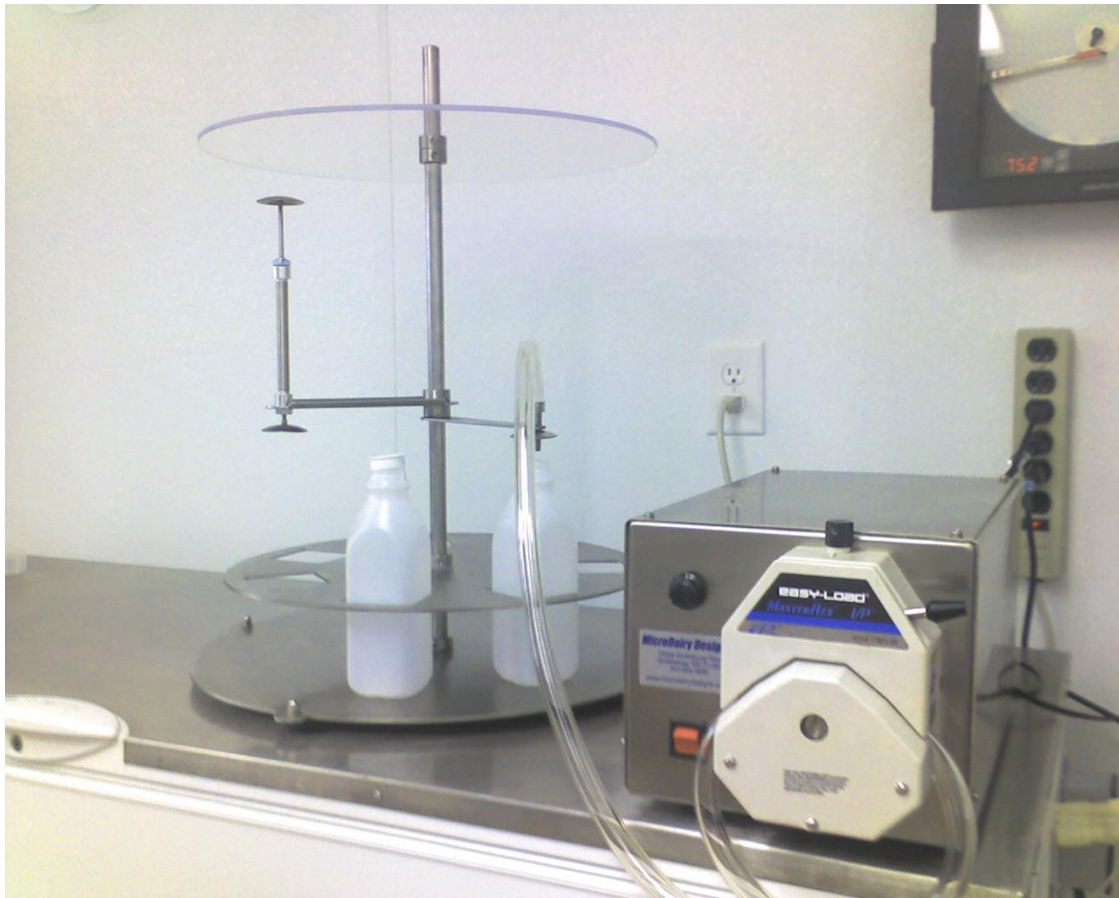
Agitator drive with umbrella fitting



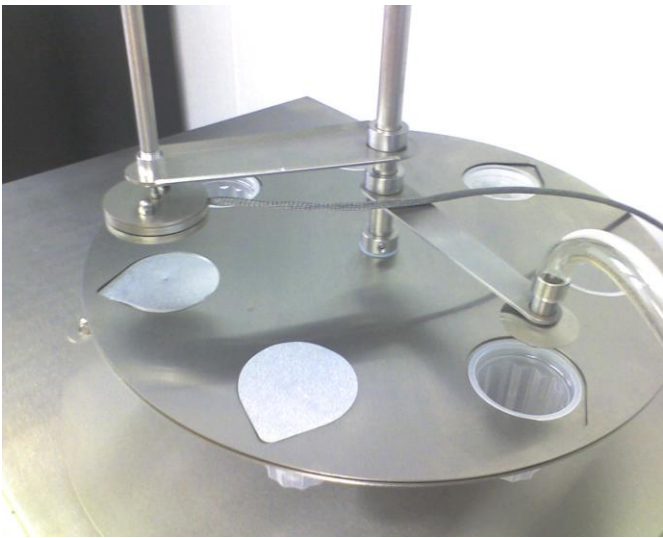
Agitator paddle



Product Liner – Decagonal shape allows excellent thermal mixing and good cleanability as all angles are greater than 135 degrees



EcoFlex Packager showing sanitary shield, spring plunger for mechanical capping and sanitary tube pump for filling containers. The setup shown is for “snap cap” type plastic bottles. The packager can be set up to fill and cap glass and plastic bottles as well as “foil seal” yogurt cups and deli tubs. With the appropriate carriers, the packager can handle items as small as half-and-half creamers up to as large as gallon jugs. All containers are available with “tamper-evident” closures.



Packager setup for foil seal yogurt cups



Vacuum pencil to position caps and seals on containers. (Vacuum pencils are typically used in labs to manipulate slides and slide covers and in clean room electronics fabrication to place integrated circuits and chips)