Inspections, Compliance, Enforcement, and Criminal Investigations

New Equipment Kenics Static Mixers

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DEPT. OF HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE FOOD AND DRUG ADMINISTRATION *ORA/ORO/DEIO/IB*

Date: 3/20/72 Number: 4
Related Program Areas:
Food, Drug & Cosmetic

ITG SUBJECT: NEW EQUIPMENT KENICS {{REGISTERED TRADEMARK}} STATIC MIXERS

Static Mixers for the in-line pipeline mixing and heating of liquids, suspensions, slurries, pastes and gases, have been developed by four different companies in the United States, but only one company, Kenics Corporation, One Southside Road, Danvers, Mass. 01923, markets a line. These are stainless steel, sanitary-design mixers in pipe sizes from 1/8 inch to 12 inch diameters. A photograph of two different designs is shown on the the next page. (FIGURE)

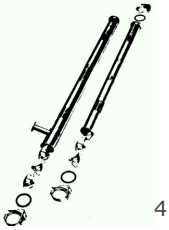
These mixers have recently been put into service in at least six large food installations, and typical applications include cooking cereals immediately before packaging, pasteurizing cheese, whipping cream, preparing baby foods, and coloring and flavoring candy. It can reasonably be expected that we will begin finding these units in many food, drug and cosmetic plants. Advantages include the ability to obtain any required amount of blending and homogenization in a single "pass", no moving parts, easy cleaning and sterilization or sanitizing, easy complete disassembly, and lower cost than most conventional mixing equipment. It can blend any combination of thin to viscous ingredients. The unit can be used as a heat exchanger, gas-liquid contractor, disperser or emulsifier, for any flowable liquid or paste.

The mixer is constructed of a series of polished stainless steel "elements" each twisted into a helix. These elements are welded end-to- end on center at 90 angles to each trailing edge, alternating on left and right sides. The welded assembly is inserted into and locked inside a stainless steel pipe.

During mixing, a continuous stream of product is divided, reversed, inverted and back mixed in a single pass. A unit, consisting of twenty elements, will have subdivided and remixed in excess of one million strata. Because the unit can be provided with heat exchange devices, cooking kettles can be eliminated in some processes.

Sanitary design permits easy removal of elements from the pipe for cleaning. Assembly parts, such as clamps and O-rings, are also readily removable for cleaning and replacement. From a design study only, since no inspection experience is known to this office, normal plant sanitation practices involving disassembly appears adequate. CIP sanitizing should also be adequate. No special design points for inspection are evident prior to operational evaluation

We solicit constructive views from any District having experience with this equipment.



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Two Models - "Kinetics" Static Blender

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