

REDESIGNED SANITARY DOUBLE ARM MIXER FOR THE GUM INDUSTRY

Modern gum products actually first appeared when the Mexican General Antonio Lopez de Santa Anna (of Alamo fame) was searching for a substitute for rubber. Santa Anna thought that perhaps chicle would fit the purpose. Santa Anna contacted American Inventor, Thomas Adams, who experimented with chicle, but found it unsuitable as a rubber base.

However, Adams did notice the locals chewing the chicle-based gum. Adams realized the chicle based gum was superior to all other gum bases then available and so began the production of chicle based gums.

Although chicle and other natural gums are still utilized by the chewing gum industry, some are being extended or replaced by manmade materials. A typical gum formula might contain 18—22% gum base, 55—62% sugar (affects flexibility), 18—22% glucose (affects moisture), and 2—3% flavors / polyols / glycerin. The gum bases are normally melted together at approximately 110°F, filtered, then added to the hot mixer. The sugar, glucose and flavorings are then slowly added to this batch. A portion of the sugar may be withheld to “dust” the batch to alleviate the sticking which may occur as the batch develops its desired smooth consistency.

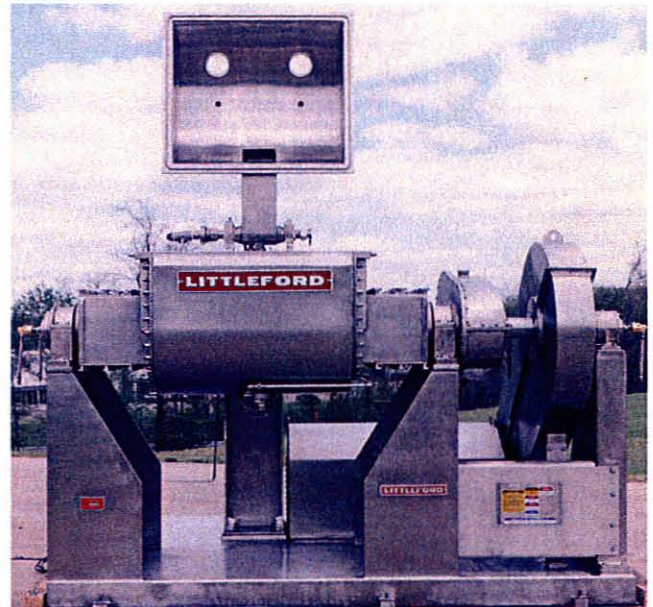
In order to disperse these materials into the gum base, the industry required a reliable, heavy-duty high-shear mixer capable of handling viscous pastes. The mixing batch goes through a high viscosity phase driven by a mix action that develops extremely high shear (at low agitator speeds) and that keeps the viscous batch from wrapping around the mixing blades. The mixer must also be capable of keeping the materials hot (~240°F) during the process and impart sufficient work to the batch to develop the required texture and flexibility in the final product.

The J. H. Day Company pioneered and developed the Tangential Double Arm Mixer for just this type of application.

J. H. Day, which is now fully integrated into Littleford Day, continues to build Double Arm Mixers that are unparalleled in design, construction and reliability. In addition, the Company continues to modify and improve the mixer's capabilities and performance. By

building upon its vast application experience, J. H. Day has developed mixers for many difficult applications and satisfied customers.

Engineering design enhancements have met the challenge of designing Double Arms with close clearances, heated shafts and the industry's only truly sanitary Double Arm, including its proprietary sanitary seal. Special attention has been paid to meeting sanitary objectives and requirements of the FDA, USDA and 3A, as specified.



Major features include:

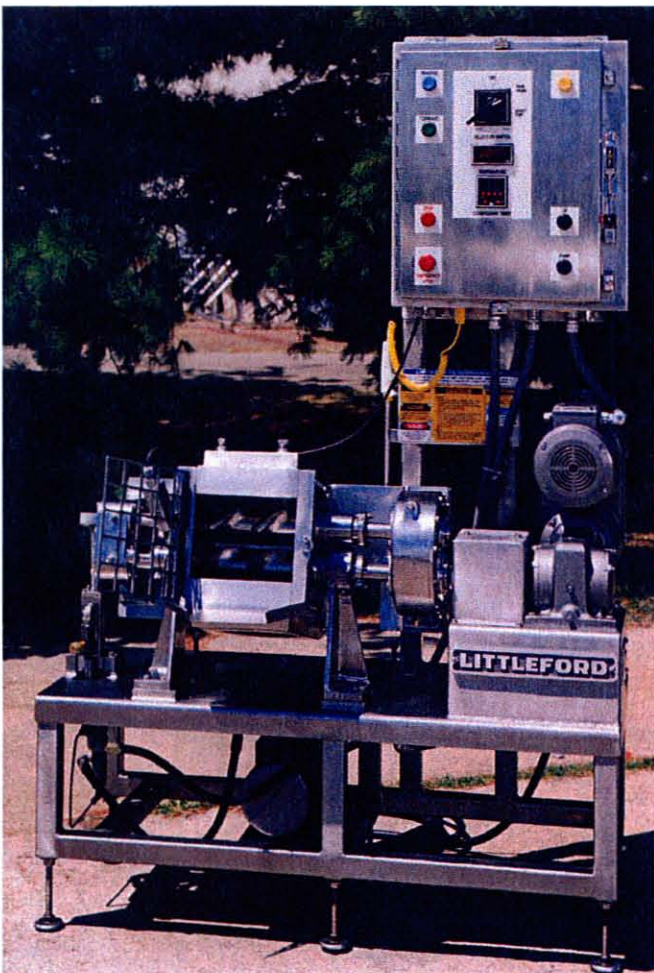
- Sanitary stainless steel construction
- Custom polishes from 120 grit to mirror finishes
- Easy clean totally enclosed stuffing boxes
- Vacuum domed lids
- ASME certified heat transfer jackets to 150 PSIG
- Variable speed
- Spray bars for cleaning
- Sanitary “knockdown” seals
- Single base design
- Paint-free stainless construction
- FDA, USDA and 3A compliance as specified.

Littleford Day Laboratory Double Arm Mixers: Available in both tangential (Mogul) and overlapping (Cincinnati design).

All Littleford Day laboratory units are "free-standing" in design and can be equipped with the same feature(s) available on the larger units.

The Littleford Day Laboratory Double Arms are available in both tangential and overlapping designs. They can be equipped for vacuum operation, with ASME jacketing for cooling or heating, with variable speed drives and a host of sanitary features including: complete stainless steel construction and compliance with FDA, USDA and 3A requirements, as specified.

Whether it is to be utilized as a tool for research and development, product formulation or direct production scale-up, Littleford Day Laboratory Double Arms will meet the most stringent of process requirements while yielding the highest degree of accuracy and quality.



Littleford Day
Where Processing Ideas Become Reality

Littleford Day, Inc.

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The production of all Littleford Day processing equipment for the Gum Industry begins with the engineering of quality, performance and reliability into every order specifically for each customer. This is accomplished utilizing the advanced engineering design capabilities of the Finite Element Analysis (FEA), state-of-the-art three dimensional Computer Aided Design (CAD), integrated with Computer Aided Manufacturing (CAM) and Computer Aided Engineering (CAE).

Our Gum equipment is routinely manufactured in accordance with "GMP" and can be specified to meet or exceed all of the different sanitary regulations as detailed by the FDA, 3A, USDA and the Gum Industry, making Littleford Day equipment the best Gum equipment on the market today.

We ask customers to bring their raw materials to our facility and put our claims to the "test".

Littleford Day offers an advanced Process Development and Testing Center at its headquarters in Florence, Kentucky. The center is staffed by engineers, chemists and technologists who have the expertise to understand the specific processing requirements in a wide range of industries, and can develop solutions to meet customer needs.

Equipment available at the Test Center includes mixers, dryers, reactors, granulators, intensive mixer/coolers and support equipment such as filtering and vacuum systems.

Littleford Day recommends a minimum of one full day for the typical test program. The testing program allows the customer to observe the mixing procedure and discuss scale-up issues. A confidential, detailed and test report is also provided so customers can analyze the results of their test program.

This proven Littleford Day technology has been applied to numerous complex and difficult applications in the Food, Pharmaceutical, Nutraceutical and Biotechnical Industries. The Littleford Day Double Arm Mixer can be purchased in a variety of sizes to meet most production requirements. Littleford Day can interface its system controls with existing equipment or supply fully automated process control systems.

For a free brochure or a detailed discussion, contact us at:

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