

UNIQUELY LEE

The Features That Bring Processing Perfection.



INCLINED AGITATION WITH SINGLE- OR DOUBLE-MOTION AGITATOR

Innovative Design Protects Ingredients and Improves Processing Efficiency

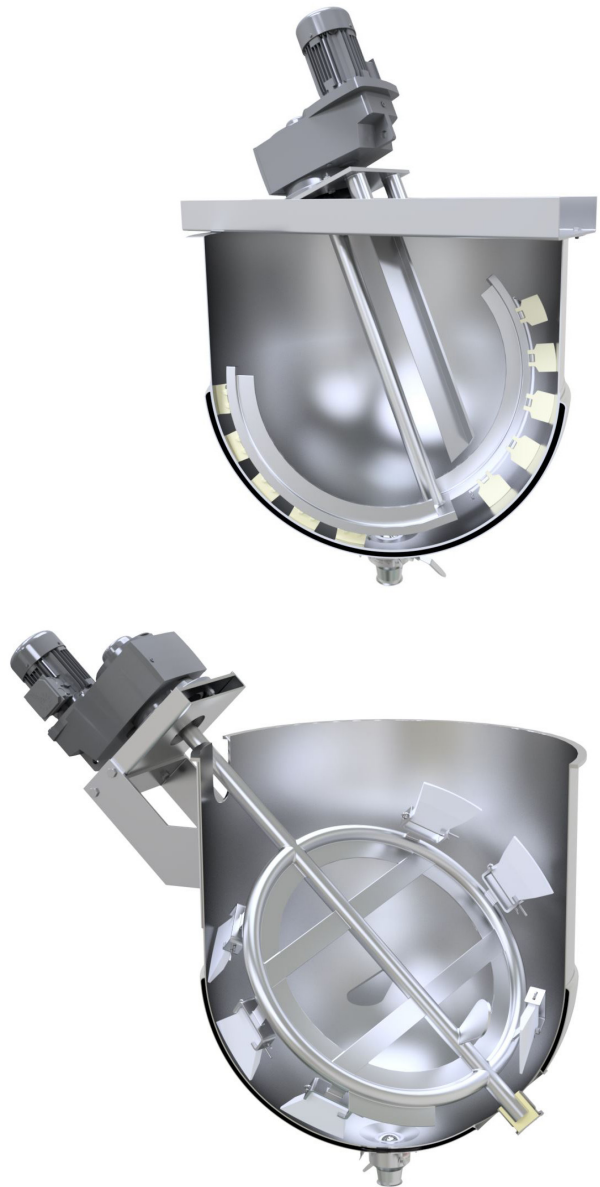
UNIQUELY LEE:

Inclined Agitator with Single- or Double-Motion Agitation

Growing demand for products that feature fresh-cut or “home style” ingredients has created new challenges for food manufacturers. As production scales, it becomes more difficult to efficiently maintain product integrity for vegetables, fruit, meat chunks and other ingredients that must stay intact.

The mixing and cooking process can damage these fragile ingredients that require special care to attain consistent and high quality. This situation is magnified as output rises.

Yet, by combining a hemispherical-bottom kettle with the innovative inclined agitator from Lee Industries, food processors can solve this challenge and produce consistent batch-to-batch quality that can scale efficiently, even for products that rely on solid ingredients.



How the Inclined Agitator and Hemispherical Kettle Work Together to Optimize Food Production

The Lee Industries' inclined agitator is designed to take full advantage of the special attributes of our hemispherical kettles. This "hand-in-glove" harmonization yields several important advantages for improved product quality, efficiency and safety.



The Impact on Product Quality

Effective mixing:

The scraper blades of an inclined mixing kettle sweep the inside hemispherical surface of the kettle, leaving no unmixed product in the vessel and minimizing the potential for product to accumulate during mixing—a common problem in traditional tanks with vertical agitators and blenders. This is especially important when mixing ingredients like ground beef, refried beans and other heavy solids.

Lower risk of ingredient damage:

Kettles with inclined agitation produce a gentle lifting and folding action that not only keeps all the ingredients evenly suspended in the batch for more consistent cooking results, but greatly reduces the potential for damage to fresh-cut ingredients, such as potatoes, tomatoes, other cut vegetables and fruit. Compared to kettles and tanks with vertical agitation, kettles with inclined agitation can lift/fold ingredients at slower speeds, preventing ingredient damage.

Consistent heating:

The mixing action of kettles with inclined agitation puts more product in contact with the heating jacket along the vessel's inside surface. This eliminates uncooked material in the interior of the kettle and yields better and more consistent heating and cooking results.

The Impact on Operational Efficiency and Safety

Faster product discharge with no waste:

The vessel's hemispherical shape and bottom discharge port provide a fast and efficient pathway for complete discharge of the product after each batch. Moreover, for ingredients that tend to either float to the surface or sink to the bottom of the vessel if not adequately mixed, the inclined agitator's mixing action is designed to keep all ingredients evenly blended during discharge.

Various agitator options:

Kettles are available in a wide variety of both single- and double-motion agitator drive options, varying degrees of incline, and can be designed in many blade and scraper configurations to meet any mixing requirement. This versatility makes it possible to use a kettle with inclined agitation to mix, cook and process a wider variety of food products and many different ingredients.



Lee inclined agitators are available in two drive configurations and varying degrees of incline

Single-motion:

For mixing liquids with particles or chunks of various sizes and densities, to provide a gentle folding/rolling action to ensure complete mixing and top-to-bottom blending of the entire batch

Double-motion:

Featuring counter-rotating mixing blades, for mixing heavier, higher-viscosity products, where both thorough mixing and suspension of ingredients is required.

Scrape surface agitation is used in both configurations to enhance mixing, heating, and cooling performance.

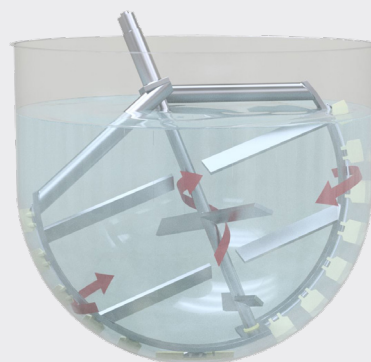
Inclined agitators are available in 22.5-, 30- and 45-degree incline options.

Lee Inclined Agitator Drives,

featuring single or double-motion agitation, are available in different configurations for processing a wide variety of products.



Single Motion



Double Motion

Determining if Inclined Agitation is Right for Your Needs

Lee Industries kettles with inclined agitation are engineered and built to deliver unique value to a variety of operations, but they are particularly advantageous for food processors with these characteristics:

Fresh, “home style” products:

Soups, stews, sauces, pie fillings and other food products containing freshly-cut, “home style” ingredients that must stay intact during mixing and cooking.

Meat products:

Food products containing meat and meat chunks, where the inclined agitator’s gentle mixing action, combined with the hemispherical kettle’s uniform cooking performance, prevents damage to and ensures consistent cooking in the vessel.

Bakery goods and other high-viscosity

products: The thorough mixing action of inclined agitation provides for complete, highly efficient mixing of flour-based bakery goods and similar, high-viscosity products.

Premium artisanal or clean-label products:

The gentle lifting and folding action of inclined agitation, and consistent heating characteristics of the hemispherical kettle, are ideal for products where extraordinary care must be given to preparing, mixing and cooking each batch.

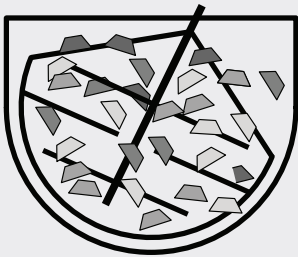
Whole, Delicate Products:

Whole grain rice, rice puddings, beans, corn, and other products where gentle mixing is vital to keeping ingredients whole.

Lee Inclined Agitator Drives

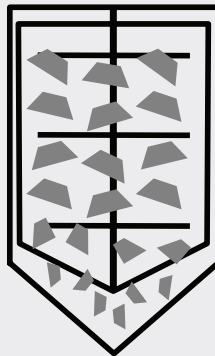
Compared to both vertical tanks and horizontal ribbon blenders, Lee inclined agitators, combined with Lee hemispherical kettles, provide more consistent and non-destructive mixing of chunk-like materials of all sizes and densities.

Inclined Mixing Kettle



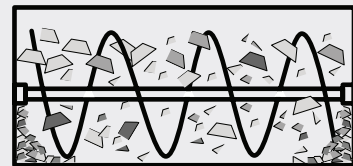
Gentle lifting and folding action prevents damage to fresh-cut ingredients, preserving flavor and appearance

Vertical Tank



Higher fluid pressure in taller vertical tank forces ingredients to tank bottom, requiring higher agitator speeds to suspend, leading to damage during batch processing

Horizontal Blender



Inadequate mixing action fails to keep ingredients of different densities in suspension, leading to ingredient damage and clumping from dead areas in horizontal blenders



P.O. Box 688 | Philipsburg, PA 16866
P. (814) 342-0461 | F. (814) 342-5660
www.leeind.com