

UNIQUELY LEE

The Features That Bring Processing Perfection.



**DOUBLE-MOTION
AGITATOR DRIVE SYSTEM**
Unitary Drive and Durable
Performance for the Most
Demanding Process Operations

UNIQUELY LEE:

Double-Motion Agitator Drive System

Among the most challenging mixing applications in food, chemical, pharmaceutical and petrochemical industries are high-viscosity products with ingredients that require gentle blending or folding action. In most of these cases, double-motion, counter-rotating agitator drive systems are required for the mixer to operate dependably and provide consistent results.

Yet among double-motion drive systems, Lee Industries' unitary motor design delivers superior performance. Engineered to maximize product consistency and eliminate mechanical failures, Lee's double-motion agitator drives provide years of continuous, trouble-free service for demanding processing applications.



DOUBLE-MOTION AGITATOR DRIVE SYSTEM

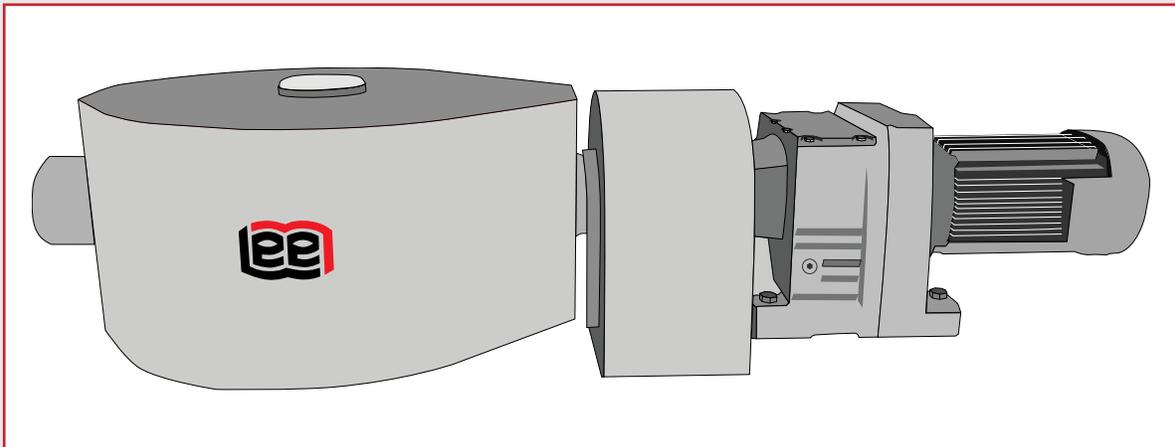
Exclusive Unitary Motor Design Combines Efficiency and Reliability

The unitary motor design of Lee's double-motion agitator drive is a compact, heavy-duty solution to high-viscosity mixing needs. It consists of these main features:

Single-motor design:

Lee double-motion agitator drives use a single motor directly attached to a specially designed gear drive unit. Using a single motor minimizes the headroom required for vessel installation and operation, improves processing consistency and maximizes energy efficiency.

Lee's Exclusive Double-Motion Drive



- A single motor and gearbox drive both agitators
- Simpler design and heavy-duty construction minimize breakdown risk
- Less headroom required for installation
- Single motor reduces electricity costs
- Single motor control assures product consistency and minimizes processing risk from setting incorrect agitator speeds
- Ideal solution for most applications*

***Lee designs agitators with dual-motor drives for certain applications that require specialized versatility or control.**

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Heavy-duty gear drive:

The single motor in the Lee double-motion agitator drive system is directly coupled to a proprietary gear drive system. The Lee gear drive system is precision-machined into a unitary, solid-cast aluminum housing. The gears, bearings, bushings and seals in the drive unit have been specified and engineered for continuous daily performance.

Geared, counter-rotating agitator shaft design:

The gearbox provides a single input shaft and two concentric output shafts, rotating the outer, scraped surface agitator in a clockwise direction and the inner crossbar shaft in a counter-clockwise direction at the same relative speed.

Idler pinion gear:

For heavy-duty mixing applications, an idler pinion gear, having the same heavy-duty specifications as the main drive pinion gear, is machined into the drive casting and located opposite the drive gear and equally engaged to the upper and lower bevel gears. The idler gear provides even greater stability when highly viscous ingredients are mixed, and virtually eliminates the potential for chipped gears and excessive wear due to pinched or skipped gears during operation.

The Lee double-motion agitator drive features a single motor and gear drive design, which powers both counter-rotating outer and inner agitator blades at the same speed, for consistent mixing results

DOUBLE-MOTION AGITATOR DRIVE SYSTEM

Lee Industries' Unitary Double-Motion Agitator System: The Most Efficient and Reliable Double-Motion Agitation System

Counter-Rotating Agitator Drive Shafts

Inner and outer agitator shafts, driven by the bevel gears in the gear drive, provide counter-rotating motion for inner and outer agitator blades and are securely fitted with custom engineered bearings at both the top and bottom of the agitator concentric shaft assembly to ensure continuous, trouble-free operation.

Heavy Duty, Single-Piece Agitator Blades

Both inner and outer agitator blade assemblies are each precisely fabricated from individual pieces of high-grade stainless flat and round bar and welded in place — not bolted — to assure reliable, sanitary operation. All welded joints are precision ground and polished to create a solid, unified, fully sanitary agitator assembly.

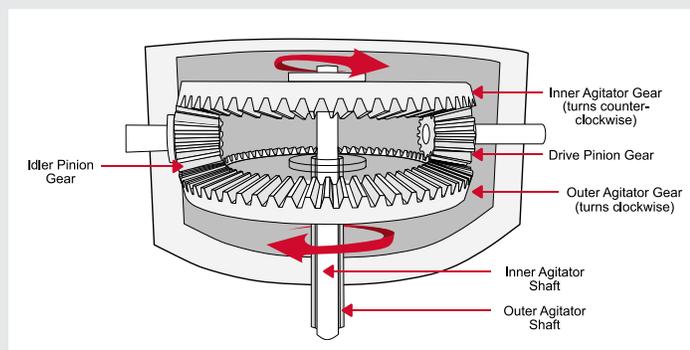
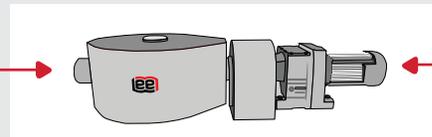
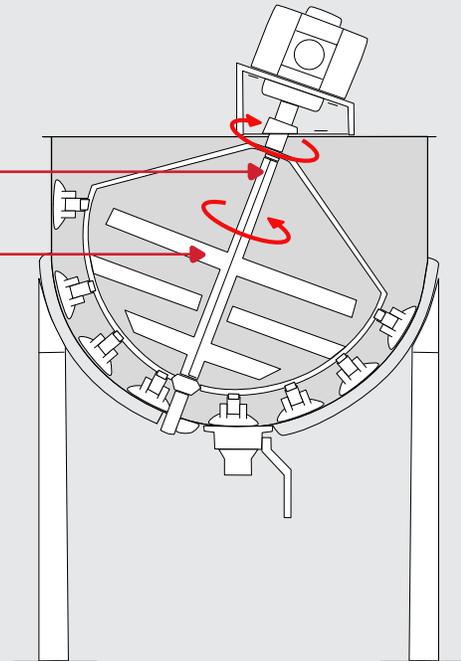
Heavy-Duty Gear Drive

Oversize top and bottom bevel gears, driven by a pinion gear and precision-machined into a cast, unitary aluminum housing, simultaneously drive both the inner and outer agitator shafts. The drive pinion gear turns the top inner agitator gear counterclockwise and the bottom outer agitator gear clockwise (as shown on inset gear drive illustration).

A Single, Powerful Motor

The Lee drive system uses a single motor, specified with power and service ratings higher than application requirements, to minimize motor wear and ongoing service needs.

For extreme-duty mixing applications, an idler pinion (shown on inset gear drive illustration) provides extra stability to prevent damage to gears from skipping.



Production Advantages of Lee's Double-Motion Agitator Drive System

The unique, efficient design and heavy-duty build-quality of Lee's double-motion agitator drive system provides these important benefits to enhance safety, quality and production in a processing application:

Highly efficient engineering reduces complexity for operators:

Since Lee's double-motion drive uses just one motor and gear drive, operation is simple for your production team. A single control sets the mixing speed and direction for both agitators.

The simple, heavy-duty design and construction of the Lee double-motion drive assures long, trouble-free service life, less complex operation for users, and more consistent batch processing for your product

DOUBLE-MOTION AGITATOR DRIVE SYSTEM

Consistent double-motion operation assures consistent product results:

Use of a single motor and controller, and a gear drive that continuously operates the counter-rotating agitators, guarantee constant relative speed and direction of the inner and outer agitator blades throughout the motor's entire speed range. This consistency in operation assures stable batch-to-batch consistency, an important element in product quality.

Heavy-duty design and build-quality eliminate unexpected production downtime expense:

Like every component in a Lee kettle, Lee's double-motion agitator drives utilize motors, gears, bearings, bushings and seals that are engineered beyond customer requirements. Over-engineering assures trouble-free, long-term operation and virtually eliminates the production losses and costs caused by unexpected downtime for repairs.



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