High Shear Mixers

MIXER ACTION

Lancaster's counter-current mixing action is the most effective mixing technique for consistent uniformity, thoroughness and rapid mix time.

Counter-current action occurs when the pan rotates in one direction, while the mixing tools rotate in the other. Processing times are greatly reduced while providing a more homogeneous batch .

The rotating pan conveys material to the counter-rotating, primary mixing rotor, secondary mixing plows, and side wall scraper.

Mixing tools are strategically placed to promote maximum material interface.

CONSTRUCTION

The Lancaster K-Series continues the quality, sturdy construction, easy maintenance, and long life, which has been a Lancaster tradition for over 80 years.

All Lancaster Mixers are made of structurally rigid, fabricated steel construction. They are fabricated as a single unit and can be mounted on four corner pads under a heavy box beam framework.

CAPACITIES

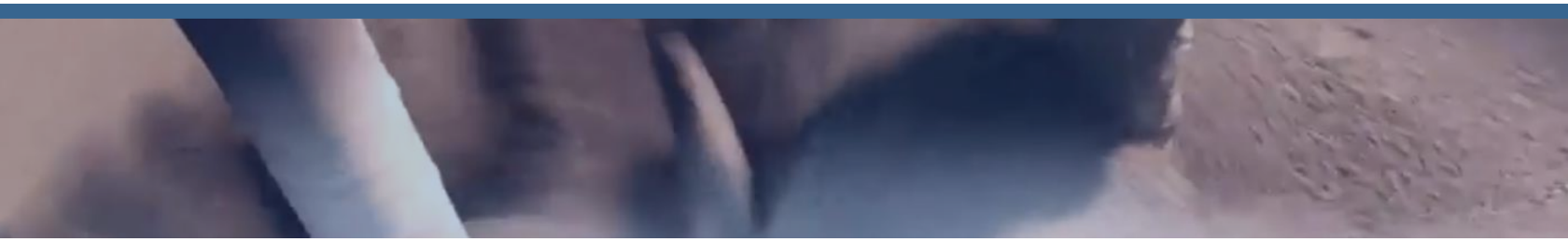
Lancaster Mixers are available in working capacities from 0.2 cu. ft. to over 210 cu. ft.

OPTIONS

- Heating and cooling capabilities
- Stainless steel upgrades for all contact areas, including pan and mixing tools
- Customizable porting for liquid, steam or gas injection
- Specialty linings

Support framework and platforms, skip hoists, hoppers, table feeders are also available.

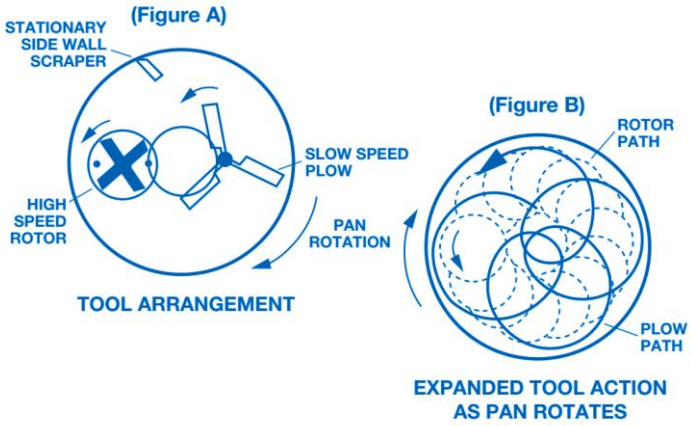
The most effective mixing technique for consistent uniformity, thoroughness and rapid mix time.

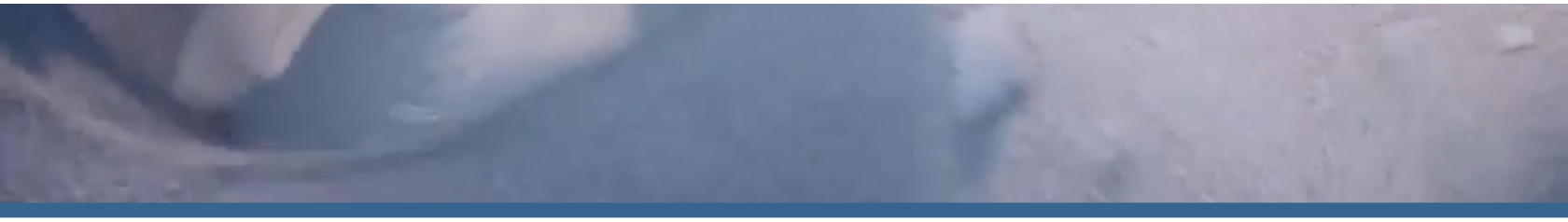


HIGH SHEAR COUNTER-CURRENT

A. The combined action of the pan rotating clockwise while the off-center mixing tool assemblies rotate counter-clockwise.

B. The path of travel created by the tools as the pan completes one revolution. Multiplied in terms of RPM, this mixing action is very intensive.





HORIZONTAL PAN DESIGN

Vertical axis horizontal pan mixing is the preferred design of the Lancaster Mixers. This positive and very efficient design of the pan gear drive ensures that the maximum amount of energy output is imparted into the mixing action. Pan rotation speeds can also be calculated for maximum material process effect without requiring higher speeds to move material to a higher elevation for proper mixing. The horizontal pan provides maximum production volume while minimizing contamination of the upper pan seal. The corresponding horizontal surfaces of our Lancaster Mixers provide easier and more efficient maintenance of the equipment.

The slow speed plows of the horizontal design of our Lancaster Mixers not only enhance the mixing process, but they also provide for continual cleaning of the pan bottom and assist in material discharge. The actions of our plows eliminate the duties of cleaning and discharge by a rotor and a stationary bottom scraper.

ROTOR

The primary mixing element of all Lancaster K series mixers is the single piece counter-rotating high speed rotor. The design of the mixing rotor will vary depending upon the particular process requirements.

The single piece base rotor construction helps maintain rotor balance after blade replacement. The rotor is driven by an easily accessible V-belt drive system. The drive motor can be single speed, multiple speed, or variable speed depending upon specific processing requirements. The drive guard fully encloses the top portion of the motor and the rotor spindle.

PLOW

A high quality gear-motor drive is mounted on top of the mixer structure. This unit turns the slow speed secondary mixing plows. These wear resistant plows continually sweep the entire surface of the pan bottom. This efficient slow-speed sweeping action prevents material from accumulating on the pan bottom.

These plows also provide enhanced mixing action and faster mixer discharging.

LANCASTER PRODUCTS
High Performance Mixing & Pelletizing Technology

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