LANCASTER PRODUCTS

K-SERIES MIXERS

PRECISION MIXING
ONE-STEP MIX-GRANULATION

The Lancaster Products K-series High Shear Mixer is the ideal tool for the preparation of powdered materials. Lancaster Mixers combine superior mixing quality with the convenience of a one-step mix-granulating process. Its counter-current mixing action excels in homogenizing, agglomerating, granulating, densifying and pelletizing in one machine, one process.

The K-Series mixer excels at producing **highly repeatable homogeneous** mixes and pellets.

K-1 MIXER	**K2-K3.5** MIXER	**K4-K10** MIXER
Ideal for testing, new product and/or process development	Well-suited for small production work or prototyping	Larger capacity mixers suitable for high throughput applications

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

The high-intensive action allows for mixing even the most difficult of materials. Powders, slurries and pastes, with or without water or binders, can be mixed in extremely short cycle times.

KEY BENEFITS

- Mix-granulate in one machine
- Faster Mixing
- Higher yields
- Repeatable batches
- Homogeneous Mixes
- Less Additives
- No Dead Zones
- Independently controlled mixing tools for custom mix designs
- Continuous Batch Processing

Lancaster High Shear Mixers are used in diverse industries seeking to transform materials with precision mixing or one-step mix-granulation.

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K-SERIES MIXER SPECIFICATIONS

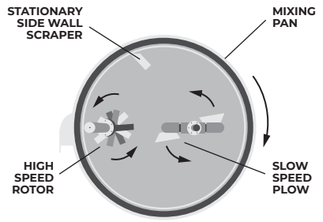




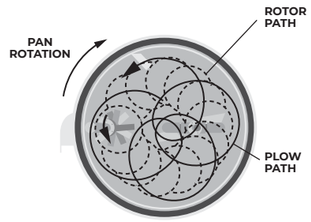
	K-1	K-2	K-3	K-3.5	K-4	K-5
PAN DIMENSIONS	Diameter	Diameter	Diameter	Diameter	Diameter	Diameter
	305 mm	590 mm	737 mm	965 mm	1219 mm	1473 mm
	Height	Height	Height	Height	Height	Height
	305 mm	380 mm	428 mm	470 mm	620 mm	587 mm
WORKING CAPACITY	MIN	MIN	MIN	MIN	MIN	MIN
	2 Liters	20 Liters	30 Liters	50 Liters	120 Liters	200 Liters
	MAX	MAX	MAX	MAX	MAX	MAX
	8 Liters	68 Liters	100 Liters	170 Liters	400 Liters	680 Liters
POWER	Rotor	Rotor	Rotor	Rotor	Rotor	Rotor
	2.2 kW	7.5 kW	15 kW	22 kW	30 kW	45 kW
	Pan	Pan	Pan	Pan	Pan	Pan
	0.75 kW	2.2 kW	4 kW	4 kW	5.5 kW	7.5 kW
					Plow	Plow
					5.5 kW	7.5 kW

COUNTER-CURRENT MIXING ACTION

Counter-current action occurs when the pan rotates in one direction, while the mixing tools rotate in the other. 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 and leaving no dead zones. The plow also aids in material discharge when mixing is complete.



MULTI-TOOL MIXING CONFIGURATION



EXPANDED TOOL ACTION AS PAN ROTATES

	K-6	K-7	K-8	K-9	K-10
PAN DIMENSIONS	Diameter	Diameter	Diameter	Diameter	Diameter
	1803 mm	2032 mm	2438 mm	2692 mm	2997 mm
	Height	Height	Height	Height	Height
	800 mm	940 mm	991 mm	1087 mm	1214 mm
WORKING CAPACITY	MIN	MIN	MIN	MIN	MIN
	400 Liters	600 Liters	900 Liters	1320 Liters	1800 Liters
	MAX	MAX	MAX	MAX	MAX
	1270 Liters	2000 Liters	3000 Liters	4400 Liters	6000 Liters
POWER	Rotor	Rotor	Rotor	2 Rotors	2 Rotors
	55 kW	75 kW	110 kW	132 kW	160 kW
	Pan	Pan	Pan	Pan	Pan
	11 kW	15 kW	30 kW	30 kW	37 kW
	Plow	Plow	Plow	Plow	Plow
	11 kW	15 kW	30 kW	30 kW	37 kW

DESIGN FEATURES

HORIZONTAL PAN

Vertical axis horizontal pan mixing features an efficient design of the pan gear drive which 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.

ROTOR

The primary mixing element of all Lancaster Products 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.

ROTOR STYLES:

Star – mixing, de-lumping and granulating

Pin – pelletizing, round/dense pellets

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 and also provide enhanced mixing action and faster mixer discharging.

CUSTOM OPTIONS

- Heating capabilities
- Stainless steel upgrades for all contact areas, including pan and mixing tools
- Customizable porting for liquid, steam or gas injection
- Specialty linings and coatings for rotors
- In pan, In process moisture analyzer
- Self-cleaning systems
- Hazardous Area Classification Compliant

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

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