

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-pelleting 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	K3-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.

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

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.

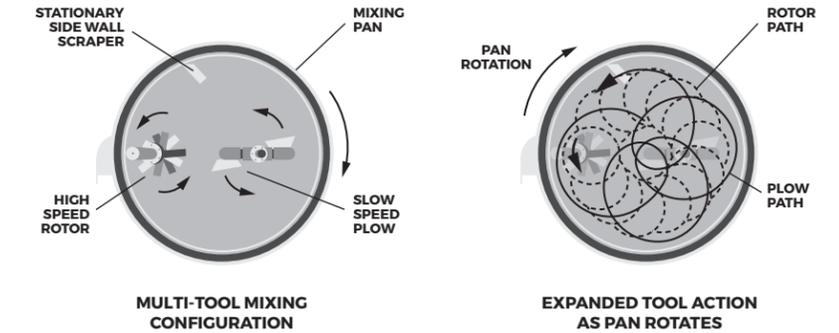
Lancaster High Shear Mixers are used in diverse industries seeking to transform materials with precision mixing or one-step mix-granulation.

K-SERIES MIXER SPECIFICATIONS



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.



K-1 K-3 K-3.5 K-4 K-5

PAN DIMENSIONS	K-1		K-3		K-3.5		K-4		K-5	
	Diameter		Diameter		Diameter		Diameter		Diameter	
	12 in / 305 mm	29 in / 737 mm	38 in / 965 mm	48 in / 1219 mm	58 in / 1473 mm					
PAN DIMENSIONS	Height		Height		Height		Height		Height	
	12 in / 305 mm	17 in / 428 mm	19 in / 470 mm	24 in / 620 mm	23 in / 587 mm					

K-6 K-7 K-8 K-9 K-10

PAN DIMENSIONS	K-6		K-7		K-8		K-9		K-10	
	Diameter		Diameter		Diameter		Diameter		Diameter	
	71 in / 1803 mm	80 in / 2032 mm	96 in / 2438 mm	106 in / 2692 mm	118 in / 2997 mm					
PAN DIMENSIONS	Height		Height		Height		Height		Height	
	32 in / 800 mm	37 in / 940 mm	39 in / 991 mm	43 in / 1087 mm	48 in / 1214 mm					

WORKING CAPACITY	K-1		K-3		K-3.5		K-4		K-5	
	0.1 ft3 2 Liters	1 ft3 30 Liters	1.8 ft3 50 Liters	4 ft3 120 Liters	7 ft3 200 Liters					
WORKING CAPACITY	K-6		K-7		K-8		K-9		K-10	
	14 ft3 400 Liters	20 ft3 600 Liters	30 ft3 900 Liters	44 ft3 1320 Liters	60 ft3 1800 Liters					
WORKING CAPACITY	K-1		K-3		K-3.5		K-4		K-5	
	0.3 ft3 8 Liters	3.5 ft3 100 Liters	6 ft3 170 Liters	14 ft3 400 Liters	24 ft3 680 Liters					

WORKING CAPACITY	K-6		K-7		K-8		K-9		K-10	
	45 ft3 1270 Liters	70 ft3 2000 Liters	105 ft3 3000 Liters	155 ft3 4400 Liters	210 ft3 6000 Liters					

POWER	K-1		K-3		K-3.5		K-4		K-5	
	3 Hp 2.2 kW	20 Hp 14.7 kW	30 Hp 22.1 kW	40 Hp 29.4 kW	60 Hp 44.1 kW					
POWER	K-6		K-7		K-8		K-9		K-10	
	75 Hp 55.2 kW	100 Hp 73.5 kW	150 Hp 111.8 kW	175 Hp 128.7 kW	225 Hp 165.5 kW					
POWER	K-1		K-3		K-3.5		K-4		K-5	
	1 Hp 0.7 kW	5 Hp 3.7 kW	5 Hp 3.7 kW	7.5 Hp 5.5 kW	10 Hp 7.4 kW					
POWER	K-6		K-7		K-8		K-9		K-10	
	15 Hp 11.0 kW	20 Hp 14.7 kW	40 Hp 29.8 kW	40 Hp 29.8 kW	55 Hp 40.5 kW					
POWER	K-6		K-7		K-8		K-9		K-10	
	15 Hp 11.0 kW	20 Hp 14.7 kW	40 Hp 29.8 kW	40 Hp 29.8 kW	55 Hp 40.5 kW					

POWER	K-6		K-7		K-8		K-9		K-10	
	15 Hp 11.0 kW	20 Hp 14.7 kW	40 Hp 29.8 kW	40 Hp 29.8 kW	55 Hp 40.5 kW					
POWER	K-6		K-7		K-8		K-9		K-10	
	15 Hp 11.0 kW	20 Hp 14.7 kW	40 Hp 29.8 kW	40 Hp 29.8 kW	55 Hp 40.5 kW					

HORIZONTAL PAN

DESIGN FEATURES

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
- ✓ Specialty linings and coatings
- ✓ Stainless steel upgrades for all contact areas, including pan and mixing tools
- ✓ Self-cleaning systems
- ✓ Customizable porting for liquid, steam or gas injection
- ✓ Explosion proofing

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