



WE OFFER

PERFECT MIXING TECHNOLOGIES



PERMIX CONICAL MIXERS:
PRECISION MIXING FOR
EVERY INDUSTRY



PerMix Conical Mixers & Conical Vacuum Mixers & Dryers

Precision, Performance, PerMix.

Mixing Action: How it Works

The conical mixer uses a screw agitator that rotates around its own axis while orbiting along the conical vessel wall. This dual-motion creates a three-dimensional mixing pattern:

- Material is lifted upward along the wall by the screw.
- Gravity pulls the material down into the center.
- Continuous circulation ensures **total batch homogeneity** in less time and with less energy than horizontal mixers.

In **single-shaft designs**, one screw provides gentle but complete mixing, even at low fill levels.

In **dual-shaft designs**, two screws move material simultaneously, accelerating mixing and making them ideal for cohesive powders or bulk batches.

In **vacuum mixer/dryers**, the same mixing action is combined with vacuum pressure and thermal jackets, which dry materials evenly without damaging delicate particles.



Advantages

Gentle Handling

Ideal for fragile powders, crystals, or sensitive materials like pharmaceuticals and nutraceuticals.

Minimal Heat Generation

Perfect for explosive or volatile compounds where friction must be avoided.

Flexibility

Mixes powders, pastes, or slurries in one machine.

Scalability

Proven performance from lab-scale (5 liters) to large-scale (30,000 liters and up).

Low Energy Consumption

Efficient circulation requires less power compared to high-intensity mixers.

Sanitary & Safe

Easy-clean design with CIP systems, retractable screws, and no confined-space entry needed.

Disadvantages

Every technology has limits—transparency builds trust:

Longer Cycle Times

Compared to high-shear mixers, conical mixers take more time when rapid dispersion is required.

Higher Cost per Unit

Precision construction and vertical screw systems are more complex than simple paddle or ribbon mixers.

Not for All Applications

Extremely viscous pastes or sticky dough-like products may require other PerMix solutions such as sigma mixers.

Despite these tradeoffs, the **versatility and safety advantages** outweigh the drawbacks for most industries.



Where They Excel

Explosives

Spark-resistant designs with explosion-proof drives ensure safe mixing of sensitive powders.

Abrasives

Hardox or ceramic linings extend the mixer's lifespan against aggressive wear.

Pharmaceuticals

High-precision blending meets cGMP requirements, with CIP for complete sanitation.

Food & Nutraceuticals

Uniform blending of proteins, seasonings, and nutritional additives.

Chemicals

Handles both free-flowing powders and corrosive formulations with specialty alloys.

Cosmetics

Achieves smooth creams, powders, and pigments without particle degradation.



Options & Special Features

PerMix leads the way by offering more customization, more standard features, and better pricing than competitors:

Load Cells

For precise batch weighing and process control.

CIP Systems

Spray nozzles, retractable screws, and automated wash cycles ensure fast, safe cleaning.

Vacuum Capability

Mix and dry in one unit, with condensate recovery options.

Gas Purge Systems

For inerting with nitrogen or other gases when handling explosives or oxygen-sensitive products.

Heating & Cooling Jackets

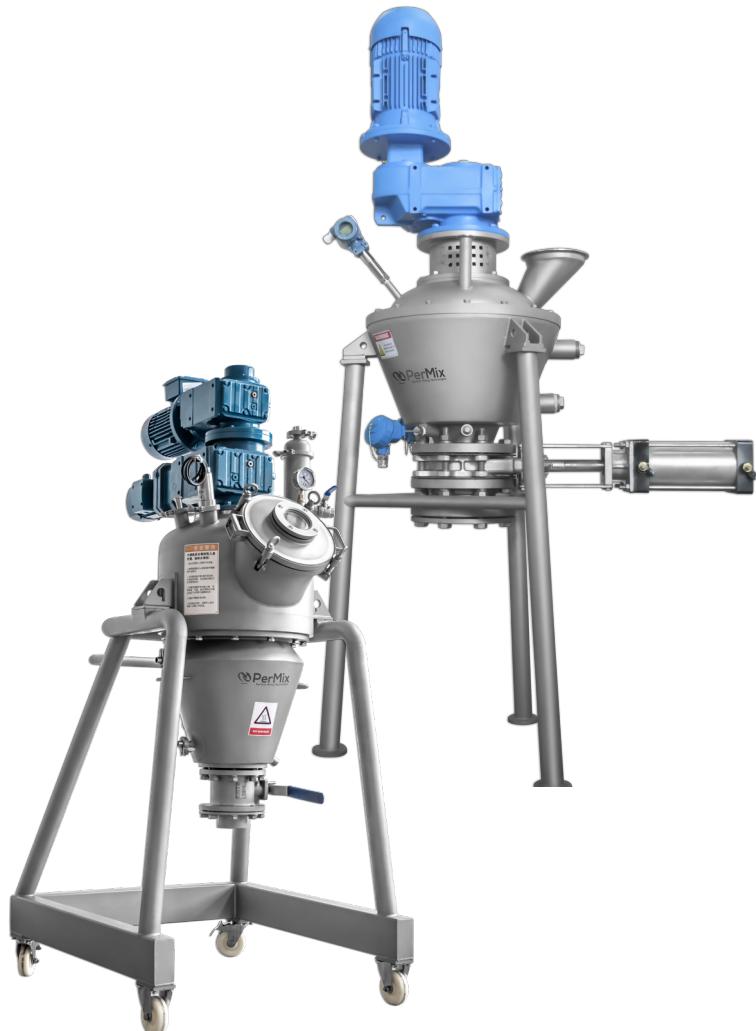
Tight temperature control for sensitive formulations.

PLC/HMI Controls

Recipe-driven automation for reproducible results every batch.

Material Choices

From 304/316 stainless steel to Hardox, Hastelloy, and titanium, PerMix builds for your process environment.



Why PerMix Leads the Industry

Most manufacturers stop at "standard." PerMix doesn't believe in standard.

Engineering Leadership

Designs that outperform legacy European brands at a fraction of the cost.

Global Footprint

Manufacturing in the US, Europe, and Asia ensures local service, shorter lead times, and global reach.

Best-in-Class Warranty

Industry-leading coverage to back our promise of durability and reliability.

Innovation in Cleaning

Cleaning: Confined-space entry is eliminated by our retractable agitator and CIP systems, setting a new industry benchmark for safety and hygiene.

Value Without Compromise

Advanced features included as standard where competitors charge extra.

Specifications

PerMix Conical Mixer

Model	Total, L	Working, L (min.), 30%	Working, L (max.), 60%	kW (*) (Screw)	kW (*) (Orbit)	RPM (*) (Screw)	RPM (*) (Orbit)	Dia. (mm)	H (mm)	Kg
PNA-15	15	4.5	9	0.55	0.18	130	2.5	450	1,725	150
PNA-20	20	6	12	0.75	0.18	130	2.5	550	2,000	200
PNA-30	30	9	18	0.75	0.18	130	2.5	550	2,000	280
PNA-45	45	13.5	27	1.5	0.18	120	2	655	2,100	350
PNA-50	50	15	30	1.5	0.18	120	2	655	2,100	400
PNA-60	60	18	36	1.5	0.18	120	2	720	2,150	450
PNA-70	70	21	42	1.5	0.25	120	2	720	2,150	550
PNA-100	100	30	60	1.5	0.25	120	2	720	2,250	600
PNA-150	150	45	90	2.2	0.37	120	2	875	2,415	700
PNA-200	200	60	120	2.2	0.37	120	2	875	2,415	800
PNA-250	250	75	150	2.2	0.37	120	2	980	2,110	420
PNA-300	300	90	180	2.2	0.37	120	2	980	2,110	450
PNA-400	400	120	240	3	0.55	120	2	1,160	2,370	500
PNA-500	500	150	300	3	0.55	120	2	1,160	2,370	550
PNA-600	600	180	360	3	0.55	120	2	1,500	2,500	700
PNA-700	700	210	420	4	0.55	95	2	1,500	2,500	820
PNA-750	750	225	450	4	0.55	95	2	1,500	2,500	950
PNA-800	800	240	480	4	0.55	95	2	1,500	2,500	1,100
PNA-1000	1000	300	600	4	0.55	95	2	1,525	2,835	1,350
PNA-1200	1200	360	720	4	0.55	95	2	1,680	3,125	1,600
PNA-1500	1500	450	900	5.5	0.55	95	2	1,680	3,125	1,800
PNA-2000	2000	600	1200	5.5	0.55	95	2	1,860	3,415	2,000
PNA-2500	2500	750	1500	7.5	0.75	95	2	2,000	3,600	2,150
PNA-3000	3000	900	1800	7.5	0.75	95	2	2,080	3,810	2,300
PNA-4000	4000	1200	2400	11	1.1	75	1.5	2,300	4,005	2,550
PNA-5000	5000	1500	3000	15	1.5	75	1.5	2,440	4,210	2,800

- Mixers can be made to have a total volume of up to 30,000 L.

Specifications

PerMix Conical Mixer & Dryer

Model	Total, L	Working, L (min.), 30%	Working, L (max.), 60%	kW (*) (Screw)	kW (*) (Orbit)	RPM (*) (Screw)	RPM (*) (Orbit)	Dia. (mm)	H (mm)	Kg
PNAD-15	15	4.5	9	0.55	0.18	130	2.5	450	1,900	200
PNAD-20	20	6	12	0.75	0.18	130	2.5	550	2,200	300
PNAD-30	30	9	18	0.75	0.18	130	2.5	550	2,200	400
PNAD-45	45	13.5	27	1.5	0.18	120	2	655	2,300	500
PNAD-50	50	15	30	1.5	0.18	120	2	655	2,300	500
PNAD-60	60	18	36	1.5	0.18	120	2	720	2,400	600
PNAD-70	70	21	42	1.5	0.25	120	2	720	2,400	700
PNAD-100	100	30	60	1.5	0.25	120	2	720	2,500	800
PNAD-150	150	45	90	2.2	0.37	120	2	875	2,700	900
PNAD-200	200	60	120	2.2	0.37	120	2	875	2,700	1,000
PNAD-250	250	75	150	2.2	0.37	120	2	980	2,300	500
PNAD-300	300	90	180	2.2	0.37	120	2	980	2,300	600
PNAD-400	400	120	240	3	0.55	120	2	1,160	2,600	700
PNAD-500	500	150	300	3	0.55	120	2	1,160	2,600	700
PNAD-600	600	180	360	3	0.55	120	2	1,500	2,800	900
PNAD-700	700	210	420	4	0.55	95	2	1,500	2,800	1,100
PNAD-750	750	225	450	4	0.55	95	2	1,500	2,800	1,200
PNAD-800	800	240	480	4	0.55	95	2	1,500	2,800	1,400
PNAD-1000	1000	300	600	4	0.55	95	2	1,525	3,100	1,800
PNAD-1200	1200	360	720	4	0.55	95	2	1,680	3,400	2,100
PNAD-1500	1500	450	900	5.5	0.55	95	2	1,680	3,400	2,300
PNAD-2000	2000	600	1200	5.5	0.55	95	2	1,860	3,800	2,600
PNAD-2500	2500	750	1500	7.5	0.75	95	2	2,000	4,000	2,800
PNAD-3000	3000	900	1800	7.5	0.75	95	2	2,080	4,200	3,000
PNAD-4000	4000	1200	2400	11	1.1	75	1.5	2,300	4,400	3,300
PNAD-5000	5000	1500	3000	15	1.5	75	1.5	2,440	4,600	3,600

- Mixers can be made to have a total volume of up to 30,000 L.





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