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PERFECT
MIXING
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PFB FLUIDIZED ZONE MIXER

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FEATURES & ADVANTAGES

PerMix PFB Twin-shaft Paddle Mixers are featured in:

- Very fast mixing with a typical mixing time between 30~60 seconds for most free-flowing products
- Free particle movement in the fluidized zone
- Minimal heat and low shear for shear and heat sensitive materials, which makes PerMix PFB Twin-shaft Paddle Mixer an ideal machine for fragile products that can't tolerate rough handling, even flakes or spray dried bodies remaining intact after mixing
- Large bomb bay doors for fast discharging & reduced segregation

OPTIONS

- **Easy-clean design** with openable access door at non-drive side
- **Easy-clean design** with retractable shafts & drive unit
- **Liquid spray nozzles** for adding liquid into the powder by spray nozzles on a pipe which is installed on the top of the mixing trough.
- **CIP (Clean-in-place) spray balls** can be mounted on the PerMix mixers to make the cleaning of mixer inside easy and automatic with customer CIP cleaning station.
- Leading edges of the paddles to be **Tungsten Carbide coated** for very abrasive applications.
- **Intensive high speed choppers** mounted on the machine top to break lumps

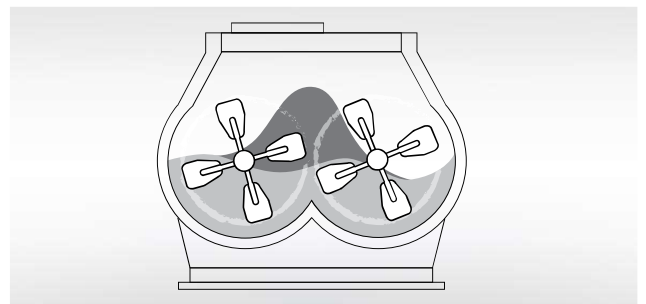
PerMix PFB series Twin-shaft Paddle Mixer is a fast mixer with high efficiency, which can also be known as Fluidizing Mixer, Fluidized Zone Mixer, Non-gravity Mixer or Zero-gravity Mixer.

The PFB Twin-shaft Paddle Mixer is applied to prepare a homogeneous mixture despite of particle size, shape and density. When the small amount of powder additives or liquid is required to be added into the bulk material, PFB Twin-shaft Paddle Mixers are able to achieve fast and precision mixing with high capacity.

Due to its high efficiency and reliable performance, PerMix Twin-shaft Paddle Mixers are widely applied in many industries, including but not limited to: Building materials, Fly ash conditioning, Animal feeds, Mineral premixes, Instant drinks, Milk powders, Vitamin mixes, etc.

HOW IT WORKS

PerMix PFB series Twin-shaft Paddle Mixer consists of paddles that are mounted on twin shafts in a W-shaped trough, with special angle arrangement. During operation, the two paddle shafts are rotating in opposite direction. The paddles sweep the entire bottom of the W-shaped trough, and materials are lifted to float between the two shafts to create a fluidized zone by the centrifugal force generated by the paddles.



At this fluidized zone, mixing of materials of different density is easy and fast because material particle can move freely and randomly, regardless of particle size and density. This brings a rapid and highly homogeneous mixing.



OVERHEAD CHOPPERS

Although PerMix PFB Twin-shaft Paddle Mixer is featured by its gentle mixing, it can also achieve rough mixing with additional PerMix Choppers to be installed on the top of the paddles.

The overhead choppers are two rapidly rotating bars with pins under a stationary shroud, which introduce high shear force onto the materials during mixing to break soft lumps and agglomerates. In this case, a higher filling level is required.

DISCHARGE DOORS

PerMix offers pneumatic discharge valves for PFB Twin-shaft Paddle Mixer for quick discharging when the paddles are running, eliminating any possible segregation. Each valve is located at the bottom of each basin of the W-shaped trough.

PerMix also supplies large bomb bay doors for even faster and complete discharge; with these bomb bay doors, the discharging time can reduce to less than one minute (product and mixer size dependent).

DRIVE SYSTEM

PerMix provide three (3) options for the drive unit:

- Direct drive with two separate motor & gearbox assemblies to be connected with the two shafts (tangential);
- Single Drive system (with one motor/gearbox, and synchronized by a heavy duty chain with chain tensioner for the two shafts, which are overlapping);
- Single Drive system (with one motor and a special gearbox with two output shafts to drive the two paddle shafts in a synchronized way, which are overlapping).

TYPICAL APPLICATIONS

- **Food Industry:** Instant drinks/soups, Infant milk powder, Flour/bread/bakery mixes, Frozen vegetables, Treatment of spices
- **Feed & Pet Care:** Animal feed, Mineral premixes, Aqua/fish feed, Pet food, Dairy additives
- **Pharmaceuticals:** Vitamin mixes, Medical mixes
- **Chemicals:** Detergents, Color pigments, Fertilizers, Explosives, Boric acid, Carbon, Fungicides, Soda ash
- **Building Materials:** Dry mortar, Blended cements, Tile adhesives/grouting, Brick facings, Cement & Fibers, Flooring materials, Joint compounds, Road linings
- **Environmental Applications:** Fly ash conditioning, Filter dust treatment, Sewage sludge, Food waste

SPECIFICATIONS

Model	Total Capacity (liter)	Min. Capacity (liter)	Max. Capacity (liter)	kW (*) (Dual Drive)	kW (*) (Single Drive)	RPM (*)
PFB-10	10	2.5	6	0.18x2	0.37	365
PFB-25	25	6.3	15	0.37x2	0.75	240
PFB-60	60	15	36	0.55x2	1.1	120
PFB-100	100	25	60	0.75x2	2.2	105
PFB-200	200	50	120	1.5x2	4	70
PFB-300	300	75	180	2.2x2	5.5	60
PFB-500	500	125	300	4x2	7.5	50
PFB-1000	1,000	250	600	5.5x2	11	45
PFB-1250	1,250	375	900	7.5x2	15	45
PFB-2000	2,000	500	1,200	11x2	22	45
PFB-2500	2,500	625	1,500	11x2	22	45
PFB-3000	3,000	750	1,800	11x2	22	40
PFB-4000	4,000	1,000	2,400	15x2	30	30
PFB-5000	5,000	1,250	3,000	18.5x2	37	30
PFB-6000	6,000	1,500	3,600	22x2	45	30
PFB-8000	8,000	2,000	4,800	30x2	55	30
PFB-10000	10,000	2,500	6,000	30x2	55	30
PFB-12000	12,000	3,000	7,200	37x2	75	30
PFB-15000	15,000	3,750	9,000	45x2	90	20
PFB-20000	20,000	5,000	12,000	55x2	110	18

*kW and rpm are product dependent.

•All specifications and illustrations are as accurate as is reasonably possible, but they are not binding.

•PerMix reserves the right to modify the design without notice.



PerMix Tec Co., Ltd.
Adi 17940, Israel

Contact: Mr. Arie Srugo
Tel: +972-54-908-0144
Email: srugoa@permixtec.com
www.permixtec.com

PerMix in China

Shanghai, 201821, China
Contact: Mr. Aaron Huang
Tel: +86 133 911 68218
Email: aaron.h@permixtec.com

PerMix North America

Chicago, Illinois,
60601, USA
Contact: Mr. John Paul
Tel: +1 630-649-1357
Email: John.paul@permixtec.com

South America office

Buenos Aires, Argentina
Contact: Mr. Gonzalo Villagra
Tel: +54-9-11-35374801
Email: gonzalo.villagra@permixtec.com

UK office

Scotland, UK
Contact: Mr. James Ryder
Tel: +44 (0) 7554139667
Email: james.ryder@permixtec.com

South Africa office

South Africa
Email: saf@permixtec.com

Russia office

Russia
Email: ru@permixtec.com

Ukraine office

Contact: Mr. Viacheslav Pishyi
Tel: +38 067 45 44 694
Email: ua@permixtec.com

India office

Plot No. 78 to 90,
Sec 2A, Airoli, Navi
Mumbai -400 708, India
Contact: Mr. Anant Wagh
Tel: +91 99304 69228
Email: india@permixtec.com

Besides, PerMix have been building a network of agents located in Europe (Germany, Denmark, UK, Belgium, France, Spain, Poland, etc), Asia (South Korea, Indonesia, Thailand, Malaysia, Singapore), and several other countries.

