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PERFECT
MIXING
TECHNOLOGIES



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PRB RIBBON MIXER

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PerMix PRB series Ribbon Mixer is an efficient and versatile blending machine for mixing of dry powders, granules and viscous pastes homogeneously. It is able to give a satisfying "homogeneity grade" for mixing jobs due to the special design of a mixing agitator with dual ribbons inside of a U-shaped working trough.

PerMix designs our PRB Ribbon Blenders which are able to achieve a maximum "mixing ratio" of 1:500,000, which means you can get the desired mixture proportion of components in as small as 1 gram with a batch of 500kg.

HOW IT WORKS

PerMix PRB Ribbon Mixer consists of one electrical motor, one gearbox, and a shaft with double ribbons located in a U-shaped vessel. The external & inner ribbons are designed in such a way that the powder materials are pushed to move from center to the two ends of vessel, and meanwhile from ends to the center; besides, the powder materials are lifted up along the ribbon edges but then drop due to gravity. In such a three-dimensional way, the total powder can be mixed fast in the vessel. It asks for a short mixing time and relatively low power consumption.



SPECIAL DESIGN OF MOTORIZED TILTING

PerMix has designed a special feature for food application (salad mixing) with motorized tilting for discharge. The machine is built in full stainless steel construction for wash cleaning, a top lid with counterweight for easy manual opening.



The shaft is sealed with stuffing box with multiple PTFE packings (sometimes with a lantern ring for air purge) at both ends. Materials are loaded from top side, and a flush fitting discharge valve is located at the bottom side in the center. The discharge height can be adjusted as per requirement, so that material gets discharged into the container below it without floating dust.

OPTIONAL FEATURES



• Stub-shaft design for hygienic applications

PerMix provides the innovative Stub-shaft design to eliminate the flange/bolts that are used to connect the main shaft to the drive shaft and non-drive shaft, thus minimize the product residue between batches. The stub-shaft design can also dramatically reduce the time to disassemble the ribbon shaft out of the trough if thorough cleaning or overhaul is required.

• Ribbon types

We offer different types of mixing ribbon for different applications. Standard ribbon is used to provide general blending purpose, with center discharge; Interrupted ribbon is applied for viscous material; Continuous ribbon is used for continuous operation with one side feeding and the other side discharging. For very abrasive mixing tasks, the ribbons can be designed to be bolted for easy change in case of wearing.

• Continuous operation

PerMix supplies mixers for continuous work when a large capacity per hour is needed for the same material. Continuous ribbon mixers differ from batch mixers in that the mass flow of the product is from the inlet of the container to the discharge at the opposite end.

• Heating/Cooling jacket

Jacketed trough for heating/cooling operation by steam, thermal oil, or water. ASME/PED certificate can be optional for high pressure operation.

• Liquid spray nozzles

Liquid can be added into the powder by spray nozzles on a pipe which is installed on the top of the mixing trough. The necessary pump and tank can also be provided by PerMix.

• CIP (Clean-in-place) spray balls

Optional CIP spray balls can be mounted on the PerMix mixers to make the cleaning of mixer inside easy and automatic with customer CIP cleaning station.



SPECIFICATIONS

Model	Total (liter)	Useful (liter)	kW (*)	RPM (*)	L (mm)	W (mm)	H (mm)	H1 (*) (mm)	Weight (kg)
PRB-100	100	60	2.2	100	1,410	540	1,650	600	600
PRB-300	300	180	4	65	1,700	680	1,760	600	750
PRB-500	500	300	5.5	52	1,980	870	2,020	600	950
PRB-1000	1,000	600	11	43	2,400	1,050	1,765	100	1,450
PRB-2000	2,000	1,200	15	35	2,920	1,200	1,980	100	2,250
PRB-3000	3,000	1,800	18.5	29	3,320	1,400	2,150	100	2,800
PRB-4000	4,000	2,400	22	27	3,660	1,520	2,290	100	3,900
PRB-5000	5,000	3,000	22	23	3,910	1,620	2,390	150	4,350
PRB-6000	6,000	3,600	30	23	4,210	1,700	2,510	150	5,200
PRB-8000	8,000	4,800	37	21	4,810	1,860	2,590	150	7,500
PRB-10000	10,000	6,000	45	19	4,990	1,980	2,640	150	9,100
PRB-12000	12,000	7,200	55	17	6,850	2,450	3,070	500	13,900
PRB-15000	15,000	9,000	75	17	7,260	2,650	3,280	500	16,000
PRB-20000	20,000	12,000	90	15	7,845	2,905	3,560	550	21,700
PRB-25000	25,000	15,000	110	14	8,400	3,200	3,700	550	26,000
PRB-30000	30,000	18,000	132	12	9,000	3,500	3,900	550	32,000

- * kW/rpm are product dependent and might vary. H1 (discharge height) can be designed according to request.
- 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.

• Customized feeding & discharging

A variety of feeding & discharging methods can be selected by the customers. For feeding of materials, sliding cover design can be used for applications with limited height; bag dump station can be mounted on the top of the U-shaped trough. Safety grid can be installed to prevent the possible injury to the worker. For discharge of the products, manual, pneumatic, or motorized operated valves can be selected according to the customers' preference. They are prepared to fit into any existing production line easily.

• Construction material

We are able to offer our mixers with contact part to be built by Carbon steel, SS304, SS316/316L, Titanium, Duplex stainless steel, Hastelloy, etc. For abrasive materials we offer hardened steel as the contact part.

• Vacuum drying & deaerating

The mixer can be designed for vacuum drying & deaerating for special applications.

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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.

