

WE OFFER
PERFECT
MIXING
TECHNOLOGIES



PHARMACEUTICAL



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FOOD



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HEALTH & BEAUTY



PTS PLOW MIXER

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PerMix PTS series Plow Mixer is one of our two types of Turbulent Mixer, which are originally designed by our Israeli engineers. The other one is PerMix PTP series Paddle Mixer.

PTS Plow Mixer is so versatile that it can handle nearly all types of materials including dry powders, granular materials, short fibered substances, moist solids with liquids, pasty materials and highly viscous masses.

PerMix PTS series Plow Mixer can be used for numerous processing, including compounding, fine mixing, dispersing, suspending, emulsifying, deaerating, tempering, accelerating chemical or physical reactions, granulating, breaking down agglomerates, etc. It is particularly suited for such difficult processes as mixing trace elements in proportions of 1 in 100,000 to 1 in 1,000,000 parts.

OPERATION PROCESS

The mixing drum of a Plow Mixer is filled from 30% to 70% capacity, allowing space for individual particles to be dispersed within the main area of the mixer. The plough-shaped mixing elements create intense axial and radial movement causing the product to move throughout the mixing area. The shape and angle, together with the adjustment and rotation of the mixing elements and the mixing drum, cause the product to be lifted off the surface of the drum wall. The product is automatically discharged while the machine is still running so that any segregation is prevented.

BASIC CONSTRUCTION

PerMix PTS series Plow Mixer consists of a centrally mounted horizontal shaft that rotates within a cylindrical container, plough shaped mixing elements that are attached to the centrally mounted shaft, special openings at the top for feeding materials, flush fitting access doors in the front of the mixer, a flush fitting discharge valve at the bottom of the mixer which is pneumatically or manually operated, and a complete drive unit.



DESIGN WITH CHOPPERS

The installation of PerMix High Speed Side Choppers in the basic PTS mixer enables the breaking down of agglomerates / lumps, and also accelerates the mixing process. Together with the mixing element, the PerMix Side Chopper removes lumps in the initial product, chops pasty adhesives and hinders the formation of agglomeration during the moisturizing of powdered substances. The PerMix Side Chopper is operated independently by its own motor.

LAB & PILOT MODELS

PerMix is able to offer lab & pilot size Plow Mixers for Research & Development purpose. The small size machine is very helpful for customers when the ingredients for R&D are expensive, and to meet the budget limit at the first stage.

With the good performance of the lab & pilot mixer, it is easy to scale up for a medium size or even bigger one.



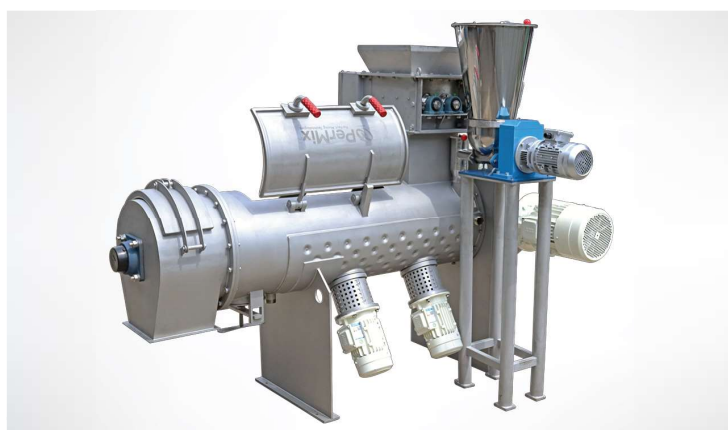
VACUUM MIXER DRYER

With some special modifications - for example heating jacket for the mixing tank, mechanical shaft seal, special segmented discharge valve, dust filter housing, temperature control system - the PerMix PTS series Ploughshare Mixer can be used as a multi-stage process vessel eliminating the need for additional specialist equipment. It can be used as a vacuum mixer dryer, mixer-granulator, de-aerator, reactor and cooler.

APPLICATIONS

PerMix PTS Ploughshare Mixer has a wide range of applications:

- **Dry powder mixing:** Food flavoring/additives, Sponge/ cake mixes, Cosmetics, Pharmaceuticals, Cement, Powdered rubber
- **Paste mixing:** Biscuit creams, dough, PVC pastes, Car body fillers/putties, Sugar/marzipan paste, Toiletry pastes, Tile adhesives and grouts
- **Mixing of wet slurry:** Filter cake re-slurrying, dough, Fiber glass resin dough putty
- **Drying processing:** Vacuum drying, Hot air drying
- **Other processing:** Wet granulation, Liquid coating of powders and granules, Fat and oil incorporation



SPECIFICATIONS

Model	Total capacity (liter)	Working capacity (liter)	Power (*) (kW)	Speed (*) (RPM)	H1 (*) (mm)	L (mm)	W (mm)	H (mm)	Weight (kg)
PTS-5L	5	3	1.1	365	320	900	400	600	110
PTS-10L	10	7	1.1	365	300	950	400	600	120
PTS-45	45	30	2.2	210	700	940	880	1,160	280
PTS-70	70	45	4	190	620	1,150	1,055	1,250	570
PTS-100	100	70	5.5	175	620	1,330	1,065	1,280	630
PTS-200	200	140	7.5	155	610	1,620	1,110	1,370	740
PTS-300	300	210	11	150	620	1,795	1,190	1,460	860
PTS-500	500	350	18.5	140	610	2,070	1,430	1,570	1,280
PTS-750	750	500	22	127	610	2,250	1,470	1,680	1,460
PTS-1000	1,000	700	22	121	150	2,450	1,650	1,360	1,570
PTS-1500	1,500	1,000	30	115	150	2,790	1,700	1,410	1,950
PTS-2000	2,000	1,400	37	110	180	3,055	1,910	1,550	2,680
PTS-3000	3,000	2,100	37	102	180	3,395	1,960	1,780	3,200
PTS-4000	4,000	2,800	45	96	180	3,715	2,160	1,900	4,200
PTS-5000	5,000	3,500	55	85	180	4,065	2,230	2,000	4,850

- PTS-L: laboratory size
- 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.

OPTIONAL FEATURES

• Continuous operation

PerMix supplies mixers for continuous work when a large capacity per hour is needed for the same material. Continuous plough mixers differ from batch plough 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 vessel for heating/cooling operation by steam, thermal oil, or water. ASME/PED certificate can be optional for high pressure operation.

• Feeding & Discharging

A variety of feeding & discharging methods can be selected by the customers. Discharging port can be by manual or pneumatic operation.

• Access door

Access doors can be designed for easy cleaning, inspection & maintenance.

• Spray nozzle

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

• Construction material

PerMix offers 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, or the mixing elements to be coated with materials such as Tungsten Carbide or equivalent.



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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.

