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PERFECT  
MIXING  
TECHNOLOGIES



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**PDI** HIGH SPEED MIXER

## PDI HIGH SPEED MIXER



## HOW IT WORKS

In a PerMix PDI High Speed Mixer, the powders are set in a multidimensional shear flow state and it needs only short mixing time until they are thoroughly mixed. In case that granulation is required, the spraying system sprays the binder solution into the bowl to agglutinate with the materials and under the combined action of the impeller and chopper, uniform and porous granules are produced. After finishing the mixing or granulation process, powders/granules are discharged through the side discharge with no "dead zone" valve.



PerMix PDI series High Speed Mixer, also called Mixer Granulator, Wet Granulator, or High Shear Mixer Granulator, is an efficient and versatile blending machine for mixing of dry powders, or granulating with the addition of liquid binder, within a very short time and with excellent cleaning abilities. It is able to give perfect result for mixing due to the innovative design of a central Impeller type mixer with a side high speed Chopper.

The proven mixing action of the PerMix PDI series High Speed Mixer ensures effective mixing in many applications. Optimal performance is assured with dedicated designs of optional feeding, discharging and installation.

## BASIC CONSTRUCTION

PerMix PDI High Speed Mixer consists of two electrical motors, one reduction gear, coupling, and shafts with the two agitators. The shaft is sealed with special sealing, sometimes with air purge, in a way that there is limited contact between the material and the seal.

Materials are loaded from top side, and the discharge is located at the bottom side. Due to the consistent modular design, the system can be configured individually and easily adapted to the constructional circumstances and specific requirements.

## FEATURES & OPTIONS



### • Impellers Design

The Y-shaped rotor blade with special aerodynamic profile fluidizes the powder materials, leading to fast and homogeneous mixing together with the optimized high speed chopper.

### • Feeding & Discharging

A variety of feeding & discharging arrangement can be selected by the customer.

### • Liquid Adding

Liquid, either light or highly viscous, can be added into the working chamber by spray nozzles or special injector pipe from the top. PerMix provide jacketed hopper specially for adding of hot viscous liquid.

### • Lid with Counter-weight and/or Air Cylinder

Standard PerMix PDI Mixer is equipped with a cover with counter-weight, manually operated; however pneumatic opening can be selected as an option for easy opening and closing to save labors.

### • Heating/Cooling Jacket

Jacketed tank for heating/cooling operation is available; with temperature probe for control / monitoring.

### • Construction Material & Finish

We can offer our PDI Mixers with contact part to be built in SS304, S316/316L, Titanium, Duplex stainless steel, Hastelloy, etc. Standard of internal and external finish can be adapted to the customer's needs. For abrasive materials we offer hardened Stainless Steel as the contact part.

### • Vacuum Drying & Deaerating

The PDI mixer can be designed for vacuum drying & deaerating or for inner pressure working for special applications.

## APPLICATIONS

Some typical applications of a PerMix PDI series High Speed Mixer includes but not limited to:

### • Food industry

Batters, Doughs for pastries, Flavours, Instant meals, Spice and herb mixtures, Sugar based confectionery tablets

### • Chemical industry

Coloring of plastics, Master batches, Powder mixing with liquid addition, Powder paints

### • Pharmaceutical industry

Granulate mixtures, Powder mixtures, Wet granulations

### • Cosmetics industry

Ceramic dental mixtures, Eye shadows, Face powders



## SPECIFICATIONS

Model	Total Volume, [Liter]	Operation Volume, [Liter]	Impeller Power, [kW] (*)	Impeller Speed, [rpm] (*)	Chopper Power, [kW] (*)	Chopper Speed, [rpm] (*)
PDI-10	10	6	2.2	381	1.1	1,500
PDI-50	50	30	4	288	1.1	1,500
PDI-100	100	60	5.5	277	1.5	1,500
PDI-200	200	120	7.5	193	3	1,500
PDI-300	300	180	11	176	4	1,500
PDI-400	400	240	15	176	5.5	1,500
PDI-600	600	360	22	149	5.5	1,500
PDI-800	800	480	30	124	7.5	1,500
PDI-1000	1,000	600	37	116	11	1,500
PDI-1500	1,500	900	55	99	18.5	1,500

- kW/rpm are product dependent and might vary.
- All specifications are as accurate as is reasonably possible, but they are not binding.
- PerMix reserves the right to modify the design without notice.



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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.

