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**PVR** VERTICAL RIBBON MIXER

# PVR VERTICAL RIBBON MIXER



PerMix PVR series Vertical Ribbon Mixers are efficient and versatile blending machines for batch mixing of free-flowing powders, granules and pellets.

PerMix Vertical Ribbon Mixers are able to give good result of mixing due to the design of an outer spiral type mixing element with an inner screw, rotating together in a conical shape trough, which provides a multidimensional movement of the materials, and a complete discharge of all the mixed material without any residue. PVR Vertical Ribbon Mixers are featured with no contamination to the product, due to the fact that the shaft sealing is above the working area, thus no contact with the product.

A high speed chopper can be mounted to provide intensive mixing and / or lump breaking. This is very useful when liquid is added to the powdery materials and generate lumps.

## ADVANTAGES

- Medium level of accuracy with minor component ratio up to 1:100,000
- Gentle mixing for sensitive materials without generation of heat
- Low feeding ratio required
- Full discharge with minimal residue
- Easy to clean in either dry or wet way
- High heat transfer rate, ideal for heating or cooling process of the powders
- Chopper to be installed for intensive mixing and lump breaking

## HOW IT WORKS

The construction of PerMix PVR series Vertical Ribbon Mixer is very compact: it consists of a cone vessel with the drive unit on the top and discharge valve at the bottom. In the cone vessel, there is a central tapered ribbon with small clearance from its edge to the shell, and additionally a screw mounted on the central shaft.

The ribbon and the screw move the materials upward from the bottom to the top, where the materials then drop by gravity into the bottom. During this continuous operation, material particles and heat are exchanged quickly which leads to a homogeneous product.

Besides, the material particles are mixed with minimal mechanical and thermal stress, which makes this type of mixer a good solution for fragile and heat sensitive product.



# OPTIONS

## • Mixing tool

We offer several types of mixing tool for different sizes and applications. They include but are not limited to: continuous ribbon, broken ribbon, pitched paddles, etc.

## • 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.

## • Vacuum drying & deaerating

Our mixers can be designed for vacuum drying & deaerating or for inner pressure working for special applications.

## • High speed chopper

Side entry high speed chopper with rotation speed of 1,500rpm (or up to 3,000rpm) can be mounted to provide intensive mixing and / or lump breaking.

## • Spray nozzle for liquid addition

Liquid can be added into the powder by spray nozzles from the top of the mixing vessel. The necessary pump and tank can also be provided by PerMix.

## • CIP spraying balls

Our mixers can be designed for CIP (Clean-in-Place) with spraying balls.



## • Inspection door

Flush-fitting side inspection door with O ring can be provided for our mixers for easy inspection & maintenance while doesn't bring dead zone for mixing.

## • Construction material

We are able to offer 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.

# SPECIFICATIONS

Model	Total capacity (liter)	Working capacity (liter)	Power (*) (kW)	Speed (*) (RPM)	Chopper (*) (kW)	Dia. (mm)	H (mm)	Weight (kg)
PVR-50	50	30	0.75	103	0.75	655	1,340	150
PVR-100	100	60	1.5	85	2.2	720	1,500	300
PVR-200	200	120	2.2	76	2.2	875	1,940	400
PVR-300	300	180	3	63	2.2	980	2,110	450
PVR-500	500	300	4	60	2.2	1,160	2,230	550
PVR-750	750	450	5.5	60	2.2	1,500	2,500	950
PVR-1000	1,000	600	7.5	43	4	1,525	2,835	1,100
PVR-1500	1,500	900	11	41	4	1,680	3,125	1,300
PVR-2000	2,000	1,200	15	41	4	1,860	3,415	1,450
PVR-2500	2,500	1,500	15	41	4	2,000	3,600	1,500
PVR-3000	3,000	1,800	18.5	39	4	2,080	3,810	1,600
PVR-4000	4,000	2,400	18.5	36	4	2,300	4,005	2,550
PVR-5000	5,000	3,000	22	33	4	2,440	4,210	2,800
PVR-6000	6,000	3,600	30	33	7.5	2,590	4,455	3,000
PVR-8000	8,000	4,800	37	31	7.5	2,865	4,853	4,350
PVR-10000	10,000	6,000	45	29	7.5	3,070	5,290	5,600

- kW/rpm are product dependent and might vary.
- Chopper is offered as an option.
- 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.

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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.

