

# PMS MIXER<sup>®</sup>

## High Speed Mixer/Granulator



OPTIMAL MIXING SOLUTION



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PMS Mixer® combines mixing, dispersing, and high-shear granulating into single operation with an optimal cycle time. Dry mixing can be accomplished as rapid as about 1 - 3 minutes while wet granulation can be performed within 3 - 6 minutes.

### Theory of Operation

Conical mixing bowl completely separates product contact parts from driving components. All parts in contact with product are stainless steel SUS 316. The mixing bowl, bowl cover, agitator blade and chopper blade are mirror polished. A pneumatically operated seal between the bowl and lid, and air purge labyrinth seals between the bowl and shafts ensure dust-tight operation.

Raw material feeding to PMS Mixer® can be manual through the fully open lid, or completely automatic through suitable inlets on the lid. Conical mixing bowl structure helps preventing an adhesion of raw material and providing a smoother flow of materials inside the bowl. Main agitator at the base works in conjunction with high shear chopper laterally located in the mixer wall. The incorporation of rotating elements force product to move intensively in both vertical and horizontal planes and homogenously mixed in a short period of time.

Feeding binder through lid hopper makes pre-mixed materials become moistened and agglomerated. Chopper would break the material agglomeration into fine and uniform granules. For process reproducibility, mixing time or mixing power consumption, characterized by main agitator and chopper motor current, can be set to determine process end-point.

Finished product is discharged by centrifugal force through pneumatic discharge valve into product container or directly to Fluid Bed Dryer bowl.



Model MG 600N



Model MG 15 Lab Size (Jacketed Bowl)

### Application

- Pharmaceuticals: Mixing, Wet Granulation
- Cosmetics: Face powder, Body powder, Eye shadow, Brush on, Two-way powder
- Food: Seasoning, Health food, Flavor, Candy, Additives, Confectionery, Spices
- Agricultural: Animal Feed, Premix
- Chemical: PVC/PE/PP compounds, Pigments and Color concentrates, Dyes, Resins
- Other: Metal Powders, Paints, Detergents

## Benefit

- ✓ cGMP Compliance
- ✓ Uniform product shape
- ✓ Reproducibility of product quality
- ✓ Short Process Cycle Time
- ✓ Low Space Requirement
- ✓ Easy to operate, clean and maintenance



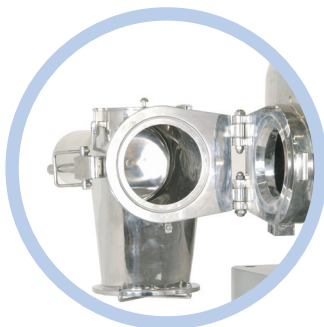
Model MG 100T

## Standard Features

- Mixing bowl and all contact parts made of stainless steel SUS 316
- Single Speed Main Agitator and Chopper
- Non-explosion proof motors and non-explosion proof control
- Electric control panel with timer, ammeter (except Lab model), start-stop push buttons, emergency stop push button, air seal pressure regulator, overload relay
- Manually operated Discharge Valve

## Option (upon request)

- Explosion-proof motors and Explosion-proof control
- Motor Speed: Dual Speed, Variable Speed
- Heating and Cooling Jacket Bowl with Temperature Controller (applicable for Thermal-sensitive product, Hot-melt process)
- Inert Gas Blanketed for Dangerous Material
- Vacuum System
- Swing-aside bowl cover for low-height room
- Swing-aside discharge housing for easy cleaning
- Discharge height and Feature to suite specific discharge requirements
- Special design for automatic loading system
- Spraying Nozzle with pressure tank
- Integrated De-agglomerator
- Programmable Logic Controller (PLC)
- Torque control system
- Washing In Place (WIP) system
- Validation Document: Installation Qualification (IQ)/ Operational Qualification (OQ)



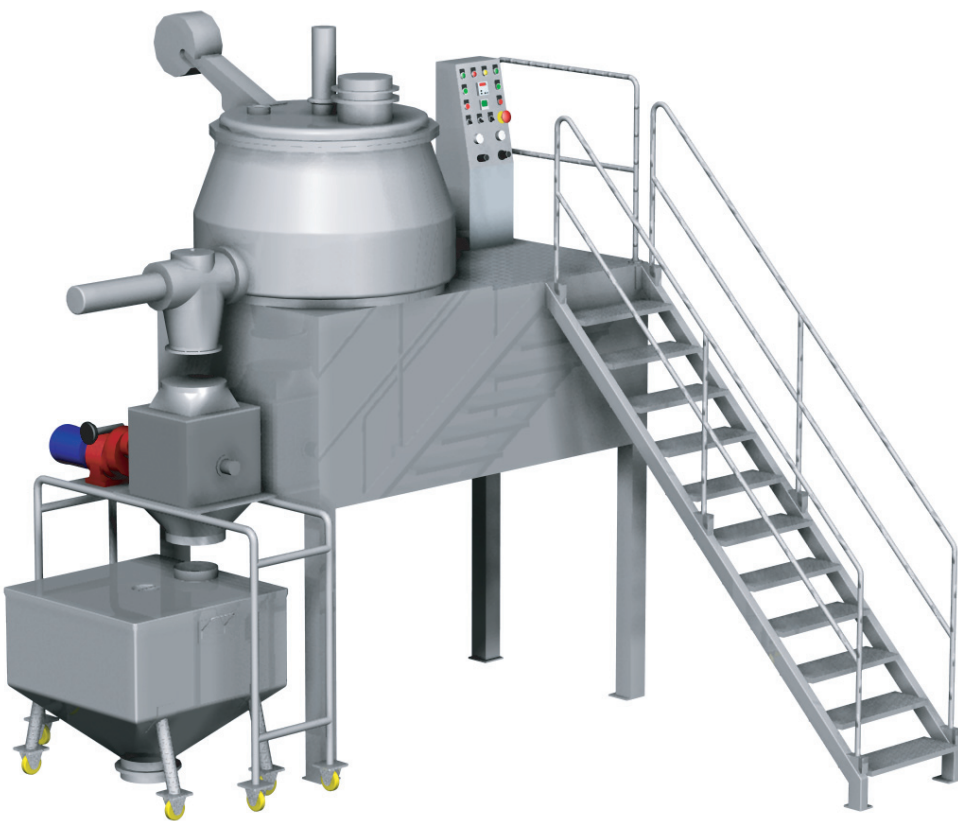
Swing-aside discharge housing



Swing-aside bowl cover

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Modified Platform to suit in-line operation or specific discharge requirement

## Technical Data

	MG 15	MG 30	MG 100	MG 300	MG 600	MG 1200
Total Bowl Volume (L)	18	36	120	324	686	1,294
Max Working Volume (L)	13.5	27	90	246	514	970
Agitator Motor (KW)	1.5	4 / 5.5*	7.5 / 11*	18.5 / 22*	30 / 37*	55 / 75*
Agitator Speed (RPM)	220	203/406*	127/253*	87/174*	64/128*	47/94*
Chopper Motor (KW)	0.75/0.9*	1.8/2.2*	4/5.5*	5.5/7.5*	7.5/11*	15/18.5*
Choper Speed (RPM)	1500/3000*	1500/3000*	1500/3000*	1500/3000*	1500/3000*	1500/3000*
Width x Length (mm)	880x1450	925x1665	1480x2000	2160x2550	3175x3530	3550x3950
Height (mm)	1400	1400	1845	2600	2860	3630

Note : \* denotes "Dual Speed" Motor (Optional)

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