**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.

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**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)
## Technical Data

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

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

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