



YES Solutions

Mixing / Dispersing
Powder Refinement Technology

Paste Mixer / Inter Mixer



We offer you
One thing first and foremost:
An open range of possibilities.

ELECTRONICS



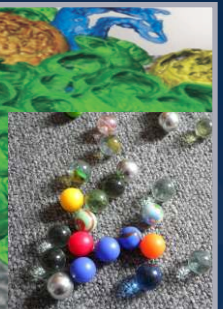
ENERGY



INDUSTRIAL



LIFE SCIENCE



PASTE MIXER[®] (Planetary Centrifugal Mixer)



Twin Cups Paste Mixer

- Simultaneous mixing and defoaming in a short time
- Axis of cup holder has an angle around 45 degree
- The sample cups rotate and revolve at the same time
- Contactless operation (no propellers required)
(It's very good for avoiding the sample loss during operation)
- Even higher viscous materials are easily mixed
(up to approx 1,000,000 cP)
- Resin and powder can be mixed easily
- Reproducibility and standardization
- Defoaming the materials without changing their property
- Defoaming by hundreds G acceleration from the speeds of revolution
- Fully programmable setting with one press button for mixing and deforming execution.

■ The Areas of Application

Silver Paste, Ceramic Material
Pharmaceutical / Cosmetics
LCD Sealant, OLED Paste,
Solar Cell, Coating, Glass Powder

Invaluable items in a view

Paste Mixer (for lab. and production)



PDM-300



PDM-300V



PDM-1KV



PDM-3KV



PDM-15KV

- The planetary centrifugal deaeration mixer is a highly-efficient and fully-automated equipment that specializes in mixing viscous material while degassing at the same time. It employs a no-touch, no-blade mechanism to mix materials using simultaneous rotation and revolution.

Inside the PDM



PDM-300
(Non-Vacuum type)



PDM-300V
(Vacuum type)



PDM-1KV
(Vacuum type)



PDM-3KV
(Vacuum type)

- Compared to other mixing methods, planetary centrifugal mixing achieves:
 - 1) Mixing and defoaming in a short time
 - 2) Highly reproducible results
 - 3) Prevents material breakdown and potential waste
 - 4) Easy cleanup without the need to clean accessories such as mixing blades
 - 5) Ability to mix materials with different viscosities and density
 - 6) Dispersing nano particles to eliminate aggregations

PASTE MIXER® (Planetary Centrifugal Mixer)

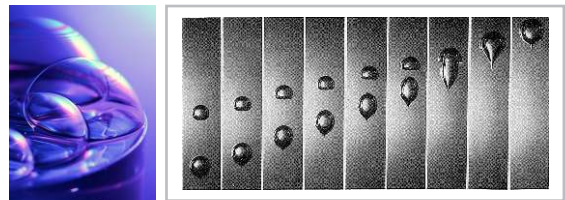


Adapters

* Adapters are designed to be available for the sample amount of lab. and up to production scale. (from 10ml to 15l)

Merits of Defoaming

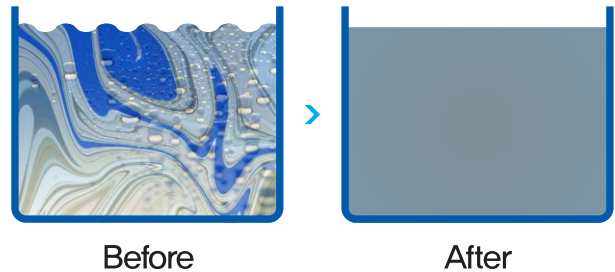
- Improvement of the Insulation
- Prevention of the air dispensing
- Prevention of the oxidation
- Prevention of the diffusion
- Improvement of the adhesion



Liquid
Silicon Resin
Viscous Epoxy
Water
LCD Sealant
Silver Paste



Powder
Carbon Black
CNT
Alumina
Zinc Oxide
Phosphor



Model List

Model	Cup Volume	*Max. RPM	Power	Type
PDM-300	0.3 L x 2 cups	1,500/1,500	2 kw, 1 phase	Non-Vacuum
PDM-300V	0.3 L x 2 cups	1,350/1,350	2.5 kw, 1 phase	Vacuum Pump (Internal)
PDM-1K	1 L x 2 cups	750/750	3 kw, 1 phase	Non-Vacuum
PDM-1KV	1 L x 2 cups	600/600	3 kw, 1 phase	Vacuum Pump (Internal)
PDM-3K	3 L x 2 cups	600/600	5 kw, 3 phase	Non-Vacuum
PDM-3KV	3 L x 2 cups	600/600	6 kw, 3 phase	Vacuum Pump (Internal)
PDM-10K	10 L x 2 cups	500/500	9.5 kw, 3 phase	Non-Vacuum
PDM-10KV	10 L x 2 cups	500/500	10 kw, 3 phase	Vacuum Pump (Internal)
PDM-15KV	15 L x 2 cups	400/400	15 kw, 3 phase	Vacuum Pump (Internal)

* Max. RPM stands for the rpm of rotation and revolution respectively. Adjustment of each RPM is available with programmable buttons.



INTER MIXER® (Planetary Centrifugal Mixer)



Single Cup
Planetary Centrifugal Mixer

- Continuous air cooling system at zero degrees Celsius or below (H₂O)
- Real time sample temperature monitoring with the wireless remoting sensor
- Simultaneous mixing and defoaming in a short time
- Axis of cup holder has an angle around 45 degrees
- The sample cups rotate and revolve at the same time
- Contactless operation (no propellers required) (It's very good for avoiding the sample loss during operation)
- Even higher viscous materials are easily mixed (up to approx 1,000,000 cP)
- Resin and powder can be mixed easily
- Reproducibility and standardization
- Defoaming the materials without changing their property
- Defoaming by hundreds G acceleration from the speeds of revolution
- Fully programmable setting with one press button for mixing and deforming execution.

Our advanced cooling technology makes your materials keep in low temperature without *cooling adapter.

■ The Areas of Application

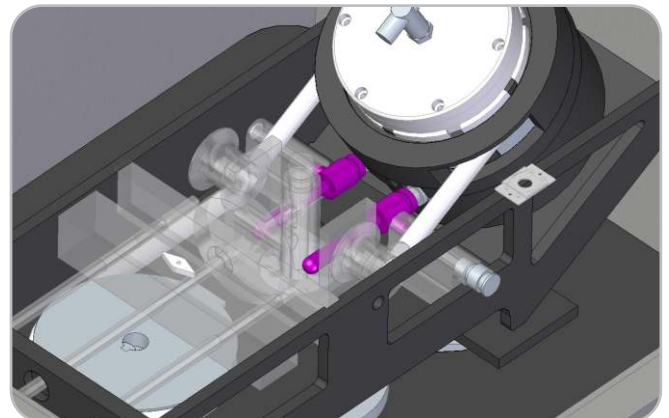
Silver Paste, Ceramic Material
Pharmaceutical / Cosmetics
LCD Sealant, OLED Paste,
Solar Cell, Coating, Glass Powder

■ Paste Mixer with Air Cooling System

* Cooling adapter(jacketed type) is designed for keeping the sample temperature. There is cooling gel inside the jacketed adapter. And this adapter must be prepared in the refrigerator during several hours.

But the adapter lose the cooling efficiency thermodynamically for several minutes.

We've worked out the solution to the problem and now we can show you the extraordinary planetary centrifugal mixer and the name of it is 'Inter Mixer'.



* Please be informed that the picture of cooling adapter is shown on the page 4.



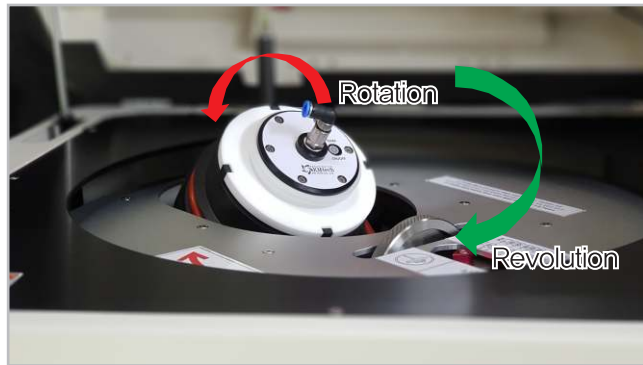
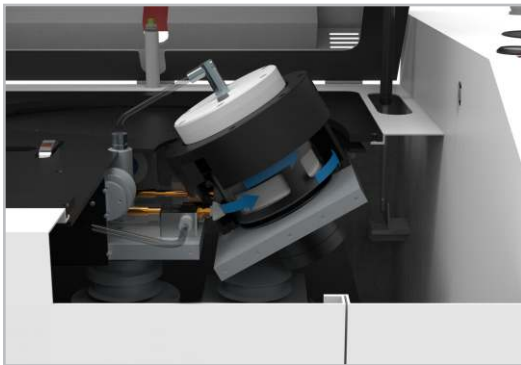
The lid closed



The lid of mixer for the sample preparation

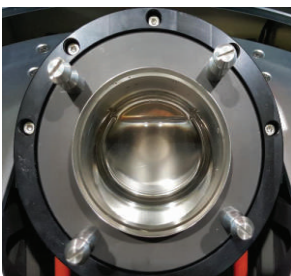


The lid of mixer for cleaning and maintenance

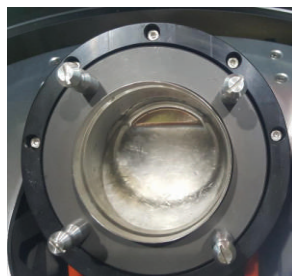


- Input : From the general air compressor or air nozzle utility in the laboratory or factory
- Output : -25°C air flow through the special designed module inside the mixer preserves the sample condition without thermal damage and degradation during mixing and deforming.

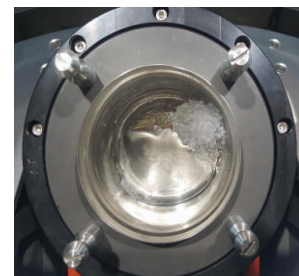
■ The physical change of water with air cooling system of Inter Mixer



25°C room temperature (water)



5 min. Air cooling



15 min. Air cooling (Ice)

Elapsed Time(min)	Without Cooling($^{\circ}\text{C}$)	With Cooling($^{\circ}\text{C}$)
0	13.5	13.5
5	26.7	20.7
10	37	21.4
15	41.6	22.3
20	44.3	22.9

- Model : IMX-500CV
- Sample : Epoxy + Pigment

* The temperature rising test with and without air cooling system.

INTER MIXER® (Planetary Centrifugal Mixer)

- Real time temperature monitoring with the temperature sensor and bluetooth operation



- Vacuum nozzle on the cover is designed for discharging the air inside a sample cup with built-in vacuum pump.
- Button cell for the electric functionality of the cover has low self-discharge and hold its charge for long time if not used.



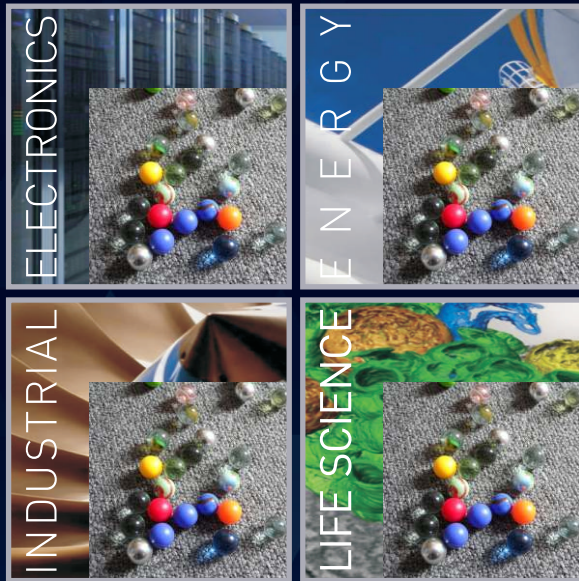
Model List

Model	Cup Volume	**Max. RPM	Power	Type
IMX-150	0.15 L x 1 cup	1,700/1,700	0.6 kw / 1 phase	*Fixed ratio (Non-Vacuum)
IMX-150V	0.15 L x 1 cup	1,700/1,700	0.6 kw / 1 phase	*Fixed ratio, Vacuum Pump (External)
IMX-500CV	0.5 L x 1 cup	800/960	1.5 kw / 1 phase	Air cooling and Vacuum Pump (Internal)
IMX-1KCV	1 L x 1 cup	700/840	2.0 kw / 1 phase	Air cooling and Vacuum Pump (Internal)
IMX-3KCV	3 L x 2 cups	800/960	7.0 kw / 3 phase	Air cooling and Vacuum Pump (Internal)

* Fixed ratio: Ratio between revolution and rotation is as follows; mixing mode: 1.5:1, defoaming mode: 35:1 (revolution:rotation)

** Max. RPM stands for the rpm of rotation and revolution respectively.

Adjustment of each RPM is available with programmable buttons except IMX-150(V).



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