Planetary centrifugal mixers contribute to society

Pursuing a bright future with mixing technology

- "NIPPON MONOZUKURI" INNOVATOR -

Email: info@thinkymixer.net
http://www.thinkymixer.net

For requests concerning demonstrations and evaluation testing, please contact THINKY CORPORATION

For the latest information about products and exhibitions, visit: http://www.thinkymixer.net
Planetary Centrifugal System: Bringing Innovation to Technology of Mixing, Defoaming, Filling, Pulverizing, Deagglomerating and Dispersing

THINKY MIXER: A key player in the industrial field
- Next-generation energy technology (fuel cells, solar cells, secondary cells)
- Car electronics
- Next-generation energy saving technology (FPD, LED, OLED)
- Communications technology
- Printed electronics, nano printing applications
- Aerospace industry
- Semiconductor industry
- Sensor technology, robotics
- Chemical products
- Dental engineering, bioengineering, bio-related technology
- Drug development, pharmaceuticals, reagents
- Food products
- Testing and analysis techniques etc.

THINKY MIXER: Purpose and material examples

Mixing + Defoaming
- Two-part resin materials (epoxy, silicone, urethane)
- UV ink
- Foundations, lipsticks, lotions

Dispersion + Defoam
- Functional adhesives
- Insulating pastes
- Metal pastes (gold, silver, platinum)
- Glass pastes
- Ceramic pastes
- LCO sealants + spacers
- Fluorescent materials
- Pharmaceuticals, cosmetics

Deagglomeration + Defoam
- Inorganic nanomaterials
- Metallic nanomaterials (Titanium oxide/aluminum oxide)
- Carbon nanomaterials (Carbon black etc.)
- [Emulsionification]
- Food products
- Cosmetics
- Inks
- Peptide vaccine
- Quality inspection of medical fluids

Production

Pulverizing / Dispersion + Defoam
- Water-insoluble compounds (preparation of suspensions, e.g. phenolic, indomethacin, nitrofurine)
- Pulverizing
- Aluminum oxide
- Titanium oxide
- Glass
- Carbon black

Pulverization is achieved with THINKY Nano Pulverizer.

THINKY MIXER planetary centrifugal mixer used in the world

2. Canada 12. Italy 22. Norway 32. Korea 42. India 52. Morocco
5. Ireland 15. Spain 25. Denmark 35. Malaysia 45. Uzbekistan and other countries
7. Netherlands 17. Croatia 27. Lithuania 37. Indonesia 47. UAE

Quality and reliability supported by customers

Tsutomu Miyasaka
Professor, Doctor of Engineering, Toin University of Yokohama
Without THINKY MIXER, the required time would be ten times or longer and costs would increase.

Hirobumi Ushijima
National Institute of Advanced Industrial Sciences and Technology
THINKY Vacuum Mixer is essential for printed electronics that require highly precise resin printing plates.

Hidehiro Kamiya
Professor, Doctor of Engineering, Institute of Engineering, Tokyo University of Agriculture and Technology
The mixer is effective in preparing a stable suspension and mixture.

Chiaki Sato
Associate Professor, Doctor of Engineering, Tokyo Institute of Technology
THINKY products are essential in the study of adhesion.
"7 features" and "3 foundations" to bring innovative development and production of cutting-edge materials

7 features
1. Simultaneous process of uniform mixing, dispersing, and defoaming
2. From low to high viscosity
3. No change in material characteristics
4. Easy operation and definite reproducibility
5. Non-contact, intra-container mixing for a significant improvement in efficiency
6. Compatible with commercially available containers
7. Numerous applications

3 foundations
1. Over 20 years as a pioneer in the industry
2. Outstanding reliability represented by the highest record of adoptions in the world
3. Thorough technical support before implementation

Mechanism of planetary centrifugal system

Set the container with materials into the cup holder which is angled at 45 degrees to the revolution axis.

Revolution
Power to accelerate defoaming
Rotation
Power to accelerate mixing

The interaction between rotation and revolution generates a spiral flow and rising and falling currents. Air bubbles within the material are efficiently pushed out to the surface, enabling mixing and dispersion without generating air bubbles.

Vertical convection demonstrated by oil-based clay

Two layers of high viscosity oil-based clay.

In just 7 minutes, uniform mixing is completed. No air bubbles are found.

Material mixed and defoamed in a THINKY MIXER or a solder paste mixer can be filled by the syringe charger.
Material Processing

Examples of material processing

■ Mixing and defoaming of resin + resin

2-part epoxy resin

Manual mixing

THINKY MIXER

No bubbles. Uniformly mixed.

Polyimide

Manual mixing

THINKY MIXER

No bubbles. Uniformly mixed.

■ Mixing and defoaming of resin + powder

Uniform dispersion can be achieved without sedimentation.

Silver Paste

Before

After

Silver particles are uniformly dispersed throughout the resin base, giving a smooth surface with no air bubbles.

Solder Paste (solder powder and flux)

Manual mixing

Solder Paste Mixer

Smooth surface. No bubbles.

■ Mixing and defoaming of pastes

Uniform dispersion can be achieved without sedimentation.

Silver Paste

Before

After

Silver particles are uniformly dispersed throughout the resin base, giving a smooth surface with no air bubbles.

Silicone Resin and Calcium Carbonate (volume ratio 1:5)

Manual mixing

THINKY MIXER

No lumps. Uniformly mixed.

■ Low viscosity liquid + powder (Slurry)

High viscosity materials that are difficult to mix manually can be easily processed.

Cosmetic Foundation (wax and three types of iron oxides)

Before

After

Four types of materials are uniformly mixed to a smooth cream consistency. Air bubbles are eliminated, giving vibrant color and a smooth feel.

Nano Ceramics and Water 70 V%

■ Resin + high specific gravity powder

Materials with different specific gravity are dispersed without sedimentation.

Low Viscosity Silicone Resin and Silicate

Fluorescent Material

Before

After

The fluorescent material is uniformly dispersed without sedimentation in low viscosity silicone resin (about 3 Pa s (3,000 cP)).

Sealant for White LED (silicone resin and fluorescent material)

Before

After

The fluorescent material with high specific gravity is uniformly dispersed without sedimentation in low viscosity silicone.

Silver Paste

Before

After

Silver particles are uniformly dispersed throughout the resin base, giving a smooth surface with no air bubbles.

■ Processing nano materials

Uniform dispersion can be achieved without sedimentation.

CNF 5 V%

■ ARE-310

Carbon nano fiber is uniformly dispersed in epoxy.

SEM photo by George Hansen, Metal Matrix Composite Company

CNF 10 V%

■ ARE-310

Carbon nano fiber is uniformly dispersed in polymer.

SEM photo by George Hansen, Metal Matrix Composite Company

MWNT

■ ARE-310

MWNT is uniformly dispersed in 2-part thermosetting resin.

SEM photo by Dr. J.H. Koo, University of Texas at Austin

Nano-silica

■ ARE-310

Nano-silica is uniformly dispersed in epoxy resin.

SEM photo by Dr. J.H. Koo, University of Texas at Austin

Examples of material processing

2-part epoxy resin

Manual mixing

THINKY MIXER

No bubbles. Uniformly mixed.

Polyimide

Manual mixing

THINKY MIXER

No bubbles. Uniformly mixed.

Silver Paste

Before

After

Silver particles are uniformly dispersed throughout the resin base, giving a smooth surface with no air bubbles.

Solder Paste (solder powder and flux)

Manual mixing

Solder Paste Mixer

Smooth surface. No bubbles.

Epoxy Resin (base + hardener) and alumina powder

Before

After

2-part resin and white alumina powder are uniformly mixed to a solid green color.

Silicone Resin and Calcium Carbonate (volume ratio 1:5)

Manual mixing

THINKY MIXER

No lumps. Uniformly mixed.
Large selection of products meets customer needs

The planetary centrifugal THINKY MIXER is divided into two groups: non-vacuum type that provides simultaneous process of mixing, dispersing and deaerating/defoaming under atmospheric pressure, and "vacuum type" that provides submicron level defoaming with a vacuum function. Each type provides product scale up from small to large models for laboratory use and products that support mass production lines.

Also, there are Solder Paste Mixer and LED type for high specific gravity powders, such as LED phosphor. The vacuum Syringe Charger can easily feed materials with high viscosity and high thixotropy processed by THINKY MIXER or Solder Paste Mixer into syringes. Select the best model for your purpose, application or materials.

**THINKY MIXER**

### ARE-310/ARE-250 CE

**User-friendly & highly versatile standard type**

- Over 400 G of acceleration generated by rotation and revolution speed allows powerful simultaneous mixing and defoaming
- A powerful 510 G in defoaming mode
- Outstanding rigidity and durability: vibration sensor and door locking function secure a high degree of safety
- Lightweight, compact body with maximum capacity of 310 g
- LED type
- Independent variable mechanism for rotation and revolution
- Twin system: maximum capacity of 400 g x 2
- Capable of mixing high viscosity material such as viscous grease
- Sensor unit that can detect temperature of materials being mixed in real time (optional)
- Efficiency in setting memories for materials that are vulnerable to temperature rise
- Can display memory settings, rotations and material temperature in real time (USB Type B standard equipment) by connecting to PC
- Different types of containers can be utilized with THINKY adapters

**Our most compact portable planetary centrifugal mixer**

- The space-saving, compact design is best for fundamental experiments by researchers and engineers
- Have been utilized at universities and laboratories
- Specialized for low volume: Mixing capacity from a few grams
- Optimal mixing for any material can be achieved by adjusting RPM
- 6 memories can be set for timer operation
- Easy to open and close the sliding lid
- Equipped with stroboscope allows observation of the material during operation
- Different types of containers can be utilized with THINKY adapters

**State of the art twin system that can vary the rotation-revolution ratio**

- Independent variable mechanism for rotation and revolution
- Twin system: maximum capacity of 400 g x 2
- Capable of mixing high viscosity material such as viscous grease
- Sensor unit that can detect temperature of materials being mixed in real time (optional)
- Efficiency in setting memories for materials that are vulnerable to temperature rise
- Can display memory settings, rotations and material temperature in real time (USB Type B standard equipment) by connecting to PC
- Different types of containers can be utilized with THINKY adapters

**Many cases of adoption for production applications**

- Successful introduction to production applications
- The high durability drive system was developed for manufacturing production
- Optimal mixing for any material can be achieved by adjusting RPM
- Easy operation with membrane switches
- 10 memories (STD, STP) can be set for operation
- Different types of containers can be utilized with THINKY adapters

### ARE-400TWIN

- Maximum capacity 400 g x 2
- Standard container: 100 ml or 200 ml container
- 10 memories (STD x 5, STP x 5) can be set for operation
- Independent variable mechanism for rotation and revolution
- Twin system: maximum capacity of 400 g x 2
- Capable of mixing high viscosity material such as viscous grease
- Sensor unit that can detect temperature of materials being mixed in real time (optional)
- Effectiveness in setting memories for materials that are vulnerable to temperature rise
- Can display memory settings, rotations and material temperature in real time (USB Type B standard equipment) by connecting to PC
- Different types of containers can be utilized with THINKY adapters

### ARE-500

- Maximum capacity 500 g
- Standard container: 200 g or 300 g container
- 10 memories (STD x 5, STP x 5) can be set for operation
- Independent variable mechanism for rotation and revolution
- Twin system: maximum capacity of 500 g x 2
- Capable of mixing high viscosity material such as viscous grease
- Sensor unit that can detect temperature of materials being mixed in real time (optional)
- Effectiveness in setting memories for materials that are vulnerable to temperature rise
- Can display memory settings, rotations and material temperature in real time (USB Type B standard equipment) by connecting to PC
- Different types of containers can be utilized with THINKY adapters

**Solder Paste exclusive use**

**Solder Paste Mixer**

- High viscosity and high thixotropy processed by THINKY MIXER
- The vacuum Syringe Charger can easily feed materials into syringes
- Select the best model for your purpose, application or materials

**Vacuum type Syringe Chargers**

*CE-certified model | Product name: ARE-250 CE*
THINKY MIXER Vacuum type

ARV-310

Remove submicron level air bubbles without spillage

- Unlike conventional vacuum defoaming devices, the planetary centrifugal system and the vacuuming pressure reduction function prevents spillage during operation and achieves submicron level bubble removal and dispersion in a short time.
- Optimal mixing for any material can be achieved by adjusting RPM.
- 9 memories can be set for timer operation.
- 5 steps can be registered in each memory.
- Different types of containers can be utilized with THINKY adapters.

ARV-5000

Uniform mixing and removal of submicron level air bubbles for up to 5 kg of materials

- Mass production model of ARV-310 and ARV-5000 with maximum capacity of 5 kg.
- Unlike conventional vacuum defoaming devices, the planetary centrifugal system and the vacuuming pressure reduction function prevents spillage during operation and achieves submicron level bubble removal and dispersion in a short time.
- Optimal mixing for any material can be achieved by adjusting RPM.
- Excellent operability with touch panel.
- Improved efficiency, e.g., increased process volume, standardized operations, reduced quality, and reduction of material loss.

ARV-3000TWIN

Uniform mixing and removal of submicron level air bubbles for up to 10 kg (5 kg x 2) of materials

- Mass production model of ARV-310 and ARV-5000 with maximum capacity of 10 kg.
- Unlike conventional vacuum defoaming devices, the planetary centrifugal system and the vacuuming pressure reduction function prevents spillage during operation and achieves submicron level bubble removal and dispersion in a short time.
- Optimal parameter settings for materials can be achieved with the variable rotation/revolution ratio mechanism.
- Excellent operability with touch panel.
- Improved efficiency, e.g., increased process volume, standardized operations, reduced quality, and reduction of material loss.

ARV-930TWIN

Manufacturing model with two-container system & 1.8 kg (930 g x 2) maximum vacuum processing

- Over 400 G of acceleration generated by rotation and revolution speed allows powerful simultaneous mixing and vacuum defoaming.
- Defoaming mode generates powerful acceleration of 670 G at maximum for accurate defoaming of volatile materials.
- Maximum capacity 1800 g / Removal of submicron level air bubbles.
- Unlike conventional vacuum defoaming devices, the planetary centrifugal system and the vacuuming pressure reduction function prevents spillage during operation and achieves submicron level bubble removal and dispersion in a short time.
- Optimal mixing for any material can be achieved by adjusting RPM.
- THINKY's original cup holder vacuum system minimizes the vacuum volume and significantly shortens the required time for vacuuming and atmosphere releasing.
- ARV-930TWIN has the same performance as ARV-310 with greater capacity.
- Different types of containers can be utilized with THINKY adapters.

ARV-10kTWIN

Mass production model up to 29 kg (14.5 kg x 2) capacity while achieving the performance of laboratory models

- Mass production model of ARV-100 and ARV-310 with maximum capacity of 29 kg.
- Unlike conventional vacuum defoaming devices, the planetary centrifugal system and the vacuuming pressure reduction function prevents spillage during operation and achieves submicron level bubble removal and dispersion in a short time.
- Removal of submicron level air bubbles.
- Excellent operability with touch panel.
- THINKY's original cup holder vacuum system minimizes the vacuum volume and significantly shortens the required time for vacuuming and atmosphere releasing.

Unit Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>H1800 × W1330 × D1015 (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARV-310 CE</td>
<td></td>
</tr>
<tr>
<td>ARV-5000 CE</td>
<td></td>
</tr>
<tr>
<td>ARV-3000TWIN CE</td>
<td></td>
</tr>
<tr>
<td>ARV-930TWIN CE</td>
<td></td>
</tr>
<tr>
<td>ARV-10kTWIN CE</td>
<td></td>
</tr>
</tbody>
</table>
**THINKY MIXER Vacuum LED type / Solder Paste Mixer**

**ARV-310LED**

*Dispersion of high specific gravity powder such as LED fluorescent substances without sedimentation*

- A vacuum pressure reduction function removes submicron air bubbles and gives outstanding dispersion performance
- No spillage of material during operation
- Optimal mixing for any material can be achieved by adjusting RPM
- 9 memories can be set for timer operation
- 5 steps can be registered in each memory

**ARV-50LED**

*Ultracompact vacuum mixer: dispersion of high specific gravity powder without sedimentation*

- A small amount of material (50 ml) can be dispersed and defoamed in a short time
- Space-saving vacuum mixer
- Stainless-steel specification
- Excellent operability with touch panel
- Multilingual language (Japanese, English, Chinese, and Korean)
- Universal power supply (AC85-265V)
- Low power consumption (Maximum 150 VA)
- Auto-balance feature

**Solder Paste Mixer SR-500**

*Temperature and viscosity adjustment & defoaming in only a few minutes*

- Capable to mix with uniformity and defoam in just a few minutes
- 5 steps can be registered in each memory to ensure optimal temperature and viscosity adjustment
- Materials from the refrigerator can be mixed and warmed to room temperature in a short time
- Capable to mix and defoam with commercially available 500 g containers
- Capable to mix and defoam less than 500 g solder paste
- By using an optional adapter, solder paste filled in a syringe can be mixed

**ARC-40H**

*Improved filling efficiency for small capacity syringes*

- Capable to fill materials into 3, 5, and 10 ml syringes, which are too small to fill manually
- Capable to fill low to high viscous materials
- Up to 4 syringes can be filled at one time
- With THINKY MIXERS, work efficiency from mixing/defoaming to filing is increased
- Capable to operate in both vacuum and atmospheric pressure

**ARC-600TWIN**

*Automatic filling control for large capacity syringes*

- No air bubbles. No dripping
- Simultaneously filling up to 16 syringes. Supports large capacity syringes
- Reduced filing time. Easy to clean after use
- Few cleaning parts and few consumables
- Excellent capability for filling high viscous materials such as ODF (One Drop Fill) process sealant
- Automated operations: filling process and vacuum pressure are all automated and systematized

---

**Vacuum Syringe Chargers**

**ARC-40H**

*CE-certified model*

- Product name: ARC-40H CE
- Max processing volume: 5 ml Syringes: 1-4
- Capable to operate in both vacuum and atmospheric pressure

**ARC-600TWIN**

*CE-certified model*

- Product name: ARC-600TWIN CE
- Max processing volume: Customizable
- Capable to fill materials into 3, 5, and 10 ml syringes, which are too small to fill manually
- Capable to fill low to high viscous materials
- Up to 4 syringes can be filled at one time
- With THINKY MIXERS, work efficiency from mixing/defoaming to filing is increased
- Capable to operate in both vacuum and atmospheric pressure

---

**Unit Dimensions**

- ARV-310LED: H450 × W300 × D233 (mm)
- ARV-50LED: H110 × W90 × D145 (mm)
- SR-500: H390 × W300 × D340 (mm)
- ARC-40H: H150 × W210 × D140 (mm)
- ARC-600TWIN: H2170 × W1125 × D1045 (mm)

**Unit Weight**

- ARV-310LED: Approx. 18 kg
- ARV-50LED: Approx. 20 kg
- SR-500: Approx. 18 kg
- ARC-40H: Approx. 7.5 kg
- ARC-600TWIN: Approx. 9.0 kg
THINKY MIXER has been loved by the leading authority in the field of powders

THINKY MIXER for 20 years

The simplicity of THINKY MIXER makes it easy to do trials

Guaranteed by the expert of adhesives – THINKY products are essential

Guaranteed by the expert of adhesives – THINKY products are essential

Our Support System

Two secure support systems

<table>
<thead>
<tr>
<th>After-sales support</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you have any problems with a product, please contact us.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>THINKY’s professional application team supports parameter settings for customers. Before demonstration of pulvimization, implementation of preliminary examination enables smooth presentation of the demonstration. Contact THINKY CORPORATION listed on the back cover.</td>
</tr>
</tbody>
</table>

Total Support System

For the total life cycle of your THINKY MIXER, our customer service team will respond to your requests. We listen to your requirements, purpose and conditions of use, and then suggest the optimal model. As a part of our service, not only do we ask you to evaluate our unit with your material, but we also help develop recipes suitable for the material and our technical experts offers advices on operation. After the installation of THINKY MIXER, we welcome any queries and comments. We can also offer in-depth advice of material processing that are different from your initial evaluation, and advise you on any plans for scaling up.

From all the customer feedback, we have created a database which is invaluable in the development of new products and improvement to the existing models. The database also provides us with a wide range of technical data from which to draw upon and improve our response to customers and deliver increased customer satisfaction. THINKY is firmly committed to our original pioneering spirit, and continues to make every effort to develop customer-oriented products and strengthen our customer service system. We look forward to hearing your opinions and requests concerning our products and services.

THINKY ARV-310

Design of Adhesive Joints Under Humid Conditions
(Advanced Structured Materials)

Co-authored by Masayuki Kitada

His book below also introduces THINKY ARV-310.
Original THINKY adapters

Containers and adapters are the key factors to achieve maximum performance! THINKY designs original containers and adapters for planetary centrifugal mixers.

We create adapters especially suited for your containers.

THINKY provides the proper containers for optimal material processing. Moreover, we consider material characteristics, customers’ issues, and operating environment, etc. to create the one and only adapter for your material.

Fine response and attentive service are our strengths as a pure play company.

* For details, order from the list of containers/adapters.

### Planetary Centrifugal Mixers THINKY MIXER (Non-vacuum type)

<table>
<thead>
<tr>
<th>Model</th>
<th>AR-100</th>
<th>AR-310</th>
<th>AR-400TWIN</th>
<th>AR-500</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planetary, propeller-less mixing</td>
<td>Planetary, propeller-less mixing</td>
<td>Planetary, propeller-less mixing</td>
<td>Planetary, propeller-less mixing</td>
<td></td>
</tr>
<tr>
<td>Operation Time Setting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time setting range: 0 to 30 min</td>
<td>Time setting range: 0 to 30 min</td>
<td>Time setting range: 0 to 30 min</td>
<td>Time setting range: 0 to 30 min</td>
<td></td>
</tr>
<tr>
<td>Continuous Operation Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max 30 min</td>
<td>Max 30 min</td>
<td>Max 30 min</td>
<td>Max 30 min</td>
<td></td>
</tr>
<tr>
<td>Programming Function</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 memories</td>
<td>5 memories</td>
<td>5 memories</td>
<td>5 memories</td>
<td></td>
</tr>
<tr>
<td>Revolution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution: 400 to 2000 rpm (adjustable)</td>
<td>Resolution: 400 to 2000 rpm (adjustable)</td>
<td>Resolution: 600 to 1600 rpm (adjustable)</td>
<td>Revolution: 600 to 1600 rpm (adjustable)</td>
<td></td>
</tr>
<tr>
<td>Defibracing Mode</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Capacity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400 ml / 410 ml</td>
<td>800 ml / 800 ml</td>
<td>1200 ml / 1200 ml</td>
<td>1600 ml / 1600 ml</td>
<td></td>
</tr>
<tr>
<td>Standard Container</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 ml disposable container</td>
<td>100 ml disposable container</td>
<td>Acc.150 ml disposable container</td>
<td>Acc.200 ml disposable container</td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC 100 V ±10 %, 50/60 Hz</td>
<td>AC 100 V ±10 %, 50/60 Hz</td>
<td>AC 100 V ±10 %, 50/60 Hz</td>
<td>AC 100 V ±10 %, 50/60 Hz</td>
<td></td>
</tr>
<tr>
<td>Power consumption:</td>
<td>Power consumption:</td>
<td>Power consumption:</td>
<td>Power consumption:</td>
<td></td>
</tr>
<tr>
<td>Approx. 50 VA (standby)</td>
<td>Approx. 50 VA (standby)</td>
<td>Approx. 50 VA (standby)</td>
<td>Approx. 50 VA (standby)</td>
<td></td>
</tr>
<tr>
<td>Operating Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 to 35 ℃, 35 to 85 % RH (without condensation)</td>
<td>5 to 35 ℃, 35 to 85 % RH (without condensation)</td>
<td>5 to 35 ℃, 35 to 85 % RH (without condensation)</td>
<td>5 to 35 ℃, 35 to 85 % RH (without condensation)</td>
<td></td>
</tr>
<tr>
<td>Safety Mechanism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lid locking sensor, Lid sensor</td>
<td>Lid locking sensor, Lid sensor</td>
<td>Lid locking sensor, Lid sensor</td>
<td>Lid locking sensor, Lid sensor</td>
<td></td>
</tr>
<tr>
<td>Transport Locking Mechanism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 on the rear, 1 on the front</td>
<td>1 on the rear, 1 on the front</td>
<td>1 on the rear, 1 on the front</td>
<td>1 on the rear, 1 on the front</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipped with a handscope</td>
<td>Equipped with a handscope</td>
<td>Equipped with a handscope</td>
<td>Equipped with a handscope</td>
<td></td>
</tr>
<tr>
<td>Unit Dimensions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>410 x 162 x 350 (mm)</td>
<td>460 x 180 x 460 (mm)</td>
<td>510 x 240 x 640 (mm)</td>
<td>560 x 250 x 850 (mm)</td>
<td></td>
</tr>
<tr>
<td>Unit Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approx. 15 kg</td>
<td>Approx. 21 kg</td>
<td>Approx. 30 kg</td>
<td>Approx. 50 kg</td>
<td></td>
</tr>
</tbody>
</table>

### Product Specification List / THINKY MIXER Non-vacuum type

<table>
<thead>
<tr>
<th>System</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
THINKY MIXER / Vacuum type

Vacuum type, planetary, propeller-less mixing

Accessories●1

Unit●Weight

Dimensions

Unit●Dimensions

Unit Weight

Power Supply

Operation Time Setting

Continuous Operation Time

Programming Functions

Revolution/Rotation

Mixing Mode

Delivery Volume

Pump Volume

Power Source

Power consumption:

Vacuum Syringe chargers

Syringe Volume

Standard Container

Others

Vacuum System

Ultimate Vacuum

Vacuum Trap Connection

Vacuum Pump Capability

Others

Product Specification List / THINKY MIXER Vacuum type / LED type / Solder Paste Mixer / Vacuum Syringe Chargers
Planetary centrifugal mixers / Syringe chargers

Contribute to society

Pursuing a bright future with mixing technology

- "NIPPON MONOZUKURI" INNOVATOR -

For the latest information about products and exhibitions, visit:

http://www.thinkymixer.net

THINKY CORPORATION

THINKY CORPORATION

"NIPPON MONOZUKURI" INNOVATOR

For requests concerning demonstrations and evaluation testing, please contact THINKY CORPORATION

Email: info@thinkymixer.net

For the latest information about products and exhibitions, visit:

http://www.thinkymixer.net

THINKY CORPORATION

"NIPPON MONOZUKURI" INNOVATOR

Reproduction strictly prohibited Mar, 2016