THINKY
"NIPPON MONOZUKURI" INNOVATOR

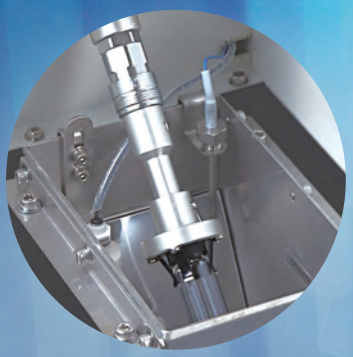
Receiving Applications for Demonstration and Evaluation

Nano Premixer PR-1

The Next Generation of Nano Dispersion

Unbelievable Dispersing Performance

The Nano Premixer uniformly disperses nanomaterials in an enclosed container. The container rotates around an axis and is treated by ultrasonic from the side and the bottom to achieve an uniform dispersion.



●Adjustable RPM

The rotation of the container generates circulation by convection to achieve an uniform dispersion.

●Dual-Sonic System

The container is treated by ultrasonic from the side and the bottom of the bath so that the nanomaterial is deagglomerated and dispersed.

●Small Batch Processing

Using a vial, the maximum volume of material is 5 ml/50 mg

●Minimum Cross Contamination

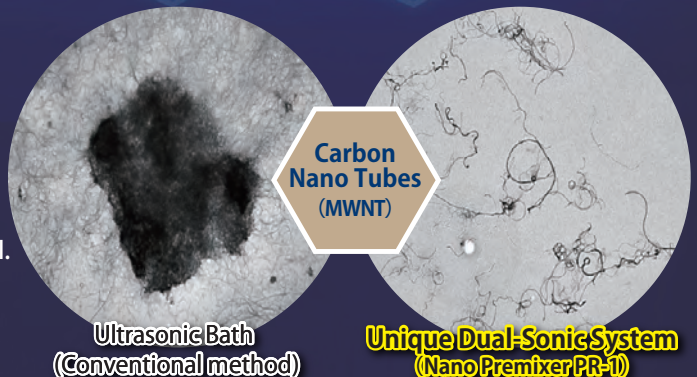
Minimum cross contamination is achieved since the material is dispersed in an enclosed container.

●Cooling System

The ultrasonic bath is cooled to prevent overheating of the material.

●Temperature Control

To keep the material properties, dispersion process is completed within the set temperature limits.



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A New Approach to Uniformly Disperse Nanomaterials

Unique Dual-Sonic System
(Nano Premixer PR-1)

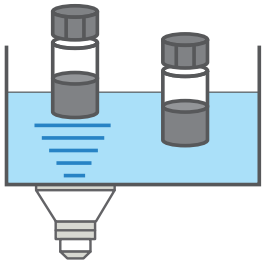
Patented

The Nano Premixer rotates the container which generates circulation by convection and has a fixed distance and water level for reproducibility to achieve a uniform dispersion.

Output 140 W | Vial Max. 5 ml | SUS Container Max. 200 ml

※Different vials can be set. Please ask for more information.

Ultrasonic Bath System
(Conventional method)



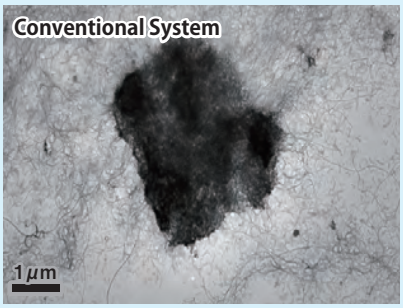
Reproducibility is poor since the ultrasonic transducer and water level differs, and dispersion is only relied on the ultrasonic output.

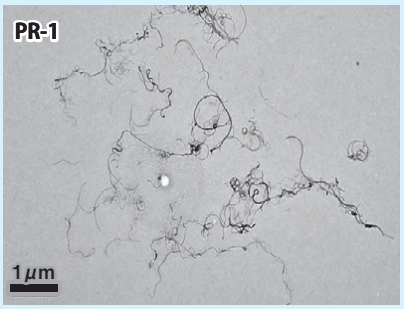
Application

■Carbon Nano Tubes (MWNT)

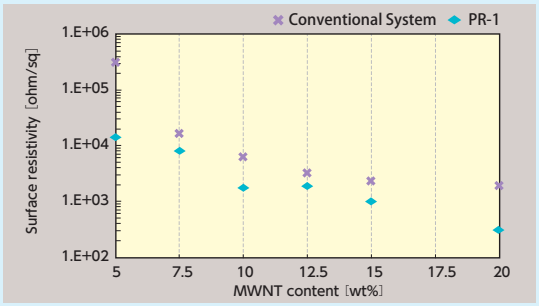
Uniform dispersion of agglomerated nano fiber is achieved without shearing.

Dispersion Difference between Conventional "Ultrasonic Bath System" and New "Dual-Sonic System"





Agglomeration remains when the sample is treated in a conventional ultrasonic bath. PR-1 can deagglomerate and uniformly disperse the sample.

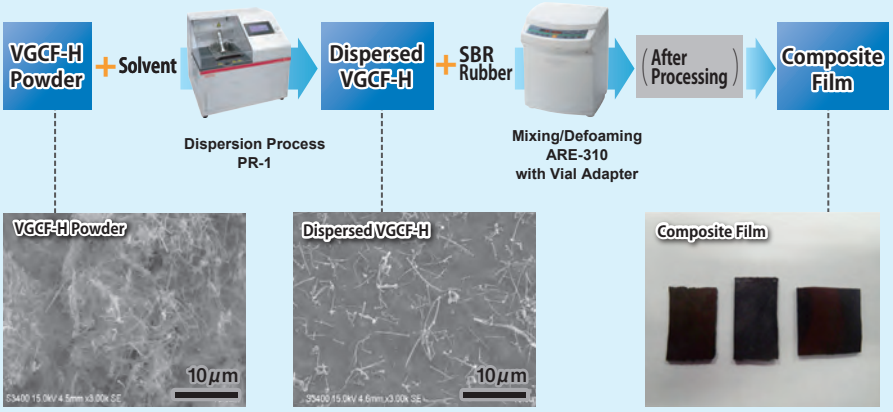


High dispersion can be observed by measuring the surface resistivity. PR-1 has a lower resistivity compared to a conventional ultrasonic bath.

■VGCF-H

Without changing the container, other materials can be added to the same dispersed material and mixed/defoamed with ARE-310/ARE-250CE.

Example of Carbon Nano Tube (VGCF-H) Dispersion and SBR Composite Film



Specifications

Ultrasonic wave Transducer output	Max. 70 w x 2 transducers (side and bottom)
Frequency	40 kHz
Modulation mode frequency-modulation Rotation speed	80 - 600 rpm
Timer setting range	0 hour 00 min.00 sec. to 2 hours 00 min. 00 sec (Max. 2 hours run / Setting in the unit of 1 sec.)
Maximum processing volume	・6 ml Vial 5 ml (50 mg) ・280 ml SUS Container 200 ml Different vials can be set. Please ask for more information.
Standard container	Vial (capacity 5 ml)
External dimensions	400 mm (H) × 450 mm (W) × 380 mm (D)
UNIT Weight	Approx. 25 kg
Power Supply	1φ AC 85 - 265 V (47 Hz - 63 Hz) Continuous input

Product appearance/specifications may change without notice.

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