

● Usage and effect

CASE 01 Applied micro-bubble washing after the processing process

Benefit

Abolition of alkaline detergent

Applied micro-bubble washing after the metal cutting process can abolish alkaline detergent. It realizes low running cost and improves work environment.

CASE 02 Totally replacement the washing for removing processing oil from aluminum from hydrocarbon type to micro-bubble

Benefit

Abolition of organic solvents

It becomes no risk of ignition and explosion. It contributes to the improvement of work environment and worker's safety.

● Application

Degreasing

- Machined parts
- Precision parts
- Cold forged parts
- Spring, Washer
- Returnable container
- Jig



Foreign material removal

- Resin, rubber products, etc.
- ※ In case the foreign material is adhering by oil.



● Micro bubble washing mechanism



Water including densely micro bubble is adhered to the object to be cleaned.

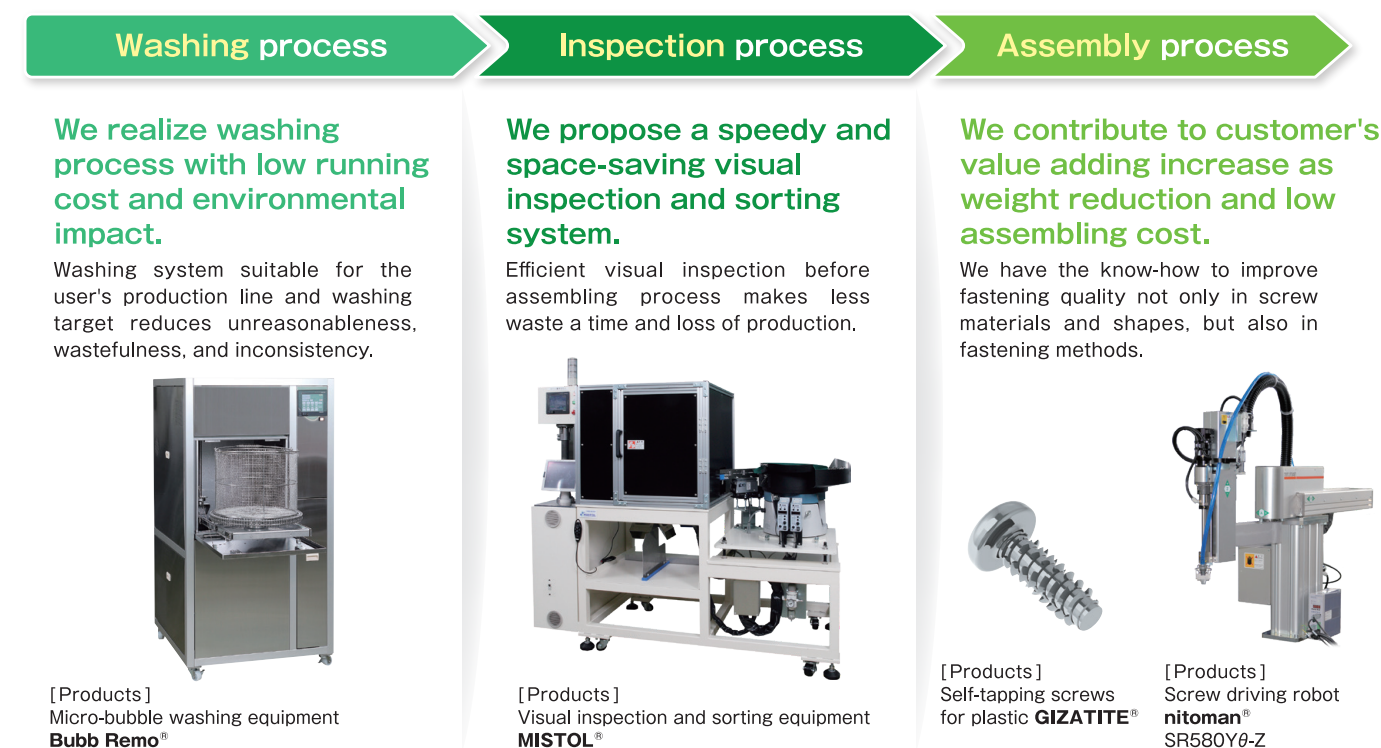
The electrostatic bubble absorbs to the oil stain or small foreign body, and the bubble catch the dirt to surface of the bubble.

The bubble including dirt leave from the object to be cleaned, and clean up it.

In addition, jet stream enhances an effect of washing.

We totally take care through washing process, inspection process, and assembly process.

NITTOSEIKO combines various technologies and know-how to provide comprehensive support for our customers' manufacturing.



■NITTOSEIKO Slogan for environment

We all together work hard and act for making an environmentally friendly corporation.



As a current social responsibility, we shall produce product based on considering environment. We advance reduction of waste, recycling, paperless, and higher awareness of environment all over our corporation. Fastener, Assembling machine, and Control system divisions acquire ISO 14001 certificate so that we promote hazardous substances abolition, energy-saving, and resource-saving production, as well we continuously improbement activity for environment. We propose a customers to environmentally friendly production such as productivity improvement support and providing a products less environmental impact.

- ★We can customize the products to meet user's requirement.
- ★You can experiment washing effect by our demonstration equipment. Please feel free to contact us.

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NITTOSEIKO

Micro-bubble washing equipment Bubb Remo®

Bubb Remo®
Industrial washing system

This product has cost, washing force, and work efficiency together with friendly for environment and people.

[Micro bubble washing equipment Bubb Remo® Lineup Introduction]



Manual type



Standard type with simple design

Simple type

Standard

Shower washing

Space-saving type

Product Specifications (Standard Specifications)

Model	MB-1000S
Equipment size	W720×D710×H1275mm (Excluding protruding parts)
Washing space size	W633×D563×H219mm
Equipment weight	Approx. 100kg (at dry)
Tank capacity	Approx. 38L
Washing method	By shower
Washing nozzle	2pcs (micro bubble shower nozzles)
Discharge flow	Approx. 20L/min
Generation pressure	Approx. 0.4MPa
Washing water temperature	Available for increasing up to 40℃
Pump capacity	0.75Kw
Heater capacity	2Kw
Washing water filter	Cartridge filter (Mesh diameter: 100μm)
Capacitance	3φ 200V AC 50/60Hz Max. approx. 4Kw
Option	• Barrel unit • Oil-water separator • Dryer • Alkaline ionized water generator



Manual type



Aim and shoot the point to be washed

Space-saving type

Compact design

Spray washing

Easy operation with foot switch

Adjust by hand the area to be washed

Draining

Product Specifications (Standard Specifications)

Model	MB-1100S
Equipment size	W400×D460×H1200mm (Excluding protruding parts)
Arm inlet hole size	φ120×2 places
Equipment weight	Approx. 70kg (at dry)
Tank capacity	Approx. 21L
Washing method	By spray
Washing nozzle	2pcs (spray nozzles)
Discharge flow	Approx. 17.5L/min
Generation pressure	Approx. 0.5MPa
Washing water temperature	Available for increasing up to 40℃
Pump capacity	0.75Kw
Heater capacity	2Kw
Washing water filter	Stainless steel suction filter (Accessory filtration diameter: 75μm)
Air consumption	Approx. 350L/min (at 0.5MPa supply)
Air supply	0.3~0.6MPa
Capacitance	3φ 200V AC 50/60Hz Max. approx. 3Kw
Option	• Oil-water separator • Dryer



Automatic type



Fully automatic type with detailed settings

Multifunction type

Fully automatic type

Shower and spray washing

Draining

Touch panel operation

Oil skimming

Product Specifications (Standard Specifications)

Model	MB-2110S
Equipment size	W800×D830×H1515mm (Excluding protruding parts)
Washing basket size	φ400×H300mm (Max. dimension)
Washing basket rotation speed	Max. 30rpm
Max. weight of the object to be cleaned	10Kg (Standard Specifications)
Equipment weight	Approx. 270kg (at dry)
Tank capacity	Approx. 70L
Washing method	By shower and spray
Washing nozzle	Micro bubble shower nozzles, Multiple spray nozzle arrangements
Discharge flow	Approx. 40L/min (at shower washing)
Generation pressure	Approx. 0.5MPa
Washing water temperature	Available for increasing up to 70℃
Pump capacity	1.5Kw
Heater capacity	4Kw
Washing water filter	Stainless steel suction filter (Accessory filtration diameter: 75μm)
Capacitance	3φ 200V AC 50/60Hz Max. approx. 6.5Kw
Option	• Oil-water separator • Dryer • Alkaline ionized water generator



Automatic type



Vertically rotating barrel, ideal for washing small parts

Barrel type

Fully automatic type

Shower washing

Touch panel operation

Draining

Hot air drying function

Product Specifications (Standard Specifications)

Model	MB-3210S
Equipment size	W1100×D1100×H1850mm (Excluding protruding parts)
Washing barrel size	Hexagonal type : Length per side: Approx. 178, Depth : Approx. 418mm
Washing barrel rotation speed	Max. 15rpm
Max. weight of the object to be cleaned	Approx. 7Kg
Equipment weight	Approx. 500kg (at dry)
Tank capacity	Approx. 130L
Washing method	By shower
Washing nozzle	6pcs (micro bubble shower nozzles)
Discharge flow	Approx. 60L/min
Generation pressure	Approx. 0.4MPa
Washing water temperature	Available for increasing up to 50℃
Pump capacity	2.2Kw
Heater capacity	8Kw
Hot air generator	10.5Kw
Washing water filter	Stainless steel suction filter (Mesh diameter : 100μm)
Air consumption	Approx. 1900L/min (at 0.3MPa supply)
Air supply	0.3~0.6MPa
Capacitance	3φ 200V AC 50/60Hz Max. approx. 21Kw
Option	• Oil-water separator • Dryer • Alkaline ionized water generator



Automatic type



Design for user's production line

Inline type

Fully automatic type

Shower and spray washing

Touch panel operation

Draining

Hot air drying function

Customization upon request

Product Specifications (Standard Specifications)

Model	MB-2310S
Equipment size	W1500×D3500×H2000mm (Excluding protruding parts)
Conveyor	Stainless steel ladder conveyor
Applicable work size	φ250×H150mm or less
Equipment weight	Approx. 1100kg (at dry)
Tank capacity	Approx. 220L
Washing method	By shower
Washing nozzle	12pcs (micro bubble shower nozzles)
Discharge flow	Approx. 120L/min
Generation pressure	Approx. 0.4MPa
Washing water temperature	Available for increasing up to 40℃
Heater capacity	Total 24Kw
Washing water filter	Cartridge filter (Mesh diameter: 100μm)
Blower performance	Maximum airflow 11.5m³/min
Air supply	0.4~0.6MPa
Capacitance	3φ 200V AC 50/60Hz Max. approx. 37Kw
Option	• Oil-water separator • Alkaline ionized water generator

We offer a micro bubble washing which remove dirt by water and air.

This system is not necessary organic solvent, acid / alkaline detergent, or surfactant, but using micro bubble which is generated from water and air so that remove oil stain or dirt.

Micro bubble industrial washing system lineup